UNITED STATES DEPARTMENT OF COMMERCE
Office of the Under Secretary for
Oceans and Atmosphere
Washington, D.C. 20230

JAN 18 2000

To all Interested Government Agencies and Public Groups:

Under the National Environmental Policy Act, an environmental review has been performed on the following action.

TITLE: Environmental Assessment for an Emergency Rule to Implement Harvesting and Processing Restrictions and Fishery Cooperative Measures Required Under the American Fisheries Act

LOCATION: Federal Waters of the Bering Sea and Aleutian Islands and the Gulf of Alaska

SUMMARY: This emergency rule would implement, on a temporary basis, management measures required under the statutory January 2000 requirement of the American Fisheries Act. This rule would provide the opportunity for inshore catcher vessels to form cooperatives for the 2000 fishing year. The inshore cooperatives will provide the inshore fishing industry with the ability to meet more effectively the temporal and spatial dispersion objectives of Steller sea lion conservation measures. This rule would implement harvesting and processing restrictions necessary to protect fishing vessels and processors not eligible to participate in the directed pollock fishery. Such restrictions are necessary to prevent adverse economic impacts on the participants of other groundfish and crab fisheries that begin fishing in January 2000.

RESPONSIBLE OFFICIAL: Steven Pennoyer
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Alaska Region
National Marine Fisheries Service
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The environmental review process led us to conclude that this action will not have a significant impact on the environment. Therefore, an environmental impact statement was not prepared.

A copy of the finding of no significant impact, including the environmental assessment, is enclosed for your information. Also, please send one copy of your comment to me in Room 5805, PSP, U.S. Department of Commerce, Washington, D.C. 20230.

Sincerely,

Susan Tucker

Director of the Office of Policy and Strategic Planning

Enclosure

ENVIRONMENTAL ASSESSMENT/REGULATORY IMPACT REVIEW (EA/RIR)

AMERICAN FISHERIES ACT (AFA) MEASURES

for
EMERGENCY INTERIM RULE

to implement

FISHERY MANAGEMENT PLANS

Amendment 61
GROUNDFISH FISHERY OF THE BERING SEA AND ALEUTIAN ISLANDS

Amendment 61
GROUNDFISH OF THE GULF OF ALASKA

Amendment 13
CRAB FISHERY OF THE BERING SEA AND ALEUTIAN ISLANDS

Amendment 8
SCALLOP FISHERY OFF ALASKA

JANUARY 7, 2000

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APPENDICES

EXECUTIVE SUMMARY

Chapters 1, 2, and 3 of this document contain background information on the American Fisheries Act, the Council's list of alternatives for sideboard provisions (including the PREFERRED ALTERNATIVES), a summary of the status of stocks for all species, and a discussion of potential environmental impacts of the alternatives. None of the alternatives under consideration is expected to result in significant impacts relative to NEPA considerations.

Chapter 4

This chapter addresses the inconsistencies in definitions between existing regulations and terms used in the AFA. The Council is recommending that consistency be achieved by (1) having the same definitions of inshore and offshore in the BSAI and the GOA; (2) use of the term groundfish (instead of fish) throughout the implementing regulations; (3) use of the terms inshore and offshore would apply only to directed fishing for I/O species (BSAI pollock and GOA Pollock and Pacific cod); and, (4) the duration of the I/O regulations should be the same for the BSAI and the GOA.

Additionally this chapter addresses an alternative related to processor sideboards which was raised by the Council in February - the proposed option that floating processors be limited to a single geographic location for purposes of processing I/O species. Provisions of the AFA may negate the need for such a requirement due to explicit BSAI pollock allocation in the AFA, though non-AFA processors propose that such a restriction be in place. The Council did take action to restrict floating processors to a single geographic location (for a given fishing year-i.e, can change locations from year to year), and took action to achieve consistency among definitions, as recommended by staff.

Chapter 5

This chapter discusses required and potential provisions of co-op agreements, including options which were identified by the Council in the previous two meetings. In addition to disclosure of catch and bycatch statistics (for which regulations are being developed separately), the Council proposed the following:

* limit co-op agreements to specific duration (1-6 years)
* prohibit linkages of membership to delivery of non-pollock species
* require contracts to be submitted by December 1

Although a brief discussion of the pros and cons of these proposals is contained in Chapter 5, they appear to primarily be policy issues for the Council, for which direction to the industry will be necessary in order for the year 2000 co-ops to be negotiated and completed this summer and fall. The Council took the following action on these issues: (1) co-op agreements may be of any duration but must be reviewed annually; (2) co-op agreements must be submitted for Council review by December 1 of the year prior to fishing; (3) prohibit co-op agreements from requiring vessels to deliver species other than BSAI pollock to their AFA processor; and (4) co-op agreements shall require the disclosure of catch and bycatch statistics.

Chapter 6

The Act specifies in section 211(b)(2) that *"beginning January 1, 1999 catcher/processors eligible under paragraphs (1) through (20) of section 208(e) are prohibited from, in the aggregate -*

(A) exceeding the percentage of the harvest available in the offshore component of any Bering Sea and Aleutian Islands groundfish fishery (other than the pollock fishery) that is equivalent to the total harvest by such catcher/processors and the catcher/processors listed in section 209 in the fishery in 1995, 1996, and 1997 relative to the total amount available to be harvested by the offshore component in the fishery in 1995, 1996, and 1997;

(B) exceeding the percentage of the prohibited species available in the offshore component of any Bering Sea and Aleutian Islands groundfish fishery (other than the pollock fishery) that is equivalent to the total of the prohibited species harvested by such catcher/processors and the catcher/processors listed in section 209 in the fishery in 1995, 1996, and 1997 relative to the total amount of prohibited species available to be harvested by the offshore component in the fishery in 1995, 1996, and 1997; and

(C) fishing for Atka mackerel in the eastern area of the Bering Sea and Aleutian Islands and from exceeding the following percentages of the directed harvest available in the Bering Sea and Aleutian Islands Atka mackerel fishery—

(i) 11.5 percent in the central area; and

(ii) 20 percent in the western area."

The Act was quite specific in how the catcher/processor sideboards were to be structured as a result of negotiations in Washington, DC. However the AFA is equally specific in stating that the Council could change the sideboard's structure to mitigate against the adverse impacts of cooperatives. Section 213(c) authorizes the Council to recommend additional conservation and management measures as necessary to mitigate adverse effects in fisheries caused by the AFA or cooperatives in the directed pollock fishery, so long as any such measures take into account all factors affecting the fisheries and are imposed fairly and equitably to the extent practicable among and within the sectors in the directed pollock fishery. Changes were made to the "negotiated" sideboards for the 1999 fishing seasons, and further revisions are being considered as part of this amendment package.

Chapter 6 provides an analysis of the catcher/processor sideboard caps. Sideboard caps set the maximum amounts of BSAI non-pollock groundfish that the 20 AFA catcher/processors, listed by name, can harvest in future years. The caps are set as a percentage of TAC and not a set tonnage. Setting the caps as a percent of TACs allows the caps to increase or decrease relative to the available quota. The sideboard caps are harvest limits and not allocations. Only BSAI pollock was distributed as an allocation under the AFA. Once the catcher/processors reach a cap they will be required to either stop fishing all together or stop fishing in the non-pollock target fisheries, depending on how the Council structures this program.

Several options for developing sideboard caps were considered by the Council. Sideboard caps could be based on the 1995-97 catch histories of the 20 eligible catcher/processors or the 20 eligible catcher/processors plus the nine ineligible catcher/processors. After deciding which vessel's history to include, the Council then had to decide whether to base the history on either their non-pollock target fishery catch or their catch in all target fisheries. These decisions yield the numerator for calculating the percentages of future TACs. The denominator for the calculation could use either total historic catch or the TAC available these years. Table 1 provides a summary of the estimated future sideboard caps under these alternatives. Only species which are expected to have adequate cap amounts for a directed fishery are included in the table. Atka mackerel is constant as those caps are prescribed in the AFA.

Table 1: Percentage of future TAC available to 20 AFA catcher processors under various sideboard options for six possible directed fisheries. Tonnage range is derived by using the range of possible percentages multiplied by the 1999 TACs.

Fishery	(TAC or catch)	Non-Pollock Targets 20	All Targets 20	Non-Pollock Targets 29	All Targets 29
Yellowfin sole	TAC	19.7%	20.0%	23.3%	23.7%
	Catch	23.8%	24.1%	28.1%	28.6%
	Range		(36,839 - 53,482 mt)		
Pacific cod	TAC	12.8%	17.4%	26.3%	33.4%
	Catch	13.7%	18.7%	28.2%	35.9%
	Range		(5,369 - 15,069 mt)		
Atka mackerel W. AI	TAC	20.0%	20.0%	20.0%	20.0%
	Catch	20.0%	20.0%	20.0%	20.0%
	Range		(4,590 mt)		
Atka mackerel C. AI	TAC	11.5%	11.5%	11.5%	11.5%
	Catch	11.5%	11.5%	11.5%	11.5%
	Range		(2,190 mt)		
Other flatfish	TAC	11.0%	11.4%	13.1%	13.6%
	Catch	16.5%	17.0%	19.7%	20.4%
	Range		(8,362 - 15,508 mt)		
Rock sole	TAC	5.1%	6.0%	7.3%	8.9%
	Catch	6.0%	7.2%	8.7%	10.6%
	Range		(4,335 - 9,010 mt)		

Source: NMFS Blend data 1995-97

The Council also considered a sub-option that would divide the sideboard caps by the quarter of the year in which the qualifying harvest was made. This would prevent catcher/processors from dramatically altering their temporal harvest patterns, to take advantage of market conditions. For example, members of industry stated in public testimony that some flatfish species are difficult to market and their prices drop once a certain amount of product reaches the market. Quarterly apportionments were suggested as a method to limit the amount of fish the AFA catcher/processors can market early in the year.

PSC sideboard caps are also being developed. These caps are based on the amount of PSC that was harvested by AFA catcher/processors from 1995-97. Table 2 reports the estimated percentage of future trawl PSC apportionments. Note that these percentages are not broken out by PSC target fishery.

Table 2: Percent of PSC Bycatch Harvested by the AFA Catcher Processors in the BSAI from 1995-97, and Estimated Future PSC Caps Based on 1999 Apportionments

	Non-pollock Targets		Pollock Targets		All Target Fisheries	
	AFA CPs		AFA CPs		AFA CPs	
PSC Species	20 CPs	29 CPs	20 CPs	29 CPs	20 CPs	29 CPs
Percent of Future PSC Apportionments						
Halibut Mortality	5.60%	8.42%	2.22%	3.41%	7.82%	11.82%
C. *bairdi* (Zone 1)	12.68%	14.02%	1.01%	2.26%	13.68%	16.28%
C. *bairdi* (Zone 2)	4.20%	5.02%	0.12%	0.41%	4.32%	5.43%
Red King Crab (Zone 1)	0.63%	0.65%	0.70%	1.74%	1.33%	2.39%
Herring	0.57%	1.20%	19.36%	21.85%	19.94%	23.05%
C. *opilio*	11.40%	13.56%	0.98%	2.13%	12.38%	15.69%
Chinook Salmon	1.39%	2.84%	17.10%	21.24%	18.48%	24.09%
Estimates of Future Caps Based on 1999 Trawl PSC Apportionments						
Halibut Mortality (mt)	206	309	82	125	288	434
C. *bairdi* (Zone 1)	93,000	102,000	7,000	16,000	100,000	118,000
C. *bairdi* (Zone 2)	77,000	93,000	2,000	8,000	79,000	101,000
Red King Crab (Zone 1)	1,200	1,300	1,400	3,400	2,600	4,700
Herring (mt)	10	20	326	368	336	388
C. *opilio*	496,000	590,000	43,000	93,000	539,000	683,000
Chinook Salmon	n/a	n/a	11,800	13,800	11,800	13,800

Source: National Marine Fisheries Service AKR PSC Bycatch Data (File Names BS95HALX, BS96HALX, and BS97HALX)

Estimates of historical bycatch in the pollock fishery were included in Table 2, because the Council requested an estimate of how much bycatch would be needed if the pollock fishery was conducted in a pelagic mode. The requested estimates indicate that halibut mortality could be reduced by 22 mt to as much as 74 mt, compared to the numbers in the second section of Table 2, depending on the method used to calculate the reduction. Reductions in the numbers of crab required were even more dramatic, with the largest reductions being calculated based on a pelagic definition of harvesting less than 20 crabs per tow as opposed to the gear based definition. It is unlikely that the estimates of PSC reductions are appropriate for an orderly prosecution of the pollock fishery in a pelagic mode, especially given the structural changes in the fishery brought on by steller sea lion concerns. However, some reductions may be possible given historic PSC bycatch levels in the pollock fishery when non-pelagic trawl gear was allowed.

The Council also reviewed information in the analysis which evaluated the historical levels of retained vs discarded groundfish catch. The Council's Preferred Alternatives for catcher/processor sideboards, as approved in June 1999, are detailed in Chapter 11 and in a later section of this Executive Summary.

Chapter 7

To mitigate the impact of AFA on the non-pollock fisheries, section 211(c) mandates that *"by not later than July 1, 1999 the North Pacific Council shall recommend for approval by the Secretary conservation and*

management measures to - (A) prevent the catcher vessels eligible under subsections (a), (b), and (c) of section 208 from exceeding in the aggregate the traditional harvest levels of such vessels in other fisheries under the authority of the North Pacific Council as a result of fishery cooperatives in the directed pollock fishery". This chapter describes the options selected by the Council for constructing catcher vessel sideboards.

While language in the Act refers to the aggregate traditional harvest levels of AFA catcher vessels as a basis for determining sideboard levels, there is no further specification on measures of traditional catch nor is there guidance on implementation outside of the time line for submitting the amendment package to the SOC. Since the December 1998 meeting, the Council has developed a set of alternatives and options and tasked staff with developing the analysis. The Council has treated crabs and scallops independently of the general sideboard rules being considered for non-pollock groundfish in the BSAI and GOA, and this chapter is organized accordingly.

Crab

Five of the options for protecting non-AFA members of the BSAI crab fleet are aimed at reducing or altogether eliminating participation by AFA qualified vessels in one or more BSAI crab fisheries. A sixth option would limit AFA vessels to their traditional harvests. A number of exemptions are presented as sub-options, as are variations on the duration of the restrictions. These limitations have been drafted to apply equally to all catcher vessel sectors as defined under section 208.

The first option would prevent AFA catcher vessels from participating in any BSAI crab fishery. A total of 102 species/area endorsements affiliated with 43 vessels would consequently be eliminated if the Council selected this alternative, and adopted measures to prevent their transfer to owners of non-AFA vessels. The bulk of these endorsements are for the BSAI Tanner and Bristol Bay red king crab fisheries. Option 2 would prohibit AFA catcher vessels from fishing *C. bairdi* or *C. opilio*, resulting in the vessels forfeiting the rights to use 42 BSAI Tanner endorsements. A sub-option allowing vessels which made landings in 1995, 1996, and 1997 to continue their participation in the crab fisheries would exempt 10 vessels from options 1 and 2, and reduce the number of forfeited endorsements by 23 and 10, respectively. A third option would allow AFA crossovers to fish *C. opilio* only if the vessel fished *C. opilio* in 1996 or 1997. Of the 42 vessels with LLP endorsements for BSAI Tanner crab, only 7 have the requisite participation to qualify under this option. Option 4 would disallow crossovers at the endorsement level, allowing the Council the flexibility to replicate the restrictions of any of the other options as well as variations thereof. A fifth option would prohibit fishing in any crab fishery except for Bristol Bay red king crab, reducing the number of eligible crab endorsements by 61.

As an alternative or adjunct to the above restrictions, a sixth option would limit the crab harvest of AFA catcher vessels to their aggregate traditional harvest based on their percentage of the total catch in 1995, 1996, and 1997. By itself, this option would allow AFA vessels to fish any of their crab LLP endorsements, subject to a cap based on historical averages. Traditional levels of harvest would allow AFA catcher vessels to take up to 10 percent of the Bristol Bay red king crab fishery, 2 percent of the *C. opilio* fishery, 1 percent of the Pribilof fishery, and 0.5 percent of the St. Matthew fishery. A sub-option to this alternative would apply caps to individual vessels instead of at the cooperative or sectoral levels, presenting potential disclosure problems for analysis and enforcement should the sub-option be adopted.

Each of the options described above can be applied either to AFA catcher vessels that have entered into a cooperative agreement, or to all AFA qualified catcher vessels regardless of their cooperative membership status. Among industry concerns with the latter are worries that individuals with less historic catch in pollock

have a reduced incentive to join a cooperative. However, they will still be bound by sideboard caps while in the open access fishery. Competition for crab with vessels which have substantial pollock catch histories may cause these individuals to reluctantly join cooperatives if they perceive enough bargaining power to improve their share of the non-groundfish caps. Similarly, decisions on whether or not to join cooperatives will be affected by the chosen duration of the sideboard caps relative to the effective duration of cooperatives.

Scallops

Sideboards for scallops are to be based on an AFA catcher vessel's traditional catch. Two options were considered as qualifying time periods. The first is the years 1996 and 1997, the second option is for 1997 alone. Sideboards will be apportioned according to the percentage of statewide catch, or alternatively as a percentage of the PSC cap to limit scallop harvests according to crab bycatch.

Only one AFA catcher vessel, the Forum Star, has a recent scallop history, and its harvests in this fishery are limited to 1997. Based on the owner's estimated landings and statewide catch as the denominator, the Forum Star caught 3.95 percent of the 1996 and 1997 harvests and 7.63 percent of the 1997 catch. Based on projected annual statewide scallop harvests of 860,000 pounds, the Forum Star's catch could be limited to either 34,000 pounds or 65,600 pounds, for each of the two options, respectively.

Apportioning sideboards as a percentage of PSC caps is not as straightforward since the GHL and some crab bycatch limits are set separately according to species and area, making it difficult to predict when and for what reasons a fishery will close. Additionally, bycatch information is not reported at the vessel level. Adoption of this sub-option could have highly variable results depending on the locations of the Forum Star's fishing activity and the spatial concentration of its bycatch.

BSAI Groundfish

Groundfish sideboards for the various species are to be set as a percentage of future TACs according to the traditional catch of AFA catcher vessels, aggregated by either the individual cooperative or sector level. While the Act designates three sectors in section 208, the eligibility requirements of two sectors overlap so that some vessels are eligible for both the catcher vessel inshore as well as the catcher vessel to mothership sectors. For purposes of analysis, these vessels were grouped into a fourth sector since it is unknown how qualifying individuals will choose to operate. Of the 120 catcher vessels eligible under the Act, 92 meet the criteria for delivering to the inshore sector, 7 are qualified for delivering to motherships, 14 can deliver to both the inshore and mothership sectors, and 7 can deliver to catcher/processors.

Various options revolve around the determination of traditional catch for both the numerator and the denominator of the percentage calculation. There are two base periods considered, one for the years 1992 through 1997, and a more recent option spanning only 1995 through 1997. Problems associated with either time period include changes in the TAC groups over time, which affect how some species have been accounted for in making those calculations. Naturally, these inconsistencies are much more pervasive throughout the longer time period, where some of the TAC groups of the earlier years bear little resemblance to the species compositions of the present TAC groups on which future caps will be based. Distributional differences between both time periods seem to favor the 1995 through 1997 period for the AFA catcher fleet as a whole, perhaps because the contingent of AFA qualified vessels made up a lesser portion of the total pool of harvesters in the earlier years than it has in more recent times. Changes in pollock season length over time and related bycatch rates are also likely variables that may have had a role in the different outcomes.

In addition to both time periods, the Council requested that traditional catch be presented in terms of all catch of a particular species, including amounts accrued as bycatch in the pollock fisheries, or solely those amounts caught when pollock was not targeted. Similarly, there is an option to determine the above catch amounts as percentages of the total catch for each species or as percentages of each species' TAC. Generally, the combination that yields the highest sideboard caps results from using the groundfish catch in all fisheries as a percentage of catch for the years 1995 through 1997. As with catcher processor sideboards, the Council also reviewed information on historical levels of retained and discarded catch.

Table 3 provides estimates of the future Pacific cod sideboard caps under each of the three alternatives using 1995-97 data. The difference between the smallest and largest cap is over 5,700 mt, based on current TACs.

Table 3: Estimates of future BSAI catcher vessel Pacific cod caps under the various scenarios, based on the years 1995-97

Species by TAC Grouping	CV Inshore 92 Vessels	CV to IN/MS 14 Vessels	CV to MS 7 Vessels	CV to CP 7 Vessels	All AFA CVs 120 Vessels
All targets / Total catch					
Percent of TAC	73.58%	7.80%	2.46%	9.15%	92.99%
Estimates of available cap (mt)	30,606	3,244	1,023	3,806	38,679
Non-pollock targets / Total catch					
Percent of TAC	66.26%	6.20%	2.03%	7.88%	82.37%
Estimates of available cap (mt)	25,281	2,400	815	2,937	31,433
Non-pollock targets / TAC					
Percent of TAC	63.65%	5.96%	1.95%	7.57%	79.13%
Estimates of available cap (mt)	26,475	2,479	811	3,149	32,914

Note: The percentages refer to the portion of the overall trawl CV allocation.

As in the crab sideboard section, there is a sub-option to apply the groundfish sideboards to all AFA qualified vessels versus just those vessels which have joined a cooperative. As written, catcher vessel eligibility under AFA does not depend on a specific listing of the vessel under section 208 as much as it does on meeting the qualifying criteria, so that applying the sideboards to all eligible vessels has a far reaching effect that may not have been anticipated by individuals who purposely chose to be removed from section 208 when the bill was drafted. At this point it is difficult to fully distinguish between the effects of these alternatives since there is no reliable way to anticipate who will join a cooperative, especially given the range of options currently under consideration. Nonetheless, some likely impacts could be anticipated. If the sideboard caps were assigned to vessels eligible to join cooperatives, catcher vessel operators with small pollock histories who would have otherwise foregone membership in a cooperative might instead join if they perceive a more secure share of the groundfish catch by doing so. On the other hand, if the caps apply only to cooperative members, catcher vessels could compete in the open access fishery for pollock without being constrained by the sideboard caps imposed on cooperatives. Some vessel owners will likely decide that the sideboard caps are too onerous, when compared to the benefits derived from cooperative membership.

Another sub-option applies the above sideboard limits separately to three classes of AFA catcher vessels depending on their pollock catch averaged over 1995 through 1997 (vessels that caught less than 5,000 mt, 3,000 mt, or 1,000 mt, respectively). Assuming that vessels with lesser pollock catches and proportionately higher catches of other species would be a disadvantaged minority in any cooperative where the main bargaining chip is total pollock catch, this sub-option could level the playing field. Operating under a separate

cap could allow these vessels to retain a more representative share of their traditional groundfish catch. The resulting estimates show that for the inshore sector, 16 vessels with less than 1,000 mt of annual pollock catch would be allowed to harvest about 7.5 percent of the Pacific cod cap, 40 vessels with less than 3,000 mt of pollock catch 27.5 percent, and 57 inshore vessels with < 5,000 mt of pollock history 54 percent. It is unknown if the vessels in these categories would be better off under the sub-caps.

There are six alternatives that could govern the temporal assignment of groundfish sideboards, and a number of these are also subject to sub-options which identify particular sectors. The first is to simply apply the sideboards throughout the entire year. Under this scenario, AFA catcher vessels would have no opportunity to harvest at levels above their traditional catch histories. Alternatively, a second option stipulates that the caps be apportioned quarterly or semi-annually according to the times of year they were earned. Quarterly divisions of catch history may be important for flatfish species if prices are strongly influenced by the quantity of product reaching the market.

A third option would subdivide the Pacific cod cap among vessels that had, on average, fished a majority of pollock during the "A" seasons of 1995 through 1997, and vessels which traditionally targeted other groundfish. The Pacific cod cap would be split according to each group's collective share and applied only prior to March 1 of each year, thus reapportioning some of this species to vessels which traditionally targeted groundfish other than pollock. Sub-dividing the Pacific cod cap in this way would likely benefit the nine catcher vessels that harvested a greater proportion of catch in the non-pollock fisheries prior to March 1. They would have access to 4 - 5 times as much Pacific cod as the other 111 vessels during the early part of the year.

A fourth option would make groundfish sideboards effective only during "normal" pollock seasons, defined either by 1998 open access dates or 1999 season dates modified by Stellar sea lion concerns, which are still being developed. Proponents of this option claim that there would be no more impacts from cooperatives warranting special protection during the off seasons for pollock than there were historically. The sideboard caps would be based on amounts harvested when the pollock season was open. This option may allow the AFA catcher vessels to harvest amounts of groundfish in excess of their traditional catch.

The fifth option, which exempts catcher vessels that deliver to motherships from the sideboards prior to February 1, would allow this sector to take advantage of the time between the January 20th trawl gear opening in the BSAI and the February 1 start of their pollock "A" season. While the opportunity for these vessels to exceed their traditional catch in other groundfish likely exists during this time window, there is insufficient data on which to base reliably estimated catch rates.

The sixth option would exempt each catcher vessel sector from sideboard caps for the number of days in excess of five that a particular sector's pollock season is closed during the month of February. Should the closure length between the Stellar sea lion modified pollock season's increase beyond five days in February, this option would allow the AFA pollock fleet to compete with the non-AFA fleet for non-pollock species! Again, the potential would arise for the AFA fleet to exceed its traditional catch of sideboard species.

The Council also considered, and finally adopted, an option which exempts certain vessels from groundfish sideboards in both the GOA and BSAI. These exemptions are based on a combination of BSAI pollock thresholds and participation thresholds in those other fisheries . These are detailed in Chapter 11.

Proposed alternatives for the enforcement and monitoring of sideboards include options to do so by vessel class and sector or by individual cooperative. While logistical considerations dictate a preference for the former, applying caps on an almost fleet-wide basis may frustrate the efforts of cooperatives to fish rationally since

they would have to compete against each other for an overall cap. On the other hand, there are confidentiality issues that would have to be addressed if the sideboards were applied at the cooperative level. Once the sideboards are reached for a particular species, determining which fisheries close as a result will likely depend on the method employed for determining the caps. For example, if the sideboards are based only on AFA catcher vessel's non-pollock catch, then groundfish closures subsequent to attainment of the caps will likely prevent AFA vessels from harvesting their pollock allocation.

PSC for the BSAI fisheries will be allocated based on historic groundfish catch ratios. Groundfish catch ratios were suggested as the preferred method of allocating PSC caps because the Council was attempting to develop a system that would not reward vessels if they had high bycatch levels in past years.

The historic groundfish catch ratios will be applied to all PSC species, so AFA catcher vessels would be capped at 49 percent of halibut and crab species allocated to the Pacific cod target fishery. Estimated percentages for each PSC target fishery grouping and an estimate of the future halibut allocations are provided in Table 4 below.

Table 4: Percent of future BSAI PSC caps based on catch history ratios of AFA catcher vessels to all vessels, for the years 1995-97, by PSC target fishery definition

PSC Target Categories	AFA Catcher Vessels - All Target Fisheries				
	CV Inshore 92 Vessels	CV to IN/MS 14 Vessels	CV to MS 7 Vessels	CV to CP 7 Vessels	All AFA CVs 120 Vessels
Percent of Future Year's PSC Allocation					
Atka mackerel/Pollock/Other Groundfish[2]	32%	7%	2%	3%	44%
Yellowfin Sole	10%	1%	0%	1%	12%
Pacific Cod[1]	38%	4%	1%	5%	49%
Rock sole/Other flatfish	13%	2%	1%	1%	17%
Future Year's Halibut Allocation (mt) based on 1999 PSCs and the Percentages Above					
Atka mackerel/Pollock/Other Groundfish[2]	80.0	17.5	5.0	7.5	110.0
Yellowfin Sole	100.5	10.5	0.0	10.5	121.5
Pacific Cod[1]	589.0	62.0	15.5	77.5	744.0
Rock sole/Other flatfish	103.5	16.0	8.0	8.0	135.5

Source: NMFS Blend data for the years 1995-97 for denominator, and Fishtickets and NORPAC Observer data 1995-97 for the numerator.

Notes:

1) Only 1997 data were used for the Pacific cod fishery.

2) Estimates for the Atka mackerel/Pollock/Other Groundfish category do not reflect the changes that have occurred in the pollock fishery for 1999.

GOA Groundfish

Groundfish sideboards for GOA flatfish fisheries were developed separately. Those will be based on halibut PSC caps and/or historical flatfish harvests. For species other than flatfish, caps will be set according to AFA catcher vessel's traditional catch of each species. Traditional catch has been specified by the Council as the percentage of total catch from 1995 through 1997, and as in the BSAI sideboards, these values may be apportioned quarterly relative to when they were caught. For Pacific cod, the AFA catcher vessels would be capped at approximately 20 percent of the Central and Western GOA TACs. Pollock caps would be about 50 percent in all areas except the Shumagin District, where they would be close to 75 percent. Typically all other species caps would remain at less than 15 percent. The Council also exempted certain vessels from GOA sideboards, based on a combination of BSAI pollock landing thresholds and GOA catch history thresholds.

PSC in the Gulf of Alaska would be allocated as sideboard caps only for flatfish, based on the alternatives in this analysis. The deep and shallow water flatfish complexes in the GOA have historically been limited by halibut bycatch. Therefore, limiting the amount of halibut that AFA catcher vessels can use in these fisheries should effectively limit their catch of the target species. Limiting only the halibut PSC for these fisheries, and not the target catch, will allow the AFA catcher vessels to harvest more flatfish than their historical average if they are able to use the entire PSC cap and reduce their ratio of halibut to target catch. This was not considered to be a problem by some members of industry, because traditionally a portion of the flatfish TACs in the Gulf goes unharvested. However, the Council also considered limiting GOA flatfish based on the historical harvests of these species.

Initial estimates indicate that the catcher vessel sideboard caps would equal about 10 percent of the halibut allocated to the deep water complex, and about 20 percent of the shallow water complex allocation. These rates equate to about 92 and 212 mt of halibut in those fisheries, respectively. Releasing the halibut cap by quarter, in proportion to the AFA vessel's historic catch, would result in about 11 percent of the deep water complex halibut allocation being released in the first quarter, 67 percent in the second quarter, 18 percent in the third quarter, and four percent in the final quarter. Distribution of the shallow water complex halibut cap would be approximately equal across all four quarters of the year.

The Council's Preferred Alternatives for catcher vessel sideboards, as approved in June 1999, are detailed in Chapter 11 and in a later section of this Executive Summary.

Chapter 8

Chapter 8 examines the impacts of imposing limits on processing of groundfish in the GOA, crab in the BSAI, and non-pollock groundfish in the BSAI. The limits would affect processors eligible to participate in pollock cooperatives authorized by the American Fisheries Act (AFA). The analysis presented in Chapter 8 examines the language in the AFA, analyzes the current structure of the industry, and develops 10 specific options for implementing processing limits. The analysis then calculates estimates of the limits based on the structure of the industry and the different options as specified. The analysis ends by drawing conclusions regarding the effectiveness of the options in fulfilling the mandates of the AFA.

The AFA stipulates that the Council shall submit measures by July of 1999 to "protect processors not eligible to participate in the directed pollock fishery from adverse effects as a result of this Act or fishery cooperatives in the directed pollock fishery." The AFA provides specific guidelines for crab processing limits and provides the basis of the 10% Ownership Rule (below) which defines AFA entities.

> If a company has a 10 percent or more ownership stake in an AFA-eligible processing facility, then all other processing facilities in which that company has 10 percent ownership will also be considered part of the AFA entity. For purposes of the analysis, the lease of a facility will be considered ownership of that facility.

The analysis of ownership develops organization charts for the 15 entities that were found to encompass all of the processing facilities that, according the to AFA, will be eligible to process pollock in directed fisheries. The analysis used a literal interpretation of the 10% Ownership Rule to develop the entities. Organization charts for several entities that are not associated with AFA facilities are also provided, including charts for four of the six CDQ organizations. Currently, two of the CDQ organizations, Bristol Bay Economic Development Corporation and Norton Sound Economic Development Corporation, have ownership interests in AFA facilities and are included in the 15 AFA entities. The table below summarizes the findings of the organizational analysis of AFA facilities, companies, and entities.

Summary of Eligible Facilities, Companies, and Entities under the AFA

	Entities	Companies	Inshore Facilities	Catcher Processors	Motherships	Total Facilities
AFA Facilities	15	18	9	21	3	**33**
Facilities in AFA Companies	15	20	20	32	10	**62**
Facilities in AFA Entities	15	35	29	44	10	**83**

Notes:
1/ The row labeled AFA Facilities includes all of the processing facilities are eligible under the AFA to process BSAI pollock from directed fisheries.
2/ The row labeled "Facilities in AFA Companies" includes all facilities owned by companies that own at least one AFA facility.
3/ The row labeled "Facilities in AFA Entities" includes all facilities associated with entities that own at least one AFA-eligible facility. The row includes several facilities that may be, or may not be, included within AFA entities, depending on the implementation of the 10% Ownership Rule.
4/ The table does not include the nine catcher processors from §209 of the AFA.
5/ The table includes the entity that comprises the only catcher processor eligible from §208(e)(21) of the AFA and the only shore plant eligible from §208(f)(1)(B) of the AFA.

Processing limits could be applied in a number of different ways. The analysis identifies three levels at which processing limits could be applied:

1. A single overall limit for each species
2. Sector level limits for each species
3. Individual limits for each species

Within each of these three levels there are at least three layers of the AFA eligibility:

1. Plants and vessels that are AFA-eligible
2. Companies that own AFA-eligible plants and vessels
3. Entities that combine AFA companies under the 10% Ownership Rule

The analysis specifically examines processing limits in terms of each of the three layers of AFA eligibility for each of the three levels at which processing limits and an additional option for individual company limits apply only to AFA-eligible facilities. The 10 options analyzed in Chapter 8 are specified below.

Option 1: Overall Processing Limits Applied to All AFA Facilities

Option 2: Overall Processing Limits Applied to All Facilities in AFA Companies

Option 3: Overall Processing Limits Applied to All Facilities in AFA Entities

Option 4: Sector-Level Processing Limits Applied to All AFA Facilities

Option 5: Sector-Level Processing Limits Applied to All Facilities in AFA Companies

Option 6: Sector-Level Processing Limits Applied to All Facilities in AFA Entities

Option 7: Individual Processing Limits Applied to Each AFA Facility

Option 8: Individual Processing Limits Applied to All AFA Companies

Option 9: Individual Processing Limits Applied to the AFA Facilities within Each AFA Company

Option 10: Individual Processing Limits Applied to All AFA Entities

The table below shows the TAC percentages that would be allowed under the processing limit options. The table is based on processing histories from 1995 through 1997.

Summary of Processing Limit Options Based on Processing Histories from 1995 through 1997

	Percent of Total Processing				
Bering Sea and Aleutian Islands Groundfish					
	Atka Mackerel	**Flatfish**	**Other Species**	**Pacific Cod**	**Rockfish**
Limits on AFA Facilities only	13.04	33.73	23.48	38.75	18.74
Limits on AFA Companies	13.93	36.82	26.09	42.19	25.99
Limits on AFA Entities	15.01	54.26	39.07	51.09	43.53
Gulf of Alaska Groundfish					
	Atka Mackerel	**Flatfish**	**Other Species**	**Pacific Cod**	**Pollock**	**Rockfish**
Limits on AFA Facilities only	9.94	6.66	4.55	35.55	46.73	8.11
Limits on AFA Companies	16.86	21.87	8.48	44.31	58.27	25.03
Limits on AFA Entities	19.48	32.37	20.93	51.27	67.10	37.20
Bering Sea and Aleutian Islands Crab					
	Bairdi	**Blue King**	**Brown King**	**Opilio**	**Red King**
Limits on AFA Facilities only	61.09	16.61	55.08	19.7	57.43
Limits on AFA Companies	65.15	74.05	59.93	61.67	69.37
Limits on AFA Entities	66.90	74.56	59.93	63.31	70.20

Notes:

1. Total processing limits for each species do not change regardless of whether limits are applied as overall limits, sector-level limits, or individual limits. If the number of affected facilities is expanded to include all processing within AFA companies, or to include all processing within AFA entities, then the limits increase accordingly.
2. All limits include the processing history of the nine catcher processors listed in §209 of the AFA.
3. Entities limits include all documented linkages as well as facilities that would possibly be linked to AFA entities, depending on the application of the 10 percent rule and further investigation.
4. The limits shown in the table do not include the entity that comprises the only catcher processor eligible from §208(e)(21) of the AFA and the only shore plant eligible from §208(f)(1)(B) of the AFA.

Comparison of Overall Limits, Sector Limits and Individual Limits

As indicated above, the total amount of processing included under the limits does not change if they are applied as overall limits, sector-level limits or as individual limits. Therefore from the perspective of non-AFA processors, there does not appear to be significant differences if the processing limits are implemented as overall limits, sector limits, or individual limits.

If overall or sector-level limits are imposed, AFA processors are likely to experience an intensified race for crab and groundfish other than BSAI pollock. The intensified race for fish can be avoided if processing limits are imposed at the individual level. Although individual limits will not constitute an allocation and individual AFA processors will face continued competition from non-AFA processors, AFA processors will not need to compete with other AFA processors. Individual limits will also allow AFA processors more flexibility (than with overall or sector-level limits) to allocate their processing capacities and other resources, and allow them to realize more of the potential benefits of the AFA.

With overall or sector level processing limits, it is likely that NMFS will have to devise means to close "directed processing" while allowing AFA processors to continue to process bycatch amounts of limited species. If processing limits are imposed on individual processors, NMFS may be able to shift some of the monitoring burden onto the processors themselves and make enforcement a post-season process involving fines and sanctions for those processors that exceed their limits.

Comparison of Limits Applied to AFA Facilities, AFA Companies, and AFA Entities

Processing limits applied to AFA facilities will be restrictive, but not as restrictive as limits applied to companies or entities. If limits are applied only to AFA facilities owners would not be constrained from using AFA profits to increase their non-pollock processing shares at other facilities in which they may have an interest.

Processing limits applied to AFA companies rather than to AFA facilities will be more effective in limiting the ability of owners of AFA facilities to increase their shares of non-pollock processing. The effectiveness of processing limits on AFA companies depends largely on the ability to define AFA companies. Processing limits applied to AFA entities, as defined by the 10% Ownership Rule, would appear to be more effective than limits imposed on AFA companies. Under the 10% Ownership Rule, AFA owners that wish to make new capital investments in non-pollock processing would be limited to investments in salmon and herring fisheries, or to investments that lead to an ownership interest of less than 10 percent of the processors in which they are investing. In addition, because of the limits AFA processors would bring, existing owners may not welcome new investment associated with AFA profits.

Imposing processing limits on AFA entities will have some unintended and negative consequences. Processing limits imposed on AFA entities will create significantly more paperwork for NMFS and the processing industry than the other options. This additional burden will be time-consuming and expensive, and may be viewed by many as a significant intrusion of government into private affairs of industry. Imposing processing limits on entities will also create other unintended consequences by limiting the activities of processors that may not be able to experience any of the benefits of the AFA. These consequences are perhaps most easily understood from the perspective of non-pollock processing companies that have become equity partners with CDQ organizations that, in perhaps unrelated actions, have also invested in AFA facilities.

Conclusion

In conclusion, it appears that processing limits imposed on individuals offer as much protection to non-AFA processors as overall limits or sector-level limits, may not be any more costly to implement or enforce, and would allow AFA processors to realize more of the benefits of the AFA. Crab processing sideboards will be implemented for year 2000 as prescribed by the AFA (and as recommended by the Council in October 1999, with minor variations). The Council did not take action on groundfish processing sideboards in 1999, given the possibility of ambiguous results if processing limits are applied to AFA entities. To fulfill its mandate to protect non-AFA processors, the Council is continuing to study processor sideboards along with excessive share caps for BSAI pollock processing, and is scheduled to take action on these issues in April 2000. Future actions on groundfish processing sideboards (or crab) would be implemented by follow up regulatory amendment.

Chapter 9

This chapter discusses several implementation issues which will likely be critical to the Council's decisions on overall co-op structure and sideboard monitoring. While many of these issues are not yet fully resolved, some major points of consideration include:

* Implementation of catcher vessel cooperatives will be significantly more complex than the single offshore co-op in 1999, for pollock allocations and particularly for sideboard limits.

* Monitoring pollock catch based on directed fishing allocations will require a different management approach - essentially, for catcher vessel inshore deliveries, that means any catch occurring during the open season will be considered as directed harvest.

* Allocation of pollock to specific co-ops based on catch history of participating vessels will require development of an official catch record and an opportunity for appeal. Such a program likely cannot be in place in time for year 2000 allocations, and appeals and corrections to the official catch record may have to wait until 2001.

* Catch data on groundfish (species composition), discard, and PSC species is insufficient to determine quota allocations (or catch limits) to specific vessels in a complete and reliable manner. Catch history information for groundfish may be sufficient, particularly if groundfish sideboards are managed in aggregate across co-ops. Discards likely cannot be included. PSC limits should be based proportional to groundfish catch.

*Although efforts are ongoing to address confidentiality concerns, individual catch histories from State fish tickets cannot be released to vessel owners in time for their use in year 2000 co-op negotiations.

* Regarding sideboard limitations for groundfish, crab, and PSC, it will be extremely difficult for NMFS to manage at the co-op level through traditional in-season management techniques. Responsibility for in-season management and closure will likely be borne by the co-ops themselves. Additionally, sideboard management at the co-op level, particularly for PSC species, will require the same type of monitoring and observer coverage levels that are associated with the multi-species CDQ program.

This chapter also addressed the following issues:

AFA Catcher Vessel Lists

Chapter 9 includes lists of the catcher vessels that are expected to be eligible under the AFA. The vessels are sub-divided into four classes depending where they are qualified to make deliveries.

Compensation for Inshore Catcher Vessels

A number of catcher vessels qualified under AFA to deliver to the inshore sector have accrued significant amounts of their historical pollock catch from deliveries to offshore sectors. Since AFA does not preclude inshore sector catcher vessels from entering into the mothership sector, vessels meeting the eligibility criteria can make use of their offshore pollock histories to the extent that these were delivered to motherships. However, there is no mechanism that allows these same vessels to likewise bring their pollock history delivered to catcher/processors into the cooperative pool, despite language in the Act calling for "fair and equitable" consideration of such landings. Industry has presented a change to Section 210(b)(1)(B) that would allow each inshore cooperative's pollock pool to increase by the amount of pollock history that member catcher vessels had delivered to catcher/processors. Increasing the aggregate pool of pollock effectively compensates members with a substantial share of their harvest to catcher/processors by taxing the rest of the cooperative. However, depending on the catch histories of member catcher vessels, the burden of the compensation scheme may be disproportionately distributed among the different cooperatives.

A total of 66,764 mt of pollock were delivered to catcher/processors by 42 inshore sector catcher vessels. Applying the compensation formula fleet-wide across all inshore catcher vessels would yield an adjustment of 5.6 percent of each vessels catch history. There is also a sub-option that would require minimal landings to catcher processors for each of the 42 vessels before they would be eligible for compensation.

An option that would exclude a vessel from being compensated for deliveries to catcher/processors, based on their inshore catch history, was also included in this chapter. If the option that only compensated catcher vessels with less than 2,000 mt of inshore catch was selected, only 12 vessels would be included and the total adjustment would be just over 2 percent.

Using Best 2 of 3 Years to Determine Pollock Catch History

A brief discussion of allowing catcher vessels to use their best 2 of 3 qualifying years to determine their pollock catch history has been included. Using the best 2 of 3 years will increase the amount of pollock a vessel can take into a cooperative if they had inconsistent catches during the qualifying years, and reduce the amount of pollock to catcher vessels that had consistent catches during the qualifying period.

AFA Loan Repayment

The AFA requires that members of the inshore sector begin repaying the Federal loan in the year 2000, independent of whether the inshore sector is fishing under cooperatives. The payments are based on the pounds of pollock harvested. A payment rate of 0.6 cents per pound was established under the AFA.

Chapter 10

This chapter contains additional information regarding monitoring of mothership and catcher processor allocations and sideboards, including scale and observer requirements and associated costs.

Chapter 11

The Council's preferred alternative for harvesting sideboards, and several other non-sideboard issues are presented in this chapter. Action by the Council on groundfish processing sideboards was delayed April 2000 to be considered in conjunction with BSAI pollock excessive processing share caps.

Catcher/Processor Harvest Sideboards

Catcher/processors will be limited to the percentage of BSAI catch that was landed, relative to the TAC, by the 29 vessels listed in sections 208(e) lines 1-20 and section 209 of the AFA. Sideboard caps based on landed catch do not give catch history credit for discards which occurred at-sea. Atka mackerel in the central and western Aleutian Islands are the only exceptions to this rule. Their sideboard percentages were explicitly defined in the AFA.

Pacific cod sideboard caps were estimated to be 9,290 mt., yellowfin sole 33,610 mt., central Aleutian Islands Atka mackerel 1,191 mt., western Aleutian Islands Atka mackerel 2,497 mt., other flatfish 4,593 mt., rock sole 3,188 mt., and flat head sole 1,438 mt., based on 1999 TACs. These estimates, particularly for flatfish species, are reduced over those in place for 1999. Therefore, it is possible that using landed catch may reduce the caps on some species to a level that will not allow for a directed fishery in 2000, even though directed fisheries were allowed under the 1999 sideboard caps.

PSC caps for the AFA catcher/processor fleet will be calculated the same way in 2000 as they were for 1999. The caps were calculated to be 8.4 percent of the halibut apportionment for trawl vessels, 0.7 percent of the red king crab, 15.3 percent of the *C. opilio*, 14.0 percent of the *C. bairdi* in zone 1, and 5.0 percent of the *C. bairdi* in zone 1.

Catcher Vessel Sideboards

Catcher vessel sideboard caps were developed for the BSAI non-pollock groundfish species, GOA groundfish species, BSAI crab species, scallops, and PSC species covered under the Council's FMPs. Two exemptions were defined by the Council. Both exemptions apply to vessels that landed less than 1,700 mt. of pollock annually in the BSAI. These vessels were exempted from the sideboard caps in the BSAI Pacific cod fishery. They were also exempted from GOA sideboard caps for Pacific cod, pollock, and other groundfish fisheries. For purposes of this section of the analysis, the exempt vessels' catch history was not included in the calculation of the sideboards for those species.

Crab sideboards were developed at the species/area level, and different qualification criteria were defined for each fishery. The AFA vessels were also prohibited from selling, leasing, transferring, or stacking crab LLP licenses. A summary of the crab sideboard restrictions are provided in the table below. These restrictions will apply to all catcher vessels eligible to join cooperatives.

Fishery	Qualification Criteria	# of Qualified Vessels	% of GHL
Bristol Bay red king crab	Capped at their weighted average catch from years 91, 92, 93, 96, and 97	41	12.8 %
C. opilio	Must have fished *C. opilio* in at least four years from 1988-97.	5	n/a
*C. bairdi**	Must have fished *C. bairdi* in 1995 or 96	21	6.5 %
St. Matthew blue king crab	Made landing in this fishery in 95, 96,or 97	1	Conf.
Prib. red & blue king crab	Made landing in this fishery in 95, 96,or 97	4	1.2 %
AI red & brown king crab	Made landing in at least one of the last two years the fishery was open	0	n/a

* No directed fishing will be allowed until the stock is rebuilt.

Note: All restrictions apply to AFA vessels that are also LLP qualified for that species/area endorsement.

Scallop sideboards only apply to one vessel if it opts to join a pollock cooperative. That vessels will be capped at its percentage of the overall scallop harvest in 1997. That percentage (estimated to be 3.33 percent) will be applied to the upper end of the state-wide GHL. At a projected GHL of 860,000 pounds, the cap would be 41,292 pounds.

BSAI groundfish catcher vessel sideboards will be based on the landed catch of AFA qualified catcher vessels, and be expressed as a percentage of TAC available in those years (1995-97). The caps will apply to all catcher vessels eligible to join a cooperative. Only the AFA catcher vessels that qualify for the exemption discussed earlier will be allowed to harvest Pacific cod outside of the cap.

Estimates of BSAI groundfish caps are presented in Table 11.5. That table shows that Pacific cod is projected to be capped at 28,052 mt., yellowfin sole 12,587 mt., other flatfish 7,304 mt., flathead sole 3,220 mt., rock sole 2,601 mt., and arrowtooth flounder 6,658 mt., based on 1999 TACs. NMFS will need to determine prior to the start of the 2000 fishery, which of these species can support directed fisheries.

PSC caps will be based on the ratio of landed catch in each non-pollock target fishery to the TAC, and will be applied only to halibut and crab PSC species. The cap shall not be subdivided among catcher vessel sectors. Preliminary estimates indicate that the AFA catcher vessels will be allowed to harvest up to 34 percent of the halibut and crab PSC caps allotted to the Pacific cod fishery, 7 percent of the apportionment to the yellowfin sole fishery, 4 percent of the apportionment to the rock sole/other flatfish/flathead sole fishery, and 1 percent on the apportionment to the Atka mackerel/other groundfish fisheries.

GOA groundfish sideboard caps apply to all FMP species, including pollock. Like in the BSAI, the caps will be based on landed catch as a percentage of TAC for the years 1995-97. All vessels eligible to participate in a cooperative will be bound by the caps, except those specifically excluded through the 1,700 mt. landings exemption. Table 11.8 shows a complete list of the estimated caps. The largest caps are for pollock, Pacific cod, and shallow water flatfish. The only other species projected to have more than a 1,000 mt. cap, under 1999 TAC levels, are POP and arrowtooth flounder.

PSC caps in the GOA will be based on the ratio of groundfish landed to TAC in the deep and shallow-water PSC groupings. Preliminary estimates indicate that the AFA fleet would be capped at 34 percent of the halibut apportioned to the shallow-water complex and 7 percent of the deep-water complex. Given current PSC caps, this equals approximately 410 mt. of halibut.

Compensation for Inshore Catcher Vessels in the BSAI Pollock Fishery

Two compensation measures were passed by the Council. The first allows catcher vessels with more than 499 mt. of pollock deliveries to catcher/processors from 1995-97 to count that catch just as if it were delivered inshore. The second allows catcher vessels to use their best 2 of 3 years catch history, after adding in compensation from deliveries to catcher/processors.

Other AFA Actions

The AFA mandated that catcher/processors carry two observers and use NMFS certified scales to weigh fish. Those requirements were included in this package. This package also includes a discussion of the items the Council will require to be contained within cooperative agreement packages submitted to the Council and NMFS each year, as well as cooperative reports from the preceding year's fishery.

Chapter 12

This chapter addresses the proposed actions' consistency with other applicable law, including E.O 12866, Regulatory Flexibility Act, Magnuson-Stevens Act, and National Standards. Because the basic intent of the proposed sideboard measures is to preserve the status quo distributions of harvest and processing across industry sectors, it does not appear that such actions would be inconsistent with any of the applicable laws. However, among the alternatives there are those that would have differential impacts relative to both the directly affected entities (AFA harvesters and processors) and indirectly affected entities (non-AFA harvesters and processors). Certain alternatives and options for sideboards would likely be considered to have significant impacts on small entities (under the Regulatory Flexibility Act) relative to other alternatives.

The Council's Preferred Alternative represents a trade-off between impacts to directly affected entities and indirectly affected entities. A conclusion of non-significance, relative to the IRFA, cannot be made based on the available information; however, the Council's actions included measures to mitigate impacts to small entities, including exemptions from the sideboard restrictions for certain catcher vessels involved.

1.0 INTRODUCTION AND BACKGROUND

1.1 Purpose and Need for Action

In October 1998 Congress passed the American Fisheries Act (AFA) which, among other things, divided the Bering Sea and Aleutian Islands (BSAI) pollock fisheries among four sectors (Community Development Quota (CDQ) program, inshore, offshore, and motherships) and stipulated the eligible harvester and processors which would be allowed to participate in this fishery for the duration of the Act, scheduled to expire at the end of 2004. The AFA also included the retirement/buyout of nine vessels from the offshore sector to be funded by a $75 million loan to the inshore sector, and it specified provisions by which vessels and processors could establish pollock fishery cooperatives within each sectors' allocation. Finally, the AFA contained several provisions either mandating or allowing Council action to enact measures to protect other fisheries from the potential impacts of the provisions of the Act or from pollock fishery cooperatives. The basic intent of these 'sideboard' measures is to restrict the pollock harvesters and processors from using the operational advantages provided by the AFA (and co-ops) to increase their participation in other, non-pollock fisheries.

For reference, the full text of the Act is contained in Appendix I. This amendment package will focus on the sideboard measures and associated issues, and they are detailed in the following sections along with the Council's specific alternatives and options for applying the sideboards. In addition to the sideboard measures, other sections of this analysis address inshore cooperative formation and the impacts of the rules as specified in the AFA. For the offshore sector, co-ops were formed for the 1999 fisheries and sideboards for 1999 for that sector were approved by the Council in November of 1998, based on guidelines specified in the AFA. Sideboard provisions for this sector for year 2000 and beyond need to be established by the Council as part of this amendment package. Additionally, the AFA provides for the formation of co-ops in the inshore and mothership sectors beginning in year 2000 and requires the Council to develop sideboard measures for those sectors (harvesting and processing). Other provisions of the Act, including excessive share caps for harvesting and processing, are being developed separately.

1.2 Alternatives Considered and Approved

In December 1998 the Council developed an initial list of sideboard measures for consideration, including harvest sideboards for the offshore sector, harvest sideboards for the catcher vessels, and processing sideboards for all sectors. These sideboards would apply to all AFA-eligible harvesters and processors, or at least to those participating in pollock co-ops. Following review of an initial analysis prepared by Council staff, the Council finalized that list of alternatives and options for a formal analysis to be reviewed at the April 1999 meeting, with final action scheduled for June 1999. While the AFA contains specific provisions for the calculation and application of sideboards in some cases, it allows the Council to enact measures as it deems necessary to protect other fisheries, including measures which go beyond the provisions contained in the Act. As such, the list of alternatives includes those listed by the AFA as well as additional alternatives submitted by industry and approved by the Council for analysis. The full list of alternatives considered and approved is shown below.

This includes a description of the alternatives specified in April 1999 broken out by major section (catcher processor sideboards; catcher vessel sideboards for crab, scallop, and groundfish; processor sideboards; and other AFA related actions), followed by the Council's PREFERRED ALTERNATIVE for each of these sections. The suite of alternatives and options are analyzed in various sections of the document, again broken out by major category. Because the Council's final decision included a wide mix of elements and options from the list of alternatives, Chapter 11 provides an analysis specific to the Council's Preferred Alternatives which

were approved at the June and October 1999 meetings. **Note that the Council deferred action on groundfish processor sideboards until April 2000, and the Council may also consider changes to the inshore cooperative structure in February 2000. Final action on portions of the catcher vessel sideboards (exemptions from certain GOA and BSAI sideboards for certain vessels) was taken in December 1999.**

CATCHER PROCESSOR SIDEBOARDS

For the year 2000 and beyond, the Council initiated an analysis for the 20 + 9 vessels listed in the AFA of their bycatch in both the directed pollock and non-pollock fisheries (95, 96, 97) and associated PSC levels. The catch histories of the 20 listed vessels and the 9 vessels which are removed from the fishery and the catch in the pollock and non-pollock target fisheries will be treated separately. This will allow the Council to include either all catch or only catch in the non-pollock target fisheries (for either the 20 or 29 vessels) in the caps set for 2000 and beyond.

Sub-options:

1. The caps would close both the pollock and non-pollock groundfish fisheries when reached.
2. The caps would close only the non-pollock groundfish fisheries when reached (only pelagic pollock fisheries would remain open).

Include a review of vessel specific PSC rates in addition to average PSC bycatch ratio for the 20 +9 AFA catcher/processors relative to non-AFA vessels.

Add to Table 6.9 a fourth column which illustrates a retrospective analysis of PSC needs of the 20 + 9 AFA catcher/processors using a performance-based pelagic definition.

Include discussion paper establishing chinook PSC sideboard for co-op pools in pollock, on a pro-rata basis, based on final Council action on chinook bycatch caps. (Note: The chinook bycatch option was included in the AP minutes only under catcher vessel sideboards. For consistency, staff has also included this option under the catcher/processor sideboard section).

PREFERRED ALTERNATIVE

Groundfish:

1. Non-pollock groundfish caps (other than Atka mackerel in the central and western Aleutians) for listed vessels will be established on the basis of the percent of landed groundfish catch relative to TAC (of the original 29 vessels) in the pollock and non-pollock fisheries in 1995, 96, and 97 (for Pacific cod, 1997 only; for POP in the Aleutians, 1996 and 1997).
2. NMFS will determine the bycatch needs for pollock and non-pollock fisheries and allow for directed fishing for non-pollock target species such that the total catch of those species should not exceed the caps.

PSC Caps:

1. Total PSC cap for listed vessels will be established on the basis of percentage of PSC removals in the non-pollock groundfish fisheries in 1995, 96, and 97.
2. NMFS will allow for directed fishing of non-pollock species such that the total PSC removals do not exceed the PSC cap.

3. The listed vessels' PSC caps will not be apportioned and will be managed under open access season apportionment closures.

Catcher processor sideboards for both groundfish and PSC caps are a package and disapproval of any component would be disapproval of the whole package and returned to the Council for further action.

CATCHER VESSEL CRAB SIDEBOARDS

Participation in a co-op is defined as ANY use of a vessel's catch history by a co-op, whether by direct harvest, lease, sale, or stacking of quota.

Initiate analysis of the following options to mitigate impact of possible spillover effects of AFA on other fisheries:

Options For Section 208 Vessels:

1. No crossover allowed into any crab fisheries.
2. No crossover allowed in the Tanner crab fishery only (opilio and bairdi).
3. No crossover allowed into opilio unless vessel fished opilio in 1996 or 1997.
4. No crossovers at the endorsement level.
5. Allow crossovers only into red king crab fisheries only (excludes brown and blue king crab).

Sub-options:

a. Vessels which qualified based on bycatch of bairdi in red king crab would be restricted to bycatch of bairdi in the red king crab fishery (applied to #2 & #4 above).
b. Only Section 208 catcher vessels that join a co-op (applies to #1-5 above and #6 below).
c. Allow crossovers for vessels with crab landings in each of the three years (1995, 96, and 97) (applies to #1 and #2 above).
d. Prohibit any vessel participating in an AFA co-op from lease, transfer, or sale of any license limitation program (LLP) permit.

Duration sub-options:

a. Permanent, based on participation in a co-op.
b. Only for year vessel is involved in co-op.
c. Duration of AFA

6. Measures that would restrict pollock co-op vessels to their:

Option a. Aggregate traditional harvest including a restriction to the percentage of crab harvest in all species between 1995, '96, and '97.

Option b. Average catch history 1995, '96, and '97 on a species-by-species and vessel-by-vessel basis.

Option c. No sale, lease, or stacking of vessel catch history in any crab fishery.

PREFERRED ALTERNATIVE

A. Crab Sideboards shall apply to all AFA vessels.

B. Bristol Bay Red King Crab (BBRKC)

1. These AFA vessels that hold a BBRKC endorsement shall be capped at their 5-year (91-97, excluding 94-95) weighted average share. These vessels shall be managed in the aggregate.
2. This share of future catch shall apply to the pre-season BBRKC GHL.

C. Opilio — AFA LLP Alternative 9 Tanner crab endorsed vessels may participate in the opilio fishery if they harvested opilio in more than 3 of 10 years (88-97).

D. Bairdi

1. AFA qualified vessels that receive an LLP endorsement are excluded from participating in the directed bairdi fishery, except as follows: If and when the bairdi rebuilding goal is reached, the only AFA vessels allowed to participate would be those with catch history in 1995 or 96. These vessels would be capped at their aggregate historic catch for 1995-96.

2. If there is a BBRKC fishery where bairdi bycatch is allowed, the AFA Tanner crab endorsed vessels may retain bycatch bairdi.

E. AFA LLP Alternative 9 vessels which hold a LLP endorsement for either the St. Matthews or Pribilof king crab, and had a landing in that fishery in 1995, 96 or 97, may participate in that fishery. For Adak red king crab and brown crab fisheries a qualified vessel which had a landing in the last two years the fishery was open may participate in those fisheries.

F. Prohibit the sale, lease, transfer or stacking of crab LLP licenses or endorsements by AFA-eligible catcher vessels.

Additionally, a committee will be formed to workout implementation issues relating to crab sideboards. This committee will likely meet during July and is scheduled to have a report available for the joint Council/BOF meeting to be held in August.

CATCHER VESSEL SCALLOP SIDEBOARDS

1. Participation in a co-op is defined as any use of a vessel's catch history by a co-op, whether by direct harvest, lease, sale, or stacking of quota.

2. Measures that would restrict pollock co-op vessels to their aggregate traditional harvest in the scallop fishery in the years:

Option a. 1996 and '97.
Option b. 1997 only

Sub-options:

a. Based on percentage of statewide catch
b. Based on percentage of PSC cap.

PREFERRED ALTERNATIVE

1. Participation in a co-op is defined as any use of a vessel's catch history by a co-op, whether by direct harvest, lease, sale, or stacking of quota.

2. Measures that would restrict pollock co-op vessels to their aggregate traditional harvest in the scallop fishery in 1997 based on a percentage of the upper end of the state-wide guideline harvest. level. The cap would be this percentage applied to the upper end of the state-wide guideline harvest level established each year.

CATCHER VESSEL GROUNDFISH SIDEBOARDS

BSAI

Participation in a co-op is defined as ANY use of a vessel's catch history by a co-op, whether by direct harvest, lease, sale, or stacking of quota.

To Whom Restrictions Apply

Restrictions should apply to all non-pollock FMP fisheries.

Sideboards apply to all Section 208 eligible vessels.

Sub-options:

a. Applies to Section 208 vessels only if they join a co-op.
b. Create sub-sideboard cap for catcher vessels with average pollock landings from 1995-97, which were less than:
   1. 1,000 mt
   2. 3,000 mt
   3. 5,000 mt

When the CV Restrictions Should Apply

5. Harvest levels should be restricted only during the same time periods as the normal open access pollock fishery

Sub-options:

a. Use 1998 open access season dates by sector as a base reference
b. Use 1999 sea lion modified season dates.

2. Exempt those CVs that fish for motherships from BSAI groundfish sideboards prior to February 1 each year.

3. Exempt each CV sector from BSAI groundfish sideboards for the number of days in excess of 5 that each CV sector's pollock season is closed by regulation during the month of February.

4. Limit fishing to the season (or quarter - or half year) in which the catch history was earned.

5. At all times during the fishing year.

6. AFA qualified pollock catcher vessels, that during pollock A season historically had a majority of their catch in pollock, would be limited prior to March 1 of each year to the collective share of the cod fishery that these same vessels collectively harvested historically (1995, 96, 97) prior to March 1.
   1. Apply and monitor by vessel class and sector
   2. Apply and monitor by individual co-op.

   (This would effectively subdivide the P. cod cap between AFA vessels that harvested mostly pollock during the A season and those that did not).

Nature of CV Restrictions

Absolute harvest amounts expressed in percentage of TAC in metric tons.

Determination of "Traditional Harvest Level"

5. The definition of "traditional" in non-pollock fisheries will be determined by catch history:
   a. On basis of percentage of groundfish harvest in non-pollock fisheries by species by fishery.
   b. On basis of percentage of total groundfish harvest by species by fishery.
   c. On basis of percent of TAC in non-pollock fishery by species by fishery.

   Option A: Apply one time frame equally to all groundfish targets
   Sub-option 1: Use average catch history in the years 1995, 96, and 97.
   Sub-option 2: Use catch history based on years 1992-97.

Pollock: Initiate qualitative discussion on ability for Secretary to use the best 2 out of 3 years to determine overall denominator for total pollock pool and numerator for each co-op.

Determination of "Aggregate"

Option A: Apply and monitor by the vessel class and sector.
Option B: Apply and monitor by individual co-op.

Compensation

Further address in a discussion paper, options for compensation to inshore catcher vessels with catch history delivering to catcher processors that is no longer available to them under AFA. Additionally, examine inserting a clause replacing language in §210(b)(1) to add an option for determining catch history for catcher vessels on the basis of the best two of three years in 1995, 1996, 1997.

As provided by Section 213(c)(3) of AFA, the AP recommends the following change to Section 210(b)(1)(B) to allow a catcher vessel with catch history, based on deliveries to catcher processors that is otherwise lost

under AFA, to bring that catch history to the inshore sector cooperative while sharing the burden among all members of the inshore sector.

> *". . . the Secretary shall allow only such catcher vessels (and catcher vessels whose owners voluntarily participate pursuant to paragraph (2)) to harvest the aggregate percentage of the directed fishing allowance under Section 206(b)(1) in the year in which the fishery cooperative will be in effect that is equivalent to the aggregate total amount of pollock harvested by such catcher vessels (and by such catcher vessels whose owners voluntarily participate pursuant to paragraph (2)) in the directed pollock fishery for processing by the inshore component, together with the amount harvested by such vessels for processing by catcher/processors in the offshore component during 1995, 1996 and 1997, relative to the aggregate total amount of pollock harvested in the directed pollock fishery for processing by the inshore component together with the aggregate total amount harvested by all catcher vessels (excluding those eligible under 208(b)) for processing by catcher/processors in the offshore component during such years and shall prevent such catcher vessels (and catcher vessels whose owners voluntarily participate pursuant to paragraph (2)) from harvesting in the aggregate in excess of such percentage of such directed fishing allowance."*

The analysis should breakout the 42 vessels by:

a. deliveries of 250 mt
b. deliveries of 500 mt
c. deliveries of over 1,000 mt
d. deliveries of over 2,000 mt
e. deliveries of over 3,000 mt
f. deliveries of over 5,000 mt

(Vessels that do not meet these harvest requirements may not be eligible for compensation in the inshore sector.)

Management of Non-Pollock fisheries

Vessels limited to target fishing for non-pollock species during those times when the open access target fishery for the non-pollock species is open.

Assigning PSC Caps for Co-op Catcher Vessels in Non-Pollock Fisheries

Determine PSC caps based on catch history ratios (1995, 1996, and 1997) rather than VIP rates.

a. A review of vessel specific PSC rates for eligible vessels, compared to non-eligible vessels.
b. Average bycatch rates of eligible vessels, compared to non-eligible vessels.
c. A retrospective analysis of PSC needs for eligible vessels using a performance-based pelagic pollock definition.

1. PSC and non-pollock groundfish caps would apply to all fisheries as true caps (i.e., when reached these vessels would stop fishing for all groundfish species).
2. The caps would only close the non-pollock target fisheries.

Include discussion paper establishing chinook PSC sideboard for co-op pools and/or sectors in pollock, on a pro-rata basis, based on final Council action on chinook bycatch caps.

GOA

1. Apply the following sideboards to AFA Section 208 eligible catcher vessels.
   Sub-option: Applies only to vessels participating in a co-op.

6. Any non-pollock catch limitations for AFA Section 208 vessels are aggregate caps not quotas or allocations.

7. Vessel catch history consists of the years 1995, '96 and '97.
   Sub-option: Fishery is released seasonally by quarter proportionally to when caught during qualifying years.

4. Gulf of Alaska flatfish sideboards to be halibut bycatch driven. Historic target catch should be multiplied by the average halibut bycatch rate and current mortality rate to determine the halibut mortality available to AFA vessels. These amounts should be separated between deepwater and shallow water complexes.

5. Gulf of Alaska groundfish target fisheries: Target catch of each groundfish species available to AFA Section 208 vessels should be limited to the average catch, by target species, based on the average catch history.

PREFERRED ALTERNATIVES

BSAI Groundfish Sideboards

1. Shall be based on vessel catch between 1995-97.
2. Shall be based on non-pollock catch in pollock and non-pollock targets, as a ratio of the AFA vessels' catch to TAC.
3. NMFS will determine the bycatch needs for pollock and non-pollock fisheries and allow for directed fishing for non-pollock target species such that the total catch of those species should not exceed the caps.
4. Shall apply to all AFA eligible vessels regardless of participation in a co-op.
5. Shall apply at the AFA CV sector level in 2000. However, NMFS shall publish the proportion of the cap represented by the aggregate catch history of the vessels in each co-op, and facilitate the formation of an interco-op agreement to monitor the subdivision of the caps at the co-op level. NMFS shall require each co-op agreement to contain provisions that would limit its participants to their collective 1995-97 harvest in other fisheries.
6. Shall be applied throughout the year, except:
   a. Mothership sector qualified AFA vessels' (21 vessels) CV trawl P. cod sideboards shall be lifted March 1;
   b. Vessels <125' with less than 1700 mt of annual average landed pollock catch history and made at least 30 P. cod landings in the BSAI from 1995-1997, shall be exempt from the catcher vessel trawl P. cod sideboard cap.

BSAI PSC Sideboard Caps

1. Shall be based on the ratio of catch in each non-pollock target to the PSC cap for that target, and shall represent an aggregate cap (as with the AFA CP sector).
2. Attainment by the entire fleet of any PSC cap in any target fishery will close directed fishing to all trawl vessels, even if the AFA vessels have not attained their aggregate PSC cap.
3. PSC species limited to crab and halibut.

GOA Groundfish Sideboards

1. Shall be based on vessel landed groundfish catch between 1995-97.
2. Shall be based on non-pollock landed groundfish catch in non-pollock targets as a ratio of the AFA vessels' catch to TAC.
3. Shall be based on the landed pollock catch in the pollock target as a ratio of the AFA vessels' catch to TAC, and shall be apportioned seasonally.
4. NMFS will determine the bycatch needs for pollock and non-pollock fisheries and allow for directed fishing for non-pollock target species such that the total catch of those species should not exceed the caps.
5. Shall apply to all AFA vessels.
6. Shall apply at the AFA-eligible catcher vessel sector level in 2000. However, NMFS shall publish the proportion of the cap represented by the aggregate catch history of the vessels in each co-op, and encourage the formation of an inter-co-op agreement to monitor the sub-division of the caps at the co-op level. NMFS shall require each co-op agreement to contain provisions that would limit its participants to their collective 1995-97 harvest in other fisheries.
7. Shall be applied throughout the year except vessels with less than 1700 mt of annual average pollock landed catch history and which made at least 40 groundfish landings from the GOA from 1995-1997, shall be exempt from GOA groundfish sideboards.

GOA PSC Sideboards Caps

1. Shall be based on the ratio of catch in each non-pollock target to the PSC cap for that target, and shall represent an aggregate cap, sub-divided into deep and shallow water flats.
2. Attainment by the entire fleet of any PSC cap in any target fishery will close directed fishing to all trawl vessels, even if the AFA vessels have not attained their aggregate PSC cap.
3. Shall be apportioned seasonally.

<u>PROCESSOR SIDEBOARDS (Crab and Groundfish)</u>

(For review in April 1999) an analysis be initiated examining options to mitigate potential adverse impacts from AFA on non-pollock processors including:

1. Restricting vessels used for processing in the inshore sector to a single geographic location.
2. Measures to restrict pollock processor activity in non-pollock fisheries to no more than historic levels including options using years 1995, 96 and 97.

In order to further the analysis mandated by the AFA:

1. Analysis should evaluate impacts at both the facility and corporate level throughout the BSAI and GOA.
2. Crab sideboard limits should include all Council alternatives.

The analysis should consider the following:

1. list the adverse effects that the measures are aimed at protecting,
2. quantify how the measures will protect the non-eligible processor from the adverse effects, and
3. consider whether adverse effects have a high probability of occurring as opposed to being just perceived as a possibility of occurrence,

before any protective measures are implemented.

NOAA GC has provided an opinion that the Council is restricted under the Act from allowing additional pollock processors except when the TAC increase by 10 percent over 1997 levels, or one of the processors suffers a total or constructive loss (Section 208(f)(2)). The discussion provided by NOAA GC will be included in the amendment package.

PREFERRED ALTERNATIVE (Crab Processing Sideboards)

1. Adopt a single aggregate processing cap that would apply to all processing facilities owned by inshore or mothership sector AFA entities if they receive pollock from a cooperative.

   A. NMFS will determine which processing facilities are owned by inshore or mothership AFA entities using the "limited 10% rule"

   B. Owners of inshore or mothership AFA pollock facilities that process crab under the Council's jurisdiction would be required to identify to NMFS as part of their processing permit requirements any processing facilities in which the owner has 10% or more interest using the limited 10% rule.

2. A processing facility is any plant or US documented vessel that processes crab under the jurisdiction of the North Pacific Fishery Management Council.

3. Only the limited 10% rule will be used in determining AFA entities for purposes of the historic processing cap.

4. AFA catcher processors would not be subject to additional processing sideboards.

5. The historic processing cap would be determined annually based on the average of the 1995-1997 processing history of US documented processing vessels and processing plants owned by inshore and mothership AFA entities at the start of the fishing year.

A. If an inshore or mothership AFA entity sells a crab processing facility to a non-AFA entity, or if a processing vessel is no longer US documented, the 1995-1997 average processing history of that plant or vessel is removed from the historic processing cap. Likewise, if an inshore or mothership AFA entity buys a non-AFA processing plant or US documented vessel, then the 1995-1997 average processing history of that plant or vessel is added to the historic processing cap.

B. The historic processing cap would be determined based on the percentage of the catch processed by inshore or mothership AFA entities.

C. There would be no cap for undeveloped species or species without a current GHL.

D. The cap would apply year around.

PREFERRED ALTERNATIVE (Groundfish Processing Sideboards)

Single Geographic Location

Restrict inshore floating processors to operating in a single geographic location in state waters of the BSAI during a fishing year in which they process pollock from the directed BSAI pollock fishery (i.e., can change location from year to year, but not in-season.

Additional action by the Council on groundfish processing sideboard alternatives has been deferred to the April 2000 meeting, where they will also decide on BSAI pollock processing excessive share caps. Chapter 8 of this analysis evaluates several alternatives for both groundfish and crab and has been retained as part of this amendment package.

AFA CONFORMANCE MEASURES (originally Amendments 62/62 now included in this package)

BSAI Pollock Allocations

Alternative 1: No action.

Alternative 2: Change the current inshore/offshore directed pollock allocations in the Bering Sea/Aleutian Islands FMP to conform with those allocations mandated by the American Fisheries Act of 1998. **(Preferred)**

GOA Pollock Allocations Sunset Date

Alternative 1: No action.

Alternative 2: Extend the sunset date of the current pollock and Pacific cod allocations in the GOA FMP to conform with the date mandated for the Bering Sea/Aleutian Islands area in the American Fisheries Act of 1998. **(Preferred)**

Replacement Vessels in the BSAI Directed Pollock Fisheries

Alternative 1: No action.

Alternative 2: Change restrictions in the BSAI FMP to conform with replacement requirements for eligible vessels under the American Fisheries Act of 1998. **(Preferred)**

OTHER AFA ACTIONS (From June or October 1999)

While not part of the overall rulemaking associated with this Amendment package, the following additional recommendations of the Council are included here for reference and context.

Compensation in Shoreside Sector Co-ops

(i) Provide compensation to vessels with offshore history greater than 499 tons (as per Table 10.5).
(ii) Utilize the best 2 of 3 years to determine the share of the inshore pollock allocation each vessel brings to a co-op.

1999 Co-op Agreements

Request that NMFS prepare a preliminary report on the 1999 co-ops for the October 1999 Council meeting and a final report for the February 2000 meeting. The report should specifically assess:

1. The effectiveness of pollock co-ops in reducing bycatch (all species).
2. The effectiveness of management measures to protect other fisheries from adverse impacts caused by the AFA or pollock co-ops.
3. A discussion of how transfers within co-ops may affect issues 1 and 2 above.
4. Utilization and recovery rates by species and product categories.
5. Method of monitoring and enforcement.

The report should include the most specific catch and bycatch information available on an individual vessel level to help the co-op and the Council realize the public disclosure requirements for such information envisioned in Section 210(a)(1)(A) of the AFA.

Confidential Catch & Bycatch

As described in the NMFS' January 28, 1999, discussion paper, the Council requests NMFS to begin to develop the regulatory infrastructure to provide disclosure of:

1. Vessel identification.
2. Harvest amounts by species including prohibited species and harvest rates of species.

Further, the Council initiated an analysis to consider use of a dual form of fish tickets to be used by NMFS and ADF&G that would not fall under the State of Alaska's confidentiality regulations.

The Council requests that ADF&G initiate efforts to change AS 16.05.815 to allow for the release of confidential data as provided by Section 210(a)(1)(B) and Section 211(d) of the AFA.

The Council urges NMFS to make testing of its new system to capture catch delivery information from shoreline operation a top priority for implementation this summer. The Council will write a letter to the Secretary of Commerce highlighting the need for NMFS to budget additional staff and resources to improve our catch and bycatch reporting systems in order to aid the Council's ability to comply with the bycatch reduction mandates that were included in the Magnuson-Stevens Act.

Co-op Discussion Paper

Initiate a qualitative analysis of the economic and policy issues associated with formation of processor/catcher vessel (and mothership/catcher vessel) cooperatives under the AFA, including the alternatives outlined in the independent catcher vessel proposal with a preliminary report to the Council in June 1999 and a final report in September 1999. **(Additional analyses pending for Council review in April 2000)**

Performance Report on 1999 Cooperatives

The Council requests that cooperatives annually must prepare a report containing the information listed below for the Council. A preliminary report covering activities through November 1 by December 1, with a final report by January 30th.

1. Allowed catch and bycatch in pollock and all sideboards by whatever method is used to determine those allocations.
2. Actual catch and bycatch in pollock by vessel and sideboarded fisheries by whatever method is used to determine those sideboards.
3. Method used to monitor fisheries in which cooperative vessels participated
4. Actions taken by cooperatives to enforce vessel or aggregate catches that exceed allowed catch and bycatch in pollock and all sideboarded fisheries.

These would be in addition to other requirements of the AFA or NMFS management. Additionally the Council requests NMFS to initiate an analysis (reg package) per Section 211(d) of the AFA to disclose catch and bycatch information (on a vessel by vessel basis) for all groundfish fisheries in the BSAI and GOA.

1.3 Organization of the Document

This document is structured as follows: Chapter 2 provides a summary of the current status of groundfish, herring, halibut, and crab stocks in both the BSAI and the GOA. Chapter 3 contains the Environmental Assessment (EA) which discusses the proposed actions with regard to potential biological impacts and NEPA compliance. Chapter 4 discusses the definitions of 'inshore component' and 'offshore component' under the AFA and the Magnuson-Stevens Act, and how those definitions affect the implementation of AFA sideboard provisions, as well as implementation of the sector allocations. Council decision points are raised in that discussion, including the issue of 'single geographic location' as it relates to processor sideboard alternatives.

Chapter 5 provides a discussion of co-op agreements, including required provisions of the AFA and four specific alternatives raised by the Council which may require Council decisions or direction. Chapter 6 begins the analysis of the sideboard alternatives and is focused on the offshore (catcher processor) fleet. Chapter 7 deals with catcher vessel sideboards, and is further divided into two main sections - sideboard limits in crab fisheries, and sideboard limits in groundfish fisheries. Chapter 8 is devoted to the processor sideboard measures and includes several Council decision points in addition to the basic alternatives outlined by the Council in February. Foremost among these decision points is the issue of plant vs company vs sector level

application of sideboard caps, and the issue of defining the 'entity' to which a particular sideboard applies (in terms of ownership linkages). These decisions have been made with regard to crab processing, but have been deferred to April 2000 with regard to groundfish processing.

Chapter 9 is a significant discussion of monitoring and implementation issues related to the formation of co-ops and the application of sideboard limits. This Chapter discusses the regulatory infrastructure necessary for co-op implementation and the in-season management considerations with regard to the level at which sideboards can be managed. Many of the options being considered by the Council are potentially affected by the monitoring and implementation issues raised in this discussion. Following on that, Chapter 10 contains a further analysis specific to monitoring of the mothership and offshore sectors, including scale and observer requirements.

Chapter 11 details the Council's recommendations and provides a summary analysis of the PREFERRED ALTERNATIVES identified by the Council. Most of the Council's preferred alternatives and options are addressed elsewhere in the document, while some are explicitly addressed in Chapter 11. Because the list of alternatives and options is lengthy and complex, they are brought together and evaluated collectively in Chapter 11.

Chapter 12 summarizes the proposed actions' consistency with other applicable laws including: EO 12866 (a Regulatory Impact Review summary); National Standards; Sections 303(a)(9) and 303(b)(6) of the Magnuson-Stevens Act; and the Regulatory Flexibility Act. Chapters 13 contains a list of preparers, agencies consulted, and other information sources.

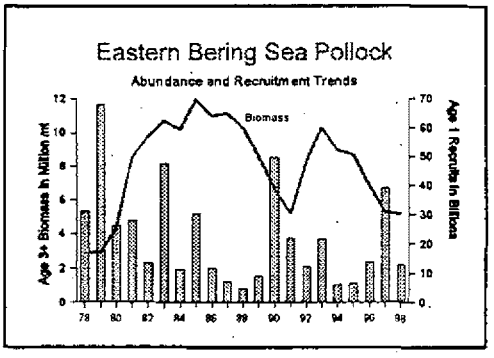
2.0 STATUS OF STOCKS AND UNIQUE MANAGEMENT ASPECTS

Restrictions on fishing effort pursuant to provisions of the American Fisheries Act may stabilize effort on groundfish species and crab species. However, biological and economic impacts depend to some extent on current and future abundance of groundfish, crab, and PSC species such as herring and halibut. A status report on major groundfish target species, major crab stocks, and other PSC species is provided below. This information is summarized from the Stock Assessment and Fishery Evaluation Reports (NPFMC 1998). Where applicable, species specific management measures (such as gear allocations) are highlighted.

2.1 BSAI Commercial Groundfish Stocks

Pollock

Three stocks of pollock inhabit the BSAI area: the eastern Bering Sea, Aleutian Islands, and Aleutian Basin stock. Exploitation and abundance of these stocks are very different. The eastern Bering Sea pollock stock increased to a peak in 1985, and has since declined and stabilized at about the Bmsy level. The 1999 projected exploitable biomass is 7,040,000 mt. An $F_{40\%}$ harvest strategy (F=0.30) resulted in an ABC for 1999 of 992,000 mt, based on Model 2. Assuming median recruitment, the adjacent time series of eastern Bering Sea pollock spawning biomass and ABCs are projected by Model 1 based on an $F_{40\%}$ harvest strategy (Ianelli et al. 1998). Biomass is expected to increase with recruitment of a strong 1996 year-class.



The Aleutian Islands pollock stock is considerably smaller than the eastern Bering Sea and Aleutian Basin stock. Biomass in the Aleutian area as estimated by the bottom trawl survey has declined drastically from a peak of 778,666 mt in 1983 to only 106,000 mt in 1998. A harvest strategy based on natural mortality (F=0.75M) resulted in an ABC for 1999 of 23,800 mt. However for 1999, the Council recommended that no directed fishing for pollock occur in the AI area given current low abundance and the importance of pollock as prey for steller sea lions.

Projected biomass and ABC (mt) of eastern Bering Sea pollock (Model 1), based on F40% harvest strategy.

Year	Spawning Biomass	ABC
1999	1,720,000	1,013,000
2000	2,015,000	1,107,000
2001	2,260,000	1,287,000
2002	2,351,000	1,417,000

The Aleutian Basin pollock stock is at low levels. Biomass in the Aleutian Basin area is estimated by the hydroacoustic survey in the Bogoslof area. Biomass in the Bogoslof area declined from 2,400,000 mt in 1988 to only 54,000 mt in 1994. An increase was observed in 1995, and the projected 1999 exploitable biomass is 403,000 mt. This stock has historically contributed to the Donut Hole fishery, which provided catches of 1.0 to 1.4 million mt during the years 1986 through 1989. No directed fishing has occurred on this stock since 1991.

The BSAI pollock TAC has been allocated among fishing sectors. The first inshore/offshore Amendment 18 allocated the pollock TAC 35% inshore and 65% offshore, with a catcher vessel operational area established for the pollock 'B' season. Additionally, 7.5% of the pollock TAC was allocated to the community development program of Western Alaska. These allocations were extended under Amendment 38. The Community Development quota was increased to 10% of the pollock TAC beginning in 1999 under the American Fisheries

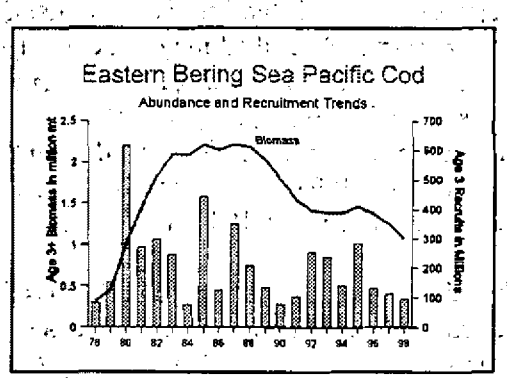
Act. The American Fisheries Act also changed the pollock allocation to 50% catcher vessels delivering inshore, 40% to catcher processors offshore, and 10% to catcher vessels delivering to motherships.

The pollock fishery has been affected by management measures designed to protect Steller sea lions. In 1990, roe-stripping of pollock was prohibited, and the Bering Sea pollock fishery was divided into roe and non-roe fishing seasons. Beginning in 1998, 100% retention was required for pollock. In December 1998, NMFS issued a biological opinion that the pollock fishery jeopardized the recovery of Steller sea lions. In response, the Council took emergency action to prohibit pollock fishing within 10 nautical miles of numerous rookeries and haulouts, reduce the catch of pollock within critical habitat areas, prohibit pollock fishing in the Aleutian Islands area, and create four pollock seasons in the Bering Sea to spread out effort over time.

Measures have also been implemented to reduce bycatch in the pollock fishery. Bycatch limits for chum salmon (42,000), chinook salmon (48,000), and herring (1%) trigger hotspot area closures that affect the pollock fisheries in particular. Regulations were recently adopted to prohibit the use of bottom trawl gear for directed pollock fishing to reduce bycatch of halibut and crabs. The bycatch limit for chinook salmon will be incrementally reduced to only 29,000 salmon by the year 2003.

Pacific cod

The BSAI Pacific cod stock increased to high levels in the mid 1990's, then declined. The 1999 exploitable biomass was projected to be 1,210,000 mt. An $F_{40\%}$ harvest strategy (F=0.29), adjusted downward by a risk-averse optimization procedure, resulted in an ABC for 1999 of 177,000 mt. The cod stock is projected to decline in the near term as a result of below average year-classes in recent years.



Under Amendment 46, two percent of the BSAI Pacific cod TAC is reserved for jig gear, 51 percent for fixed gear, and 47 percent for trawl gear. The trawl apportionment will be split between catcher vessels and catcher processors 50/50. Amendment 24 regulations allow seasonal apportionment of the Pacific cod TAC allocated to vessels using hook-and-line or pot gear. Seasonal apportionments will be divided among trimesters and established through the annual specifications process. Any unused TAC from the jig gear quota will become available to fixed gear on September 15.

Projected age 3+ biomass and ABC (mt) of Pacific cod in the BSAI.

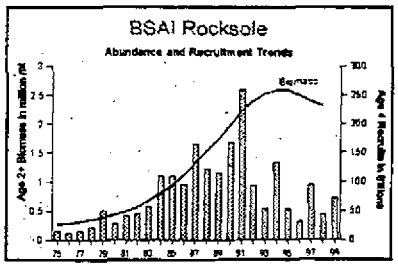
Year	Biomass	ABC
1999	1,213,000	177,000
2000	1,072,000	164,000
2001	1,021,000	152,000
2002	1,019,000	145,000

Flatfish

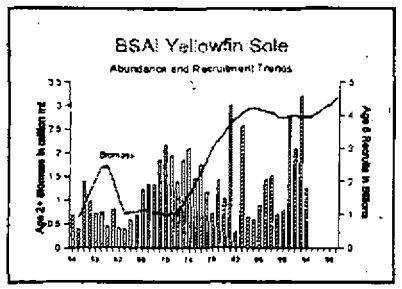
Flatfish species comprise a large proportion of groundfish exploitable biomass in the BSAI. Dominant species include yellowfin sole and rock sole. Other abundant or commercially important BSAI flatfish species include arrowtooth flounder, flathead sole, Alaska plaice, and Greenland turbot. Biomass of most BSAI flatfish stocks is relatively high and has increased as a result of good recruitment and low exploitation. For many flatfish species, recruitment in more recent years has been low;

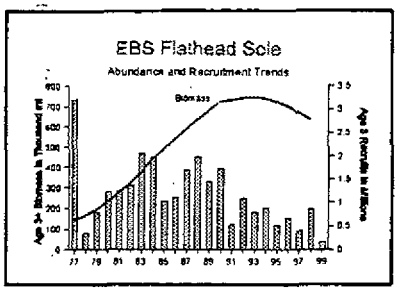
Catch specifications (mt) for BSAI flatfish fisheries, 1999.

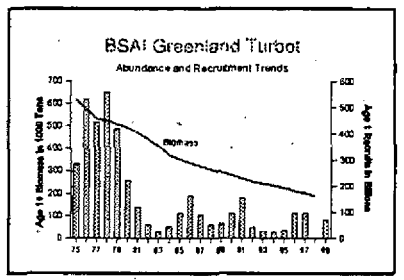
Species	Exploitable Biomass	ABC	TAC
yellowfin sole	3,180,000	212,000	207,980
rock sole	2,320,000	309,000	120,000
arrowtooth	819,000	140,000	134,354
flathead sole	636,000	77,300	77,300
other flatfish	618,000	154,000	154,000
Greenland turbot	177,000	14,200	9,000



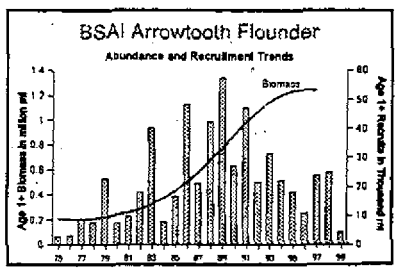
consequently, stock declines are expected in coming years. Fisheries have been unable to fully harvest the exploitable biomass of any of the flatfish species or complexes due to halibut and crab bycatch limits and conservative quotas. The current catch specifications for BSAI flatfish stocks is summarized in the adjacent table.





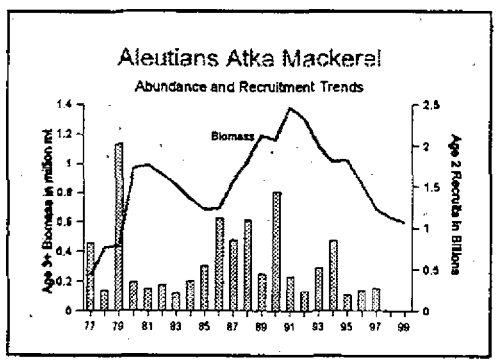


Unlike biomass of other flatfish species in the BSAI, biomass of Greenland turbot is at low levels and declining. Biomass has declined due to poor year classes from 1981-1997. Catch has also declined from a peak of 57,000 mt in 1981 to only about 9,000 mt in 1998. Biomass is projected to continue declining due to poor recruitment. Greenland turbot were harvested almost exclusively (>90%) by trawl gear until the early 1990's when longlines became the dominant gear type for this species. No halibut bycatch has been apportioned for a directed trawl fishery since 1996, effectively prohibiting this gear type from targeting turbot.



Atka Mackerel

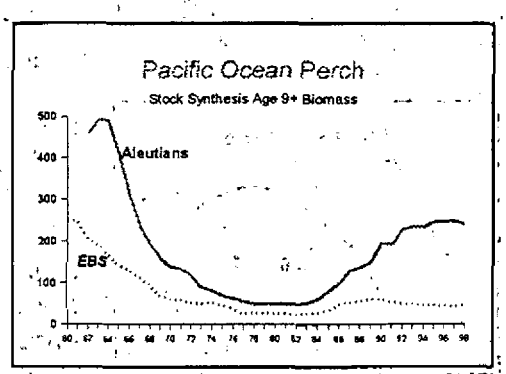
Atka mackerel are found in quantity along the Aleutian Islands, and to a lesser extent in the western Gulf of Alaska. Biomass in the Aleutian Islands area is based on model estimates which incorporate the NMFS bottom trawl surveys. Biomass increased from 1977 to a peak in 1992, and has since declined. Catches increased from 15,000 mt in 1989 to 104,000 in 1996. The projected 1999 BSAI exploitable biomass is 595,000 mt, with an ABC of 73,300 mt. The most recent assessment suggests that this stock will continue to decline in the near term. Atka mackerel in the Gulf of Alaska are essentially from the same stock as the BSAI. No reliable estimate of biomass exists for GOA Atka mackerel, but the population is clearly significantly smaller than found in the Aleutian Islands. The 1999 GOA Atka mackerel ABC was set at 600 mt.



Amendment 34 established a gear allocation for Atka mackerel, beginning in 1998. A total of 1% of the Eastern Aleutian Islands/Bering Sea subarea TAC is allocated to jig gear. Once the jig fleet takes its 1% allocation, their allocation will increase to 2% for future years.

Management measures have also been taken to reduce the impacts of an Atka mackerel fishery on Steller sea lions. Atka mackerel are an important prey for Steller sea lions. In June 1998, the Council adopted regulations to disperse the Atka mackerel fishery, both temporally and spatially, to reduce localized depletions of Atka mackerel. The TAC will now be equally split into two seasons, and the amount taken within sea lion critical habitat will be limited.

Pacific Ocean Perch



Pacific ocean perch are the dominant species of red rockfish in the north Pacific, and are caught primarily along the Aleutian Islands, and to a lesser extent in the eastern Bering Sea and Gulf of Alaska. Biomass has greatly increased following heavy exploitation by foreign fleets prior to 1978. Above average year classes in the early 1980's has boosted the AI perch exploitable biomass from the early 1980's though the late 1990's. Exploitation has been relatively low during this period, with catches less than 10,000 mt per year. The projected 1999 exploitable biomass is 236,000 mt, with an ABC of 13,500 mt. Biomass of Pacific ocean perch in the Aleutian Islands area is projected to remain stable in coming years.

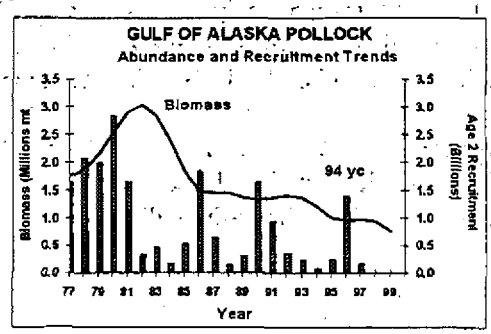
Other Rockfish

Numerous species of rockfish inhabit the BSAI, and are managed by species complex. Shortraker and rougheye rockfish are managed as one unit in the Aleutian Islands. The projected 1999 exploitable biomass of shortraker/rougheye is 46,500 mt, with an ABC of 965 mt. Northern and sharpchin are also managed together with a projected 1999 exploitable biomass of 94,000 mt, with an ABC of 4,230 mt. In the eastern Bering Sea, all other species are managed together as "other red rockfish." The projected 1999 exploitable biomass of other red rockfish is 11,600 mt, with an ABC of 267 mt. The "other rockfish" complex is composed of thornyheads and other *Sebastes* species. The 1999 ABCs for "other rockfish" are 369 mt in the eastern Bering Sea and 685 mt in the Aleutian Islands area. Abundance trends for these species are not available.

Amendment 53 allocated the AI shortraker/rougheye TAC between trawl and fixed gear fisheries. Thirty percent of the TAC is allocated to fixed gear and 70% to vessels using trawl gear.

2:2 GOA Commercial Groundfish Stocks

Walleye Pollock



Pollock in the Gulf of Alaska (GOA) are managed as a single stock that is separate from the Bering Sea and Aleutian Island pollock stocks. For 1999, exploitable biomass (age 3+) in the GOA was projected at 738,000 mt. Catch specifications were the following: ABC=100,920 mt (includes Western Central and Eastern Gulf ABC), TAC=100,920 mt. Pollock are of medium relative abundance and are harvested at 100% of ABC. The 1994 year-class is forecast to be above average, and has been observed primarily in

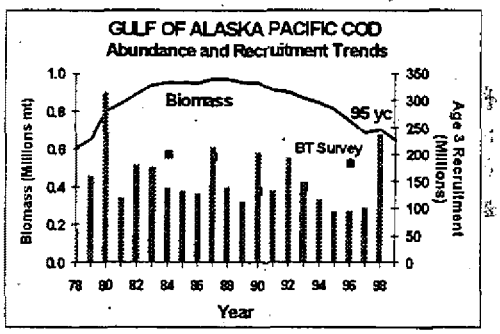
Shelikof Strait. Preliminary information suggests weak year-classes in 1995 and 1996, and a moderate 1997 year-class. Under these recruitment scenarios of year class strength, the spawner biomass is expected to decline though 2003.

The pollock fishery has been affected by management measures designed to protect Steller sea lions. In 1990, roe-stripping of pollock was prohibited. Beginning in 1998, 100% retention was required for pollock. In December 1998, NMFS issued a biological opinion that the pollock fishery jeopardized the recovery of Steller sea lions. In response, the Council took emergency action to prohibit pollock fishing within 10 nautical miles of numerous rookeries and haulouts, reduce the catch of pollock within critical habitat areas, and spread out effort over time. In 1993, the Council apportioned 100% of GOA pollock to the inshore sector. Beginning in 1998, 100% retention was required for pollock.

Pacific Cod

Pacific cod, also known as grey cod, are moderately fast-growing and short-lived fish. The 1999 exploitable biomass (age 3+) was projected to be 648,000 mt. The 1999 specifications were: ABC = 84,400 mt and TAC = 67,835. The difference between TAC and ABC was that some TAC was set aside as the guideline harvest level for State of Alaska pot and jig fisheries. Pacific cod are of medium relative abundance and are fully exploited. The stock is projected to decline as a result of poor year-classes produced from 1990-1994. Preliminary indications of the 1995 year class indicate it may be above average, however.

The Pacific cod stock is exploited by a multiple-gear fishery, principally by trawls and smaller amounts by longlines, jigs, and pots. A state water fishery for pot and jig gear began in 1997, with a guideline harvest level set at 15% of the federal quota in the Western and Central areas and 25% in the Eastern area. The state fishery ramped up to 20% in the Western Area and Kodiak and Chignik subareas of the Central area for 1999. The state GHLs are allowed to ramp up to 25% of the federal quota when area guideline harvest levels are achieved. For trawl fisheries in the EEZ, cod harvests have been constrained by halibut bycatch limits.



In 1993, the Council apportioned 90% of GOA Pacific cod TAC to the inshore sector and 10% to the offshore sector. Beginning in 1998, the IR/IU program was implemented, requiring full retention of all Pacific cod caught.

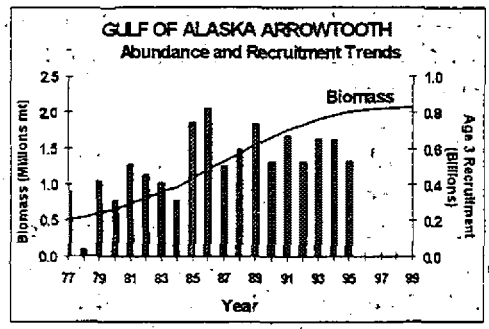
Flatfish

The flatfish assemblage has been divided into several categories for management purposes. Catch limits for flatfish are specified separately for flathead sole, rex sole, arrowtooth flounder, the deep water flatfish complex (Dover sole, Greenland turbot, and deep-sea sole), and the shallow water flatfish complex (rock sole, yellowfin sole, Alaska plaice, and other flatfish). Summary information for the flatfish assemblages is provided in the adjacent table.

Catch specifications (mt) for GOA flatfish fisheries, 1999.

Species	Biomass	ABC	TAC
deepwater flats	78,000	6,050	6,050
rex sole	72,000	9,150	9,150
shallowwater flats	315,000	43,150	18,770
flathead sole	206,000	26,110	9,040
arrowtooth	2,127,000	217,110	35,000

Far and away the dominant flatfish species in the Gulf of Alaska is arrowtooth flounder. Arrowtooth flounder biomass in the GOA appear to be at peak levels, but is lightly exploited. Arrowtooth flounder are presently of limited economic importance. Little to no effort is directed at catching this species, although commercial interest is growing. Prior to 1996, they frequently served as "ballast" against allowable retainable bycatch of other species.



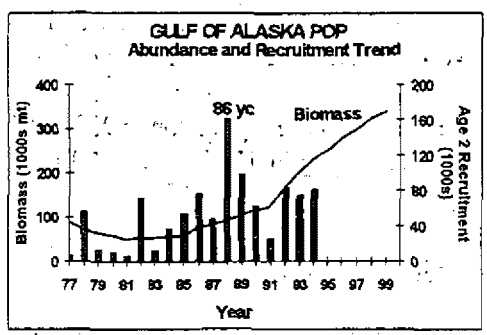
Rockfish

At least 30 rockfish species of the genus *Sebastes* inhabit the Gulf. Since 1988, rockfish have been divided into three management assemblages based on their habitat and distribution: slope, pelagic shelf, and demersal shelf rockfish. In 1991, the slope assemblage was divided into three management subgroups: Pacific ocean perch (POP), shortraker/rougheye rockfish, and all other species of slope rockfish. In 1993, a fourth management subgroup, northern rockfish, was also created. In 1997, black rockfish and blue rockfish were removed from the pelagic shelf complex, and designated for management by the State of Alaska. In 1998, a prohibition on trawling in the Gulf of Alaska east of 140° W. longitude affected rockfish trawl fisheries that are now prohibited in the East Yakutat/Southeast Outside portion of the Eastern Area. Summary information for the slope, pelagic shelf, and demersal shelf rockfish assemblages is provided below.

Rockfish assemblages in the Gulf of Alaska.

Slope Rockfish	Pelagic Shelf Rockfish	Demersal Shelf Rockfish
Pacific Ocean Perch	Dusky	Canary
Shortraker/Rougheye	Widow	China
Northern	Yellowtail	Copper
Other rockfish		Quillback
- harlequin		Rosethorn
- sharpchin		Tiger
- redstripe		Yelloweye
- many others		

Slope Rockfish - The primary commercial rockfish species in the Gulf of Alaska is Pacific Ocean Perch (commonly referred to by its acronym POP). For 1999, exploitable biomass was projected to be 242,300 mt. Catch specifications for 1999 were the following: ABC = 13,120 mt, TAC = 12,590 mt. POP are at medium abundance after reaching a low point in the mid 1980's. A rebuilding plan for POP was implemented in 1995, and the stock was considered rebuilt in 1997. Relatively strong recent year-classes appear to have contributed to increased abundance.



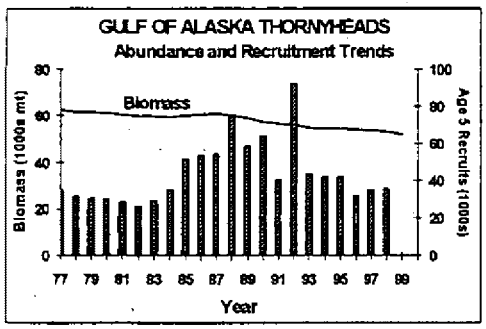
Pelagic Shelf Rockfish - The pelagic shelf rockfish (PSR) assemblage in the Gulf includes three species: dusky rockfish, widow rockfish, and yellowtail rockfish. This assemblage was separated from slope rockfish in 1988. The PSR exploitable biomass for 1999 is projected at 54,220 mt. Catch specifications were: ABC = 4,880 and TAC = 4,880.

Demersal Shelf Rockfish - The demersal shelf rockfishes (DSR) assemblage is comprised of seven species of shallow, nearshore, bottom-dwelling rockfishes: canary rockfish, China rockfish, copper rockfish, quillback rockfish, rosethorn rockfish, tiger rockfish, and yelloweye rockfish. Yelloweye rockfish accounts for 90% of all DSR landings. Density is estimated using line transect techniques in the Eastern Gulf. ABC/TAC

recommendations for the entire assemblage are keyed to adult yelloweye abundance. The exploitable biomass estimate is based on the lower 90% confidence interval and is 25,031 mt for 1999 in Southeast Outside. The 1999 ABC is 560 mt, determined by applying F=M=0.02 to this biomass and adjusting for the 10% of other DSR species. DSR were excluded from the Council license limitation program because ADF&G planned to initiate an analysis for a separate DSR license limitation program. In February 1999, the Council adopted an amendment requiring full retention of all DSR caught off Southeast Alaska.

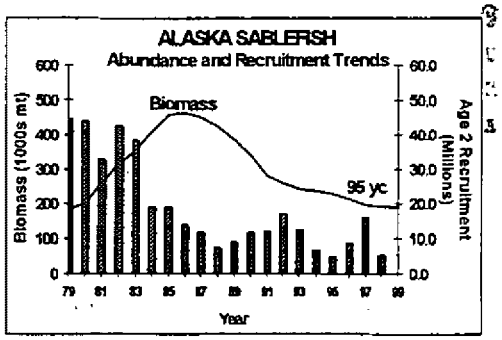
Thornyhead Rockfish

The thornyhead rockfish assemblage consists of two species: shortspine and longspine thornyheads. The current assessment for thornyheads is based on a size-based, age-structured model. The 1999 estimate of exploitable biomass for thornyheads is 53,216 mt. Assuming average recruitment when fished at the $F_{40\%}$ rate, thornyheads are expected to decline. For 1999, the ABC was specified at 1,990 mt. The abundance of this complex is relatively high and recent harvests have been between 50-90% of the ABC. Due to the long-lived nature of this species, the overall harvest rate recommendation is low at about 4% of the total age 5+ biomass.



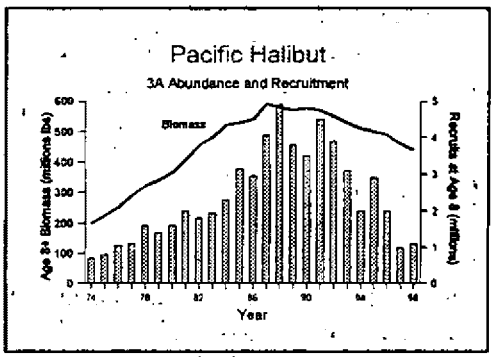
Sablefish

The sablefish resource of the Bering Sea, Aleutian Islands, and Gulf of Alaska are considered one stock. However, the resource is managed by discrete regions to distribute exploitation throughout its range. Large catches of sablefish (up to 26,000 mt) were made in the Bering Sea during the 1960's, but have since declined. Smaller catches have been made in the Aleutian Islands area, peaking at 3,800 mt in 1987. The projected 1999 exploitable biomass is 17,000 mt in the Bering Sea, with an ABC of 1,340 mt. In the Aleutians, projected 1999 biomass is 26,000 mt with ABC specified at 1,860 mt. The GOA ABC was set at 12,700 mt. Biomass of the sablefish stock off Alaska is projected to decline somewhat in coming years.



It is important to note that the TAC for sablefish is apportioned among gear types. In the Bering Sea, 50% of the sablefish is allocated to trawl gear, and 50% to fixed gear. In the Aleutians region, 25% is allocated to trawl gear, and 75% to fixed gear. Longlined pots are a legal gear type for sablefish in the Bering Sea and Aleutian Islands, but not in the Gulf of Alaska. Sablefish in the Western and Central Gulf of Alaska is allocated 80% to hook-and- line gear and 20% to trawl gear. In the Eastern Gulf of Alaska, the sablefish TAC is allocated 95% to hook-an-line gear and 5% to trawl gear. The fixed gear apportionment of the sablefish TAC is managed under the IFQ program, which began in 1995. Twenty percent of the fixed gear allocation is reserved for use by CDQ participants. Important state water sablefish fisheries occur in Chatham Strait, Clarence Strait, Prince William Sound, and the Aleutians.

2.3 Pacific Halibut Stock

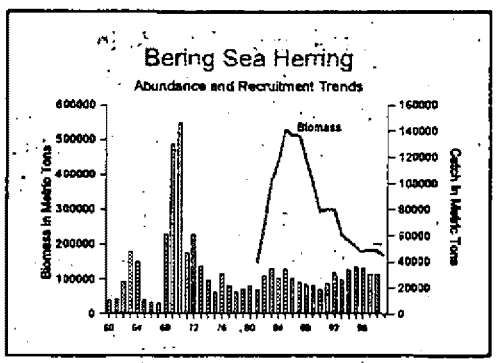


Large year-classes produced in the late 1970's and into the mid-1980's resulted in a buildup of halibut biomass to current high levels. The 1999 total exploitable biomass was projected to be 568.25 million pounds (258,000 mt). Over half of the biomass is found in areas 3A and 3B (central and western Gulf of Alaska). Recruitment of 8 year-olds appears to have fallen off after a strong 1987 year-class recruited in 1995. Declines in halibut biomass should be expected in the near term.

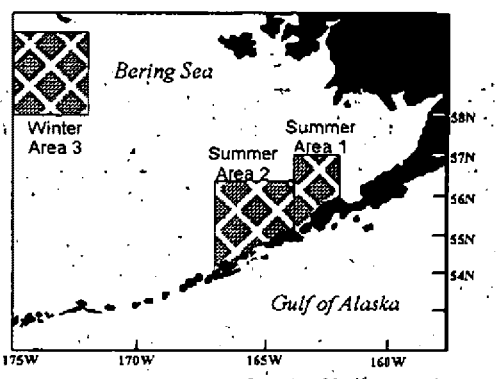
The directed halibut longline fishery is prosecuted under the halibut/sablefish individual fishing quota (IFQ) program, which began in 1995. The Pacific halibut stock is managed by the International Pacific Halibut Commission (IPHC), who sets the annual catch specifications. The 1999 total IFQ TAC for all areas (2C to 4E) was established at 58.39 million pounds.

Limits are placed on halibut taken as bycatch in groundfish target fisheries. In the Bering Sea, 900 mt of halibut mortality is allocated to longline fisheries as bycatch, and 3,775 mt of mortality allocated as trawl bycatch. In 1998, the Council adopted a provision to reduce trawl halibut mortality by 100 mt as part of the regulation prohibiting the use of bottom trawl gear for pollock fisheries.

2.4 Pacific Herring Stock



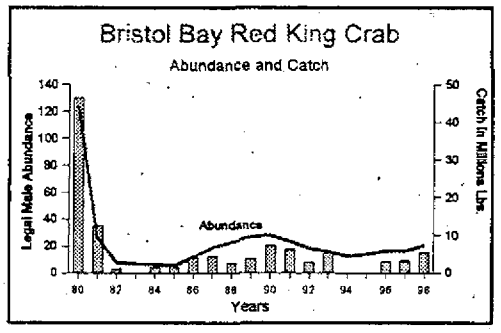
Pacific herring fisheries are managed by the State of Alaska. Fisheries occur in specific areas of the Bering Sea and Gulf of Alaska when fish come inshore to spawn. In the Bering Sea, catches peaked dramatically in 1970 at more than 108,000 mt, then declined to about 19,000 mt in 1977. Since then, catches have risen steadily to about 35,000 mt per year. In the Gulf of Alaska, catches peaked at over 100,000 mt in 1936. Following years of reduced catches in the late 1960's, herring catches have increased in recent years.



Herring are also taken incidental to groundfish trawl fisheries, particularly in the pollock fishery. In the Bering Sea, the herring PSC limit for trawl gear is determined each year as part of the TAC specification process. Bycatch of herring is limited to 1% of the estimated eastern Bering Sea adult biomass, and the limit is further apportioned by target fishery. If a fishery reaches its herring apportionment, then that fishery is prohibited from fishing in specified Herring Savings Areas. These Herring Savings Areas are depicted in the adjacent figure.

2.5 Major Bering Sea Crab Stocks

Bristol Bay Red King Crab

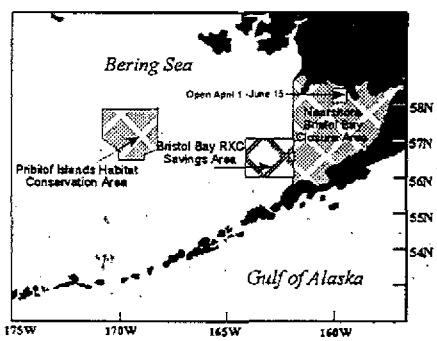


After declining abundance throughout the 1960s and reaching a low during the years 1970-1972, recruitment to the Bristol Bay red king crab stock increased dramatically. New all-time record landings were established in each year from 1977 to 1980. Declining recruitment, fishing pressure, and probably increased incidence of disease and predation led to an abrupt decline in fisheries in 1981 and 1982. These precipitous declines led to a closure of the Bristol Bay fishery in 1983. In 1984, the stock showed some recovery and a limited fishery was reestablished. Between 1984 and 1993, the fishery continued at levels considerably below those of the late 1970's. Throughout the 1980s and 1990s there was little sign of a large year-class in this stock. Because the abundance of female crab was below threshold, the Bristol Bay red king crab fishery was closed in 1994 and 1995, as was the fishery for Tanner crab in Zone 1 east of 163° West longitude. The fishery reopened in 1996, and catches have increased to 16.4 million pounds in 1998. A large year-class (presumably the 1990 year-class) is entering the fishery, and should provide stable catches for the next couple of years.

PSC limits for Zone 1 red king crab.

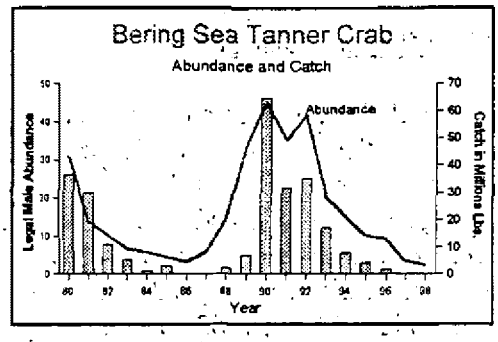
Crab Abundance	PSC Limit
Below threshold or 14.5 million lbs of effective spawning biomass (ESB)	35,000
Above threshold, but below 55 million lbs of ESB	100,000
Above 55 million lbs of ESB	200,000

Crab abundance affects groundfish fisheries because bottom trawl fisheries in specific areas are closed when prohibited species catch (PSC) limits of C. bairdi Tanner crab, C. opilio crab, and red king crab are taken. Amendment 37 established a stairstep procedure for determining PSC limits for red king crab taken in Zone 1 trawl fisheries. PSC limits are based on abundance of Bristol Bay red king crab as shown in the adjacent table. Given NMFS and ADF&G's 1998 abundance estimate for Bristol Bay red king crab, a Zone 1 PSC limit was established at 200,000 red king crabs for 1999. Note that in 1998, the Council adopted a provision to reduce red king crab bycatch by an additional 3,000 crab as part of the regulation prohibiting the use of bottom trawl gear for pollock fisheries.



Several areas have been closed to trawling to reduce potential adverse impacts on crab and other resources. The Pribilof Islands Conservation Area is closed to all trawling year-round to protect blue king crabs. Fishing is prohibited with non-pelagic trawling in the Red King Crab Savings Area (162° to 164° W, 56° to 57° N) year-round. This area is known to have high densities of adult red king crab. To allow some access to productive rock sole fishing areas, the area bounded by 56° to 56°10' N latitude would remain open (with a separate bycatch limit) during the years when the directed crab fishery is open. To protect juvenile red king crab and critical rearing habitat, all trawling is prohibited on a year-round basis in the nearshore waters of Bristol Bay, except for one small area that remains open to trawling during the period April 1 to June 15 each year.

Tanner Crab



The Bering Sea Tanner stock has undergone two large fluctuations. Catches increased from 5 million pounds in 1965 to over 36 million pounds in 1980. The 1980 peak catch was followed by a collapse resulting in low landings (<0.5 million lbs) from 1981-1985, and finally no fishery in 1986 and 1987. The fishery reopened in 1988, and landings increased to over 60 million pounds in 1990. A decline followed, and the fishery has been closed since 1996.

This stock is currently at very low abundance. The 1998 estimates of legal males and large females are the lowest in the history of the NMFS bottom trawl survey. Based on overfishing definitions adopted under Amendment 7, the bairdi stock is below the established minimum stock size threshold, and consequently has been declared "overfished". A rebuilding plan has been adopted by the Council. Although the near-term outlook for this stock is bleak, some signs of recruitment are beginning to appear in the NMFS survey data.

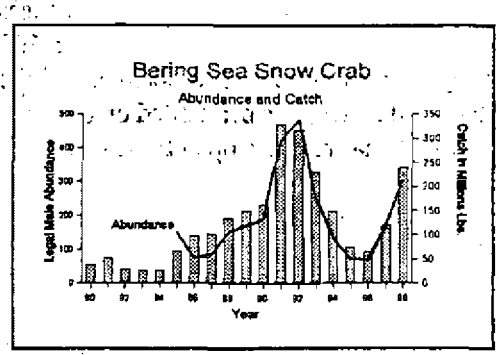
Amendment 41 PSC limits adopted for bairdi Tanner crab.

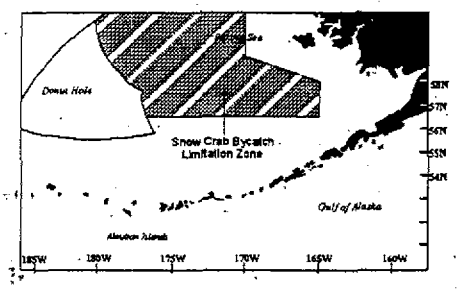
Zone	Abundance	PSC Limit
Zone 1	0-150 million crabs	0.5% of abundance
	150-270 million crabs	750,000
	270-400 million crabs	850,000
	over 400 million crabs	1,000,000
Zone 2	0-175 million crabs	1.2% of abundance
	175-290 million crabs	2,100,000
	290-400 million crabs	2,550,000
	over 400 million crabs	3,000,000

For groundfish trawl fisheries, separate Tanner (C. bairdi) crab PSC limits are set for Zone 1 and Zone 2. These limits may be further allocated among the pollock/mackerel/other species, Pacific cod, rock sole, turbot/sablefish/arrowtooth, rockfish, and yellowfin sole fisheries. When a fishery exceeds its PSC limit in one zone, trawling is closed for that zone for the remainder of the year. Under Amendment 41, PSC limits for bairdi in Zones 1 and 2 are based on total abundance of bairdi crab as indicated by the NMFS trawl survey. Based on 1998 abundance (156.5 million crabs), the PSC limit for C. bairdi in 1999 was 750,000 crabs in Zone 1 and 1,878,000 crab in Zone 2. Note that in 1998, the Council adopted a provision to reduce bairdi crab bycatch by an additional 50,000 crab as part of the regulation prohibiting the use of bottom trawl gear for pollock fisheries.

Snow Crab

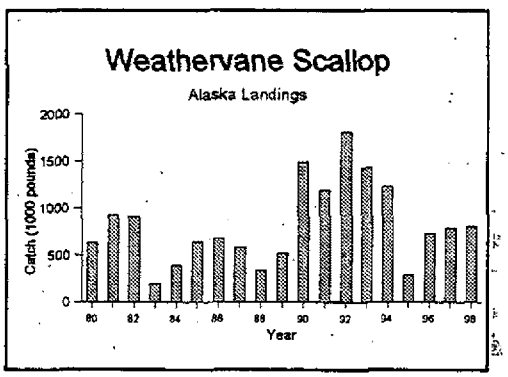
Catch of Bering Sea snow crab *(C. opilio)* increased from under 1 million pounds in 1974 to over 315 million pounds in 1992. The 1992 peak catch was followed by reduced landings through 1996. The stock quickly rebounded with good recruitment, however, and landings increased to 250 million pounds in 1998. The 1999 fishery opens on January 15 with a guideline harvest level of 196 million pounds. The abundance of this stock has peaked, and is expected to decline rapidly in the coming year or two. The snow crab stock is below the established minimum stock size threshold, and consequently has been declared "overfished". A rebuilding plan has been adopted by the Council. Based on length frequency data from the NMFS trawl survey, there does not appear to be any significant level of recruitment forthcoming.





Under Amendment 40, PSC limits of snow crab (C. opilio) for groundfish trawl fisheries are based on total abundance of opilio crab as indicated by the NMFS survey. The snow crab PSC cap is set at 0.1133% of the Bering Sea snow crab abundance index, with a minimum PSC of 4.5 million snow crab and a maximum of 13 million snow crab. Snow crab taken within the "C. Opilio Bycatch Limitation Zone"accrue towards the PSC limits established for individual trawl fisheries. Upon attainment of a snow crab PSC limit apportioned to a particular trawl target fishery, that fishery is prohibited from fishing within the snow crab zone. The 1998 survey indicated a total population of 3.23 billion crabs. Therefore the 1999 snow crab PSC limit was established at 4,500,000 crabs. Note that in 1998, the Council adopted a provision to reduce snow crab bycatch by an additional 150,000 crab as part of the regulation prohibiting the use of bottom trawl gear for pollock fisheries.

2.6 Alaska Scallops



Weathervane scallops have been the target of a very small fishery since the late 1960's. The overall magnitude of the weathervane scallop resource off Alaska is thought to be very limited based on survey and fishery information. Although Amendment 6 establishes OY at 0 to 1.24 million pounds of shucked meats, catches are constrained by crab bycatch limits. Recent landings have been in the order of 800,000 pounds.

Scallop stocks in Alaska have been managed under a federal fishery management plan (FMP) since July 26, 1995. In June 1995, the Council adopted a 3-year vessel moratorium to restrict new entry into the scallop fishery while a more comprehensive plan was being developed. The moratorium was approved as Amendment 2, and became effective August 1, 1997. Amendment 3 deferred all management (except limited access) to the State. Regulations include permits, registration areas and districts, seasons, closed waters, gear restrictions, efficiency limits, crab bycatch limits, scallop catch limits, inseason adjustments, and observer monitoring. In February 1999, the Council adopted Amendment 4, which will establish a permanent license limitation program for the scallop fishery.

3.0 ENVIRONMENTAL EFFECTS OF THE ALTERNATIVES

An environmental assessment (EA) as described by the National Environmental Policy Act (NEPA) of 1969 is used to determine whether the action considered will result in significant impact on the human environment. If the action is determined not to be significant based on an analysis of relevant considerations, the EA and resulting finding of no significant impact (FONSI) will be the final environmental documents required by NEPA. If the analysis concludes that the proposal is a major Federal action significantly affecting the human environment, an environmental impact statement (EIS) must be prepared.

The environmental impacts generally associated with fishery management actions are effects resulting from (1) harvest of fish stocks which may result in changes in food availability to predators and scavengers, changes in the population structure of target fish stocks, and changes in the marine ecosystem community structure; (2) changes in the physical and biological structure of the marine environment as a result of fishing practices, e.g., effects of gear use and fish processing discards; and (3) entanglement/entrapment of non-target organisms in active or inactive fishing gear.

An analysis of the effects of groundfish fishing on the ecosystem, social, and economic environment is contained in the Final Supplemental Environmental Impact Statement on the Groundfish Total Allowable Catch Specifications and Prohibited Species Catch Limits (NMFS 1998a). Descriptions of the affected environment are given in the SEIS (NMFS 1998a). Substrate is described at section 3.1.1, water column at 3.1.3, temperature and nutrient regimes at 3.1.4, currents at 3.1.5, groundfish and their management at 3.3, marine mammals at 3.4, seabirds at 3.5, benthic infauna and epifauna at 3.6, prohibited species at 3.7, and the socioeconomic environment at 3.10. Additionally, the status of each target species category, biomass estimates, and acceptable biological catch specifications are presented both in summary and in detail in the annual GOA and BSAI stock assessment and fishery evaluation (SAFE) reports. The projections for fishing year 1999 are contained in the 1998 SAFE reports (NPFMC 1998a; 1998b.) Chapter 2 of this document summarizes the current status for the major species in both the BSAI and GOA.

This Environmental Assessment tiers off the SEIS (NMFS 1998a) which analyzed the effects of groundfish fisheries being promulgated in the EEZ and displayed fishery induced impacts on all aspects of the ecosystem. NMFS notes that in a July 8, 1999, order, amended on July 13, 1999, the court in Greenpeace, et al., v. NMFS, et al., Civ No. 98-0492 (W.D. Wash.) held that the SEIS did not adequately address aspects of the GOA and BSAI groundfish fishery management plans other than TAC setting, and therefore was insufficient in scope under NEPA. In response to the Court's order, NMFS is currently preparing a programmatic SEIS for the GOA and BSAI groundfish fishery management plans. Notwithstanding the less expansive scope of the 1998 SEIS, NMFS believes that the discussion of impacts and alternatives in the SEIS is directly applicable to the proposed action to be analyzed in this EA. Therefore, this EA adopts the discussion and analysis in the SEIS (NMFS 1998a), as well as in the emergency rule to implement reasonable and prudent Steller sea lion protection measures in the pollock fisheries of the BSAI and GOA EA (NMFS 1999a), the regulatory amendment to implement the revised and final reasonable and prudent Steller sea lion protection measures in the pollock fisheries of the BSAI and GOA (NMFS 1999b), and discussion presented in the Revised Final Reasonable and Prudent Alternatives for the Pollock fisheries in the Bering Sea and Aleutian Islands and Gulf of Alaska with Supporting Documents (NMFS, 1999c).

Environmental issues attributable to promulgation of the rules implementing the American Fisheries Act are focused on those associated with increased dispersion of the pollock fisheries in time and space as a result of pollock fishery cooperatives. These issues are addressed in the draft EA prepared to support the revised final reasonable and prudent alternatives (RFRPAs) for the pollock fisheries in the Bering Sea and Aleutian Islands

and Gulf of Alaska (NMFS 1999e). The conduct of the pollock fisheries under the pollock fishery cooperatives authorized under the AFA will further promote the objective of the revised RFRPAs to spatially and temporally distribute the pollock fisheries. Impacts of this dispersion on issues typically considered for groundfish fishery management actions are discussed below.

A summary of the effect of the AFA on the pollock fishery is excerpted from section II.E. of the RFRPAs (NMFS 1999c) as follows:

> Implementation of the American Fisheries Act (AFA) which began in 1999, ... has had a profound effect on the conduct of the Bering Sea pollock fishery and a lesser effect on the Gulf of Alaska pollock fishery. Under the AFA the catcher/processor sector was reduced from 30 to 21 vessels, a 30% reduction in potential harvesting capacity relative to 1998. And, the catcher/processor sector has made further reductions in fleet size through cooperative agreements. In 1999, only 16 vessels participated in the first two seasons and only 12 vessels have participated to date in the third and fourth seasons which means that the 1999 catcher/processor fleet was approximately half its pre-AFA size. The effect has been an elimination of the Olympic-style race for fish and a dramatic moderation of daily catch rates for the catcher/processor sector of the fleet, which takes 40% of the Bering Sea pollock quota.
>
> The provisions of the AFA affecting the inshore and mothership sectors of the fleet will not be fully implemented until 2000 and are expected to have a similar dramatic effect on the prosecution of the pollock fishery in those sectors. Regulations are currently under development, and are intended to be in place in 2000, that would facilitate the formation of fishery cooperatives in the inshore and mothership sectors of the Bering Sea pollock industry. If the inshore and mothership sectors of the industry are able to successfully form cooperatives in 2000, we anticipate a significantly greater temporal dispersion of the fishery, especially during the summer and fall months as the Olympic-style race for fish is eliminated. The moderation of aggregate daily catch rates is expected to be most dramatic during the summer and fall months because some inshore processors traditionally convert to salmon processing during the summer months and will wish to delay pollock operations until late summer, after the salmon fishing seasons are over. However, other inshore processors are not geographically situated to process salmon and have indicated an interest in beginning their pollock operations much earlier in the summer. Consequently, the formation of cooperatives in the inshore sector is expected to provide for a more natural dispersion of inshore pollock operations over time and space as the different inshore operations pursue different business objectives and chose to fish at different times of the year.
>
> To prevent a spillover of effort from the Bering Sea to the Gulf of Alaska, the AFA places limits on the ability of Bering Sea vessels to fish in the Gulf of Alaska. Under the AFA, the Council has recommended a complex suite of restrictions on Bering Sea catcher vessels in the Gulf of Alaska pollock fisheries. In addition, under the Steller sea lion RPAs, the Council has recommended additional restrictions such as trip limits and a prohibition on crossing between the Bering Sea and Gulf of Alaska during the same fishing season. The combined effects of all of these measures is expected to significantly slow the pace of the Gulf of Alaska pollock fisheries in a manner consistent with the RPA principle of temporal dispersion. While it is difficult to project with precision the effects these changes will have on the pace of Gulf of Alaska pollock fisheries, the possible magnitude of such changes can be estimated. The combined effects of the Council's recommendations with respect to limiting participation by Bering Sea vessels in the Gulf of Alaska is expected to discourage or prevent all but a few Bering Sea-based catcher vessels from continuing to fish in the Gulf of Alaska. Historically (in 1995-1997) Bering sea-based catcher vessels have accounted for approximately 75% of the pollock landings in areas 610 and 620 of the GOA, and more than 50% of pollock landings in area 630 and 640. If the bulk of this effort is removed from the Gulf of Alaska due to

the combination of AFA and Steller sea lion measures, pollock seasons in the western half of the Gulf of Alaska (610 and 620) could last 2 to 3 times longer than in prior years and pollock seasons in the eastern half of the Gulf of Alaska (areas 630 and 640) could double in length.

3.1 Food-web Interactions

The marine food-web of North Pacific marine fishes are complex (Livingston and Goiney 1983). Numerous species of plankton, phytoplankton, invertebrates, mollusks, crustaceans, forage fish, demersal, mid-water, and pelagic fish, marine mammals, seabirds, and humans combine to comprise the food-web present in the BSAI and GOA. Environmental changes as well as human exploitation patterns can effect changes to trophic interactions. Fishing causes direct changes in the structure of fish communities by reducing the abundance of target or by-catch species, then these reductions may lead to responses in non-target species through changes in competitive interactions and predator prey relationships. Indirect effects of fishing on trophic interactions in marine ecosystems may also occur. Current debates on these topics include comparing relative roles of 'top down' (predator) or 'bottom up' (environmental and prey) control in ecosystems and the relative significance of 'donor controlled' dynamics (in which victim populations influence enemy dynamics but enemies have no significant effect on victim populations) in the food webs (Jennings and Kaiser 1998.)

The Bering Sea ecosystem has been changing throughout its recorded history. Changes are recorded primarily in terms of large and sometimes sudden population fluctuations (National Research Council 1996). The eastern Bering Sea fish assemblage probably became pollock-dominated in the late 1960s and early 1970s, and a similar shift probably occurred in the western Bering Sea as well.

Decisions related to how much and what combinations of fish are harvested each year are made during annual total allowable catch (TAC) determinations. Impacts associated with harvest quotas are evaluated in separate NEPA documents, most recently in the SEIS (NMFS 1998a) and the 1999 TAC EA (NMFS 1998b). This EA assesses the implementation of AFA pollock allocations and cooperatives and considers rules affecting allocation of the harvest. These rules do not directly impact or change total allowable harvest levels.

However, the BSAI pollock co-op structure authorized under the AFA, as well as sideboard harvest limitations proposed for other BSAI and GOA fisheries under the AFA and the Steller sea lion RFRPAs would allow for further temporal and spatial distribution of exploitation rates of pollock and other species. These effects are supportive of the principles and objectives developed by NMFS under Endangered Species Act consultations on the Alaska pollock fisheries (NMFS 1998c) and ensuing RFRPAs (NMFS 1999c). A basic premise of the RFRPAs is to reduce competition between the pollock fisheries and Steller sea lions for pollock, a predominant prey species in the Steller sea lion diet. This is accomplished primarily through a reduction in pollock exploitation rates during time periods and in areas critical or important to Steller sea lion foraging success. Because the AFA rules could promote further reductions in pollock and other fish species exploitation rates, the proposed action and alternatives to it have the potential to positively impact marine tropic interactions to the extent these species are major prey species in the ecosystem.

3.2 Biological Diversity

The concept of biological diversity is generally used to denote the variety of living things in an ecosystem. The most widely used definition of biological diversity (Norse et al 1986) considers three levels: genetic, species, and ecosystem diversity. The proposed action and its various alternatives affect allocation of harvest and not total harvest. The exploitation rates of pollock under the AFA and the Steller sea lion RFRPAs would be managed to be more reflective of pollock biomass distribution throughout the year and to reduce competition

with Steller sea lions for pollock. These dispersion effects on pollock exploitation rates lead to the conclusion that the action would not be expected to negatively impact biological diversity. In fact, the preferred alternative is expected to have a positive impact on biological diversity to the extent that AFA-related fishery co-op agreements enable greater flexibility in the conduct of the pollock fisheries to better respond to changes in pollock biomass distribution and allow fishery participants to more effectively meet the principles and objectives established under the RFRPAs for spatial and temporal dispersion of the pollock fisheries.

3.3 Seabirds

As stated in the SEIS (NMFS 1998a page 562 through 573), information voids for various aspects of seabird ecology make it difficult to predict impacts of fishery management on seabirds. Lacking are diet and foraging ecology information for most seabird species during autumn, winter, and early spring; the seasons of greatest activity by the pollock trawl fishery. Also lacking are oceanographic and food-web information relative to seabird diet and foraging.

Seabirds are known to feed on age 0 and age 1 Walleye pollock, however, most species of seabirds feed largely or exclusively on forage species other than pollock (capelin, sand lance, juvenile herring, Myctophids, Pacific saury, juvenile cods, jellyfish, large zooplankton, and other invertebrates.) Direct competition does not occur because the size of pollock targeted for harvest in the fisheries are larger than any taken for food by seabirds. Impacts may, however, accrue to the prey-sized fish (pollock as well as other prey species) from relocated or reduced harvest of their predators, the large pollock, which in turn may result in localized areas of either increased or decreased abundance of prey-sized fish.

Seabird populations usually are limited by their food supply to a much greater degree than by other factors. If the management measures employed cause a change in forage abundance or availability they could cause a large-scale, long-term changes in seabird populations. Not enough information exists, however, to estimate whether changes in seabird forage abundance or availability will occur as a result of these proposed management measures. Whether the proposed management measures will have a positive, negative, or even measurable impact on seabird populations cannot be estimated from information currently available.

Food consumption by seabirds depends not only on forage stocks in their feeding areas, but also on the availability of stocks to the birds. All seabirds forage on concentrations of prey, which are created by prey schooling behavior or by physical processes in the water column. Different seabirds species require different foraging conditions and have different strategies for adapting to changes. When conditions are not suitable for foraging, even a large stock of prey may be unavailable to birds. Relationships between forage availability and stock sizes are virtually unknown at present. For instance, fishery independent physical factors (such as strength of upwellings) may influence both forage production and its availability to seabirds; other factors that make prey available to birds (such as schooling behavior) may partially be determined by stock sizes; and still other factors (such as water column stratification) may vary independently of stocks. Neither the no action alternative nor the proposed management measures will affect physical oceanographic conditions in any way.

3.4 Prey Species

The following species groups are included in the forage fish category established in 1998: Osmeridae (capelin, eulachon, and other smelts), Myctophidae (lanternfishes), Bathylagidae (deep-sea smelts), Ammodytidae (Pacific sand lance), Trichodontidae (Pacific sand fish), Pholidae (gunnels), Stichaeidae (pricklebacks, warbonnets, eelblennys, cockcombs, and shannys), Gonostomatidae (bristlemouths, lightfishes, and

anglemouths), and the Order Euphausiacea (krill). Only the species included in the new forage fish category established in 1998 in amendments 36 and 39 to the BSAI and GOA FMPs are discussed in this section.

Bycatch amounts of some of the forage species have been recorded in BSAI and GOA groundfish fisheries in previous years. Smelts have been recorded more regularly than some of the other groups, and no reporting previous to 1998 has been done for species such as Euphausiacea and Gonostomatidae. Forage species catch under status quo management is estimated in Tables 4-25 through 4-35 of the SEIS (NMFS 1998a.) Data in rows under the target fishery heading "Pelagic Pollock" and "Bottom Pollock" are applicable to the proposed management measures. The proposed action to prohibit use of nonpelagic trawl gear in the BSAI directed pollock fishery (FMP amendment 57) may result in a slight increase in the "Pelagic Pollock" catch proportional to the reduction in "Bottom Pollock" catch of pollock. Based on information in Tables 4-25 and 4-35 of the SEIS indicating no differences in forage species catch in the pelagic and bottom trawl pollock fisheries, and given that 98.5 percent of the pollock catch in the directed fishery already is taken with pelagic trawl gear (NMFS 1999f), NMFS does not anticipate changes in the catch of forage species resulting from any spatial or temporal change in the pollock fisheries resulting from this action or any of its alternatives.

3.5 Target Species

The proposed action and alternatives to it would result in similar relative impacts to target species as the status quo fisheries. That is, sea lion protective measures that will be implemented under a separate action will generally dictate when and where pollock harvests may occur and the same amount of total harvest will occur from the same management areas. Likewise, the same species of fish will be harvested at the exploitation levels determined in the TAC setting process and the sex ratio and size of fish harvested would be similar. However, under fishery co-ops promoted under the preferred alternative, the spatial and temporal locations from which fish are harvested are expected to more closely reflect the biomass distribution of pollock. This effect assumedly reflects a positive influence on how fisheries are conducted relative to potential impacts on Bering Sea pollock. Similar but less predictable effects may occur for other species harvested by AFA vessels to the extent that fishery co-ops are able to promote a more rationalized approach to the harvest of sideboard species for which directed fishing by AFA vessels would be authorized. Given that sideboard amounts of non Bering pollock are not allocations, but rather harvest limits that must be competed for with non AFA vessels, the benefits accruing from AFA sideboard limits in rationalizing non pollock target fisheries likely will be limited.

3.6 Fishing Gear Impacts

The otter trawl is the principal gear used in the directed pollock fisheries in the GOA and BSAI. Amendment 57 (to the FMP for Groundfish Fishery of the BSAI) prohibiting nonpelagic trawl gear was passed by the Council and the new regulation on the fishery is expected to be effective by mid 2000. Beginning in 1999, however, nonpelagic trawl gear is being prohibited in the BSAI pollock fishery through allocation of zero mt of pollock to nonpelagic trawl gear. Pelagic trawls may, however, be fished on the bottom and, in some cases, may come in contact with and disturb substrate. No data are available predicting the reduction in amount of contact with benthic substrates by use of only pelagic trawl gear or whether reducing contact with benthic substrate in the pollock fishery alone is enough to comprise a measurable reduction of impacts that have accrued from other fisheries that will continue to use bottom trawl gear i.e., the Pacific cod, rock sole, yellowfin sole, and Atka mackerel fisheries.

The proposed action or alternatives to the proposed action are not expected to result in either more or less habitat disturbance than accrues from status quo directed pollock trawl fishing except to the extent that local disturbances become less intense as the pollock fishery becomes more dispersed temporally and spatially.

3.7 Bycatch of Prohibited Species

Halibut, herring, crab, and salmon are among the prohibited species taken in the fisheries subject to the proposed actions. The proposed action would not change existing PSC limits for these species. However, Bycatch rates of prohibited species could be reduced under the AFA to the extent that pollock fishery cooperatives and the rules that are implemented to manage co-op fisheries provide incentives to slow harvest rates and fish in a manner that reduces incidental catch rates of prohibited species by AFA vessels. A separate proposed ban on bottom trawling has the potential to reduce bycatch of halibut and crab (at some potential cost in terms of increase in salmon and herring bycatch), but that is an independent action.

PSC limits for the AFA vessels are proposed to be either reflective of historical percentage of PSC bycatch (for AFA catcher processors) or be proportional to the groundfish quotas (AFA catcher vessels). Therefore, the PSC limitations imposed on AFA vessels are simply a subset of the overall PSC caps for the groundfish fisheries. Any amount not taken under these limits is still subject to being taken by the non-AFA vessels fishing in the other groundfish fisheries.

As with target species catch discussed previously, none of the alternatives would directly change existing PSC limits. However, the expectation exists that pollock co-ops could provide the infrastructure to promote reduced prohibited species bycatch rates and overall bycatch amounts experienced by AFA co-op vessels given the latitude these vessels have in self-management of co-op specific pollock allocations.

3.8 Impacts to Marine Habitat

An assessment of impacts to habitat described as Essential Fish Habitat (EFH) is required in the interim final rule (IFR) (62 FR 66531, December 19, 1997) implementing the EFH provisions of the Magnuson-Stevens Fishery Conservation and Management Act. These requirements are:

1) a description of the proposed action;
2) an analysis of the effects, including cumulative effects, of the proposed action on EFH, the managed species, and associated species, such as major prey species, including affected life history stages;
3) the Federal agency's view of the action on EFH; and
4) proposed mitigation, if applicable.

Amendment 55 to the *Gulf of Alaska Groundfish,* Amendment 55 to the *Groundfish in the Bering Sea/Aleutian Islands Area,* Amendment 8 to the *Bering Sea Aleutian Islands Crab*, and Amendment 5 to the *Scallop Fisheries Off Alaska* Fishery Management Plans contain descriptions of EFH for the subject fishery management areas. The fishery management plan species with EFH descriptions associated with this proposed action are: arrowtooth flounder, Alaska plaice, dusky rockfish, flathead sole, Pacific cod, Pacific ocean perch, rock sole, dover sole, rex sole, sablefish, Atka mackerel, shortraker rockfish, rougheye rockfish; skates, sculpins, sharks, octopus, squid, thornyhead rockfish, yellow-eye rockfish, walleye pollock, yellowfin sole, and forage fish (eulachon, capelin, sand lance, sand fish, Myctophids, euphausiids, pholids, stichaeids).

The proposed action is a complex of regulatory changes affecting distribution patterns of harvest among existing users. Descriptions of the action are in section 1, 5, 6, 7, 8, 9, 10, and 11 of this document. The complex of actions does not directly change the total amount of fish harvested or the species of groundfish harvested or taken as bycatch. To the extent fishing for pollock is conducted under fishery co-ops authorized under the AFA, fishing effort could be further dispersed in time and space relative to the status quo fishery. Therefore, it is this federal agency's view that this action is not expected to have an adverse impact on habitat

described as essential to any fish species in these management areas. Given this determination and the assumption that dispersion of fishing effort could have a beneficial impact on marine habitat, this agency does not see a need for additional management measures directed toward mitigating marine habitat impacts in connection with this action.

3.9 Endangered Species Act Considerations

The Endangered Species Act of 1973 as amended (16 U.S.C. 1531 *et seq*; ESA), provides for the conservation of endangered and threatened species of fish, wildlife, and plants. The program is administered jointly by the NMFS for most marine mammal species, marine and anadromous fish species, and marine plants species and by the USFWS for bird species, and terrestrial and freshwater wildlife and plant species.

The designation of an ESA listed species is based on the biological health of that species. The status determination is either threatened or endangered. Threatened species are those likely to become endangered in the foreseeable future [16 U.S.C. § 1532(20)]. Endangered species are those in danger of becoming extinct throughout all or a significant portion of their range [16 U.S.C. § 1532(20)]. Species can be listed as endangered without first being listed as threatened. The Secretary of Commerce, acting through NMFS, is authorized to list marine fish, plants, and mammals (except for walrus and sea otter) and anadromous fish species. The Secretary of the Interior, acting through the USFWS, is authorized to list walrus and sea otter, seabirds, terrestrial plants and wildlife, and freshwater fish and plant species.

In addition to listing species under the ESA, the critical habitat of a newly listed species must be designated concurrent with its listing to the "maximum extent prudent and determinable" [16 U.S.C. § 1533(b)(1)(A)]. The ESA defines critical habitat as those specific areas that are essential to the conservation of a listed species and that may be in need of special consideration. Federal agencies are prohibited from undertaking actions that destroy or adversely modify designated critical habitat. Some species, primarily the cetaceans, which were listed in 1969 under the Endangered Species Conservation Act and carried forward as endangered under the ESA, have not received critical habitat designations.

Federal agencies have an affirmative mandate to conserve listed species (Rohlf 1989). One assurance of this is Federal actions, activities or authorizations (hereafter referred to as Federal action) must be in compliance with the provisions of the ESA. Section 7 of the Act provides a mechanism for consultation by the Federal action agency with the appropriate expert agency (NMFS or USFWS). Informal consultations, resulting in letters of concurrence, are conducted for Federal actions that have no adverse affects on the listed species. Formal consultations, resulting in biological opinions, are conducted for Federal actions that may have an adverse affect on the listed species. Through the biological opinion, a determination is made as to whether the proposed action poses "jeopardy" or "no jeopardy" of extinction to the listed species. If the determination is that the action proposed (or ongoing) will cause jeopardy, reasonable and prudent alternatives may be suggested which, if implemented, would modify the action to no longer pose the jeopardy of extinction to the listed species. These reasonable and prudent alternatives must be incorporated into the Federal action if it is to proceed. A biological opinion with the conclusion of no jeopardy may contain a series of management measures intended to further reduce the negative impacts to the listed species. These management alternatives are advisory to the action agency [50 C.F.R. § 402.24(j)]. If a likelihood exists of any taking[1] occurring during promulgation of the action, an incidental take statement may be appended to a biological opinion to provide

[1] the term "take" under the ESA means "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct" [16 U.S.C. § 1538(a)(1)(B)].

for the amount of take that is expected to occur from normal promulgation of the action. An incidental take statement is not the equivalent of a permit to take.

Twenty-three species occurring in the GOA and/or BSAI groundfish management areas are currently listed as endangered or threatened under the ESA (Table 3.1). The group includes seven great whales, one pinniped, eleven Pacific salmon, three seabirds, and one albatross.

Table 3.1 Species currently listed as endangered or threatened under the ESA and occurring in the GOA and/or BSAI groundfish management areas.

Common Name	Scientific Name	ESA Status
Northern Right Whale	*Balaena glacialis*	Endangered
Bowhead Whale [1]	*Balaena mysticetus*	Endangered
Sei Whale	*Balaenoptera borealis*	Endangered
Blue Whale	*Balaenoptera musculus*	Endangered
Fin Whale	*Balaenoptera physalus*	Endangered
Humpback Whale	*Megaptera novaeangliae*	Endangered
Sperm Whale	*Physeter macrocephalus*	Endangered
Snake River Sockeye Salmon	*Onchorynchus nerka*	Endangered
Short-tailed Albatross	*Phoebastria albatrus*	Endangered
Steller Sea Lion	*Eumetopias jubatus*	Endangered and Threatened [2]
Snake River Fall Chinook Salmon	*Onchorynchus tshawytscha*	Threatened
Snake River Spring/Summer Chinook Salmon	*Onchorynchus tshawytscha*	Threatened
Puget Sound Chinook Salmon	*Onchorynchus tshawytscha*	Threatened
Lower Columbia River Chinook Salmon	*Onchorynchus tshawytscha*	Threatened
Upper Willamette River Chinook Salmon	*Onchorynchus tshawytscha*	Threatened
Upper Columbia River Spring Chinook Salmon	*Onchorynchus tshawytscha*	Endangered
Upper Columbia River Steelhead	*Onchorynchus mykiss*	Endangered
Snake River Basin Steelhead	*Onchorynchus mykiss*	Threatened
Lower Columbia River Steelhead	*Onchorynchus mykiss*	Threatened
Upper Willamette River Steelhead	*Onchorynchus mykiss*	Threatened
Middle Columbia River Steelhead	*Onchorynchus mykiss*	Threatened
Spectacled Eider	*Somateria fishcheri*	Threatened
Steller's Eider	*Polysticta stelleri*	Threatened

[1] The bowhead whale is present in the Bering Sea area only.

[2] Steller sea lion are listed as endangered west of Cape Suckling and threatened east of Cape Suckling.

In summary, species listed under the ESA are present in the action area and, as detailed below, some are negatively affected by groundfish fishing. The NMFS is the expert agency for ESA listed marine mammals. The USFWS is the expert agency for ESA listed seabirds. The proposed action, rule to the American Fisheries Act must be in compliance with the ESA.

Section 7 consultations relevant to promulgation of various aspects of the Alaska Groundfish Fisheries have been done for all the above listed species, some individually and some as groups. See the SEIS, section 3.8, for summaries of previous section 7 consultations and Biological Opinions (NMFS 1998a). Section 7 consultations prepared subsequent to the SEIS include:

1. National Marine Fisheries Service. December 3, 1998 Biological Opinion with amendment dated December 16, 1998. Activities Considered: Authorization of an Atka mackerel fishery under the BSAI groundfish Fishery Management Plan between 1999 and 2002. Authorization of a walleye pollock fishery under the Bering Sea-Aleutian Island groundfish Fishery Management Plan between 1999 and 2002, and Authorization of a walleye pollock fishery under the Gulf of Alaska groundfish Fishery Management Plan between 1999 and 2002 (NMFS 1998c).

2. National Marine Fisheries Service. December 22, 1998 Biological Opinion. Activities Considered: Authorization of BSAI groundfish fisheries based on TAC specifications recommended by the North Pacific Fishery management Council for 1999; and Authorization of GOA groundfish fisheries based on TAC specifications recommended by the North Pacific Fishery Management Council for 1999 (NMFS 1998d).

3. USDI Fish and Wildlife Service. March 19, 1999 Biological Opinion. Activities Considered: Hook-and-line groundfish fisheries in the Gulf of Alaska and Bering Sea/Aleutian Islands Areas on short-tailed albatrosses (USFWS 1999).

The proposed action and alternatives to it being considered for implementation of the American Fisheries Act regulations are not expected to have impacts on endangered or threatened marine mammal or bird species in ways that have not already been considered in the previous Section 7 consultations. Notwithstanding this determination, NMFS has initiated consultation to evaluate the effects of the proposed TAC specifications for the 2000 BSAI and GOA fisheries on listed species and critical habitat. This consultation will analyze the BSAI and GOA groundfish fisheries, other than the BSAI Atka mackerel fishery and the BSAI and GOA pollock fisheries addressed in the December 3, 1998, consultation, to determine whether these fisheries are likely to jeopardize listed species or modify their habitat. This consultation will be completed prior to December 31, 1999. A separate but related consultation on the impacts of the Alaska groundfish fisheries on listed salmonid was initiated in response to the 2000 TAC specification process and also will be concluded prior to the start of the 2000 pollock fisheries. Any influence of the AFA and associated pollock co-ops on listed salmon species will be considered as part of that consultation.

NMFS also has taken steps to initiate a comprehensive consultation under section 7 of the ESA on the groundfish fisheries in the BSAI and GOA that will evaluate the cumulative effects of the fisheries over a multi-year period on listed species and critical habitat (Programmatic Groundfish Fisheries Consultation). This Programmatic Groundfish Fisheries Consultation will be conducted in accordance with the ESA and implementing regulations, and will analyze the individual and cumulative impacts of all activities relating to the groundfish fisheries authorized and managed under the FMPs, and all amendments thereto, to determine whether the cumulative impacts of the groundfish fisheries are likely to jeopardize the continued existence of listed species, including Steller sea lions, or adversely modify critical habitat. Generally, the Programmatic Groundfish Fisheries Consultation will be prepared in coordination with a comprehensive programmatic supplemental Environmental Impact Statement that will address activities authorized and managed under the groundfish fishery management plans and amendments thereto, and that addresses the conduct of the GOA and BSAI groundfish fisheries and the FMPs as a whole. The schedule for completion of the Programmatic Groundfish Fisheries Consultation will correspond to the schedule for the issuance of the programmatic SEIS as the information, evaluations, and conclusions that are required for both documents will be similar in many respects.

3.10 Marine Mammal Protection Act Considerations

Under the Marine Mammal Protection Act, commercial fisheries are classified according to current and historical data on whether or not the fishery interacts with marine mammals. Two groups, takers and non-takers, are initially identified. For takers, further classification then proceeds on the basis of which marine mammal stocks interact with a given fishery. Fisheries that interact with a strategic stock at a level of take which has a potentially significant impact on that stock would be placed in Category I. Fisheries that interact with a strategic stock and whose level of take has an insignificant impact on that stock, or interacts with a non-strategic stock at a level of take which has a significant impact on that stock are placed in Category II. A fishery that interacts only with non-strategic stocks and whose level of take has an insignificant impact on the stocks is placed in Category III.

Species listed under the Endangered Species Act present in the management area were listed above. Marine mammals not listed under the ESA that may be present in the BSAI and GOA management area include cetaceans, [minke whale (*Balaenoptera acutorostrata*), killer whale (*Orcinus orca*), Dall's porpoise (*Phocoenoides dalli*), harbor porpoise (*Phocoena phocoena*), Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), and the beaked whales (e.g., *Berardius bairdii* and *Mesoplodon spp.*)] as well as pinnipeds [Pacific harbor seal (*Phoca vitulina*), northern fur seal (*Callorhinus ursinus*), Pacific walrus (*Odobenus rosmarus*), spotted seal (*Phoca largha*), bearded seal (*Erignathus barbatus*), ringed sea (*Phoca hispida*) and ringed seal (*Phoca fasciata*)], and the sea otter (*Enhydra lutris*).

Take of the above listed marine mammals in trawl fisheries has been monitored through observer programs. The subject fisheries (Gulf of Alaska groundfish trawl, and Bering Sea and Aleutian Islands groundfish trawl) are classified as Category III. Steller sea lion, harbor seal, northern elephant seal, Dall's porpoise were species recorded as taken incidentally in the Gulf of Alaska groundfish trawl fisheries according to records dating back to 1990 (Hill et al 1997.) Steller sea lion, northern fur seal, harbor seal, spotted seal, bearded seal, ribbon seal, ringed seal, northern elephant seal, Dall's porpoise, harbor porpoise, Pacific white-sided dolphin, killer whale, sea otter, and walrus were recorded as taken incidentally in the Bering Sea and Aleutian Islands groundfish trawl fisheries according to records dating back to 1990 (Hill et al 1997.)

None of the alternatives considered for implementation of the American Fisheries Act regulations are expected to increase or decrease the participating fisheries rates of incidental takes or other direct interaction with marine mammals.

3.11 Coastal Zone Management Act

Implementation of the emergency rule would be conducted in a manner consistent, to the maximum extent practicable, with the Alaska Coastal Management Program within the meaning of section 30(c)(1) of the Coastal Zone Management Act of 1972 and its implementing regulations.

3.12 EFH Impacts Analysis

The area included in this action includes EFH for all managed species in the BSAI. EFH for these species at each life stage, to the extent that it is understood, is described and identified in four FMP amendments which were approved January 20, 1999. These are: Amendment 55 to the FMP for the Groundfish Fishery of the Bering Sea and Aleutian Islands; Amendment 8 to the FMP for the Commercial king and Tanner Crab Fisheries in the Bering Sea/Aleutian Islands; Amendment 5 to the FMP for Scallop Fisheries off Alaska; and Amendment 5 to the FMP for the Salmon Fisheries in the Exclusive Economic Zone off the Coast of Alaska.

The effects of the pollock fishery on EFH for pollock and other FMP managed species were considered comprehensively in the EFH assessment in the draft EA for the Proposed Rule to Implement Steller Sea Lion Protection Measures for the Pollock Fisheries of the BSAI and the GOA (NMFS 1999e). The effects of other groundfish fisheries on EFH were examined in the EFH assessment in the EA for the 2000 Groundfish Total Allowable Catch Specifications Implemented Under the Authority of the Fishery Management Plans for the Groundfish Fishery of the Bering Sea and Aleutian Islands Area and Groundfish Fishery of the Gulf of Alaska Area (NMFS 1999d). Because fishing for pollock under AFA-endorsed fishing cooperatives would promote dispersion of fishing effort in time and space, EFH impacts could actually be reduced relative to the status quo fishery. Given this premise, nothing in this rule is expected to change in a negative manner the effects of fishing on EFH in ways not considered in previous assessments.

This proposed rule authorizes certain vessels to fish for and process pollock in the BSAI and places restrictions on the participation of such vessels in other groundfish and crab fisheries. Pollock co-ops and AFA groundfish and crab harvest sideboards and restrictions could change the conduct of these fisheries in a manner that disperses fishery effort, reduces overall harvest rates and potentially increased season length of fisheries. To the extent these changes occur, they would be in the direction already assessed under the new Steller sea lion protection measures. The TAC amount harvested and the gear used are not expected to change because of this rule. Taken in the context of the fishery as a whole, this rule is not expected to have an adverse effect on EFH for any managed species in the BSAI and in fact could have beneficial impacts to the extent that fishing effort is further dispersed in time and space relative to the status quo alternative.

3.13 Conclusions

For the reasons discussed above, implementation of the regulations to implement the American Fisheries Act would not significantly affect the quality of the human environment. Therefore, the preparation of an environmental impact statement is not required by section 102(2)(C) of NEPA or its implementing regulations.

This Environmental Assessment adopts the discussion and analyses in the SEIS (NMFS 1998a), and incorporates by reference the 1999 Groundfish Total Allowable Catch Specification EA (NMFS 1998b), the draft 2000 Groundfish total allowable Catch Specifications EA (NMFS 1999d), the Emergency Rule to Implement Reasonable and Prudent Steller Sea Lion Protection Measures in the Pollock Fisheries of the BSAI and GOA EA (NMFS 1999a), and Revised Final Reasonable and Prudent Alternatives for the Pollock fisheries in the Bering Sea and Aleutian Islands and Gulf of Alaska with supporting Documents (NMFS 1999c and NMFS 1999e).

Penelope D. Dalton — Assistant Administrator for Fisheries, NOAA

1/14/00 — Date

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4.0 DEFINITIONS OF INSHORE, OFFSHORE, AND SINGLE GEOGRAPHIC LOCATION

Because certain sector definitions in the AFA are inconsistent with existing definitions, under either the Magnuson-Stevens Act or the Council's inshore/offshore regulations, clarification is required to ensure consistency in the implementation of the provisions of the AFA. Primarily these involve the definitions of "inshore component" and "offshore component", the use of the term "fish" vs "groundfish", and the definition of the term 'shoreside processor' in the AFA. The Council previously requested a discussion of the terms and definitions used for consistency between the AFA and other regulations. The issue of single geographic location for floating processors is related to this discussion and is included herein. The Council raised this issue among the alternatives for processor sideboards and it is a decision point which needs to be resolved as part of the overall AFA amendment package.

4.1 Issues

1. Definitions for the terms "inshore component" and "offshore component" in the American Fisheries Act (AFA) are different from the definitions for these terms used by the North Pacific Fishery Management Council (Council) and NMFS in the original inshore-offshore allocation regime.

2. Differences in the definitions raise certain policy choices in synchronizing the inshore-offshore management regime between the Bering Sea and Aleutian Islands area (BSAI) and the Gulf of Alaska (GOA).

3. Clarification is required regarding the Council's intent to restrict floating processors to a single geographic location (SGL).

4.2 Council Decision Points

The principal policy decision is whether consistency is desirable within and between the definition of "inshore component," as that term is applied in the BSAI and GOA inshore-offshore fisheries. If no, then no further consideration needs to be given to this issue. Staff recommends consistency which raises the following issues for resolution:

Decision point 1: Sunset dates and duration of definitions - should the relevant definitions be of the same duration in the GOA and the BSAI? **The Council is scheduled to take action under Amendments 62/62 to make the overall GOA inshore/offshore regulations sunset at the same time as the BSAI, therefore resolving this question.**

Decision point 2: Should the definitions apply to directed fishing harvests of pollock or GOA Pacific cod in the BSAI and GOA separately or combined?

Staff preference is yes. This decision would resolve any potential confusion about the applicability of the BSAI "inshore" and "offshore" (I-O) definitions in the GOA and vice versa. This decision also would facilitate single I-O definitions that would be consistent in both areas.

Need. The original I-O definitions applied equally in both the BSAI and the GOA. The AFA definitions, however, specifically apply only to I-O fish harvested in the BSAI. In the GOA, those definitions apply to I-O fish harvested in both areas. This inconsistency could be a source of confusion because different I-O definitions would apply to pollock based on the area in which it was harvested.

Effect. The substantive effect of this alternative would apply only to pollock harvests; not Pacific cod, because Pacific cod is an I-O species only in the GOA. Pollock is an I-O species in both areas. Hence, the I-O definitions would apply to pollock regardless of from which area it was harvested.

Decision point 3: Should the "shoreside processor" definition apply to the processing of "fish" or "groundfish," as those terms are defined in the MSA, and groundfish implementing regulations, respectively?

Staff preference is for "groundfish". This decision would resolve a technical inconsistency between the I-O definitions used by the AFA for the BSAI and those used by the Federal groundfish regulations for the GOA. This decision also would facilitate single I-O definitions that would be consistent in both areas.

Need. The AFA definition of "shoreside processor" is slightly different from the one used in the Federal groundfish regulations. This results in different meanings of the term being applied in the BSAI and in the GOA. The differences are that the AFA definition refers to "**fish**" while existing groundfish regulations refer to "**groundfish**" in two places.

Effect. The Magnuson-Stevens Fishery Conservation and Management Act (at section 3) defines "fish" as including all forms of marine animal and plant life other than marine mammals and birds. "Groundfish," on the other hand is defined in the regulations as including only those fish for which harvest limits are annually specified pursuant to 50 CFR 679.20(a). Hence, a processor that processes only salmon and crab harvested in the BSAI, for example, would be a "shoreside processor" under the AFA but not under the regulations at 50 CFR part 679. The effect of choosing the staff preference would be to prevent the provisions of the AFA from applying to salmon and crab harvested in the BSAI, for example. The AFA section 208(f) provisions would be unaffected because pollock is both a "fish" under the MSA and a "groundfish" under the Federal regulations. Consistent application of the term "shoreside processor" would enhance consistent application of the I-O provisions.

Decision point 4: Should the "inshore" and "offshore" definitions apply to all fishing for "groundfish" or to directed fishing for pollock in the BSAI, directed fishing for pollock or Pacific cod in the GOA, or both?

Staff preference is to have the definitions apply only to pollock harvested in a directed fishery for pollock in the BSAI or the GOA, or Pacific cod harvested in a directed fishery for Pacific cod in the GOA. This decision would resolve a technical point of confusion about whether the I-O provisions apply to all groundfish harvests including incidental catch amounts or to only directed fishing for the I-O species. Another potential source of confusion stems from having the I-O definitions apply comprehensively to all groundfish, but only to directed fishing harvests of pollock (or P. cod in the GOA) that are delivered to floating processors inside State waters.

Need. As explained below, this issue stems from an attempt to resolve a problem of accounting for incidental catches of pollock in the BSAI to either the "inshore" allocation or the "offshore" allocation. The agency solution was proposed in the proposed rule for I-O 3 which was drafted before the AFA was signed into law. The AFA drafters provided redundant solutions to this problem, first, by adopting the agency proposal to use the term "groundfish" in the I-O definition, and second, by providing for an "incidental catch allowance." The latter solution obviated the need for the former solution but it was retained in the AFA anyway.

Effect. The effect of the staff preference would be to restore the original I-O definition language which makes the I-O provisions apply only to directed fishing harvests of pollock in the BSAI and the GOA, and directed

fishing harvests of Pacific cod in the GOA. Also, this decision would restore consistency of applying the "inshore" definition among all categories of the inshore component.

Decision point 5: Regarding the issue of inshore floating processors, should they be restricted (or not) to a single geographic location during a fishing year in which they process directed fishing amounts of inshore/offshore species? Should this restriction, if adopted, apply statewide or just within GOA and BSAI areas separately? **Staff has no recommendation on this issue.**

Decision point 6: Should the definition of "shoreside processor" be refined, for purposes of implementing the AFA,

(a) to mean the physical plant of the shoreside processor, and
(b) limit a shoreside processor that qualifies under AFA sec. 208(f) to receive pollock harvested in the BSAI only at the same physical location at which that shoreside processor plants existed during the qualifying years of 1996 and 1997? **Staff preference regarding issue (a) is to define shoreside processor as the physical plant or processing facility, but staff has no recommendation on issue (b). See discussion under section 4.4 below.**

4.3 Background Discussion

The first inshore-offshore allocations of pollock in the BSAI and GOA and Pacific cod in the GOA were established in 1992, pursuant to the partial approval of groundfish fishery management plan (FMP) Amendments 18 (BSAI) and 23 (GOA). Amendments 18/23 resulted in part from the early closure of the GOA pollock fishery in 1989, after several catcher-processor vessels harvested nearly half of the total allowable catch (TAC) for pollock early that year. Most of this TAC was being planned, but not officially reserved, for use by catcher vessels that delivered fish to shore-based processing plants. This "inshore" sector of the industry perceived that they were unfairly preempted from the resource and from carrying out their planned activity by the catcher-processors or "offshore" sector of the industry. The Council's policy response to the preemption argument resulted in three actions which ultimately were approved by NMFS and implemented as separate regulatory programs. These included a prohibition on pollock roe stripping, inshore-offshore allocations and a moratorium on the entry of new vessels.

An argument frequently heard during the inshore-offshore preemption debate was that the real problem was excessive harvesting capacity caused by open or free access to the fishery resource. Although the open access management regime at that time likely contributed to the preemption problem, a policy of limiting access or reducing capacity would not necessarily resolve it. This is due to the superior mobility of catcher/processor vessels relative to catcher vessels. The latter are constrained to fish within a reasonable operating distance from the plants to which they deliver while catcher/processor vessels have a larger potential operating range. Hence, regardless of the open or limited access policy in effect, a catcher/processor vessel could compete with a catcher vessel within that vessel's operating range and then move on to harvest fish outside of the catcher vessel's range. This mobility feature distinguishing the inshore and offshore sectors was then, and continues to be central to the inshore and offshore component definitions which are basic to the practical implementation of the inshore-offshore allocation policy.

The original "inshore" and "offshore" component definitions developed by the Council for Amendments 18/23 were used again in Amendments 38/40, which re-authorized the inshore-offshore allocation policy for the three-year period 1995-1998. The Council again relied on these definitions when it acted in June 1998, to adopt

Amendments 51/51 to re-authorize a revised inshore-offshore allocation policy for 1999-2001. In October 1998, however, the AFA superceded Amendment 51 to the BSAI groundfish FMP with a different inshore-offshore policy and different definition for "inshore" and "offshore" components. Amendment 51 to the GOA groundfish FMP was subsequently approved and implemented by regulations published January 25, 1999 (64 FR 3653) which leads to issue 1 above.

Definition Differences

The inshore component definition currently in effect for the BSAI pollock fisheries by regulation at 50 CFR 679.2 is based on the definition at section 205(6) of the AFA and reads as follows:

"Inshore component in the BSAI" (applicable through December 31, 2004) means the following categories that process groundfish harvested in the BSAI:

(1) Shoreside processors, including those eligible under section 208(f) of the American Fisheries Act; and

(2) Vessels less than 125 ft (38.1 m) LOA that process less than 126 mt per week in round-weight equivalents of an aggregate amount of pollock and Pacific cod.

By contrast, the inshore component definition currently in effect for the GOA pollock and Pacific cod fisheries, also at 50 CFR 679.2, is based on Amendment 51 to the GOA groundfish FMP which was approved by the Alaska Regional Administrator, NMFS, on December 15, 1998, and reads as follows:

"Inshore component in the GOA" (applicable through December 31, 2001) means the following three categories of the U.S. groundfish fishery that process groundfish harvested in the BSAI or the GOA:

(1) Shoreside processing operations;

(2) Vessels less than 125 ft (38.1 m) LOA that process no more than 126 mt per week in round-weight equivalents of an aggregate amount of pollock and Pacific cod; and

(3) Vessels that process pollock or Pacific cod, harvested in a directed fishery for those species, at a single geographic location in Alaska State waters during a fishing year.

Also, the current definitions of "offshore component" as they appear in regulations at 50 CFR 679.2, are slightly different. Again, the definition for "offshore component in the BSAI" is based on the AFA definition of the term and "offshore component in the GOA" is based on the approved Amendment 51 for the GOA groundfish FMP.

"Offshore component in the BSAI" (applicable through December 31, 2004) means all vessels not included in the definition of "inshore component in the BSAI" that process groundfish in the BSAI.

"Offshore component in the GOA" (applicable through December 31, 2001) means all vessels not included in the definition of "inshore component in the GOA" that process groundfish in the BSAI or GOA.

Specific differences between the two "inshore component" definitions and the two "offshore component" definitions are summarized as follows:

- "In the BSAI" or "in the GOA" is added respectively to each definition to distinguish its applicability. These phrases are not in the text of the AFA definitions or in the inshore-offshore proposed rule for Amendments 51/51, but are now necessary due to other differences between the respective definitions.
- The "sunset dates" are different. Section 213 of the AFA provides for the duration of the BSAI inshore-offshore allocations until December 31, 2004. Amendment 51 to the GOA groundfish FMP, as proposed and approved however, ceases to have effect after December 31, 2001.
- The BSAI "inshore" and "offshore" definitions apply only to groundfish harvested in the BSAI. The GOA "inshore" and "offshore" definitions apply to groundfish harvested in the BSAI or the GOA.
- "Single geographic location" (SGL) inshore processors are handled differently. The SGL provisions apply only to processor vessels operating inside State of Alaska (State) waters (0 to 3 miles offshore). For the BSAI, the AFA refers to SGL processors indirectly in the definition by reference to section 208(f). This section of the AFA is not effective until January 1, 2000, and includes SGL processor vessels parenthetically as shoreside processors for purposes of limiting entry into the BSAI pollock processing business. In the GOA, however, the SGL processors are explicitly included in the "inshore component" definition and not as a "shoreside processor."
- "Shoreside processor" as used in the AFA definition differs from the definition in 50 CFR 679.2 in that (a) the AFA uses the word "fish" where the regulation uses the word "groundfish" and (b) the AFA definition remains in effect until December 31, 2004, but the regulation remains in effect until changed by subsequent rulemaking.
- Both inshore definitions use the term "groundfish" but its use introduces confusion to both definitions for different reasons.

4.4 Discussion of Alternatives

The definition differences described above present policy choices that should be made for consistent implementation of the inshore-offshore policy in the BSAI and the GOA combined. Due to these differences, the current inshore-offshore implementing regulations rely on four definitions of "inshore" and "offshore" component; two for the BSAI consistent with the AFA and two for the GOA consistent with approved Amendment 51. This multiplicity of definitions could confound enforcement or produce other unintended effects. A single definition of "inshore component" and of "offshore component" that could be applied consistently to the BSAI and GOA would obviate the need for two definitions "in the BSAI" and two "in the GOA."

Consistency can be realized by amending the BSAI and GOA groundfish FMPs or the AFA or both. Section 213(c)(1) of the AFA provides authority for the Council and NMFS to implement measures that supercede the AFA except for sections 206 and 208. The AFA definitions of "inshore component" and "offshore component" are in section 205 and may be superceded for conservation purposes or to mitigate adverse effects caused by the AFA. A recommendation to supercede a part of the AFA likely would take the form of an FMP amendment. Following is a discussion FMP amendment alternatives.

1. Sunset dates.

(a) Make no change. The inshore-offshore provisions in the BSAI, under section 213(a) of the AFA would be in effect through December 31, 2004, and those in the GOA under approved Amendment 51 would be in

effect through December 31, 2001. This alternative would prevent a common definition for "inshore component" and "offshore component" in both areas.

(b) Amend the GOA groundfish FMP to extend inshore-offshore provisions in the GOA to match the duration of those in the BSAI. This would result in the inshore-offshore definitions for both areas being effective through December 31, 2004. **Preferred** - While two additional alternatives are discussed below, they are both inconsistent with the provisions of the AFA, and the Council has already expressed its preference for alternative (b), and is scheduled to take final action in June to extend the inshore-offshore provisions in the GOA to match the duration in the BSAI under Amendment 62/62.

(c) Supercede section 213(a) of the AFA to make the inshore-offshore provisions in the BSAI to match the duration of those in the GOA. This would result in the inshore-offshore definitions for both areas being effective through December 31, 2001.

(d) Amend the GOA groundfish FMP and supercede section 213(a) of the AFA to remove the duration limits in both areas. This would make the inshore-offshore provisions in both areas consistent in that both would remain effective until changed by subsequent FMP amendments. As part of this alternative, the Council could state a policy of considering inshore-offshore changes at some specified date in the future, but this date would not have to take the form of a "sunset" date in regulations.

2. Application of inshore-offshore definitions to BSAI and GOA areas.

(a) Make no change. The BSAI "inshore" and "offshore" definitions would continue to apply only to groundfish harvested in the BSAI. The GOA "inshore" and "offshore" definitions would continue to apply to groundfish harvested in the BSAI or the GOA. The substantive effect of this alternative would apply only to pollock harvests; not Pacific cod. Only pollock harvests in the BSAI, not pollock harvests in the GOA, would be subject to the definition of "inshore component in the BSAI," but pollock harvests in both areas would be subject to the definition of "inshore component in the GOA." The technical effect would be to prevent a common definition for "inshore component" and "offshore component" in both areas.

(b) Change the GOA definitions to match the BSAI definitions by deleting "the BSAI or" from the GOA inshore and offshore definitions. Again, the substantive effect would apply only to pollock harvests, as above. **Preferred.**

(c) Supercede the AFA definitions of "inshore component" and "offshore component" in section 205 to match the GOA definitions by adding the phrase "or the GOA" to both definitions.

3. "Shoreside processor" definition part 1.

(a) Make no change. This alternative would continue this definition's inconsistency between the BSAI, as it applies to the inshore-offshore provisions of the AFA, and the GOA and BSAI as it applies to all other provisions of the regulations in 50 CFR part 679.

(b) Change the shoreside processor definition at 50 CFR 679.2 to match the AFA definition by changing "groundfish" to "fish." Such a change may have undetermined effects on compliance with record keeping and reporting requirements and with other regulations in which the term "shoreside processor" is used.

(c) Supercede the AFA definition of shoreside processor. This alternative would be implemented by stipulating in the part 679 regulations that, for purposes of implementing the inshore-offshore provisions of the AFA, the meaning of "shoreside processor" is as defined at 50 CFR 679.2, not withstanding the definition at AFA section 205(12). - i.e., would use the term "groundfish". **Preferred.**

4. "Groundfish" used in the inshore-offshore definitions.

(a) Make no change. The term "groundfish" would remain in the inshore and offshore definitions for the BSAI and the GOA. The effect could be ambiguity about which fisheries are subject to the inshore-offshore provisions. Using the term "groundfish" in the definition would indicate that fisheries for all species of groundfish are subject to the BSAI and GOA inshore and offshore policies while other parts of the AFA and GOA Amendment 51 (and the history of the inshore-offshore policy since 1992) indicate that the inshore-offshore provisions apply only to directed fishing harvests of pollock in the BSAI and GOA and Pacific cod harvests in the GOA.

(b) Change the inshore and offshore definition phrase "that process groundfish harvested in the BSAI [or GOA]" to read "that process pollock harvested in a directed fishery for pollock in the BSAI or the GOA, or Pacific cod harvested in a directed fishery for Pacific cod in the GOA, or both." This change would require superceding the inshore and offshore component definitions in section 205 of the AFA and amending the definitions applicable to the GOA. **Preferred.**

(c) Superceding the AFA definitions as described in alternative 5(b) above but not the inshore-offshore definitions applicable to the GOA. This would prevent a common definition of "inshore component" for both areas but would be functional due to the separate allowance for pollock bycatch in the BSAI.

(d) Change the inshore definitions applicable to the GOA as described in alternative 5(b) above but not supercede the AFA definitions. The rationale for this alternative is not immediately apparent.

A technical change in the proposed rule for Amendments 51/51 (63 FR 57996, October 29, 1998) proposed revising the inshore and offshore definitions to indicate that all groundfish processors operating in the BSAI and the GOA must be identified as belonging to either the inshore or offshore component regardless of whether they process pollock harvested in a directed fishery for pollock in the BSAI or GOA or Pacific cod harvested in a directed fishery for Pacific cod in the GOA. Previously, regulations implementing Amendments 18/23 and 38/40 applied the inshore-offshore allocation provisions by definition only to "pollock harvested in a directed fishery for pollock in the GOA or BSAI, or Pacific cod harvested in a directed fishery for Pacific cod in the GOA, or both." This definition caused a catch-accounting problem when bycatch amounts of pollock or GOA Pacific cod were delivered because no third "bycatch" allowance was provided under the Council's original inshore-offshore policy recommendation which applied only to directed fishing for these species. For purposes of counting bycatch amounts of pollock and GOA Pacific cod to either the inshore or offshore allocations, the technical change in the Amendment 51/51 proposed rule would have classified all groundfish processors as either "inshore" or "offshore." Closures of either the inshore or offshore component would apply only to directed fishing for pollock or GOA Pacific cod, however, as no inshore-offshore allocation exists for, say, yellowfin sole.

The AFA drafters adopted the same logic, but also provided for a separate allowance "...for the incidental catch of pollock by vessels harvesting other species of groundfish..." (AFA section 206(b)). The AFA, therefore, provides two solutions to one bycatch accounting problem. Clearly, the inshore-offshore allocations of pollock made by the AFA apply only to directed fishing for pollock. The AFA definitions of "inshore" and "offshore"

are made unnecessarily broad by using the term "groundfish." For purposes of implementing approved Amendment 51 in the GOA, the proposed technical change was adopted in the final inshore-offshore implementing regulations (64 FR 3653, January 25, 1999).

In the GOA, the broader term "groundfish" may be needed because neither the AFA nor GOA Amendment 51 provide for a bycatch allowance of pollock and Pacific cod caught in the GOA. This argument is weak, however. The allocation of pollock is entirely to the inshore component in the GOA, and any bycatch by the offshore component in the GOA would have to be deducted from the inshore allocation. No question is raised as to which allocation of pollock are pollock bycatches to be deducted. For Pacific cod in the GOA, the 10 percent allocation to the offshore component provides an ability to count the bycatch of Pacific cod by the offshore component against the offshore allocation. Hence, the need for the term "groundfish" in the GOA inshore and offshore definitions is questionable.

Finally, the term presents potential confusion in conjunction with the SGL category which is limited only to pollock or Pacific cod harvested in directed fisheries those species. The result is a definition of "inshore component in the GOA" that applies broadly to all groundfish harvested in the BSAI or GOA, but one part of the definition pertaining to SGL processor vessels is limited to directed fishery harvests of inshore-offshore species. This internal inconsistency is potentially misleading and confounding in its application.

5. Floating processors.

(a) Make no change. This alternative would reference floating processors indirectly as included in the definition of "inshore component in the BSAI" while explicitly including floating processors in the definition of "inshore component in the GOA."

(b) Eliminate or change restrictions on floating processors. Current implementing regulations require a processor vessel operating inside State waters to be at the same geographic location whenever it processes pollock harvested in a directed fishery for that species in the BSAI or pollock and Pacific cod harvested in a directed fishery for those species in the GOA. Further, regulations at sec. 679.7(a)(7) prohibit a floating processor from operating under the "inshore component in the BSAI" and the "inshore component in the GOA" definitions during the same fishing year. Elimination of these restrictions would allow such processor vessels to move to different locations within State waters to process inshore-offshore species. Alternatively, such vessels could be limited to operating in State waters adjacent to either the BSAI or GOA but not both during the same fishing year. In this event, a processor vessel would not necessarily be limited to processing pollock or GOA Pacific cod wherever it was located.

Including State water processing vessels in the original inshore definition was designed to recognize that, like processing plants physically situated on shore, catcher vessels delivering to processor vessels operating in State waters were limited in their scope of operation. State-waters processor vessels faced the same potential preemption by the offshore catcher/processors and motherships as did the onshore plants. A State-waters processor vessel, however, has more mobility than an onshore processing plant, and could have some advantage over the onshore plant by moving closer to the grounds being fished by its catcher vessels. Therefore, for equity within the inshore sector, the Council recommended and NMFS implemented the single location restrictions on State-waters processing vessels. Hence, the SGL term which was used also by drafters of the AFA. Since 1992, the single location restriction applied only to the processing of pollock, or GOA Pacific cod, taken in directed fisheries for those species. Processing bycatch amounts of those species when the inshore directed fisheries were closed did not require a State-waters processor vessel to be in the same location as it was when it processed directed fishery harvests of the inshore-offshore species.

Arguably, provisions of the AFA now make the SGL restrictions unnecessary. These provisions include specified inshore-offshore allocations, the expressed authority to form co-operatives with catcher vessels, and the processor limitations at AFA section 208(f). Together, these provisions suggest that each inshore processing plant and SGL processor vessel will likely have a predetermined amount of the inshore pollock allocation on which to operate during a fishing year. Any processor within the inshore component would have little opportunity to "preempt" another plant in the inshore component by virtue of its location, except with regard to the ex-vessel price it could offer to independent catcher vessels. Removing all restrictions, however, may be short sighted with regard to State-waters processor vessels moving between the BSAI and the GOA pollock fisheries.

6. "Shoreside processor" definition part 2.

(a) Make no change. This alternative would make no change to the term "shoreside processor," in the AFA implementing regulations, with respect to (i) the corporate identity of the shoreside processor or (ii) the physical location of the processing plant.

(b) Add to or enhance the definition of "shoreside processor," in the AFA implementing regulations, to:
(i) specify that "shoreside processor" means the physical plant on shore where fish processing is conducted and not only the corporate identity of the shoreside processor, and
(ii limit a shoreside processor that qualifies under AFA sec. 208(f) to receive pollock harvested in the BSAI only at the same physical location at which that shoreside processor plant existed during the qualifying years of 1996 and 1997.

The AFA definitions section (sec. 205) defines the term "shoreside processor" to mean "...any **person** or vessel that receives unprocessed fish..." (emphasis added). The Magnuson-Stevens Act definitions section (sec. 3) defines "person" to mean "...any individual...corporation, partnership, association or other entity...." The question raised by the term "person" in the AFA definition of shoreside processor is whether Congress intended the definition to apply to the physical plant used by the processor or the only to the corporate identity of the shoreside processor. This would be a moot question except for the allowance, under AFA section 208(f)(2), to deliver, on recommendation of the Council and approval by the Secretary, BSAI-harvested pollock to shoreside processors other than those qualified to receive under section 208(f)(1). This section (208(f)(1)) effectively limits the shoreside processors who may receive pollock harvested in the BSAI for processing by the inshore component to only those shoreside processors that processed more than 2,000 mt of pollock during the inshore directed pollock fishery in each of 1996 and 1997 (qualified processors). The following paragraph (sec. 208(f)(2)), however, provides for the delivery of pollock to an unqualified shoreside processor if (a) the TAC for pollock in the BSAI increases by more than 10 percent above the TAC in 1997, or (b) in the event of the actual total loss or constructive total loss of a qualified shoreside processor. Use of the term "person" in the shoreside processor definition, therefore, raises the question of whether Congress intended to equate the actual loss of a processing plant, say by fire or natural disaster, with the constructive loss of a corporation, say by financial disaster.

For this reason, the terms "shoreside processor" and "person" may be sufficiently vague to warrant enhancement of the definition in the AFA implementing regulations. The Council could determine that only the actual physical or constructive total loss of a processing plant, would be sufficient grounds to allow the entry of an otherwise unqualified shoreside processor into the inshore component. In this event, the AFA "shoreside processor" definition drafted for the AFA implementing regulations would specify that, notwithstanding use of the term "person," the term "shoreside processor" means a physical processing plant for purposes of sec. 208(f)(2). On the other hand, the Council could determine to leave this term vague and

to deal with the issue as the need arises. The practical effect of clarifying the term "shoreside processor" to mean physical plant as opposed to the corporate owner of the plant is that petitions to the Council under AFA sec. 208(f)(2) would arise only in the event of actual or constructive total loss of the physical plant of a qualified shoreside processor. Not clarifying the term may open the Council to petitions under sec. 208(f)(2) based on arguments that the corporate owner of a plant suffered constructive total loss.

For database management reasons, NMFS currently issues separate Federal processor permits, required under 50 CFR 679.4(f), to individual processing plants regardless of the fact that two or more plants may have the same corporate owner. NMFS staff would prefer to continue and clarify this approach for purposes of implementing the AFA shoreside processor provisions for consistency in landings data collection, regardless of the total loss implications at the corporate or plant facility level discussed above.

A separate but related question is raised also by lack of clarity in the term "shoreside processor." This question is whether a qualified shoreside processor under sec. 208(f)(1) could expand its scope of operations as a "person" under the "shoreside processor" definition. For example, a qualified shoreside processor could open a new plant at a location different from that at which it became qualified under sec. 208(f)(1). The new plant location could provide a competitive advantage over other shoreside processors in the processing of pollock and non-pollock species. Without further clarifying the definition of "shoreside processor" however, the new plant location could be permissible because the corporate identity of the qualified processor did not change. To prevent such occurrence, the Council could enhance the "shoreside processor" definition by clarifying that, for purposes of implementing sec. 208(f), a qualified shoreside processor may receive deliveries of pollock harvested in the BSAI for processing by the inshore component only at the same physical location at which that shoreside processor plant existed during the qualifying years of 1996 and 1997. The practical effect of such an action would be to prevent a qualified shoreside processor from receiving inshore component pollock at different locations during the effective period of the AFA. The Council, however, may also determine that such an action would be too limiting on the ability of shoreside processors to receive and process pollock profitably. In this event, the Council may choose to make no clarification of the meaning of "shoreside processor" with respect to physical plant or corporate identity. As indicated above, the staff has no preference or recommendation on this aspect of decision point 6(b).

The Council and the Secretary arguably have authority to enhance or clarify the definition of "shoreside processor" for purposes of implementing AFA section 208(f). AFA section 213(c) provides authority to the Council to recommend and to the Secretary to approve measures that supercede the provisions of Title II (the AFA), except for provisions of sections 206 and 208. The "shoreside processor" definition that would be clarified is in AFA section 205. The practical effect of the clarification, if approved, however, would be to limit the application of sec. 208(f) with regard to the identity of eligible shoreside processors as specific physical plants, facilities, or vessels, as opposed to the companies that own them.

5.0 COOPERATIVE AGREEMENTS AND COUNCIL REVIEW

5.1 Requirements of the AFA

The AFA stipulates that co-op contracts must be filed with the Council and the Secretary not less than 30 days prior to the start of fishing. While the AFA does not elaborate on the specific review role of the Council, it does stipulate that certain provisions of the co-op agreements, at a minimum, will be made available to the public by the Council. These minimums include the following:

*Parties to the contract (fishing companies involved)
*List of the vessels involved
*Amount of pollock to be harvested by each party to the co-op
*Amount of other groundfish to be harvested by each member of the co-op

The contracts must also contain provisions for payment of fish taxes to the State of Alaska for all pollock harvested/processed, and for 1999, the co-op agreements for catcher vessels delivering to catcher/processors included restrictions to limit their participation in non-pollock fisheries to 'traditional' levels.

On December 20, 1998 the Council received copies of the contract agreements for the offshore sector co-op participants, including the catcher vessels that deliver offshore. On December 29 the Council forwarded a letter to the Secretary of Commerce which described apparent deficiencies in the co-op agreements, but acknowledged that this is a first-year learning experience and that fishing under these initial co-op agreements should proceed in 1999. The issues noted in the letter centered on the lack of specifics with regard to the harvest of non-pollock species and PSC amounts, as well as how the distribution of catch among co-op members would be affected by transfers within the co-op. In February 1999 the Council discussed these issues and, as part of its overall action on AFA, requested that NMFS prepare a report for review in October 1999 which would describe the specific activities of the co-ops, including:

1. The effectiveness of the pollock co-ops in reducing bycatch,
2. The effectiveness of management measures to protect other fisheries from adverse impacts caused by the AFA or pollock co-ops,
3. A discussion of how transfers within co-ops may affect issues 1 and 2 above.,
4. Utilization and recovery rates by species and product categories, and
5. Methods of monitoring and enforcement.

The report is also expected to include the most specific catch and bycatch information available on an individual vessel level. In requesting this information, the Council recognized that the nature of co-op fisheries would preclude definitive knowledge of all vessels' individual catch and bycatch until after the season is completed. While much of the information required under the AFA can be included in the pre-season agreements, and the Council can make that information available to the public, it appears that the post-season report offers a mechanism to fully implement the intent of the AFA in this regard.

5.2 Council Proposed Requirements

In addition to the requirements of the AFA, the Council has identified other potential rules and regulations pertaining to the development and review of fishery co-op agreements outlined by the AFA. As expressed at the December 1998 meeting, these include:

*Limiting co-op agreements to 1-6 years
*Prohibitnig linkages of membership in co-ops to delivery of non-pollock species
*Requiring disclosure of catch and bycatch statistics
*Requiring contracts be submitted by December 1 (as apposed to 30 days prior to the start of fishing stated in the AFA)

It is unclear whether these requirements could be implemented via regulations, or simply conveyed to the industry as the intent and expectation of the Council. The four issues outlined above do not lend themselves to quantitative analysis; rather, they appear to be policy issues for which the Council needs to express direction. Disclosure of catch and bycatch statistics is already listed in the AFA as a requirement for co-op vessels (and it allows the Council and SOC to make such information available to the public in a manner they deem appropriate). Details of these provisions are being considered within the broader development of a discussion paper already tasked by the Council - to examine disclosure of catch and bycatch pursuant to Section 211(d) of the AFA as it relates to satisfying bycatch reduction provisions of the Magnuson-Stevens Act. This issue is being considered within the context of State and Federal data confidentiality rules which are being addressed on a parallel track.

Limiting duration of co-op agreements

The Council's option included limiting the duration of co-op agreements to a specified time period, from one to six years, with six years representing the full duration of the AFA. At present, it appears that most co-ops envision an annual agreement, or an agreement that is valid until superceded or altered. An annual agreement has the advantage, from the Council's perspective, to allow for an explicit review each year by the Council prior to the start of fishing under such agreement. In the event of longer-term agreements, the Council may want to consider the degree to which such agreements could be altered internally, without coming up for formal review by the Council. Another consideration related to duration of such agreements is the ability of vessels to enter and exit co-ops in mid-year, and thereby change the nature of the co-op and distribution of harvest among remaining co-op participants. If co-ops are limited to one year duration, and must be revised or renewed each year, it may reduce the likelihood and magnitude of changes in co-op participation.

This question seems to be primarily a policy call on the part of the Council and will hinge upon the Council's desire to monitor the details of co-op agreements and potential changes within the co-ops. As such, the Council will likely benefit more from the perspectives of co-op participants than from any attempt at formal analysis.

Prohibiting linkages of membership to delivery of non-pollock species

This proposal would prohibit the co-op from requiring delivery of non-pollock species as a condition of membership in the pollock co-op. This may be moot in that it will be the vessel's decision whether to join a co-op, and the plants themselves will not likely be part of those negotiations, although as currently envisioned the vessels will be required to deliver to a specific processor. The purpose of this proposal appears to be to ensure the catcher vessels latitude in their markets for non-pollock species.

Require contracts to be submitted by December 1

In order to allow ample opportunity to review co-op agreements prior to the start of fishing under such agreements, the Council is considering a requirement that co-op agreements be submitted to the Council and Secretary of Commerce by December 1 of the year preceding fishing under the co-op (as opposed to 30 days prior). This would allow the Council to review and discuss the co-op provisions during their annual December

meeting. Under the current 30-day requirement the Council has little time, and no Council meeting forum to review and discuss the co-op agreements. Given the additional complexities expected with regard to the formation of catcher vessel co-ops, this additional time will have obvious advantages for the Council, as well as allow time for any necessary industry responses to Council concerns.

6.0 AFA CATCHER/PROCESSOR SIDEBOARDS

6.1 Introduction

The American Fisheries Act mandates protections for non-pollock groundfish fisheries in the Bering Sea that may be impacted excessively by the 20 listed pollock catcher processors. Because AFA was not enacted until October 1998, interim groundfish specifications and an emergency rule (forthcoming) are used to implement the catcher/processor restrictions in 1999. Follow-on plan and regulatory amendments are needed for 2000 and beyond and they are the main subject of this chapter of the document.

6.2 American Fisheries Act Provisions

The Act specifies in section 211(b)(2) a not-to-exceed formulation for protecting non-pollock groundfish fisheries in the BSAI, paraphrased as follows:

(A) Non-pollock groundfish harvests by the 20 listed catcher processors cannot exceed the percentage of the harvest available that is equivalent to the total harvest by the 29 listed catcher processors in 1995-1997 relative to the total amount available for harvest in those years.

(B) Prohibited species limits for the 20 listed catcher processors cannot exceed the percentage of the PSC available that is equivalent to the total PSC harvested by the 29 listed catcher processors in 1995-1997 relevant to the total amount available for harvest in those years.

(C) Atka mackerel harvests are limited to 11.5% in the central Aleutians and 20% in the western Aleutians.

The Act also authorizes the Council to go even further than the above provisions to protect non-pollock groundfish fisheries. Section 213(c) authorizes the Council to recommend additional conservation and management measures as necessary to mitigate adverse effects in fisheries caused by the AFA or cooperatives in the directed pollock fishery, so long as any such measures take into account all factors affecting the fisheries and are imposed fairly and equitably to the extent practicable among and within the sectors in the directed pollock fishery.

6.3 Emergency Actions for 1999

In response to the above provisions, the Council recommended various protections at its November meeting as shown in a table in the action memo. These were implemented by NMFS on January 4, 1999, with publication of interim 1999 harvest specifications for BSAI groundfish. A second emergency rule was published to authorize in-season authority to limit harvest of non-pollock groundfish by listed catcher/processors. Table 6.1 (which is Table 3 of the interim specifications) lists the ratios of total catch to available TAC for each species in accordance with the not-to-exceed formulation in the AFA. These ratios are applied to the ITAC to calculate harvest limits for the 20 listed catcher processors. ITAC is essentially 85% of the TAC for each non-pollock species or complex. The remaining 15% is divided equally between the groundfish reserve and the CDQ allocation. Amounts of fish may be made available to any species from the non-specific reserve during the year so long as overfishing does not result.

There are two general exceptions to using 1995-1997 catch histories to limit the 20 catcher processors. The first is for Atka mackerel, for which the percentage is specified explicitly in the AFA (see paragraph (C) above). If their three-year history had been used instead, the percentages would have been reversed, allowing

the 20 vessels about 22% and 10% respectively, in the central and western Aleutians. Secondly, management of a fishery may have changed during 1995-1997. For Pacific cod, the industry and Council agreed to use solely 1997 as the base year because separate catcher-processor and catcher vessel allocations were made beginning in 1997, as noted in footnote 6 to the table. A similar problem exists in the BSAI Pacific ocean perch fishery where area percentages are based only on 1996-1997 because in 1995 the TAC was allocated for the entire Aleutians area. NMFS notes that under the second emergency rule, directed fishing by the listed catcher processors was limited to Atka mackerel, Pacific cod, and yellowfin sole in 1999.

6.4 Non-pollock Groundfish Sideboards for 2000 and Beyond

The Council has selected several alternatives for 2000 and beyond, all based on 1995-1997. Principle variations among the alternatives arise from (1) using the catch histories of just the 20 eligible catcher/processors versus all 29 listed catcher/processors (20 eligible and 9 ineligible), (2) basing the caps on catch in just non-pollock target groundfish fisheries versus including catches in the pollock target fisheries, and (3) using the total harvest versus the total available TAC. Items (1) and (2) affect the numerator in determining the percentage of a species that will fished by the 20 catcher processors, and item (3) affects the denominator, as will be shown below. Catch histories for 1995-1997 do not include activities in other than the open access fisheries, i.e., excluded are catches by catcher/processors not listed in the AFA, harvest vessels delivering to a processor, CDQ operations, or any catch in the GOA .

6.4.1 Choosing Catch Histories for the Numerator

The Council has specified four options for calculating catch histories to be applied to the numerator in determining the percentage of a species that will be available to the 20 listed catcher processors: the combined harvests of the 20 or 29 listed catcher processors for 1995-1997, mixed and matched with harvests in either the non-pollock fisheries or all target fisheries including pollock. The catch histories for each of the four options are shown in Table 6.2 based on aggregated catches in BSAI target fisheries from 1995-97 NMFS Blend data sets. The rows contain the BSAI TAC fishery groupings. The columns show catch by target fishery, either by the 20 eligible or all 29 listed catcher/processors. As noted earlier, some of the TAC groups changed between 1995 and 1997. For example, two separate categories of trawl Pacific cod are given, reflecting the cod allocation between catcher vessels and catcher processors starting in 1997 (Amendment 46). To resolve this problem, the industry agreed to base the TAC allocation for the 1999 fishery on 1997 only. A similar problem exists in the BSAI Pacific ocean perch fishery where area percentages are based only on 1996-1997 because in 1995 the TAC was allocated for the entire Aleutians area.

Tables 6.3 and 6.4 show the percentages of any future year's TAC for non-pollock target groundfish fisheries in the BSAI that would be available to the 20 eligible catcher processors. Table 6.3 uses 1995-1997 TAC as the base (except for Pacific cod when only 1997 is used), and Table 6.4 uses actual harvest those three years. The tables break out the contributions from the species' target fisheries and from bycatch in the pollock fishery.

Tables 6.5 and 6.6 show some of the same data, but the columns have been reordered to depict the general trend one would expect: percentages increase if bycatch in the pollock fishery is added to catches in the species' target fisheries, and, more significantly, if catches of the 9 ineligible vessels are included.

6.4.2. Choosing the Base for the Denominator

The Council selected two options for consideration as the base for calculating the percentage of a species that will be available for harvest in future years by the 20 eligible catcher processors. Option one would set the denominator equal to the total TACs for 1995-97. Option two would use total catch. The choice of denominators can have a significant impact on the amount of potential harvest, particularly if a TAC is underharvested due to PSC constraints. For example, the yellowfin sole TAC summed over 1995-97 was 527,000 mt. The total harvest was 437,138 mt, limited by halibut bycatch. The 20 AFA-eligible vessels caught 103,996 mt of yellowfin sole in the yellowfin sole target fisheries in 1995-97. Thus, the sideboard expressed as a percentage of the year 2000 yellowfin sole TAC, based solely on their 20-vessel catch history in the target fishery, would be 19.7% based on TAC versus 23.8% based on actual harvest. The difference in percentages is 4.1%. The general decreases in percentage caused by using the larger values of TAC in the denominator rather than the actual catches, are shown in Table 6.7.

6.4.3. Probable Directed Fisheries

Table 6.8 is a snapshot for species that may be able to support a directed fishery for the 20 eligible vessels, due to the higher percentage and/or TAC tonnage. The range of tonnages is calculated using the initial TACs in the NMFS specifications notice for 1999. Three species, yellowfin sole, other flatfish, and rock sole, are based on 1995-1997 data. Pacific cod is based on 1997. Atka mackerel is based on the percentages prescribed in AFA. The ranges of percentages and tonnages show the impacts of using different combinations of values for the numerator and denominator that result from the options being considered by the Council. Values for fisheries where the percentage is generally very small are available in tables 6.5 and 6.6.

Table 6.1: Interim Historical Catch Ratio, 1999 Aggregate Catch Limits, and 1999 Catch Limits for Vessels Listed Under Section 208 of the American Fisheries Act[1]

Target species[2]	Area	1995 - 1997 Total catch	1995 - 1997 Available TAC	1995 - 1997 Ratio[3]	1999 ITAC available to trawl C/Ps	1999 harvest limit[4]
Atka mackerel[5]	Eastern AI/BS	-	-	-	-	-
	Central AI	-	-	0.115	19,040	2,190
	Western AI	-	-	0.200	22,950	4,590
Arrowtooth flounder	BSAI	788	36,873	0.021	13,600	291
Other flatfish	BSAI	12,145	92,428	0.131	76,019	9,989
Flathead sole	BSAI	3,030	87,975	0.034	85,000	2,927
Greenland turbot	AI	31	6,839	0.005	4,208	19
	BSAI	168	16,911	0.010	8,543	85
Other species	BSAI	3,551	65,925	0.054	21,930	1,181
Pacific cod trawl[6]	BSAI	13,547	51,450	0.263	41,948	11,045
Pacific cod perch[7]	BSAI	58	5,760	0.010	1,190	12
	Central AI	95	6,195	0.015	2,933	45
	Eastern AI	112	6,265	0.018	2,610	47
	Western AI	356	12,440	0.029	4,743	136
Other rockfish	AI	95	1,924	0.049	582	29
	BS	39	1,026	0.038	314	12
Rock sole	BSAI	14,753	202,107	0.073	85,000	6,205
Sablefish trawl[8]	AI	1	1,135	0.001	293	0
	BS	8	1,736	0.005	553	3
Sharpchin/Northern	AI	1,034	13,254	0.078	3,596	280
Squid	BSAI	7	3,670	0.002	1,675	3
Shortraker/Rougheye	AI	68	2,827	0.024	314	8
Other red rockfish	BS	75	3,034	0.025	227	6
Yellowfin sole	BSAI	123,003	527,000	0.233	187,000	43,646

[1] The AFA specifies the manner in which the BSAI pollock TAC must be allocated among industry components and prohibits catcher/processors listed under paragraphs 1-20 of section 208(e) from exceeding the historical non-pollock harvest percentages by such catcher/processors and those listed under section 209 relative to the total available in the offshsore component in BSAI groundfish fisheries in 1995, 1996, and 1997. Amounts are in metric tons.

[2] For further definitions of target species see Table 1.

[3] The ratio is calculated by dividing the total catch by the available TAC.

[4] The 1999 harvest limit for listed catcher/processors is calculated by multiplying the historic catch ratio by the 1999 proposed ITAC available to trawl catcher/processors.

[5] In section 211(b)(2)(C) of the AFA, catcher/processors listed in paragraphs 1-20 of section 208(e) are prohibited from harvesting Atka mackerel in excess of 11.5 percent of the available TAC in the Central Aleutian Islands and Bering Sea subarea.

[6] For Pacific cod, 47 percent of the ITAC is allocated to trawl, and of that 50 percent is available for catcher/processors. Separate catcher/processor and catcher/vessel allocations became effective in 1997, therefore only data from 1997 was used to calculate the historic ratio.

[7] Apportionments to western, central, and eastern Aleutian Islands subareas began in 1996, therefore only data from 1996 and 1997 was used to calculate the historic ratio.

[8] 25 percent of the Sablefish ITAC is allocated to trawl in the AI subarea, 50 percent is allocated to trawl in the BS subarea.

Table 6.2: Catch of the Listed AFA Catcher Processors (Eligible and Ineligible) in the Bering Sea and Aleutian Islands (1995-97)

	Non-Pollock Targets		Pollock Targets		All Target Fisheries	
	AFA CP Harvests		AFA CP Harvests		AFA CP Harvests	
Species by TAC Grouping	20 CPs	29 CPs	20 CPs	29 CPs	20 CPs	29 CPs
Atka Mackerel - Central AI	8,305	23,132	5	6	8,310	23,138
Atka Mackerel - Eastern AI	458	601	201	202	659	803
Atka Mackerel - Western AI	535	9,491		146	535	9,636
Arrowtooth Flounder - BSAI	371	787	910	1,901	1,280	2,688
Other Flatfish - BSAI	10,202	12,145	297	462	10,499	12,607
Flathead Sole - BSAI	1,914	3,028	2,878	4,408	4,791	7,435
Greenland Turbot - Aleutian Islands	29	31	2	2	30	33
Greenland Turbot - Bering Sea	111	168	71	96	182	265
Other Species - BSAI	2,237	3,551	1,205	2,048	3,442	5,599
Pacific Cod (Fixed Gear) - BSAI		436			0	436
Pacific Cod (Trawl Gear) - BSAI	16,450	32,487	8,072	13,263	24,522	45,750
Pacific Cod (Trawl Gear, CPs) - BSAI	6,573	13,544	2,399	3,661	8,973	17,205
Pollock (Offshore) - Aleutian Islands	68	307	53,205	63,760	53,273	64,067
Pollock (Offshore) - Bogoslof			532	532	532	532
Pollock (Offshore) - Bering Sea	17,082	23,161	1,101,738	1,408,322	1,118,820	1,431,483
Pacific Ocean Perch - Aleutian Islands	414	613	29	47	444	661
Pacific Ocean Perch - Bering Sea	18	58	28	33	46	91
Pacific Ocean Perch-Central AI	26	95	9	16	34	112
Pacific Ocean Perch - Eastern AI	35	112	29	29	64	141
Pacific Ocean Perch - Western AI	163	356			163	356
Other Rockfish - Aleutian Islands	74	95	2	2	76	97
Other Rockfish - Bering Sea	31	39	3	8	34	47
Rock Sole - BSAI	10,229	14,749	1,978	3,139	12,207	17,888
Sablefish (Trawl Gear) - AI	0	0	0	0	0	0
Sablefish (Trawl Gear) - Bering Sea	6	8	0	0	6	9
Sharpchin/Northern Rockfish - AI	336	1,034	0	1	336	1,034
Squid - BSAI	4	7	810	871	814	877
Shortraker/Rougheye Rockfish - AI	60	68	6	7	66	75
Other Red Rockfish - Bering Sea	69	75	97	99	166	174
Yellowfin Sole - BSAI	103,996	123,003	1,206	2,007	105,203	125,010
Grand Total	179,795	263,180	1,175,713	1,505,068	1,355,508	1,768,247

Source: National Marine Fisheries Service AKR Blend data for 1995-97.

Note: Excludes CDQ harvests

Table 6.3: Percent of TAC Harvested by the Listed AFA Catcher Processors (Eligible and Ineligible) in the Bering Sea and Aleutian Islands (1995-97)

	Non-Pollock Target Fisheries		Pollock Target Fisheries		All Target Fisheries	
	AFA CP Harvests		AFA CP Harvests		AFA CP Harvests	
Species by TAC Grouping	20 CPs	29 CPs	20 CPs	29 CPs	20 CPs	29 CPs
Atka Mackerel - Central Aleutian Islands	8.06%	22.44%	0.00%	0.01%	8.06%	22.44%
Atka Mackerel - Eastern Aleutian Islands	0.83%	1.09%	0.36%	0.37%	1.19%	1.45%
Atka Mackerel - Western Aleutian Islands	0.57%	10.04%	0.00%	0.15%	0.57%	10.19%
Arrowtooth Flounder - BSAI	1.01%	2.13%	2.47%	5.16%	3.47%	7.29%
Other Flatfish - BSAI	11.04%	13.14%	0.32%	0.50%	11.36%	13.64%
Flathead Sole - BSAI	2.18%	3.44%	3.27%	5.01%	5.45%	8.45%
Greenland Turbot - Aleutian Islands	0.42%	0.45%	0.02%	0.03%	0.44%	0.48%
Greenland Turbot - Bering Sea	0.66%	1.00%	0.42%	0.57%	1.08%	1.56%
Other Species - BSAI	3.39%	5.39%	1.83%	3.11%	5.22%	8.49%
Pacific Cod (Fixed Gear) - BSAI	0.00%	0.11%	0.00%	0.00%	0.00%	0.11%
Pacific Cod (Trawl Gear) - BSAI	6.38%	12.59%	3.13%	5.14%	9.50%	17.73%
Pacific Cod (Trawl Gear, CPs) - BSAI	12.78%	26.32%	4.66%	7.11%	17.44%	33.44%
Pacific Ocean Perch - Aleutian Islands	3.94%	5.84%	0.28%	0.45%	4.22%	6.29%
Pacific Ocean Perch - Bering Sea	0.31%	1.01%	0.48%	0.57%	0.80%	1.57%
Pacific Ocean Perch - Central Aleutian Islands	0.41%	1.54%	0.14%	0.26%	0.56%	1.80%
Pacific Ocean Perch - Eastern Aleutian Islands	0.56%	1.79%	0.47%	0.47%	1.02%	2.25%
Pacific Ocean Perch - Western Aleutian Islands	1.31%	2.86%	0.00%	0.00%	1.31%	2.86%
Other Rockfish - Aleutian Islands	3.86%	4.92%	0.12%	0.12%	3.97%	5.03%
Other Rockfish - Bering Sea	3.02%	3.83%	0.33%	0.76%	3.35%	4.59%
Rock Sole - BSAI	5.06%	7.30%	0.98%	1.55%	6.04%	8.85%
Sablefish (Trawl Gear) - Aleutian Islands	0.02%	0.04%	0.00%	0.00%	0.02%	0.04%
Sablefish (Trawl Gear) - Bering Sea	0.35%	0.47%	0.00%	0.03%	0.35%	0.49%
Sharpchin/Northern Rockfish - Aleutian Islands	2.54%	7.80%	0.00%	0.01%	2.54%	7.80%
Squid - Bering Sea and Aleutian Islands	0.10%	0.19%	22.07%	23.72%	22.17%	23.91%
Shortraker/Rougheye Rockfish - Aleutian Islands	2.11%	2.42%	0.21%	0.24%	2.32%	2.66%
Other Red Rockfish - Bering Sea	2.27%	2.47%	3.19%	3.28%	5.46%	5.74%
Yellowfin Sole - BSAI	19.73%	23.34%	0.23%	0.38%	19.96%	23.72%

Source: National Marine Fisheries Service AKR Blend data for 1995-97.

Note: Excludes CDQ harvests

Table 6.4: Percent of Catch Harvested by the Listed AFA Catcher Processors (Eligible and Ineligible) in the Bering Sea and Aleutian Islands (1995-97)

	Non-Pollock Target Fisheries		Pollock Target Fisheries		All Target Fisheries	
	AFA CP Harvests		AFA CP Harvests		AFA CP Harvests	
Species by TAC Grouping	20 CPs	29 CPs	20 CPs	29 CPs	20 CPs	29 CPs
Atka Mackerel - Central Aleutian Islands	7.99%	22.26%	0.00%	0.01%	8.00%	22.27%
Atka Mackerel - Eastern Aleutian Islands	0.78%	1.02%	0.34%	0.34%	1.12%	1.37%
Atka Mackerel - Western Aleutian Islands	0.60%	10.69%	0.00%	0.16%	0.60%	10.86%
Arrowtooth Flounder - BSAI	1.09%	2.31%	2.67%	5.59%	3.76%	7.90%
Other Flatfish - BSAI	16.54%	19.69%	0.48%	0.75%	17.02%	20.44%
Flathead Sole - BSAI	3.65%	5.77%	5.48%	8.40%	9.13%	14.17%
Greenland Turbot - Aleutian Islands	0.61%	0.66%	0.04%	0.04%	0.65%	0.70%
Greenland Turbot - Bering Sea	0.68%	1.03%	0.44%	0.59%	1.11%	1.62%
Other Species - BSAI	3.26%	5.18%	1.76%	2.99%	5.02%	8.17%
Pacific Cod (Fixed Gear) - BSAI	0.00%	0.11%	0.00%	0.00%	0.00%	0.11%
Pacific Cod (Trawl Gear) - BSAI	7.06%	13.94%	3.46%	5.69%	10.52%	19.64%
Pacific Cod (Trawl Gear, CPs) - BSAI	13.71%	28.24%	5.00%	7.63%	18.71%	35.87%
Pacific Ocean Perch - Aleutian Islands	4.02%	5.96%	0.29%	0.46%	4.31%	6.42%
Pacific Ocean Perch - Bering Sea	0.38%	1.24%	0.59%	0.69%	0.98%	1.93%
Pacific Ocean Perch - Central Aleutian Islands	0.45%	1.67%	0.16%	0.29%	0.61%	1.96%
Pacific Ocean Perch - Eastern Aleutian Islands	0.57%	1.81%	0.47%	0.47%	1.04%	2.29%
Pacific Ocean Perch - Western Aleutian Islands	1.20%	2.61%	0.00%	0.00%	1.20%	2.61%
Other Rockfish - Aleutian Islands	9.62%	12.26%	0.29%	0.29%	9.91%	12.55%
Other Rockfish - Bering Sea	5.21%	6.61%	0.58%	1.31%	5.79%	7.92%
Rock Sole - BSAI	6.04%	8.71%	1.17%	1.85%	7.21%	10.56%
Sablefish (Trawl Gear) - Aleutian Islands	0.13%	0.32%	0.02%	0.02%	0.15%	0.34%
Sablefish (Trawl Gear) - Bering Sea	1.21%	1.64%	0.01%	0.09%	1.22%	1.73%
Sharpchin/Northern Rockfish - Aleutian Islands	2.69%	8.25%	0.00%	0.01%	2.69%	8.26%
Squid - Bering Sea and Aleutian Islands	0.14%	0.25%	30.20%	32.46%	30.34%	32.71%
Shortraker/Rougheye Rockfish-Aleutian Islands	2.35%	2.69%	0.23%	0.27%	2.58%	2.96%
Other Red Rockfish - Bering Sea	9.03%	9.80%	12.69%	13.02%	21.72%	22.82%
Yellowfin Sole - BSAI	23.79%	28.14%	0.28%	0.46%	24.07%	28.60%

Source: National Marine Fisheries Service AKR Blend data for 1995-97.

Note: Excludes CDQ harvests

Table 6.5: Percent of TAC Harvested by the Listed AFA Catcher Processors (Eligible and Ineligible) in the Bering Sea and Aleutian Islands (1995-97), Reordered to Show Trends in Options by Catch History

Species by TAC Grouping	Non-Pollock Targets 20	All Targets 20	Non-Pollock Targets 29	All Targets 29
Atka Mackerel - Central Aleutian Islands	8.06%	8.06%	22.44%	22.44%
Atka Mackerel - Eastern Aleutian Islands	0.83%	1.19%	1.09%	1.45%
Atka Mackerel - Western Aleutian Islands	0.57%	0.57%	10.04%	10.19%
Arrowtooth Flounder - BSAI	1.01%	3.47%	2.13%	7.29%
Other Flatfish - BSAI	11.04%	11.36%	13.14%	13.64%
Flathead Sole - BSAI	2.18%	5.45%	3.44%	8.45%
Greenland Turbot - Aleutian Islands	0.42%	0.44%	0.45%	0.48%
Greenland Turbot - Bering Sea	0.66%	1.08%	1.00%	1.56%
Other Species - BSAI	3.39%	5.22%	5.39%	8.49%
Pacific Cod (Fixed Gear) - BSAI	0.00%	0.00%	0.11%	0.11%
Pacific Cod (Trawl Gear, CPs) - BSAI[2]	12.78%	17.44%	26.32%	33.44%
Pacific Ocean Perch - Bering Sea	0.31%	0.80%	1.01%	1.57%
Pacific Ocean Perch - Central Aleutian Islands[3]	0.41%	0.56%	1.54%	1.80%
Pacific Ocean Perch - Eastern Aleutian Islands	0.56%	1.02%	1.79%	2.25%
Pacific Ocean Perch - Western Aleutian Islands	1.31%	1.31%	2.86%	2.86%
Other Rockfish - Aleutian Islands	3.86%	3.97%	4.92%	5.03%
Other Rockfish - Bering Sea	3.02%	3.35%	3.83%	4.59%
Rock Sole - BSAI	5.06%	6.04%	7.30%	8.85%
Sablefish (Trawl Gear) - Aleutian Islands	0.02%	0.02%	0.04%	0.04%
Sablefish (Trawl Gear) - Bering Sea	0.35%	0.35%	0.47%	0.49%
Sharpchin/Northern Rockfish - Aleutian Islands	2.54%	2.54%	7.80%	7.80%
Squid - Bering Sea and Aleutian Islands	0.10%	22.17%	0.19%	23.91%
Shortraker/Rougheye Rockfish - Aleutian Islands	2.11%	2.32%	2.42%	2.66%
Other Red Rockfish - Bering Sea	2.27%	5.46%	2.47%	5.74%
Yellowfin Sole - BSAI	19.73%	19.96%	23.34%	23.72%

Source: National Marine Fisheries Service AKR Blend data for 1995-97.
Note: Excludes CDQ harvests

[2]Based only on 1997 catch and TAC, because the trawl TAC was split between catcher/processors and catcher vessels that year.

[3]Central, Eastern, and Western Aleutian Islands POP percentages are based only on 1996 and 1997 catch and TACs, because in 1995 the TAC was allocated for the entire Aleutian Islands area.

Table 6.6: Percent of Catch Harvested by the Listed AFA Catcher Processors (Eligible and Ineligible) in the Bering Sea and Aleutian Islands (1995-97), Reordered to Show Trends in Options by Catch History

Species by TAC Grouping	Non-Pollock Targets 20	All Targets 20	Non-Pollock Targets 29	All Targets 29
Atka Mackerel - Central Aleutian Islands	7.99%	8.00%	22.26%	22.27%
Atka Mackerel - Eastern Aleutian Islands	0.78%	1.12%	1.02%	1.37%
Atka Mackerel - Western Aleutian Islands	0.60%	0.60%	10.69%	10.86%
Arrowtooth Flounder - BSAI	1.09%	3.76%	2.31%	7.90%
Other Flatfish - BSAI	16.54%	17.02%	19.69%	20.44%
Flathead Sole - BSAI	3.65%	9.13%	5.77%	14.17%
Greenland Turbot - Aleutian Islands	0.61%	0.65%	0.66%	0.70%
Greenland Turbot - Bering Sea	0.68%	1.11%	1.03%	1.62%
Other Species - BSAI	3.26%	5.02%	5.18%	8.17%
Pacific Cod (Fixed Gear) - BSAI	0.00%	0.00%	0.11%	0.11%
Pacific Cod (Trawl Gear, CPs) - BSAI[4]	13.71%	18.71%	28.24%	35.87%
Pacific Ocean Perch - Bering Sea	0.38%	0.98%	1.24%	1.93%
Pacific Ocean Perch - Central Aleutian Islands[5]	0.45%	0.61%	1.67%	1.96%
Pacific Ocean Perch - Eastern Aleutian Islands[5]	0.57%	1.04%	1.81%	2.29%
Pacific Ocean Perch - Western Aleutian Islands	1.20%	1.20%	2.61%	2.61%
Other Rockfish - Aleutian Islands	9.62%	9.91%	12.26%	12.55%
Other Rockfish - Bering Sea	5.21%	5.79%	6.61%	7.92%
Rock Sole - BSAI	6.04%	7.21%	8.71%	10.56%
Sablefish (Trawl Gear) - Aleutian Islands	0.13%	0.15%	0.32%	0.34%
Sablefish (Trawl Gear) - Bering Sea	1.21%	1.22%	1.64%	1.73%
Sharpchin/Northern Rockfish - Aleutian Islands	2.69%	2.69%	8.25%	8.26%
Squid - Bering Sea and Aleutian Islands	0.14%	30.34%	0.25%	32.71%
Shortraker/Rougheye Rockfish-Aleutian Islands	2.35%	2.58%	2.69%	2.96%
Other Red Rockfish - Bering Sea	9.03%	21.72%	9.80%	22.82%
Yellowfin Sole - BSAI	23.79%	24.07%	28.14%	28.60%

Source: National Marine Fisheries Service AKR Blend data for 1995-97.

Note: Excludes CDQ harvests

[4]Based only on 1997 catch, because the trawl TAC was split between catcher/processors and catcher vessels that year.

[5]Central, Eastern, and Western Aleutian Islands POP percentages are based only on 1996 and 1997 catches, because in 1995 the TAC was allocated for the entire Aleutian Islands area.

Table 6.7: Difference in Percent of the 2000 TAC the Listed AFA Catcher/Processors Would Receive Based on Calculations using TAC vs. Catch, Reordered to Show Trends in Options by Catch History

Species by TAC Grouping	Non-Pollock Targets 20	All Targets 20	Non-Pollock Targets 29	All Targets 29
Atka Mackerel - Central Aleutian Islands	0.07%	0.06%	0.18%	0.17%
Atka Mackerel - Eastern Aleutian Islands	0.05%	0.07%	0.07%	0.08%
Atka Mackerel - Western Aleutian Islands	-0.03%	-0.03%	-0.65%	-0.67%
Arrowtooth Flounder - BSAI	-0.08%	-0.29%	-0.18%	-0.61%
Other Flatfish - BSAI	-5.50%	-5.66%	-6.55%	-6.80%
Flathead Sole - BSAI	-1.47%	-3.68%	-2.33%	-5.72%
Greenland Turbot - Aleutian Islands	-0.19%	-0.21%	-0.21%	-0.22%
Greenland Turbot - Bering Sea	-0.02%	-0.03%	-0.03%	-0.06%
Other Species - BSAI	0.13%	0.20%	0.21%	0.32%
Pacific Cod (Fixed Gear) - BSAI	0.00%	0.00%	0.00%	0.00%
Pacific Cod (Trawl Gear, CPs) - BSAI[6]	-0.93%	-1.27%	-1.92%	-2.43%
Pacific Ocean Perch - Bering Sea	-0.07%	-0.18%	-0.23%	-0.36%
Pacific Ocean Perch - Central Aleutian Islands[7]	-0.04%	-0.05%	-0.13%	-0.16%
Pacific Ocean Perch - Eastern Aleutian Islands	-0.01%	-0.02%	-0.02%	-0.04%
Pacific Ocean Perch - Western Aleutian Islands	0.11%	0.11%	0.25%	0.25%
Other Rockfish - Aleutian Islands	-5.76%	-5.94%	-7.34%	-7.52%
Other Rockfish - Bering Sea	-2.19%	-2.44%	-2.78%	-3.33%
Rock Sole - BSAI	-0.98%	-1.17%	-1.41%	-1.71%
Sablefish (Trawl Gear) - Aleutian Islands	-0.11%	-0.13%	-0.28%	-0.30%
Sablefish (Trawl Gear) - Bering Sea	-0.86%	-0.87%	-1.17%	-1.24%
Sharpchin/Northern Rockfish - Aleutian Islands	-0.15%	-0.15%	-0.45%	-0.46%
Squid - Bering Sea and Aleutian Islands	-0.04%	-8.17%	-0.06%	-8.80%
Shortraker/Rougheye Rockfish-Aleutian Islands	-0.24%	-0.26%	-0.27%	-0.30%
Other Red Rockfish - Bering Sea	-6.76%	-16.26%	-7.33%	-17.08%
Yellowfin Sole - BSAI	-4.06%	-4.11%	-4.80%	-4.88%

Source: National Marine Fisheries Service AKR Blend data for 1995-97.

Note: Excludes CDQ harvests

[6]Based only on 1997 catch, because the trawl TAC was split between catcher/processors and catcher vessels that year.

[7]Central, Eastern, and Western Aleutian Islands POP percentages are based only on 1996 and 1997 catches, because in 1995 the TAC was allocated for the entire Aleutian Islands area.

Table 6.8: Percentage of future TAC available to 20 AFA catcher processors under various sideboard options for six possible directed fisheries. Tonnage range is derived by using the range of possible percentages multiplied by the 1999 TACs.

Fishery	(TAC or catch)	Non-Pollock Targets 20	All Targets 20	Non-Pollock Targets 29	All Targets 29
Yellowfin sole	TAC	19.7%	20.0	23.3	23.7
	Catch	23.8	24.1	28.1	28.6
	Range		(36,839 - 53,482 mt)		
Pacific cod	TAC	12.8	17.4	26.3	33.4
	Catch	13.7	18.7	28.2	35.9
	Range		(5,369 - 15,069 mt)		
Atka mackerel WAI	TAC	20.0	20.0	20.0	20.0
	Catch	20.0	20.0	20.0	20.0
	Range		(4,590 mt)		
Atka mackerel CAI	TAC	11.5	11.5	11.5	11.5
	Catch	11.5	11.5	11.5	11.5
	Range		(2,190 mt)		
Other flatfish	TAC	11.0	11.4	13.1	13.6
	Catch	16.5	17.0	19.7	20.4
	Range		(8,362 - 15,508 mt)		
Rock sole	TAC	5.1	6.0	7.3	8.9
	Catch	6.0	7.2	8.7	10.6
	Range		(4,335 - 9,010 mt)		

Discard Rates

The Council also requested that information on the discard rates of AFA catcher processors be included in the analysis. Those rates (discards divided by total catch) for the 29 listed catcher/processors are included in Table 6.9. Harvests from the CDQ fishery are not included in these estimates. Discard rates are generally lower for the Atka mackerel, Greenland turbot, Pacific cod, pollock, sablefish, and yellowfin sole species, when compared to other species in the Table.

Table 6.9: AFA Catcher/Processors (all 29) Discard Rates in BS/AI, 1995-97

	Targets Fisheries	
Species - Area	All	Non-pollock
Atka Mackerel - Central Aleutian Islands	3%	3%
Atka Mackerel - Eastern Aleutian Islands	78%	71%
Atka Mackerel - Western Aleutian Islands	7%	5%
Arrowtooth Flounder - Bering Sea and Aleutian Islands	97%	96%
Other Flatfish - Bering Sea and Aleutian Islands	74%	75%
Flathead Sole - Bering Sea and Aleutian Islands	74%	64%
Greenland Turbot - Aleutian Islands	30%	27%
Greenland Turbot - Bering Sea	54%	30%
Other Species - Bering Sea and Aleutian Islands	90%	94%
Pacific Cod (Trawl Gear, Catcher Processor Vessels) - BSAI	28%	12%
Pollock (Offshore) - Aleutian Islands	1%	36%
Pollock (Offshore) - Bering Sea	5%	80%
Pacific Ocean Perch - Aleutian Islands	43%	39%
Pacific Ocean Perch - Bering Sea	87%	98%
Pacific Ocean Perch - Central Aleutian Islands	97%	99%
Pacific Ocean Perch - Eastern Aleutian Islands	62%	60%
Pacific Ocean Perch - Western Aleutian Islands	65%	65%
Other Rockfish - Aleutian Islands	82%	81%
Other Rockfish - Bering Sea	90%	89%
Rock Sole - Bering Sea and Aleutian Islands	65%	60%
Sablefish (Trawl Gear) - Aleutian Islands	61%	60%
Sablefish (Trawl Gear) - Bering Sea	10%	6%
Sharpchin/Northern Rockfish - Aleutian Islands	92%	92%
Squid - Bering Sea and Aleutian Islands	92%	89%
Shortraker/Rougheye Rockfish - Aleutian Islands	44%	40%
Other Red Rockfish - Bering Sea	96%	93%
Yellowfin Sole - Bering Sea and Aleutian Islands	20%	19%
All Fisheries	9%	29%

Source: Blend Data 1995-97

6.4.4 Catch Distribution by Quarter

Concerns have been expressed that setting sideboard caps on an annual basis will allow AFA vessels to change the temporal distribution of their catch within a year. To help prevent this from occurring, some members of industry have asked that the sideboard caps be distributed on a quarterly basis. Such an action would further limit when AFA vessels could harvest those caps.

Prices were one of the reasons that this limit was requested. At least one member of industry indicated in public testimony that the markets for some flatfish species are fairly limited. The first producers to get their product to market get better prices, then as additional product reaches the market, prices are reduced or it is difficult to find a buyer. Verifying the price elasticities of flatfish species is not possible in this analysis.

However, based on the quarterly distributions of catch presented in Tables 6.9 and 6.10, this measure would spread the AFA catcher processors flatfish effort out more evenly between the first and second quarters of the year. This would afford traditional flatfish producers at least some protection they are seeking. Applying semi-annual limits would appear to be much less effective, since most of the AFA catcher/processor's flatfish harvests take place during the first half of the year.

Table 6.10: Distribution of BSAI catch by Quarter for the 20 eligible AFA Catcher/Processors

	Quarter of the year				
TAC Species Groups	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Grand Total
Atka Mackerel - Central AI	81.70%	18.30%	0.00%	0.00%	100.00%
Atka Mackerel - Eastern AI	66.48%	33.41%	0.11%	0.00%	100.00%
Atka Mackerel - Western AI	0.00%	100.00%	0.00%	0.00%	100.00%
Arrowtooth Flounder - BSAI	32.66%	11.60%	41.24%	14.51%	100.00%
Other Flatfish - BSAI	42.10%	40.82%	12.95%	4.12%	100.00%
Flathead Sole - BSAI	41.52%	9.31%	35.14%	14.02%	100.00%
Greenland Turbot - Aleutian Islands	25.37%	74.63%	0.00%	0.00%	100.00%
Greenland Turbot - Bering Sea	6.22%	60.47%	26.27%	7.04%	100.00%
Other Species - BSAI	40.31%	27.21%	25.31%	7.17%	100.00%
Pacific Cod (Trawl Gear) - BSAI	57.82%	19.63%	17.84%	4.71%	100.00%
Pacific Cod (Trawl Gear, CPs) - BSAI	75.95%	12.83%	6.35%	4.87%	100.00%
Pacific Ocean Perch - Aleutian Islands	10.86%	89.14%	0.00%	0.00%	100.00%
Pacific Ocean Perch - Bering Sea	62.29%	3.17%	11.22%	23.32%	100.00%
Pacific Ocean Perch-Central AI	93.73%	6.27%	0.00%	0.00%	100.00%
Pacific Ocean Perch - Eastern AI	99.16%	0.02%	0.00%	0.82%	100.00%
Pacific Ocean Perch - Western AI	0.00%	100.00%	0.00%	0.00%	100.00%
Other Rockfish - Aleutian Islands	82.57%	17.43%	0.00%	0.00%	100.00%
Other Rockfish - Bering Sea	78.37%	14.80%	6.74%	0.10%	100.00%
Rock Sole - BSAI	47.20%	42.99%	8.63%	1.17%	100.00%
Sablefish (Trawl Gear) - AI	15.28%	84.72%	0.00%	0.00%	100.00%
Sablefish (Trawl Gear) - Bering Sea	0.88%	99.12%	0.00%	0.00%	100.00%
Sharpchin/Northern Rockfish - AI	72.48%	27.52%	0.00%	0.00%	100.00%
Squid - BSAI	91.57%	0.30%	5.42%	2.71%	100.00%
Shortraker/Rougheye Rockfish - AI	9.30%	90.70%	0.00%	0.00%	100.00%
Other Red Rockfish - Bering Sea	95.28%	3.99%	0.47%	0.26%	100.00%
Yellowfin Sole - BSAI	35.75%	46.50%	9.26%	8.49%	100.00%

Source: NMFS Blend data 1995-97.

Table 6.11: Distribution of BSAI catch by Quarter for the 29 listed AFA Catcher/Processors

	Quarter of the year				
TAC Species Groups	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Grand Total
Atka Mackerel - Central AI	70.91%	29.09%	0.00%	0.00%	100.00%
Atka Mackerel - Eastern AI	72.35%	27.55%	0.09%	0.00%	100.00%
Atka Mackerel - Western AI	16.19%	83.81%	0.00%	0.00%	100.00%
Arrowtooth Flounder - BSAI	32.47%	10.14%	46.25%	11.14%	100.00%
Other Flatfish - BSAI	36.90%	43.06%	16.27%	3.77%	100.00%
Flathead Sole - BSAI	36.96%	9.49%	41.73%	11.82%	100.00%
Greenland Turbot - Aleutian Islands	30.56%	69.44%	0.00%	0.00%	100.00%
Greenland Turbot - Bering Sea	6.73%	60.19%	27.42%	5.66%	100.00%
Other Species - BSAI	38.54%	26.25%	28.50%	6.71%	100.00%
Pacific Cod (Trawl Gear) - BSAI	62.96%	19.02%	14.41%	3.60%	100.00%
Pacific Cod (Trawl Gear, CPs) - BSAI	78.55%	10.18%	6.28%	4.99%	100.00%
Pacific Ocean Perch - Aleutian Islands	10.97%	89.03%	0.00%	0.00%	100.00%
Pacific Ocean Perch - Bering Sea	66.21%	11.14%	6.59%	16.06%	100.00%
Pacific Ocean Perch-Central AI	88.38%	11.62%	0.00%	0.00%	100.00%
Pacific Ocean Perch - Eastern AI	78.04%	21.58%	0.00%	0.37%	100.00%
Pacific Ocean Perch - Western AI	11.20%	88.80%	0.00%	0.00%	100.00%
Other Rockfish - Aleutian Islands	85.81%	14.19%	0.00%	0.00%	100.00%
Other Rockfish - Bering Sea	75.28%	18.36%	6.18%	0.18%	100.00%
Rock Sole - BSAI	45.49%	38.83%	14.63%	1.05%	100.00%
Sablefish (Trawl Gear) - AI	62.96%	37.04%	0.00%	0.00%	100.00%
Sablefish (Trawl Gear) - Bering Sea	3.09%	94.83%	2.07%	0.01%	100.00%
Sharpchin/Northern Rockfish - AI	52.50%	47.50%	0.00%	0.00%	100.00%
Squid - BSAI	91.82%	0.57%	5.02%	2.59%	100.00%
Shortraker/Rougheye Rockfish - AI	13.87%	86.13%	0.00%	0.00%	100.00%
Other Red Rockfish - Bering Sea	93.41%	4.42%	0.64%	1.53%	100.00%
Yellowfin Sole - BSAI	30.76%	48.31%	11.20%	9.73%	100.00%

Source: NMFS Blend data 1995-97.

6.5 AFA Catcher/Processor PSC Caps for 2000 and Beyond

The same methodology used to determine groundfish sideboards is used to estimate PSC bycatch levels for 2000 and beyond. Again, this approach is based on 1995-1997 and does not include catches made in CDQ fisheries, bycatch from catcher vessels delivering fish, bycatch harvested by non-AFA catcher/processors, or bycatch harvested in the GOA.

PSC amounts available to AFA catcher/processors would be caps and not allocations. Because they are not guaranteed that amount of PSC bycatch, they must compete against other individuals operating in the open access fishery. For example, if the AFA catcher/processors were capped at 25 percent of the yellowfin halibut mortality allowance, the non-AFA vessels in the fleet could take all of the halibut mortality assigned to the yellowfin sole fishery if the AFA processors decided not to enter yellowfin sole at the start of the season. However if the AFA catcher/processors reach their cap, they will be required to stop fishing even if PSC halibut mortality is available to the non-AFA portion of the fleet.

There at least two ways that PSC caps could be apportioned among the AFA catcher/processors. One method would be to determine the entire amount of PSC for each species and let the catcher/processors decide how to apportion it among fisheries. Recall that trawl PSC bycatch is currently divided among the Pacific cod, rockfish, pollock/Atka mackerel/other groundfish, rock sole/other flatfish, Greenland turbot/arrowtooth flounder/sablefish, and yellowfin sole fisheries. Under this option the Council identifies a given percentage of the trawl halibut PSC cap for the AFA catcher/processors and lets them decide in which fisheries to use the PSC. There may be advantages/disadvantages in allowing the catcher/processors to choose which fisheries to use their PSC. The second method would apportion the PSC by target fishery. For example, the catcher/processors would be allocated a percentage of the PSC allocated to the yellowfin sole fishery.

Estimates of PSC harvests are provided based on whether the catch was made by the 20 eligible or 29 listed AFA catcher/processors. They also are calculated based on whether the harvest occurred in the pollock or non-pollock target fisheries. Table 6.12 lists the bycatch of PSC species taken by the AFA catcher/processors. Only herring, halibut, *C. bairdi* Zone 1, *C. bairdi* Zone 2, other Tanner crab, red king crab zone 1, chinook salmon, and other salmon (primarily chum) are included. The other Tanner crab category may need to be treated differently from the other PSC species, because caps by individual fishery were not established until 1999. This analysis has assumed that the 1999 caps were in place from 1995-97, which may tend to skew the resulting caps that are calculated, if the distribution of 'other Tanner' bycatch from 1995-97 does not track well with the target fishery caps established for 1999.

NMFS excluded chinook and other salmon when they developed PSC bycatch caps for the AFA catcher/processors in 1999. NMFS justified excluding chinook salmon because regulations under § 679.21(e)(7)(vii) and (viii) do not provide for fishery specific management of salmon bycatch limits. However, the Council and Advisory Panel have both expressed concerns over excluding chinook salmon from the PSC caps, especially given the Council's recent action to step-down the overall chinook cap from 48,000 to 29,000 fish between 1999 and 2003. The Council's motion which outlined the scope of this analysis specified that only chinook bycatch occurring in the pollock target fisheries would count towards the overall cap. Because of these changes, an option has been included in this analysis that would allow the Council to divide the chinook cap by either AFA sector or cooperative, based on their share of the pollock TAC.

Since the chinook cap applies only to the pollock fleets, and the cap would be divided among the pollock industry relative to their allocation of pollock, any chinook savings achieved by a sector/cooperative will result in overall chinook savings in the pollock fishery. This means that everyone must harvest 100 percent of their

individual caps for the fleet to harvest the entire cap. However, this does not automatically mean that chinook bycatch will be less than the cap over all fisheries in the Bering Sea. It is possible that chinook bycatch in non-pollock target fisheries would increase and makeup the difference, since they are not bound by a cap, but given the relatively small historical bycatch levels in other fisheries, that likely will not occur.

An example at the sector level may help to illustrate why each group must harvest their entire chinook cap for the overall cap to be harvested. Assume that the caps are set at the sector level, and the overall cap is 48,000 fish. That means the inshore sector would be allowed to harvest up to 50 percent of the chinook bycatch cap (24,000 fish), motherships 10 percent (4,800 fish), and the catcher/processor sector 40 percent (19,200 fish). If the inshore sector only harvested 20,000 fish, the catcher/processors and mothership sectors would still only be allowed to catch their cap, which is 24,000 chinook. Therefore, the remaining 4,000 fish must go unharvested in the pollock fishery.

Tables 6.12 and 6.13 report the total amount of each PSC species harvested and the percent of that PSC species harvested as a percentage of the total bycatch cap, respectively, by the AFA catcher processors from 1995-97. Tables 6.14 and 6.15 then report the same information broken down by PSC target groups. This more specific breakdown may be useful if consideration is given to apportioning PSC by fishery.

Table 6.12: PSC Bycatch by the AFA Catcher Processors in the BSAI from 1995-97

	Non-pollock Targets		Pollock Targets Reported Catch		All Target Fisheries	
	AFA CPs		AFA CPs		AFA CPs	
PSC Species	20 CPs	29 CPs	20 CPs	29 CPs	20 CPs	29 CPs
Halibut Mortality	634	952	251	387	886	1,338
C. bairdi (Zone 1)	348,580	385,676	27,712	62,077	376,292	447,753
C. bairdi (Zone 2)	340,017	406,846	9,617	33,352	349,635	440,198
Red King Crab (Zone 1)	2,963	3,098	3,335	8,240	6,297	11,338
Herring	30	62	995	1,122	1,024	1,184
C. opilio	1,603,406	1,906,083	137,828	300,024	1,741,234	2,206,106
Chinook	1,893	3,879	23,319	28,974	25,212	32,853
O. Salmon	79	222	51,926	60,391	52,006	60,613

Sources: National Marine Fisheries Service AKR PSC Bycatch Data (File Names BS95HALX, BS96HALX, and BS97HALX)

Table 6.13: Percent of PSC Bycatch Harvested by the AFA Catcher Processors in the BSAI from 1995-97

	Non-pollock Targets		Pollock Targets		All Target Fisheries	
	AFA CPs		AFA CPs		AFA CPs	
PSC Species	20 CPs	29 CPs	20 CPs	29 CPs	20 CPs	29 CPs
Halibut Mortality	5.60%	8.42%	2.22%	3.41%	7.82%	11.82%
C. bairdi (Zone 1)	12.68%	14.02%	1.01%	2.26%	13.68%	16.28%
C. bairdi (Zone 2)	4.20%	5.02%	0.12%	0.41%	4.32%	5.43%
Red King Crab (Zone 1)	0.63%	0.65%	0.70%	1.74%	1.33%	2.39%
Herring	0.57%	1.20%	19.36%	21.85%	19.94%	23.05%
C. opilio	11.40%	13.56%	0.98%	2.13%	12.38%	15.69%
Chinook	1.39%	2.84%	17.10%	21.24%	18.48%	24.09%
O. Salmon	0.04%	0.11%	24.64%	28.66%	24.68%	28.76%

Source: National Marine Fisheries Service AKR PSC Bycatch Data (File Names BS95HALX, BS96HALX, and BS97HALX)

Table 6.14: BS/AI PSC Bycatch by the AFA Catcher Processors from 1995-97 in each PSC Target Grouping

		Non-Pollock Targets AFA CPs		Pollock Targets AFA CPs		All Target Fisheries AFA CPs	
PSC Target	Species	20 CPs	29 CPs	20 CPs	29 CPs	20 CPs	29 CPs
Pacific Cod	Tons of Groundfish	20,060	47,838	-	-	20,060	47,838
	Halibut Mortality	84	219	-	-	84	219
	C. *bairdi* (Zone 1)	2,973	24,940	-	-	2,973	24,940
	C. *bairdi* (Zone 2)	7,774	18,304	-	-	7,774	18,304
	Red King Crab (Zone 1)	-	-	-	-	-	-
	Herring	2	15	-	-	2	15
	C. opilio	5,687	21,917	-	-	5,687	21,917
	Chinook	1,561	3,517	-	-	1,561	3,517
	O. Salmon	32	120	-	-	32	120
Rockfish	Tons of Groundfish	1,136	1,136	-	-	1,136	1,136
	Halibut Mortality	1	1	-	-	1	1
	C. *bairdi* (Zone 1)	-	-	-	-	-	-
	C. *bairdi* (Zone 2)	-	-	-	-	-	-
	Red King Crab (Zone 1)	-	-	-	-	-	-
	Herring	-	-	-	-	-	-
	C. opilio	-	-	-	-	-	-
	Chinook	6	6	-	-	6	6
	O. Salmon	-	-	-	-	-	-
Pollock/	Tons of Groundfish	9,955	35,878	1,175,718	1,505,074	1,185,673	1,540,953
Atka Mackerel/	Halibut Mortality	3	17	251	387	254	403
Other Groundfish	C. *bairdi* (Zone 1)	70	70	27,712	62,077	27,782	62,147
	C. *bairdi* (Zone 2)	-	-	9,617	33,352	9,617	33,352
	Red King Crab (Zone 1)	-	-	3,335	8,240	3,335	8,240
	Herring	0	0	995	1,122	995	1,122
	C. opilio	-	-	137,828	300,024	137,828	300,024
	Chinook	316	346	23,319	28,974	23,635	29,320
	O. Salmon	47	54	51,926	60,391	51,973	60,445
Rock sole/	Tons of Groundfish	3,640	6,192	-	-	3,640	6,192
Other Flatfish	Halibut Mortality	38	64	-	-	38	64
	C. *bairdi* (Zone 1)	52,494	56,936	-	-	52,494	56,936
	C. *bairdi* (Zone 2)	258	5,976	-	-	258	5,976
	Red King Crab (Zone 1)	1,370	1,370	-	-	1,370	1,370
	Herring	-	0	-	-	-	0
	C. opilio	6,283	14,406	-	-	6,283	14,406
	Chinook	1	1	-	-	1	1
	O. Salmon	-	-	-	-	-	-

Table 6.14 continued							
Greenland Turbot/	Tons of Groundfish	118	183	-	-	118	183
Arrowtooth Flounder/	Halibut Mortality	5	32	-	-	5	32
Sablefish	C. *bairdi* (Zone 1)	54	54	-	-	54	54
	C. *bairdi* (Zone 2)	-	-	-	-	-	-
	Red King Crab (Zone 1)	-	-	-	-	-	-
	Herring	-	-	-	-	-	-
	C. opilio	1,492	1,565	-	-	1,492	1,565
	Chinook	-	-	-	-	-	-
	O. Salmon	-	-	-	-	-	-
Yellowfin Sole	Tons of Groundfish	144,887	171,461	-	-	144,887	171,461
	Halibut Mortality	504	618	-	-	504	618
	C. *bairdi* (Zone 1)	293,042	303,729	-	-	293,042	303,729
	C. *bairdi* (Zone 2)	331,986	382,566	-	-	331,986	382,566
	Red King Crab (Zone 1)	1,593	1,729	-	-	1,593	1,729
	Herring	28	46	-	-	28	46
	C.	1,589,944	1,868,195	-	-	1,589,944	1,868,195
	Chinook	9	9	-	-	9	9
	O. Salmon	-	49	-	-	-	49

Source: National Marine Fisheries Service AKR PSC Bycatch Data (File Names BS95HALX, BS96HALX, and BS97HALX)

Note: The tons of groundfish field includes both target and bycatch species, since NMFS does not break that information out in these data sets.

Table 6.15: BS/AI PSC Bycatch by the AFA Catcher Processors from 1995-97 in each PSC Target Grouping

PSC Target	Species	Non-Pollock Targets AFA CPs		Pollock Targets AFA CPs		All Target Fisheries AFA CPs	
		20 CPs	29 CPs	20 CPs	29 CPs	20 CPs	29 CPs
Pacific Cod	Halibut Mortality	1.73%	4.53%	0.00%	0.00%	1.73%	4.53%
	C. *bairdi* (Zone 1)	0.49%	4.10%	0.00%	0.00%	0.49%	4.10%
	C. *bairdi* (Zone 2)	1.09%	2.56%	0.00%	0.00%	1.09%	2.56%
	Red King Crab (Zone 1)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Herring	2.91%	22.98%	0.00%	0.00%	2.91%	22.98%
	C. *opilio*	0.04%	0.16%	0.00%	0.00%	0.04%	0.16%
	Chinook	1.14%	2.58%	0.00%	0.00%	1.14%	2.58%
	O. Salmon	0.02%	0.07%	0.00%	0.00%	0.02%	0.07%
Rockfish	Halibut Mortality	0.33%	0.33%	0.00%	0.00%	0.33%	0.33%
	C. *bairdi* (Zone 1)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	C. *bairdi* (Zone 2)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Red King Crab (Zone 1)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Herring	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	C. *opilio*	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Chinook	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	O. Salmon	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Pollock/ Atka Mackerel/ Other Groundfish	Halibut Mortality	0.22%	1.24%	18.82%	28.96%	19.04%	30.20%
	C. *bairdi* (Zone 1)	0.04%	0.04%	14.25%	31.93%	14.29%	31.97%
	C. *bairdi* (Zone 2)	0.00%	0.00%	0.52%	1.80%	0.52%	1.80%
	Red King Crab (Zone 1)	0.00%	0.00%	4.94%	12.21%	4.94%	12.21%
	Herring	0.00%	0.00%	23.80%	26.85%	23.80%	26.85%
	C. *opilio*	0.00%	0.00%	0.98%	2.13%	0.98%	2.13%
	Chinook	0.23%	0.25%	17.09%	21.23%	17.32%	21.48%
	O. Salmon	0.03%	0.03%	31.05%	36.11%	31.08%	36.14%
Rock sole/ Other Flatfish	Halibut Mortality	1.73%	2.90%	0.00%	0.00%	1.73%	2.90%
	C. *bairdi* (Zone 1)	4.39%	4.76%	0.00%	0.00%	4.39%	4.76%
	C. *bairdi* (Zone 2)	0.02%	0.43%	0.00%	0.00%	0.02%	0.43%
	Red King Crab (Zone 1)	0.51%	0.51%	0.00%	0.00%	0.51%	0.51%
	Herring	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	C. *opilio*	0.04%	0.10%	0.00%	0.00%	0.04%	0.10%
	Chinook	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	O. Salmon	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Table 6.15 continued							
Greenland Turbot/	Halibut Mortality	4.03%	27.01%	0.00%	0.00%	4.03%	27.01%
Arrowtooth Flounder/	C. *bairdi* (Zone 1)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Sablefish	C. *bairdi* (Zone 2)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Red King Crab (Zone 1)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Herring	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	C. *opilio*	0.01%	0.01%	0.00%	0.00%	0.01%	0.01%
	Chinook	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	O. Salmon	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Yellowfin Sole	Halibut Mortality	20.15%	24.73%	0.00%	0.00%	20.15%	24.73%
	C. *bairdi* (Zone 1)	39.00%	40.43%	0.00%	0.00%	39.00%	40.43%
	C. *bairdi* (Zone 2)	8.05%	9.27%	0.00%	0.00%	8.05%	9.27%
	Red King Crab (Zone 1)	1.45%	1.57%	0.00%	0.00%	1.45%	1.57%
	Herring	3.18%	5.32%	0.00%	0.00%	3.18%	5.32%
	C. *opilio*	11.31%	13.29%	0.00%	0.00%	11.31%	13.29%
	Chinook	0.01%	0.01%	0.00%	0.00%	0.01%	0.01%
	O. Salmon	0.00%	0.03%	0.00%	0.00%	0.00%	0.03%

Sources: National Marine Fisheries Service AKR PSC Bycatch Data (File Names BS95HALX, BS96HALX, and BS97HALX) for the numerator, and trawl bycatch mortality tables (1995-97) from the NMFS AKR web page for the denominator.

Amendment 57 to the BSAI Fishery Management Plan placed a prohibition on the use of bottom trawl gear for harvesting pollock. The following discussion of fishing gear and target definitions is taken from that amendment.

Pollock fisheries have been defined in different ways, and understanding these definitions is important for evaluating a proposal to ban non-pelagic trawling in directed pollock fisheries. To reduce confusion, standard definitions are show in the adjacent box. Defining what exactly is non-pelagic trawling for pollock will depend on the distinction between *gear* and *targets*.

Regulation on Trawl Performance Standard (679.7.14).

It is unlawful for any person to ... use a vessel to participate in a directed fishery for pollock with trawl gear and have on board the vessel, at any particular time, 20 or more crab of any species that have a width of more than 1.5 inches (38 mm) at the widest dimension when directed fishing for pollock with nonpelagic trawl gear is closed.

Gear is defined in regulations; the definition of a pelagic trawl is relatively complex, whereas non-pelagic trawls are all other trawls not meeting the pelagic trawl definition. Regulations that define pelagic trawl gear are listed in the accompanying table. Note that a performance based standard for pelagic trawls kicks in when non-pelagic trawling is prohibited due to PSC attainment. When the pollock fishery nears its allocation of halibut PSC, NMFS closes that fishery to non-pelagic gear. This occurred in the Bering Sea on September 11, 1996 and on September 7 in 1997. It is the gear definition, together with the performance standard, that was most important for the purposes of evaluating Amendment 57.

Definition of pelagic and non-pelagic trawl gear.
(§ 672.2 Parts 5 and 7)

(5) Non-pelagic trawl means a trawl other than a pelagic trawl;
(6) .....
(7) Pelagic trawl means a trawl that:
(I) Has no discs, bobbins, or rollers;
(ii) Has no chafe protection gear attached to the foot rope or fishing line;
(iii) Except for the small mesh allowed under paragraph (7)(ix) of this definition:
(A) Has no mesh tied to the fishing line, head rope, and breast lines with less than 20 inches (50.8 cm) between knots, and has no stretched mesh size of less than 60 inches (152.4 cm) aft from all points on the fishing line, head rope, and breast lines and extending past the fishing circle for a distance equal to or greater than one half the vessel's length overall; or
(B) Has no parallel lines spaced closer than 64 inches (162.6 cm), from all points on the fishing line, head rope, and breast lines and extending aft to a section of mesh, with no stretched mesh size of less than 60 inches (152.4 cm), extending aft for a distance equal to or greater than one half the vessel's LOA;
(iv) Has no stretched mesh size less than 15 inches (38.1 cm) aft of the mesh described in paragraph (7)(iii) of this definition for a distance equal to or greater than one half the vessel's length overall;
(v) Contains no configuration intended to reduce the stretched mesh sizes described in paragraphs (7)(iii) and (iv) of this definition;
(vi) Has no flotation other than floats capable of providing up to 200 pounds (90.7 kg) of buoyancy to accommodate the use of a net-sounder device;
(vii) Has no more than one fishing line and one foot rope for a total of no more than two weighted lines on the bottom of the trawl between the wing tip and the fishing circle;
(viii) Has no metallic component except for connectors (e.g., hammerlocks or swivels) or net-sounder device aft of the fishing circle and forward of any mesh greater than 5.5 inches (14.0 cm) stretched measure;
(ix) May have small mesh within 32 feet (9.8 m) of the center of the head rope as needed for attaching instrumentation (e.g., net-sounder device); and
(x) May have weights on the wing tips;

Target fishery definitions for pollock are used to assign bycatch rates and PSC among the pelagic and non-pelagic trawl apportionments. It is the target definition that NMFS uses to report catch and bycatch in pollock fisheries. Unfortunately, the target definitions are less useful for regulating how fishermen fish their gear. For example, to achieve a midwater only fishery, vessels targeting pollock would have to catch > 95% pollock. A vessel that took a majority of pollock, but less than 95% would be in violation of any regulation that mandated mid-water trawling based on target definitions. This would be impossible to regulate.

Because of these difficulties, the management action of Amendment 16a and Amendment 57 is to prohibit the use of non-pelagic gear when engaged in a pollock target fishery. While this still uses target fishery definitions to define direct pollock fishery (dominant species), it doesn't require fishermen to catch 95% pollock. One needs to recognize though, that pelagic gear can still be fished on the bottom.

Staff was requested to estimate the amount of PSC that would have been needed to conduct the 1995-97 pollock fisheries using only pelagic gear. To make these estimates, sampled hauls from the NORPAC Observer data base were queried for the years 1995-97. Those hauls were then used to calculate a ratio of PSC bycatch to target catch. Two separate ratios were calculated for comparison. The first was based on sampled hauls when pelagic gear was used. The second method selected only observations where less than 20 crabs were taken in the haul. These methods yielded very different results, as reported in Tables 6.16 and 6.17, especially for crab PSC.

To conduct this analysis, targets had to be assigned to each observed haul. The same basic formula was used to determine targets as NMFS uses in the Blend data, however, the catch was not aggregated by week. Results using the two methods could be very different, although no comparison of the two was conducted. The method used here would apply bycatch to different targets if a vessel was using a "topping off" strategy during a week.

The ratio of PSC to target catch was then multiplied by the catcher/processor's total pollock harvest to estimate PSC requirements. These estimates should only serve as a rough estimate of future PSC requirements. There are several factors that may be important when determining future PSC needs that were not accounted for in this calculation. For example, the fishery will take place in different areas and at different times of the year

under the new AFA and Steller sea lion measures. These factors have been shown to impact PSC bycatch rates of halibut, crab, and salmon in past analyses[8].

Table 6.16: Estimates of Catcher/Processor PSC bycatch had they harvested all BSAI pollock using pelagic gear over the three year time period

	Estimates of required PSC bycatch in pollock targets if only pelagic gear was permitted to be used in 1995-97.				Change in Pollock Fishery PSC bycatch if estimates of required bycatch are used instead of historic reported levels, 1995-97.			
	Based on when pelagic gear[a] was used		Based on when < 20 crabs were harvested in a haul[b]		Based on when pelagic gear was used		Based on when < 20 crabs were harvested in a haul	
	AFA CPs		AFA CPs		AFA CPs		AFA CPs	
PSC Species	20 CPs	29 CPs	20 CPs	29 CPs	20 CPs	29 CPs	20 CPs	29 CPs
Halibut Mortality	111	159	184	291	-140	-228	-67	-96
C. bairdi	4,776[d]	12,965[d]	620[c/d]	1,120[c/d]	-32,553	-82,464	-36,709	-94,309
Red King Crab	113	485	27[c]	43[c]	-3,222	-8,197	-3,308	-8,197
Herring	954	1,075	949	1,082	-41	-47	-46	-40
C. opilio	14,678	36,700	607[c]	772[c]	-123,150	-263,324	-137,221	-299,302
Chinook	21,205	26,540	21,487	27,379	-2,114	-2,434	-1,832	-1,595
O. Salmon	45,582	51,415	46,447	52,751	-6,344	-8,976	-5,479	-7,640

a) Extrapolated NORPAC observed haul data. Only observed hauls where greater that 50 percent of the haul was pollock, and pelagic gear was used are included. For those hauls, the ratio of the PSC species divided by the amount of observed pollock was multiplied by these vessel total target pollock harvest to derive the estimate.

b) Extrapolated NORPAC observed haul data. Only hauls where less than 20 crab were observed are included. The ratio of the PSC species to total pollock catch in directed pollock fisheries was multiplied by the total amount of pollock harvested to determine PSC estimates.

c) For the crab species, this method tends to underestimate the amount of crab that will likely be necessary to harvest the catcher/processor's allocation of pollock.

d) This estimate is for both zone 1 and zone 2 combined.

[8] NPFMC BSAI FMP Amendments 58, 41, 40, 35, and 21b are examples of analyses where PSC bycatch rates were examined at different times within a year.

Table 6.17: Estimates of the percentage of trawl PSC bycatch that Catcher/Processors would be capped at based on their needs in the pollock target fishery.

	Estimates of required % of trawl PSC bycatch in pollock targets if only pelagic gear was permitted to be used in 1995-97.				Change in the % of Future Years Trawl PSC Allocation (Est. % of PSC Allotment-Reported % of PSC Allotment)			
	Based on when pelagic gear[a] was used		Based on when < 20 crabs were harvested in a haul[b]		When pelagic gear was used vs. total reported bycatch		When < 20 crabs were harvested in a haul vs. total reported bycatch	
	AFA CPs		AFA CPs		AFA CPs		AFA CPs	
PSC Species	20 CPs	29 CPs	20 CPs	29 CPs	20 CPs	29 CPs	20 CPs	29 CPs
Halibut Mortality	0.98%	1.40%	1.62%	2.57%	-1.24%	-2.01%	-0.59%	-0.85%
C. bairdi	0.04%	0.12%	0.01%	0.01%	-0.88%	-1.95%	-0.99%	-2.23%
Red King Crab	0.02%	0.10%	0.01%	0.01%	-0.68%	-1.64%	-0.69%	-1.73%
Herring	0.20%	0.23%	0.20%	0.23%	-0.80%	-0.92%	-0.90%	-0.78%
C. opilio	0.11%	0.28%	0.00%	0.01%	-0.88%	-1.87%	-0.98%	-2.12%
Chinook	15.55%	19.46%	15.75%	20.07%	-1.55%	-1.78%	-1.34%	-1.17%
O. Salmon	21.63%	24.40%	22.04%	25.03%	-3.01%	-4.26%	-2.60%	-3.63%

a) Extrapolated NORPAC observed haul data. Only observed hauls where greater that 50 percent of the haul was pollock, and pelagic gear was used are included. For those hauls, the ratio of the PSC species divided by the amount of observed pollock was multiplied by these vessel total target pollock harvest to derive the estimate.
b) Extrapolated NORPAC observed haul data. Only hauls where less than 20 crab were observed are included. The ratio of the PSC species to total pollock catch in directed pollock fisheries was multiplied by the total amount of pollock harvested to determine PSC estimates.
c) For the crab species, this method tends to underestimate the amount of crab that will likely be necessary to harvest the catcher/processor's allocation of pollock.
d) This estimate is for both zone 1 and zone 2 combined.

The Council also requested that PSC bycatch rates by individual AFA catcher/processors and an average for non-AFA catcher/processors be provided. Tables 6.18 through 6.20 show those data for the years 1995-97. Separate tables are provided for the pollock, Pacific cod, and yellowfin sole target fisheries. It is important to note that targets were defined on a haul-by-haul basis. The same catch percentages were used to define a target, but instead of using weekly catch by gear and area, only the catch from individual hauls were used. These data were derived from the NORPAC observer files, and only non-CDQ hauls from the BSAI, where a species composition breakdown was provided by the observer were included.

The tables contain information on the PSC bycatch rates and the amount of target species that was harvested and observed. Rates that were above the average for the entire catcher/processor fleet are bolded in each of these tables.

Vessels in the list were numbered in random order, but they are consistent throughout these tables. So vessel "9-1" will be the same vessel in the pollock, Pacific cod, and yellowfin sole tables. Vessels that start with 9 (for example, 9-1) are the nine pollock ineligible AFA catcher/processor, and the vessels that start with 20 are the 20 eligible catcher/processors.

Comparing the reported rates of various catcher/processors in the fleet will provide a better understanding of amount of groundfish these vessels harvested relative to their PSC bycatch amounts. The actual amount of observed PSC catch could be calculated by multiplying the rate by the amount of target catch. However it is important to realize that such a calculation would underestimate that vessel's total amount of PSC taken, by the amount of PSC catch in unobserved hauls.

Table 6.18: PSC bycatch rates (PSC bycatch/target species catch) in the pollock fishery from 1995-97, by catcher/processor vessels

Vessel	Halibut	Herring	*C. opilio*	*C. bairdi*	Red King	Chinook	Other Salmon	Pollock
9-1	0.00012	0.00064	0.00102	0.00809	0.00004	0.01624	0.01355	22,819
9-2	**0.00050**	0.00025	0.01775	0.00071	-	0.00891	0.02922	11,243
9-3	0.00003	**0.00077**	0.00032	-	-	0.00872	0.02948	24,093
9-4	0.00016	0.00042	0.19831	0.02303	0.00526	0.00815	0.01374	44,849
9-5	0.00007	0.00030	0.26908	0.00043	-	**0.03640**	0.04541	13,941
9-6	0.00022	0.00036	0.06818	0.09533	-	**0.04483**	0.01780	15,806
9-7	0.00019	0.00031	0.00142	0.08657	0.00066	0.01883	0.01742	21,061
9-8	0.00027	0.00025	0.03037	0.03920	-	**0.02398**	0.02671	24,384
9-9	0.00002	0.00028	0.00939	0.00068	-	**0.02087**	0.01249	15,128
20-1	0.00037	0.00025	-	0.01657	-	0.00577	0.04669	33,403
20-2	0.00004	0.00001	0.00041	0.00539	-	0.00737	0.00098	7,833
20-3	0.00002	0.00030	0.00009	0.00052	-	0.00810	0.01598	43,825
20-4	0.00005	0.00012	0.11400	-	-	0.01793	0.04174	10,838
20-5	0.00010	0.00033	0.00429	0.00324	-	**0.01963**	0.05250	67,871
20-6	0.00001	0.00043	-	0.00013	-	0.01345	0.00126	29,956
20-7	0.00009	**0.00086**	0.00301	0.00788	-	**0.02004**	**0.05771**	45,492
20-8	0.00005	0.00040	0.00253	0.12075	**0.00594**	**0.02816**	0.00576	12,639
20-9	0.00004	**0.00081**	-	-	-	0.00048	0.00689	8,317
20-10	0.00004	0.00043	0.00032	0.00136	-	**0.04346**	0.02500	38,805
20-11	0.00002	**0.00108**	0.00033	-	-	0.01080	**0.07672**	63,736
20-12	0.00005	**0.00466**	0.02286	0.00169	-	0.01696	**0.07934**	31,387
20-13	0.00012	0.00065	0.05901	0.00593	-	**0.02101**	0.03315	38,112
20-14	0.00014	0.00017	0.14497	-	-	**0.03849**	0.02682	33,669
20-15	0.00006	**0.00119**	0.00144	0.00065	-	**0.02875**	**0.06824**	59,345
20-16	0.00012	0.00045	0.00105	0.00116	-	0.01489	0.01923	33,617
20-17	0.00027	0.00035	0.00260	0.00025	0.00002	**0.02644**	0.01690	44,820
20-18	0.00005	0.00020	0.00010	0.00045	-	0.00901	0.01354	57,741
20-19	0.00009	**0.00158**	0.00099	0.00058	-	0.01363	0.04940	48,710
20-20	0.00015	**0.00152**	0.00022	0.00028	-	0.01615	0.04086	54,248
AFA	0.00027	**0.00073**	0.16879	0.05790	0.00344	0.01868	**0.03592**	957,688
Non-AFA	**0.00255**	0.00034	**2.80699**	**1.94940**	**0.03555**	**0.02569**	0.01199	79,359
All CPs	0.00044	0.00070	0.36196	0.19640	0.00579	0.01920	0.03416	1,037,047
AFA CVs	**0.00023**	**0.00123**	0.01507	**0.01026**	**0.00099**	**0.04617**	0.05637	1,033,638
Non-AFA CVs	0.00016	0.00027	**0.05854**	0.00000	0.00000	0.02242	**0.09699**	848
All CVs	0.00023	0.00123	0.01511	0.01025	0.00099	0.04615	0.05640	1,034,485

Source: Observed hauls in the NORPAC Observer Data Base for the years 1995-97

Notes:
1) A bolded number means that vessel was above the catcher/processor fleet's average.
2) Herring and halibut rates are PSC (mt)./Target catch (mt). Crab and salmon are PSC (animals)/Target catch (mt).

Table 6.19: PSC bycatch rates (PSC bycatch/target species catch) in the Pacific cod fishery from 1995-97, by catcher/processor vessels

Vessel	Halibut	Herring	Opilio	Tanner	Red King	Chinook	Other Salmon	Pacific Cod
9-1	**0.02751**	**0.00144**	1.58726	**6.51348**	0.00000	**0.13119**	0.00239	2,306
9-2	0.00146	0.00000	0.00000	0.01199	0.00038	0.00688	0.00054	3,806
9-3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	62
9-5	0.00004	0.00006	0.17224	0.00915	0.00000	0.01281	0.00000	546
9-6	0.01266	0.00000	0.00000	0.93846	**0.13980**	0.03092	0.00000	3,064
9-7	0.01320	**0.00347**	1.97248	**8.34954**	0.00221	**0.27484**	**0.10515**	1,355
9-8	0.01458	**0.00043**	3.44880	**10.04388**	0.00000	**0.18355**	0.00000	2,229
9-9	0.00000	0.00016	**11.26791**	3.38064	0.00000	0.00000	0.00000	33
20-1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	198
20-2	**0.08576**	0.00002	**31.71026**	0.75155	0.00000	0.00000	0.00000	135
20-3	**0.86337**	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0
20-4	**0.11262**	0.00000	0.00000	**7.10894**	0.00000	**0.24482**	0.00000	269
20-6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0
20-7	**0.15539**	**0.00116**	3.55441	0.00000	0.00000	0.00000	0.00000	30
20-8	0.00285	0.00000	0.00818	0.03710	0.01120	**0.11565**	0.00098	3,057
20-10	0.00000	**0.00093**	0.00000	0.00000	0.00000	0.00000	0.00000	113
20-11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	15
20-12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	561
20-13	**0.03269**	0.00000	0.31974	0.61217	0.00000	0.07771	0.00222	450
20-14	0.00932	0.00000	0.00000	0.00509	0.00000	**0.14529**	0.00255	2,512
20-15	**0.06349**	0.00000	0.00000	**29.12436**	0.00000	0.00000	0.00000	21
20-16	0.01176	**0.00057**	0.21778	1.12165	0.00046	**0.32874**	0.00517	2,168
20-17	**0.12232**	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	18
20-18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	496
20-19	0.00080	0.00000	**10.91216**	0.00000	0.00000	**0.26416**	0.00000	21
20-20	**0.03073**	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	8
AFA CPs	0.01197	**0.00044**	0.84046	2.43699	0.01994	**0.11713**	0.00713	23,473
Non-AFA CPs	**0.04144**	0.00008	**11.44726**	**9.32298**	**0.12270**	0.10537	**0.02346**	16,753
All CPs	0.02424	0.00029	5.25799	5.30488	0.06274	0.11223	0.01403	40,226
AFA CVs	**0.02765**	**0.00002**	1.04475	**1.07042**	**0.00498**	0.06583	**0.00668**	65,655
Non-AFA CVs	0.01705	0.00000	1.39923	0.60452	0.00059	**0.07382**	0.00059	1,699
All CVs	0.02739	0.00002	1.05369	1.05867	0.00487	0.06604	0.00653	67,354

Source: Observed hauls in the NORPAC Observer Data Base for the years1995-97

Notes:

1) A bolded number means that vessel was above the catcher/processor fleet's average.

2) Herring and halibut rates are PSC (mt)./Target catch (mt). Crab and salmon are PSC (animals)/Target catch (mt).

Table 6.20: PSC bycatch rates (PSC bycatch/target species catch) in the yellowfin sole fishery from 1995-97, by catcher/processor vessels

Vessel	Halibut	Herring	Opilio	Tanner	Red King	Chinook	Other Salmon	Yellowfin
9-1	**0.02249**	0.00022	**30.21579**	8.41740	**0.09530**	0.00000	0.00000	543
9-2	0.00069	0.00002	**60.05706**	8.30551	0.00000	0.00000	0.00000	1,018
9-3	**0.03302**	0.00000	**38.35211**	4.68335	**0.13498**	0.00000	0.00000	499
9-5	0.00000	0.00005	**91.88153**	0.34229	0.00000	0.00000	0.00000	237
9-6	**0.00607**	0.00005	0.83059	3.01231	0.00000	0.00000	0.00000	267
9-7	**0.02389**	0.00031	12.78647	0.00000	0.03335	0.00000	**0.00765**	**131**
9-8	**0.02015**	0.00000	**45.20464**	**22.11648**	0.00000	0.00000	0.00000	116
9-9	0.00346	**0.00140**	1.26613	1.36635	0.01562	0.00000	**0.00287**	**7,990**
20-2	**0.00825**	0.00007	5.43106	3.16128	0.01998	0.00000	0.00000	11,556
20-4	0.00115	0.00003	**36.29686**	7.29047	0.00000	0.00000	0.00000	2,883
20-7	0.00304	0.00045	**55.83229**	**18.95755**	0.00000	0.00000	0.00000	7,024
20-8	**0.00855**	0.00000	3.90634	2.43461	**0.29519**	0.00000	0.00000	572
20-10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	26
20-12	0.00121	0.00017	12.76300	2.66505	0.01048	0.00000	0.00000	5,833
20-14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	53
20-15	0.00252	0.00001	2.51559	1.88193	0.03941	0.00000	0.00000	6,851
20-18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	67
20-19	0.00287	0.00002	5.21463	5.44358	**0.05789**	0.00000	0.00000	6,589
20-20	0.00279	0.00002	8.32658	4.51906	0.00000	0.00000	0.00000	8,442
AFA	0.00421	0.00028	14.72575	5.34276	0.02241	0.00000	0.00039	60,693
Non-AFA	**0.00516**	**0.00135**	**24.89908**	**10.26026**	**0.04874**	**0.00022**	**0.00270**	**127,237**
All CPs	0.00485	0.00100	21.61354	8.67212	0.04024	0.00015	0.00196	187,929

Source: Observed hauls in the NORPAC Observer Data Base for the years 1995-97

Notes:

1) A bolded number means that vessel was above the catcher/processor fleet's average.

2) Herring and halibut rates are PSC (mt)./Target catch (mt). Crab and salmon are PSC (animals)/Target catch (mt).

6.6 Reaching caps will close which fisheries

Once the groundfish and PSC caps are established, then a decision must be made regarding the closures that occur when the caps are reached. This decision may be impacted by the method used to determine the caps. For example, if only the catch in the non-pollock target fisheries is included in the cap, the Council may feel it is appropriate to only close the non-pollock target fisheries upon attainment of the cap. After the closure in this scenario, only the pelagic pollock fishery would remain open. The pelagic pollock fishery would then close once the AFA catcher/processors harvested their pollock quota.

Caps established for the 1999 fisheries were based on the 1995-97 catch history of all 29 listed AFA catcher/processors in the non-pollock target fisheries. Once a species cap is reached by these vessels in 1999, NMFS will close all but the pelagic pollock fishery for the 20 eligible AFA catcher/processors.

Based on the 1999 groundfish caps, only the BSAI yellowfin sole, Pacific cod, and Atka mackerel fisheries will likely be opened to directed fishing by the AFA catcher/processor fleet. The caps established for other groundfish species were determined to be insufficient to open a fishery for those species. So if similar caps are set for 2000 and beyond, it is likely that the only EEZ fisheries off Alaska that the AFA catcher/processors will be allowed to fish are those three and pollock.

6.6.1 Only non-pollock fisheries close

When a sideboard cap is reached under this alternative only the non-pollock target fisheries will be closed to directed fishing by the AFA catcher/processors. This option provides the fleet a greater opportunity to harvest their entire cap of non-pollock groundfish. The risk associated with reaching a cap is much less if the pollock fishery remains open when a sideboard cap is reached.

If the sideboard caps are based on the bycatch from non-pollock target fisheries, the AFA vessels will only be able to harvest at their traditional levels in those fisheries. Any bycatch reductions in the pollock targets, resulting from cleaner fishing under the co-op, would be forgone by the AFA catcher/processors. This may diminish their incentives to reduce bycatch of a valuable species like Pacific cod in the pollock target fishery, if they are well above the 95 percent pollock threshold for the pelagic fishery definition.

Allowing these vessels to count bycatch in all target fisheries towards their caps, but reaching the caps would only close the non-pollock target fisheries, likely would not be much of an advantage in most fisheries. Pacific cod may be one of the exceptions. About 50 percent of the Pacific cod harvested by these vessels was taken in the pollock target fisheries. Access to that increase in their cap may allow them to harvest more cod in the directed fishery. If they did not reduce the cod bycatch in the pollock target fishery they may actually increase the percentage of the cod TAC that they harvest. Given that bottom trawling for pollock is no longer legal, this may not be as much of a problem in the future as it would have been in the past.

6.6.2 All fishing closes for the AFA catcher/processor fleet

Reaching a sideboard cap under this scenario would close both the pollock and non-pollock fisheries for the AFA catcher/processors. Budgeting their caps under this scenario would be critical, since excessive bycatch of any species could close the directed pollock fishery before their allocation is taken. This option may force AFA members to forgo harvesting opportunities in the non-pollock target fisheries at the start of the season to ensure they do not reach a cap before their pollock is harvested.

The management of bycatch under this scenario would be more difficult if the cap was based only on participation in the non-pollock target fisheries. Given the historic catches reported in Table 6.2 it appears that this would especially be true for the red rockfish, squid, POP, and other species groups. More bycatch of these species was taken in the pollock fisheries than in the non-pollock targets. Therefore, unless the fleet was able to reduce their bycatch of squid, they may be forced to forgo targeting non-pollock targets and still be unable to harvest their entire pollock allocation. It is of course true that the Council may recommend that specific species be exempted from the cap. Squid for example could be exempted, and therefore the catcher processor fleet would be in less danger of being closed down because of an inadequate cap for that particular species.

6.6.3 Description of Current Catch and Bycatch Management in the BSAI

Included as AFA sideboard options are measures that would close pollock fishing to pollock cooperatives whenever a sideboard species limit is reached. This approach would be a departure from current catch and bycatch management practices in the North Pacific fisheries (CDQ fisheries are a unique case as discussed below). Two other options were considered by the Council to address this issue. At the April 1999 meeting the Council did include the option of exempting certain, potentially constraining fisheries from sideboard limits to partially mitigate this problem for the pollock co-op participants, similar to what was done with squid for the CDQ fisheries. Alternatively, the co-op sideboards could be managed as the open access fisheries described below (as is the case for the 1999 fisheries), which would more likely allow for full harvest of the pollock allocations.

An additional discussion, specific to how the various pollock fisheries are managed, is included in Chapter 9.

For comparison purposes, current management of the open access, IFQ and CDQ fisheries is included here.

Open Access Fishery

Under the open access management regime, portions of the annual TAC for each groundfish species are set aside at the beginning of the year to fund a bycatch reserve. The bycatch reserve is not divided-up by directed fishery or gear type. If the directed fishery portion of a species TAC is consumed, the directed fishery for that species is shut down. When the directed fishery of a species is closed, that species may only be retained as bycatch at or below the Maximum Retainable Bycatch (MRB) level established for each directed fishery. When the bycatch reserve of that species is taken, retention of that species is prohibited and further catch of that species must be discarded until the Over Fishing Level (OFL) is reached. The only time an open access fishery is shut down because of bycatch is if the OFL of the bycatch species is reached or the total PSC is taken. Figure 1 below provides a basic illustration of this structure using BSAI Pacific cod quotas as an example.

Because the pollock fishery presently operates as a mid-water fishery, there are no PSC species that completely close the pollock fishery. A crab performance standard is used to determine whether pollock fishing is pelagic or non-pelagic. By regulation vessels can be fined if they exceed this standard. Certain herring and chinook savings areas close when PSC caps for those species exceed established numbers, however, the fishery remains open elsewhere.

IFQ Fishery

Bycatch management of the halibut and sablefish IFQ fisheries is somewhat similar to the open access regime. The IFQ holder must retain halibut and sablefish as directed catch or bycatch until the IFQ holder's quota is reached. After reaching the individual quota amounts, all halibut and sablefish caught by the IFQ holder must be discarded . The amount of discards are limited only by the OFL.

Halibut and sablefish quota holders are not restricted in the amount of cod or other groundfish species that can be taken as bycatch in the IFQ fisheries. Those bycatch amounts are taken from the open access bycatch reserve. An IFQ holder is free to participate in other fisheries, like cod, and is treated like all other open access participants. There is no cap on the amount of cod that can be taken as either bycatch or directed catch other than the open access cod TAC and the bycatch reserve. When the TAC and bycatch reserve of cod is reached, cod retention is prohibited and further catch of cod must be discarded. The only cod or other groundfish

closure that could occur would be if the OFL were reached, or the halibut PSC cap were reached in the open access fishery.

CDQ Fishery

In the MSCDQ program 10 % of the pollock TAC and 7.5% of all other species is allocated to the six CDQ groups. Additionally, PSC amounts and specific area apportionments of halibut and sablefish are allocated to the program. The CDQ groups can allocate their quotas of non-pollock species as either directed fishing quotas or as bycatch in other CDQ fisheries. However, any pollock taken as bycatch in non-pollock CDQ fisheries is funded from the pollock bycatch reserve shared with the open access fisheries.

The CDQ groups can also elect to apportion their PSC and bycatch allocations to be used at specific times of the year. For instance, many CDQ groups delay or forego high-bycatch, low-value flatfish fisheries until after the pollock fishery concludes so that the pollock fishery will not be closed down because of insufficient bycatch or PSC allocations. In this case, other fisheries would close down as a result of reaching a particular groundfish allocation, hence the 'squid box' issue alluded to in this discussion. CDQ fisheries are able to time their fisheries to mitigate the squid box issue because they have a specific allocation, as opposed to a limit for a particular species.

This flexibility would not be available to pollock cooperatives if, as proposed, their sideboard participation in non-pollock fisheries would be a limiting "cap" rather than a specified "quota." And, unlike the MSCDQ quota fisheries, the non-pollock fisheries remain olympic fisheries for pollock cooperative participants. Even with this bycatch flexibility, the MSCDQ program has experienced problems with PSC and bycatch allocations, such as the "squid box," which constrain the harvest of some MSCDQ fisheries.

Figure 6.1

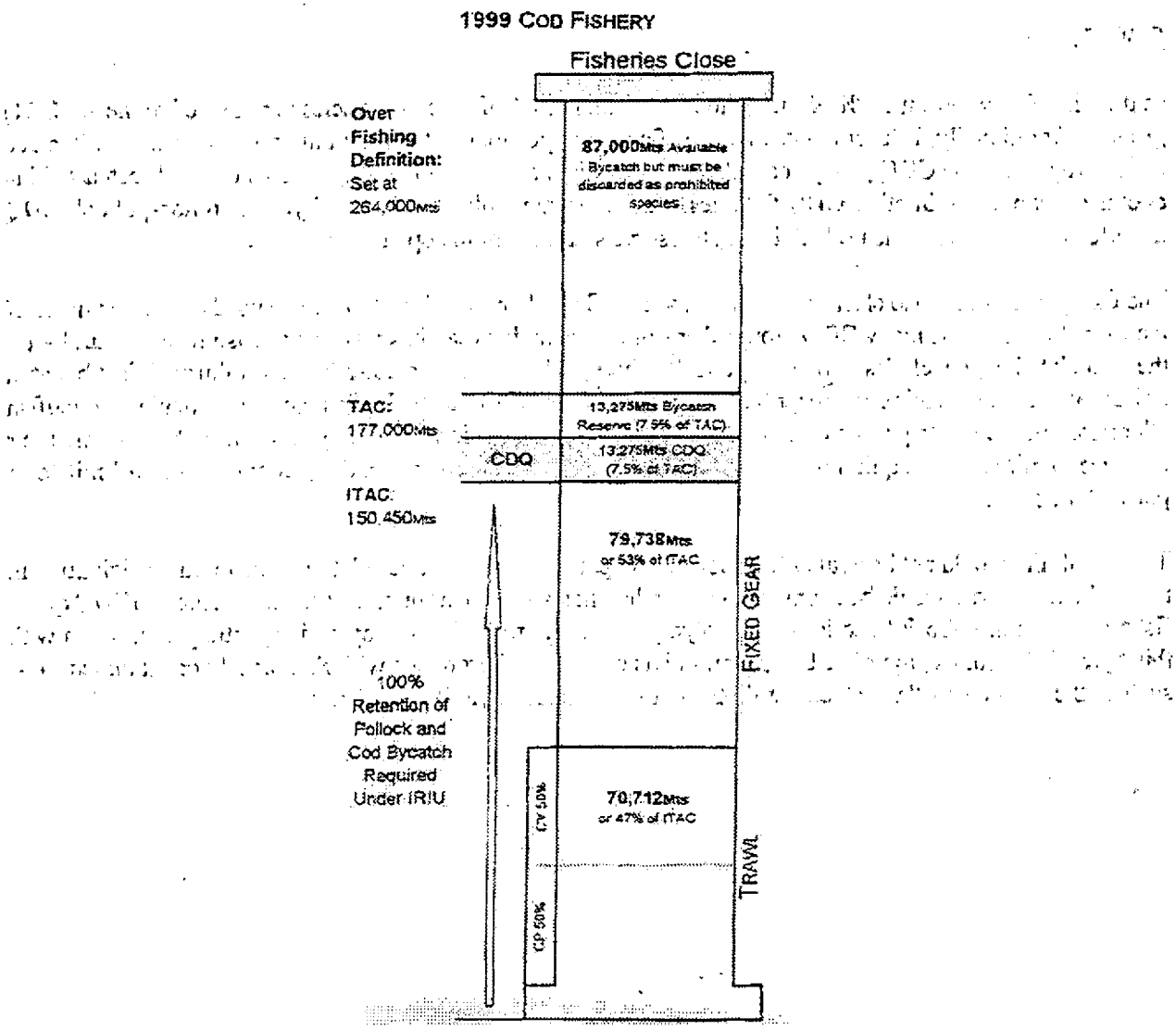


Figure 6.1. Under the open access groundfish fisheries, NMFS sets aside a "reserve" of each species' TAC at the beginning of the year to fund bycatch needs in the groundfish fisheries for other species. For example, 7.5% of the cod TAC is set aside for bycatch in other groundfish fisheries. Cod fishermen then fish on the 92.5% of the cod TAC that is available for directed fishing. Once that 92.5% is consumed, the directed fishery for cod shuts down. Other fisheries that have cod as bycatch continue, but are subject to the Maximum Retainable Bycatch (MRB) standard established for cod. Cod bycatch in excess of the MRB standard must be discarded. Once the bycatch reserve is exhausted, cod becomes a prohibited species and must be discarded, however, the directed fisheries for other species are allowed to continue, even if they have a cod bycatch component. Only when the total amount of cod taken reaches the overfishing level (OFL) are the directed fisheries for other groundfish that have cod bycatch subject to closure. Under the proposed option, a pollock co-op fishery would close once its sideboard cap of cod is reached, even if there is still an open access cod fishery, the cod bycatch reserve is still available, and the OFL has not been exceeded. In short, non-pollock groundfish fisheries are unrestricted by bycatch limits on other groundfish species, unless OFLs are reached.

7.0 AFA CATCHER VESSEL SIDEBOARDS

To mitigate the impact of AFA on the non-pollock fisheries, section 211(c) mandates that *"by not later than July 1, 1999 the North Pacific Council shall recommend for approval by the Secretary conservation and management measures to - (A) prevent the catcher vessels eligible under subsections (a), (b), and (c) of section 208 from exceeding in the aggregate the traditional harvest levels of such vessels in other fisheries under the authority of the North Pacific Council as a result of fishery cooperatives in the directed pollock fishery"*. This chapter describes the options selected by the Council for constructing sideboards, which are harvest limits placed on AFA vessels for non-pollock species. Sideboard caps are expected to keep AFA catcher vessels from exceeding their traditional harvest levels in the non-pollock groundfish, crab, and scallop fisheries, as well as pollock in the Gulf of Alaska.

7.1 Alternatives for Analysis

To develop sideboard restrictions, several options were identified at the December 1998 Council meeting. Those alternatives were then revised by the Council in February 1999. Options for analysis were divided by whether they applied to the non-groundfish or groundfish fisheries. Non-groundfish restrictions focused on limiting AFA catcher vessel participation in the BSAI crab and scallop fisheries. Groundfish restrictions apply to AFA catcher vessel activity in both the GOA and BSAI. The complete set of the alternatives from the February meeting is presented below:

CRAB SIDEBOARDS

Participation in a co-op is defined as ANY use of a vessel's catch history by a co-op, whether by direct harvest, lease, sale, or stacking of quota.

Initiate analysis of the following options to mitigate impacts of possible spillover effects of AFA on other fisheries:

Options For Section 208 Vessels:

1. No crossover allowed into any crab fisheries.
2. No crossover allowed in the Tanner crab fishery only (opilio and bairdi).
3. No crossover allowed into opilio unless vessel fished opilio in 1996 or 1997.
4. No crossovers at the endorsement level.
5. Allow crossovers only into red king crab fisheries (excludes brown and blue king crab).

   Sub-options:
   - a. Vessels which qualified based on bycatch of bairdi in red king crab would be restricted to bycatch of bairdi in the red king crab fishery (applied to #2 & #4 above).
   - b. Only Section 208 catcher vessels that join a co-op (applies to #1-5 above and #6 below).
   - c. Allow crossovers for vessels with crab landings in each of the three years (1995, 96, and 97) (applies to #1 and #2 above).
   - d. Prohibit any vessel participating in an AFA co-op from lease, transfer, or sale of any license limitation program (LLP) permit.

Duration of sub-options:

a. Permanent based on participation in co-op
b. Only for year vessel is involved in co-op.
c. Duration of AFA

6. Measures which would restrict pollock co-op vessels to their:

Option a. Aggregate traditional harvest including a restriction to the percentage of crab harvest in **each** species in 1995, 96, and 97.
Option b. Average catch history 1995, 96, and 97 on an **each** species by **each** species and vessel-by-vessel basis.
Option c. No sale, lease, or stacking of vessel catch history in any crab fishery.

SCALLOP SIDEBOARDS

1. Participation in a co-op is defined as any use of a vessel's catch history by a co-op, whether by direct harvest, lease, sale, or stacking of quota.

2. Measures which would restrict pollock co-op vessels to their aggregate traditional harvest in the scallop fishery in the years:

Option a. 1996 and 97.
Option b. 1997 only

Sub-options:

a. Based on percentage of statewide catch
b. Based on percentage of PSC cap.

GROUNDFISH SIDEBOARDS

BSAI

Participation in a co-op is defined as ANY use of a vessel's catch history by a co-op, whether by direct harvest, lease, sale, or stacking of quota.

To Whom do Restrictions Apply

Restrictions should apply to all non-pollock FMP fisheries.

Sideboards apply to all Section 208 eligible vessels.

Sub-options:

a. Applies to Section 208 vessels only if they join a co-op.
b. Create sub-sideboard cap for catcher vessels with average pollock landings in 1995-97, which were less than:
   1. 1,000 mt
   2. 3,000 mt
   3. 5,000 mt

When the CV Restrictions Should Apply

1. Harvest levels should be restricted only during the same time periods as the normal open access pollock fishery

   Sub-options:
   a. Use 1998 open access season dates by sector as a base reference
   b. Use 1999 sea lion modified season dates.

2. Exempt those CVs that fish for motherships from BSAI groundfish sideboards prior to February 1 each year.

3. Exempt each CV sector from BSAI groundfish sideboards for the number of days in excess of 5 that each CV sector's pollock season is closed by regulation during the month of February.

4. Limit fishing to the season (or quarter - or half year) in which the catch history was earned.

5. At all times during the fishing year.

6. AFA qualified pollock catcher vessels, that during pollock A season historically had a majority of their catch in pollock, would be limited prior to March 1 of each year to the collective share of the cod fishery that these same vessels collectively harvested historically (1995, 96, 97) prior to March 1.
   1. Apply and monitor by vessel class and sector
   2. Apply and monitor by individual co-op.

   (This would effectively subdivide the P. cod cap between AFA vessels that harvested mostly pollock during the A season and those that did not).

Nature of CV Restrictions

Absolute harvest amounts expressed in percentage of TAC in metric tons.

Determination of "Traditional Harvest Level"

1. The definition of "traditional" in non-pollock fisheries will be determined by catch history:
   1. On basis of percentage of groundfish harvest in non-pollock fisheries by species by fishery.
   2. On basis of percentage of total groundfish harvest by species by fishery.
   3. On basis of percent of TAC in non-pollock fishery by species by fishery.

   Option A: Apply one time frame equally to all groundfish targets
   Sub-option 1: Use average catch history in the years 1995, 96, and 97.
   Sub-option 2: Use catch history based on years 1992-97.

Pollock: Initiate qualitative discussion on ability for Secretary to use the best 2 out of 3 years to determine overall denominator for total pollock pool and numerator for each co-op.

Determination of "Aggregate"

Option A: Apply and monitor by the vessel class and sector.
Option B: Apply and monitor by individual co-op.

Compensation

Further address in a discussion paper, options for compensation to inshore catcher vessels with catch history delivering to catcher processors that is no longer available to them under AFA. Additionally, examine inserting a clause replacing language in §210(b)(1) to add an option for determining catch history for catcher vessels on the basis of the best two of three years in 1995, 1996, 1997.

As provided by Section 213(c)(3) of AFA, the AP recommends the following change to Section 210(b)(1)(B) to allow a catcher vessel with catch history, based on deliveries to catcher processors, that is otherwise lost under AFA, to bring that catch history to the inshore sector cooperative while sharing the burden among all members of the inshore sector.

> "*. . . the Secretary shall allow only such catcher vessels (and catcher vessels whose owners voluntarily participate pursuant to paragraph (2)) to harvest the aggregate percentage of the directed fishing allowance under Section 206(b)(1) in the year in which the fishery cooperative will be in effect that is equivalent to the aggregate total amount of pollock harvested by such catcher vessels (and by such catcher vessels whose owners voluntarily participate pursuant to paragraph (2)) in the directed pollock fishery for processing by the inshore component, together with the amount harvested by such vessels for processing by catcher/processors in the offshore component during 1995, 1996 and 1997, relative to the aggregate total amount of pollock harvested in the directed pollock fishery for processing by the inshore component together with the aggregate total amount harvested by all catcher vessels (excluding those eligible under 208(b)) for processing by catcher/processors in the offshore component during such years and shall prevent such catcher vessels (and catcher vessels whose owners voluntarily participate pursuant to paragraph (2)) from harvesting in the aggregate in excess of such percentage of such directed fishing allowance.*"

The analysis should breakout the 42 vessels by:

a. deliveries of 250 tons
b. deliveries of 500 tons
c. deliveries of over 1,000 tons
d. deliveries of over 2,000 mt
e. deliveries of over 3,000 mt
f. deliveries of over 5,000 mt

(Vessels that do not meet these harvest requirements may not be eligible for compensation in the inshore sector.)

Management of Non-Pollock fisheries

Vessels limited to target fishing for non-pollock species during those times when the open access target fishery for the non-pollock species is open.

Assigning PSC Caps for Co-op Catcher Vessels in Non-Pollock Fisheries

Determine PSC caps based on catch history ratios (1995, 1996, and 1997) rather than VIP rates.

a. A review of vessel specific PSC rates for eligible vessels, compared to non-eligible vessels.
b. Average bycatch rates of eligible vessels, compared to non-eligible vessels.
c. A retrospective analysis of PSC needs for eligible vessels using a performance-based pelagic pollock definition.

1. PSC and non-pollock groundfish caps would apply to all fisheries as true caps (i.e., when reached these vessels would stop fishing for all groundfish species).
2. The caps would only close the non-pollock target fisheries.

Include discussion paper establishing chinook PSC sideboard for co-op pools and/or sectors in pollock, on a pro-rata basis, based on final Council action on chinook bycatch caps.

GOA

1. Apply the following sideboards to AFA Section 208 eligible catcher vessels.
   Sub-option: Applies only to vessels participating in a co-op.

g. Any non-pollock catch limitations for AFA Section 208 vessels are aggregate caps not quotas or allocations.

h. Vessel catch history consists of the years 1995, 96 and 97.
   Sub-option: Fishery is released seasonally by quarter proportionally to when caught during qualifying years.

4. Gulf of Alaska flatfish sideboards to be halibut bycatch driven. Historic target catch should be multiplied by the average halibut bycatch rate and current mortality rate to determine the halibut mortality available to AFA vessels. These amounts should be separated between deepwater and shallow water complexes.

5. Gulf of Alaska groundfish target fishery: Target catch of each groundfish species available to AFA Section 208 vessels should be limited to the average catch, by target species, based on the average catch history.

7.2 Participation in a Cooperative

The Council clearly defined what participation in a cooperative means. Throughout this analysis participation in a cooperative will be any use of a vessel's catch history in a pollock cooperative, whether by direct harvest, lease, sale, or stacking of quota. The use of a vessel's catch history applies to both the direct allocation of pollock and the sideboard caps set for the non-pollock fisheries.

7.3 Crab Sideboards

The AFA requires the Council to develop sideboards for catcher vessels that are licensed to participate in the BSAI crab fisheries under LLP. Recommendations for restricting the fleet are required to be submitted to the Secretary of Commerce, for all three catcher vessel categories, by July 1, 1999. Currently only the catcher vessels that deliver to catcher/processors are operating under crab sideboard restrictions. Those were mandated by the AFA because that group of catcher vessels was allowed to form a cooperative in 1999. The crab restrictions placed on catcher vessels delivering BSAI pollock to catcher/processors are listed in section 211(c)(2)(C). That section of the AFA states that *"catcher vessels eligible under section 208(b) are hereby prohibited from participating in a directed fishery for any species of crab in the Bering Sea and Aleutian Islands Management Area unless the catcher vessel harvested crab in the directed fishery for that species of crab in such Area during 1997 and is eligible to harvest such species of crab under the license limitation program"*. Staff interpreted the word "species" in that section of the AFA to mean either king or Tanner crab. Based on that assumption, three of the seven catcher vessels that deliver to catcher/processors were required to give up their rights to fish Tanner crab (*C. opilio and C. bairdi*) in 1999. When developing sideboards for all catcher vessels, the Council may choose to either retain or modify section 211(c)(2)(C) of the AFA. Therefore, all catcher vessel sectors have been included in this section of the analysis.

7.3.1 Options to Mitigate AFA Spillover Impacts on the Crab Fisheries

Several options to mitigate impacts of the AFA on BSAI crab fisheries were identified by the Council. A complete list of those alternatives was presented in the previous section of this analysis. Options ranged from excluding AFA catcher vessels from harvesting any BSAI crab, to limiting the vessels as a group to their traditional harvest levels in all BSAI crab fisheries. In between these two options are alternatives that would limit the AFA catcher vessels, either at or below their historic participation levels, in specific BSAI crab fisheries.

Two of the options would not allow AFA vessels to use specific LLP endorsements on their crab license. The first of these options would limit BSAI Tanner crab endorsements held by AFA vessels. The second covers all species/area endorsements, and would allow the Council to restrict the use of any or all species endorsements held by AFA catcher vessels.

Both of the alternatives that would restrict the use of specific endorsements include a suboption that would keep vessels that qualified for a Tanner crab endorsement, based on bycatch of *C. bairdi* in red king crab fisheries, from harvesting more than bycatch amounts of *C. bairdi* in future red king crab fisheries. The option restricting vessels to their historic catch levels would have a similar impact if applied to *C. bairdi* and *C. opilio* separately. Vessels that only harvested bycatch amounts of *C. bairdi* in the past, would be capped at their historic catch level (i.e., their bycatch of *C. bairdi*) in the future.

As drafted, the options listed in sections 7.3.1.1 through 7.3.1.5 would not allow AFA catcher vessels to participate in specific crab fisheries, meaning that recent participation in those fisheries would not ensure their right to future participation. The alternatives in section 7.3.1.6 would allow AFA catcher vessels that hold LLP rights to participate in BSAI crab fisheries up to their historic levels of participation.

Two options were considered to determine historic participation. The first would set a harvest cap for the entire fleet equal to the percentage of crab harvested in all species between 1995-97. The second option would use the same years to determine catch history levels, but the caps would be placed at the LLP endorsement level for each vessel. In other words, the caps would be monitored at the vessel level for each crab fishery.

Recall that in section 208(b) of the AFA, catcher vessels that deliver to catcher/processors were allowed to retain their rights to fish Tanner crab if they made landings of that species during 1997. None of the seven vessels met that requirement, so they were not allowed to fish Tanner crab in 1999. However, they will be issued a Tanner crab endorsement according to the current LLP rules. That endorsement cannot be fished on board an AFA vessel, but it could be fished if transferred to a non-AFA vessel. This same issue will also come into play for each of the other catcher vessel sectors. Transferring and applying the LLP license to a non-AFA vessel would activate the license so it could fish any crab species for which it held endorsements, without being limited by sideboard caps. For this reason, the Council also considered a sub-option that would restrict any vessel participating in a cooperative from leasing, transferring, or selling any LLP license. That restriction would keep the license from being fished more aggressively, but would also limit the license holder's business options. This is especially true if the caps apply regardless of whether a vessel joins a cooperative. The Council could also decide to issue inactive licenses/endorsements to AFA vessels, or simply not issue the licenses. Not issuing the licenses/endorsements would keep them from being transferred from a AFA vessel and becoming active, and thereby would limit effort in the crab fishery. But not issuing the license would certainly reduce the value of the license package that the AFA vessels qualified for under the LLP.

7.3.1.1 Allow No Crossovers into any BSAI Crab Species

This option would restrict AFA catcher vessels from participating in any BSAI crab fishery. Given the current list of AFA and crab LLP qualified vessels, the 102 endorsements presented in Table 7.1 could not be fished. The number of vessels participating in the BSAI Tanner crab fishery would be reduced by 42, if the endorsements were not issued or they could not be transferred. If the licenses were issued and could be transferred to a non-AFA vessel, the reduction in licenses would be between zero and 42. The actual number would depend on how many of these licenses were transferred away from AFA eligible catcher vessels. The same is true for each of the other crab species/area combinations listed in the table. A maximum of nine endorsements from the Saint Matthew and Pribilof fisheries would be impacted, as would one endorsement for Adak red king crab, and 41 endorsements for Bristol Bay red king crab.

Table 7.1. Crab endorsements held by all AFA vessels

Species/Area Endorsement	AFA Catcher Vessels by Delivery Mode				
	CV to Inshore	CV to Inshore/MS	CV to MS	CV to CP	Total
BSAI Tanner	32	6	1	3	42
Dutch Harbor Brown	0	0	0	0	0
St. Matthew Blue	3	4	0	2	9
Pribilof Blue/Red	8	1	0	0	9
Adak Brown	0	0	0	0	0
Adak Red	0	0	0	1	1
Bristol Bay Red	31	6	1	3	41
Total Number of Endorsements	74	17	2	9	102
Number of Vessels	33	6	1	3	43

Source: Council LLP data set derived from ADF&G Fishtickets.

7.3.1.2 Allow No Crossovers into the *C. bairdi* or *C. opilio* Fisheries

AFA catcher vessels would not be allowed to fish a BSAI Tanner crab endorsement under this alternative. From Table 7.1 we see that 42 endorsements for Tanner crab would either not be issued or their use would be restricted. However, any of the AFA vessels which held LLP endorsements for a king crab fishery would be allowed to continue fishing for those species. Depending on the option selected, they may be limited to their historical catch levels.

Alternatives discussed in sections 7.3.1.1 and 7.3.1.2 also contain a suboption that requires a vessel to have fished in each year 1995, 1996, and 1997 to retain its crossover rights. Applying this requirement would reduce the number of endorsements the AFA vessels would retain. The estimated numbers of endorsements that would be retained are listed in Table 7.2. The bottom line of Table 7.2 shows that only 10 of the 43 vessels made BSAI crab landings in all three years. Nine of the 10 vessels were in the inshore sector, and the tenth vessel is in the catcher vessel delivering to the catcher/processor sector. Note that this suboption is less restrictive than the previous; i.e., 33 vessels would lose their license as opposed to 43.

Table 7.2. Crab endorsements held by all AFA vessels that made crab landings each year 1995, 1996, and 1997

Species/Area Endorsement	AFA Catcher Vessel's by Delivery Mode				
	CV to Inshore	CV to Inshore/MS	CV to MS	CV to CP	Total
BSAI Tanner	9	0	0	1	10
D.Harbor. Brown	0	0	0	0	0
St. Matt. Blue	1	0	0	1	2
Prib. Blue/Red	2	0	0	0	2
Adak Brown	0	0	0	0	0
Adak Red	0	0	0	0	0
Bristol Bay Red	8	0	0	1	9
Total Number of Endorsements	20	0	0	3	23
Number of Vessels	9	0	0	1	10

Source: Council LLP data set derived from ADF&G Fishtickets.

7.3.1.3 Allow No Crossovers into the *C. opilio* Fishery Unless the Vessel Fished for *C. opilio* in 1996 or 1997

Implementation of this option would require amending the crab LLP, or issuing an AFA permit which would override a vessel's right to fish *C. opilio* under a LLP Tanner crab endorsement. Recall that a single endorsement is issued under the LLP which allows a vessel to participate in both the *C. opilio* and *C. bairdi* fisheries. This option is at a finer resolution than the LLP endorsement level.

ADF&G Fishticket data indicates that only seven of the AFA vessels, with a Tanner crab endorsement, would qualify to fish both *C. opilio* and *C. bairdi* under this option, the remaining 35 vessels would lose their *C. opilio* harvest privileges. Six of the vessels fished *C. opilio* in 1996 and three of the vessels fished *C. opilio* in 1997, so only two of the vessels fished *C. opilio* in both 1996 and 1997. The 35 AFA catcher vessels that lose their *C. opilio* harvest rights would be limited to fishing for *C. bairdi* with their Tanner crab endorsement in future years.

7.3.1.4 Allow No Crossovers at the Endorsement Level

As written this option could have the same result as any of the other options which limit crossovers, depending on how it is implemented. The Council could apply this option to any species/area endorsement in the crab LLP. For example, it could be applied only to the Tanner crab endorsement. That would have the same result as the no crossover into the *C. bairdi* or *C. opilio* fisheries option. Applying this option to all crab fisheries except red king crab, would have the same result as only allowing crossovers into the red king crab fisheries. This option provides the Council the flexibility to restrict crossovers for any crab LLP species/area endorsement combination. Recall that Table 7.1 shows the number of species/area endorsements held by AFA catcher vessels that could be lost under this option.

7.3.1.5 Allow Crossovers into the Red King Crab Fisheries Only

AFA vessels would only be allowed to fish the BSAI red king crab fisheries. In total, AFA catcher vessels would be issued one endorsement for the Adak red king crab and the 41 endorsements for Bristol Bay red king crab. Tanner crab, blue king crab, and brown king crab endorsements for these vessels would either not be issued or their use would be restricted when attached to an AFA vessel.

7.3.1.6 Restrict Cooperative to their Aggregate Traditional Harvest Based on their Percentage of the Harvest in 1995, 1996, and 1997

The final option would allow AFA vessels to fish their endorsements, but they would be capped at their average 1995-97 harvest levels. Caps would be calculated by dividing AFA vessel's total catch by the total catch of all vessels, at the LLP endorsement level.

Information in this section would also allow the Council to select this option in conjunction with any of the no crossover provisions discussed above. For example, a preferred alternative could be developed that would only allow AFA vessels to crossover into red king crab fisheries, and they would be limited to their historic participation in those fisheries.

ADF&G has expressed concerns over their ability to manage these fleet wide caps. Therefore, the viability of this option may require assurance from ADF&G that in-season management and enforcement of the caps are possible.

Estimates of the GHL percentages that AFA vessels would be allocated in future years are shown in Table 7.3. AFA vessels have historically harvested relatively more of the Bristol Bay red king crab fishery than any other fishery reported in Table 7.3. However, substantial amounts of Tanner crab were also harvested by AFA vessels.

Table 7.3 Percent of catch accounted for by AFA vessels (1995-97), and estimates of future catch caps

Species	Number of Vessels	AFA Vessel's Catch (Lbs.) 1995-97	AFA Vessel's Percentage of Total Catch	AFA Vessel's Future Harvest Based on 1998 GHLs	Estimated Avg. Future Catch per Vessel
C. bairdi	42	363,390	3.8%	n/a	n/a
C. opilio	42	4,389,214	1.8%	3,500,000	83,000
St. Matt. Blue King	9	68,518	0.6%	23,000	2,500
Prib. Red/Blue King	9	45,843	1.1%	14,000	1,500
Bristol B. Red King	41	1,777,416	10.2%	1,700,000	41,000
All Species	43	6,644,381	2.1%	5,237,000	122,000

Source: ADF&G crab fishticket data for 1995-97.
Note: The percentages for *C. opilio* and the Tanner crab totals are both listed as 1.8%. This is simply due to rounding, the actual Tanner crab percentage would be slightly larger had more decimal places been included.

A second option would apply caps to individual vessels. The results of those calculations cannot be presented here, because the information is considered confidential by the State of Alaska. However, from the tables above it is possible to determine both the number of vessels involved and the aggregate cap for the entire sector. For example, from Table 7.1 we know that 41 vessels could harvest Bristol Bay red king crab, and Table 7.3 indicates they would be allowed to harvest 10.2 percent of the GHL. If the GHL were 16.4 million pounds, as it was in 1998, then that would equate to an AFA vessel cap of approximately 1.7 million pounds. With that type of information, it may not be necessary to have individual catch records to make an informed decision. However before this alternative could be enforced, the individual caps would likely need to be made public.

It is also noted that the *C. opilio* and *C. bairdi* caps will be managed separately under a sideboard cap. There is no option to allow those caps to be combined into a single Tanner crab sideboard. This would have allowed vessels to carry over any unused cap from the *C. opilio* into the *C. bairdi* fishery, and that is not the intent of the Council.

7.3.2 To Whom the Restrictions Would Apply

Two options are being considered regarding to whom sideboard caps apply. The first option would apply the caps to all catcher vessels that are eligible to join a cooperative under section 208 of the AFA. Catcher vessel owners that decided not to participate in a cooperative, would still be subject to the sideboard caps (for their AFA vessels). All six crab sideboard options listed above also contain a suboption that would apply these caps to eligible AFA catcher vessels only if they joined a cooperative. Participation in a cooperative means any use of a vessel's catch history in a pollock cooperative, whether by direct harvest, lease, sale, or stacking of quota. If vessel owners choose not to join a cooperative, under this suboption, they would not be bound by the sideboard regulations.

Several members of industry have expressed concern that some vessels qualify for the cooperative with relatively small amounts of pollock history. If the owners of these vessels choose not to enter the cooperative, and are still bound by the sideboards applied to the AFA group of vessels, they could be placed in a difficult situation. They would not receive much benefit from the cooperative because of their limited pollock catch

history and their participation in the crab fisheries would be limited. They would also be required to compete against other AFA catcher vessels with substantial pollock catch histories for sideboard caps. Being bound by the sideboards may force these vessels to join the cooperative in order to have some bargaining power for the non-pollock caps they are competing to catch.

An option is also being considered that would allow vessels to decide whether to join a cooperative each year, for the duration of the AFA, or permanently. If vessel owners are not bound by the sideboard caps when they are not in a cooperative, and they can choose to join a cooperative each year, they will likely decide whether to join the cooperative based on the relative catch limits in the pollock and non-pollock fisheries and the prices for those species.

7.3.3 Duration of the Crab Sideboards

Crab sideboards could be implemented for one of three periods. First they could be permanent and extend beyond the December 31, 2004 of AFA. Inactive licenses (or endorsements), issued to AFA vessels could never be fished on an AFA vessel, but could be sold to a non-AFA vessel, so long as the AFA vessel was able to obtain an appropriate replacement license for participation in the groundfish fisheries.

Second, sideboards could last as long as the AFA, which will sunset on December 31, 2004, unless extended by the Council

Third sideboards could apply only during the years a vessel participates in a cooperative. Vessels could decide annually to join a cooperative, or be free of sideboard restrictions. A vessel is considered to have participated in a cooperative if its quota is used by a cooperative. Giving vessels an annual choice would likely increase the difficulty of managing the fisheries, because the sideboard caps may be revisited each year. It would, however, increase flexibility to respond to fluctuations in relative TAC's or prices.

7.4 Scallop Sideboards

Sideboards must be established for scallops also. The F/V FORUM STAR is the only listed offshore pollock catcher boat that fished for scallops in recent history and it will need to be restricted to its traditional harvest levels. That restriction could to be written into the permit issued to this vessel under the license limitation program adopted by the Council in February 1999.

In February 1999, the Council adopted final alternatives for defining "traditional harvest level" for fisheries under the American Fisheries Act. For scallop, that was to restrict pollock co-op vessels to their traditional harvest in the scallop fishery in the years 1996 and 1997, or 1997 only. Sub-options being considered would limit the F/V Forum Star's catch based on a percentage of the statewide catch, or based on a percentage of the crab bycatch limits. Specifically, the Council's motion included analysis of the following:

1. Participation in a co-op is defined as any use of a vessel's catch history by a co-op, whether by direct harvest, lease, sale, or stacking of quota.

2. Measures which would restrict pollock co-op vessels to their aggregate traditional harvest in the scallop fishery in the years:

   Option a. 1996 and 97.
   Option b. 1997 only

Sub-options:

a. Based on percentage of statewide catch

b. Based on percentage of PSC cap.

Suboption A is a straightforward way to determine traditional harvest levels. The F/V Forum Star did not fish for scallops in 1996, but landed approximately 60,000 pounds of scallops in 1997 (Jim Chase, owner, personal communication 2/8/99). [note that an attempt was made to get actual data released from CFEC, but we were unable to contact both permit holders (the vessel captains) to sign release waivers. So estimated landings from the vessel owner were used instead]. Total statewide catches of scallops in Alaska were 732,424 pounds in 1996, and 786,043 pounds in 1997. Using these data, the average harvest for this vessel under Suboption A would be as follows:

Option a = 30,000 pounds, equating to 3.95% of the 1996 and 1997 harvest

Option b = 60,000 pounds, equating to 7.63% of the 1997 harvest

Implementing suboption A would be more straightforward if harvests from this vessel were limited to poundage. Due to crab bycatch limits, inseason adjustments, and other factors, harvests for the coming season are difficult to project. However, catches in the last few years have increased from about 730,000 pounds to 810,000 pounds. Given proposed changes to crab bycatch limits in the Bering Sea, annual harvests for coming years have been projected to be about 860,000 pounds (see breakeven analysis for Amendment 4 to the scallop FMP, February 1999). So, using the percentage harvests under option a and b, the F/V/ Forum Star could be limited to the scallop catch listed below:

Option a = 34,000 pounds, based on projected future statewide catch of 860,000 pounds

Option b = 65,600 pounds, based on projected future statewide catch of 860,000 pounds

Suboption B was proposed to limit harvests of scallops based on crab bycatch limits, but this is problematical for the scallop fishery. For each registration area, the state establishes a guideline harvest level (GHL), and in some areas, crab bycatch limits for king crab, Tanner crab, and snow crab (in the Bering Sea). It is unknown at the beginning of the fishing season whether or not the GHL for the registration area will be taken, or whether the fishery will be cut short due to reaching the crab bycatch limits. Table 7.4 provides the PSC bycatch limits from the 1998 scallop fishery. Vessel specific bycatch information is confidential and unavailable. Nevertheless, this Suboption could potentially allow a wide range of possibilities for this vessel. For example, if the vessel fished in Area D and E in 1997, it would have nearly no "bycatch history"; alternatively, if the vessel fished in the Bering Sea, it could potentially have developed a disproportionately large "bycatch history". Note that about 67% of the crab bycatch limits are apportioned to the Bering Sea registration area. Suboption B appears to reward the vessel if it fished in the Bering Sea (or had high bycatch levels in other areas), and would penalize the vessel if it did not fish in the Bering Sea (or had low bycatch elsewhere).

Table 7.4: Weathervane scallop registration areas, seasons, GHL's (pounds, shucked), and crab bycatch limits established for the 1998 scallop fishery, by area

			Crab Bycatch Limits		
Area	GHL (pounds)	Fishing Season	king crab	Tanner crab	Snow crab
D - District 16	0 - 35,000	July 1 - Feb 15	n/a	n/a	n/a
D - Yakutat	0 - 250,000	July 1 - Feb 15	n/a	n/a	n/a
E - Eastern PWS	0 - 20,000	July 1 - Feb 15	n/a	500	n/a
Western PWS	exploratory	July 1 - Feb 15	n/a	130	n/a
H - Cook Inlet (Kamishak)	0 - 20,000	Aug 15 - Oct 31	60	24,992	n/a
Cook Inlet (Outer area)	combined	Jan 1 - Dec 31	98	2,170	n/a
K - Kodiak (Shelikof)	0 - 300,000	July 1 - Feb 15	196	33,500	n/a
Kodiak (Northeast)	combined	July 1 - Feb 15	21	46,500	n/a
M - AK Peninsula	0 - 200,000	July 1 - Feb 15	900	48,500	n/a
O - Dutch Harbor	0 - 110,000	July 1 - Feb 15	10	10,700	n/a
Q - Bering Sea	0 - 400,000	July 1 - Feb 15	500	215,000	130,000
R - Adak	0 - 75,000	July 1 - Feb 15	50	10,000	n/a

7.5 Groundfish Sideboards

Three classes of AFA catcher vessels are defined by whether they deliver to catcher processors, motherships, or the inshore sector. For this analysis, a fourth class has been created, consisting of catcher vessels that can deliver to both the inshore and mothership sectors. Because it is uncertain whether they would be required to deliver their non-pollock sideboard caps to the same sector which they deliver their pollock allocation, they have been treated separately in the tables.

This section contains summary tables for many of the alternatives being considered. Additional tables in **Appendix II** contain detailed, reference information from which the summary tables were created.

Catcher vessels that deliver to catcher processors formed a cooperative in 1999, and their cooperative agreement restricted them, as a group, from exceeding their historic catch levels in fisheries other than pollock. Formal recommendations that would implement effort limits for all AFA catcher vessels must be submitted to the SOC by July 1, 1999, so the regulations can be in place for the 2000 fishing season. Language in the AFA mandating these limits (Section 211(c)(1)(A)) states that the Council shall recommend measures for approval by the SOC that *"prevent the catcher vessels eligible under subsections (a), (b), and (c) of section 208 from exceeding in the aggregate the traditional harvest levels of such vessels in other fisheries under the authority of the North Pacific Council as a result of fishery cooperatives in the directed pollock target fishery"*. This portion of the document will estimate the non-pollock groundfish harvest caps that AFA catcher vessels will be allowed to harvest in future years.

7.5.1 Determination of Traditional Non-pollock Groundfish Harvest Levels in the BS/AI

Determining the level of catch at which these vessels will be capped in future years requires answering some general questions. The questions include what years should be included in the base period, should the denominator be based on catch or TAC, should catch from all target fisheries or just non-pollock targets be included, to whom do the restrictions apply, when do the sideboard caps apply, and at what level of aggregation should they apply for management/enforcement purposes? Answering each of these questions will determine the historical levels of non-pollock groundfish catch for the AFA catcher vessels.

BS/AI Catch Data

Historical catch data for the catcher vessel classes will be presented in the following sections. ADF&G fishtickets were used to determine a vessel's catch history when deliveries were made to shorebased processors and floating processors that operate in State waters. Fishtickets are required for all catch delivered to processors operating in State waters. Discards that occur at-sea are often not reported on fishtickets, nor are they required. Because the time frame for determining sideboard caps runs through 1997, and the Improved Retention/Improved Utilization (IR/IU) program did not go into place until 1998, the portion of BSAI Pacific cod and pollock that was discarded at-sea is likely underestimated for some vessels delivering catch inshore. Data for catcher vessels that delivered to catcher processors and motherships operating in Federal waters were derived from the NORPAC observer data base. Deliveries that were made in a CDQ fishery were not included from either source.

The NORPAC data base provides haul-by-haul catch records for the catcher vessels that deliver at-sea. When the haul is sampled by the observer, a detailed catch composition is included in the database. However, when the observer is unable to sample a haul, the total weight of that catch is recorded with no species information provided. NORPAC records from catcher vessel deliveries to catcher processors and mothership from 1995-97, indicate that about 55 percent of the total catch was sampled. The remaining 45 percent of the catch data had no information on the species that were harvested, but did report an estimate of the total weight of fish caught.

To provide estimates of a vessel's catch history at the species level, an assumption regarding the unobserved catch had to be made. Otherwise catcher vessels, on average, would not be credited for about 45 percent of their at-sea deliveries which came from NORPAC. For this analysis, the following methodology was used to estimate the species composition for unobserved hauls.

1) A flag was added to the data showing if the pollock fishery was open. Differences in season dates between the BS and AI were accounted for when the flag was added.
2) Observed catches by species were then summed for each catcher vessel based on whether the pollock fishery was open or closed.
3) The catch of each species (by catcher vessel and if pollock was open) was then divided by the vessel's total catch to determine the percentage of each species that catcher vessel harvested during the times of year when pollock was open or closed.
4) Those percentages were then multiplied by its catch from unobservered hauls (again separated based on whether pollock was open or closed). The results are estimates of catch for the unobserved hauls.
5) Some vessels were never observed. For those vessels, a percentage was calculated based on the harvests of all observed catcher vessels on that day. Those percentages for each species were then applied to the unobserved hauls that day.

This methodology for determining each vessel's catch by species will provide estimates that do not track exactly with the actual landings. However when the pollock fishery was open, almost 96 percent of all sampled catch was pollock, and over 93 percent of all catch from 1995-97 occurred when the pollock fishery was open. When the pollock fisheries were closed, only 50 percent of the catch was pollock. This percentage seems high, but that is because two vessels had observer reports of over 90 percent pollock when the pollock fishery was closed. Applying a vessel's own observed history helps correct for this problem. Overall when the pollock fishery was closed, the methodology employed estimated that about 25 percent of the unsampled catch was pollock. Pacific cod accounted for the largest portion of catch, when this method was used, at just over 55 percent.

For purposes of this analysis, the numbers resulting from extrapolating observed catch to unobserved hauls may provide reasonable estimates of each vessel's catch history for pollock. Estimates of the amounts of bycatch that occurred by species and the amounts of other target species harvested are likely less accurate than the estimates for pollock. Unfortunately, the sideboard caps rely on our estimates of non-pollock harvest.

Discard Rates

The Council also requested that information on catcher vessel discard rates be included in the analysis. It is not possible to determine discard rates for individual catcher vessels. Therefore, discard rates for all catcher vessels are reported here. The data were derived from the 1995-97 NMFS Blend data sets. Harvests made by catcher/processors were excluded. Separate tables have been included for the Bering Sea/Aleutian Islands (Table 7.5) and the Gulf of Alaska (Table 7.6).

Table 7.5: Discard Rates of Trawl Catcher Vessels in the BS/AI, 1995-97

	Target Fisheries	
Species - Area	All	Non-Pollock
Atka Mackerel - Central AI	63%	-
Atka Mackerel - Eastern AI	90%	100%
Arrowtooth Flounder - BSAI	93%	99%
Other Flatfish - BSAI	40%	42%
Flathead Sole - BSAI	87%	93%
Greenland Turbot - AI	90%	100%
Greenland Turbot - BS	31%	20%
Other Species - BSAI	91%	92%
Pacific Cod (All Trawl Gear - 95&96) - BS/AI	13%	8%
Pacific Cod (Trawl CV - 97) - BS/AI	6%	4%
Pollock (Inshore) - AI	1%	0%
Pollock (Offshore) - AI	0%	-
Pollock (Inshore) - BS	5%	92%
Pollock (Offshore) - BS	2%	92%
Pacific Ocean Perch - AI	4%	-
Pacific Ocean Perch - BS	42%	100%
Pacific Ocean Perch - Central AI	17%	-
Pacific Ocean Perch - Eastern AI	10%	100%
Other Rockfish - AI	100%	100%
Other Rockfish - BS	71%	55%
Rock Sole - BSAI	92%	92%
Sablefish (Trawl Gear) - AI	100%	-
Sablefish (Trawl Gear) - BS	17%	6%
Sharpchin/Northern Rockfish - AI	99%	100%
Squid - BSAI	53%	74%
Shortraker/Rougheye Rockfish - AI	39%	-
Other Red Rockfish - BS	84%	92%
Yellowfin Sole - BSAI	6%	6%
Grand Total	7%	36%

Table 7.6: Discard Rates of Trawl Catcher Vessels in the Gulf of Alaska, 1995-97

Species - Area	Target Fisheries	
	All	Non-Pollock
Atka Mackerel - Central Gulf (1995 through 1996)	99%	99%
Atka Mackerel - Eastern Gulf (1995 through 1996)	100%	100%
Atka Mackerel - Gulf of Alaska (1997)	99%	100%
Atka Mackerel - Western Gulf (1995 through 1996)	64%	100%
Arrowtooth Flounder - Central Gulf	70%	68%
Arrowtooth Flounder - Eastern Gulf	96%	96%
Arrowtooth Flounder - Western Gulf	95%	100%
Deep Water Flatfish - Central Gulf	11%	11%
Deep Water Flatfish - Eastern Gulf	13%	13%
Deep Water Flatfish - Western Gulf	100%	100%
Flathead Sole - Central Gulf	18%	18%
Flathead Sole - Eastern Gulf	10%	9%
Flathead Sole - Western Gulf	78%	95%
Northern Rockfish - Central Gulf	11%	11%
Northern Rockfish - Eastern Gulf	70%	70%
Northern Rockfish - Western Gulf	100%	100%
Other Species - Gulf of Alaska	67%	65%
Pacific Cod (Inshore) - Central Gulf	10%	10%
Pacific Cod (Offshore) - Central Gulf	1%	1%
Pacific Cod (Inshore) - Eastern Gulf	74%	94%
Pacific Cod (Inshore) - Western Gulf	2%	2%
Pacific Cod (Offshore) - Western Gulf	2%	2%
Pelagic Shelf Rockfish - Central Gulf	17%	17%
Pelagic Shelf Rockfish (Nearshore) - Central Gulf	21%	21%
Pelagic Shelf Rockfish - Eastern Gulf	17%	17%
Pelagic Shelf Rockfish - Western Gulf	96%	98%
Pollock - Chirikof District	9%	88%
Pollock - Eastern Gulf	2%	78%
Pollock - Kodiak	12%	64%
Pollock - Shumagin District	4%	97%
Pacific Ocean Perch - Central Gulf	12%	12%
Pacific Ocean Perch - Eastern Gulf	12%	11%
Pacific Ocean Perch - Western Gulf	56%	55%
Rex Sole - Central Gulf	19%	19%
Rex Sole - Eastern Gulf	12%	12%
Rex Sole - Western Gulf	96%	99%
Slope Rockfish - Central Gulf	88%	88%
Slope Rockfish - Eastern Gulf	7%	7%
Slope Rockfish - Western Gulf	100%	100%

Table 7.6 continued		
Sablefish (Trawl Gear) - Central Gulf	29%	29%
Sablefish (Trawl Gear) - Southeast	0%	0%
Sablefish (Trawl Gear) - Western Gulf	69%	69%
Sablefish (Trawl Gear) - Western Yakutat	66%	66%
Shallow Water Flatfish - Central Gulf	18%	18%
Shallow Water Flatfish - Eastern Gulf	26%	25%
Shallow Water Flatfish - Western Gulf	94%	99%
Shortraker / Rougheye - Central Gulf	46%	46%
Shortraker / Rougheye - Eastern Gulf	38%	31%
Shortraker / Rougheye - Western Gulf	2%	1%
Thornyhead - Gulf of Alaska	40%	40%
All Fisheries	13%	20%

Additional information on discard rates can be obtained from the 1995-97 discard report prepared for ADF&G[9] by Pacific Associates, Inc. and Fisheries Information Services. This document provides detailed bycatch rates by target fishery and delivery mode.

Base Years for Determining Numerator

Calculating the percentage of the TAC that catch vessels would be capped at in future years requires estimating a numerator and a denominator. This section will focus on the numerator. The next section will discuss the denominator. Many of the issues associated with determining each of these numbers have already been discussed in the catcher/processor sideboard chapter (Chapter 6). The issues that will need to be addressed for catcher vessels include changes in the TAC groupings over time, whether bycatch from the pollock target fishery should be included, and the period on which catch history is based.

Two periods are being considered for determining catcher vessel sideboard caps. The options selected by the Council are either the average catch from 1992-97 or 1995-97. The AFA is silent on this issue. Recall that catcher/processor sideboards are based on the years 1995-97. After choosing the period, the next question is what catch within those years will be included? There are again two options. The first would include catch from all target fisheries, and the second option would include only catch taken in non-pollock target fisheries.

Tables 7.7 and 7.8 report the catch of BSAI groundfish in the non-pollock target fisheries and in all target fisheries by the AFA eligible catcher vessels for the years 1995-97. Tables 7.9 and 7.10 report the same information, except for 1992-97.

[9]Alaska Department of Fish & Game, "Discards in the Groundfish Fisheries of the Bering Sea/Aleutian Islands & the Gulf of Alaska, 1995-97", September, 1998. This document may be downloaded from the ADF&G Commercial Fisheries Web Page.

Table 7.7: AFA catcher vessel harvests in non-pollock target fisheries, 1995-97 (mt)

Species by TAC Grouping	Non-Pollock Target Fisheries				
	CV Inshore 90 Vessels	CV to IN/MS 11 Vessels	CV to MS 10 Vessels	CV to CP 7 Vessels	Total 118 Vessels
Atka Mackerel - Central AI	-	1	-	-	1
Atka Mackerel - Eastern AI	16	7	1	10	34
Atka Mackerel - Western AI	-	-	-	-	-
Arrowtooth Flounder - BS and AI	1,741	137	73	240	2,191
Other Flatfish - BS and AI	6,171	517	257	563	7,508
Flathead Sole - BS and AI	4,851	251	197	444	5,743
Greenland Turbot - AI	2	-	-	9	11
Greenland Turbot - BS	538	10	4	39	601
Other Species - BS and AI	3,050	216	138	338	3,742
P. Cod (Fixed Gear) - BS and AI	50	13	-	195	258
P. Cod (Jig Gear) - BS and AI	-	-	-	-	-
* P. Cod (Trawl, CVs) - BSAI (1997 only)	40,884	3,118	2,057	4,957	51,016
Pacific Ocean Perch - BS	8	3	-	3	14
* POP - C. AI (1996 - 1997 only)	-	-	-	-	-
* POP - E. AI (1996 - 1997 only)	1	-	-	3	4
* POP - W. AI (1996 - 1997 only)	-	-	-	-	-
Other Rockfish - AI	-	1	-	3	4
Other Rockfish - BS	24	1	-	4	29
Rock Sole - BS and AI	11,963	610	382	584	13,539
Sablefish (Fixed Gear) - AI	-	-	-	-	-
Sablefish (Fixed Gear) - BS	-	-	-	-	-
Sablefish (Trawl Gear) - AI	54	1	-	3	58
Sablefish (Trawl Gear) - BS	1	-	-	-	1
Sharpchin/Northern Rockfish - AI	1	11	-	5	17
Squid - BS and AI	7	-	-	-	7
Shortraker/Rougheye Rockfish - AI	-	-	-	-	-
Other Red Rockfish - BS	49	10	2	7	68
Yellowfin Sole - BS and AI	33,070	4,196	894	997	39,157

Source: Alaska Department of Fish and Game fish ticket data; National Marine Fisheries Service observer data

* Denotes TAC groups that do not extend throughout entire time period.

Table 7.8: AFA catcher vessel harvests in all target fisheries, 1995-97 (mt)

Species by TAC Grouping	All Target Fisheries				
	CV Inshore 90 Vessels	CV to IN/MS 11 Vessels	CV to MS 10 Vessels	CV to CP 7 Vessels	Total 118 Vessels
Atka Mackerel - Central AI	15	2	-	-	17
Atka Mackerel - Eastern AI	452	10	2	11	475
Atka Mackerel - Western AI	-	-	-	-	-
Arrowtooth Flounder - BS and AI	2,766	369	245	352	3,732
Other Flatfish - BS and AI	7,792	646	356	607	9,401
Flathead Sole - BS and AI	6,293	613	483	668	8,057
Greenland Turbot - AI	4	-	-	10	14
Greenland Turbot - BS	653	24	12	44	733
Other Species - BS and AI	3,500	3339	229	416	4,484
P. Cod (Fixed Gear) - BS and AI	50	13	-	195	258
P. Cod (Jig Gear) - BS and AI	-	-	-	-	-
* P. Cod (Trawl, CVs) - BSAI (1997 only)	45,449	3,831	2,620	5,754	57,654
Pacific Ocean Perch - BS	717	25	16	9	767
* POP - C. AI (1996 - 1997 only)	7	-	-	-	7
* POP - E. AI (1996 - 1997 only)	27	-	-	3	30
* POP - W. AI (1996 - 1997 only)	-	-	-	-	-
Other Rockfish - AI	1	1	-	4	6
Other Rockfish - BS	51	2	1	6	60
Rock Sole - BS and AI	13,250	1,119	652	861	15,882
Sablefish (Fixed Gear) - AI	-	-	-	-	-
Sablefish (Fixed Gear) - BS	-	-	-	-	-
Sablefish (Trawl Gear) - AI	68	1	-	4	73
Sablefish (Trawl Gear) - BS	1	-	-	-	1
Sharpchin/Northern Rockfish - AI	1	12	-	6	19
Squid - BS and AI	1,427	53	20	14	1,514
Shortraker/Rougheye Rockfish - AI	3	-	-	-	3
Other Red Rockfish - BS	58	13	4	11	86
Yellowfin Sole - BS and AI	33,249	4,402	1,043	1,036	39,730

Source: ADF&Game fish ticket data; National Marine Fisheries Service observer data

* Denotes TAC groups that do not extend throughout entire time period.

Table 7.9: AFA catcher vessel harvests (mt) in non-pollock target fisheries, 1992-97[1]

Species by TAC Grouping	All Target Fisheries				
	CV Inshore 90 Vessels	CV to IN/MS 11 Vessels	CV to MS 10 Vessels	CV to CP 7 Vessels	Total 118 Vessels
* Atka Mackerel - C. AI (1993 - 1997 only)	-	1	-	1	2
* Atka Mackerel - E. AI (1993 - 1997 only)	31	15	2	17	65
* Atka Mackerel - W. AI (1993 - 1997 only)	-	-	-	-	-
Arrowtooth Flounder - BS and AI	2,458	279	139	319	3,195
Other Flatfish - BS and AI	10,195	1,285	472	1,000	12,952
* Flathead Sole - BS and AI (1995 - 1997 only)	4,851	251	197	444	5,743
* Greenland Turbot - AI (1994 - 1997)	2	-	-	9	11
* Greenland Turbot - BS (1994 - 1997)	771	10	5	40	826
Other Species - BS and AI	4,548	360	306	597	5,811
* Pacific Cod (Fixed Gear) - BS and AI	201	13	-	195	409
* Pacific Cod (Jig Gear) - BS and AI	-	-	-	-	-
* P. Cod (Trawl, CVs) - BSAI (1997 only)	40,884	3,118	2,057	4,957	51,016
Pacific Ocean Perch - BS	15	3	1	4	23
* POP - C. AI (1996 - 1997 only)	-	-	-	-	-
* POP - E. AI (1996 - 1997 only)	1	-	-	3	4
* POP - W. AI (1996 - 1997 only)	-	-	-	-	-
Other Rockfish - AI	-	1	-	4	5
Other Rockfish - BS	61	1	1	4	67
Rock Sole - BS and AI	16,876	1,112	764	1,145	19,897
Sablefish (Fixed Gear) - AI	-	-	-	-	-
Sablefish (Fixed Gear) - BS	-	-	-	-	-
Sablefish (Trawl Gear) - AI	74	1	-	3	78
Sablefish (Trawl Gear) - BS	1	-	-	-	1
Sharpchin/Northern Rockfish - AI	2	11	-	19	32
Squid - BS and AI	10	-	-	-	10
Shortraker/Rougheye Rockfish - AI	-	-	-	-	-
Other Red Rockfish - BS	50	12	4	12	78
Yellowfin Sole - BS and AI	46,211	4,696	1,277	2,705	54,889

Source: ADF&Game fish ticket data; National Marine Fisheries Service observer data

* Denotes TAC groups that do not extend throughout entire time period.

1) Target fisheries that include the years 1992 or 1993 may be slightly underestimated.

Table 7.10: AFA catcher vessel harvests (mt) in all target fisheries, 1992-97[1]

Species by TAC Grouping	All Target Fisheries				
	CV Inshore 90 Vessels	CV to IN/MS 11 Vessels	CV to MS 10 Vessels	CV to CP 7 Vessels	Total 118 Vessels
* Atka Mackerel - C. AI (1993 - 1997 only)	15	2	-	1	18
* Atka Mackerel - E. AI (1993 - 1997 only)	564	19	2	18	603
* Atka Mackerel - W. AI (1993 - 1997 only)	-	-	-	-	-
Arrowtooth Flounder - BS and AI	3,998	647	430	491	5,566
Other Flatfish - BS and AI	13,575	1,857	914	1,238	17,584
* Flathead Sole - BS and AI (1995 - 1997 only)	6,293	613	483	668	8,057
* Greenland Turbot - AI (1994 - 1997)	4	-	-	10	14
* Greenland Turbot - BS (1994 - 1997)	903	26	15	45	989
Other Species - BS and AI	5,569	643	525	750	7,487
* Pacific Cod (Fixed Gear) - BS and AI	201	13	-	195	409
* Pacific Cod (Jig Gear) - BS and AI	-	-	-	-	-
* P. Cod (Trawl, CVs) - BSAI (1997 only)	45,449	3,831	2,620	5,754	57,654
Pacific Ocean Perch - BS	840	89	82	29	1,040
* POP - C. AI (1996 - 1997 only)	7	-	-	-	7
* POP - E. AI (1996 - 1997 only)	27	-	-	3	30
* POP - W. AI (1996 - 1997 only)	-	-	-	-	-
Other Rockfish - AI	1	1	-	4	6
Other Rockfish - BS	99	3	2	8	112
Rock Sole - BS and AI	19,358	2,107	1,373	1,672	24,510
Sablefish (Fixed Gear) - AI	-	-	-	-	-
Sablefish (Fixed Gear) - BS	-	-	-	-	-
Sablefish (Trawl Gear) - AI	93	3	3	5	104
Sablefish (Trawl Gear) - BS	1	-	-	-	1
Sharpchin/Northern Rockfish - AI	4	12	-	21	37
Squid - BS and AI	2,001	82	33	17	2,133
Shortraker/Rougheye Rockfish - AI	3	-	-	-	3
Other Red Rockfish - BS	65	20	9	20	114
Yellowfin Sole - BS and AI	46,807	5,582	2,273	3,404	58,066

Source: ADF&Game fish ticket data; National Marine Fisheries Service observer data

* Denotes TAC groups that do not extend throughout entire time period.

1) Target fisheries that include the years 1992 or 1993 may be slightly underestimated.

Choosing the Base for the Denominator

Denominators for the AFA sideboard calculations could be based on either total catch or TAC. Using TAC will generally result in smaller sideboard caps for the catcher vessels. Only when the average TAC was exceeded during the base time period would this not be true. In many years trawl caught Pacific cod and flatfish fisheries were closed because the halibut PSC cap is reached prior to harvesting the entire TAC. For those species, using TAC will result in smaller catcher vessel sideboard caps. Smaller caps are simply the result of the denominator being larger (i.e., TAC is greater than catch).

TAC fishery groupings change over time. Reading across the rows of Table 7.11 shows the extent of these changes. Rows that have blank cells indicate that TAC has been restructured. For example, an important change was the splitting of the BSAI Pacific cod TAC between trawl catcher vessels and trawl catcher/processors. Prior to 1997 a single TAC was set for all trawl vessels. Splitting out the trawl allocation between catcher vessels and catcher processors makes it difficult to calculate a catcher vessel's catch history across the two time periods. Because of this problem, the catcher/processor's Pacific cod sideboard cap was based solely on 1997 catch history. The table below shows the TAC's for BSAI groundfish fisheries between 1992-97. The problem is more pronounced when the years 1992-97 are used to determine a vessel's sideboard caps.

Table 7.11: Final TACs (mt) in the Bering Sea and Aleutian Islands by Year

Species by TAC Grouping	YEAR						1995-97 Total	1992-97 Total
	1992	1993	1994	1995	1996	1997		
Atka Mackerel - AI	43,000						-	43,000
Atka Mackerel - Central AI		27,000	44,525	50,000	33,600	19,500	103,100	174,625
Atka Mackerel - Eastern AI		3,520	13,475	13,500	26,700	15,000	55,200	72,195
Atka Mackerel - Western AI		14,080	10,000	16,500	45,857	32,200	94,557	118,637
Arrowtooth - BS and AI	8,500	8,500	10,000	10,227	9,000	17,646	36,873	63,873
Other Flatfish - BS and AI	67,150	67,150	47,600	19,540	29,750	43,138	92,428	274,328
Flathead Sole - BS and AI				25,500	25,500	36,975	87,975	87,975
Greenland Turbot - AI			2,333	2,331	1,983	2,525	6,839	9,172
Greenland Turbot - BS			4,667	4,669	3,967	8,275	16,911	21,578
Greenland Turbot - BS and AI	5,950	7,000					-	12,950
Other Species - BS and AI	17,000	22,610	22,432	20,000	20,125	25,800	65,925	127,967
P. Cod (All Gear) - BS and AI	154,700	164,500					-	319,200
P. Cod (Fixed Gear) - BS and AI			92,040	121,800	138,200	152,700	412,700	504,740
P. Cod (Jig Gear) - BS and AI			3,820	1,000	1,000	400	2,400	6,220
P. Cod (Trawl Gear) - BS and AI			95,140	127,200	130,800		258,000	353,140
P. Cod (Trawl Gear, CVs) - BSAI						65,450	65,450	65,450
P. Cod (Trawl Gear, CPs) - BSAI						51,450	51,450	51,450
Pacific Ocean Perch - AI	3,009	13,900	10,900	10,500			10,500	38,309
Pacific Ocean Perch - BS	9,945	3,330	1,910	1,850	1,530	2,380	5,760	20,945
Pacific Ocean Perch - Central AI					3,025	3,170	6,195	6,195
Pacific Ocean Perch - Eastern AI					3,025	3,240	6,265	6,265
Pacific Ocean Perch - Western AI					6,050	6,390	12,440	12,440
Other Rockfish - AI	786	706	655	589	728	607	1,924	4,071
Other Rockfish - BS	340	306	310	329	380	317	1,026	1,982
Rock Sole - BS and AI	34,000	63,750	63,750	60,000	59,500	82,607	202,107	363,607
Sablefish (Fixed Gear) - AI	1,913	1,950	2,100	1,320	720	720	2,760	8,723
Sablefish (Fixed Gear) - BS	595	638	270	640	440	440	1,520	3,023
Sablefish (Trawl Gear) - AI	638	650	700	550	330	255	1,135	3,123
Sablefish (Trawl Gear) - BS	595	637	270	800	468	468	1,736	3,238
Sharpchin/Northern Rockfish - AI	4,820	5,100	5,670	5,103	4,445	3,706	13,254	28,844
Squid - BS and AI	1,700	1,700	2,644	850	850	1,970	3,670	9,714
Shortraker/Rougheye Rockfish - AI	1,037	1,100	1,037	933	956	938	2,827	6,001
Other Red Rockfish - BS	1,190	1,200	1,190	1,070	1,071	893	3,034	6,614
Yellowfin Sole - BS and AI	199,750	187,000	170,325	161,500	170,000	195,500	527,000	1,084,075

Source: National Marine Fisheries Service AKR Webpage (for example - http://www.fakr.noaa.gov.1993/gcatch93.txt)

The second option for the denominator is total catch. Tables 7.12 shows the total catch numbers that will be used in BSAI fisheries. It is important to note that this includes all catch taken in that particular TAC fishery grouping. Using Greenland turbot as the example, turbot harvested by any gear type would be included in the total catch table, since the TAC is not divided by gear.

Changes in the TAC grouping also cause problems when using total catch as the denominator. The problem is basically the same as discussed above. Grouping or splitting TAC fisheries does not allow consistent estimates to be made over the entire time period. Some of the TAC fisheries in Table 7.12 represent catch histories that are limited to a subset of the overall time period where consistent data exists. For example, rows representing POP in the Aleutian Islands areas only contain data from the years 1996-97. The resulting numbers in Table 7.12 are the same in both the 1992-97 and 1995-97 columns, because the years 1995-96 were used in both cases. The same set of years was used to determine the numerator in the section above.

Table 7.12: Total Catch (mt) of BSAI Groundfish Species by Year

Species Groupings	1995-97	1992-97
* Atka Mackerel - Central Aleutian Islands (1993 - 1997 only)	103,894	171,050
* Atka Mackerel - Eastern Aleutian Islands (1993 - 1997 only)	58,658	76,500
* Atka Mackerel - Western Aleutian Islands (1993 - 1997 only)	88,749	99,908
Arrowtooth Flounder - Bering Sea and Aleutian Islands	34,015	69,282
Other Flatfish - Bering Sea and Aleutian Islands	61,670	154,416
* Flathead Sole - Bering Sea and Aleutian Islands (1995 - 1997 only)	52,464	52,464
* Greenland Turbot - Aleutian Islands (1994 - 1997 only)	4,674	7,805
* Greenland Turbot - Bering Sea (1994 - 1997 only)	16,359	23,497
Other Species - Bering Sea and Aleutian Islands	68,562	151,335
Pacific Cod (Fixed Gear) - Bering Sea and Aleutian Islands	396,400	490,157
Pacific Cod (Jig Gear) - Bering Sea and Aleutian Islands	1,039	1,769
* Pacific Cod (Trawl Gear, Catcher Vessels) - BSAI (1997 only)	62,877	62,877
Pacific Ocean Perch - Bering Sea	4,697	13,381
* Pacific Ocean Perch - Central Aleutian Islands (1996 - 1997 only)	5,693	5,693
* Pacific Ocean Perch - Eastern Aleutian Islands (1996 - 1997 only)	6,175	6,175
* Pacific Ocean Perch - Western Aleutian Islands (1996 - 1997 only)	13,598	13,598
Other Rockfish - Aleutian Islands	771	2,167
Other Rockfish - Bering Sea	594	1,146
Rock Sole - Bering Sea and Aleutian Islands	169,356	345,361
Sablefish (Fixed Gear) - Aleutian Islands	2,415	7,583
Sablefish (Fixed Gear) - Bering Sea	1,538	3,088
Sablefish (Trawl Gear) - Aleutian Islands	145	757
Sablefish (Trawl Gear) - Bering Sea	495	495
Sharpchin/Northern Rockfish - Aleutian Islands	12,522	23,266
Squid - Bering Sea and Aleutian Islands	2,682	4,653
Shortraker/Rougheye Rockfish - Aleutian Islands	2,547	6,088
Other Red Rockfish - Bering Sea	763	2,585
Yellowfin Sole - Bering Sea and Aleutian Islands	437,138	828,345

* Categories that are stared list the maximum range of years used to determine historical catch.
Source: NMFS Blend data for the years 1992-97

Alternative Sideboard Cap Estimates

Information presented in Tables 7.7 through 7.10 above allows several of the sideboard cap alternatives to be calculated when used in conjunction with the tables included in the denominator section. Simply dividing the numbers reported in the numerator tables by the appropriate numbers in the denominator tables will result in the percentage of the TAC that AFA catcher vessels would be allowed to harvest up to in future years. Six specific alternatives will be presented in this section. They correspond to the three alternatives specified in the "Determination of Harvest Level" section, with a separate table for each of the two time periods being considered.

Comparing Tables 7.13 through 7.18 shows that, in general, catcher vessels would receive the largest sideboard cap when catch in all target fisheries was included in the numerator, the denominator is based on total catch, and the base years 1995-97 are used. Several reasons could account for a shorter time period resulting in a larger cap. The fleet's structure tends to be more consistent over a shorter time period. It is well documented that considerable entry and exit have occurred in the North Pacific groundfish fisheries over the years. Some vessels that have harvested pollock in the past are no longer fishing, which provides the current pollock fleet a larger share of the pollock fishery and more non-pollock catch in the sideboard pool. As the time period lengthens, vessels that harvested pollock in the past may not be AFA eligible, and therefore will not bring their non-pollock catch history into a sideboard cap. Another reason that a shorter time period results in a larger cap may have to do with pollock season lengths. Bycatch of other species is low in the pollock fishery, in earlier years when the pollock season was longer, vessels would spend more of their year fishing pollock. This likely means they would have less catch of non-pollock groundfish.

The most important BSAI non-pollock groundfish species for AFA catcher vessels will likely be Pacific cod. While there may be limited targeting of flatfish, rockfish, and sablefish, Pacific cod will be relied upon as an important source of revenue. This will be especially true if strong Pacific cod prices continue into the future. Table 7.19 summarizes the amount of Pacific cod that would be available to each AFA catcher vessel sector under the proposed cap structures. The difference between the smallest and largest cap is about 5,500 mt. Recall that for Pacific cod only 1997 data were used, because the TAC was split between catcher vessels and catcher/processors starting that year (Amendment 46 to the BSAI FMP). The current allocation of BSAI Pacific cod is 51 percent to fixed gear, 47 percent to trawl gear, and 2 percent to jig gear. The trawl portion of the TAC is then subdivided equally between catcher vessels and catcher/processors. Working through the math results in trawl catcher vessels being allocated 23.5 percent of the TAC. If 1999 TACs were to continue into the future, that percentage would translate into 41,595 mt. Those percentages are then multiplied by the portion of the 1999 Pacific cod TAC available to AFA trawl catcher vessels (41,595 mt), to provide an estimate of the amount of cod that they could harvest under a cap. Table 7.19 is a summary table which compares the resulting percentages under the three basic alternatives for Pacific cod only, using 1995-97 catch history.

Table 7.13: Estimates of catcher vessel sideboard caps (percent of future TACs) using only harvest from the non-pollock target fisheries as the numerator and total catch as the denominator, 1995-97

Species by TAC Grouping	Non-Pollock Target Fisheries				
	CV Inshore 90 Vessels	CV to IN/MS 11 Vessels	CV to MS 10 Vessels	CV to CP 7 Vessels	All AFA CVs 118 Vessels
Atka Mackerel - Central AI	-	-	-	-	-
Atka Mackerel - Eastern AI	0.03%	0.01%	-	0.02%	0.06%
Atka Mackerel - Western AI	-	-	-	-	-
Arrowtooth Flounder - BS and AI	5.12%	0.40%	0.21%	0.71%	6.44%
Other Flatfish - BS and AI	10.01%	.84%	0.42%	0.91%	12.18%
Flathead Sole - BS and AI	9.25%	0.48%	0.38%	0.85%	10.96%
Greenland Turbot - AI	0.04%	-	-	0.19%	0.23%
Greenland Turbot - BS	3.29%	0.06%	0.02%	0.24%	3.61%
Other Species - BS and AI	4.45%	0.32%	0.20%	0.49%	5.46%
Pacific Cod (Fixed Gear) - BS and AI	0.01%	-	-	0.05%	0.06%
Pacific Cod (Jig Gear) - BS and AI	-	-	-	-	-
* P. Cod (Trawl, CV) - BSAI (1997 only)	65.02%	4.96%	3.27%	7.88%	81.13%
Pacific Ocean Perch - BS	0.17%	0.06%	-	0.06%	0.29%
* POP - C. AI (1996 - 97 only)	-	-	-	-	-
* POP - E. AI (1996 - 97 only)	0.02%	-	-	0.05%	0.07%
* POP - W. AI (1996 - 97 only)	-	-	-	-	-
Other Rockfish - AI	-	0.13%	-	0.39%	0.52%
Other Rockfish - BS	4.04%	0.17%	-	0.67%	4.88%
Rock Sole - BS and AI	7.06%	0.36%	0.23%	0.34%	7.99%
Sablefish (Fixed Gear) - AI	-	-	-	-	-
Sablefish (Fixed Gear) - BS	-	-	-	-	-
Sablefish (Trawl Gear) - AI	37.33%	0.69%	-	2.07%	40.09%
Sablefish (Trawl Gear) - BS	0.20%	-	-	-	0.20%
Sharpchin/Northern Rockfish - AI	0.01%	0.09%	-	0.04%	0.14%
Squid - BS and AI	0.26%	-	-	-	0.26%
Shortraker/Rougheye Rockfish - AI	-	-	-	-	-
Other Red Rockfish - BS	6.42%	1.31%	0.26%	0.92%	8.91%
Yellowfin Sole - BS and AI	7.57%	.96%	0.20%	0.23%	8.96%

Sources: ADF&G Fishtickets for deliveries within state waters and NORPAC Observer data for at-sea deliveries, from 1995-97.

Table 7.14: Estimates of catcher vessel sideboard caps (percent of future TACs) using only harvest from the non-pollock target fisheries as the numerator and total catch as the denominator, 1992-97

Species by TAC Grouping	Non-Pollock Target Fisheries				
	CV Inshore 90 Vessels	CV to IN/MS 11 Vessels	CV to MS 10 Vessels	CV to CP 7 Vessels	All AFA CVs 118 Vessels
*Atka Mackerel - Cent. AI (1993-97 only)	-	-	-	-	-
*Atka Mackerel - East. AI (1993-97 only)	0.04%	0.02%	-	0.02%	0.08%
*Atka Mackerel - West. AI (1993-97 only)	-	-	-	-	-
Arrowtooth Flounder - BS and AI	3.55%	0.40%	0.20%	0.46%	4.61%
Other Flatfish - BS and AI	6.60%	0.83%	0.31%	0.65%	8.39%
*Flathead Sole - BS and AI (1995-97 only)	9.25%	0.48%	0.38%	0.85%	10.96%
*Greenland Turbot - AI (1994-97 only)	0.03%	-	-	0.12%	0.15%
*Greenland Turbot - BS (1994-97 only)	3.28%	0.04%	0.02%	0.17%	3.51%
Other Species - BS and AI	3.01%	0.24%	0.20%	0.39%	3.84%
Pacific Cod (Fixed Gear) - BS and AI	0.04%	-	-	0.04%	0.08%
Pacific Cod (Jig Gear) - BS and AI	-	-	-	-	-
* P. Cod (Trawl, CV) - BSAI (1997 only)	65.02%	4.96%	3.27%	7.88%	81.13%
Pacific Ocean Perch - BS	0.11%	0.02%	0.01%	0.03%	0.17%
* POP - C. AI (1996 - 97 only)	-	-	-	-	-
* POP - E. AI (1996 - 97 only)	0.02%	-	-	0.05%	0.07%
* POP - W. AI (1996 - 97 only)	-	-	-	-	-
Other Rockfish - AI	-	0.05%	-	0.18%	0.23%
Other Rockfish - BS	5.32%	0.09%	0.09%	0.35%	5.85%
Rock Sole - BS and AI	4.89%	0.32%	0.22%	0.33%	5.76%
Sablefish (Fixed Gear) - AI	-	-	-	-	-
Sablefish (Fixed Gear) - BS	-	-	-	-	-
Sablefish (Trawl Gear) - AI	9.77%	0.13%	-	0.40%	10.30%
Sablefish (Trawl Gear) - BS	0.20%	-	-	-	0.20%
Sharpchin/Northern Rockfish - AI	0.01%	0.05%	-	0.08%	0.14%
Squid - BS and AI	0.21%	-	-	-	0.21%
Shortraker/Rougheye Rockfish - AI	-	-	-	-	-
Other Red Rockfish - BS	1.93%	0.46%	0.15%	0.46%	3.00%
Yellowfin Sole - BS and AI	5.58%	0.57%	0.15%	0.33%	6.63%

Sources: ADF&G Fishtickets for deliveries within state waters and NORPAC Observer data for at-sea deliveries, from 1992-97.

Table 7.15: Estimates of catcher vessel sideboard caps (percent of future TACs) using harvest from all target fisheries as the numerator and total catch as the denominator, 1995-97

Species by TAC Grouping	Non-Pollock Target Fisheries				
	CV Inshore 90 Vessels	CV to IN/MS 11 Vessels	CV to MS 10 Vessels	CV to CP 7 Vessels	All AFA CVs 118 Vessels
Atka Mackerel - Central AI	0.01%	-	-	-	0.01%
Atka Mackerel - Eastern AI	0.77%	0.02%	-	0.02%	0.81%
Atka Mackerel - Western AI	-	-	-	-	-
Arrowtooth Flounder - BS and AI	8.13%	1.08%	0.72%	1.03%	10.96%
Other Flatfish - BS and AI	12.64%	1.05%	0.58%	0.98%	15.25%
Flathead Sole - BS and AI	12.00%	1.17%	0.92%	1.27%	15.36%
Greenland Turbot - AI	0.09%	-	-	0.21%	0.30%
Greenland Turbot - BS	3.99%	0.15%	0.07%	0.27%	4.48%
Other Species - BS and AI	5.10%	0.49%	0.33%	0.61%	6.53%
Pacific Cod (Fixed Gear) - BS and AI	0.01%	-	-	0.05%	0.06%
Pacific Cod (Jig Gear) - BS and AI	-	-	-	-	-
* P. Cod (Trawl, CV) - BSAI (1997 only)	72.28%	6.09%	4.17%	9.15%	91.69%
Pacific Ocean Perch - BS	15.26%	0.53%	0.34%	0.19%	16.32%
* POP - C. AI (1996 - 97 only)	0.12%	-	-	-	0.12%
* POP - E. AI (1996 - 97 only)	0.44%	-	-	0.05%	0.49%
* POP - W. AI (1996 - 97 only)	-	-	-	-	-
Other Rockfish - AI	0.13%	0.13%	-	0.52%	0.78%
Other Rockfish - BS	8.59%	0.34%	0.17%	1.01%	10.11%
Rock Sole - BS and AI	7.82%	0.66%	0.38%	0.51%	9.37%
Sablefish (Fixed Gear) - AI	-	-	-	-	-
Sablefish (Fixed Gear) - BS	-	-	-	-	-
Sablefish (Trawl Gear) - AI	47.01%	0.69%	-	2.77%	50.47%
Sablefish (Trawl Gear) - BS	0.20%	-	-	-	0.20%
Sharpchin/Northern Rockfish - AI	0.01%	0.10%	-	0.05%	0.16%
Squid - BS and AI	53.20%	1.98%	0.75%	0.52%	56.45%
Shortraker/Rougheye Rockfish - AI	0.12%	-	-	-	0.12%
Other Red Rockfish - BS	7.60%	1.70%	0.52%	1.44%	11.26%
Yellowfin Sole - BS and AI	7.61%	1.01%	0.24%	0.24%	9.10%

Sources: ADF&G Fishtickets for deliveries within state waters and NORPAC Observer data for at-sea deliveries, from 1995-97.

Table 7.16: Estimates of catcher vessel sideboard caps (percent of future TACs) using harvest from all target fisheries as the numerator and total catch as the denominator, 1992-97

Species by TAC Grouping	Non-Pollock Target Fisheries				
	CV Inshore 90 Vessels	CV to IN/MS 11 Vessels	CV to MS 10 Vessels	CV to CP 7 Vessels	All AFA CVs 118 Vessels
Atka Mackerel - Central AI	0.01%	-	-	-	0.01%
Atka Mackerel - Eastern AI	0.74%	0.02%	-	0.02%	0.78%
Atka Mackerel - Western AI	-	-	-	-	-
Arrowtooth Flounder - BS and AI	5.77%	0.93%	0.62%	0.71%	8.03%
Other Flatfish - BS and AI	8.79%	1.20%	0.59%	0.80%	11.38%
Flathead Sole - BS and AI	12.00%	1.17%	0.92%	1.27%	15.36%
Greenland Turbot - AI	0.05%	-	-	0.13%	0.18%
Greenland Turbot - BS	3.84%	0.11%	0.06%	0.19%	4.20%
Other Species - BS and AI	3.68%	0.42%	0.35%	0.50%	4.95%
Pacific Cod (Fixed Gear) - BS and AI	0.04%	-	-	0.04%	0.08%
Pacific Cod (Jig Gear) - BS and AI	-	-	-	-	-
* P. Cod (Trawl, CV) - BSAI (1997 only)	72.28%	6.09%	4.17%	9.15%	91.69%
Pacific Ocean Perch - BS	6.28%	0.67%	0.61%	0.22%	7.78%
* POP - C. AI (1996 - 97 only)	0.12%	-	-	-	0.12%
* POP - E. AI (1996 - 97 only)	0.44%	-	-	0.05%	0.49%
* POP - W. AI (1996 - 97 only)	-	-	-	-	-
Other Rockfish - AI	0.05%	0.05%	-	0.18%	0.28%
Other Rockfish - BS	8.64%	0.26%	0.17%	0.70%	9.77%
Rock Sole - BS and AI	5.61%	0.61%	0.40%	0.48%	7.10%
Sablefish (Fixed Gear) - AI	-	-	-	-	-
Sablefish (Fixed Gear) - BS	-	-	-	-	-
Sablefish (Trawl Gear) - AI	12.28%	0.40%	0.40%	0.66%	13.74%
Sablefish (Trawl Gear) - BS	0.20%	-	-	-	0.20%
Sharpchin/Northern Rockfish - AI	0.02%	0.05%	-	0.09%	0.16%
Squid - BS and AI	43.01%	1.76%	0.71%	0.37%	45.85%
Shortraker/Rougheye Rockfish - AI	0.05%	-	-	-	0.05%
Other Red Rockfish - BS	2.51%	0.77%	0.35%	0.77%	4.40%
Yellowfin Sole - BS and AI	5.65%	0.67%	0.27%	0.41%	7.00%

Sources: ADF&G Fishtickets for deliveries within state waters and NORPAC Observer data for at-sea deliveries, from 1992-97.

Table 7.17: Estimates of catcher vessel sideboard caps (percent of future TACs) using harvest from non-pollock target fisheries as the numerator and TACs as the denominator, 1995-97

Species by TAC Grouping	Non-Pollock Target Fisheries				
	CV Inshore 90 Vessels	CV to IN/MS 11 Vessels	CV to MS 10 Vessels	CV to CP 7 Vessels	All AFA CVs 118 Vessels
Atka Mackerel - Central AI	-	-	-	-	-
Atka Mackerel - Eastern AI	0.03%	0.01%	-	0.02%	0.06%
Atka Mackerel - Western AI	-	-	-	-	-
Arrowtooth Flounder - BS and AI	4.72%	0.37%	0.20%	0.65%	5.94%
Other Flatfish - BS and AI	6.68%	0.56%	0.28%	0.61%	8.13%
Flathead Sole - BS and AI	5.51%	0.29%	0.22%	0.50%	6.52%
Greenland Turbot - AI	0.03%	-	-	0.13%	0.16%
Greenland Turbot - BS	3.18%	0.06%	0.02%	0.23%	3.49%
Other Species - BS and AI	4.63%	0.33%	0.21%	0.51%	5.68%
Pacific Cod (Fixed Gear) - BS and AI	0.01%	-	-	0.05%	0.06%
Pacific Cod (Jig Gear) - BS and AI	-	-	-	-	-
* P. Cod (Trawl, CV) - BSAI (1997 only)	62.47%	4.76%	3.14%	7.57%	77.94%
Pacific Ocean Perch - BS	0.14%	0.05%	-	0.05%	0.24%
* POP - C. AI (1996 - 97 only)	-	-	-	-	-
* POP - E. AI (1996 - 97 only)	0.02%	-	-	0.05%	0.07%
* POP - W. AI (1996 - 97 only)	-	-	-	-	-
Other Rockfish - AI	-	0.05%	-	0.16%	0.21%
Other Rockfish - BS	2.34%	0.10%	-	0.39%	2.83%
Rock Sole - BS and AI	5.92%	0.30%	0.19%	0.29%	6.70%
Sablefish (Fixed Gear) - AI	-	-	-	-	-
Sablefish (Fixed Gear) - BS	-	-	-	-	-
Sablefish (Trawl Gear) - AI	4.76%	0.09%	-	0.26%	5.11%
Sablefish (Trawl Gear) - BS	0.06%	-	-	-	0.06%
Sharpchin/Northern Rockfish - AI	0.01%	0.08%	-	0.04%	0.13%
Squid - BS and AI	0.19%	-	-	-	0.19%
Shortraker/Rougheye Rockfish - AI	-	-	-	-	-
Other Red Rockfish - BS	1.62%	0.33%	0.07%	0.23%	2.25%
Yellowfin Sole - BS and AI	6.28%	0.80%	0.17%	0.19%	7.44%

Sources: ADF&G Fishtickets for deliveries within state waters and NORPAC Observer data for at-sea deliveries, from 1995-97. TACs for the denominator were taken from reports on the NMFS web page.

Table 7.18: Estimates of catcher vessel sideboard caps (percent of future TACs) using harvest from non-pollock target fisheries as the numerator and TACs as the denominator, 1992-97

Species by TAC Grouping	Non-Pollock Target Fisheries				
	CV Inshore 92 Vessels	CV to IN/MS 14 Vessels	CV to MS 7 Vessels	CV to CP 7 Vessels	All AFA CVs 120 Vessels
Atka Mackerel - Central AI	-	-	-	-	-
Atka Mackerel - Eastern AI	0.04%	0.02%	-	0.02%	0.08%
Atka Mackerel - Western AI	-	-	-	-	-
Arrowtooth Flounder - BS and AI	3.85%	0.44%	0.22%	0.50%	5.01%
Other Flatfish - BS and AI	3.72%	0.47%	0.17%	0.36%	4.72%
Flathead Sole - BS and AI	5.51%	0.29%	0.22%	0.50%	6.52%
Greenland Turbot - AI	0.02%	-	-	0.10%	0.12%
Greenland Turbot - BS	3.57%	0.05%	0.02%	0.19%	3.83%
Other Species - BS and AI	3.55%	0.28%	0.24%	0.47%	4.54%
Pacific Cod (Fixed Gear) - BS and AI	0.04%	-	-	0.04%	0.08%
Pacific Cod (Jig Gear) - BS and AI	-	-	-	-	-
* P. Cod (Trawl, CV) - BSAI (1997 only)	62.47%	4.76%	3.14%	7.57%	77.94%
Pacific Ocean Perch - BS	0.07%	0.01%	-	0.02%	0.10%
* POP - C. AI (1996 - 97 only)	-	-	-	-	-
* POP - E. AI (1996 - 97 only)	0.02%	-	-	0.05%	0.07%
* POP - W. AI (1996 - 97 only)	-	-	-	-	-
Other Rockfish - AI	-	0.02%	-	0.10%	0.12%
Other Rockfish - BS	3.08%	0.05%	0.05%	0.20%	3.38%
Rock Sole - BS and AI	4.64%	0.31%	0.21%	0.31%	5.47%
Sablefish (Fixed Gear) - AI	-	-	-	-	-
Sablefish (Fixed Gear) - BS	-	-	-	-	-
Sablefish (Trawl Gear) - AI	2.37%	0.03%	-	0.10%	2.50%
Sablefish (Trawl Gear) - BS	0.03%	-	-	-	0.03%
Sharpchin/Northern Rockfish - AI	0.01%	0.04%	-	0.07%	0.12%
Squid - BS and AI	0.10%	-	-	-	0.10%
Shortraker/Rougheye Rockfish - AI	-	-	-	-	-
Other Red Rockfish - BS	0.76%	0.18%	0.06%	0.18%	1.18%
Yellowfin Sole - BS and AI	4.26%	0.43%	0.12%	0.25%	5.06%

Sources: ADF&G Fishtickets for deliveries within state waters and NORPAC Observer data for at-sea deliveries, from 1992-97. TACs for the denominator were taken from reports on the NMFS web page.

Table 7.19: Estimates of future BSAI catcher vessel Pacific cod caps under the various scenarios, based on the years 1995-97

Species by TAC Grouping	CV Inshore 90 Vessels	CV to IN/MS 11 Vessels	CV to MS 10 Vessels	CV to CP 7 Vessels	All AFA CVs 118 Vessels
All targets / Total catch					
Percent of TAC	72.28%	6.09%	4.17%	9.15%	91.69%
Estimates of available cap (mt)	30,065	2,533	1,735	3,806	38,138
Non-pollock targets / Total catch					
Percent of TAC	65.02%	4.96%	3.27%	7.88%	81.13%
Estimates of available cap (mt)	27,045	2,063	1,360	3,278	33,746
Non-pollock targets / TAC					
Percent of TAC	62.47%	4.76%	3.14%	7.57%	77.94%
Estimates of available cap (mt)	27,045	2,063	1,360	3,278	33,746

Note: The percentages refer to the portion of the overall trawl CV allocation.

7.5.1.1 To Whom do the Sideboards Apply

Determining to whom the restrictions apply requires answering the question, are AFA eligible catcher vessels that do not join a cooperative still required to abide by the sideboard restrictions? The language in the AFA is not clear regarding to whom the restrictions apply. The first part of the section 211(c)(1)(A) seems to indicate that it is meant to apply to all AFA eligible catcher vessels. However, the phrase at the end of the quote indicates that the impacts resulting from fishery cooperatives should be mitigated by this action. That phrase could be interpreted to indicate that this section should apply only to AFA eligible catcher vessels that actually join a cooperative. Because of the uncertainty in the language and the differing interpretations of this section of the AFA, a decision will need to be made regarding to whom the sideboard regulations apply.

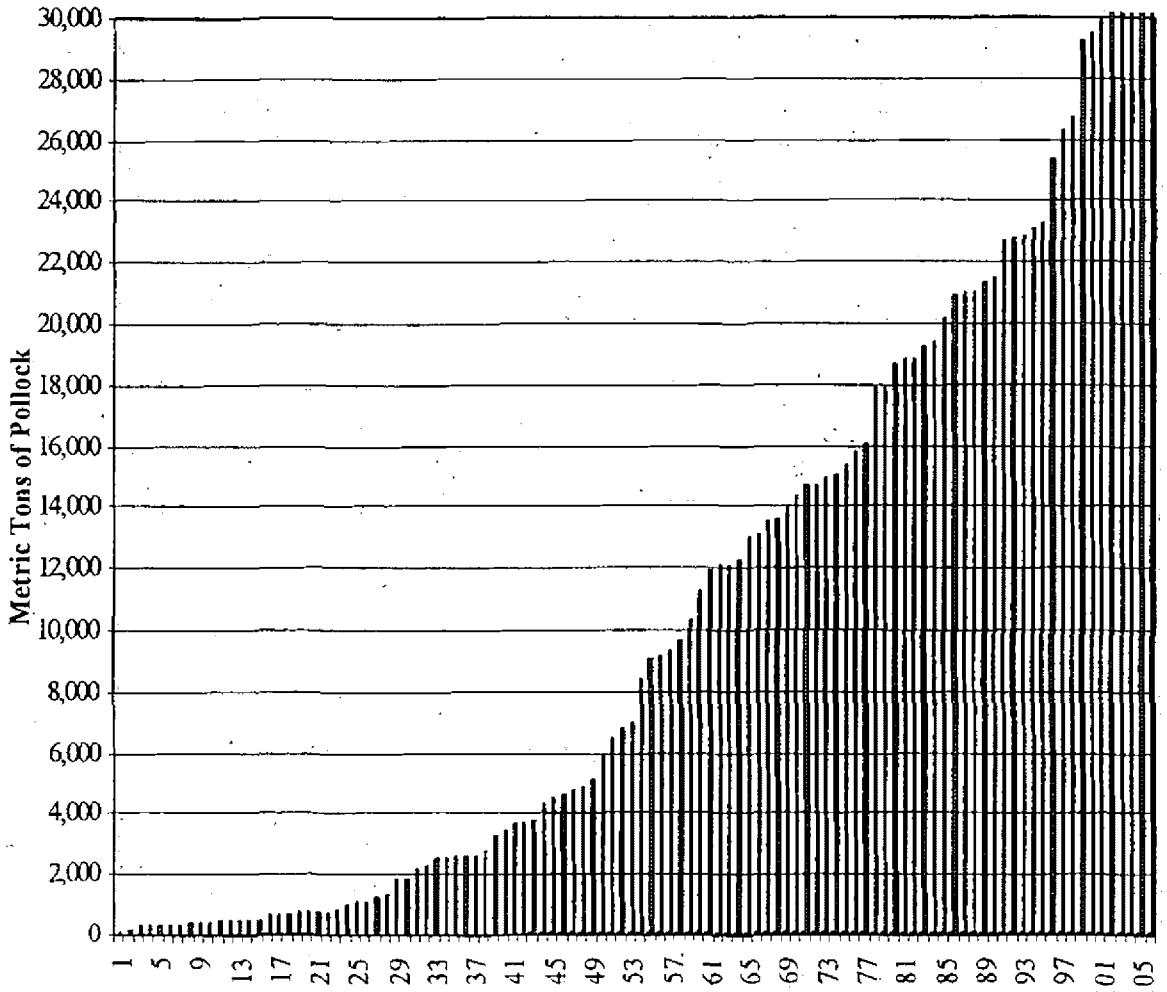
It is likely that vessels with relatively small amounts of pollock harvest in the inshore and mothership sectors will be most impacted by this decision. The seven catcher vessels fishing for the catcher/processor fleet have already shown that they are willing to join a cooperative and abide by the sideboard restrictions included in the AFA for 1999. Determining which of the inshore and mothership catcher vessels would join a cooperative is impossible at this point. However, members of industry have indicated that at least one vessel asked to be removed from section 208 when the bill was being drafted. The language in section 208(c) line 20, defining which catcher vessels not specifically listed are eligible to join a mothership cooperative, would once again make that vessel eligible to join. This vessel would be required to abide by the catcher vessel sideboards if the option that all vessels eligible to join a cooperative is selected, even though they have already indicated that they would rather forego joining a cooperative than be bound by the sideboards.

Members of the AFA catcher vessel sector have asked, what negative impacts would be caused by AFA eligible vessels that do not join a cooperative? They argue that these vessels would be competing in the open access fisheries just like non-AFA vessels, and they would be getting no benefits from the cooperatives. This is likely true for the small independent catcher vessel owners. It is less clear that this would be true if a "person" owned more than one catcher vessel. In that case it might be possible to have one or more of their catcher vessels not join the cooperative, giving the vessel which did not join the cooperative the freedom to participate without a cap in the open access non-pollock fishery. They would also be allowed to compete for the open access portion of the pollock TAC against the other catcher vessels that decided not to join cooperatives in that sector. If they were the only vessel not joining a cooperative from a sector, they would be guaranteed their portion of the

pollock quota, without being restricted by sideboard caps in the non-pollock fisheries. It may also be true that if a small number of catcher vessels were in the open access portion of the pollock fishery, that they could form an "unofficial" cooperative to rationalize their portion of the pollock allocation. This could occur since only AFA eligible catcher vessels will be allowed to participate in the directed pollock fishery.

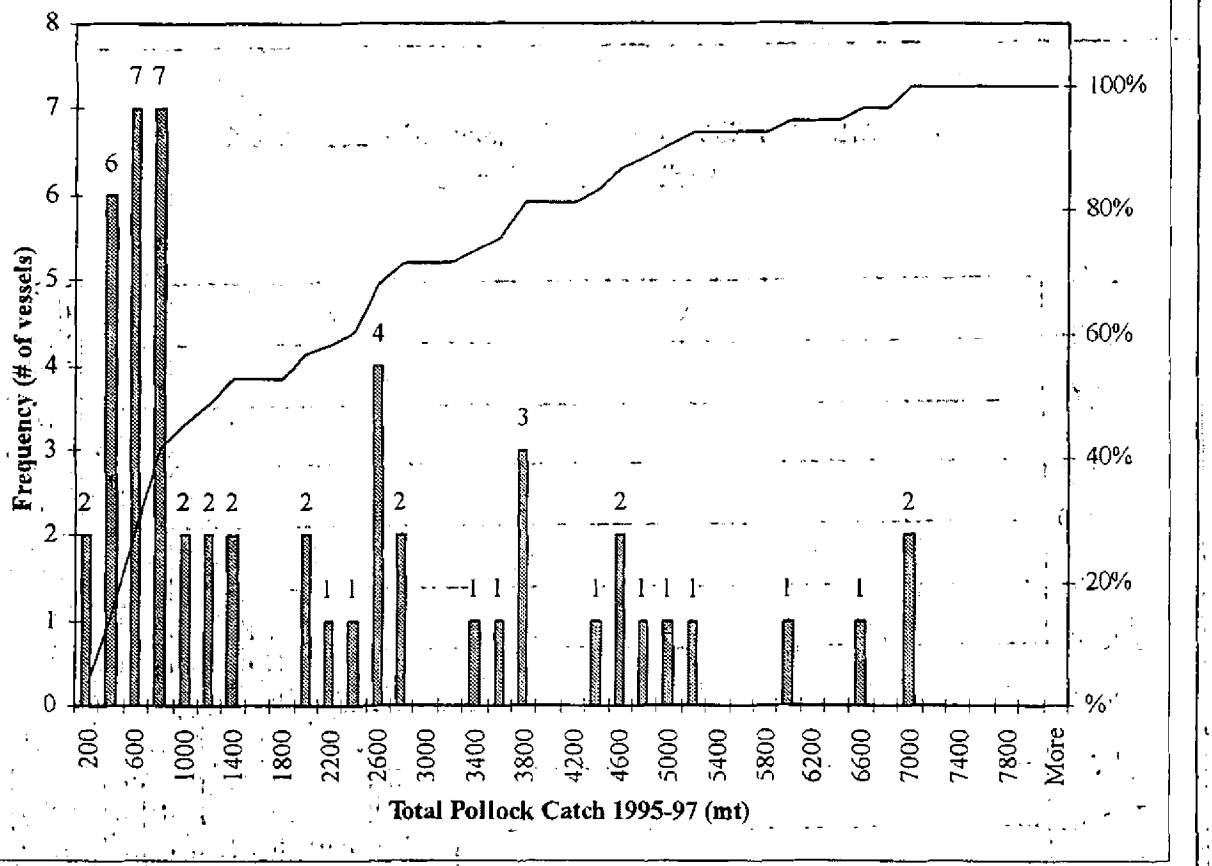
Figure 7.1 below shows the BS/AI pollock catch history of the AFA eligible catcher vessels in the inshore sector, according to preliminary data. The vessels that had the four largest catch histories have been truncated at 30,000 mt., in order to preserve confidential information. Information in this figure shows that several vessels have relatively small amounts of pollock catch history.

Figure 7.1: Total 1995-97 Pollock Catch History of AFA Catcher Vessels Qualified to Deliver Inshore



Finer resolution of the catcher vessels with an inshore pollock catch history of less than 8,000 mt. is provided in Figure 7.2 below. The information is broken down by 200 mt. increments with the number of vessels and the cumulative catch totals reported. That figure shows that 24 vessels had less than 1,000 mt of pollock landings during 1995-97 qualification window.

Figure 7.2: Histogram of Bottom 50% of Inshore Sector Catcher Vessels



A second sub-option would create separate sideboard caps for catcher vessels that harvested over and under 1,000 mt, 3,000 mt , or 5,000 mt of BSAI pollock, on average from 1995-97. Separate caps are being considered because, it was presumed that catcher vessels with small amounts of pollock history had likely spent more time fishing for other species. If they must compete from the same cap as vessels with smaller histories in non-pollock fisheries, the portion of the sideboard cap they actually harvest may be less than they contributed to the cap. Competing against catcher vessels that are similarly situated may improve their bargaining position and chances of harvesting the historic levels of catch in these fisheries they enjoyed before the AFA. Table 7.20 shows the percentages of the overall sideboards that would be allocated to the catcher vessels under each pollock history threshold, and the number of vessels which could harvest from the sub-cap.

Table 7.20: Number of vessels and the percentage of the cap that the sub-group of catcher vessels would be eligible to harvest, based on their annual average catch history in the 1995-97 pollock fisheries

Species/Sector	< 1,000 mt of Pollock		< 3,000 mt of Pollock		< 5,000 mt of Pollock	
	# of Vessels	% of Total Cap	# of Vessels	% of Total Cap	# of Vessels	% of Total Cap
Pacific Cod						
Inshore	18	7.44	40	34.62%	55	61.35%
Inshore/MS	0	n/a	0	n/a	3	conf.
Mothership	0	n/a	2	conf.	6	conf.
Catcher Processor	0	n/a	1	conf.	5	conf.
Other Species						
Inshore	18	3.81%	40	11.49%	55	22.42%
Inshore/MS	0	n/a	0	n/a	3	conf.
Mothership	0	n/a	2	conf.	6	conf.
Catcher Processor	0	n/a	1	conf.	5	conf.

Source: ADF&G Fishtickets and NORPAC Observer data from 1995-97.

7.5.1.2 When do the Sideboards Apply

The question of when sideboard caps apply to the AFA catcher vessels also needs to be answered. The Council considered six alternatives. These alternatives can be grouped into three separate categories. The first category is the option that applies throughout the year, and does not contain sub-caps. The second category also applies all year, but those options contain sub-caps during parts of the year. Finally, the third category would apply the caps only during specific times of the year. At other times of the year catcher vessels would not be bound by a cap, and therefore, possibly not limited to historical catch levels.

The first option would apply the cap at all times during the fishing year. This is the only option in the first category and would prevent the AFA catcher vessels from participating in non-pollock fisheries above their historic levels on an annual basis. Once they reach a cap in the non-pollock fisheries, fishing by vessels operating under that cap would be halted until the following year. The results of this option were presented in Tables 7.12 - 7.17. A separate discussion is provided in the "Determination of Aggregate" section of this chapter which speaks to whether the caps will be enforced at a sector or cooperative level. The NMFS implementation and monitoring section of this document will also speak to this issue.

Two options are included under the second category. Sideboard caps in this category would limit catcher vessels to their historic catch levels, but the caps would be sub-divided by either quarter or by vessel class (Tables 7.21 - 7.24). Applying the caps by quarter would restrict catcher vessels to harvesting their cap in the same quarter of the year as it was earned. The Council also has the information necessary to divide the caps semi-annually, from these tables. For example, if the inshore catcher vessels harvested 68 percent of the Pacific cod used to determine the cap during the first quarter of the year and 30 percent in the second quarter, they would be limited to harvesting 98 percent of the Pacific cod cap during the first half of the year in the future. This would prevent catcher vessels from taking more of the cap during the first quarter (half) of the year than they traditionally harvested. It would also prevent them from taking more of the halibut PSC cap, assuming that the PSC caps are also apportioned based on the percentage of groundfish harvested in a quarter.

Table 7.21: Quarterly catch distribution of catcher vessels qualified for the inshore sector only, 1995-97

	Inshore Catcher Vessels - All Target Fisheries				
Species by TAC Grouping	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
Atka Mackerel - Central Aleutian Islands	100%	0%	0%	0%	100%
Atka Mackerel - Eastern Aleutian Islands	1%	7%	91%	2%	100%
Atka Mackerel - Western Aleutian Islands	-	-	-	-	-
Arrowtooth Flounder - Bering Sea and Aleutian Islands	41%	42%	11%	6%	100%
Other Flatfish - Bering Sea and Aleutian Islands	40%	42%	7%	11%	100%
Flathead Sole - Bering Sea and Aleutian Islands	61%	24%	7%	8%	100%
Greenland Turbot - Aleutian Islands	100%	0%	0%	0%	100%
Greenland Turbot - Bering Sea	5%	79%	11%	5%	100%
Other Species - Bering Sea and Aleutian Islands	51%	40%	4%	5%	100%
Pacific Cod (Fixed Gear) - Bering Sea and Aleutian Islands	17%	30%	0%	53%	100%
* Pacific Cod (Trawl Gear, CV) - BSAI (1997 only)	68%	30%	1%	1%	100%
Pacific Ocean Perch - Bering Sea	1%	1%	70%	28%	100%
* Pacific Ocean Perch - Central AI (1996 - 1997 only)	100%	0%	0%	0%	100%
* Pacific Ocean Perch - Eastern AI (1996 - 1997 only)	100%	0%	0%	0%	100%
* Pacific Ocean Perch - Western AI (1996 - 1997 only)	-	-	-	-	-
Other Rockfish - Aleutian Islands	100%	0%	0%	0%	100%
Other Rockfish - Bering Sea	24%	39%	35%	2%	100%
Rock Sole - Bering Sea and Aleutian Islands	63%	35%	1%	1%	100%
Sablefish (Fixed Gear) - Aleutian Islands	-	-	-	-	-
Sablefish (Fixed Gear) - Bering Sea	-	-	-	-	-
Sablefish (Trawl Gear) - Aleutian Islands	1%	78%	14%	6%	100%
Sablefish (Trawl Gear) - Bering Sea	-	-	-	-	-
Sharpchin/Northern Rockfish - Aleutian Islands	100%	0%	0%	0%	100%
Squid - Bering Sea and Aleutian Islands	5%	0%	77%	18%	100%
Shortraker/Rougheye Rockfish - Aleutian Islands	100%	0%	0%	0%	100%
Other Red Rockfish - Bering Sea	81%	7%	8%	3%	100%
Yellowfin Sole - Bering Sea and Aleutian Islands	36%	62%	2%	1%	100%

Source: ADF&G Fishtickets and NORPAC Observer data for the years 1995-97.

Table 7.22: Quarterly catch distribution of catcher vessels qualified for the inshore/mothership sectors, 1995-97

Species by TAC Grouping	Inshore/Mothership CVs - All Target Fisheries				
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
Atka Mackerel - Central Aleutian Islands	100%	0%	0%	0%	100%
Atka Mackerel - Eastern Aleutian Islands	64%	9%	27%	0%	100%
Atka Mackerel - Western Aleutian Islands	-	-	-	-	-
Arrowtooth Flounder - Bering Sea and Aleutian Islands	41%	4%	37%	18%	100%
Other Flatfish - Bering Sea and Aleutian Islands	35%	46%	11%	9%	100%
Flathead Sole - Bering Sea and Aleutian Islands	53%	13%	25%	9%	100%
Greenland Turbot - Aleutian Islands	-	-	-	-	-
Greenland Turbot - Bering Sea	19%	35%	42%	4%	100%
Other Species - Bering Sea and Aleutian Islands	50%	23%	21%	6%	100%
Pacific Cod (Fixed Gear) - Bering Sea and Aleutian Islands	0%	100%	0%	0%	100%
Pacific Cod (Jig Gear) - Bering Sea and Aleutian Islands	-	-	-	-	-
* Pacific Cod (Trawl Gear, CVs) - BSAI (1997 only)	47%	46%	5%	1%	100%
Pacific Ocean Perch - Bering Sea	27%	0%	70%	3%	100%
* Pacific Ocean Perch - Central AI (1996 - 1997 only)	-	-	-	-	-
* Pacific Ocean Perch - Eastern AI (1996 - 1997 only)	-	-	-	-	-
* Pacific Ocean Perch - Western AI (1996 - 1997 only)	-	-	-	-	-
Other Rockfish - Aleutian Islands	100%	0%	0%	0%	100%
Other Rockfish - Bering Sea	50%	0%	50%	0%	100%
Rock Sole - Bering Sea and Aleutian Islands	68%	21%	9%	2%	100%
Sablefish (Fixed Gear) - Aleutian Islands	-	-	-	-	-
Sablefish (Fixed Gear) - Bering Sea	-	-	-	-	-
Sablefish (Trawl Gear) - Aleutian Islands	50%	50%	0%	0%	100%
Sablefish (Trawl Gear) - Bering Sea	-	-	-	-	-
Sharpchin/Northern Rockfish - Aleutian Islands	92%	8%	0%	0%	100%
Squid - Bering Sea and Aleutian Islands	22%	0%	73%	5%	100%
Shortraker/Rougheye Rockfish - Aleutian Islands	-	-	-	-	-
Other Red Rockfish - Bering Sea	69%	8%	23%	0%	100%
Yellowfin Sole - Bering Sea and Aleutian Islands	40%	36%	23%	1%	100%

Source: ADF&G Fishtickets and NORPAC Observer data for the years 1995-97.

Table 7.23: Quarterly catch distribution of catcher vessels qualified for the mothership sector, 1995-97

Species by TAC Grouping	Mothership Catcher Vessels - All Target Fisheries				
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
Atka Mackerel - Central Aleutian Islands	-	-	-	-	-
Atka Mackerel - Eastern Aleutian Islands	100%	0%	0%	0%	100%
Atka Mackerel - Western Aleutian Islands	-	-	-	-	-
Arrowtooth Flounder - Bering Sea and Aleutian Islands	45%	4%	32%	19%	100%
Other Flatfish - Bering Sea and Aleutian Islands	35%	50%	10%	6%	100%
Flathead Sole - Bering Sea and Aleutian Islands	51%	24%	18%	7%	100%
Greenland Turbot - Aleutian Islands	-	-	-	-	-
Greenland Turbot - Bering Sea	22%	44%	33%	0%	100%
Other Species - Bering Sea and Aleutian Islands	38%	44%	14%	5%	100%
Pacific Cod (Fixed Gear) - Bering Sea and Aleutian Islands	-	-	-	-	-
Pacific Cod (Jig Gear) - Bering Sea and Aleutian Islands	-	-	-	-	-
* Pacific Cod (Trawl Gear, CVs) - BSAI (1997 only)	54%	40%	4%	2%	100%
Pacific Ocean Perch - Bering Sea	29%	0%	71%	0%	100%
* Pacific Ocean Perch - Central AI (1996 - 1997 only)	-	-	-	-	-
* Pacific Ocean Perch - Eastern AI (1996 - 1997 only)	-	-	-	-	-
* Pacific Ocean Perch - Western AI (1996 - 1997 only)	-	-	-	-	-
Other Rockfish - Aleutian Islands	-	-	-	-	-
Other Rockfish - Bering Sea	-	-	-	-	-
Rock Sole - Bering Sea and Aleutian Islands	63%	31%	5%	1%	100%
Sablefish (Fixed Gear) - Aleutian Islands	-	-	-	-	-
Sablefish (Fixed Gear) - Bering Sea	-	-	-	-	-
Sablefish (Trawl Gear) - Aleutian Islands	-	-	-	-	-
Sablefish (Trawl Gear) - Bering Sea	-	-	-	-	-
Sharpchin/Northern Rockfish - Aleutian Islands	-	-	-	-	-
Squid - Bering Sea and Aleutian Islands	22%	0%	78%	0%	100%
Shortraker/Rougheye Rockfish - Aleutian Islands	-	-	-	-	-
Other Red Rockfish - Bering Sea	75%	0%	25%	0%	100%
Yellowfin Sole - Bering Sea and Aleutian Islands	46%	8%	46%	1%	100%

Source: ADF&G Fishtickets and NORPAC Observer data for the years 1995-97.

Table 7.24: Quarterly catch distribution of catcher vessels qualified for the catcher/processor sector, 1995-97

Species by TAC Grouping	C/P sector CVs - All Target Fisheries				
	1st Qtr.	2nd Qtr.	3rd Qtr	4th Qtr	Total
Atka Mackerel - Central Aleutian Islands	-	-	-	-	-
Atka Mackerel - Eastern Aleutian Islands	91%	9%	0%	0%	100%
Atka Mackerel - Western Aleutian Islands	-	-	-	-	-
Arrowtooth Flounder - Bering Sea and Aleutian Islands	46%	22%	20%	11%	100%
Other Flatfish - Bering Sea and Aleutian Islands	28%	49%	6%	17%	100%
Flathead Sole - Bering Sea and Aleutian Islands	53%	20%	18%	8%	100%
Greenland Turbot - Aleutian Islands	90%	10%	0%	0%	100%
Greenland Turbot - Bering Sea	4%	80%	13%	2%	100%
Other Species - Bering Sea and Aleutian Islands	62%	18%	12%	7%	100%
Pacific Cod (Fixed Gear) - Bering Sea and Aleutian Islands	82%	0%	0%	18%	100%
Pacific Cod (Jig Gear) - Bering Sea and Aleutian Islands	-	-	-	-	-
* Pacific Cod (Trawl Gear, CV) - BSAI (1997 only)	82%	13%	5%	1%	100%
Pacific Ocean Perch - Bering Sea	44%	0%	44%	11%	100%
* Pacific Ocean Perch - Central AI (1996 - 1997 only)	-	-	-	-	-
* Pacific Ocean Perch - Eastern AI (1996 - 1997 only)	100%	0%	0%	0%	100%
* Pacific Ocean Perch - Western AI (1996 - 1997 only)	-	-	-	-	-
Other Rockfish - Aleutian Islands	100%	0%	0%	0%	100%
Other Rockfish - Bering Sea	50%	33%	17%	0%	100%
Rock Sole - Bering Sea and Aleutian Islands	66%	25%	6%	3%	100%
Sablefish (Fixed Gear) - Aleutian Islands	-	-	-	-	-
Sablefish (Fixed Gear) - Bering Sea	-	-	-	-	-
Sablefish (Trawl Gear) - Aleutian Islands	33%	67%	0%	0%	100%
Sablefish (Trawl Gear) - Bering Sea	-	-	-	-	-
Sharpchin/Northern Rockfish - Aleutian Islands	100%	0%	0%	0%	100%
Squid - Bering Sea and Aleutian Islands	14%	0%	86%	0%	100%
Shortraker/Rougheye Rockfish - Aleutian Islands	-	-	-	-	-
Other Red Rockfish - Bering Sea	80%	10%	10%	0%	100%
Yellowfin Sole - Bering Sea and Aleutian Islands	41%	36%	17%	5%	100%

Source: ADF&G Fishtickets and NORPAC Observer data for the years 1995-97.

A second option in this category would sub-divide the sideboard caps based on whether a vessel's catch was mostly pollock during the "A" season. If a vessel had harvested mostly pollock, its Pacific cod sideboard cap prior to March 1 would be accounted for separately from catcher vessels that harvested mostly non-pollock groundfish during that time of the year. The intent of this alternative is to prevent catcher vessels that historically harvested mostly pollock during the "A" season, from increasing their relative harvest of the Pacific cod cap at the expense of the catcher vessels that have traditionally harvested Pacific cod during the "A" season. Monitoring this division of the catcher vessel sideboard cap will require NMFS to account for catch at the catcher vessel level. Currently catch is accounted for at the processor level. However, the agency is currently developing an electronic reporting system that would likely solve this impediment, though it is uncertain whether this system could be in place by the start of the 2000 fishing season.

Calculations dividing the Pacific cod cap, in Table 7.25, use 1995-97 as the base years. Those years were specifically requested for calculating this option. Recall that the other tables used only 1997 to determine Pacific cod catch history, since the Pacific cod trawl gear TAC was subdivided between catcher vessels and

catcher processors that year. Using different qualifying years, will likely lead to different estimates of the amount of TAC that could be harvested prior to March 1. Had the catcher vessels harvested less of the trawl Pacific cod TAC during the years 1995-96, relative to the current catcher vessel - catcher/processor split, they will receive a smaller percentage of the TAC in this calculation. The opposite would of course be true. If AFA catcher vessels had harvested more of the Pacific cod, relative to the catcher/processors during 1995-96, they would have a larger sideboard cap during the January through February time period.

Table 7.25: Pacific cod catches by AFA catcher vessels prior to March 1, of the years 1995-97

Pacific Cod (Trawl Gear)		Non-Pollock Target Fisheries				
		CV Inshore	CV to IN/MS	CV to MS	CV to CP	Total Catch
Majority Pollock: 111 vessels	Catch (metric tons)	3,261	205	-	78	3,544
	% of TAC - based on TAC	1.01%	0.06%	-	0.02%	1.10%
	% of TAC-based on catch	1.10%	0.07%	-	0.03%	1.20%
Majority Non-pollock: 9 vessels	Catch (metric tons)	14,953	-	-	-	14,953
	% of TAC - based on	4.62%			-	4.62%
	% of TAC-based on catch	5.05%	-	-	-	5.05%
All Fisheries						
Majority Pollock: 111 vessels	Catch (metric tons)	11,404	1,756	1,019	1,190	15,369
	% of TAC - based on TAC	3.53%	0.54%	0.32%	0.37%	4.75%
	% of TAC-based on catch	3.85%	0.59%	0.34%	0.40%	5.19%
Majority Non-pollock: 9 vessels	Catch (metric tons)	15,156	-	-	-	15,156
	% of TAC - based on	4.69%			-	4.69%
	% of TAC-based on catch	5.12%	-	-	-	5.12%

Note: % of TAC - based on TAC means the percentage of the Pacific cod TAC that each group of catcher vessels would be allowed to harvest prior to March 1. This percentage is calculated using TAC as the denominator. The row titled % of TAC - based on catch used total Pacific cod catch as the denominator.
Source: ADF&G fishtickets, NORPAC observer data, and historic TACs from NMFS web page for the years 1995-97.

The third category would apply sideboard caps to AFA catcher vessels during specific times of the year and/or to certain sectors. The Council's intent is that only catch taken during a symmetrical period in which the caps apply would be included when setting the caps. Therefore, if caps do not apply during a specific time of the year, the catch made during that same time of the year from 1995-97 would not be included in the caps. Option one would limit the catcher vessels to historic catch levels only when the "normal" pollock season is open. Two methods of defining the normal pollock fishery were provided. The first is based on the 1998 open access fishery dates (Table 7.26), and the second is based on the 1999 open access dates as modified by Steller sea lion concerns. The dates based on the 1999 seasons are not included in tabular form. Currently the dates for the "B" and "C" seasons are still being developed for 1999. Under these options the AFA catcher vessels

would no longer be bound by the caps during predefined times of the year. Essentially, they would not have caps when pollock was closed. Persons proposing this alternative argued that since the sideboards were designed to protect the non-pollock fleet from the effects of cooperatives, when the pollock fishery is closed there are not cooperative impacts. Everyone would be fishing in the open access mode and no one would be able to employ fishing strategies afforded by cooperatives that would give them an advantage over the rest of the fleet.

Table 7.26: 1998 BSAI pollock season dates

Area	Opened	Closed	Days Open	Sector
Dates the 1998 Directed Pollock Fishery Was Open				
Aleutian Islands	01/26/98	02/23/98	28	Offshore
Aleutian Islands	01/26/98	03/13/98	46	Inshore
Bering Sea	01/26/98	02/20/98	25	Offshore
Bering Sea	01/26/98	02/26/98	31	Inshore
Bering Sea	09/01/98	10/19/98	48	Offshore
Bering Sea	09/01/98	10/29/98	58	Inshore
1998 Pollock Seasonal Allowance Dates				
BS/AI	01/01/98	04/15/98	104	Both
BS/AI	09/01/98	11/01/98	61	Both

Source: NMFS Alaska Region Web Site

If the 1999 fishing seasons were used as the standard for when the sideboard caps apply, it may create opportunities for vessels to increase their harvests of a species like Pacific cod. Given that there is currently a period between the A1 and A2 pollock seasons when pollock fishing is closed for the inshore and catcher/processor sectors, AFA catcher vessels could harvest Pacific cod during those times and not have the harvests count towards their sideboard cap. This may give these vessels an advantage over the open access fleet during those seasons. Pollock vessels could move into Pacific cod between pollock seasons, but Pacific cod boats could not move into pollock if cod closes earlier than expected because of the pollock fleet's effort. Members of the non-pollock fleets may still perceive an AFA fleet without restrictions during specific times of the year as a threat.

A second option would allow catcher vessels that deliver to the mothership sector to operate outside of the BSAI groundfish caps prior to February 1. Under the current Steller sea lion protection measures the mothership sector of the pollock fishery does not open until February 1. This exemption would allow the catcher vessels delivering to motherships to be unconstrained by sideboards between the January 20th opening date for fishing with trawl gear in the BSAI and the February 1 start of the pollock season. It is unknown if they would exceed their traditional harvest in other fisheries under this exemption. However, the opportunity to do so would be available. After February 1 they would be constrained by their sideboard caps. The cap would be calculated based on their historic catch after February 1. Excluding the catch of sideboard species that occurred prior to February 1, will reduce the amount of the species that could be harvested when the caps apply. However, it is likely that the catcher vessels could harvest more of these species during the period prior

to February 1, than they had during the 1995-97 time period. Because during the years 1995-97 the vessels were likely targeting pollock prior to February 1.

The third option in this category would exempt AFA catcher vessels from the BSAI groundfish caps for the number days that the pollock fishery is closed by regulation, in excess of the five days mandated under the current Steller sea lion protection measures, for the catcher/processor and inshore sectors. The result of this action is to transfer some of the burden from the pollock fleet to the non-pollock fleet if the mandatory closed time between the A1 and A2 seasons increases, or the catcher vessels reach their A2 cap and the pollock fishery is closed by regulation prior to the end of February.

At this time, it is not possible to predict the behavior of vessels that will be fishing under a cooperative. It may be true that allowing AFA catcher vessels to operate outside of the sideboard caps, when the pollock fishery is closed, may not give them any advantage. On the other hand, they may be able to harvest their sideboard caps when the pollock fishery is open, and then continue targeting non-pollock groundfish species in the BSAI once the pollock fishery is closed. This type of behavior would allow them to increase their historic participation in non-pollock fisheries.

Providing an analysis showing the impacts of choosing one alternative over another, is not possible. To conduct such an analysis, it would be necessary to know which vessels will join cooperatives. Since that information is not available, another alternative would be to assume that vessels with less than a given level of pollock catch history would opt not to join the cooperatives, reasoning that, they would be better off outside the bounds of the sideboards. Determining the point at which vessel owners would decided to join a cooperative would also be difficult, and the results would likely be inaccurate. The data indicates that vessels with relatively small pollock histories would contribute relatively more of their overall catch history as sideboard caps for the sector (See Appendix II). Vessels with a smaller pollock history may have been operating in other fisheries, like Pacific cod or crab, during a part of the year when pollock was open. Therefore, they would take catch from their directed fisheries, which they accumulated while pollock was open, into a cooperative. Counting only harvests made in the non-pollock target fisheries would result in these vessels contributing an even larger portion of the catch history to the overall sideboard caps, relative to the other AFA catcher vessels.

7.5.1.3 Level at Which Sideboards are Monitored and Enforced

The Council considered two options for determining the level at which groundfish sideboards would be monitored and applied. One option would aggregate the sideboards by vessel class and sector. Vessel class is assumed to mean catcher vessels delivering to inshore processors, motherships, or catcher processors, and the sector is the more generic defined as AFA catcher vessels. The second option is to monitor and enforce these caps at the cooperative level. This option would require NMFS to monitor many more caps if several inshore cooperatives are formed. It may also raise confidentially issues if caps are set at the individual plant level. Additional clarification on the confidentiality issues would likely be required if this option was selected.

It is likely that members of the pollock industry would prefer that the sideboard caps are monitored at the cooperative level. The inshore sector provides the best example. Preliminary information suggests that seven companies are eligible to process BSAI pollock under the AFA. Each of these companies would be allowed to form a cooperative. Assuming that each company did form its own cooperative, each cooperative would have its own pollock allocation and sideboard cap. Sideboard caps would be determined based on the catch history of the catcher vessels joining a cooperative. Rationally using a cap is likely to be easier if the number of vessels that can harvest from the cap is reduced, and they are closely linked by a cooperative. It is the same logic that has lead members of industry to push for a Vessel Bycatch Accounting (VBA) program. Controlling

the actions of a small group is easier than controlling the actions of a large group. In a large group (i.e., the sector level), it is likely that vessels would rush to harvest the cap, to insure they harvest their share. Whereas, members of a smaller group might be more likely to reach an agreement regarding how the cap should be distributed, while operating under an open access race for the sideboard caps.

A third option, that was not included in the Council's list of alternatives, would be to monitor the cap across all sectors. One sideboard cap would be set for the entire fleet of AFA catcher vessels, and once the cap is reached they would all be required to stop fishing. This option would be easiest for NMFS to monitor, but is perhaps the least acceptable to the AFA fleet. Chapter 9 contains additional discussion on the issues of monitoring limits at the cooperative level.

7.5.1.4 Nature of Catcher Vessel Restrictions

Catcher vessel sideboard caps will be expressed as a percentage of the TAC for each GOA and BSAI groundfish species or species group. Once the TACs are set in given year, each catcher vessel's percentage of the total will be multiplied by the TAC to determine the metric tons of each species that vessel will be allowed to take with them into a cooperative. Aggregating each vessel's cap by cooperative or sector will determine the maximum amount of non-pollock groundfish those vessels will be allowed to harvest, as a group, under the sideboard caps.

7.5.2 Management Actions Resulting from Reaching the Groundfish Harvest Caps

The issue of what fisheries close when a cap is reached was discussed under the catcher/processor sideboard section. That same issue also needs to be decided for catcher vessels. Recall that there are two options. The first option would close the non-pollock groundfish fisheries when the cap is reached. The second option would close all groundfish fisheries (including pollock) for AFA catcher vessels. A detailed discussion of current fishery management practices was included at the end of Chapter 6.

Deciding which fisheries close when a cap is reached may very well depend on which fisheries were included in the numerator when calculating the cap. If only the catch of species taken during non-pollock fisheries are used to calculate the cap, the burden on industry would be much greater if attainment of a cap closed all fisheries. There are specific cases where this is especially true. Squid and certain rockfish species are good examples. If vessels only received sideboards cap history from non-pollock target fisheries, and all fisheries were closed when a cap was reached, they would not have enough squid to harvest their pollock allocation. However, the Council could take this into account and exempt certain species from the cap, much like was done for the CDQ groups with squid. If the cap only closed the non-pollock targets, these vessels would be allowed to harvest about their historic average of sideboard species (assuming bycatch levels in the pollock fishery remained constant), and be more likely to harvest their pollock allocations.

Catcher vessels are allowed to harvest groundfish in both the BSAI and GOA under AFA. Because they can fish both areas the problem is slightly more complex than it was for the catcher/processors. However, if we assume that reaching a cap in the BSAI would not close both the BSAI and GOA fisheries, or vise versa, then the problem is basically the same as discussed for catcher/processors. When a cap is reached in the BSAI, fisheries in which that species is harvested will be closed. The same would be true in the GOA. Reaching a GOA sideboard cap would close fisheries in the Gulf.

7.5.2.1 PSC Limits

The VBA Committee was requested by the Council, during their December 1998 meeting, to develop PSC sideboard caps for the AFA catcher vessel fleets that will be allowed to participate in non-pollock groundfish fisheries. Two alternatives for determining the caps were listed by the Council. The first option applied the VIP rates to target fishery catch to determine PSC caps. The second method would have applied an appropriate, yet unspecified, fraction of the VIP rates to determine the caps. A task for the Committee would have been to determine the appropriate fraction to apply.

After reviewing this task, the VBA Committee discussed the issue and included the following recommendation in their minutes from the January 7-8th meeting.

"In December, the Council tasked the VBA Committee with developing options for PSC caps for co-op vessels in non-pollock fisheries. The Committee reviewed this issue, and felt that it would be better to let the affected industry groups discuss this and report directly to the Council. However, the Committee suggests that, rather than use VIP rates to determine PSC caps, a better option would be based on catch history ratios (like suggested for the VBA pool limits)."

Based on the Committee recommendation, the historic catch ratios would be multiplied by the available PSC caps to determine the amount of each PSC species the vessels would be allowed to take into a co-op. The VBA Committee also indicated in their minutes that 5% of the caps could be set aside to reduce bycatch under the pilot program. It may also be possible to include that type of reduction in the sideboard caps if AFA members are included in the pilot program. However, it is important to note that under a VBA program the PSC limits would be vessel or "pool" specific allocations and not caps.

Upon receiving the Committee's advice, the Council revised their alternative for developing PSC caps. The new alternative would base the PSC caps on groundfish catch history ratios instead of VIP rates or historical PSC catch levels. Basing the PSC amounts on the percentage of groundfish harvested would not reward vessels for high amounts of PSC bycatch in the past, unless fishing practices were employed that increased target catch by using relatively larger amounts of PSC. Nonetheless, it is the intent of the Council not to reward "dirty" fishing when setting PSC bycatch caps

PSC in the BSAI trawl fisheries was allocated between several target fishery groups during the years 1995-97. The most important of these groupings for catcher vessels were the Atka mackerel/pollock/other groundfish, Pacific cod, yellowfin sole, and rock sole/other flatfish targets. Catch ratios for those fishery groupings are reported in Table 7.27, along with estimated halibut PSC amounts based on these ratios. AFA catcher vessels had very limited or no PSC bycatch in the target fisheries that were excluded from this list (rockfish and Greenland turbot/arrowtooth/sablefish).

To determine the amount of PSC that AFA catcher vessels will be allocated under a sideboard cap, their percentage of a groundfish target cap, presented in Table 7.27, will be multiplied by the available PSC in that target fishery. It has yet to be determined if that cap will be managed as an overall cap or at the individual target fishery level. If the caps are managed at the target fishery level, then reaching the PSC cap in the Pacific cod fishery will shut down the AFA catcher vessel from targeting Pacific cod. However, if the caps are managed in total, then AFA catcher vessels could use halibut from their general reserve, that may have originally been earned in the yellowfin sole fishery, and continue fishing for Pacific cod. This would not change the likelihood that a portion of the trawl Pacific cod allocation would be rolled over into the fixed gear allocation in future years, because the overall halibut cap for Pacific cod would remain in place. Allowing

AFA vessels to shift PSC between target fisheries could reduce the amount of halibut PSC that could be used by non-AFA vessels in the Pacific cod fishery.

It is also important to note that using target fishery catch history to determine PSC allocations results in the same percentage of each PSC species being included in the cap. For example, based on the information presented in Table 7.27, the AFA catcher vessels would be capped at 49 percent of the halibut and crab PSC species allotted to the Pacific cod target fishery.

Table 7.27: Percent of future PSC caps based on catch history ratios of AFA catcher vessels to all vessels, for the years 1995-97, by PSC target fishery definition

PSC Target Categories	AFA Catcher Vessels - All Target Fisheries				
	CV Inshore 92 Vessels	CV to IN/MS 14 Vessels	CV to MS 7 Vessels	CV to CP 7 Vessels	All AFA CVs 120 Vessels
Percent of Future Year's PSC Allocation					
Atka mackerel/Pollock/Other Groundfish[2]	32%	7%	2%	3%	44%
Yellowfin Sole	10%	1%	0%	1%	12%
Pacific Cod[1]	38%	4%	1%	5%	49%
Rock sole/Other flatfish	13%	2%	1%	1%	17%
Future Year's Halibut Allocation (mt) based on 1999 PSCs and the Percentages Above					
Atka mackerel/Pollock/Other Groundfish[2]	80.0	17.5	5.0	7.5	110.0
Yellowfin Sole	100.5	10.5	0.0	10.5	121.5
Pacific Cod[1]	589.0	62.0	15.5	77.5	744.0
Rock sole/Other flatfish	103.5	16.0	8.0	8.0	135.5

Source: NMFS Blend data for the years 1995-97 for denominator, and Fishtickets and NORPAC Observer data 1995-97 for the numerator.

Notes:

1) Only 1997 data were used for the Pacific cod fishery.

2) Estimates for the Atka mackerel/Pollock/Other Groundfish category do not reflect the changes that have occurred in the pollock fishery for 1999.

Reaching a PSC cap will either close a target fishery, or a specific fishing area. For example, reaching a red king crab cap will not close a target fishery, but will close either Zone 1 or Zone 2 to trawl gear. Management of the AFA catcher vessel's PSC is expected to be treated in the same way. Once the AFA catcher vessels reach their Zone 1 red king crab cap, they will be required to stop trawling inside Zone 1, but they will not be required to stop fishing in other areas.

The Council also requested that staff review the historic PSC bycatch rates of the catcher vessel fleet. This information is presented in Tables 7.28 and 7.29, and focus on the pollock and Pacific cod fisheries, respectively. Each of the AFA and Non-AFA catcher vessels that had observed hauls in the BSAI from 1995-97 were included in this calculation. Observed catch in metric tons for each vessel, by target fishery, are reported in the far right hand column. That catch does not represent a vessel's total catch for the year, it is simply the amount of observed catch taken in the target fishery (pollock or Pacific cod). To mask the identity of the vessels with the largest harvests, their actual amounts have been replaced with a "floor" amount (e.g., vessels that caught more than >30,000 mt). The rates in the tables were calculated by dividing the PSC catch amounts by the target catch. Separate tables for the pollock and Pacific cod fisheries have been included. The bottom three rows of each table summarize the overall difference between all AFA catcher vessels and all non-AFA catcher vessels.

Table 7.28: PSC bycatch ratios in the pollock target fisheries, 1995-97

Vessel	Halibut	Herring	C. opilio	C. Bairdi	Red King	Chinook	Other Salmon	Target
AFA - 1	0.00004	0.00024	0.01027	0.00022	0.00000	0.04394	0.04038	22,282
AFA - 10	**0.02761**	0.00000	0.00000	0.00000	0.00000	**0.07829**	0.00000	13
AFA - 100	0.00020	0.00055	0.00040	0.00000	0.00000	0.03411	0.01307	2,526
AFA - 101	0.00023	0.00060	0.00000	0.00000	0.00000	0.02732	**0.09028**	11,719
AFA - 102	**0.00088**	0.00100	0.00000	**0.04019**	0.00000	**0.10157**	**0.08426**	2,218
AFA - 103	0.00015	**0.00566**	0.00000	0.00000	0.00000	**0.33509**	**0.21888**	224
AFA - 104	**0.00030**	0.00101	**0.05829**	**0.12470**	0.00000	0.01794	0.05303	6,411
AFA - 105	**0.00028**	0.00071	0.00000	0.00000	0.00000	0.04483	**0.12159**	1,174
AFA - 106	0.00021	**0.00203**	0.00099	0.00000	0.00000	**0.09050**	**0.07952**	2,013
AFA - 107	0.00003	**0.00207**	0.00000	0.00000	0.00000	0.01647	0.01764	>30,000
AFA - 108	**0.00043**	**0.00239**	0.00010	**0.02766**	0.00000	**0.07621**	**0.12794**	10,319
AFA - 109	0.00009	0.00062	0.00000	0.00000	0.00000	**0.08133**	0.01094	831
AFA - 11	**0.00034**	0.00007	**0.02223**	**0.02712**	0.00000	0.03810	0.03184	5,177
AFA - 110	0.00012	0.00024	0.00917	**0.01372**	**0.00394**	**0.06665**	0.02139	28,992
AFA - 111	**0.00036**	0.00086	**0.03278**	**0.06057**	0.00000	**0.05102**	**0.12684**	8,126
AFA - 112	**0.00075**	0.00061	0.00042	0.00067	0.00092	**0.06505**	**0.06352**	18,418
AFA - 113	**0.00181**	0.00000	**6.03897**	**6.03897**	0.00000	0.00000	0.00000	11
AFA - 114	0.00020	0.00066	0.00029	0.00077	0.00000	**0.06009**	**0.14735**	10,345
AFA - 115	**0.00119**	**0.00142**	**0.12634**	**0.03744**	0.00011	0.02903	0.01513	18,438
AFA - 116	**0.00040**	0.00071	0.00011	**0.03579**	0.00000	0.03319	0.04905	9,023
AFA - 117	0.00018	0.00066	**0.02569**	**0.01858**	0.00000	0.04050	**0.17780**	7,992
AFA - 118	0.00009	0.00016	0.00000	0.00059	0.00000	**0.05758**	0.01543	1,685
AFA - 12	**0.00036**	0.00051	0.00032	0.00000	0.00000	**0.05949**	**0.31093**	6,243
AFA - 13	0.00022	0.00029	0.00000	0.00152	0.00000	0.03594	0.04934	5,578
AFA - 14	**0.00073**	**0.00319**	0.00459	**0.01778**	0.00000	0.01888	0.02017	20,917
AFA - 15	0.00011	**0.00240**	0.00387	0.00000	0.00000	**0.08114**	**0.07316**	20,799
AFA - 16	**0.00340**	0.00000	0.00000	0.00000	0.00000	**0.12177**	0.00000	128
AFA - 17	0.00016	**0.00248**	0.00820	0.00000	0.00000	0.03356	0.04661	>30,000
AFA - 18	0.00007	0.00006	0.00000	0.00000	0.00000	**0.04720**	0.01067	5,636
AFA - 19	**0.00030**	0.00014	0.00046	0.00137	0.00000	**0.06714**	**0.12871**	2,189
AFA - 2	0.00023	**0.00229**	0.00064	0.00021	0.00000	**0.05951**	**0.05736**	4,699
AFA - 20	0.00005	**0.00288**	0.00000	0.00000	0.00000	**0.49315**	**0.23014**	2,160
AFA - 21	0.00013	**0.00752**	0.00000	0.00000	0.00000	**0.12591**	**0.21056**	874
AFA - 22	**0.00036**	0.00008	0.00000	0.00000	0.00000	0.04142	0.01797	2,115
AFA - 23	0.00018	0.00057	0.00019	0.00000	0.00000	0.03319	**0.06545**	15,121
AFA - 24	**0.00099**	0.00006	0.00126	**0.05587**	0.00000	**0.05044**	**0.15259**	793
AFA - 25	**0.00039**	**0.00662**	0.00651	0.00650	0.00000	**0.04636**	**0.06223**	3,948
AFA - 26	0.00000	0.00000	0.00000	0.01007	0.00000	0.00000	**0.08058**	99
AFA - 27	**0.00028**	0.00008	**0.01681**	0.00000	0.00000	0.03363	0.00912	24,972
AFA - 28	**0.00025**	**0.00206**	0.00029	0.00000	0.00000	**0.06996**	0.05102	3,430
AFA - 29	**0.00068**	**0.00640**	**0.04273**	**0.03617**	0.00006	0.04001	0.01964	17,366
AFA - 3	**0.00119**	**0.00578**	**0.09422**	**0.02578**	0.00000	**0.06958**	0.04799	6,314
AFA - 30	**0.00050**	0.00024	0.01096	**0.01280**	0.00000	0.03536	0.01024	16,534
AFA - 31	0.00019	0.00056	0.00010	0.00000	0.00000	**0.05313**	**0.12539**	10,208
AFA - 32	0.00008	0.00081	0.00000	0.00129	0.00000	**0.07700**	0.02681	29,789
AFA - 33	0.00004	0.00010	0.00000	0.00000	0.00000	0.04231	0.03135	21,081
AFA - 34	0.00009	0.00045	**0.03854**	0.00635	0.00079	0.01379	**0.12985**	6,329
AFA - 35	0.00011	**0.00293**	0.00491	0.00213	0.00000	**0.05343**	0.01594	7,528

Table 7.28 continued

AFA - 36	**0.00033**	0.00104	**0.06448**	0.00189	**0.02757**	**0.05086**	**0.11338**	8,448
AFA - 37	0.00009	0.00013	0.00000	**0.04483**	0.00000	0.03364	0.03568	4,522
AFA - 38	0.00005	0.00062	0.00016	0.00019	0.00000	**0.07809**	**0.07232**	6,205
AFA - 39	0.00020	0.00023	**0.02702**	**0.06249**	0.00000	**0.05240**	0.04746	1,011
AFA - 4	0.00022	0.00068	**0.01785**	**0.08594**	0.00000	0.04322	**0.14239**	7,051
AFA - 40	0.00019	0.00038	**0.15389**	0.00124	0.00000	0.00932	0.00786	5,585
AFA - 41	0.00008	0.00092	**0.02759**	0.00000	0.00000	0.03031	0.01277	>30,000
AFA - 42	**0.00024**	0.00122	0.00037	0.00000	0.00000	0.03593	**1.05120**	2,672
AFA - 43	**0.00024**	0.00010	**0.01664**	**0.02418**	0.00000	**0.05581**	0.04242	6,128
AFA - 44	0.00002	0.00013	0.00000	0.00109	**0.00109**	**0.06848**	**0.19864**	921
AFA - 45	**0.00037**	0.00060	**0.03009**	0.00379	0.00000	0.02542	0.05084	5,547
AFA - 46	0.00018	0.00018	0.00000	0.00328	0.00000	**0.06961**	0.03074	8,231
AFA - 47	**0.00137**	**0.00187**	**0.13471**	0.00000	0.00000	**0.13293**	**0.18786**	1,802
AFA - 48	0.00023	0.00096	0.00927	0.00008	0.00000	0.01936	0.02934	25,218
AFA - 49	0.00023	0.00071	0.00000	0.00000	0.00000	0.04400	**0.11944**	14,110
AFA - 5	0.00005	0.00021	0.00000	0.00000	0.00000	**0.06938**	0.01596	5,324
AFA - 50	0.00002	**0.00274**	0.00004	0.00000	0.00000	**0.10915**	0.01992	25,769
AFA - 51	0.00005	0.00033	0.00000	0.00000	0.00000	**0.09165**	**0.13920**	4,407
AFA - 52	0.00016	0.00106	0.00041	0.00000	0.00000	0.01422	**0.13374**	7,232
AFA - 53	0.00012	**0.00314**	0.00015	0.00044	0.00000	**0.05473**	0.04218	6,757
AFA - 54	**0.00776**	0.00002	0.00000	0.00000	0.00000	0.01276	**0.15316**	78
AFA - 55	0.00006	**0.00317**	0.00000	**0.04462**	0.00000	0.01559	0.02058	7,637
AFA - 56	**0.00029**	**0.00299**	0.00000	0.00017	0.00000	**0.07874**	0.05595	5,987
AFA - 57	0.00010	0.00044	0.00250	0.00023	0.00000	0.03761	**0.09916**	4,395
AFA - 58	0.00012	0.00021	0.00068	0.00078	0.00036	**0.07917**	0.02378	19,228
AFA - 59	**0.00025**	0.00041	0.00000	0.00000	0.00000	**0.04973**	**0.27866**	466
AFA - 6	0.00011	0.00071	0.00067	0.00000	0.00000	0.02147	0.02181	6,007
AFA - 60	0.00015	0.00098	0.00000	0.00000	0.00000	**0.23079**	**0.23883**	622
AFA - 61	**0.00025**	0.00084	**0.01755**	**0.12634**	0.00000	0.01332	**0.10502**	11,692
AFA - 62	0.00008	0.00085	0.00110	0.00055	0.00000	0.03496	**0.09908**	1,813
AFA - 63	**0.00050**	0.00099	**0.16460**	**0.16045**	**0.08527**	0.01589	**0.06405**	6,345
AFA - 64	0.00022	0.00084	0.00000	**0.01754**	0.00000	0.04528	0.05505	5,377
AFA - 65	**0.00029**	0.00000	0.00000	0.00000	0.00000	**0.11051**	**0.19893**	181
AFA - 66	0.00010	**0.00143**	0.00008	0.00000	0.00000	0.04014	0.02497	>30,000
AFA - 67	0.00003	0.00024	0.00000	0.00000	0.00000	**0.06081**	0.02635	4,449
AFA - 68	0.00003	0.00034	0.00000	0.00000	0.00000	**0.13927**	**0.13927**	108
AFA - 69	**0.00088**	0.00009	0.00000	0.00000	0.00000	**0.05666**	**0.08998**	300
AFA - 7	0.00023	0.00057	**0.05395**	0.00546	0.00000	0.02329	**0.09941**	22,483
AFA - 70	**0.00297**	0.00000	0.01064	0.00000	0.00000	0.03192	**0.10641**	94
AFA - 71	**0.00040**	0.00073	**0.03432**	0.00000	0.00000	**0.46908**	**0.24026**	87
AFA - 72	0.00004	0.00101	0.00000	0.00000	0.00000	**0.08214**	**0.06194**	19,432
AFA - 73	0.00013	0.00005	0.00000	0.00000	0.00000	**0.04800**	**0.11294**	354
AFA - 74	0.00003	0.00038	0.00000	0.00000	0.00000	0.04444	0.02540	17,475
AFA - 75	0.00009	0.00074	0.00000	0.00000	0.00000	0.04355	**0.11230**	436
AFA - 76	0.00001	0.00000	0.00000	0.00000	0.00000	0.01510	0.00000	331
AFA - 77	0.00021	0.00056	0.00014	**0.01648**	0.00000	**0.06614**	0.03623	6,900
AFA - 78	0.00007	0.00102	0.00187	0.00000	0.00000	0.04172	0.05591	1,663
AFA - 79	0.00008	0.00079	0.00011	0.00015	0.00000	**0.04942**	0.02834	26,475
AFA - 8	**0.00029**	0.00062	0.00000	**0.24356**	**0.01456**	**0.05256**	0.00049	2,041

Table 7.28: PSC bycatch ratios in the pollock target fisheries, 1995-97

Vessel	Halibut	Herring	C. opilio	C. Bairdi	Red King	Chinook	Other Salmon	Target
AFA - 1	0.00004	0.00024	0.01027	0.00022	0.00000	0.04394	0.04038	22,282
AFA - 10	**0.02761**	0.00000	0.00000	0.00000	0.00000	**0.07829**	0.00000	13
AFA - 100	0.00020	0.00055	0.00040	0.00000	0.00000	0.03411	0.01307	2,526
AFA - 101	0.00023	0.00060	0.00000	0.00000	0.00000	0.02732	**0.09028**	11,719
AFA - 102	**0.00088**	0.00100	0.00000	**0.04019**	0.00000	**0.10157**	**0.08426**	2,218
AFA - 103	0.00015	**0.00566**	0.00000	0.00000	0.00000	**0.33509**	**0.21888**	224
AFA - 104	**0.00030**	0.00101	**0.05829**	**0.12470**	0.00000	0.01794	0.05303	6,411
AFA - 105	**0.00028**	0.00071	0.00000	0.00000	0.00000	0.04483	**0.12159**	1,174
AFA - 106	0.00021	**0.00203**	0.00099	0.00000	0.00000	**0.09050**	**0.07952**	2,013
AFA - 107	0.00003	**0.00207**	0.00000	0.00000	0.00000	0.01647	0.01764	>30,000
AFA - 108	**0.00043**	**0.00239**	0.00010	**0.02766**	0.00000	**0.07621**	**0.12794**	10,319
AFA - 109	0.00009	0.00062	0.00000	0.00000	0.00000	**0.08133**	0.01094	831
AFA - 11	**0.00034**	0.00007	**0.02223**	**0.02712**	0.00000	0.03810	0.03184	5,177
AFA - 110	0.00012	0.00024	0.00917	**0.01372**	**0.00394**	**0.06665**	0.02139	28,992
AFA - 111	**0.00036**	0.00086	**0.03278**	**0.06057**	0.00000	**0.05102**	**0.12684**	8,126
AFA - 112	**0.00075**	0.00061	0.00042	0.00067	0.00092	**0.06505**	**0.06352**	18,418
AFA - 113	**0.00181**	0.00000	**6.03897**	**6.03897**	0.00000	0.00000	0.00000	11
AFA - 114	0.00020	0.00066	0.00029	0.00077	0.00000	**0.06009**	**0.14735**	10,345
AFA - 115	**0.00119**	**0.00142**	**0.12634**	**0.03744**	0.00011	0.02903	0.01513	18,438
AFA - 116	**0.00040**	0.00071	0.00011	**0.03579**	0.00000	0.03319	0.04905	9,023
AFA - 117	0.00018	0.00066	**0.02569**	**0.01858**	0.00000	0.04050	**0.17780**	7,992
AFA - 118	0.00009	0.00016	0.00000	0.00059	0.00000	**0.05758**	0.01543	1,685
AFA - 12	**0.00036**	0.00051	0.00032	0.00000	0.00000	**0.05949**	**0.31093**	6,243
AFA - 13	0.00022	0.00029	0.00000	0.00152	0.00000	0.03594	0.04934	5,578
AFA - 14	**0.00073**	**0.00319**	0.00459	**0.01778**	0.00000	0.01888	0.02017	20,917
AFA - 15	0.00011	**0.00240**	0.00387	0.00000	0.00000	**0.08114**	**0.07316**	20,799
AFA - 16	**0.00340**	0.00000	0.00000	0.00000	0.00000	**0.12177**	0.00000	128
AFA - 17	0.00016	**0.00248**	0.00820	0.00000	0.00000	0.03356	0.04661	>30,000
AFA - 18	0.00007	0.00006	0.00000	0.00000	0.00000	**0.04720**	0.01067	5,636
AFA - 19	**0.00030**	0.00014	0.00046	0.00137	0.00000	**0.06714**	**0.12871**	2,189
AFA - 2	0.00023	**0.00229**	0.00064	0.00021	0.00000	**0.05951**	**0.05736**	4,699
AFA - 20	0.00005	**0.00288**	0.00000	0.00000	0.00000	**0.49315**	**0.23014**	2,160
AFA - 21	0.00013	**0.00752**	0.00000	0.00000	0.00000	**0.12591**	**0.21056**	874
AFA - 22	**0.00036**	0.00008	0.00000	0.00000	0.00000	0.04142	0.01797	2,115
AFA - 23	0.00018	0.00057	0.00019	0.00000	0.00000	0.03319	**0.06545**	15,121
AFA - 24	**0.00099**	0.00006	0.00126	**0.05587**	0.00000	**0.05044**	**0.15259**	793
AFA - 25	**0.00039**	**0.00662**	0.00651	0.00650	0.00000	**0.04636**	**0.06223**	3,948
AFA - 26	0.00000	0.00000	0.00000	0.01007	0.00000	0.00000	**0.08058**	99
AFA - 27	**0.00028**	0.00008	**0.01681**	0.00000	0.00000	0.03363	0.00912	24,972
AFA - 28	**0.00025**	**0.00206**	0.00029	0.00000	0.00000	**0.06996**	0.05102	3,430
AFA - 29	**0.00068**	**0.00640**	**0.04273**	**0.03617**	0.00006	0.04001	0.01964	17,366
AFA - 3	**0.00119**	**0.00578**	**0.09422**	**0.02578**	0.00000	**0.06958**	0.04799	6,314
AFA - 30	**0.00050**	0.00024	0.01096	**0.01280**	0.00000	0.03536	0.01024	16,534
AFA - 31	0.00019	0.00056	0.00010	0.00000	0.00000	**0.05313**	**0.12539**	10,208
AFA - 32	0.00008	0.00081	0.00000	0.00129	0.00000	**0.07700**	0.02681	29,789
AFA - 33	0.00004	0.00010	0.00000	0.00000	0.00000	0.04231	0.03135	21,081
AFA - 34	0.00009	0.00045	**0.03854**	0.00635	0.00079	0.01379	**0.12985**	6,329
AFA - 35	0.00011	**0.00293**	0.00491	0.00213	0.00000	**0.05343**	0.01594	7,528

Table 7.28 continued

AFA - 36	**0.00033**	0.00104	**0.06448**	0.00189	0.02757	**0.05086**	**0.11338**	8,448
AFA - 37	0.00009	0.00013	0.00000	**0.04483**	0.00000	0.03364	0.03568	4,522
AFA - 38	0.00005	0.00062	0.00016	0.00019	0.00000	**0.07809**	**0.07232**	6,205
AFA - 39	0.00020	0.00023	**0.02702**	**0.06249**	0.00000	**0.05240**	0.04746	1,011
AFA - 4	0.00022	0.00068	**0.01785**	**0.08594**	0.00000	0.04322	**0.14239**	7,051
AFA - 40	0.00019	0.00038	**0.15389**	0.00124	0.00000	0.00932	0.00786	5,585
AFA - 41	0.00008	0.00092	**0.02759**	0.00000	0.00000	0.03031	0.01277	>30,000
AFA - 42	**0.00024**	0.00122	0.00037	0.00000	0.00000	0.03593	**1.05120**	2,672
AFA - 43	**0.00024**	0.00010	**0.01664**	**0.02418**	0.00000	**0.05581**	0.04242	6,128
AFA - 44	0.00002	0.00013	0.00000	0.00109	**0.00109**	**0.06848**	**0.19864**	921
AFA - 45	**0.00037**	0.00060	**0.03009**	0.00379	0.00000	0.02542	0.05084	5,547
AFA - 46	0.00018	0.00018	0.00000	0.00328	0.00000	**0.06961**	0.03074	8,231
AFA - 47	**0.00137**	**0.00187**	**0.13471**	0.00000	0.00000	**0.13293**	**0.18786**	1,802
AFA - 48	0.00023	0.00096	0.00927	0.00008	0.00000	0.01936	0.02934	25,218
AFA - 49	0.00023	0.00071	0.00000	0.00000	0.00000	0.04400	**0.11944**	14,110
AFA - 5	0.00005	0.00021	0.00000	0.00000	0.00000	**0.06938**	0.01596	5,324
AFA - 50	0.00002	**0.00274**	0.00004	0.00000	0.00000	**0.10915**	0.01992	25,769
AFA - 51	0.00005	0.00033	0.00000	0.00000	0.00000	**0.09165**	**0.13920**	4,407
AFA - 52	0.00016	0.00106	0.00041	0.00000	0.00000	0.01422	**0.13374**	7,232
AFA - 53	0.00012	**0.00314**	0.00015	0.00044	0.00000	**0.05473**	0.04218	6,757
AFA - 54	**0.00776**	0.00002	0.00000	0.00000	0.00000	0.01276	**0.15316**	78
AFA - 55	0.00006	**0.00317**	0.00000	**0.04462**	0.00000	0.01559	0.02058	7,637
AFA - 56	**0.00029**	**0.00299**	0.00000	0.00017	0.00000	**0.07874**	0.05595	5,987
AFA - 57	0.00010	0.00044	0.00250	0.00023	0.00000	0.03761	**0.09916**	4,395
AFA - 58	0.00012	0.00021	0.00068	0.00078	0.00036	**0.07917**	0.02378	19,228
AFA - 59	**0.00025**	0.00041	0.00000	0.00000	0.00000	**0.04973**	**0.27866**	466
AFA - 6	0.00011	0.00071	0.00067	0.00000	0.00000	0.02147	0.02181	6,007
AFA - 60	0.00015	0.00098	0.00000	0.00000	0.00000	**0.23079**	**0.23883**	622
AFA - 61	**0.00025**	0.00084	**0.01755**	**0.12634**	0.00000	0.01332	**0.10502**	11,692
AFA - 62	0.00008	0.00085	0.00110	0.00055	0.00000	0.03496	**0.09908**	1,813
AFA - 63	**0.00050**	0.00099	**0.16460**	**0.16045**	**0.08527**	0.01589	**0.06405**	6,345
AFA - 64	0.00022	0.00084	0.00000	**0.01754**	0.00000	0.04528	0.05505	5,377
AFA - 65	**0.00029**	0.00000	0.00000	0.00000	0.00000	**0.11051**	**0.19893**	181
AFA - 66	0.00010	**0.00143**	0.00008	0.00000	0.00000	0.04014	0.02497	>30,000
AFA - 67	0.00003	0.00024	0.00000	0.00000	0.00000	**0.06081**	0.02635	4,449
AFA - 68	0.00003	0.00034	0.00000	0.00000	0.00000	**0.13927**	**0.13927**	108
AFA - 69	**0.00088**	0.00009	0.00000	0.00000	0.00000	**0.05666**	**0.08998**	300
AFA - 7	0.00023	0.00057	**0.05395**	0.00546	0.00000	0.02329	**0.09941**	22,483
AFA - 70	**0.00297**	0.00000	0.01064	0.00000	0.00000	0.03192	**0.10641**	94
AFA - 71	**0.00040**	0.00073	**0.03432**	0.00000	0.00000	**0.46908**	**0.24026**	87
AFA - 72	0.00004	0.00101	0.00000	0.00000	0.00000	**0.08214**	**0.06194**	19,432
AFA - 73	0.00013	0.00005	0.00000	0.00000	0.00000	**0.04800**	**0.11294**	354
AFA - 74	0.00003	0.00038	0.00000	0.00000	0.00000	0.04444	0.02540	17,475
AFA - 75	0.00009	0.00074	0.00000	0.00000	0.00000	0.04355	**0.11230**	436
AFA - 76	0.00001	0.00000	0.00000	0.00000	0.00000	0.01510	0.00000	331
AFA - 77	0.00021	0.00056	0.00014	**0.01648**	0.00000	**0.06614**	0.03623	6,900
AFA - 78	0.00007	0.00102	0.00187	0.00000	0.00000	0.04172	0.05591	1,663
AFA - 79	0.00008	0.00079	0.00011	0.00015	0.00000	**0.04942**	0.02834	26,475
AFA - 8	**0.00029**	0.00062	0.00000	**0.24356**	**0.01456**	**0.05256**	0.00049	2,041

Table 7.28 continued

AFA - 80	0.00006	0.00017	0.00893	0.00744	0.00074	0.02331	0.03808	1,344
AFA - 81	0.00002	0.00044	0.00000	0.00000	0.00000	0.04102	0.04063	19,068
AFA - 82	**0.00058**	0.00083	**0.26502**	0.00000	0.00000	0.00892	**0.14108**	7,179
AFA - 83	**0.00044**	0.00087	0.00036	0.00000	**0.00864**	**0.05017**	**0.13285**	8,249
AFA - 84	0.00018	**0.00276**	0.00013	0.00007	0.00000	0.03228	**0.06331**	15,118
AFA - 85	0.00016	0.00014	0.00000	**0.03460**	0.00000	0.04011	0.00811	2,487
AFA - 86	**0.00049**	0.00105	**0.12315**	0.00000	0.00000	0.03374	**0.15087**	8,655
AFA - 87	0.00003	**0.00143**	0.00000	0.00000	0.00000	0.02609	0.02077	3,994
AFA - 88	0.00023	0.00052	0.00000	0.00000	0.00000	0.02039	**0.06750**	10,075
AFA - 89	0.00007	0.00042	0.00024	0.00012	0.00000	**0.06200**	**0.06649**	8,480
AFA - 9	0.00005	0.00020	0.00000	0.00071	0.00000	**0.09608**	**0.23298**	1,415
AFA - 90	0.00008	**0.00258**	0.00116	0.00116	0.00000	**0.31394**	**0.30818**	859
AFA - 91	**0.00050**	0.00074	0.00503	**0.04112**	0.00000	0.04518	**0.12266**	10,815
AFA - 92	0.00016	0.00106	0.00000	0.00000	0.00000	0.04508	0.02413	4,537
AFA - 93	0.00011	0.00072	0.00000	0.00013	0.00000	0.04444	0.05203	7,768
AFA - 94	0.00007	0.00000	0.00000	0.00000	0.00000	0.04611	0.00000	369
AFA - 95	**0.00103**	**0.00194**	0.00000	**0.07884**	0.00030	0.01228	**0.07552**	3,297
AFA - 96	**0.00048**	0.00026	0.00029	0.00000	0.00000	**0.05070**	**0.12798**	3,399
AFA - 97	0.00004	0.00002	0.00000	0.00398	0.00000	0.01621	0.01390	1,298
AFA - 98	**0.00049**	0.00061	0.00007	0.00022	0.00000	0.04257	**0.06018**	13,459
AFA - 99	0.00015	0.00011	0.00000	0.00000	0.00000	0.04440	0.02537	788
Non - AFA -3	0.00006	0.00082	0.00000	0.00000	0.00000	0.01987	**0.13512**	252
Non- AFA - 8	**0.00048**	0.00001	0.00000	0.00000	0.00000	**0.05592**	**0.31688**	54
Non-AFA - 1	0.00000	0.00010	0.00000	0.00000	0.00000	0.04419	**0.07364**	68
Non-AFA - 2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	14
Non-AFA - 4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	13
Non-AFA - 7	**0.00040**	0.00002	0.00000	0.00000	0.00000	0.00000	0.02687	119
Non-AFA -5	**0.00250**	0.00000	**3.23154**	0.00000	0.00000	0.00000	0.00000	15
Non-AFA -6	0.00000	0.00000	0.00000	0.00000	0.00000	0.01577	0.00000	127
Non-AFA -9	0.00005	0.00005	0.00000	0.00000	0.00000	0.03210	**0.12304**	187
AFA CV Avg.	**0.00023**	**0.00123**	0.01507	**0.01026**	**0.00099**	**0.04617**	0.05637	1,033,638
Non-AFA CV Avg.	0.00016	0.00027	**0.05854**	0.00000	0.00000	0.02242	**0.09699**	848
All CVs Avg.	0.00023	0.00123	0.01511	0.01025	0.00099	0.04615	0.05640	1,034,485
AFA CP Avg	0.00027	**0.00073**	0.16879	0.05790	0.00344	0.01868	**0.03592**	957,688
Non-AFA CP Avg	**0.00255**	0.00034	**2.80699**	**1.94940**	**0.0355**	**0.02569**	0.01199	79,359
All CPs	0.00044	0.00070	0.36196	0.19640	0.00579	0.01920	0.03416	1,037,047

Source: Observed hauls in the Norpac Observer data base, 1995-97

Notes:

1) A bolded number means that vessel was above the fleet average.

2) Herring and halibut rates are PSC (mt) / Target (mt). Crab and salmon are PSC (animals)/Target (mt)

Table 7.29: PSC bycatch ratios in the Pacific cod target fisheries, 1995-97

Vessel	Halibut	Herring	C. opilio	C. Bairdi	Red King	Chinook	Other Salmon	Target
AFA - 1	0.01800	0.00000	0.78297	**1.25782**	0.00000	**0.64669**	0.00000	315
AFA - 10	**0.03212**	0.00000	0.00000	0.00000	0.00000	0.03678	0.00525	190
AFA - 100	**0.03348**	0.00000	0.05655	0.36001	0.00000	**0.12629**	0.00000	513
AFA - 101	0.02149	0.00000	0.47235	**4.05024**	0.00000	0.02011	**0.05384**	149
AFA - 102	0.00981	0.00000	0.02740	0.06561	0.00000	**0.09479**	0.00056	1,778
AFA - 104	0.02452	0.00000	0.25891	**4.23448**	0.00000	**0.08823**	0.00000	400
AFA - 105	0.01465	0.00000	0.31747	0.07851	0.00000	0.01996	0.00000	1,655
AFA - 106	**0.08034**	**0.00003**	14.10415	**13.73087**	0.00000	0.00000	0.00000	212
AFA - 107	0.01931	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	47
AFA - 108	0.02032	0.00000	0.64164	1.05426	0.00000	**0.08495**	0.00000	800
AFA - 109	**0.03338**	0.00000	0.00000	0.11939	0.00000	0.00000	0.00000	340
AFA - 11	**0.03501**	0.00000	2.30247	0.59580	**0.01616**	0.00404	0.00135	742
AFA - 110	0.02648	0.00000	1.76514	**1.17104**	0.00000	0.00670	**0.12824**	597
AFA - 111	0.01963	**0.00044**	0.93512	1.04160	0.00000	0.05396	0.00000	836
AFA - 112	**0.04972**	0.00000	0.69945	0.84677	**0.05077**	0.06443	0.00058	1,726
AFA - 113	0.01392	0.00000	0.70889	0.58803	0.00000	0.00471	0.00000	637
AFA - 114	**0.06811**	0.00000	3.68078	0.00000	0.00000	0.00000	0.00000	29
AFA - 115	**0.04089**	0.00002	3.73462	**2.17919**	0.00285	**0.24415**	0.00095	>2,000
AFA - 116	**0.04231**	**0.00007**	0.75734	**2.51259**	0.00000	**0.17275**	0.00000	820
AFA - 117	0.02581	0.00000	0.04455	0.13365	0.00000	0.05092	0.00000	157
AFA - 118	0.02005	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	57
AFA - 13	**0.03271**	0.00000	0.52566	**1.30164**	**0.06250**	0.00387	0.00000	775
AFA - 14	0.02295	0.00000	0.14676	**1.30487**	0.00000	0.05055	0.00000	>2,000
AFA - 15	0.01957	0.00000	3.75804	1.04495	0.00000	0.00000	0.00000	1,436
AFA - 16	**0.04906**	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	169
AFA - 17	0.00027	0.00000	0.12693	0.12693	0.00000	0.03505	0.00000	200
AFA - 18	0.02412	0.00000	0.01518	0.11216	0.00137	0.01647	0.00000	729
AFA - 19	0.02440	0.00000	0.83678	0.37337	0.00000	0.00173	0.00000	578
AFA - 2	**0.02806**	0.00000	0.95651	0.06116	0.00000	0.03200	0.00101	989
AFA - 20	0.00011	**0.00421**	0.00000	0.00000	0.00000	**1.30525**	**0.32631**	6
AFA - 21	0.01471	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	80
AFA - 22	0.02106	0.00000	0.00000	0.54985	0.00000	0.00000	0.00000	375
AFA - 23	0.01569	0.00000	0.00827	0.31770	0.00000	0.00267	0.00267	375
AFA - 24	**0.04157**	0.00000	0.35985	**1.84053**	0.00000	0.00000	0.00000	191
AFA - 25	0.01578	0.00000	0.28541	0.08748	0.00000	0.01242	0.00000	1,050
AFA - 27	0.01678	0.00000	2.31278	0.35902	0.00000	0.00000	0.00000	486
AFA - 28	0.01880	0.00000	1.02669	0.19289	0.00000	**0.13529**	0.00000	474
AFA - 29	**0.02934**	0.00000	2.01369	**2.86021**	0.00052	**0.09157**	0.00000	1,917
AFA - 3	**0.02912**	0.00002	1.72415	0.34193	0.00000	0.00952	**0.03983**	1,155
AFA - 30	**0.08759**	0.00000	11.93368	**1.67153**	0.00000	**0.15884**	0.00000	434
AFA - 31	0.01422	0.00000	0.54516	0.76346	0.00000	**0.28710**	0.00000	78
AFA - 32	**0.06447**	0.00000	0.53415	**11.64255**	0.00000	**0.12125**	0.00000	279
AFA - 33	**0.02840**	0.00000	0.13659	0.00000	0.00000	0.03916	0.00000	299
AFA - 34	**0.03828**	0.00000	5.45194	**12.95646**	0.00000	**0.19886**	0.00000	357

Table 7.29 continued

AFA - 35	**0.06143**	**0.00003**	0.22886	0.03081	0.00000	0.02641	0.00000	227
AFA - 36	0.01667	0.00000	2.10134	**1.17788**	0.00000	**0.15494**	0.00099	1,009
AFA - 37	**0.05286**	**0.00003**	0.00000	0.06467	0.00000	**0.12892**	0.00000	233
AFA - 38	**0.02798**	0.00000	2.07291	**2.11725**	0.00000	0.00000	0.00000	738
AFA - 39	**0.02774**	0.00000	0.89655	0.53641	0.00000	0.02170	0.00000	1,307
AFA - 4	**0.06068**	0.00000	1.54228	**1.86447**	0.00000	0.00000	0.00000	398
AFA - 40	0.00485	0.00000	0.00000	0.12933	0.00000	0.02677	0.00000	1,225
AFA - 41	**0.04047**	0.00000	0.00000	**4.58215**	0.00000	0.00000	0.00000	7
AFA - 43	0.02421	0.00000	0.27751	0.71346	0.00000	0.01908	0.00000	891
AFA - 44	0.02395	0.00000	0.00000	**2.37172**	0.00000	0.00000	0.00000	85
AFA - 45	0.02528	0.00000	2.91803	**1.57814**	0.00000	**0.15334**	0.00000	327
AFA - 46	**0.06319**	0.00000	0.20360	**3.20219**	0.00000	**0.13121**	0.00000	249
AFA - 47	0.02536	0.00000	0.60546	0.23854	0.00000	0.00101	0.00051	1,978
AFA - 48	**0.10328**	0.00000	0.82115	**1.37942**	0.00000	**0.13945**	0.00102	982
AFA - 49	0.01986	0.00000	0.39322	0.14422	0.00000	0.00739	**0.01222**	327
AFA - 5	0.01471	0.00000	0.06948	**2.55531**	0.00000	**0.36625**	0.00000	198
AFA - 50	**0.02774**	0.00000	0.30356	**8.96878**	0.00000	0.05897	0.00000	373
AFA - 52	0.02458	0.00000	0.98974	0.50787	0.00000	0.00000	0.00000	764
AFA - 53	0.02278	0.00000	0.35713	0.13574	0.00000	0.01584	0.00000	442
AFA - 54	**0.03861**	0.00000	0.08129	0.94114	0.00000	0.00581	0.00000	172
AFA - 55	0.02257	0.00000	0.00000	**2.62561**	0.00000	**0.25727**	0.00000	396
AFA - 56	**0.04479**	0.00000	0.11734	0.96071	**0.12275**	**0.17837**	0.00000	399
AFA - 57	**0.04334**	0.00000	1.18174	**1.71718**	0.00000	**0.66879**	0.00000	558
AFA - 58	0.02238	0.00000	0.26903	0.43682	**0.01077**	0.05612	0.00067	1,485
AFA - 59	0.02089	0.00000	1.15877	0.21511	0.00000	0.05293	0.00000	741
AFA - 6	**0.02839**	**0.00029**	0.08755	0.05942	0.00000	0.01082	**0.05547**	739
AFA - 60	0.00952	**0.00003**	0.84910	0.01416	0.00000	0.02023	0.00506	989
AFA - 61	**0.03511**	0.00000	0.00000	0.17047	**0.03008**	**0.10028**	0.00000	100
AFA - 62	0.01802	0.00000	0.00447	0.13996	0.00000	0.00894	0.00000	447
AFA - 63	0.00514	0.00000	0.00000	0.19829	**0.05263**	0.00000	0.00000	1,538
AFA - 64	**0.02911**	**0.00010**	0.32994	0.22833	0.00000	0.00000	0.00000	635
AFA - 66	0.02041	0.00000	7.22967	**2.09241**	0.00000	**1.27084**	0.00000	22
AFA - 67	0.01529	0.00000	0.42704	0.07415	0.00000	0.00182	0.00000	550
AFA - 69	**0.02913**	0.00000	0.00000	0.28025	0.00000	0.00000	0.00000	121
AFA - 7	0.01764	**0.00039**	1.78677	0.21503	0.00000	0.04306	0.00000	828
AFA - 72	**0.04379**	0.00001	0.20379	0.00000	0.00000	0.00000	0.00000	290
AFA - 73	**0.04065**	0.00000	0.92212	**1.60295**	0.00000	0.01713	0.00000	234
AFA - 76	0.01084	0.00000	0.00000	0.71824	0.00000	**0.63234**	0.00000	85
AFA - 77	**0.07102**	0.00000	2.37053	0.79046	0.00000	0.01543	0.00000	259
AFA - 78	**0.04645**	0.00000	0.00000	**3.03838**	0.00000	0.00000	0.00000	39
AFA - 79	**0.04020**	**0.00006**	0.18802	0.42714	0.00000	0.03196	0.00564	532
AFA - 8	0.01012	0.00000	0.01236	0.18596	0.00000	0.02162	0.00000	324
AFA - 80	**0.04203**	0.00000	0.56997	0.91308	**0.01656**	0.01656	0.00000	60
AFA - 81	**0.07361**	0.00000	0.33378	0.29002	0.00000	0.00282	0.00564	354
AFA - 82	**0.03863**	0.00000	3.68395	0.90967	0.00000	**0.13448**	0.00000	552

Table 7.29 continued

AFA - 83	**0.03237**	**0.00004**	0.25815	0.12011	0.00163	**0.06832**	0.00000	615
AFA - 84	0.01915	0.00000	0.80612	**1.07810**	0.00042	0.00042	0.00000	>2,000
AFA - 85	0.01950	0.00000	0.05135	0.44086	0.00000	**0.20880**	0.00000	439
AFA - 86	**0.03078**	0.00000	1.17787	**1.62270**	0.00000	**0.10675**	**0.11420**	1,033
AFA - 87	**0.04381**	0.00000	1.67037	**6.00052**	0.00000	0.00284	0.00000	352
AFA - 88	0.01375	**0.00017**	0.11266	**1.54780**	0.00000	0.01437	0.00000	489
AFA - 89	**0.03487**	0.00000	0.28545	0.15111	0.00000	**0.12557**	0.00000	546
AFA - 9	0.01851	0.00000	0.01996	1.00447	0.00000	0.01397	0.00000	501
AFA - 90	0.02364	0.00000	4.75925	**1.55468**	0.00000	**0.63316**	0.00000	154
AFA - 91	**0.03120**	0.00000	1.45560	**1.20568**	0.00000	**0.15911**	0.00000	505
AFA - 92	0.02493	0.00000	0.67740	**1.12075**	0.00000	0.00680	0.00000	588
AFA - 93	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	8
AFA - 95	**0.03355**	0.00000	3.82972	**2.15125**	0.00000	**0.11605**	**0.08495**	760
AFA - 96	0.02409	0.00000	0.29432	0.27129	0.00000	0.00200	**0.02197**	501
AFA - 97	0.02051	0.00000	0.53552	0.73298	0.00000	**0.28618**	**0.23185**	188
AFA - 98	0.01970	0.00000	0.03963	0.04294	**0.00824**	0.00996	0.00088	>2,000
AFA - 99	**0.02799**	0.00000	0.00000	0.05758	0.00000	0.00288	0.00000	347
Non - AFA -3	0.01673	0.00000	0.16980	0.00000	0.00000	0.05267	0.00000	278
Non- AFA - 8	**0.03433**	0.00000	2.00975	**2.36743**	0.00000	0.00000	0.00000	105
Non-AFA - 2	**0.03117**	0.00000	1.91231	0.36856	0.00000	0.00000	0.00000	105
Non-AFA - 4	0.00915	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	45
Non-AFA -5	0.01251	0.00000	2.94668	0.58600	0.00217	0.03593	0.00217	462
Non-AFA -6	0.01600	0.00000	0.79276	0.66763	0.00000	**0.13374**	0.00000	704
AFA Avg.	**0.02765**	**0.00002**	1.04475	**1.07042**	**0.00498**	0.06583	**0.00668**	65,655
Non-AFA Avg.	0.01705	0.00000	1.39923	0.60452	0.00059	**0.07382**	0.00059	1,699
All Vessels Avg.	0.02739	0.00002	1.05369	1.05867	0.00487	0.06604	0.00653	67,354
AFA CP Avg.	0.01197	**0.00044**	0.84046	2.43699	0.01994	**0.11713**	0.00713	23,473
Non-AFA CP Avg	**0.04144**	0.00008	**11.44726**	**9.32298**	**0.12270**	0.10537	**0.02346**	16,753
All CPs Avg.	0.0242	0.00029	5.25799	5.30488	0.06274	0.11223	0.01403	40,226

Source: Observed hauls in the Norpac Observer data base, 1995-97

Notes:

1) A bolded number means that vessel was above the fleet average.

2) Herring and halibut rates are PSC (mt) / Target (mt). Crab and salmon are PSC (animals) / Target (mt)

Table 7.30 reports the AFA catcher vessels observed PSC catch for 1997 and provides an estimate of bycatch needs, had the pollock fishery been conducted entirely in a pelagic mode, based on 1999 TACs, as requested by the Council. These estimates should only be considered as rough approximations of future needs. The numbers of crab required are especially small. Excluding all harvests where no more than 20 crab were caught reduces the estimated crab needs to a level where a single tow could produce enough bycatch to exceed the cap. Imposing restrictions that severe could penalize the entire AFA for a single mistake made by a captain. Therefore, these numbers should reflect the absolute minimum amount of bycatch needed, if the fishery were conducted with few or no "bad" tows.

Table 7.30: PSC catch and estimated bycatch needs in the BSAI pollock fisheries

	1997 Observed Catch			Estimates of PSC Needs[1]	
AFA Vessels	All	20 Crabs[2]	Pelagic Gear[3]	20 Crabs[2]	Pelagic Gear[3]
Pollock (mt)	307,440	305,826	289,843	529,243	529,243
Chinook Salmon	21,730	21,433	21,005	24,315	24,694
Other Salmon	25,110	25,109	23,183	29,938	29,600
Herring (mt)	506	506	490	651	657
Halibut (mt)	109	90	48	106	60
Red King Crab	141	27	-	15	56
C. opilio	9,998	145	1,552	123	1,810
C. bairdi	3,505	61	344	122	2,212

Source: NMFS Observer Data from the Years 1995-97
1) Estimates of PSC needs in future years were calculated based on the portion of the 1999 TACs that would be harvested by catcher vessels in the pollock target fishery, multiplied by the average PSC bycatch rates in the pollock target fishery from 1995-97.
2) Only observations that had less than 20 crabs in a haul were included
3) Only observations were pelagic gear was used are included (for definition of pelagic gear see Chapter 6).

The estimates above are based on assigning each haul to a specific target fishery, and then selecting only hauls where pollock was the target fishery. NMFS assigns target fisheries by week, zone (NMFS three digit location code), gear type, and processor, not on a haul-by-haul basis. Generally small differences resulted from using these target definitions to determine PSC bycatch needs in the pelagic pollock fishery, because pollock is a relatively clean fishery with high catch rates. Fisheries that have more diversity in the species mix, would likely have larger differences when the two methods were used. Table 7.31 shows the differences in PSC catch in the pollock fishery that result from both target methods. A sample of over 20,000 haul records where species composition was sampled from 1995-97 was used to test the difference between both methods.

Table 7.31: Comparison of Catcher Vessel PSC bycatch in the BSAI pollock fisheries from 1995-97, when a per haul target calculation is used instead of a weekly aggregation

AFA Catcher Vessels	20 Crabs[1]		Pelagic Gear[2]	
	Target by Haul[3]	Target by Week[4]	Target by Haul	Target by Week
Chinook Salmon	40,046	40,152	39,898	39,994
Other Salmon	33,150	33,293	32,992	33,134
Herring (mt)	1,105	1,280	1,102	1,276
Halibut (mt)	150	144	66	67
Red King Crab	30	10	1	1
C. opilio	165	212	395	409
C. bairdi	181	141	97	163

Source: NMFS Observer Data from the Years 1995-97
1) Only observations that had less than 20 crabs in a haul were included.
2) Only observations where pelagic gear was used are included (for definition of pelagic gear see Chapter 6).
3) Target fisheries were determined for each haul that was sampled for species composition in the Observer database.
4) Target fisheries were determined at the vessel level for weekly aggregations in each zone fished.
Note: A matched pairs t-test revealed no significant difference between each targeting method at a significance level of 10%, and a similar test yielded the same results when the two methods were compared for PSC bycatch of AFA catcher processors.

7.6. GOA Sideboards

Sideboard alternatives for the GOA are slightly different from those developed for the BS/AI. The Council was clear that the sideboards are caps and not allocations, and stated that target catch of non-flatfish species available to AFA catcher vessels should be limited to the average catch, by target species, based on average catch history during the years 1995-97. Staff has assumed that this calculation is equivalent to dividing the AFA catcher vessel's total harvest of those species by the total harvest of all vessels. The resulting percentage is the portion of the TAC that AFA catcher vessels could harvest up to under a sideboard cap. A suboption also exists to release the sideboard caps, by quarter, in proportion to when the catch used to determine the sideboards was harvested.

7.6.1 Deep and Shallow Water Flatfish Sideboard Caps

Harvests of GOA flatfish species have traditionally been limited by halibut bycatch. Setting appropriate halibut sideboard caps would constrain the amount of deep and shallow water flatfish that could be harvested by AFA catcher vessels to approximately their traditional levels. This assumes that the ratio of halibut bycatch to flatfish target catch remains fairly consistent in future years. It also assumes that the non-AFA catcher vessels are willing to allow some increases in AFA catcher vessel catch of flatfish species, if the ratio of halibut to target catch decreases. Discussions with members of industry indicated this was not a serious problem, because there is a portion of the flatfish TAC left on the table most years.

The alternative proposed for calculating halibut bycatch sideboard caps multiplies the historic target catch in those fisheries by the average halibut bycatch rate and the current mortality rates. This calculation will determine the amount of halibut available to AFA catcher vessels, and so long as PSC caps are managed at

the target fishery level, setting specific deep and shallow water flatfish caps may be unnecessary. If AFA vessel PSC caps are managed by NMFS in aggregate and not at the target fishery level, then limiting catch in the deep and shallow water flatfish complexes this way may raise some concern. AFA catcher vessels might have the opportunity to shift halibut from other GOA target fisheries, Pacific cod or pollock for example, for use in the flatfish targets, and thus expand their catch of flatfish, beyond what was anticipated.

Table 7.32 shows the amount of groundfish catch and halibut bycatch taken by catcher vessels in the deep and shallow water flatfish complexes for the years 1995-97. This information can be used along with the AFA catcher vessel's historic flatfish catch information from the GOA to determine halibut bycatch caps for AFA vessels in future years. That estimate is reported in the final row of Table 7.32, and the formula used for that calculation is noted at the bottom of the table. Note that the results of that calculation is in metric tons and not a percentage of the future allocation as was done for the BSAI. Converting the resulting shallow water flatfish numbers to a percentage could be accomplished by dividing our estimate by the shallow water PSC allocations. A similar calculation could be made for the deep water complex. These PSC complex groupings are different from the shallow and deep water flatfish target fisheries. The shallow water PSC complex includes pollock, Pacific cod, Atka mackerel, other species, and shallow water flatfish. The deep water PSC complex includes rockfish, flathead sole, sablefish, arrowtooth flounder, and deep water flatfish.

Table 7.32: Historic groundfish and halibut PSC catch information from catcher vessels in the 1995-97 GOA deep and shallow water flatfish fisheries

Row	Historic Catch Classes	Deep water flats	Shallow water flats
All Catcher Vessel's Historic Harvests			
1	Total Groundfish Catch in the Target Fishery (mt)	8,074	26,603
2	Total Target Catch in the Target Fishery (mt)	3,071	11,704
3	Percent of Target Species Caught	38%	44%
4	Total Amount of Reported Halibut Bycatch (mt)	553	1,888
5	Total Reported Halibut Mortality (mt)	313	1,245
6	1999 Halibut Discard Mortality Rates	66%	71%
AFA Catcher Vessel's Historic Harvests			
7	Target Catch in Target Fishery from 1995-97 (mt)	2,329	5,551
Estimated Annual Halibut Mortality Cap		92	212
Percent of each 1999 PSC Complex[2]		10%	20%

Sources: 1995-97 NMFS Blend data for target catch information, and 1995-97 NMFS PSC data sets (e.g. GO95HALX) for halibut bycatch amounts.

1) Estimates were calculated using the following formula: ((Row 4/Row 2)*Row 6*Row 7)/3

2) Assumes 59 percent of the fourth quarter allocation was to the shallow water PSC complex, which was the 1995-97 average for all catcher vessels. No allocation of halibut is made by complex in the fourth quarter.

A sub-option to allocate the caps by quarter has also been included in the list of alternatives. Halibut PSC for the two flatfish complexes would be apportioned according to when the target catch was harvested. Table 7.33 lists the proportion of deep and shallow water flatfish that was caught by quarter. Multiplying the estimated annual halibut mortality cap for the AFA catcher vessels (92 mt in the deep water flatfish fishery and 212 mt in the shallow water flatfish fishery), by these percentages of quarterly target catch will yield the amount of halibut available by quarter.

Table: 7.33 Percentage of deep and shallow water flatfish catch and estimated halibut PSC caps, by quarter

Species	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
Percent of Catch (in Non-pollock Target Fisheries only) by Quarter					
Deep Water Flatfish	11%	67%	18%	4%	100%
Shallow Water Flatfish	28%	26%	23%	23%	100%
Estimated Halibut PSC Caps by Quarter (mt)					
Deep Water Flatfish	10	62	17	4	92
Shallow Water Flatfish	59	55	49	49	212

Source: ADF&G Fishtickets and NORPAC Observer data, 1995-97.

7.6.2 Groundfish Sideboard Caps

The Council has proposed that the target catch of each GOA groundfish species available to AFA catcher vessels should be limited to the average catch, by target species, based on their historic catch during the years 1995-97. The following tables have been prepared to provide information on these caps. Table 7.34 shows the catch history of AFA catcher vessels. Pollock is also included as a sideboard species for the GOA, because the AFA allocation of pollock only applies to the BSAI. Sideboard caps for these species could be limited through halibut PSC caps or the groundfish sideboards. Table 7.35 reports the catch history of all vessels in the GOA fisheries. Finally, Table 7.35 is the resulting percentage when the information in the first table is divided by the information in the second.

Table 7.34: Catch of groundfish species by all vessels in the GOA, 1995-97

TAC Species Groupings	Total Harvest of All GOA Vessels
Atka Mackerel - CG (1995 - 1996)	379
Atka Mackerel - GOA (1997)	329
Atka Mackerel - WG (1995 - 1996)	1,906
Arrowtooth Flounder - Central Gulf	48,384
Arrowtooth Flounder - Eastern Gulf	2,965
Arrowtooth Flounder - Western Gulf	5,890
Deep Water Flatfish - Central Gulf	6,503
Deep Water Flatfish - Eastern Gulf	1,450
Deep Water Flatfish - Western Gulf	123
Flathead Sole - Central Gulf	5,661
Flathead Sole - Eastern Gulf	191
Flathead Sole - Western Gulf	1,845
Northern Rockfish - CG	11,481
Northern Rockfish - EG	83
Northern Rockfish - WG	343
Other Species - GOA	13,300
Pacific Cod (Inshore) - CG	126,966
Pacific Cod (Offshore) - CG	9,730
Pacific Cod (Inshore) - EG	2,803
Pacific Cod (Offshore) - EG	16
Pacific Cod (Inshore) - WG	59,436
Pacific Cod (Offshore) - WG	6,724
Pelagic Shelf Rockfish - CG	1,765
Pelagic Shelf Rockfish (Nearshore) - CG	4,244
Pelagic Shelf Rockfish - EG	1,375
Pelagic Shelf Rockfish - WG	384
Pollock - Chirikof District	58,289
Pollock - EG	9,896
Pollock - Kodiak	64,191
Pollock - Shumagin District	80,839
Pacific Ocean Perch - CG	14,451
Pacific Ocean Perch - EG	4,947
Pacific Ocean Perch - WG	4,241

Table 7.34 continued	
Rex Sole - Central Gulf	11,267
Rex Sole - Eastern Gulf	542
Rex Sole - Western Gulf	1,452
Slope Rockfish - CG	2,440
Slope Rockfish - EG	993
Slope Rockfish - WG	117
Sablefish (Trawl Gear) - CG	4,788
Sablefish (Trawl Gear) - Southeast	190
Sablefish (Trawl Gear) - WG	125
Sablefish (Trawl Gear) - W Yakutat	685
Shallow Water Flatfish - Central Gulf	21,286
Shallow Water Flatfish - Eastern Gulf	85
Shallow Water Flatfish - Western Gulf	1,214
Shortraker / Rougheye - CG	3,089
Shortraker / Rougheye - EG	1,910
Shortraker / Rougheye - WG	414
Thornyhead - GOA	3,428

Source: NMFS AKR 1995-97 Blend data.

Table 7.35: Catch of groundfish species by AFA catcher vessels in the GOA, 1995-97

Species by TAC Grouping	CV Inshore (80 Vessels)	CV to IN/MS (9 Vessels)	CV to MS (7 Vessels)	CV to CP (6 Vessels)	Total Catch (102 Vessels)
Atka Mackerel - CG (1995 - 1996)	7	2	-	1	10
Atka Mackerel - GOA (1997)	-	-	-	-	-
Atka Mackerel - WG (1995 - 1996)	227	-	15	6	248
Arrowtooth Flounder - Central Gulf	7,028	55	166	435	7,684
Arrowtooth Flounder - Eastern Gulf	103	-	23	3	129
Arrowtooth Flounder - Western Gulf	107	1	3	-	111
Deep Water Flatfish - Central Gulf	3,023	-	143	26	3,192
Deep Water Flatfish - Eastern Gulf	88	-	6	14	108
Deep Water Flatfish - Western Gulf	-	-	-	-	-
Flathead Sole - Central Gulf	1,139	1	17	125	1,282
Flathead Sole - Eastern Gulf	36	-	1	6	43
Flathead Sole - Western Gulf	90	-	12	1	103
Northern Rockfish - CG	1,432	-	28	4	1,464
Northern Rockfish - EG	5	-	-	-	5
Northern Rockfish - WG	2	-	-	-	2
Other Species - GOA	1,656	2	11	93	1,762
Pacific Cod (Inshore) - CG	27,148	-	2,586	168	29,902
Pacific Cod (Offshore) - CG	-	37	314	386	737
Pacific Cod (Inshore) - EG	275	-	-	5	280
Pacific Cod (Offshore) - EG	-	-	-	-	-
Pacific Cod (Inshore) - WG	9,714	-	2,105	340	12,19
Pacific Cod (Offshore) - WG	-	13	109	527	649
Pelagic Shelf Rockfish - CG	438	-	1	6	445
Pelagic Shelf Rockfish (Nearshore) - CG	1	-	-	-	1
Pelagic Shelf Rockfish - EG	-	-	1	19	20
Pelagic Shelf Rockfish - WG	2	-	-	-	2
Pollock - Chirikof District	29,875	10	41	151	30,077
Pollock - EG	4,088	-	1,037	166	5,291
Pollock - Kodiak	30,689	9	2,951	659	34,308
Pollock - Shumagin District	57,162	316	2,720	91	60,289
Pacific Ocean Perch - CG	3,560	7	199	107	3,873
Pacific Ocean Perch - EG	7	-	1	146	154
Pacific Ocean Perch - WG	66	-	-	-	66
Rex Sole - Central Gulf	710	20	18	47	795
Rex Sole - Eastern Gulf	112	-	8	9	129
Rex Sole - Western Gulf	14	-	-	-	14
Slope Rockfish - CG	17	-	3	-	20
Slope Rockfish - EG	-	-	-	-	-

Table 7.35 continued					
Slope Rockfish - WG	-	-	-	-	-
Sablefish (Trawl Gear) - CG	627	-	31	15	673
Sablefish (Trawl Gear) - Southeast	-	-	-	1	1
Sablefish (Trawl Gear) - WG	4	-	-	-	4
Sablefish (Trawl Gear) - W Yakutat	10	-	-	11	21
Shallow Water Flatfish - Central Gulf	7,079	1	101	240	7,421
Shallow Water Flatfish - Eastern Gulf	12	-	8	30	50
Shallow Water Flatfish - Western Gulf	338	-	18	32	388
Shortraker / Rougheye - CG	182	-	3	3	188
Shortraker / Rougheye - EG	7	-	2	11	20
Shortraker / Rougheye - WG	1	-	-	-	1
Thornyhead - GOA	183	-	6	14	203

Source: ADF&G Fishtickets and NORPAC Observer data, 1995-97

Table 7.36: **Percent of future years TAC included in the sideboard caps**

Species by TAC Grouping	CV Inshore 80 Vessels	CV to IN/MS 9 Vessels	CV to MS 7 Vessels	CV to CP 6 Vessels	Total Catch 107 Vessels
Atka Mackerel - CG (1995 - 1996)	1.85%	0.53%	-	0.26%	2.64%
Atka Mackerel - GOA (1997)	-	-	-	-	-
Atka Mackerel - WG (1995 - 1996)	11.91%	-	0.79%	0.31%	13.01%
Arrowtooth Flounder - Central Gulf	14.53%	0.11%	0.34%	0.90%	15.88%
Arrowtooth Flounder - Eastern Gulf	3.47%	-	0.78%	0.10%	4.35%
Arrowtooth Flounder - Western Gulf	1.82%	0.02%	0.05%	-	1.89%
Deep Water Flatfish - Central Gulf	46.49%	-	2.20%	0.40%	49.09%
Deep Water Flatfish - Eastern Gulf	6.07%	-	0.41%	0.97%	7.45%
Deep Water Flatfish - Western Gulf	-	-	-	-	-
Flathead Sole - Central Gulf	20.12%	-	0.30%	2.21%	22.65%
Flathead Sole - Eastern Gulf	18.85%	-	0.52%	3.14%	22.51%
Flathead Sole - Western Gulf	4.88%	-	0.65%	0.05%	5.58%
Northern Rockfish - CG	12.47%	-	0.24%	0.03%	12.74%
Northern Rockfish - EG	6.03%	-	-	-	6.02%
Northern Rockfish - WG	0.57%	-	-	-	0.57%
Other Species - GOA	12.45%	0.02%	0.08%	0.70%	13.25%
Pacific Cod (Inshore) - CG	21.38%	-	2.04%	0.13%	23.55%
Pacific Cod (Offshore) - CG	-	0.38%	3.23%	3.97%	7.58%
Pacific Cod (Inshore) - EG	9.81%	-	-	0.18%	9.99%
Pacific Cod (Offshore) - EG	-	-	-	-	-
Pacific Cod (Inshore) - WG	16.34%	-	3.54%	0.57%	20.45%
Pacific Cod (Offshore) - WG	-	0.19%	1.62%	7.84%	9.65%
Pelagic Shelf Rockfish - CG	24.82%	-	0.06%	0.34%	25.22%
Pelagic Shelf Rockfish (Nearshore) - CG	0.02%	-	-	-	0.02%
Pelagic Shelf Rockfish - EG	-	-	0.07%	1.38%	1.45%
Pelagic Shelf Rockfish - WG	0.52%	-	-	-	0.52%
Pollock - Chirikof District	51.25%	0.02%	0.07%	0.26%	51.60%
Pollock - EG	41.31%	-	10.48%	1.68%	53.47%
Pollock - Kodiak	47.81%	0.01%	4.60%	1.03%	53.45%
Pollock - Shumagin District	70.71%	0.39%	3.36%	0.11%	74.57%
Pacific Ocean Perch - CG	24.63%	0.05%	1.38%	0.74%	26.80%
Pacific Ocean Perch - EG	0.14%	-	0.02%	2.95%	3.11%
Pacific Ocean Perch - WG	1.56%	-	-	-	1.56%
Rex Sole - Central Gulf	6.30%	0.18%	0.16%	0.42%	7.06%
Rex Sole - Eastern Gulf	20.66%	-	1.48%	1.66%	23.80%
Rex Sole - Western Gulf	0.96%	-	-	-	0.96%
Slope Rockfish - CG	0.70%	-	0.12%	-	0.82%

Table 7.36 continued					
Slope Rockfish - EG	-	-	-	-	-
Slope Rockfish - WG	-	-	-	-	-
Sablefish (Trawl Gear) - CG	13.10%	-	0.65%	0.31%	14.06%
Sablefish (Trawl Gear) - SE	-	-	-	0.53%	0.53%
Sablefish (Trawl Gear) - WG	3.20%	-	-	-	3.20%
Sablefish (Trawl Gear) - W. Yakutat	1.46%	-	-	1.61%	3.07%
Shallow Water Flatfish - Central Gulf	33.26%	-	0.47%	1.13%	34.86%
Shallow Water Flatfish - Eastern Gulf	14.12%	-	9.41%	35.29%	58.82%
Shallow Water Flatfish - Western Gulf	27.84%	-	1.48%	2.64%	31.96%
Shortraker / Rougheye - CG	5.89%	-	0.10%	0.10%	6.09%
Shortraker / Rougheye - EG	0.37%	-	0.10%	0.58%	1.05%
Shortraker / Rougheye - WG	0.24%	-	-	-	0.24%
Thornyhead - GOA	5.34%	-	0.18%	0.41%	5.93%

Source:
1) Numerator - ADF&G Fishtickets and NORPAC Observer data, 1995-97
2) Denominator: NMFS AKR Blend data, 1995-97.

A sub-option under consideration by the Council would apportion the sideboard caps by the quarter of year in which the catch history used to calculate the caps was earned. The next five tables provide that breakout. Table 7.37 shows the apportionment if all AFA catcher vessels were treated as a single class. The remaining four tables break down the percentages by the AFA catcher vessel sectors used throughout this chapter.

Dividing the caps by quarter will restrict the harvest to the traditional times of year that they have occurred in the past. Not allowing catcher vessels to take all of their annual cap in a single quarter will likely provide additional protection for the non-AFA catcher vessels. However, it will also result in more numerous and smaller caps, making management and enforcement more burdensome for NMFS.

Table 7.37: Quarterly catch distribution of all AFA catcher vessels

Species by TAC Grouping	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
Atka Mackerel - Central Gulf (1995 through 1996)	80%	0%	20%	0%	100%
Atka Mackerel - Gulf of Alaska (1997)	-	-	-	-	-
Atka Mackerel - Western Gulf (1995 through 1996)	6%	57%	37%	0%	100%
Arrowtooth Flounder - Central Gulf	11%	27%	42%	20%	100%
Arrowtooth Flounder - Eastern Gulf	9%	17%	55%	19%	100%
Arrowtooth Flounder - Western Gulf	65%	3%	27%	5%	100%
Deep Water Flatfish - Central Gulf	11%	71%	16%	2%	100%
Deep Water Flatfish - Eastern Gulf	0%	6%	64%	31%	100%
Deep Water Flatfish - Western Gulf	-	-	-	-	-
Flathead Sole - Central Gulf	16%	36%	32%	16%	100%
Flathead Sole - Eastern Gulf	0%	2%	34%	63%	100%
Flathead Sole - Western Gulf	81%	0%	17%	2%	100%
Northern Rockfish - Central Gulf	3%	2%	93%	3%	100%
Northern Rockfish - Eastern Gulf	0%	0%	100%	0%	100%
Northern Rockfish - Western Gulf	100%	0%	0%	0%	100%
Other Species - Gulf of Alaska	20%	36%	26%	19%	100%
Pacific Cod (Inshore) - Central Gulf	82%	3%	2%	13%	100%
Pacific Cod (Offshore) - Central Gulf	99%	1%	0%	0%	100%
Pacific Cod (Inshore) - Eastern Gulf	78%	0%	21%	0%	100%
Pacific Cod (Offshore) - Eastern Gulf	-	-	-	-	-
Pacific Cod (Inshore) - Western Gulf	99%	1%	0%	0%	100%
Pacific Cod (Offshore) - Western Gulf	97%	0%	3%	0%	100%
Pelagic Shelf Rockfish - Central Gulf	5%	0%	93%	1%	100%
Pelagic Shelf Rockfish (Nearshore) - Central Gulf	0%	0%	100%	0%	100%
Pelagic Shelf Rockfish - Eastern Gulf	0%	5%	95%	0%	100%
Pelagic Shelf Rockfish - Western Gulf	100%	0%	0%	0%	100%
Pollock - Chirikof District	33%	19%	47%	1%	100%
Pollock - Eastern Gulf	100%	0%	0%	0%	100%
Pollock - Kodiak	19%	23%	30%	27%	100%
Pollock - Shumagin District	24%	16%	47%	12%	100%
Pacific Ocean Perch - Central Gulf	0%	2%	98%	0%	100%

Table 7.37 continued					
Pacific Ocean Perch - Eastern Gulf	2%	1%	97%	0%	100%
Pacific Ocean Perch - Western Gulf	0%	0%	95%	5%	100%
Rex Sole - Central Gulf	9%	29%	49%	12%	100%
Rex Sole - Eastern Gulf	1%	6%	40%	53%	100%
Rex Sole - Western Gulf	87%	0%	7%	7%	100%
Slope Rockfish - Central Gulf	30%	20%	35%	15%	100%
Slope Rockfish - Eastern Gulf	-	-	-	-	-
Slope Rockfish - Western Gulf	-	-	-	-	-
Sablefish (Trawl Gear) - Central Gulf	3%	27%	68%	1%	100%
Sablefish (Trawl Gear) - Southeast	0%	0%	100%	0%	100%
Sablefish (Trawl Gear) - Western Gulf	75%	0%	25%	0%	100%
Sablefish (Trawl Gear) - Western Yakutat	0%	0%	81%	19%	100%
Shallow Water Flatfish - Central Gulf	28%	25%	23%	24%	100%
Shallow Water Flatfish - Eastern Gulf	10%	19%	67%	4%	100%
Shallow Water Flatfish - Western Gulf	45%	51%	3%	1%	100%
Shortraker / Rougheye - Central Gulf	5%	40%	55%	0%	100%
Shortraker / Rougheye - Eastern Gulf	26%	5%	63%	5%	100%
Shortraker / Rougheye - Western Gulf	0%	0%	100%	0%	100%
Thornyhead - Gulf of Alaska	8%	49%	41%	1%	100%

Source: ADF&G Fishtickets and NORPAC Observer data, 1995-97

Table 7.38: Quarterly Catch of Catcher Vessels Inshore in the Gulf of Alaska (1995-97)

Species by TAC Grouping	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
Atka Mackerel - Central Gulf (1995 through 1996)	71%	0%	29%	0%	100%
Atka Mackerel - Gulf of Alaska (1997)	-	-	-	-	-
Atka Mackerel - Western Gulf (1995 through 1996)	4%	56%	40%	0%	100%
Arrowtooth Flounder - Central Gulf	12%	24%	44%	20%	100%
Arrowtooth Flounder - Eastern Gulf	10%	0%	66%	24%	100%
Arrowtooth Flounder - Western Gulf	66%	3%	27%	4%	100%
Deep Water Flatfish - Central Gulf	12%	70%	16%	3%	100%
Deep Water Flatfish - Eastern Gulf	0%	0%	62%	38%	100%
Deep Water Flatfish - Western Gulf	-	-	-	-	-
Flathead Sole - Central Gulf	18%	34%	32%	16%	100%
Flathead Sole - Eastern Gulf	0%	0%	26%	74%	100%
Flathead Sole - Western Gulf	80%	0%	19%	1%	100%
Northern Rockfish - Central Gulf	3%	2%	93%	3%	100%
Northern Rockfish - Eastern Gulf	0%	0%	100%	0%	100%
Northern Rockfish - Western Gulf	100%	0%	0%	0%	100%
Other Species - Gulf of Alaska	21%	34%	26%	20%	100%
Pacific Cod (Inshore) - Central Gulf	81%	3%	3%	14%	100%
Pacific Cod (Offshore) - Central Gulf	-	-	-	-	-
Pacific Cod (Inshore) - Eastern Gulf	80%	0%	20%	0%	100%
Pacific Cod (Offshore) - Eastern Gulf	-	-	-	-	-
Pacific Cod (Inshore) - Western Gulf	99%	1%	0%	0%	100%
Pacific Cod (Offshore) - Western Gulf	-	-	-	-	-
Pelagic Shelf Rockfish - Central Gulf	5%	0%	93%	1%	100%
Pelagic Shelf Rockfish (Nearshore) - Central Gulf	0%	0%	100%	0%	100%
Pelagic Shelf Rockfish - Eastern Gulf	-	-	-	-	-
Pelagic Shelf Rockfish - Western Gulf	100%	0%	0%	0%	100%
Pollock - Chirikof District	33%	19%	48%	1%	100%
Pollock - Eastern Gulf	100%	0%	0%	0%	100%
Pollock - Kodiak	21%	20%	31%	28%	100%
Pollock - Shumagin District	23%	16%	49%	12%	100%
Pacific Ocean Perch - Central Gulf	0%	1%	98%	0%	100%
Pacific Ocean Perch - Eastern Gulf	43%	0%	57%	0%	100%
Pacific Ocean Perch - Western Gulf	0%	0%	95%	5%	100%
Rex Sole - Central Gulf	11%	24%	52%	14%	100%
Rex Sole - Eastern Gulf	1%	0%	38%	62%	100%
Rex Sole - Western Gulf	87%	0%	7%	7%	100%
Slope Rockfish - Central Gulf	33%	22%	39%	6%	100%
Slope Rockfish - Eastern Gulf	-	-	-	-	-
Slope Rockfish - Western Gulf	-	-	-	-	-
Sablefish (Trawl Gear) - Central Gulf	4%	27%	68%	1%	100%

Table 7.38 continued					
Sablefish (Trawl Gear) - Southeast					
Sablefish (Trawl Gear) - Western Gulf	75%	0%	25%	0%	100%
Sablefish (Trawl Gear) - Western Yakutat	0%	0%	60%	40%	100%
Shallow Water Flatfish - Central Gulf	29%	24%	23%	24%	100%
Shallow Water Flatfish - Eastern Gulf	31%	15%	38%	15%	100%
Shallow Water Flatfish - Western Gulf	37%	59%	3%	1%	100%
Shortraker / Rougheye - Central Gulf	6%	39%	56%	0%	100%
Shortraker / Rougheye - Eastern Gulf	67%	0%	17%	17%	100%
Shortraker / Rougheye - Western Gulf	0%	0%	100%	0%	100%
Thornyhead - Gulf of Alaska	9%	52%	37%	2%	100%

Source: ADF&G Fishtickets and NORPAC Observer data, 1995-97

Table 7.39: Quarterly Catch of Catcher Vessels Inshore / Motherships in the Gulf of Alaska (1995-97)

Species by TAC Grouping	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
Atka Mackerel - Central Gulf (1995 through 1996)	100%	0%	0%	0%	100%
Atka Mackerel - Gulf of Alaska (1997)	-	-	-	-	-
Atka Mackerel - Western Gulf (1995 through 1996)	-	-	-	-	-
Arrowtooth Flounder - Central Gulf	0%	100%	0%	0%	100%
Arrowtooth Flounder - Eastern Gulf	-	-	-	-	-
Arrowtooth Flounder - Western Gulf	0%	0%	100%	0%	100%
Deep Water Flatfish - Central Gulf	-	-	-	-	-
Deep Water Flatfish - Eastern Gulf	-	-	-	-	-
Deep Water Flatfish - Western Gulf	-	-	-	-	-
Flathead Sole - Central Gulf	0%	100%	0%	0%	100%
Flathead Sole - Eastern Gulf	-	-	-	-	-
Flathead Sole - Western Gulf	-	-	-	-	-
Northern Rockfish - Central Gulf	-	-	-	-	-
Northern Rockfish - Eastern Gulf	-	-	-	-	-
Northern Rockfish - Western Gulf	-	-	-	-	-
Other Species - Gulf of Alaska	0%	100%	0%	0%	100%
Pacific Cod (Inshore) - Central Gulf	-	-	-	-	-
Pacific Cod (Offshore) - Central Gulf	78%	22%	0%	0%	100%
Pacific Cod (Inshore) - Eastern Gulf	-	-	-	-	-
Pacific Cod (Offshore) - Eastern Gulf	-	-	-	-	-
Pacific Cod (Inshore) - Western Gulf	-	-	-	-	-
Pacific Cod (Offshore) - Western Gulf	0%	0%	100%	0%	100%
Pelagic Shelf Rockfish - Central Gulf	-	-	-	-	-
Pelagic Shelf Rockfish (Nearshore) - Central Gulf	-	-	-	-	-
Pelagic Shelf Rockfish - Eastern Gulf	-	-	-	-	-
Pelagic Shelf Rockfish - Western Gulf	-	-	-	-	-
Pollock - Chirikof District	100%	0%	0%	0%	100%
Pollock - Eastern Gulf	-	-	-	-	-
Pollock - Kodiak	0%	100%	0%	0%	100%
Pollock - Shumagin District	0%	0%	100%	0%	100%
Pacific Ocean Perch - Central Gulf	0%	100%	0%	0%	100%
Pacific Ocean Perch - Eastern Gulf	-	-	-	-	-
Pacific Ocean Perch - Western Gulf	-	-	-	-	-
Rex Sole - Central Gulf	0%	100%	0%	0%	100%
Rex Sole - Eastern Gulf	-	-	-	-	-
Rex Sole - Western Gulf	-	-	-	-	-
Slope Rockfish - Central Gulf	-	-	-	-	-
Slope Rockfish - Eastern Gulf	-	-	-	-	-
Slope Rockfish - Western Gulf	-	-	-	-	-
Sablefish (Trawl Gear) - Central Gulf	-	-	-	-	-

Table 7.39 continued.					
Sablefish (Trawl Gear) - Southeast	-				
Sablefish (Trawl Gear) - Western Gulf	-				
Sablefish (Trawl Gear) - Western Yakutat	-				
Shallow Water Flatfish - Central Gulf	100%	0%	0%	0%	100%
Shallow Water Flatfish - Eastern Gulf	-				
Shallow Water Flatfish -Western Gulf	-				
Shortraker / Rougheye - Central Gulf	-				
Shortraker / Rougheye - Eastern Gulf	-				
Shortraker / Rougheye - Western Gulf	-				
Thornyhead - Gulf of Alaska	-				

Source: ADF&G Fishtickets and NORPAC Observer data, 1995-97

Table 7.40: Quarterly Catch of Catcher Vessels to Motherships in the Gulf of Alaska (1995-97)

Species by TAC Grouping	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
Atka Mackerel - Central Gulf (1995 through 1996)	-	-	-	-	-
Atka Mackerel - Gulf of Alaska (1997)	-	-	-	-	-
Atka Mackerel - Western Gulf (1995 through 1996)	0%	100%	0%	0%	100%
Arrowtooth Flounder - Central Gulf	1%	75%	5%	18%	100%
Arrowtooth Flounder - Eastern Gulf	4%	96%	0%	0%	100%
Arrowtooth Flounder - Western Gulf	33%	0%	0%	67%	100%
Deep Water Flatfish - Central Gulf	0%	94%	6%	0%	100%
Deep Water Flatfish - Eastern Gulf	0%	100%	0%	0%	100%
Deep Water Flatfish - Western Gulf	-	-	-	-	-
Flathead Sole - Central Gulf	0%	25%	75%	0%	100%
Flathead Sole - Eastern Gulf	0%	100%	0%	0%	100%
Flathead Sole - Western Gulf	92%	0%	0%	8%	100%
Northern Rockfish - Central Gulf	0%	0%	100%	0%	100%
Northern Rockfish - Eastern Gulf	-	-	-	-	-
Northern Rockfish - Western Gulf	-	-	-	-	-
Other Species - Gulf of Alaska	20%	70%	0%	10%	100%
Pacific Cod (Inshore) - Central Gulf	98%	1%	0%	1%	100%
Pacific Cod (Offshore) - Central Gulf	100%	0%	0%	0%	100%
Pacific Cod (Inshore) - Eastern Gulf	-	-	-	-	-
Pacific Cod (Offshore) - Eastern Gulf	-	-	-	-	-
Pacific Cod (Inshore) - Western Gulf	100%	0%	0%	0%	100%
Pacific Cod (Offshore) - Western Gulf	94%	0%	6%	1%	100%
Pelagic Shelf Rockfish - Central Gulf	-	-	-	-	-
Pelagic Shelf Rockfish (Nearshore) - Central Gulf	-	-	-	-	-
Pelagic Shelf Rockfish - Eastern Gulf	0%	100%	0%	0%	100%
Pelagic Shelf Rockfish - Western Gulf	-	-	-	-	-
Pollock - Chirikof District	39%	61%	0%	0%	100%
Pollock - Eastern Gulf	100%	0%	0%	0%	100%
Pollock - Kodiak	3%	48%	27%	22%	100%
Pollock - Shumagin District	52%	15%	6%	27%	100%
Pacific Ocean Perch - Central Gulf	0%	14%	86%	0%	100%
Pacific Ocean Perch - Eastern Gulf	0%	100%	0%	0%	100%
Pacific Ocean Perch - Western Gulf	-	-	-	-	-
Rex Sole - Central Gulf	0%	50%	50%	0%	100%
Rex Sole - Eastern Gulf	0%	100%	0%	0%	100%
Rex Sole - Western Gulf	-	-	-	-	-
Slope Rockfish - Central Gulf	0%	0%	0%	100%	100%
Slope Rockfish - Eastern Gulf	-	-	-	-	-
Slope Rockfish - Western Gulf	-	-	-	-	-
Sablefish (Trawl Gear) - Central Gulf	0%	28%	72%	0%	100%

Table 7.40 continued					
Sablefish (Trawl Gear) - Southeast	-	-	-	-	-
Sablefish (Trawl Gear) - Western Gulf	-	-	-	-	-
Sablefish (Trawl Gear) - Western Yakutat	-	-	-	-	-
Shallow Water Flatfish - Central Gulf	18%	45%	34%	4%	100%
Shallow Water Flatfish - Eastern Gulf	0%	100%	0%	0%	100%
Shallow Water Flatfish - Western Gulf	89%	0%	0%	11%	100%
Shortraker / Rougheye - Central Gulf	0%	100%	0%	0%	100%
Shortraker / Rougheye - Eastern Gulf	50%	50%	0%	0%	100%
Shortraker / Rougheye - Western Gulf	-	-	-	-	-
Thornyhead - Gulf of Alaska	0%	71%	29%	0%	100%

Source: ADF&G Fishtickets and NORPAC Observer data, 1995-97

Table 7.41: Quarterly Catch of Catcher Vessels to Catcher Processors in the Gulf of Alaska (1995-97)

Species by TAC Grouping	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
Atka Mackerel - Central Gulf (1995 through 1996)	100%	0%	0%	0%	100%
Atka Mackerel - Gulf of Alaska (1997)	-	-	-	-	-
Atka Mackerel - Western Gulf (1995 through 1996)	100%	0%	0%	0%	100%
Arrowtooth Flounder - Central Gulf	0%	54%	22%	24%	100%
Arrowtooth Flounder - Eastern Gulf	0%	0%	100%	0%	100%
Arrowtooth Flounder - Western Gulf	-	-	-	-	-
Deep Water Flatfish - Central Gulf	0%	72%	20%	8%	100%
Deep Water Flatfish - Eastern Gulf	0%	0%	100%	05	100%
Deep Water Flatfish - Western Gulf	-	-	-	-	-
Flathead Sole - Central Gulf	0%	52%	29%	19%	100%
Flathead Sole - Eastern Gulf	0%	0%	100%	0%	100%
Flathead Sole - Western Gulf	100%	0%	0%	0%	100%
Northern Rockfish - Central Gulf	0%	0%	100%	0%	100%
Northern Rockfish - Eastern Gulf	-	-	-	-	-
Northern Rockfish - Western Gulf	-	-	-	-	-
Other Species - Gulf of Alaska	10%	72%	13%	5%	100%
Pacific Cod (Inshore) - Central Gulf	0%	36%	11%	53%	100%
Pacific Cod (Offshore) - Central Gulf	100%	0%	0%	0%	100%
Pacific Cod (Inshore) - Eastern Gulf	0%	0%	100%	0%	100%
Pacific Cod (Offshore) - Eastern Gulf	-	-	-	-	-
Pacific Cod (Inshore) - Western Gulf	100%	0%	0%	0%	100%
Pacific Cod (Offshore) - Western Gulf	100%	0%	0%	0%	100%
Pelagic Shelf Rockfish - Central Gulf	0%	17%	83%	0%	100%
Pelagic Shelf Rockfish (Nearshore) - Central Gulf	-	-	-	-	-
Pelagic Shelf Rockfish - Eastern Gulf	0%	0%	100%	0%	100%
Pelagic Shelf Rockfish - Western Gulf	-	-	-	-	-
Pollock - Chirikof District	52%	48%	0%	0%	100%
Pollock - Eastern Gulf	98%	0%	2%	0%	100%
Pollock - Kodiak	0%	66%	22%	12%	100%
Pollock - Shumagin District	52%	48%	0%	0%	100%
Pacific Ocean Perch - Central Gulf	0%	0%	100%	0%	100%
Pacific Ocean Perch - Eastern Gulf	0%	0%	100%	0%	100%
Pacific Ocean Perch - Western Gulf	-	-	-	-	-
Rex Sole - Central Gulf	0%	69%	25%	6%	100%
Rex Sole - Eastern Gulf	0%	0%	100%	0%	1005
Rex Sole - Western Gulf	-	-	-	-	-
Slope Rockfish - Central Gulf	-	-	-	-	-
Slope Rockfish - Eastern Gulf	-	-	-	-	-
Slope Rockfish - Western Gulf	-	-	-	-	-
Sablefish (Trawl Gear) - Central Gulf	0%	19%	75%	6%	100%

Table 7.41 continued					
Sablefish (Trawl Gear) - Southeast	0%	0%	100%	0%	100%
Sablefish (Trawl Gear) - Western Gulf	-	-	-	-	-
Sablefish (Trawl Gear) - Western Yakutat	0%	0%	100%	0%	100%
Shallow Water Flatfish - Central Gulf	3%	38%	43%	17%	100%
Shallow Water Flatfish - Eastern Gulf	3%	0%	97%	0%	100%
Shallow Water Flatfish - Western Gulf	100%	0%	0%	0%	100%
Shortraker / Rougheye - Central Gulf	0%	67%	33%	0%	100%
Shortraker / Rougheye - Eastern Gulf	0%	0%	100%	0%	100%
Shortraker / Rougheye - Western Gulf	-	-	-	-	-
Thornyhead - Gulf of Alaska	0%	7%	93%	0%	100%

Source: ADF&G Fishtickets and NORPAC Observer data, 1995-97

To whom the sideboard caps apply is also addressed for the Gulf of Alaska. The sideboard caps could apply to either all AFA catcher vessels eligible under Section 208, or just the vessels that participate in a cooperative. The Council selected the option that the caps apply to all eligible catcher vessels. These are the same options that were discussed in the BSAI sideboard cap section, so those comments will not be repeated here. However, it is important to remember that vessels will only be allowed to contribute their catch history to a sideboard cap if they are subject to the cap.

8.0 PROCESSING LIMITS ON SPECIES OTHER THAN BSAI POLLOCK

Chapter 8 examines the impacts of limiting processing of GOA groundfish, BSAI crab, and BSAI non-pollock groundfish by processors eligible to participate in pollock cooperatives. The analysis examines the language in the AFA, analyzes the structure of the industry, and develops 10 specific options to implement processing limits, sometimes referred to as "processing sideboards". It then estimates limits based on the structure of the industry and options specified. Conclusions are drawn regarding the efficacy of the options in fulfilling the mandates of the AFA.

The AFA requires the Council to submit measures by July 1999 to "protect processors not eligible to participate in the directed pollock fishery from adverse effects as a result of this Act or fishery cooperatives in the directed pollock fishery." These processors are collectively referred to as "non-AFA processors." In the November 1998, December 1998, and February 1999 Council meetings, representatives of non-AFA processors expressed concern about spillover effects of the AFA, and offered several suggestions for mitigating those potential impacts.

Specific language about processing restrictions for the 20 AFA-eligible catcher processors is found in §211(b)(3) and §211(b)(4):

> (3) BERING SEA PROCESSING.—The catcher/processors eligible under paragraphs (1) through (20) of section 208(e) are hereby prohibited from—
>
> (A) processing any of the directed fishing allowances under paragraphs (1) or (3) of section 206(b); and
>
> (B) processing any species of crab harvested in the Bering Sea and Aleutian Islands Management Area.
>
> (4) GULF OF ALASKA.—The catcher/processors eligible under paragraphs (1) through (20) of section 208(e) are hereby prohibited from—
>
> (A) harvesting any fish in the Gulf of Alaska;
>
> (B) processing any groundfish harvested from the portion of the exclusive economic zone off Alaska known as Area 630 under the fishery management plan for Gulf of Alaska groundfish; or
>
> (C) processing any pollock in the Gulf of Alaska (other than as bycatch in non-pollock groundfish fisheries) or processing, in the aggregate, a total of more than 10 percent of the cod harvested from Areas 610, 620, and 640 of the Gulf of Alaska under the fishery management plan for Gulf of Alaska groundfish.

Section 211(c) includes specific language discussing processing limits for BSAI crab for AFA-eligible motherships and inshore processors:

> (2) BERING SEA CRAB AND GROUNDFISH.
>
> (A) Effective January 1, 2000, the owners of the motherships eligible under section 208(d) and the shoreside processors eligible under section 208(f) that receive pollock from the directed pollock fishery under a fishery cooperative are hereby prohibited from processing, in the aggregate for each calendar year, more than the percentage of the total catch of each species of crab in directed fisheries under the jurisdiction of the North Pacific Council than facilities operated by such owners processed of each such species in the aggregate, on average, in 1995, 1996, 1997. For the purposes of this subparagraph, the term "facilities" means any processing plant, catcher/processor, mothership, floating processor, or any other operation

that processes fish. Any entity in which 10 percent or more of the interest is owned or controlled by another individual or entity shall be considered to be the same entity as the other individual or entity for the purposes of this subparagraph.

Other sections of the AFA provide additional directives to the Council, paraphrased below:

1. The Council cannot alter the list of eligible processors, unless the TAC increases or an eligible plant is lost.
2. By July 1999 the Council must recommend measures to "protect processors not eligible to participate in the (BSAI) directed pollock fishery from adverse effects of the AFA or fishery cooperatives..."
3. The Council must have in place by January 2000 measures to prevent AFA motherships and shoreside processors from processing, in aggregate, a greater percentage of the total catch of BSAI crab than they processed in 1995-1997 (on average).
4. The Council must submit measures to establish excessive share caps for harvesting and processing of all groundfish and crab in the BSAI, though under no time certain.
5. The Council can develop any other measures it deems necessary (at any time) to protect other fisheries and participants under its jurisdiction from adverse impacts caused by the AFA or co-ops in the directed pollock fishery.

Non-AFA processors have testified to the Council that their basic concern is that AFA processors will have a competitive advantage that may allow them to use economic and operational leverage to increase their positions in processing other species. In effect resources normally spent ensuring AFA processors their share of the BSAI pollock fishery, may now be freed up to gain processing shares of other fisheries.

In response the Council has chosen to include the concept of AFA processing limits for all groundfish in the GOA, all groundfish other than pollock in the BSAI, and all crab in the BSAI. The limits would apply to all AFA processors and would be based on the processing shares of AFA processors during the years 1995, 1996, and 1997, or alternatively just 1996 and 1997.

There are three levels at which processing limits could be applied for each species:

1. Single overall limit for all AFA-eligible processors
2. Sector limits: Onshore, Mothership and Catcher processors
3. Individual limits

Within each level there are at least three layers of facilities that could be included and thus restricted by the limits:

1. All plants and vessels that are AFA-eligible
2. All facilities owned by companies that own AFA-eligible plants and vessels
3. All facilities associated with entities that combine facilities through a 10 percent ownership link.[1]

[1]For purposes of this analysis, this language of §211(c)(2)(B) defining entities is called "the 10% Ownership Rule". The 10% Ownership Rule will be applied as follows:

If a company has a 10 percent or more ownership stake in an AFA-eligible processing facility, then all other processing facilities in which that company has a 10 percent ownership will also be considered part of the AFA-entity. For purposes of the analysis, the lease of a facility will be considered ownership of that facility.

The nine permutations of the above levels and layers are analyzed as options along with one additional option, which would apply individual company processing limits, but would include only AFA-eligible facilities within those companies.

The analysis first considers the perspectives of both non-AFA processors and AFA processors and of economic theory. Next, the analysis provides an overview of the structure and ownership of the groundfish processing industry. The analysis then focuses on specific options for processing limits. Decision points are identified that the Council will need to address in developing its preferred alternative. Embedded in the list of decision points is the question of how the processing limits should be applied, with specific definitions for the 10 options referred to in the previous paragraph. Following the list of decision points, the analysis examines each of the 10 options with implementation steps, tables showing the specific processing limits, and an assessment of impacts for each. The final section of the chapter summarizes the processing limit options and presents conclusions regarding their feasibility.

8.1 Perspectives on the Need and Objectives for Processing Limits

8.1.1 Perspectives of Non-AFA Processors

Processors that have not participated in the BSAI pollock fisheries in the past will not be allowed to participate in cooperatives for BSAI pollock. They believe that participants in cooperatives will be able to leverage the relative certainty of cash flows in the BSAI pollock fisheries to obtain a competitive advantage in non-pollock fisheries, and thus increase their processing share of non-pollock fisheries. Here is a summary of views expressed by non-AFA processors:

- Inshore processors will move from 36 percent of the total pollock TAC under inshore-offshore allocations approved by the NPFMC in 1998 to 45 percent of the total under AFA. This increase alone has the potential to increase revenue and profits for AFA inshore processors relative to non-AFA processors.
- AFA processors operating in cooperatives will be relatively certain of taking deliveries of a fixed amount of pollock, regardless of unforeseen events such as processing plant breakdowns or adverse weather conditions.
- Because of their relatively certain flows of pollock, AFA processors operating with cooperatives will be able to pace their pollock processing to take advantage of market conditions and processing technologies that will allow them to enhance recovery rates and revenues.
- With higher revenues and profits from pollock, AFA processors will have more of their own profits that could be invested in machinery and facilities that can take advantage of non-pollock fisheries.
- Higher profits and more certain cash flows from pollock will enable AFA processors to offer higher prices to catcher vessels for delivery of non-pollock species.
- The relative certainty of cash flow and potentially higher profits of AFA processors make it more likely that AFA processors will be able to raise new capital, either through new equity investment by external sources or through institutional lenders.
- To limit the ability of AFA processors to expand their share of other crab and non-pollock groundfish in the BSAI and all groundfish in the GOA, AFA processors should be restricted to processing amounts of these species that do not exceed amounts they have processed in the past.
- It is not enough to simply limit non-pollock processing by facilities that will be allowed to participate in cooperatives. Companies that own these facilities could easily evade the restrictions by expanding processing at their other facilities.

- It is also not enough to set processing limits on all facilities owned by AFA companies, because AFA companies could evade the restrictions by hiding their ownership of other non-pollock processing facilities under different company names. The restrictions on non-pollock processing must be applied to all companies in which AFA processors have a significant level of ownership or control.
- The appropriate level of ownership by which to measure AFA affiliation is 10 percent. Ownership levels less than 10 percent do not indicate significant ownership or control.

8.1.2 Perspectives of AFA Processors

AFA processors express the view that:

- Declines in the overall pollock TAC have eroded the profitability of existing investments in pollock processing equipment and pollock processing facilities.
- Restrictions placed on the pollock fisheries to protect the habitat of Steller sea lions further reduce the ability of pollock processors to profitably utilize their existing equipment and facilities.
- Several owners of AFA-eligible facilities, in an effort to diversify their interests, have made significant investments in non-pollock processing lines, plants, and vessels in recent years. Some came on line in 1998 before the AFA. Under the proposed limits much of the potential earning power of these investments would be eroded.
- Other owners of AFA-eligible facilities, particularly those that may have an interest in selling their facilities, have expressed the concern that the processing limits, as proposed, severely restrict the market value of their pollock processing plants. This concern stems from the language in the act that would include all facilities that are related to AFA processors by minor amounts of common ownership under the processing restriction. Owners interested in selling their facilities, perhaps to CDQ groups, are concerned that a literal interpretation of the AFA would mean that if a CDQ organization, for example, purchased an AFA processing facility, all other processing facilities in which the CDQ organization has an interest would be limited by the processing restriction. Restrictions would be imposed even though there may be no direct link between the organization's pollock interests and its non-pollock interests.
- Without the ability to operate with pollock cooperatives, the value of existing pollock investments would continue to decline and pollock processors would be susceptible to takeover by the very firms that are calling for AFA processing limits.
- Even with the ability to operate with pollock cooperatives, at least one large AFA processing entity is available for sale, indicating that future profitability of AFA processors may be lower than other opportunities outside the fish processing industry.
- Given these considerations, pollock processors believe the AFA is necessary to ensure the continued viability of the pollock processing industry, and does not merit the imposition of punitive restrictions.

8.1.3 Perspectives of Non-AFA Processors Who May Be Harmed By Processing Limits

The language in §211(c)(2)(A) regarding the 10 percent ownership linkage is of considerable concern to processors that are not directly involved in the pollock fishery, but which may be linked to AFA processors by this rule. The language is also a concern of CDQ organizations that are actively looking for investments in pollock processing facilities. Many CDQ organizations have already made investments in other non-pollock processing facilities. If the language in the 10% Ownership Rule is used in the context of processing limits, then many non-pollock processors will be restricted even though they have no direct pollock processing interests.

8.1.4 Perspectives of Economic Theory

Economic theory indicates that the formation of cooperatives will lead to more efficient utilization of the resources used in the pollock production process. Most investments in pollock processing capacity were made assuming a race for fish would exist throughout the expected life cycle of the investment. Cooperatives help eliminate the race for fish and allow pollock processors to utilize resources more efficiently and generate higher profits.

Though the existence of higher-than-expected profits generally induces additional investment in the form of new entrants, the AFA prohibits new entry into the pollock processing industry. Therefore additional investments in processing will be linked to existing processors and most likely be made to take advantage of the extra time allowed for processing that is achieved by the cooperative system. Or, excess profits might be made by these firms, without expanding pollock capacity. In an industry widely characterized as have substantial "excess processing capacity," it seems probable that, at least in the short- and intermediate-run, the latter pattern will emerge among pollock processors, rather that the former.

In any case, at some point, additional investments in pollock processing may generate lower returns than would be generated by additional investments to process other species. In addition, pollock processors may find it more profitable to shift the timing of their pollock operations so that their existing facilities can be used for processing of other species. Therefore, at some point it is likely that AFA processors, if unconstrained, will invest additional capital and time into the processing of species other than pollock. This underscores the primary concern of proponents of processing limits for AFA processors.

8.1.5 Effect of Design of Processing Limits

Impacts of non-pollock processing limits will vary depending on how they are configured. In general the limits will create two classes of processors for every species, with potentially very different impacts on each. For species other than pollock in the BSAI the two processor classes will be:

1. Non-AFA processors, which in aggregate will be guaranteed a minimum percentage of the processing of all crab and groundfish species other than BSAI pollock
2. AFA processors, which in aggregate will be limited to a maximum percentage, but not guaranteed that percentage, of the processing of all crab and groundfish species other than BSAI pollock

For non-AFA processors the limits may ease competition from AFA processors for species other than pollock in the BSAI, and in the short run, lead to increased profits. However, the unexpected profits will likely inspire additional investment, either from within the class or from new entries into the processing business, the latter being particularly important because, unlike AFA processors, entry in the non-AFA class is not restricted. New entrants will erode the profitability of existing plants until no further "excess profits" are being made in this sector.

For AFA processors the limits on processing do not represent a guaranteed percentage of the processing of a given species. AFA processors will face the prospect of being forced to end processing because of other AFA processors, but must also worry that non-AFA processors will increase their capacity and process at levels above their guaranteed minimums. Thus it appears that the processing limits may lead to increased price competition for fish other than pollock in the AFA processing class, and increase investments that accelerate processing, but do little to add value per unit of fish. The effect of intensified price competition would likely reduce net revenues for BSAI pollock processors, however, increased ex-vessel prices would benefit catcher

vessels. It is not possible to determine if ex-vessels prices would rise under this management scenario. If they did rise, they would only increase to a point that reflects their competitive value, in the long run.

Processing limits may also have unintended consequences which result primarily from the fact that ownership interests in the crab and groundfish processing industry are very intertwined. It is often very difficult to distinguish between one company and another in terms of ownership. Many of the owners of AFA-eligible facilities have interests in other facilities that are not AFA-eligible. Similarly, many owners of facilities that are not AFA-eligible have ownership stakes in AFA-eligible facilities. Therefore, it is very likely that AFA processors will be either too narrowly defined to effectively limit AFA processors, or too broadly defined, which will impose limits on companies that may have little or no interest in pollock processing.

8.1.6 Objectives and Effectiveness of Processing Limits

From the preceding discussion it is clear that the concept of processing limits will be controversial. To provide a consistent framework for qualitatively judging the effectiveness of the different options, this section develops a set of ten objectives based on the perspectives of the four groups directly affected.

From the perspective of non-AFA processors, processing limits should be imposed to prevent AFA processors from increasing their historical share of the processing of non-pollock species as a result of their ability to form cooperatives in the BSAI pollock fisheries. This perspective may be translated into three objectives:

Objective 1: Processing limits should limit AFA processing of non-pollock species to levels achieved before AFA.

Objective 2: Processing limits should include all processing interests of AFA companies.

Objective 3: Processing limits should prevent AFA companies from evading the limits through subsidiaries or holding companies.

If processing limits must be imposed under AFA, then AFA processors' perspectives lead to the following three objectives:

Objective 4: Processing limits should allow AFA processors to maximize their ability to realize profits in the pollock processing industry.

Objective 5: Processing limits should allow AFA processors to utilize non-pollock processing capacity improvements completed before AFA.

Objective 6: Processing limits should not limit the market value of their AFA-eligible facilities.

In addition, non-pollock processors indirectly linked to AFA processors are likely to view the AFA processing limits with the following objective:

Objective 7: Processing limits should not restrict non-pollock processors that will not benefit directly from the AFA.

Finally, NMFS will have certain objectives relating to its ability to implement the limits and to reduce the expense of implementation, monitoring, and enforcement, such as the following:

Objective 8: Processing limits should not substantially increase paperwork requirements on processors.

Objective 9: Processing limits should be easy and inexpensive to set annually.

Objective 10: Processing limits should be easy and inexpensive to monitor and enforce.

The ten objectives are used to evaluate qualitatively the processing limits.

8.2 Structure of the Pollock Processing Industry as it Relates to Processing Limits

As noted earlier, ownership of crab and groundfish processors is very intertwined. Thus specification of processors will be critically important in determining the impacts of processors limits. This section examines the structure of the pollock processing industry and discusses how ownership may be defined in terms of the processing limits. It examines ownership of each of the AFA-eligible facilities and other facilities that may be related through ownership.

8.2.1 The 10% Ownership Rule

The AFA defines ownership linkages as follows: "Any entity in which 10 percent or more of the interest is owned or controlled by another individual or entity shall be considered to be the same entity as the other individual or entity for the purposes of this subparagraph." Entities that are linked by this "10% Ownership Rule" to AFA-eligible processing facilities are referred to as AFA entities.

The 10% Ownership Rule is applied in this analysis as follows:

- If a company has a 10 percent or more ownership stake in an AFA-eligible processing facility, then all other processing facilities in which that company has at least 10 percent ownership will also be considered part of the AFA entity. In the analysis, lease of a facility is considered the same as ownership.

In identifying AFA entities and linkages, the Council needs to be aware that verifiably accurate and complete ownership information is not currently available from any source. Therefore, only approximate levels can be identified for applying processing limits.

Federal and state processing permits provide initial data for tracking owners. Additional information comes from public licensing documents required by states in which companies do business. In addition, less formal information is available, such as trade journals or publications such as *Fishing Vessels of the United States*, which lists vessel owners and management companies. Finally, information on ownership may be obtained directly from company officials. By combining information from different sources it is possible to determine ownership levels as a first-order approximation of AFA entities and linkages. Actual implementation and monitoring will depend upon more accurate and complete information on ownership. Presumably, NMFS or MARAD will require full disclosure of ownership information to determine and monitor processing limits.

8.2.1.1 CDQ Organizations

CDQ organizations and companies are treated no differently from non-CDQ companies for purposes of defining AFA entities. Thus if a CDQ company has an ownership stake of 10 percent or more in an AFA-eligible processing facility, then all other processing facilities in which the CDQ company has at least 10 percent ownership also are considered part of the AFA entity.

8.2.1.2 Catcher Vessels

The 10% Ownership Rule is applied only to links between processing facilities. Links between processors solely through ownership of a catcher vessel are not considered links in terms of the 10% Ownership Rule. For example, two individuals may own a group of 5 catcher vessels in a 50-50 partnership. One of the individuals owns an AFA-eligible pollock processing facility, and the other owns a crab processing plant. Both facilities receive all of their deliveries from the 5 catcher vessels. Because the only link between the two companies is the catcher vessels, the two corporations are not considered part of a single AFA-entity. In its final decision the Council can change this interpretation.

8.2.1.3 Control

In providing the basis for the 10% Ownership Rule, the AFA includes not only ownership, but also the concept of control. This analysis focuses on ownership rather than control for two primary reasons:

1. Control is very difficult to define and does not lend itself to quantifiable measures.
2. An ownership share of as low as 10 percent in a processing company may imply control of the company. By associating all companies linked by 10 percent (or more) ownership levels, it is likely that all persons that have a controlling interest in an AFA company are also included.

Control is not a focus of this analysis. However, if the Council wants to consider control more closely, it should be noted that there are various indicators of control. For example, percent of ownership is often equated to percent of control of an organization. Ownership information often is a matter of public record, but other influences and controls may not be evident. Such influence may be exerted through joint management or management links, personal or familial relationships, contractual obligations, and other means.

Officers of publicly held corporations often exert considerable influence or control, although they may not own a majority of the stock. Officers of privately held or closely held corporations may be somewhat more limited in their level of control, although they would be anticipated to have considerable influence on the corporation's activities. The analysis assumes that links between processors exist when a corporate officer of an AFA-eligible processor is a corporate officer or director for another processor, or when a corporate officer of an AFA-eligible processor has at least a 10 percent ownership in another processor.

Contractual obligations can also enable an individual or firm to exert control over a processor. For example, industry representatives discussed possible loans made to individuals or organizations by larger companies that require the individuals or organizations to sell all their harvest or product to the larger companies. Marketing agreements between firms may have similar requirements. Another example of possible control is a loan made to an individual to purchase a vessel with terms of the loan such that the lender actually controls the vessel. Although interviews mentioned these examples, no corroborating information could be found to support these statements. Therefore, influence or control through potential contractual terms and obligations are not treated as links in terms of the 10% Ownership Rule.

For many individuals, working in the fishing or processing industry offshore Alaska is a family tradition of several generations. Siblings and spouses are often active participants in the businesses and share in the business decisions. Long-standing friendships and family ties have also evolved over the years, and these relationships are often used to start or finance new vessels or expand the current business. The analysis conducted for this section identified instances in which owners, officers, and directors of AFA-eligible

processors had spouses and other family members with ownership positions in other processors. No other information could be found indicating that the individuals related to the AFA-eligible processors had substantive influence or control over the other processors. Subsequently, relationships between family members and friends are not treated as links in terms of the 10% Ownership Rule. In its final decision the Council will have the latitude to change this interpretation of the 10% Ownership Rule and include links between family members.

8.2.2 Basis for Ownership Patterns

The ownership of AFA-eligible processing plants and vessels is based on federal permit data from NMFS and intent-to-operate data from ADF&G, corporate license data from the states of Washington and Alaska, as well other data bases from private sources such as Dunn and Bradstreet. Corporate officers also have provided ownership details. Organizational charts are used to show ownership linkages. They include notes on sources of information.

There are shortcomings in most data bases. Some firms do not provide information to Dunn and Bradstreet, and the company record is limited to publicly available information. State of Washington corporate records list corporate officers and directors, but do not indicate percent of ownership by these persons, or ownership percentages for persons or firms that are not corporate officers or directors. State of Alaska corporate records typically show ownership percentages for officers and directors, but controlling interest in a corporation may be held by an entity or individual that is not an officer or director.

Discussions with corporate officers or owners typically provided the most detailed information. Attempts were made to verify this information through conversation with other industry members or through public records. In some instances individuals requested that their names not be attributed to certain details for their companies or other organizations, so names are not tied to specific information. Persons contacted are listed in Table 8.1.

8.2.3 AFA-Eligible Pollock Processing Plants and Vessels

Table 8.2 lists pollock processing plants and vessels that are AFA-eligible, the company owning the plant or vessel, and the sector in which the vessel or plant participates. This list is the basis for developing further linkages in the pollock processing industry.

Table 8.1 Persons Contacted

Name	Company
Mike Atterberry	Alaska Ocean Seafood LLP
Bill Atkinson	Alaska Frontier Company
Dave Benson	Tyson Seafoods Group (now Trident)
Alec Brindle	Wards Cove Packing
John Bundy	Glacier Fish Company
Doug Christensen	Arctic Storm, Inc.
Mike Coleman	Yak/Yok Holdings
Barry Collier	Peter Pan Seafoods, Inc.
Craig Cross	Alaska Trawl Fisheries, Inc.
Robert Czeisler	Phoenix Processor Limited Partnership
Matt Doherty	Ocean Peace, Inc.
Bart Eaton	Trident Seafoods, Inc.
Jessie Gharrett	NMFS
Jay Ginter	NMFS
Don Goodfellow	Westward Seafoods, Inc.
Glen Haight	Alaska Department of Community and Regional Affairs
John Henderschedt	YDFDA
Mike Hyde	American Seafoods Co.
John Iani	Unisea, Inc.
John Lepore	NMFS
Terry Leitzell	Northern Victor Partnership
Dave Little	Clipper Seafoods
Mariuz Mazurek	TCW/Oak Tree Capital Management
John Moeller	APICDA
Judy Nelson	BBEDC
Barry Ohai	Aleutian Spray Fisheries
Brent Paine	United Catcher Boats
Joe Plesha	Trident Seafoods, Inc.
Joe Sullivan	Mundt, MacGregor
Cory Swasand	Aleutian Spray Fisheries
Arne Thomson	Alaska Crab Coalition
Dick Tremaine	CBSFA
Doug Wells	Baranof Seafoods
John Winther	Ocean Prowler, LLC
Rob Wurm	Alaskan Leader Fisheries, LLP

Information from the industry discussions was added to the database, and searches on the names of companies, vessels, officers, and directors were conducted to identify links that were not known or had not been identified in discussions with corporate officers.

Table 8.2 AFA-Eligible Pollock Processing Plants and Vessels

Company	Vessel Name/ Plant Location	Sector
Alaska Ocean Seafood LLP	*Alaska Ocean*	CP
Alaska Trawl Fisheries, Inc.	*Endurance*	CP
Aleutian Spray Fisheries	*Starbound*	CP
Alyeska Seafoods, Inc.	Dutch Harbor	INS
American Seafoods Co.	*American Dynasty*	CP
American Seafoods Co.	*American Empress*	CP
American Seafoods Co.	*American Triumph*	CP
American Seafoods Co.	*Browns Point*	CP
American Seafoods Co.	*Christina Ann*	CP
American Seafoods Co.	*Elizabeth Ann*	CP
American Seafoods Co.	*Katie Ann*	CP
American Seafoods Co.	*Northern Eagle*	CP
American Seafoods Co.	*Northern Hawk*	CP
American Seafoods Co.	*Northern Jaeger*	CP
American Seafoods Co.	*Ocean Rover*	CP
American Seafoods Co.	*Pacific Explorer*	CP
American Seafoods Co.	*Pacific Navigator*	CP
American Seafoods Co.	*Pacific Scout*	CP
American Seafoods Co.	*Rebecca Ann*	CP
American Seafoods Co.	*Victoria Ann*	CP
Arctic Storm, Inc.	*Arctic Fjord*	CP
Arctic Storm, Inc.	*Arctic Storm*	CP
Northern Victor Partnership	*Northern Victor*	INS
Norton Sound EDC	*Northern Glacier*	CP
Norton Sound EDC	*Pacific Glacier*	CP
Peter Pan Seafoods, Inc.	King Cove	INS
Peter Pan Seafoods, Inc.	*Golden Alaska*	MS
Phoenix Processor Limited Partnership	*Ocean Phoenix*	MS
Supreme Alaska Seafoods	*Excellence*	MS
Trident Seafoods Corporation	Akutan	INS
Trident Seafoods Corporation	Sand Point	INS
Trident Seafoods Corporation (Tyson)	*American Enterprise*	CP
Trident Seafoods Corporation (Tyson)	*Island Enterprise*	CP
Trident Seafoods Corporation (Tyson)	*Kodiak Enterprise*	CP
Trident Seafoods Corporation (Tyson)	*Seattle Enterprise*	CP
Trident Seafoods Corporation (Tyson)	*U.S. Enterprise*	CP
Trident Seafoods Corporation (Tyson)	*Arctic Enterprise*	INS
Unisea Inc	Dutch Harbor	INS
Westward Seafoods Inc	Dutch Harbor	INS
Yak/Yok Holdings	*Highland Light*	CP

Sector definitions:
CP = Catcher processor
MS = Mothership
INS = Shore plant or inshore floating processor
Source: NFMS permit and blend data files, ADFG intent-to-operate files

8.2.4 Organization Charts for AFA-Entities

The organizational structure focuses on AFA entities as groups of firms or individuals with some common threads of ownership and control. The AFA entity can include individuals, companies, and other organizations. It even may consist of a parent organization that owns 100 percent of one or more companies that control AFA-eligible plants or vessels. In other instances, the AFA entity may consist of a parent organization with subsidiaries that control AFA-eligible plants or vessels. At the AFA entity level of aggregation, the definition of a company and the distinction between these two examples are not critical. However, if the Council wishes to pursue a company-oriented ownership rule, the definition of a company will be very important. For example, is a wholly owned company with separate management a distinct company from the parent company? Or if a parent organization owns 100 percent of the capital stock in two companies, each of which has a separate management structure to operate separate AFA-eligible facilities, are all three organizations separate companies? A company-oriented ownership rule will require a definition capable of addressing such distinctions, and this definition does not yet exist, since the Council has not yet acted on processor sideboards..

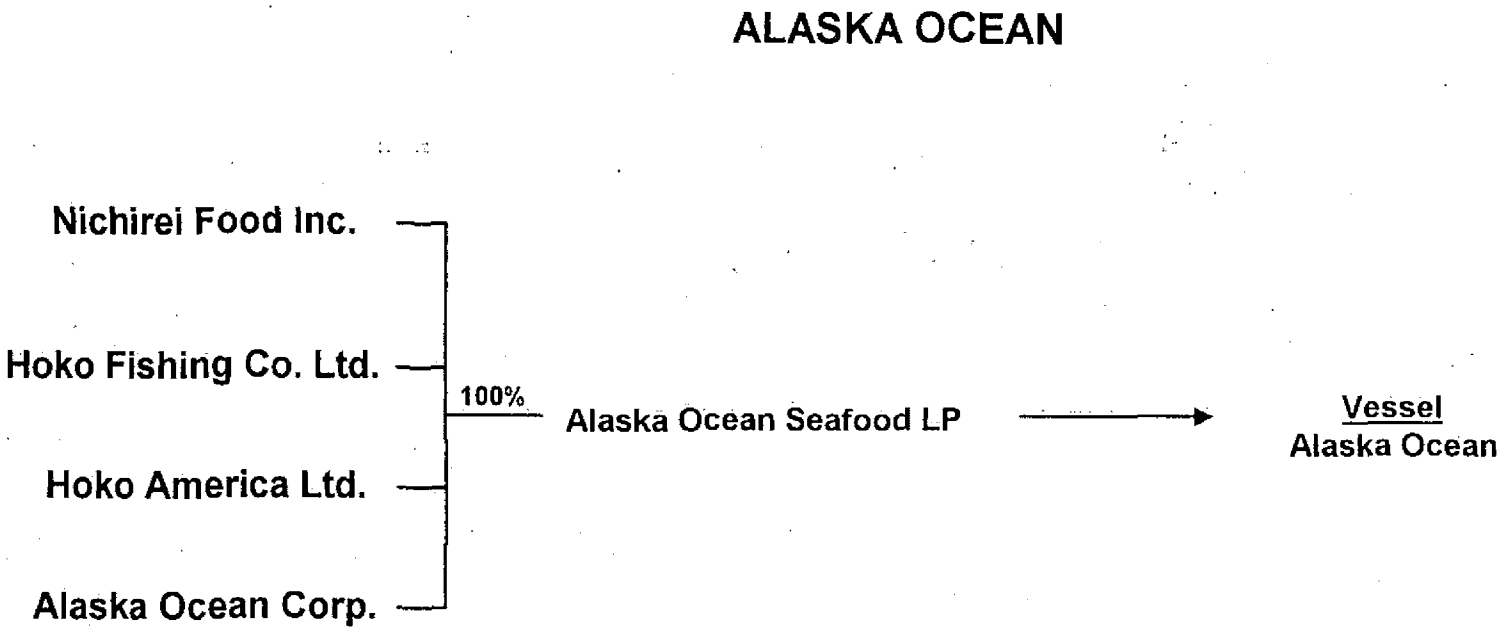
Figures 8.1 - 8.12 depict ownership or control linkages that exist for AFA-eligible processing plants and processing vessels, as well as linkages between the companies that own these plants and vessels. These links are presented at the entity level. Each overall structure is identified by the largest company or the firm with majority ownership in the others. The AFA entities described in this section include:

- Alaska Ocean
- Alaska Trawl
- Aleutian Spray
- American Seafoods
- Marubeni
- Maruha
- Nichiro Corporation
- Nippon Suisan Kaisha, Ltd.
- Trident Seafoods
- Tyson Seafoods Group, Inc.
- Unification Church
- Yardon Knot Holdings/Yardarm Knot Holdings

In addition to these entities, two CDQ groups (Bristol Bay Economic Development Corporation and Norton Sound Economic Development Corporation) have ownership interests in AFA-eligible processing facilities. Organization charts for these two entities are presented in Section 8.2.5 with information for all CDQ groups.

In the organizational charts, links that could be corroborated from several sources are shown with solid black lines. Links for which information could not be confirmed, or for which conflicting information was found, are shown with dashed lines. Information on these potential links is presented in notes for each chart.

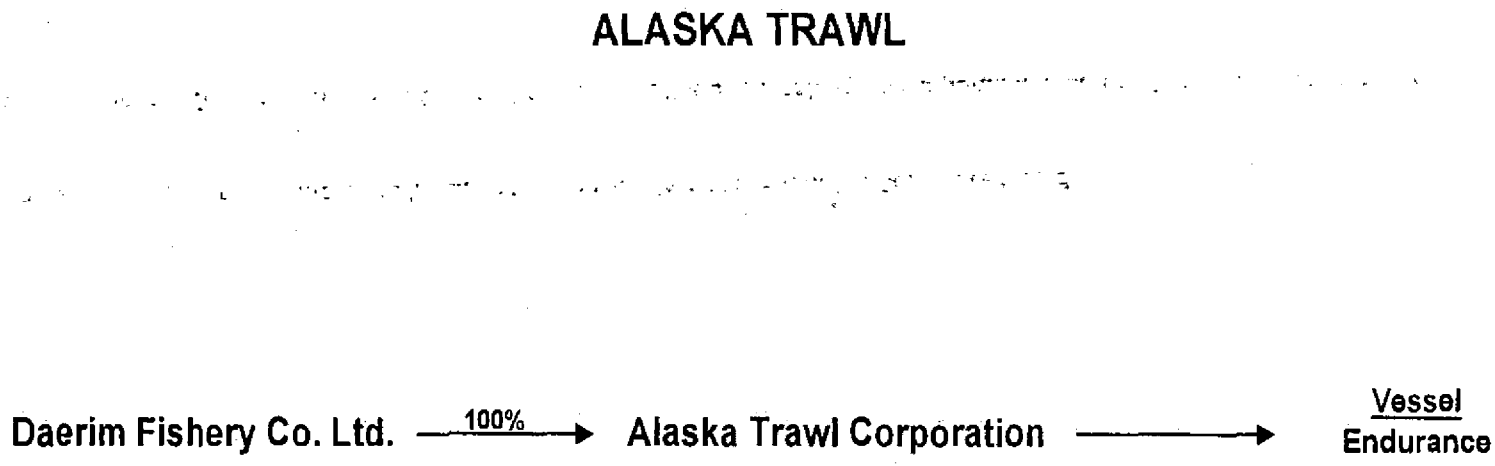
Figure 8.1 Organizational Chart for Alaska Ocean



Notes: Companies noted above are listed as partners in State of Washington Corporate records .

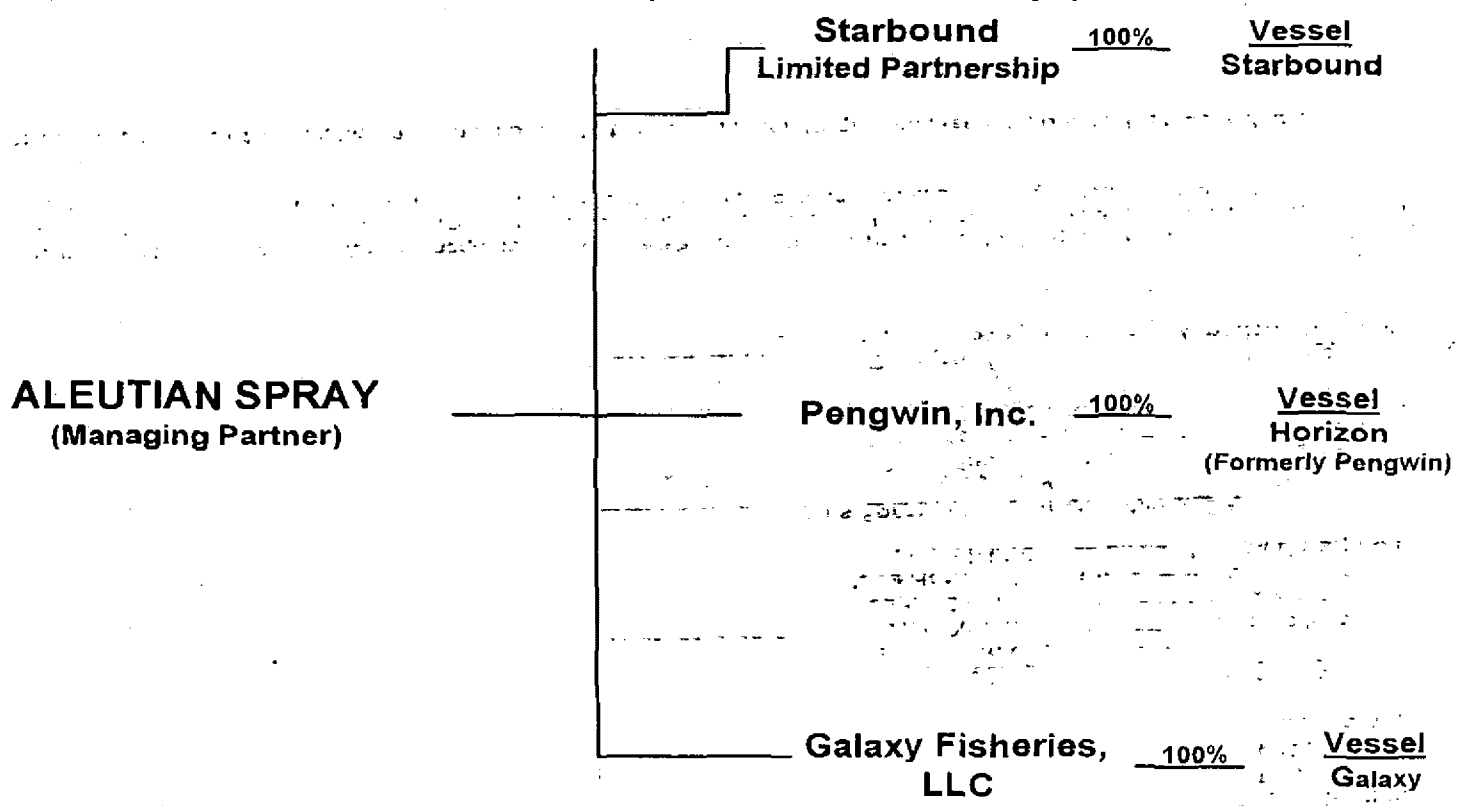
Sources: Ingens Database of Alaska Corporation records; State of Washington Corporation records; Dun and Bradstreet, In c.

Figure 8.2 Organizational Chart for Alaska Trawl



Sources: Ingens Database of Alaska Corporation records; State of Washington Corporation records; Dun and Bradstreet, Inc.

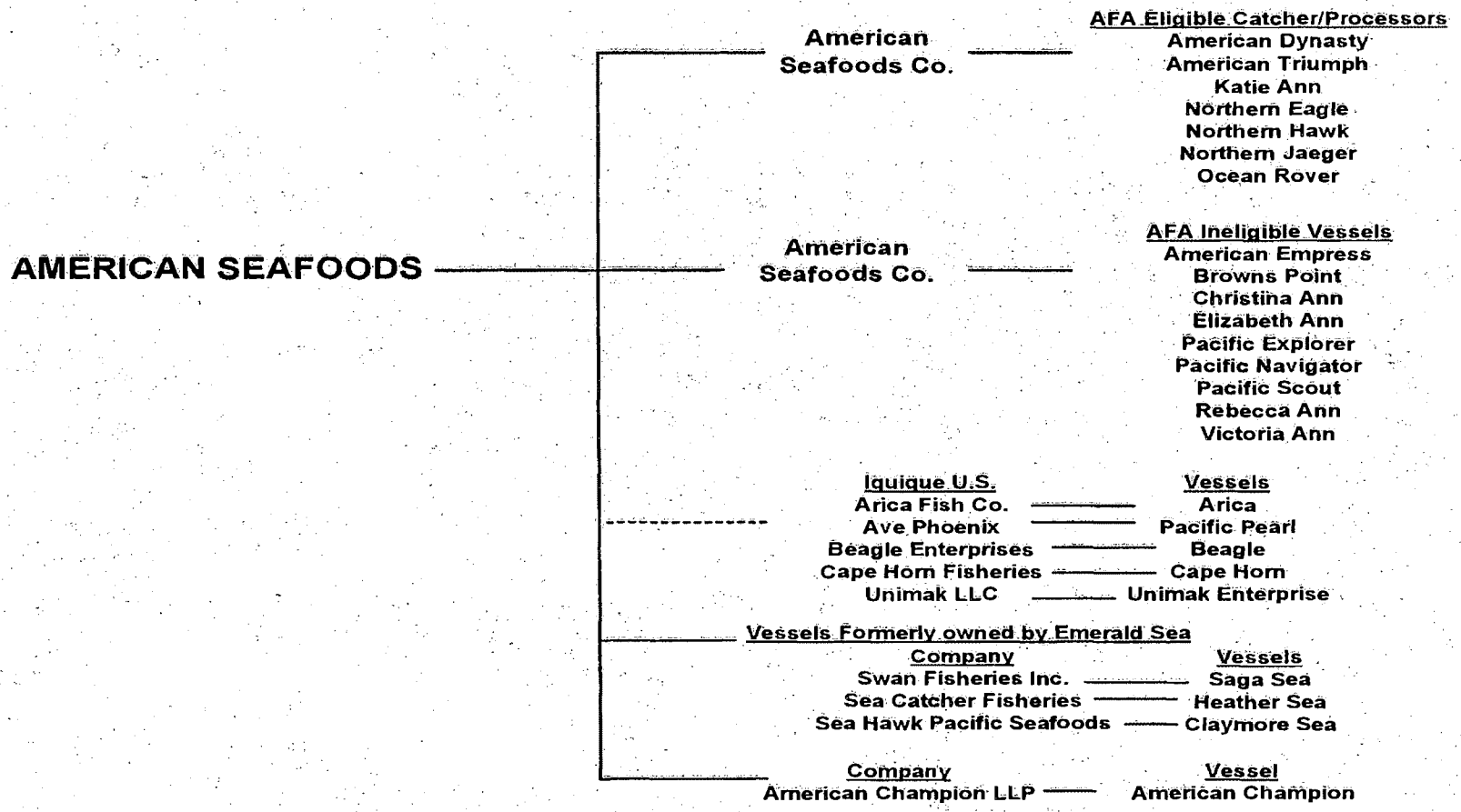
Figure 8.3 Organizational Chart for Aleutian Spray



Note: Galaxy Fisheries, LLC, owns the moratorium permit for the Northern Empire.

Sources: Ingens Database of Alaska Corporation records; State of Washington Corporation records; Dun and Bradstreet, Inc.; *and industry representative discussions.*

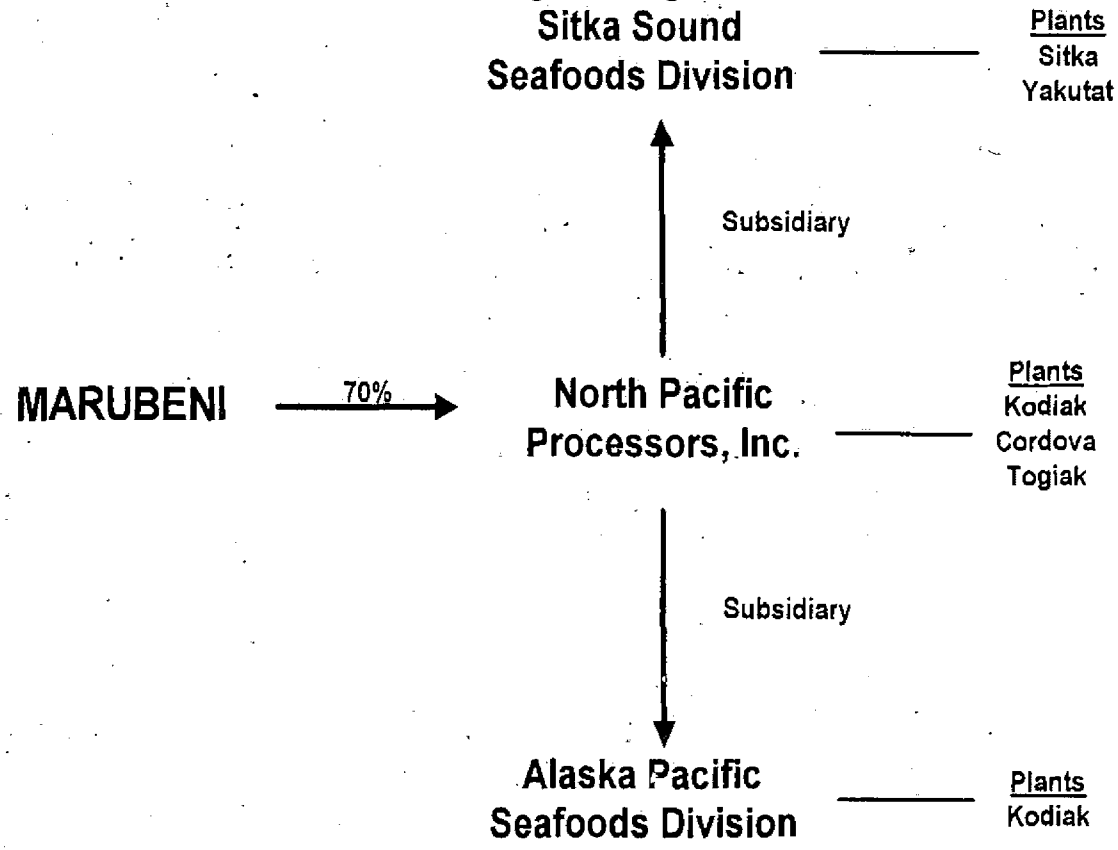
Figure 8.4 Organizational Chart for American Seafoods



Notes: An individual in American Seafood management has ownership or management interest in the group of boats managed by Iquique U.S. The vessels formerly owned by Emerald Sea are owned by owners of American Seafoods, but are currently operating in Russia. Their U.S. processing and fishing histories remain within the American Seafoods entity. The American Champion is no longer documented in the U.S.

Sources: Ingens Database of Alaska Corporation records; State of Washington Corporation records; Dun and Bradstreet, Inc.

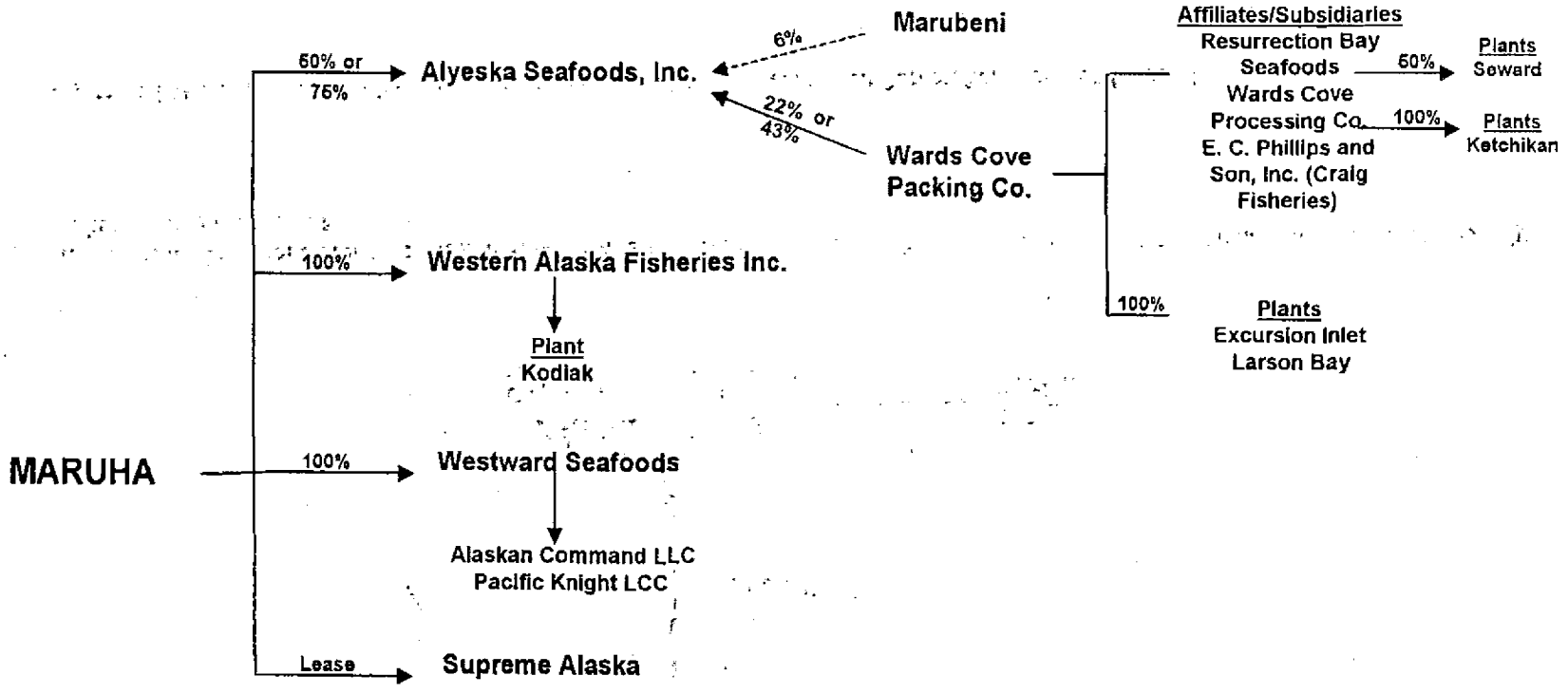
Figure 8.5 Organizational Chart for Marubeni



Note: Alaska Corporation records show Marubeni owns 70% of North Pacific. Other owners are not shown. Dun and Bradstreet records only indicate foreign parent is Marubeni.

Sources: Ingens Database of Alaska Corporation records; State of Washington Corporation records; Dun and Bradstreet, Inc.

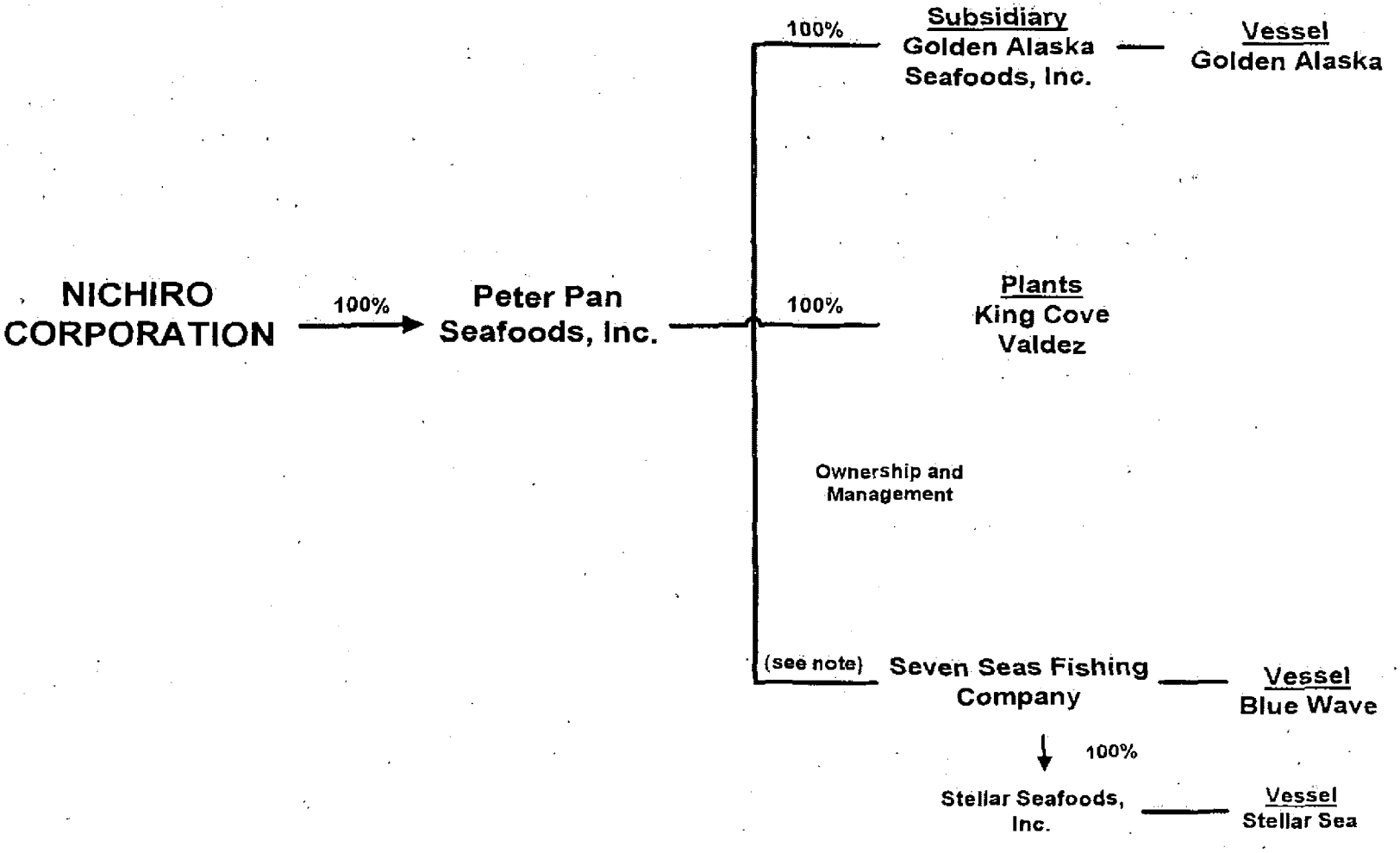
Figure 8.6 Organizational Chart for Maruha



Notes:
1) State of Alaska corporate records indicate Maruha owns 75% of Alyeska and Wards Cove Packing Co. owns 22% of Alyeska. Dun and Bradstreet reports state that Maruha owns 60% and Wards Cove owns 43%.
2) Dun and Bradstreet report dated August 11, 1998 indicates 6% of Alyeska capital stock is owned by Marubeni Corporation and 1% by Western Alaska Fisheries Inc.
3) Dun and Bradstreet reported that Maruha had majority ownership in Alaskan Command.

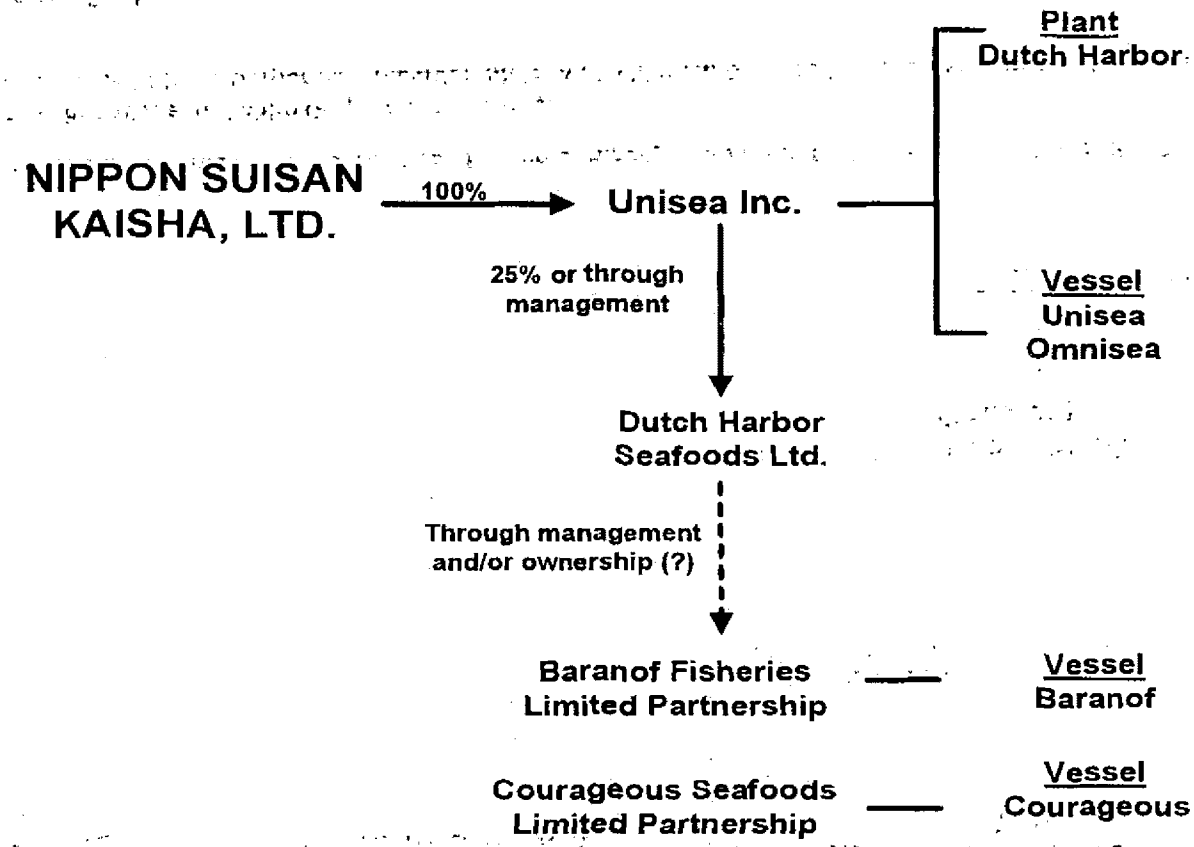
Sources: Ingens Database of Alaska Corporation records; State of Washington Corporation records; Dun and Bradstreet, Inc.

Figure 8.7 Organizational Chart for Nichiro Corporation



Notes:
1) State of Alaska corporati on records for Seven Seas Fishing Company show Barry Collier, President of Peter Pan Seafoods with 75% of capital stock.
2) Peter Pan Seafoods has 10% and Nichiro Corporation has 15%.
Sources: Ingens Database of Alaska Corporation records; State of Washington Corporation records; Dun and Bradstreet, Inc.

Figure 8.8 Organizational Chart for Nippon Suisan Kaisha, Ltd.



Notes:

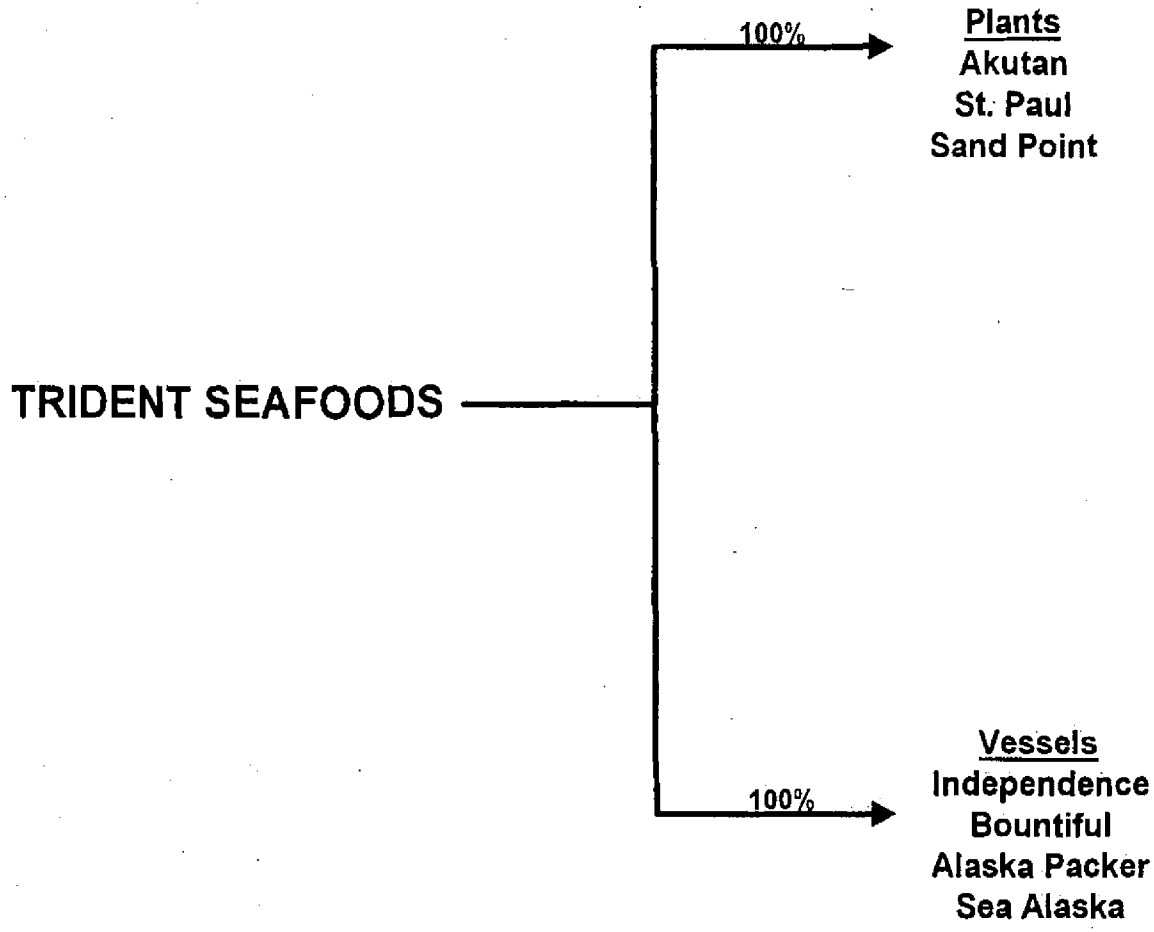
1) State of Alaska corporation records show Richard C. White as President and a 20% owner in Dutch Harbor Seafoods. Mr. White is also listed as a partner in the Baranof and Courageous Partnerships although Washington State records do not show level of ownership.

2) According to industry sources, Richard Pace is a limited partner in the Baranof and Courageous Partnerships and according to the State of Washington records, Judith V. Pace, his wife, is a partner in the Baranof and Courageous Partnerships . Mr. Pace was a previous president of Unisea, Inc.

3) Aaron Gilman and Bert Gilman started Universal Seafoods in 1974 and later sold that business to NSK. The Gilmans are both listed as partners in the Baranof and Courageous Partnerships.

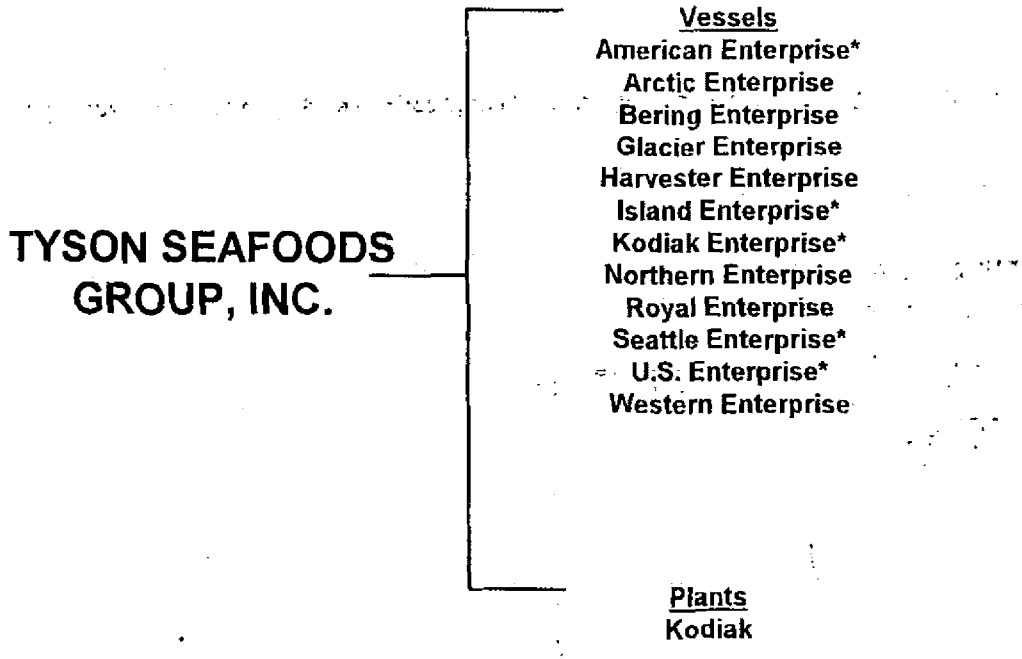
Sources: Ingens Database of Alaska Corporation records; State of Washington Corporation records; Dun and Bradstreet, Inc.

Figure 8.9 Organizational Chart for Trident Seafoods



Sources: Ingens Database of Alaska Corporation records; State of Washington Corporation records; Dun and Bradstreet, Inc.

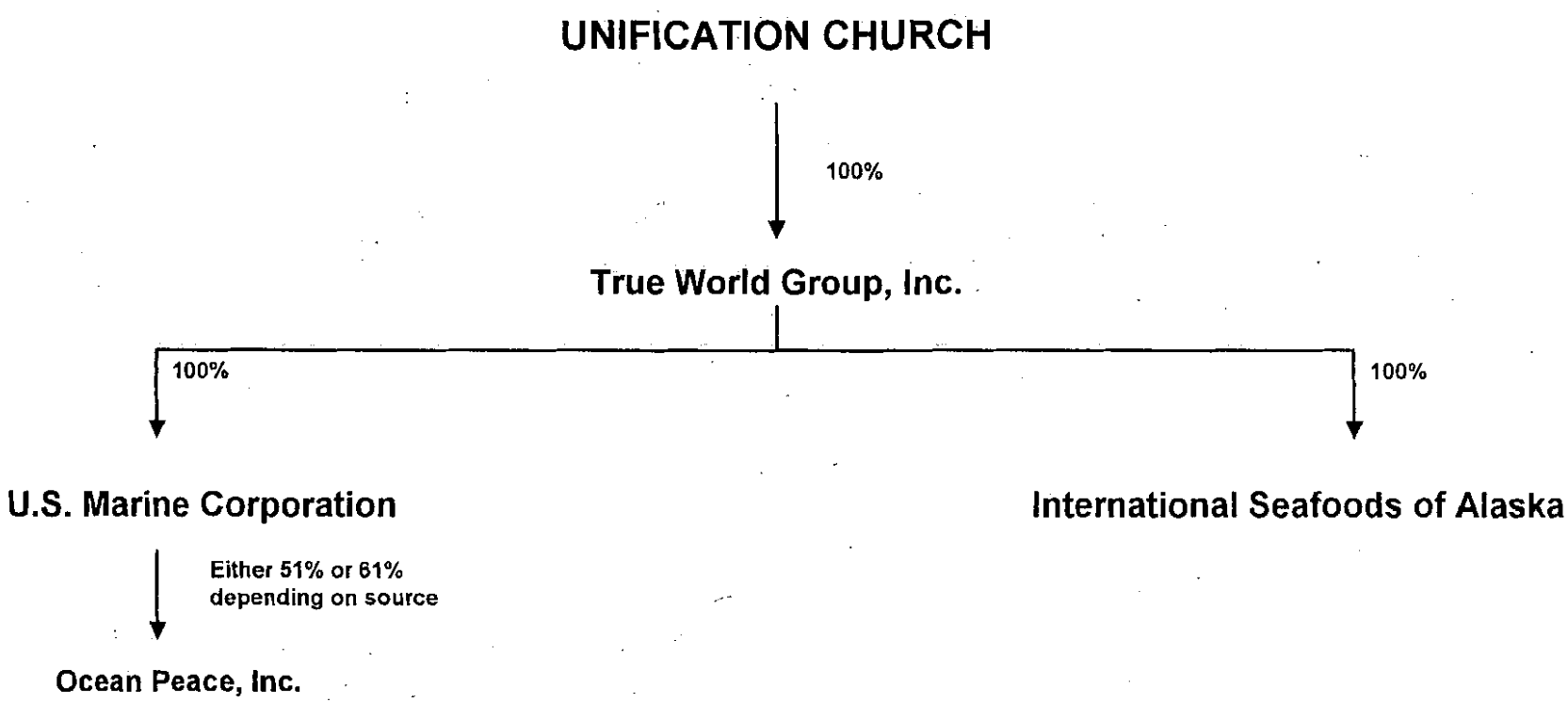
Figure 8.10 Organizational Chart for Tyson Seafoods Group, Inc.



Notes:
1) An asterics indicates AFA eligible catcher/processors.
2) Tyson has recently sold several catcher processors that operated as Tyson vessels between 1995-1997. The vessels listed above were still owned by Tyson as of March 20, 1999.

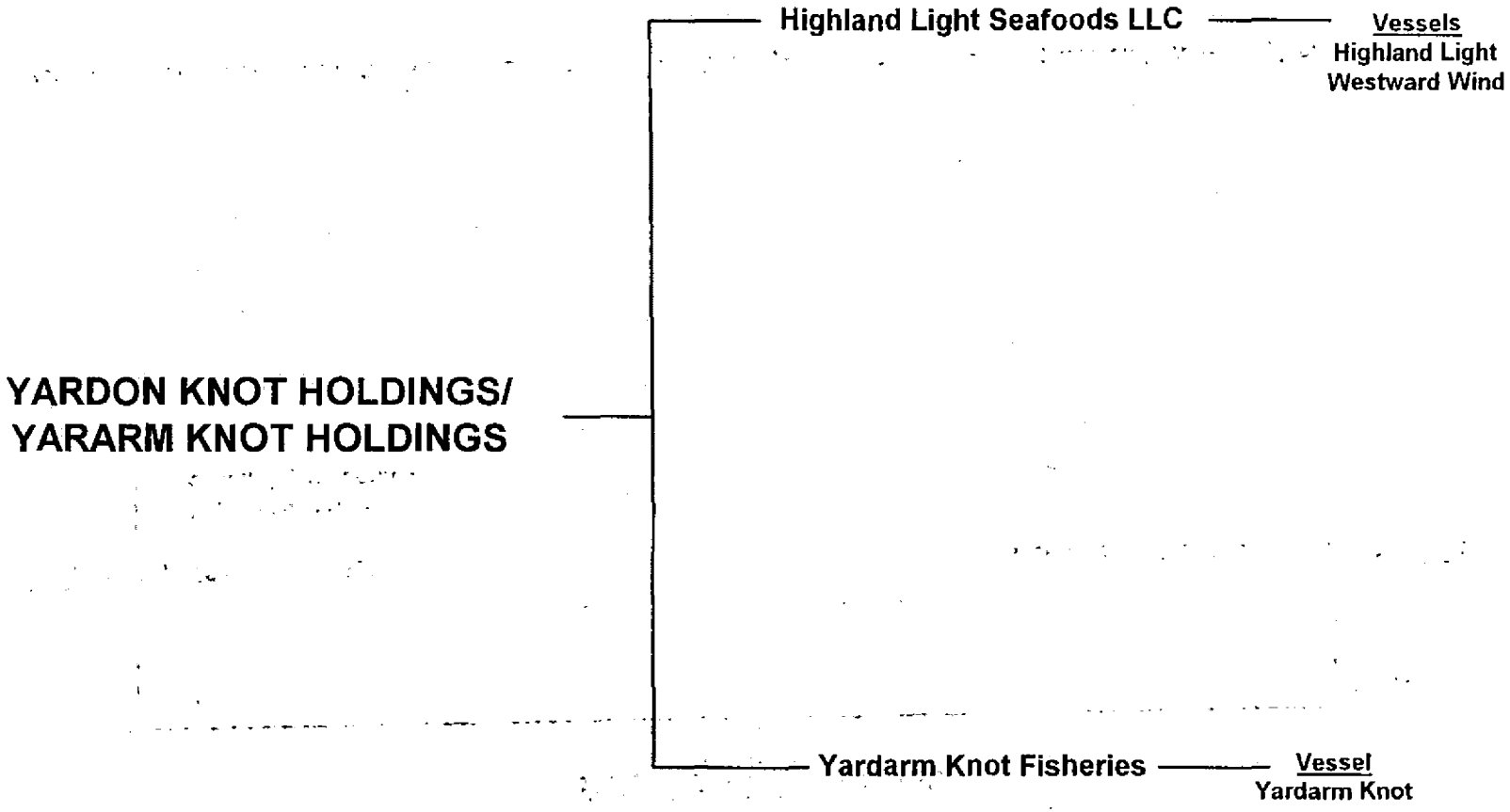
Sources: Ingens Database of Alaska Corporation records; State of Washington Corporation records; Dun and Bradstreet, Inc.

Figure 8.11 Organizational Chart for Unification Church



Sources: Ingens Database of Alaska Corporation records; State of Washington Corporation records; Dun and Bradstreet, Inc.

Figure 8.12 Organizational Chart for Yardon Knot Holdings/Yardarm Knot Holdings



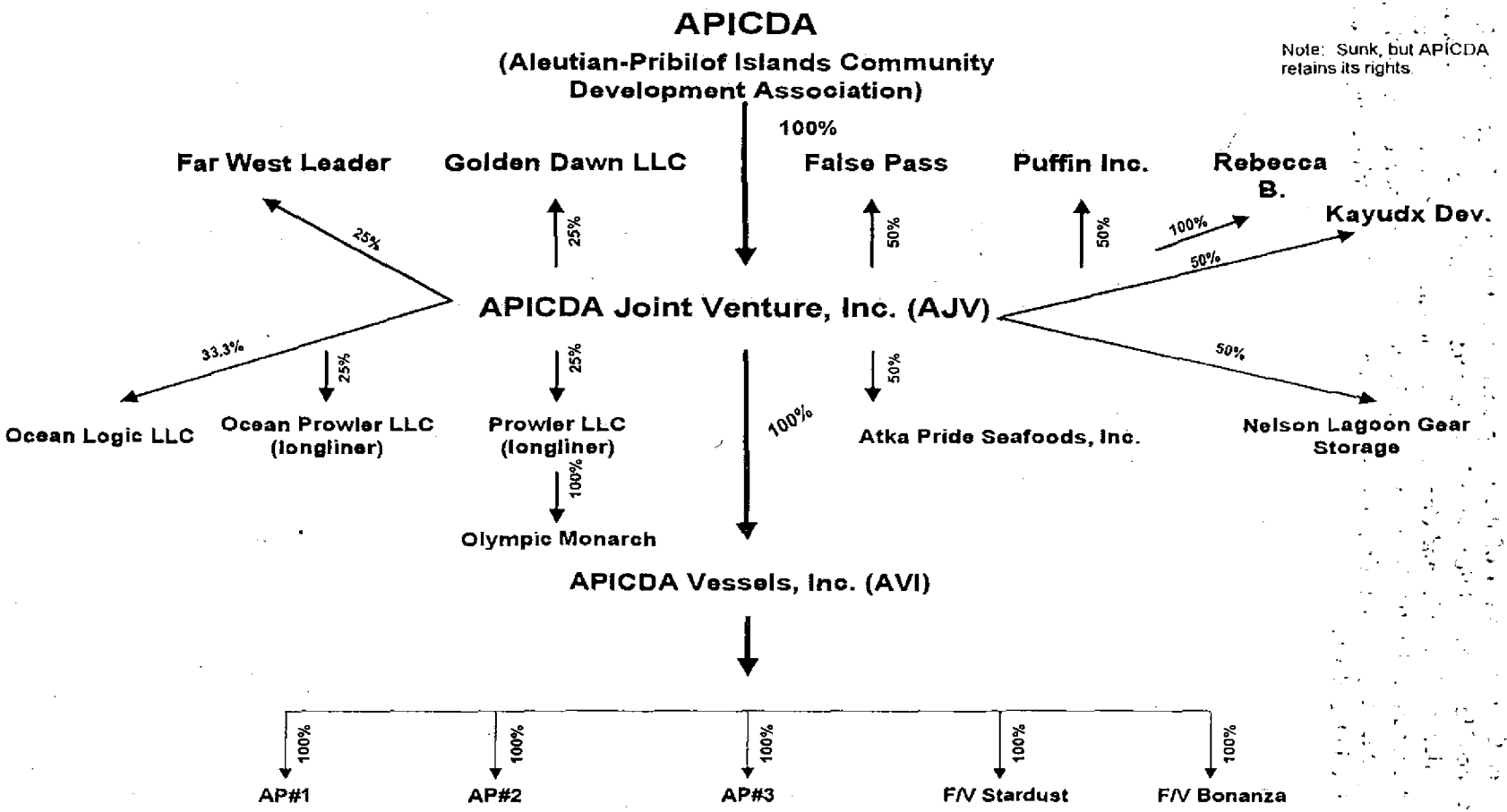
Notes: Yardon Knot Holdings and Yardarm Knot Holdings were both reported in the data bases and have similar ownership structure.

Sources: Ingens Database of Alaska Corporation records; State of Washington Corporation records; Dun and Bradstreet, Inc.; Discussions with industry representatives.

8.2.5 CDQ Groups

Figures 8.13 - 8.18 depict the organization of the six primary CDQ groups. Bristol Bay Economic Development Corporation and Norton Sound Economic Development Corporation have direct investments in AFA-eligible processors. Aleutian Pribilof Island Community Development Association may be associated with an AFA-eligible processor under the 10% Ownership Rule. Basic information sources include the Alaska Department of Community and Regional Affairs. Industry discussions and research of corporate records revealed other links as noted in the charts.

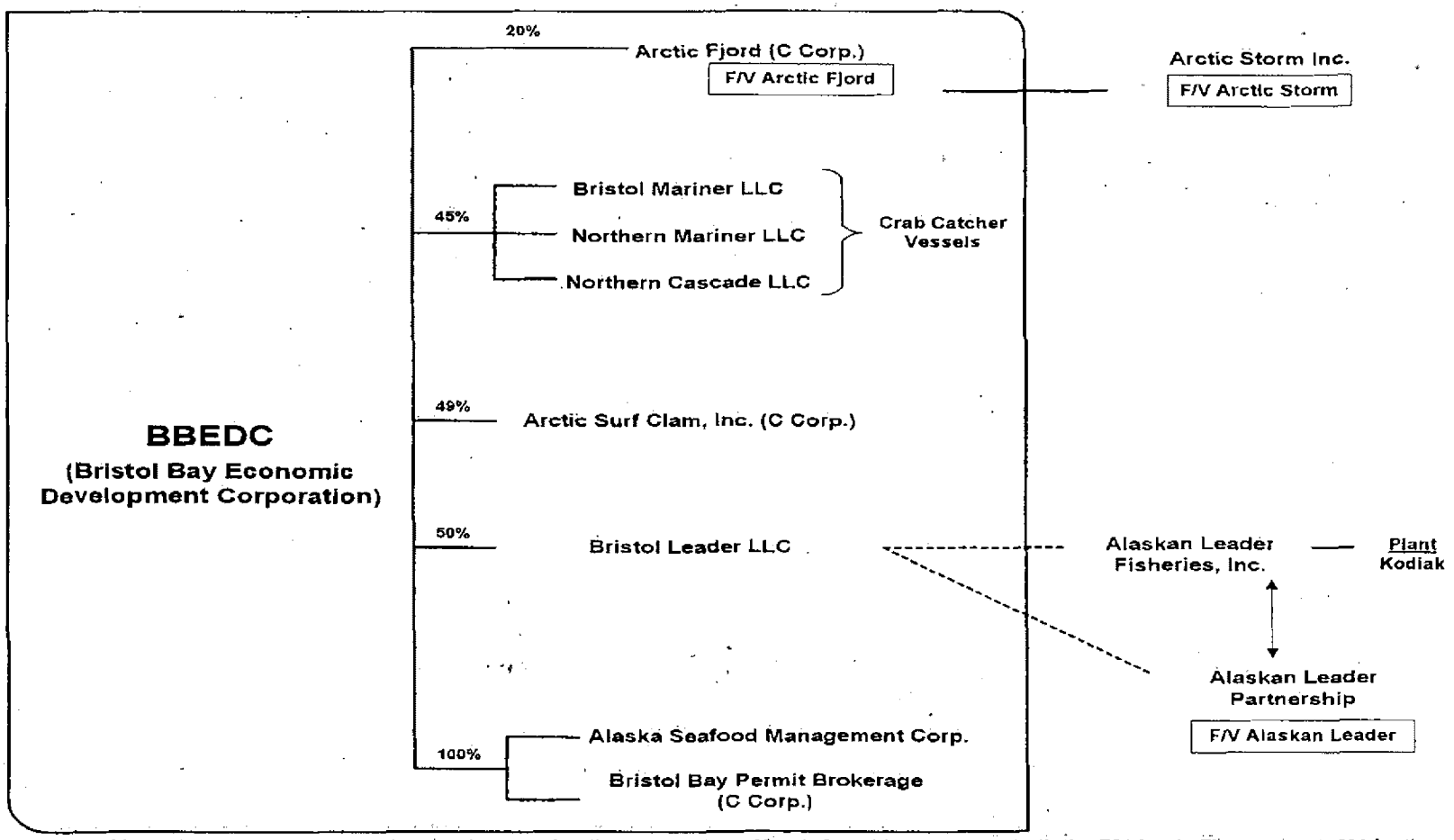
Figure 8.13 Organizational Chart for Aleutian-Pribilof Islands Community Development Association



Notes: AJV is a 100% owner of AVI, which purchas es fishing vessels which are leased to fishermen from various southwestern Alaska villages; a 50% owner of Atka Pride Seafoods, Inc. (APS), located in Atka, Alaska, which purchases and processes fish for resale; a 100% owner of Rebecca B, LLC; a 25% owner of Golden Dawn, LLC which is a vessel engaged in pollock fishery; a 33.3% owner of Ocean Logic, LLC which is developing software for fishing vessels; a 25% owner of Ocean Prowler, LLC which owns a 155' longline processing vessel; a 25% owner of Prowler, LLC which owns a 115' longline processing vessel; and a 50% owner of Kayudx Development, LLC which is in the process of commercially developing and planning to operate Tract 1 in the City of St. George, Alaska. Pollock partners: Trident and Starbound.

Prepared by: Glen Haight, DCRA Municipal and Regional Assistance Division, received February 19, 1999.

Figure 8.14 Organizational Chart for Bristol Bay Economic Development Corporation



Notes: Arctic Fjord is 20% owned by five partners. There is also the Arctic Storm Mgmt. Co. which manages both the F/V Arctic Fjord and the F/V Arctic Storm. The F/V Arctic Storm is currently owned 50% by Oyang (Korean Corp) and 50% by same five partners. BB Permit Brokerage and AK Seafood Mgmt Corp are now defunct. Pollock partner: Arctic Storm (previously Oceantrawl). State of Alaska records indicate that 42% of Bristol Leader LLC is owned by a group of six persons, each with 7% ownership, who also control the majority of ownership in the Alaskan Leader Partnership and Alaska Leader Fisheries. Arctic Fjord Inc and Arctic Storm Inc have 3 multiple owners. At least one person owns more than 10% ownership in both companies. Common ownership is approximately 80% for the Arctic Fjord and over 40% for the Arctic Storm.

Sources: Information within the box was prepared by Glen Haight, DCRA Municipal and Regional Assistance Division, received February 19, 1999.; Other information is from the State of Alaska corporation records and discussions with industry representatives.

Figure 8.15 Organizational Chart for Central Bering Sea Fisherman's Association

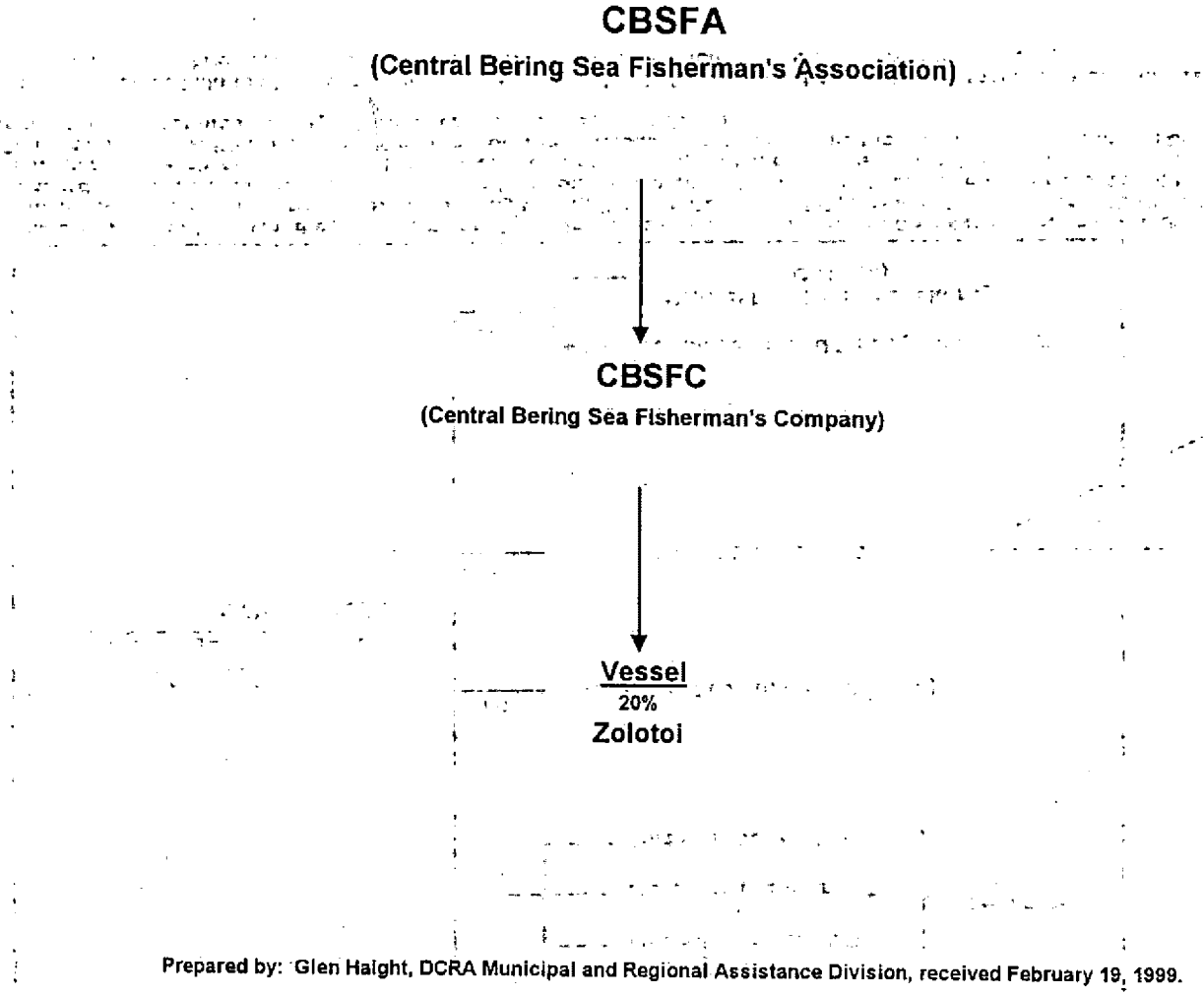
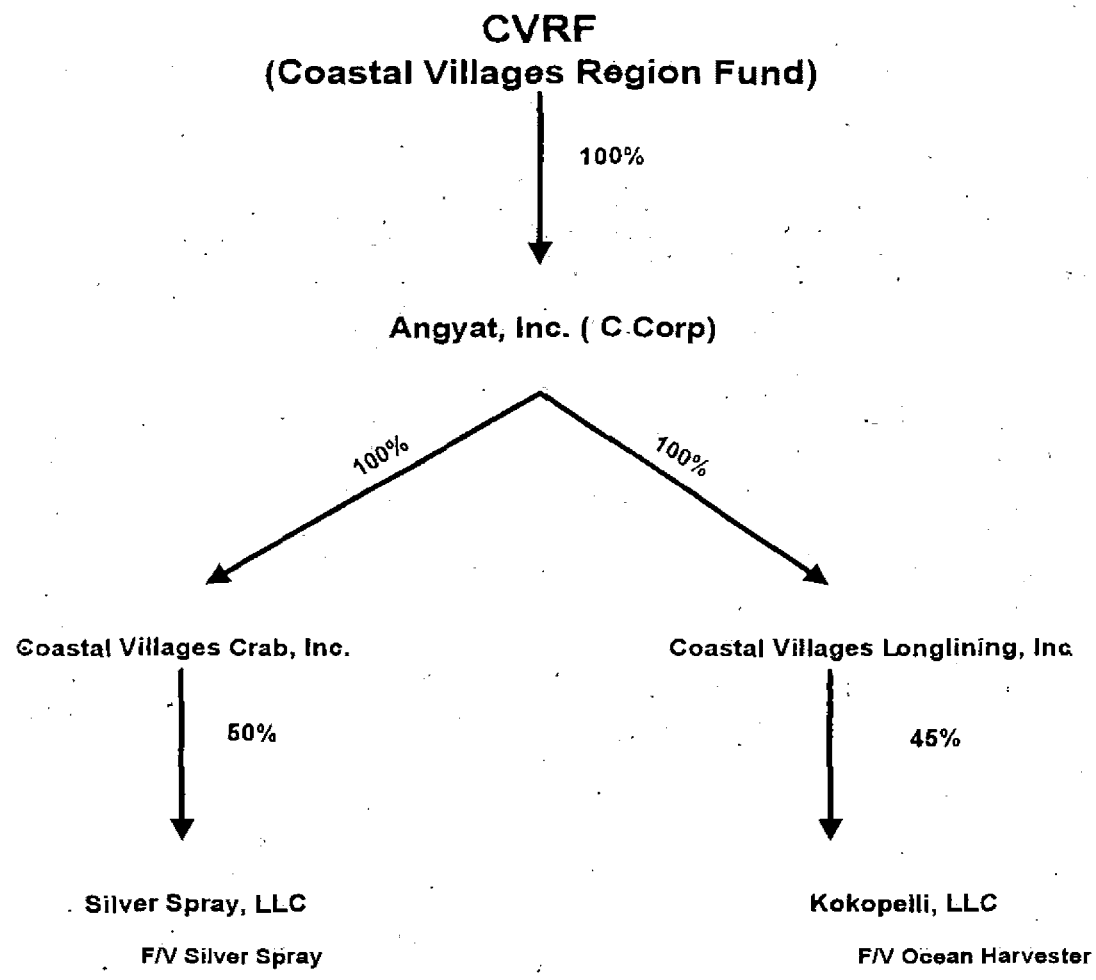


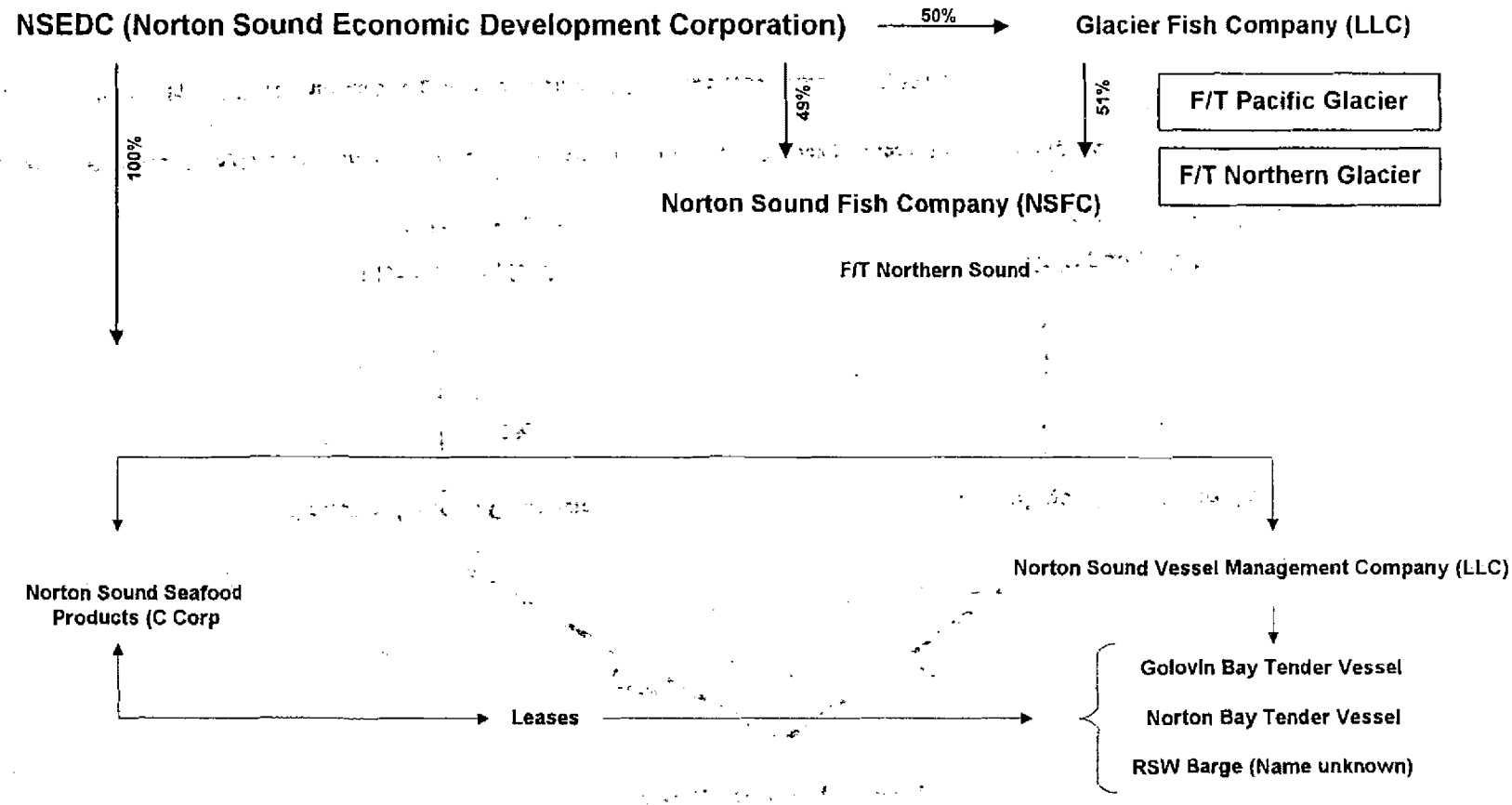
Figure 8.16 Organizational Chart for Coastal Villages Region Fund



Notes: The F/V Silver Spray is a crabber. The F/V Ocean Harvester is a longliner. Pollock partners: Westward and Tyson

Prepared: Glenn Haight, DCRA Municipal & Regional Assistance Division, received Februray 19, 1999.

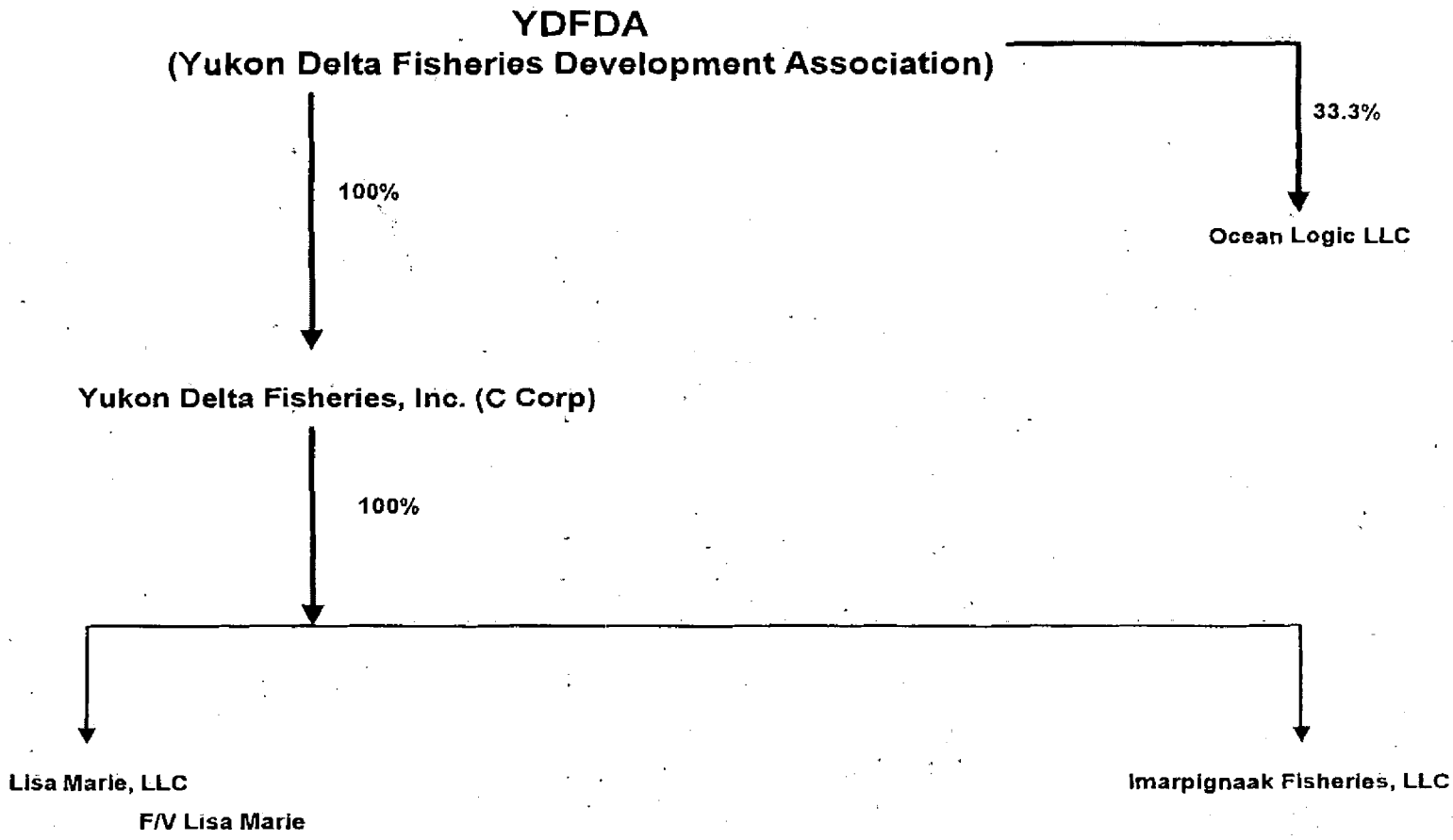
Figure 8.17 Organizational Chart for Norton Sound Economic Development Corporation



Notes: NSFC is owned 49% by NSEDC and 51% by GFC. NSFC owns the F/V Norton Sound, a 139' longline vessel. GFC operates the vessel, Norton Sound Vessel Mgmt. Co. is a subsidiary of NSEDC which manages two specially built tender vessels and which are 100% owned by NSEDC. Norton Sound Seafood Products is a subsidiary of NSEDC which buys and markets various seafood products. GFC owns the 201' Northern Glacier and the 276' Pacific Glacier and an interest in the F/V Norton Soudn. GFC is 50% owned by NSEDC, the other 50% owners are Seattle based individuals (5% John Bundy, 45% Erick Brevik). Pollock partner: GFC.

Sources: Glen Haight, DCRA Municipal and Reigonal Assistance Division, received February 19, 1999.

Figure 8.18 Organizational Chart for Yukon Delta Fisheries Development Association



Notes: Lisa Marie, LLC, is 1 00% owner of the F/V Lisa Marie which fishes for pollock. Imarpignaak Fisheries, LLC is in the process of purchasing 4 small vessels (for training purposes) from Yukon Delta Fisheries, Inc. Pollock partner: Golden Alaska Seafoods.

Prepared by: Glen Haight, DCRA Municipal and Regional Assistance Division, received February 19, 1999.

8.2.6 Summary of the Ownership Interests of AFA Processors

Table 8.3 summarizes ownership interests of AFA processors in companies and entities developed in the organization charts. These will be used in the estimates of processing limits.

Table 8.3 Specification of AFA Companies and Entities for the Analysis of Processing Limits

Entity	Company	Vessel Name or Location of Plant	ID	AFA Qualified	AFA Company	AFA Entity	Sector
Alaska Ocean LLP	Alaska Ocean LLP	*Alaska Ocean*	P3794	√	√	√	CP
Alaska Trawl Fisheries	Alaska Trawl Fisheries	*Endurance*	P3360	√	√	√	CP
Aleutian Spray Fisheries	Aleutian Spray Fisheries	*Starbound*	P3414	√	√	√	CP
	Aleutian Spray Fisheries	*Galaxy*	F0192		√	√	CP
	Aleutian Spray Fisheries	*Pengwin/Horizon*	P1301		√	√	INS
American Seafoods Co.	American Seafoods Co.	*American Dynasty*	P3681	√	√	√	CP
	American Seafoods Co.	*American Empress*	P2722	√	√	√	CP
	American Seafoods Co.	*American Triumph*	P4055	√	√	√	CP
	American Seafoods Co.	*Browns Point*	P2722	√	√	√	CP
	American Seafoods Co.	*Christina Ann*	P2850	√	√	√	CP
	American Seafoods Co.	*Elizabeth Ann*	P2722	√	√	√	CP
	American Seafoods Co.	*Katie Ann*	P1996	√	√	√	CP
	American Seafoods Co.	*Northern Eagle*	P3261	√	√	√	CP
	American Seafoods Co.	*Northern Hawk*	P4063	√	√	√	CP
	American Seafoods Co.	*Northern Jaeger*	P3896	√	√	√	CP
	American Seafoods Co.	*Ocean Rover*	P3442	√	√	√	CP
	American Seafoods Co.	*Pacific Explorer*	P3416	√	√	√	CP
	American Seafoods Co.	*Pacific Navigator*	P2799	√	√	√	CP
	American Seafoods Co.	*Pacific Scout*	P3383	√	√	√	CP
	American Seafoods Co.	*Rebecca Ann*	P2838	√	√	√	CP
	American Seafoods Co.	*Victoria Ann*	P2839	√	√	√	CP
	American Champion LLP	*American Champion*	F9692		√	√	INS
	Seahawk Pacific Seafoods	*Claymore Sea*	P3362			√	CP
	Seacatcher Fisheries, Inc.	*Heather Sea*	P3664			√	CP
	Swan Fisheries, Inc.	*Saga Sea*	P4056			√	CP
	Arica Fish Co. Ltd.	*Arica*	P3694			Probable	CP
	Cape Horn Fisheries	*Cape Horn*	P2110			Probable	CP
	Ave Phoenix	*Pacific Pearl*	P0276			Probable	CP
	Rebecca Irene, Inc.	*Rebecca Irene*	P1610			Probable	CP
	Unimak Fisheries LLC	*Unimak Enterprise*	P3369			Probable	CP
	Beagle Enterprises LLP	*Beagle*	P0528			Probable	INS
Bristol Bay EDC	Arctic Storm, Inc.	*Arctic Fjord*	P3396	√	√	√	CP
	Arctic Storm, Inc.	*Arctic Storm*	P2943	√	√	√	CP
	Bristol Leader LLC	*New Star/ Bristol Leader*	P3491			√	CP
	Alaskan Leader LLP	*Alaskan Leader*	P4598			Probable	CP
	Alaskan Leader LLP	Kodiak	F1991			Probable	INS
Maruha Corp.	Alyeska Seafoods, Inc.	Dutch Harbor	F0753	√	√	√	INS
	Westward Seafoods, Inc.	Dutch Harbor	F1366	√	√	√	INS
	Supreme Alaska Seafoods	*Excellence*	M4111	√	√	√	MS
	Pacific Knight LLC	*Pacific Knight*	P2783		√	√	CP
	Alaskan Command LLC	*Alaskan Command*	P3391			√	CP
	Wards Cove Packing Co.	*Excursion Inlet*	F0274			√	INS

Entity	Company	Vessel Name or Location of Plant	ID	AFA Qualified	AFA Company	AFA Entity	Sector
Maruha Corp. (cont.)	Wards Cove Packing Co.	Ketchikan	F0110			√	INS
	Wards Cove Packing Co.	Ketchikan	F2185			√	INS
	Western Alaska Fisheries	Kodiak	F0320			√	INS
	Wards Cove Packing Co.	Larsen Bay	F0266			√	INS
	Wards Cove Packing Co.	Seward	F1379			√	INS
	Wards Cove Packing Co.	Seward	F2354			√	INS
Nichiro Corp.	Peter Pan Seafoods, Inc.	King Cove	F0142	√	√	√	INS
	Peter Pan Seafoods, Inc.	*Golden Alaska*	M1607	√	√	√	MS
	Peter Pan Seafoods, Inc.	Valdez	F1041		√	√	INS
	Peter Pan Seafoods, Inc.	*Blue Wave*	F1636		√	√	MS
	Peter Pan Seafoods, Inc.	*Stellar Sea*	M5362		√	√	MS
Nippon Suisan Kaisha	Unisea, Inc.	Dutch Harbor	F1180	√	√	√	INS
	Unisea, Inc.	St. Paul	F0188		√	√	INS
	Unisea, Inc.	*Omnisea*	F1066			√	MS
	Baranof Fisheries	*Baranof*	P1248			Probable	CP
	Courageous Seafoods	*Courageous*	P1276			Probable	CP
Northern Victor LLP	Northern Victor LLP	*Northern Victor*	F1319	√	√	√	INS
Norton Sound EDC	Norton Sound EDC	*Northern Glacier*	P0661	√	√	√	CP
	Norton Sound EDC	*Pacific Glacier*	P3357	√	√	√	CP
	Norton Sound EDC	*Norton Sound*	P5294		√	√	CP
	Norton Sound EDC	Nome	F1809		√	√	INS
	Norton Sound EDC	Unalakleet	F2290		√	√	INS
	Norton Sound EDC	Unknown	F2289		√	√	INS
Phoenix Processor LLP	Phoenix Processor LP	*Ocean Phoenix*	M3703	√	√	√	MS
Trident Seafoods Corp.	Trident Seafoods Corp.	Akutan	F0939	√	√	√	INS
	Trident Seafoods Corp.	Sand Point	F0940	√	√	√	INS
	Trident Seafoods Corp.	*Bountiful*	P0278		√	√	CP
	Trident Seafoods Corp.	South Naknek	F0942		√	√	INS
	Trident Seafoods Corp.	St. Paul	F1927		√	√	INS
	Trident Seafoods Corp.	*Alaska Packer*	F0944		√	√	MS
	Trident Seafoods Corp.	*Independence*	M3259		√	√	MS
	Trident Seafoods Corp.	*Sea Alaska*	F0945		√	√	MS
Tyson Seafoods Group	Tyson Seafoods Group	*American Enterprise*	P2760	√	√	√	CP
	Tyson Seafoods Group	*Island Enterprise*	P3870	√	√	√	CP
	Tyson Seafoods Group	*Kodiak Enterprise*	P3671	√	√	√	CP
	Tyson Seafoods Group	*Seattle Enterprise*	P3245	√	√	√	CP
	Tyson Seafoods Group	*U.S. Enterprise*	P3004	√	√	√	CP
	Tyson Seafoods Group	*Arctic Enterprise*	M5314	√	√	√	INS
	Tyson Seafoods Group	*Bering Enterprise*	P3003		√	√	CP
	Tyson Seafoods Group	*Glacier Enterprise*	F9720		√	√	CP
	Tyson Seafoods Group	*Harvester Enterprise*	P2732		√	√	CP
	Tyson Seafoods Group	*Northern Enterprise*	F9713		√	√	CP
	Tyson Seafoods Group	*Royal Enterprise*	F9723		√	√	CP
	Tyson Seafoods Group	*Western Enterprise*	F9716		√	√	CP
	Tyson Seafoods Group	Kodiak	F0222		√	√	INS
	Tyson Seafoods Group	Kodiak	F1936		√	√	INS
Yak/Yok Holdings	Yak/Yok Holdings	*Highland Light*	P3348	√	√	√	CP
	Yak/Yok Holdings	*Westward Wind*	F9715		√	√	CP
	Yak/Yok Holdings	*Yardarm Knot*	M3116		√	√	MS

8.3 Identification of Ten Options

Processing limits may be applied for each species or species group at three general levels:

1. Single overall limit for all AFA entities combined.
2. Sector limits for inshore, offshore catcher processors, and motherships.
3. Individual limits for an AFA facility, company, entity, etc.

In addition, each level has three layers of AFA eligibility:

1. Eligible plants and vessels
2. Companies that own such plants or vessels
3. Entities that combine eligible companies through 10% ownership

These nine combinations were analyzed along with a tenth option that applies individual company processing limits, but includes only AFA-eligible facilities within those companies.

Here are the ten options described in full:

Option 1 **Overall Limits Applied to All AFA-eligible Facilities.** A single overall processing limit would be set for each species. Only AFA processing facilities would be included. Once the overall limit is reached, no additional processing of the limited species by any included facility would be allowed.

Option 2 **Overall Limits Applied to All Facilities within AFA Companies.** A single overall processing limit would be set for each species. All processing facilities owned by companies that own AFA facilities would be included under the limits. Once the overall limit is reached, no additional processing of the limited species by any included facility would be allowed.

Option 3 **Overall Limits Applied to All Facilities within AFA Entities.** A single overall processing limit would be set for each species. AFA entities would be defined as an umbrella organization under which all processing facilities that are associated with AFA facilities by the 10% Ownership Rule are included under the limits. Once the overall limit is reached, no additional processing of the limited species by any included facility in any of the entities would be allowed.

Option 4 **Sector Level Limits Applied to AFA Facilities.** A processing limit for each species would be applied to each sector. There would be three sectors as defined in the AFA: (1) catcher processors, which include all AFA catcher processors, (2) motherships, which would include all AFA motherships, and (3) inshore, which would include all AFA shore plants and floating processors. Processing histories of all AFA facilities from each sector (including the nine catcher processors listed in §209) would be included in the calculation of the sector limits. Once a sector's limit for a particular species is reached, no additional processing of that species by any AFA facility included in the sector would be allowed.

Option 5 **Sector-Level Limits Applied to All Facilities within AFA Companies.** Sector level processing limits for each species would be imposed upon all facilities in AFA companies as defined by direct ownership of AFA facilities. Three sectors would be defined on the basis

of existing inshore-offshore regulations. The catcher-processor sector would include all catcher processors of any gear type greater than 125 feet LOA and all catcher processors less than 125 feet LOA that process more than 125 tons per week (round weight). The mothership sector would include any non-catching floating-processor that takes delivery of groundfish or BSAI crab species in more than one location during the year, or which takes deliveries outside of state waters. The inshore sector would include all shore plants and non-catching floating-processors that take delivery of groundfish and BSAI crab in a single location within state waters during the year, and all catcher processors less than 125 feet LOA that process less than 125 tons per week (round weight). Once a sector's limit is reached, no additional processing of the limited species by any facility owned by an AFA company included in the sector would be allowed.

Option 6 **Sector-Level Limits Applied to All Facilities within AFA Entities.** Sector-level processing limits for each species would be imposed upon all facilities in AFA entities, as defined by the 10% Ownership Rule. Three sectors would be defined on the basis of existing inshore-offshore regulations. The catcher-processor sector would include all catcher processors of any gear type greater than 125 feet LOA and all catcher processors less than 125 feet LOA that process more than 125 tons per week (round weight). The mothership sector would include any non-catching floating-processor that takes delivery of groundfish or BSAI crab species in more than one location during the year, or which takes deliveries outside of state waters. The inshore sector would include all shore plants and non-catching floating-processors that take delivery of groundfish and BSAI crab in a single location within state waters during the year, and all catcher processors less than 125 feet LOA that process less than 125 tons per week (round weight). Once a sector's limit is reached, no additional processing of the limited species by any facility associated with an AFA entity included in the sector would be allowed.

Option 7 **Individual Plant and Vessel Limits**. An individual facility level processing limit would be imposed. Each AFA plant or vessel would be limited according to its own percentage of the total of each species processed over the historical period. Once a facility's limit for a species is reached, that plant or vessel would not be allowed to process additional amounts of the species.

Option 8 **Individual Company Limits Applied to AFA Facilities**. Processing limits would be imposed on each company that owns AFA plants or vessels. The historical processing of all AFA facilities owned by the company would be included in the company limit. Processing histories of facilities owned by the company but which are not AFA facilities would not be included in the calculation of the company limits, nor would these facilities be affected by the limits. In other words, once a company's limit of a particular species is reached, only non-AFA facilities within the company could continue processing the species.

Option 9 **Individual Company Limits Applied to All Company Facilities**. Processing limits would be issued to each company that owns AFA plants or vessels. The historical processing of all facilities owned by the company would be included in the company limit. The company could decide how the processing of each species is allocated among its facilities. Once a company's limit is reached, no facility owned by the company could process additional amounts of that species.

Option 10 **Individual Entity Limits Applied to All Entity Facilities.** Processing limits would be imposed on each AFA entity. The historical processing of all facilities within the entity would be included in the entity's processing limit. The entity as a group could decide how the processing of each species is allocated among its facilities. Once an entity's limit for a given species is reached, no facility within the entity could process additional amounts of that species.

8.4 Assumptions and Issues

The following assumptions and issues underpin the specification of options above and the analysis, and need to be carefully considered by the Council.

1. Processing limits will not constitute an allocation.

2. Fisheries with processing limits.

Crab Fisheries in the BSAI: If crab fisheries are included, the analysis assumes that limits will be species-specific but not area-specific, i.e., there will be processing limits on Blue King Crab, Brown King Crab, Red King Crab, Bairdi Crab, and Opilio Crab, but not by area.

Groundfish other than pollock in the BSAI: Non-pollock BSAI groundfish limits will be applied to five species groups for the entire BSAI rather than by specific species for specific areas: Pacific Cod, Atka Mackerel, Flatfish, Rockfish, and Other Groundfish without reference to area.

All groundfish in the GOA: GOA groundfish limits will be applied to six species groups for the entire GOA rather than by specific species and area: Pollock, Pacific Cod, Atka Mackerel, Flatfish, Rockfish, and Other Groundfish. Processing limits in the GOA are in addition to the potentially more restrictive language in the AFA regarding Area 630 and pollock and Pacific cod processing. They will not supersede the language in the AFA unless that is the specific intent of Council.

3. Calculation of processing limits.

The following general formula will be used to calculate processing limits for each limited fishery:

$$\frac{\text{Historical Processing of Limited Processors}}{\text{Historical Processing of All Processors}} \times \text{Current Year TAC (or GHL for Crab)} = \text{AFA Processing Limit}$$

The analysis assumes that all AFA eligible facilities will participate in cooperatives.

4. Years included in processing history.

- 1995, 1996, and 1997. These years were indicated in the AFA.
- 1996, 1997 only. These years were proposed by the Council as an alternative.

5. Treatment of non-pollock processing histories of the nine removed catcher processors.

The processing histories of the nine catcher processors listed in section 209 are treated differently depending on how the processing limit is configured. For an overall limit, the histories will be included

in that overall limit. For sector limits, the histories are included in the offshore catcher processor limit. If individual limits are used, the histories will go to American Seafoods as a whole or be apportioned equally among its seven catcher processors.

6. GOA Groundfish processing limits of 20 named catcher processors.

The GOA groundfish processing limits of the 20 catcher processors listed in section 208 of AFA are included in the overall, sector, or individual catcher processors' limits, depending on options chosen. The AFA prohibits those 20 vessels from processing any BSAI crab (none did anyway during 1995-1997), any GOA pollock, any groundfish in GOA Area 630, or more than 10% of the Pacific cod in Areas 610, 620, and 640. However, non-AFA catcher processors included within AFA companies or entities could be allowed to process up to whatever limits are established.

7. Non-pollock processing histories of catcher processors that qualify under §208(e)(21) AFA and shore plants that qualify under §208(f)(1)(B).

It appears that two processing facilities, the *Ocean Peace*, and the shore plant in Kodiak owned by International Seafoods of Alaska, would qualify under these sections. Discussions with members of industry indicated that references to these facilities in the AFA were included to allow these facilities to continue to process pollock in directed fisheries as part of the allocations in §206 of the AFA, but that it was not intended that they would be limited unless they participated in cooperatives. Because it is not anticipated that these facilities will participate in cooperatives, their processing histories have not been included in the calculation of processing limits.

8. Processing histories of AFA-eligible facilities that choose not to participate in cooperatives.

All 23 catcher processors and motherships specified in the AFA, and the shore plants and floaters that processed 2,000 or more tons of pollock in 1996 and 1997, are assumed to participate in cooperatives. Therefore, their processing histories are included in the calculation of the limits. If their histories are included in calculating the limits, but they choose not to be in a cooperative, will the non-participating facilities have to cease processing if an applicable processing limit is reached? **In general, for all options presented, the Council will need to decide whether processing limits would be applied when facilities/companies do not participate in co-ops.**

9. Use of 10% Ownership Rule in the determination of AFA entities.

The analysis treats the ownership of each individual in a family separately. The Council may wish to treat the ownership of currently married individuals and the minor children as a single ownership stake for purposes of the 10% Ownership Rule. Further, the analysis assumes that CDQ companies and organization are treated no differently from other companies. Issues of "control" have been discussed earlier. As noted then, this analysis focuses more on ownership.

10. Fixed processing limits, or adjustable limits to account for changes in ownership patterns or the participation of AFA-eligible facilities in cooperatives.

For example, a non-AFA processing company purchases an AFA-eligible facility. The new owner would become an AFA company. If the limits are intended to preclude AFA companies from expanding their processing in non-pollock species, then it stands to reason that the new owner's

processing in its non-AFA plants would be added into the AFA processing total for that species. Once a processing limit for a given species is reached, then the new owner will have to cease processing that species at all of its facilities. If processing limits are fixed, then the new owner's processing history from its original plants would not be included in the processing limit calculation, but the current processing of its original non-AFA plants would count toward the limits. In this example, a closure could result before any of the facilities has processed its historical percentage of the species.

11. Vessels that are not eligible under the Crab and/or Groundfish License Limitation Program (LLP).

The analysis uses all catch and processing of all vessels and processing facilities that participated in 1995-1997, and does not verify whether all catcher processors would qualify for a license under the LLP. It is not believed that there were significant numbers of unqualified vessels participating in those years.

12. Processing totals of vessels or plants that have been destroyed or replaced.

Since 1995, there have been several vessels or plants that have been destroyed or replaced. In some of those cases, catch and processing histories have been transferred to new owners who have built new vessels or processing facilities to replace the old. It is possible that AFA companies or members of AFA entities own the catch and processing histories of some of the destroyed or replaced facilities. The analysis assumes that the catch and processing histories of such destroyed or replaced facilities will be included in the calculation of AFA processing limits. However, it should be noted that it is possible that some of the lost or destroyed vessels may not be eligible for licenses under the Crab LLP. Because of the difficulties in documenting destroyed or replaced vessels, the analysis includes processing of all facilities that participated in the fisheries between 1995 and 1997.

13. Processing totals of vessels that have been removed from U.S. documentation.

It is possible that some vessels that are no longer U.S.-documented fishing vessels (in addition to the nine vessels removed in the AFA) may contribute to the AFA processing limits. In some cases, the processing histories of those vessels may be sufficient to qualify replacement vessels under the LLP, and it is possible that the owners of those fishing histories have already built replacement vessels. Because of the difficulties of confirming current U.S. documentation of all vessels, the analysis includes the catch and processing of all vessels that participated in the fisheries between 1995 and 1997. If the Council chooses to exclude these vessels, then processing histories of all vessels that have given up their documentation should be removed from both the numerator and the denominator of the calculation for calculating limits.

14. Interactions of processing limits with Improved Retention and Improved Utilization (IRIU).

If a processing limit is reached for a species that is caught as bycatch in other fisheries, will processing of the other species be limited as well? As an example, assume that a processing limit for Pacific cod is reached, but the processing limit for flatfish has yet to be attained. Bycatch of Pacific cod is almost unavoidable in flatfish fisheries, and therefore it is likely that additional Pacific cod will be caught or delivered to flatfish processors. If those processors cannot process additional Pacific cod, and they cannot discard the Pacific cod because of IRIU, then in effect they cannot process additional flatfish (must refuse delivery).

15. Crab GHLs

How will processing limits be applied to crab species when the Guideline Harvest Level (GHL) is set as a range, or when crab species are managed by season?

16. Treatment of Bycatch.

If a processing limit for a species is reached, the processors affected by that limit, whether at the individual, sector, or overall level, will be prohibited from processing additional amounts of that species, even if delivered as bycatch. NMFS may, however, employ a phased approach of imposing processing limits that would allow the processing of bycatch amounts of a limited species after a predetermined threshold is reached.

17. Defining AFA facilities, companies, and entities.

Processing limits will be set at the beginning of the year and may vary with the number of participating facilities and species TACs. Facilities, companies and entities must declare before the calendar year which facilities will participate in pollock cooperatives. That declaration will define which facilities, companies and entities are AFA-related. If a company or entity has at least one AFA eligible facility, that company or entity is defined as an AFA company or entity.

18. NMFS verification procedures.

NMFS will have the ultimate responsibility for defining AFA facilities, companies, and entities. Ownership structure will need to be detailed in affidavits showing ownership shares down to the 10 percent ownership level. If a company, corporation, or partnership owns the processor, then additional details showing the individual owners of the company, corporation, or partnership must also be provided. The processor's permit application will also contain signed affidavits from all companies, corporations, partnerships and individuals that own at least a 10 percent share of the processor. The affidavits will indicate all other processing facilities in which the company, partnership, or individual has at least a 10 percent ownership share. After defining AFA facilities, companies or entities, NMFS will send documentation to each one describing the company and ownership linkages. A representative of the facility, company or entity will have to acknowledge the ownership structure and agree to abide by the processing limits, or be denied a permit.

If sector limits are to be used, the representative will also have to declare which sector his facility will operate based on already established inshore-offshore criteria.

AFA-eligible inshore floating processors, if they participate in pollock cooperatives, must declare as part of the inshore sector, and may not process crab or groundfish in a location other than the location in which they process pollock.

8.5 Results of the Analysis of Ten Options

This section presents the results of the analysis of the ten options. It quantifies the limits as they pertain to various levels and layers within levels, and qualitatively assesses the efficacy of the option in meeting the objectives previously described.

8.5.1 Option 1: Overall Processing Limits Applied to All AFA Facilities

A single overall processing limit would be set for each species and would encompass all AFA facilities. Once the overall limit is reached, no additional processing of the limited species by any AFA facility would be allowed. Under this option, only AFA facilities would be limited. If a company owns an AFA facility and a non-AFA facility, only the AFA facility would be affected by the processing limits.

The GOA groundfish processing histories of the 20 catcher processors listed in §208 of the AFA are included in the overall processing limits. The AFA prohibits those 20 vessels from processing any BSAI crab, any pollock in the GOA, any groundfish in Area 630 of the GOA, and more than 10 percent of the Pacific cod in Areas 610, 620, and 640. However, other processors included within the AFA processing limits will be allowed to process the 20 catcher processors' historical portions of GOA groundfish species. (The 20 catcher processors listed in §208 of the AFA did not process any crab during the historical processing period.)

A qualitative assessment of the effectiveness of this option in meeting the 10 objectives introduced in Subsection 8.1.5 is given in Table 8.5 along with an assessment for the other options. The table shows each of those objectives with a presumed rating from the perspective of an interest group. The objectives are rated "good", "fair" or "poor", relative to the other options, and where a "fair" rating implies that there are worse options and there are better options. The ratings are made from the analyst's presumption of the attitudes of the stated interest group, but do not necessarily reflect the actual judgement of the group.

Table 8.4 shows estimates of overall processing limits for AFA facilities for each species group, based first on the processing histories of AFA facilities in 1995-1997 and then on only 1996-1997.

Table 8.4 Option 1: Overall Limit Applied to All AFA Facilities, 1995-1997 and 1996-1997

	Percent of Total Processing					
Bering Sea Aleutian Islands Groundfish						
	Atka Mackerel	**Flatfish**	**Other Species**	**Pacific Cod**	**Rockfish**	
1995-1997	13.64	33.57	22.78	37.95	19.23	
1996-1997	13.04	33.73	23.48	38.75	18.74	
Gulf of Alaska Groundfish						
	Atka Mackerel	**Flatfish**	**Other Species**	**Pacific Cod**	**Pollock**	**Rockfish**
1995-1997	14.23	7.88	4.58	31.83	47.45	9.25
1996-1997	9.94	6.66	4.55	35.55	46.73	8.11
Crab						
	Bairdi	**Blue King**	**Brown King**	**Opilio**	**Red King**	
1995-1997	56.47	18.63	55.77	19.03	55.21	
1996-1997	61.09	16.61	55.08	19.70	57.43	

Table 8.5 Summary of the Qualitative Analysis of Processing Limits

	Overall Limits			Sector Limits			Individual Limits			
	Option 1 Facility	Option 2 Company	Option 3 Entity	Option 4 Facility	Option 5 Company	Option 6 Entity	Option 7 Facility	Option 8 Company	Option 9 AFA/Co.	Option 10 Entity
Objectives from the Perspective of Proponents of Processing Limits										
1. How does the option rate in terms of limiting AFA processing of species other than BSAI pollock to the levels achieved prior to the passage of the AFA?	Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Poor	Good
2. How does the option rate in terms of including all processing interests of AFA companies?	Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Poor	Good
3. How does the option rate in terms of preventing AFA companies from evading the limits through subsidiaries or holding companies?	Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Poor	Good
Objectives from the Perspective of AFA Processors										
4. How does the option rate in terms of allowing AFA processors to maximize their ability to realize profits in the pollock processing industry?	Good	Good	Good	Good	Good	Good	Poor	Good	Good	Good
5. How does the option rate in terms of allowing AFA processors to be able to utilize non-pollock processing capacity improvements completed prior to passage of the AFA?	Fair	Fair	Poor	Fair	Poor	Poor	Fair	Fair	Good	Fair
6. How does the option rate in terms of its effect on the market value of AFA facilities?	Good	Fair	Poor	Fair	Fair	Poor	Good	Fair	Good	Poor
Objectives from the Perspective of Non-pollock Processors Linked to AFA Processors										
7. How does the option rate in terms of restricting non-pollock processors that will not benefit directly from the AFA?	Good	Good	Poor	Good	Good	Poor	Good	Good	Good	Poor
Objectives from the Perspective of NMFS										
8. How does the option rate in terms of the Paperwork Reduction Act?	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Good	Poor
9. How does the option rate in terms of the NMFS ability to determine and set the limits?	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Good	Poor
10. How does the option rate in terms of the NMFS ability to manage the limits in-season?	Good	Fair	Fair	Good	Poor	Poor	Fair	Fair	Fair	Fair

Notes:

1/ The objectives are given a presumed rating relative to the other options from the perspective of the interest group shown. A fair rating implies that there are worse options and better options.

2/ The column headed "AFA/Co." is for the option that imposes individual processing limits on the AFA facilities in a company, but does not limit non-AFA facilities in the company.

8.5.2 Option 2: Overall Limits Applied to All Facilities in AFA Companies

A single overall processing limit would be set for each species and would encompass all of the processing facilities of companies that have a direct majority ownership stake in AFA facilities. In effect the primary criterion under which two or more processing facilities are considered to be owned by a single company will be whether the majority of ownership in each facility is held by the same individuals or companies, regardless of whether each individual's or company's relative shares are identical In this section, companies that own AFA facilities are referred to as AFA companies. Once the overall limit is reached, no additional processing of the limited species by any facility owned by any AFA company would be allowed. The 10% Ownership Rule would not be applied under this option, and only those facilities that are within the AFA companies would be limited.

The GOA groundfish processing histories of the 20 catcher processors listed in §208 of the AFA are included in the catcher-processor sector processing limits. The AFA prohibits those 20 vessels from processing any BSAI crab, any pollock in the GOA, any groundfish in Area 630 of the GOA, and more than 10 percent of the Pacific cod in Areas 610, 620, and 640. However, other non-AFA catcher processors included within AFA catcher-processor sector limits will be allowed to process up to the catcher-processor sector processing limits for crab and GOA groundfish species. (The 20 catcher processors listed in §208 of the AFA did not process any crab during the historical processing period.)

Table 8.6 shows estimates of overall processing limits for AFA companies for each species group. The estimates are based on the processing histories of all facilities in AFA companies for 1995-1997 and 1996-1997. The effectiveness of the processing limits is shown in Table 8.5.

Table 8.6 Option 2: Overall Limit Applied to All Facilities within AFA Companies, 1995-1997 and 1996-1997.

	Percent of Total Processing					
Bering Sea Aleutian Islands Groundfish						
	Atka Mackerel	**Flatfish**	**Other Species**	**Pacific Cod**	**Rockfish**	
1995-1997	13.93	36.82	26.09	42.19	25.99	
1996-1997	13.17	35.79	26.56	43.50	24.72	
Gulf of Alaska Groundfish						
	Atka Mackerel	**Flatfish**	**Other Species**	**Pacific Cod**	**Pollock**	**Rockfish**
1995-1997	16.86	21.87	8.48	44.31	58.27	25.03
1996-1997	10.07	21.00	8.82	48.11	56.04	25.27
Crab						
	Bairdi	**Blue King**	**Brown King**	**Opilio**	**Red King**	
1995-1997	65.15	74.05	59.93	61.67	69.37	
1996-1997	61.09	74.52	55.79	62.64	70.04	

8.5.3 Option 3: Overall Limits Applied to All Facilities in AFA Entities

This section discusses a single overall processing limit that would be set for each species and would encompass all of the processing facilities of AFA entities, as defined by the 10% Ownership Rule. Once the overall limit is reached, no additional processing of the limited species by any facility associated with any AFA entity would be allowed.

The GOA groundfish processing histories of the 20 catcher processors listed in §208 of the AFA are included in the catcher-processor sector processing limits. The AFA prohibits those 20 vessels from processing any BSAI crab, any pollock in the GOA, any groundfish in Area 630 of the GOA, and more than 10 percent of the Pacific cod in Areas 610, 620, and 640. However, other non-AFA catcher processors included within AFA catcher-processor sector limits will be allowed to process up to the catcher-processor sector processing limits for crab and GOA groundfish species. (The 20 catcher processors listed in §208 of the AFA did not process any crab during the historical processing period.)

Tables 8.7 and Table 8.8 show estimates of overall processing limits for AFA entities for each species group. The entities are based on the organizational analysis from Section 8.2, and therefore the estimates should be viewed as analytical estimates rather than final limits. The tables provide ranges of estimated limits for each species group. The lower values are derived from facilities that the analysts were able to document as part of an AFA entity and are shown in the rows labeled "documented". Higher estimates of the limits are shown in rows labeled "possible." The higher estimates were derived by adding to the documented totals, the processing volumes of other facilities that may be considered part of an AFA entity once final rules are determined and additional information and verification has been gathered. As before, the qualitative analysis of the efficacy of this option is shown in Table 8.5.

Table 8.7 Option 3: Overall Limit Applied to All Facilities Within AFA Entities, 1995-1997

	Percent of Total Processing					
Bering Sea Aleutian Islands Groundfish						
	Atka Mackerel	**Flatfish**	**Other Species**	**Pacific Cod**	**Rockfish**	
Documented	13.94	38.48	28.34	44.36	27.68	
Possible	15.01	54.26	39.07	51.09	43.53	
Gulf of Alaska Groundfish						
	Atka Mackerel	**Flatfish**	**Other Species**	**Pacific Cod**	**Pollock**	**Rockfish**
Documented	17.21	28.72	17.40	50.56	66.93	29.39
Possible	19.48	32.37	20.93	51.27	67.10	37.20
Crab						
	Bairdi	**Blue King**	**Brown King**	**Opilio**	**Red King**	
Documented	65.38	74.05	59.93	61.67	69.37	
Possible	66.90	74.56	59.93	63.31	70.20	

Notes:

1/ Total documented percentages include facilities for which the analysis has documented linkages at the 10 percent level.

2/ Total possible percentages include all documented linkages as well as facilities that may be linked, depending on the application of the 10 percent rule or further investigation.

Table 8.8 Option 3: Overall Limit Applied to All Facilities Within AFA Entities, 1996 and 1997

	Percent of Total Processing					
Bering Sea Aleutian Islands Groundfish						
	Atka Mackerel	**Flatfish**	**Other Species**	**Pacific Cod**	**Rockfish**	
Documented	13.18	35.95	27.73	43.91	24.97	
Possible	13.92	52.51	39.24	50.61	41.15	
Gulf of Alaska Groundfish						
	Atka Mackerel	**Flatfish**	**Other Species**	**Pacific Cod**	**Pollock**	**Rockfish**
Documented	10.13	29.35	19.19	54.49	65.44	31.17
Possible	11.36	32.23	22.90	54.72	65.57	39.41
Crab						
	Bairdi	**Blue King**	**Brown King**	**Opilio**	**Red King**	
Documented	61.83	74.52	55.79	62.64	70.04	
Possible	62.40	74.90	55.79	64.41	70.92	

Notes:

1/ Total documented percentages include facilities for which the analysis has documented linkages at the 10 percent level.

2/ Total possible percentages include all documented linkages as well as facilities that may be linked, depending on the application of the 10 percent rule or further investigation.

8.5.4 Option 4: Sector-Level Processing Limits Applied to All AFA Facilities

Sector-level processing limits would be imposed for each species upon all AFA facilities as defined in the AFA aggregated across the offshore, mothership, and shoreside processors. Once the sector limit is reached, no additional processing of the limited species by any AFA facility would be allowed.

The GOA groundfish processing histories of the 20 catcher processors listed in §208 of the AFA are included in the catcher-processor sector processing limits. The AFA prohibits those 20 vessels from processing any BSAI crab, any pollock in the GOA, any groundfish in Area 630 of the GOA, and more than 10 percent of the Pacific cod in Areas 610, 620, and 640. However, other non-AFA catcher processors included within AFA catcher-processor sector limits will be allowed to process up to the catcher-processor sector processing limits for crab and GOA groundfish species. (The 20 catcher processors listed in §208 of the AFA did not process any crab during the historical processing period.)

Table 8.9 shows estimates of sector level processing limits for AFA facilities for each species group. The estimates are based on the processing histories of AFA facilities during the years 1995, 1996, and 1997. Table 8-10 shows estimates of sector level processing limits for AFA facilities for each species group, based on the processing histories of AFA facilities during the years 1996 and 1997. The efficacy of this option is evaluated in Table 8.5.

Table 8.9 Option 4: Sector-Level Limits Applied to AFA Facilities, 1995-1997

	Percent of Total Processing by Sectors			
Species by Area	Catcher Processors	Inshore Processors	Motherships	Total
Bering Sea Aleutian Islands Groundfish				
Atka Mackerel	12.81	0.23	0	13.64
Flatfish	25.41	7.86	0.46	33.73
Other Species	9.31	13.39	0.78	23.48
Pacific Cod	11.73	25.41	1.61	38.75
Rockfish	9.32	8.51	0.91	18.75
Gulf of Alaska Groundfish				
Atka Mackerel	0.27	9.67	-	9.94
Flatfish	4.64	2.02	0	6.66
Other Species	0.89	3.66	-	4.56
Pacific Cod	2.42	33.10	0.03	35.55
Pollock	0.96	45.68	0.09	46.72
Rockfish	6.87	1.24	-	8.11
Crab				
Bairdi	-	56.47	-	56.47
Blue King	-	18.63	-	18.63
Brown King	-	55.77	-	55.77
Opilio	-	19.03	-	19.03
Red King	-	55.21	-	55.21

Table 8.10 Option 4: Sector-Level Limits Applied to AFA Facilities, 1996 and 1997

Species by Area	Percent of Total Processing by Sectors			
	Catcher Processors	Inshore Processors	Motherships	Total
Bering Sea Aleutian Islands Groundfish				
Atka Mackerel	12.81	0.23	0	13.04
Flatfish	25.41	7.86	0.46	33.73
Other Species	9.31	13.39	0.78	23.48
Pacific Cod	11.73	25.41	1.61	38.75
Rockfish	9.32	8.51	0.91	18.74
Gulf of Alaska Groundfish				
Atka Mackerel	0.27	9.67	-	9.94
Flatfish	4.64	2.02	0	6.66
Other Species	0.89	3.66	-	4.55
Pacific Cod	2.42	33.10	0.03	35.55
Pollock	0.96	45.68	0.09	46.73
Rockfish	6.87	1.24	-	8.11
Crab				
Bairdi	-	61.09	-	61.09
Blue King	-	16.61	-	16.61
Brown King	-	55.08	-	55.08
Opilio	-	19.70	-	19.70
Red King	-	57.43	-	57.43

8.5.5 Option 5: Sector-Level Limits Applied to All Facilities in AFA Companies

Sector-level processing limits would be imposed for each species upon all facilities in AFA companies as defined by direct ownership of AFA facilities. Sectors would be defined on the basis of the existing inshore/offshore regulations. The catcher processor sector would include all catcher processors of any gear type greater than 125 feet LOA and all catcher processors less than 125 feet LOA that process more than 125 tons per week (round weight). The mothership sector would include any non-catching floating processor that takes delivery of groundfish or BSAI crab species in more than one location during the year, or which takes deliveries outside of state waters. The inshore sector would include all shore plants and non-catching floating processors that take delivery of groundfish and BSAI crab in a single location within state waters during the year, and all catcher processors of any gear type less than 125 feet LOA that process less than 125 tons per week (round weight). Once the sector limit is reached, no additional processing of the limited species by any AFA facility in the sector would be allowed.

The primary criterion under which two or more processing facilities are considered to be owned by a single company will be whether the majority of ownership in each facility is held by the same individuals or companies, regardless of whether each individual's company's relative shares are identical. Once the sector limit is reached, no additional processing of the limited species by any facility owned by an AFA company included in the sector would be allowed.

The GOA groundfish processing histories of the 20 catcher processors listed in §208 of the AFA are included in the catcher-processor sector processing limits. The AFA prohibits those 20 vessels from processing any BSAI crab, any pollock in the GOA, any groundfish in Area 630 of the GOA, and more than 10 percent of the Pacific cod in Areas 610, 620, and 640. However, other non-AFA catcher processors included within AFA catcher-processor sector limits will be allowed to process up to the catcher-processor sector processing limits for crab and GOA groundfish species. (The 20 catcher processors listed in §208 of the AFA did not process any crab during the historical processing period.)

Table 8.11 shows estimates of sector level processing limits for AFA companies for each species group. The estimates are based on the processing histories of all facilities in AFA companies during the years 1995, 1996, and 1997, and the assumptions delineated above. Table 8.12 shows similar information for 1996-1997.

Table 8.11 Option 5: Sector-Level Limits Applied to All Facilities Within AFA Companies, 1995-1997

Species by Area	Percent of Total Processing by Sectors			
	Catcher Processors	Inshore Processors	Motherships	Total
Bering Sea Aleutian Islands Groundfish				
Atka Mackerel	12.95	0.23	0	13.17
Flatfish	27.37	7.87	0.56	35.79
Other Species	12.11	13.41	1.04	26.56
Pacific Cod	14.81	25.49	3.20	43.50
Rockfish	15.08	8.52	1.12	24.72
Gulf of Alaska Groundfish				-
Atka Mackerel	0.30	9.76	-	10.07
Flatfish	9.09	11.91	0	21.00
Other Species	1.96	6.86	0	8.82
Pacific Cod	2.84	44.03	1.25	48.11
Pollock	1.05	54.9	0.09	56.04
Rockfish	20.27	5.00	0	25.27
Crab				
Bairdi	3.31	58.91	2.94	65.15
Blue King	2.79	34.54	36.71	74.05
Brown King	3.56	56.37	0	59.93
Opilio	4.44	30.48	26.76	61.67
Red King	0.65	61.43	7.30	69.37

Table 8.12 : Option 5: Sector-Level Limits Applied to All Facilities Within AFA Companies, 1996 and 1997

Species by Area	Percent of Total Processing by Sectors			
	Catcher Processors	Inshore Processors	Motherships	Total
Bering Sea Aleutian Islands Groundfish				
Atka Mackerel	12.95	0.23	0	13.17
Flatfish	27.37	7.87	0.56	35.79
Other Species	12.11	13.41	1.04	26.56
Pacific Cod	14.81	25.49	3.20	43.50
Rockfish	15.08	8.52	1.12	24.72
Gulf of Alaska Groundfish				
Atka Mackerel	0.30	9.76	-	10.07
Flatfish	9.09	11.91	0	21.00
Other Species	1.96	6.86	0	8.82
Pacific Cod	2.84	44.03	1.25	48.11
Pollock	1.05	54.90	0.09	56.04
Rockfish	20.27	5	0	25.27
Crab				
Bairdi	0	61.09	0	61.09
Blue King	0	35.31	39.21	74.52
Brown King	0	55.79	0	55.79
Opilio	4.22	31.56	26.86	62.64
Red King	0.69	61.76	7.59	70.04

8.5.6 Option 6: Sector-Level Limits Applied to All Facilities in AFA Entities

Sector-level processing limits would be applied for each species to all facilities in AFA entities, as defined by the 10% Ownership Rule. Sectors would be defined as in Option 5. Once the sector limit is reached, no additional processing of the limited species by any entity that owns an AFA-eligible facility included in the sector would be allowed. All processing facilities associated with an AFA entity would be affected by the limit.

The GOA groundfish processing histories of the 20 catcher processors listed in §208 of the AFA are included in the catcher-processor sector processing limits. The AFA prohibits those 20 vessels from processing any BSAI crab, any pollock in the GOA, any groundfish in Area 630 of the GOA, and more than 10 percent of the Pacific cod in Areas 610, 620, and 640. However, other non-AFA catcher processors included within AFA catcher-processor sector limits will be allowed to process up to the catcher-processor sector processing limits for crab and GOA groundfish species. (The 20 catcher processors listed in §208 of the AFA did not process any crab during the historical processing period.)

Tables 8.13 and 8.14 show, for the two time periods, estimates of sector level processing limits for AFA entities for each species group. The entities are based on the organizational analysis from Section 8.2, and therefore the estimates should be viewed as analytical estimates rather than final limits. The tables provide ranges of estimated limits for each species group. The lower values are derived from facilities that the analysts were able to document as part of an AFA entity and are shown in the rows labeled "documented." Higher estimates of the limits are shown in rows labeled "possible." The higher estimates were derived by adding to the documented totals, the processing volumes of other facilities that may be considered part of an AFA entity once final rules are determined and additional information and verification has been gathered.

Table 8.13 Option 6: Sector-Level Limits Applied to All Facilities Within AFA Entities, 1995-1997

Species by Area	AFA Links	Percent of Total Processing by Sectors			
		Catcher Processors	Inshore Processors	Motherships	Total
Bering Sea Aleutian Islands Groundfish					
Atka Mackerel	documented	12.95	0.23	0	13.18
	possible	13.69	0.23	0	13.92
Flatfish	documented	27.41	7.94	0.60	35.65
	possible	42.77	9.15	0.60	52.52
Other Species	documented	12.80	13.73	1.20	27.73
	possible	23.35	14.69	1.20	39.24
Pacific Cod	documented	14.99	25.49	3.43	43.91
	possible	21.49	25.69	3.43	50.61
Rockfish	documented	15.16	8.53	1.28	24.97
	possible	30.33	9.54	1.28	41.15
Gulf of Alaska Groundfish					
Atka Mackerel	documented	0.30	9.82		10.12
	possible	1.54	9.82		11.36
Flatfish	documented	9.09	19.05	1.21	29.35
	possible	10.73	20.29	1.21	32.23
Other Species	documented	1.96	17.10	0.13	19.19
	possible	3.23	19.54	0.13	22.90
Pacific Cod	documented	2.84	50.35	1.30	54.49
	possible	2.98	50.44	1.30	54.72
Pollock	documented	1.05	64.30	0.09	65.44
	possible	1.18	64.31	0.09	65.48
Rockfish	documented	20.27	10.64	0.26	31.17
	possible	28.14	11.01	0.26	39.41
Crab					
Bairdi	documented	3.31	59.13	2.94	65.38
	possible	4.83	59.13	2.94	66.90
Blue King	documented	2.79	34.54	36.71	74.05
	possible	3.31	34.54	36.71	74.56
Brown King	documented	3.56	56.37	0	59.93
	possible	3.56	56.37	0	59.93
Opilio	documented	4.44	30.48	26.76	61.67
	possible	6.08	30.48	26.76	63.31
Red King	documented	0.65	61.43	7.30	69.37
	possible	1.47	61.43	7.30	70.20

Notes:

1/ Total documented percentages include facilities for which the analysis has documented linkages at the 10 percent level.

2/ Total possible percentages include all documented linkages as well as facilities that may be linked, depending on the application of the 10 percent rule or further investigation.

Table 8.14 Option 6 Sector-Level Limits Applied to All Facilities Within AFA Entities, 1996 and 1997

Species by Area	AFA Links	Percent of Total Processing by Sectors: Catcher Processors	Motherships	Inshore Processors	Total
Bering Sea Aleutian Islands Groundfish					
Atka Mackerel	documented	12.95	0	0.23	13.18
	possible	13.69	0	0.23	13.92
Flatfish	documented	27.41	0.60	7.94	35.95
	possible	42.77	0.60	9.15	52.51
Other Species	documented	12.80	1.20	13.73	27.73
	possible	23.35	1.20	14.69	39.24
Pacific Cod	documented	14.99	3.43	25.49	43.91
	possible	21.49	3.43	25.69	50.61
Rockfish	documented	15.16	1.28	8.53	24.97
	possible	30.33	1.28	9.54	41.15
Gulf of Alaska Groundfish					
Atka Mackerel	documented	0.30	-	9.82	10.13
	possible	1.54	-	9.82	11.36
Flatfish	documented	9.09	1.21	19.05	29.35
	possible	10.73	1.21	20.29	32.23
Other Species	documented	1.96	0.13	17.10	19.19
	possible	3.23	0.13	19.54	22.90
Pacific Cod	documented	2.84	1.30	50.35	54.49
	possible	2.98	1.30	50.44	54.72
Pollock	documented	1.05	0.09	64.30	65.44
	possible	1.18	0.09	64.31	65.57
Rockfish	documented	20.27	0.26	10.64	31.17
	possible	28.14	0.26	11.01	39.41
Crab					
Bairdi	documented	0	0	61.83	61.83
	possible	0.56	0	61.83	62.40
Blue King	documented	0	39.21	35.31	74.52
	possible	0.38	39.21	35.31	74.90
Brown King	documented	0	0	55.79	55.79
	possible	0	0	55.79	55.79
Opilio	documented	4.22	26.86	31.56	62.64
	possible	5.98	26.86	31.56	64.41
Red King	documented	0.69	7.59	61.76	70.04
	possible	1.58	7.59	61.70	70.92

Notes:

1/ Total documented percentages include facilities for which the analysis has documented linkages at the 10 percent level.

2/ Total possible percentages include all documented linkages as well as facilities that may be linked, depending on the application of the 10 percent rule or further investigation.

8.5.7 Option 7: Individual Processing Limits Applied to Each AFA Facility

Individual processing limits for each species would be imposed upon each AFA eligible facility. Once the individual facility reaches a limit for a particular species, no additional processing of the limited species by that facility in the sector would be allowed. The limits would not constitute an allocation, and would not guarantee that a facility could process a specified percentage of the TAC. As with other sideboard alternatives, a decision has to be made as to whether the limit would apply in the event a facility does not participate in a co-op.

The GOA groundfish processing histories of the 20 catcher processors listed in §208 of the AFA are included in the catcher-processor sector processing limits. The AFA prohibits those 20 vessels from processing any BSAI crab, any pollock in the GOA, any groundfish in Area 630 of the GOA, and more than 10 percent of the Pacific cod in Areas 610, 620, and 640. The Council should make a decision regarding the ability of these catcher processors to shift historical processing from Area 630 to other areas for purposes of the processing limits. (The 20 catchers listed in §208 of the AFA did not process any crab during the historical processing period.)

Tables 8-15-8.20 show estimates of individual processing limits for AFA facilities for each species group and two time periods. Actual plant identities have been hidden for reasons of confidentiality.

Table 8.15 Option 7: Individual Plant and Vessel Limits for Bering Sea Aleutian Island Groundfish, 1995-1997

AFA Plant Number	Sector	Percent of Total Processing				
		Atka Mackerel	Flatfish	Other Species	Pacific Cod	Rockfish
1	CP	0	0.14	0.41	0.85	0.17
2	INS	0.03	3.93	2.75	3.76	1.35
3	INS	0	0.25	0.69	2.24	1.15
4	MS	0	0.56	0.35	0.88	0.57
5	CP	1.77	0.02	0.65	0.12	0.09
6	INS	0.06	0.69	3.09	7.66	2.54
7	CP	0	0.12	0.66	1.14	0.20
8	CP	1.37	0.70	0.91	0.91	0.52
9	CP	1.37	3.10	0.89	0.94	1.05
10	CP	0	2.50	0.37	0.18	0.49
11	CP	2.62	0.70	0.68	0.94	0.58
12	CP	0	1.98	0.27	0.14	0.45
13	INS	0	0.03	0.09	0.12	0.03
14	CP	-	0.03	0.04	0.03	0.01
15	CP	1.37	3.37	0.88	0.97	1.20
16	INS	0.11	0.19	0.76	1.46	1.37
17	INS	0.01	0.16	0.79	2.63	0.42
18	CP	1.37	0.73	0.66	0.87	0.53
19	CP	0	0.06	0.05	0.09	0.03
20	MS	0	0.04	0.18	0.35	0.07
21	INS	0.03	1.97	1.61	3.21	0.89
22	CP	-	6.08	0.82	0.39	1.17
23	CP	1.40	1.02	0.67	1.75	0.79
24	CP	0.72	1.78	0.69	0.26	1.57
25	CP	-	0.04	0.08	0.06	0.05
26	CP	-	0.01	0.01	0.01	0
27	CP	0.01	0.07	0.14	0.95	0.15
28	CP	0	0.07	0.10	0.15	0.04
29	CP	1.37	2.62	0.74	0.95	0.83
30	MS	0	0.07	0.10	0.12	0.07
31	INS	0.02	0.50	2.66	3.82	0.85
Total		**13.64**	**33.57**	**22.78**	**37.95**	**19.23**

Note: The processing of the nine facilities that were removed from the fishery according to AFA has been redistributed to the remaining seven facilities owned by American Seafoods

Table 8.16 Option 7: Individual Plant and Vessel Limits Gulf of Alaska Groundfish, 1995-1997

AFA Plant Number	Sector	Percent of Total Processing					
		Atka Mackerel	Flatfish	Other Species	Pacific Cod	Pollock	Rockfish
1	CP	-	0	0	0	0.03	-
2	INS	2.98	0.06	0.33	0.56	3.26	0.04
3	INS	0	0.02	0.01	0.20	1.70	0
4	MS	-	0	-	0.01	0.08	-
5	CP	-	-	-	-	-	-
6	INS	0.16	0.06	0.02	0.89	0.82	0.04
7	CP	-	-	-	-	-	-
8	CP	0.03	0.77	0.10	0.21	0.14	0.43
9	CP	0.03	0.79	0.10	0.21	0.11	0.43
10	CP	-	-	-	-	-	-
11	CP	0.03	0.77	0.10	0.45	0.13	0.43
12	CP	-	0	-	0	0.04	-
13	INS	1.17	1.04	1.24	14.86	27.12	0.60
14	CP	-	0	0	0	0.05	-
15	CP	0.03	0.77	0.10	0.21	0.05	0.43
16	INS	0.34	0.12	0.01	0.31	0.40	0.01
17	INS	0.96	0.67	1.18	12.21	5.68	0.22
18	CP	0.03	0.77	0.10	0.21	0.05	0.43
19	CP	-	-	-	-	-	-
20	MS	-	0	-	0	0.01	-
21	INS	4.57	0.06	0.24	0.38	2.3	0.03
22	CP	-	-	-	-	-	-
23	CP	0.03	0.77	0.10	0.21	0.05	0.43
24	CP	0.08	0.10	0.34	0.34	0.04	5.22
25	CP	-	-	-	-	-	-
26	CP	-	-	-	-	-	-
27	CP	-	0.27	0.01	0.01	0.23	0.05
28	CP	-	0	0	0	0.08	-
29	CP	0.03	0.77	0.10	0.21	0.16	0.43
30	MS	-	0	-	0	0.02	-
31	INS	3.78	0.06	0.52	0.35	4.88	0.05
Total		**14.23**	**7.88**	**4.58**	**31.83**	**47.45**	**9.25**

Note: The processing of the nine facilities that were removed from the fishery according to AFA has been redistributed to the remaining seven facilities owned by American Seafoods

Table 8.17 Option 7: Individual Plant and Vessel Limits for Crab, 1995-1997

AFA Plant Number	Sector	Percent of Total Processing				
		Bairdi	Blue King	Brown King	Opilio	Red King
1	CP	-	-	-	-	-
2	INS	12.14	1.68	7.72	2.55	12.45
3	INS	-	-	-	-	-
4	MS	-	-	-	-	-
5	CP	-	-	-	-	-
6	INS	16.65	2.92	0.67	2.24	14.09
7	CP	-	-	-	-	-
8	CP	-	-	-	-	-
9	CP	-	-	-	-	-
10	CP	-	-	-	-	-
11	CP	-	-	-	-	-
12	CP	-	-	-	-	-
13	INS	-	-	-	-	-
14	CP	-	-	-	-	-
15	CP	-	-	-	-	-
16	INS	-	-	-	-	-
17	INS	14.06	2.15	-	5.07	13.05
18	CP	-	-	-	-	-
19	CP	-	-	-	-	-
20	MS	-	-	-	-	-
21	INS	6.03	4.92	16.75	3.36	7.50
22	CP	-	-	-	-	-
23	CP	-	-	-	-	-
24	CP	-	-	-	-	-
25	CP	-	-	-	-	-
26	CP	-	-	-	-	-
27	CP	-	-	-	-	-
28	CP	-	-	-	-	-
29	CP	-	-	-	-	-
30	MS	-	-	-	-	-
31	INS	7.59	6.96	30.63	5.82	8.10
Total		**56.47**	**18.63**	**55.77**	**19.03**	**55.21**

Note: The processing of the nine facilities that were removed from the fishery according to AFA has been redistributed to the remaining seven facilities owned by American Seafoods.

Table 8.18 Option 7: Individual Plant and Vessel Limits Bering Sea Aleutian Island Groundfish, 1996 and 1997

AFA Plant Number	Sector	Percent of Total Processing				
		Atka Mackerel	Flatfish	Other Species	Pacific Cod	Rockfish
1	CP	0	0.1	0.36	0.93	0.18
2	INS	0.03	4.12	2.92	3.72	1.50
3	INS	0.01	0.25	0.86	2.33	1.12
4	MS	0	0.33	0.49	1.17	0.83
5	CP	2.11	0.02	0.86	0.13	0.11
6	INS	0.03	0.84	3.77	8.52	2.67
7	CP	0	0.13	0.59	1.44	0.24
8	CP	1.29	0.70	0.99	0.82	0.47
9	CP	1.29	3.22	0.75	0.90	0.96
10	CP	0	2.45	0.27	0.14	0.61
11	CP	2.49	0.69	0.66	0.86	0.52
12	CP	-	2.05	0.30	0.14	0.57
13	INS	0	0.03	0.08	0.12	0.04
14	CP	-	0.03	0.05	0.02	0.02
15	CP	1.29	3.61	0.90	0.95	1.29
16	INS	0.10	0.18	0.91	1.70	1.37
17	INS	0.01	0.19	0.84	2.82	0.45
18	CP	1.29	0.70	0.64	0.83	0.48
19	CP	0	0.08	0.06	0.09	0.05
20	MS	0	0.04	0.17	0.32	0.03
21	INS	0.02	1.85	1.52	2.61	0.75
22	CP	-	6.34	0.73	0.39	1.49
23	CP	1.29	1.03	0.62	1.73	0.75
24	CP	0.46	1.70	0.57	0.15	0.56
25	CP	-	0.04	0.10	0.06	0.07
26	CP	-	-	-	-	-
27	CP	0.01	0.07	0.16	1.14	0.16
28	CP	0	0.06	0.08	0.07	0.04
29	CP	1.29	2.38	0.63	0.93	0.75
30	MS	0	0.09	0.12	0.13	0.05
31	INS	0.02	0.41	2.49	3.58	0.62
Total		**13.04**	**33.73**	**23.48**	**38.75**	**18.75**

Note: The processing of the nine facilities that were removed from the fishery according to AFA has been redistributed to the remaining seven facilities owned by American Seafoods

Table 8.19 Option 7: Individual Plant and Vessel Limits Gulf of Alaska Groundfish, 1996 and 1997

AFA Plant Number	Sector	Percent of Total Processing					
		Atka Mackerel	Flatfish	Other Species	Pacific Cod	Pollock	Rockfish
1	CP	-	0	0	0	0.05	-
2	INS	3.79	0.05	0.43	0.51	1.23	0.04
3	INS	0	0.01	0.01	0.13	2.14	0
4	MS	-	0	-	0.02	0.05	-
5	CP	-	-	-	-	-	-
6	INS	0	0.03	0.02	0.65	0.41	0.06
7	CP	-	-	-	-	-	-
8	CP	0.04	0.60	0.06	0.28	0.12	0.05
9	CP	0.04	0.60	0.06	0.28	0.06	0.05
10	CP	-	-	-	-	-	-
11	CP	0.04	0.60	0.06	0.65	0.18	0.05
12	CP	-	0	-	0	0.06	-
13	INS	0.16	1.09	1.48	17.39	30.32	0.82
14	CP	-	-	-	-	-	-
15	CP	0.04	0.60	0.06	0.28	0.06	0.05
16	INS	0.02	0.07	0.01	0.26	0.59	0
17	INS	0.09	0.68	1.09	13.68	6.25	0.25
18	CP	0.04	0.60	0.06	0.28	0.06	0.05
19	CP	-	-	-	-	-	-
20	MS	-	0	-	0.01	0.02	-
21	INS	5.43	0.04	0.08	0.11	1.76	0.01
22	CP	-	-	-	-	-	-
23	CP	0.04	0.60	0.06	0.28	0.06	0.05
24	CP	0.02	0.07	0.48	0.06	0.02	6.44
25	CP	-	-	-	-	-	-
26	CP	-	-	-	-	-	-
27	CP	-	0.38	0.02	0.02	0.08	0.08
28	CP	-	-	-	-	-	-
29	CP	0.04	0.60	0.06	0.28	0.23	0.05
30	MS	-	0	-	0	0.02	-
31	INS	0.17	0.04	0.54	0.37	2.98	0.05
Total		**9.94**	**6.66**	**4.56**	**35.55**	**46.72**	**8.11**

Note: The processing of the nine facilities that were removed from the fishery according to AFA has been redistributed to the remaining seven facilities owned by American Seafoods.

Table 8.20 Option 7: Individual Plant and Vessel Limits for Crab, 1996 and 1997

AFA Plant Number	Sector	Percent of Total Processing				
		Bairdi	Blue King	Brown King	Opilio	Red King
1	CP	-	-	-	-	-
2	INS	13.67	2.52	9.68	2.91	13.35
3	INS	-	-	-	-	-
4	MS	-	-	-	-	-
5	CP	-	-	-	-	-
6	INS	13.09	2.80	1.04	1.68	14.76
7	CP	-	-	-	-	-
8	CP	-	-	-	-	-
9	CP	-	-	-	-	-
10	CP	-	-	-	-	-
11	CP	-	-	-	-	-
12	CP	-	-	-	-	-
13	INS	-	-	-	-	-
14	CP	-	-	-	-	-
15	CP	-	-	-	-	-
16	INS	-	-	-	-	-
17	INS	18.45	1.43	-	5.34	13.52
18	CP	-	-	-	-	-
19	CP	-	-	-	-	-
20	MS	-	-	-	-	-
21	INS	9.13	3.12	16.16	3.22	7.58
22	CP	-	-	-	-	-
23	CP	-	-	-	-	-
24	CP	-	-	-	-	-
25	CP	-	-	-	-	-
26	CP	-	-	-	-	-
27	CP	-	-	-	-	-
28	CP	-	-	-	-	-
29	CP	-	-	-	-	-
30	MS	-	-	-	-	-
31	INS	6.75	6.75	28.20	6.55	8.21
Total		**61.09**	**16.61**	**55.08**	**19.70**	**57.43**

Note: The processing of the nine facilities that were removed from the fishery according to AFA has been redistributed to the remaining seven facilities owned by American Seafoods.

8.5.8 Option 8: Individual Processing Limits Applied to the AFA Facilities Within Each AFA Company

Individual processing limits for each species would be imposed upon all AFA companies. However, unlike the previous option, only the AFA-eligible facilities within each company would be included. Once the company's limit for a species is reached, no additional processing of the limited species by any of the company's facilities participating in pollock cooperatives would be allowed. Although the processing limits do not constitute an allocation, each AFA company could determine how its own limit might be divided among its participating facilities. The analysis of individual-company processing limits on participating facilities uses the same assumptions that define the previous option. As with previous options, a decision has to be made as to whether the limit would apply when a company (or any of its AFA-eligible facilities) does not join a co-op. Each company would likely need to declare each year whether any of its facilities would be in a co-op.

Tables 8.21-8.26 show estimates of individual processing limits imposed on the AFA facilities that are participating in cooperatives within a company for each species group for the two time periods. Actual company identities have been hidden for reasons of confidentiality.

Table 8.21 Option 8: Individual Company Limits Applied to AFA Facilities for Bering Sea Aleutian Islands Groundfish, 1995-1997

Company Number	Percent of Total Processing				
	Atka Mackerel	Flatfish	Other Species	Pacific Cod	Rockfish
Company 1	0.01	0.07	0.14	0.95	0.15
Company 2	0	0.12	0.66	1.14	0.20
Company 3	10.86	12.26	5.43	7.32	5.51
Company 4	0	0.21	0.51	1.01	0.21
Company 5	1.77	0.02	0.65	0.12	0.09
Company 6	0	0.25	0.69	2.24	1.15
Company 7	0.83	2.10	1.62	1.91	3.03
Company 8	.	6.08	0.82	0.39	1.17
Company 9	0	0.07	0.10	0.12	0.07
Company 10	0.02	0.50	2.66	3.82	0.85
Company 11	0.01	0.21	0.97	2.98	0.49
Company 12	0	0.56	0.35	0.88	0.57
Company 13	0.03	1.97	1.61	3.21	0.89
Company 14	0.06	0.72	3.18	7.78	2.57
Company 15	0.03	3.93	2.75	3.76	1.35
Company 16	0	4.48	0.64	0.32	0.94
Total	13.64	33.57	22.78	37.95	19.23

Table 8.22 Option 8: Individual Company Limits Applied to AFA Facilities for Gulf of Alaska Groundfish, 1995-1997

	Percent of Total Processing					
Company Number	Atka Mackerel	Flat fish	Other Species	Pacific Cod	Pollock	Rockfish
Company 1	-	0.27	0.01	0.01	0.23	0.05
Company 2	-	-	-	-	-	-
Company 3	0.19	5.41	0.67	1.70	0.70	2.98
Company 4	-	0	0	0	0.11	-
Company 5	-	-	-	-	-	-
Company 6	0	0.02	0.01	0.20	1.70	0
Company 7	0.41	0.22	0.36	0.65	0.49	5.23
Company 8	-	-	-	-	-	-
Company 9	-	0	-	0	0.02	-
Company 10	3.78	0.06	0.52	0.35	4.88	0.05
Company 11	0.96	0.67	1.18	12.21	5.69	0.22
Company 12	-	0	-	0.01	0.08	-
Company 13	4.57	0.06	0.24	0.38	2.30	0.03
Company 14	1.33	1.10	1.26	15.75	27.94	0.64
Company 15	2.98	0.06	0.33	0.56	3.26	0.04
Company 16	-	0	-	0	0.04	-
Total	**14.23**	**7.88**	**4.58**	**31.83**	**47.45**	**9.25**

Table 8.23 Option 8: Individual Company Limits Applied to AFA Facilities for Crab, 1995-1997

Company Number	Percent of Total Processing				
	Bairdi	Blue King	Brown King	Opilio	Red King
Company 1	-	-	-	-	-
Company 2	-	-	-	-	-
Company 3	-	-	-	0.07	0
Company 4	-	-	-	-	1.23
Company 5	-	-	-	-	-
Company 6	-	-	-	-	-
Company 7	-	-	-	-	-
Company 8	-	-	-	-	-
Company 9	-	-	-	-	-
Company 10	7.59	6.96	30.63	5.82	8.10
Company 11	14.06	2.15	0	5.07	13.05
Company 12	-	-	-	-	-
Company 13	6.03	4.92	16.75	3.36	7.50
Company 14	16.65	2.92	0.67	2.24	14.09
Company 15	12.14	1.68	7.72	2.55	12.45
Company 16	-	-	-	-	-
Total	56.47	18.63	55.77	19.10	56.44

Table 8.24 Option 8: Individual Company Limits Applied to AFA Facilities for Bering Sea Aleutian Islands Groundfish, 1996 and 1997

Company Number	Percent of Total Processing				
	Atka Mackerel	Flatfish	Other Species	Pacific Cod	Rockfish
Company 1	0.01	0.07	0.16	1.14	0.16
Company 2	0	0.13	0.59	1.44	0.24
Company 3	10.23	12.34	5.18	7.02	5.22
Company 4	0	0.16	0.44	1.00	0.22
Company 5	2.11	0.02	0.86	0.13	0.11
Company 6	0.01	0.25	0.86	2.33	1.12
Company 7	0.56	2.02	1.68	2.03	2.06
Company 8	-	6.34	0.73	0.39	1.49
Company 9	0	0.09	0.12	0.13	0.05
Company 10	0.02	0.41	2.49	3.58	0.62
Company 11	0.01	0.22	1.01	3.14	0.48
Company 12	0	0.33	0.49	1.17	0.83
Company 13	0.02	1.85	1.52	2.61	0.75
Company 14	0.03	0.87	3.85	8.64	2.70
Company 15	0.03	4.12	2.92	3.72	1.50
Company 16	0	4.50	0.57	0.29	1.19
Total	13.04	33.73	23.48	38.75	18.75

Table 8.25 Option 8: Individual Company Limits Applied to AFA Facilities for Gulf of Alaska Groundfish, 1996 and 1997

Company Number	Percent of Total Processing					
	Atka Mackerel	Flat fish	Other Species	Pacific Cod	Pollock	Rockfish
Company 1	-	0.38	0.02	0.02	0.08	0.08
Company 2	-	-	-	-	-	-
Company 3	0.26	4.19	0.39	2.34	0.75	0.35
Company 4	-	0	0	0	0.05	-
Company 5	-	-	-	-	-	-
Company 6	0	0.01	0.01	0.13	2.14	0
Company 7	0.03	0.14	0.49	0.33	0.61	6.45
Company 8	-	-	-	-	-	-
Company 9	-	0	-	0	0.02	-
Company 10	0.17	0.04	0.54	0.37	2.98	0.05
Company 11	0.09	0.68	1.09	13.68	6.26	0.25
Company 12	-	0	-	0.02	0.05	-
Company 13	5.43	0.04	0.08	0.11	1.76	0.01
Company 14	0.17	1.13	1.50	18.04	30.73	0.88
Company 15	3.79	0.05	0.43	0.51	1.23	0.04
Company 16	-	0	-	0	0.06	-
Total	**9.94**	**6.66**	**4.56**	**35.55**	**46.72**	**8.11**

Table 8.26 Option 8: Individual Company Limits Applied to AFA Facilities for Crab, 1996 and 1997

Company Number	Percent of Total Processing				
	Bairdi	Blue King	Brown King	Opilio	Red King
Company 1	-	-	-	-	-
Company 2	-	-	-	-	-
Company 3	-	-	-	-	-
Company 4	-	-	-	-	-
Company 5	-	-	-	-	-
Company 6	-	-	-	-	-
Company 7	-	-	-	-	-
Company 8	-	-	-	-	-
Company 9	-	-	-	-	-
Company 10	6.75	6.75	28.20	6.55	8.21
Company 11	18.45	1.43	-	5.34	13.52
Company 12	-	-	-	-	-
Company 13	9.13	3.12	16.16	3.22	7.58
Company 14	13.09	2.80	1.04	1.68	14.76
Company 15	13.67	2.52	9.68	2.91	13.35
Company 16	-	-	-	-	-
Total	61.09	16.61	55.08	19.70	57.43

8.5.9 Option 9: Individual Processing Limits Applied to All AFA Companies

8.5.9 Individual Limits Applied to All Facilities within a Company

Individual processing limits would be imposed for each species upon each AFA company. The primary criterion under which two or more processing facilities are considered to be owned by a single company will be whether the majority of ownership in each facility is held by the same individuals or companies, regardless of whether each individual's or company's relative shares are identical. Once the company's limit for a species is reached, no additional processing of the limited species by any facility owned by that company would be allowed. Although the processing limits do not constitute an allocation, each AFA company could determine how its own limit might be divided among its processing facilities.

The GOA groundfish processing histories of the 20 catcher processors listed in §208 of the AFA are included in the individual company processing limits. The AFA prohibits those 20 vessels from processing any BSAI crab, any pollock in the GOA, any groundfish in Area 630 of the GOA, and more than 10 percent of the Pacific cod in Areas 610, 620, and 640. However, other facilities included within AFA companies, will be allowed to process that company's processing history of crab and GOA groundfish species. (The 20 catcher processors listed in §208 of the AFA did not process any crab during the historical processing period.)

Tables 8.27–8.32 show estimates of individual processing limits for AFA company facilities for each species group for the two time periods. Actual company identities have been hidden for reasons of confidentiality.

Table 8.27 Option 9: Individual Company Limits Applied to All Company Facilities for Bering Sea Aleutian Islands Groundfish, 1995-1997

Company Number	Percent of Total Processing				
	Atka Mackerel	Flatfish	Other Species	Pacific Cod	Rockfish
Company 1	0.01	0.65	0.32	1.12	0.23
Company 2	-	6.08	0.82	0.39	1.17
Company 3	10.86	12.26	5.43	7.32	5.51
Company 4	0	0.30	2.23	2.40	0.23
Company 5	1.77	0.02	0.65	0.12	0.09
Company 6	0	0.25	0.69	2.24	1.15
Company 7	1.12	4.59	2.81	2.79	9.49
Company 8	0	0.12	0.66	1.14	0.20
Company 9	0	0.07	0.10	0.12	0.07
Company 10	0.02	0.50	2.66	3.82	0.85
Company 11	0.01	0.21	0.98	3.02	0.49
Company 12	0	0.56	0.35	0.88	0.57
Company 13	0.03	1.97	1.61	3.21	0.89
Company 14	0.06	0.82	3.38	9.52	2.77
Company 15	0.03	3.94	2.76	3.76	1.35
Company 16	0	4.48	0.64	0.32	0.94
Total	**13.93**	**36.82**	**26.09**	**42.19**	**25.99**

Table 8.28 Option 9: Individual Company Limits Applied to All Company Facilities for Gulf of Alaska Groundfish, 1995-1997

	Percent of Total Processing					
Company Number	Atka Mackerel	Flatfish	Other Species	Pacific Cod	Pollock	Rockfish
Company 1	-	0.27	0.01	0.02	0.23	0.05
Company 2	-	-	-	-	-	-
Company 3	0.19	5.41	0.67	1.70	0.70	2.98
Company 4	-	0	0	0.03	0.11	-
Company 5	-	-	-	-	-	-
Company 6	0	0.02	0.01	0.20	1.70	0
Company 7	2.97	14.18	4.04	11.08	11.29	20.98
Company 8	-	-	-	-	-	-
Company 9	-	0	-	0	0.02	-
Company 10	3.78	0.06	0.52	0.35	4.88	0.05
Company 11	0.96	0.68	1.37	13.24	5.70	0.24
Company 12	-	0	-	0.01	0.08	-
Company 13	4.57	0.06	0.24	0.38	2.30	0.03
Company 14	1.40	1.12	1.27	16.74	27.96	0.65
Company 15	2.98	0.06	0.33	0.56	3.26	0.04
Company 16	-	0	-	0	0.04	-
Total	**16.86**	**21.87**	**8.48**	**44.31**	**58.27**	**25.03**

Table 8.29 Option 9: Individual Company Limits Applied to All Company Facilities for Crab, 1995-1997

Company Number	Percent of Total Processing				
	Bairdi	Blue King	Brown King	Opilio	Red King
Company 1	4.06	-	-	6.33	1.38
Company 2	-	2.79	3.56	0.72	-
Company 3	-	-	-	0.07	-
Company 4	-	-	-	-	1.23
Company 5	-	-	-	-	-
Company 6	-	-	-	-	-
Company 7	2.18	-	-	2.30	0.39
Company 8	-	-	-	-	-
Company 9	-	-	-	-	-
Company 10	7.59	6.96	30.63	5.82	8.10
Company 11	14.06	21.21	-	14.38	16.09
Company 12	-	-	-	-	-
Company 13	6.03	4.92	16.75	3.36	7.50
Company 14	16.95	28.89	1.19	19.73	20.59
Company 15	14.27	9.27	7.80	8.96	14.09
Company 16	-	-	-	-	-
Total	65.15	74.05	59.93	61.67	69.37

Table 8.30 Option 9: Individual Company Limits Applied to All Company Facilities for Bering Sea Aleutian Islands Groundfish, 1996 and 1997

Company Number	Percent of Total Processing				
	Atka Mackerel	Flatfish	Other Species	Pacific Cod	Rockfish
Company 1	0.01	0.07	0.23	1.36	0.17
Company 2	0	0.14	0.59	1.52	0.24
Company 3	10.23	12.34	5.18	7.02	5.22
Company 4	0	0.27	2.13	2.59	0.25
Company 5	2.11	0.02	0.86	0.13	0.11
Company 6	0.01	0.25	0.86	2.33	1.12
Company 7	0.70	3.85	2.76	2.63	7.79
Company 8	-	6.34	0.73	0.39	1.49
Company 9	0	0.09	0.12	0.13	0.05
Company 10	0.02	0.41	2.49	3.58	0.62
Company 11	0.01	0.22	1.02	3.21	0.48
Company 12	0	0.33	0.49	1.17	0.83
Company 13	0.02	1.85	1.52	2.61	0.75
Company 14	0.03	0.99	4.07	10.83	2.90
Company 15	0.03	4.12	2.94	3.72	1.50
Company 16	0	4.50	0.57	0.29	1.19
Total	13.17	35.79	26.56	43.50	24.72

Table 8.31 Option 9: Individual Company Limits Applied to All Company Facilities for Gulf of Alaska Groundfish, 1996 and 1997

Company Number	Percent of Total Processing					
	Atka Mackerel	Flat fish	Other Species	Pacific Cod	Pollock	Rock fish
Company 1	-	0.38	0.02	0.02	0.08	0.08
Company 2	-	-	-	-	-	-
Company 3	0.26	4.19	0.39	2.34	0.75	0.35
Company 4	-	0	0.01	0.05	0.05	-
Company 5	-	-	-	-	-	-
Company 6	0	0.01	0.01	0.13	2.14	0
Company 7	0.16	14.47	4.69	11.62	9.92	23.60
Company 8	-	-	-	-	-	-
Company 9	-	0	-	0	0.02	-
Company 10	0.17	0.04	0.54	0.37	2.98	0.05
Company 11	0.09	0.68	1.15	14.28	6.26	0.26
Company 12	-	0	-	0.02	0.05	-
Company 13	5.43	0.04	0.08	0.11	1.76	0.01
Company 14	0.17	1.13	1.50	18.67	30.73	0.88
Company 15	3.79	0.05	0.43	0.51	1.23	0.05
Company 16	-	0	-	0	0.06	-
Total	**10.07**	**21.00**	**8.82**	**48.11**	**56.04**	**25.27**

Table 8.32 Option 9: Individual Company Limits Applied to All Company Facilities for Crab, 1996 and 1997

Company Number	Percent of Total Processing				
	Bairdi	Blue King	Brown King	Opilio	Red King
Company 1	-	-	-	-	-
Company 2	-	-	-	-	-
Company 3	-	-	-	0.53	-
Company 4	9.13	3.12	16.16	3.22	7.58
Company 5	-	-	-	-	-
Company 6	-	-	-	-	-
Company 7	-	-	-	-	-
Company 8	-	-	-	-	0.77
Company 9	18.45	22.74	-	14.94	16.54
Company 10	-	-	-	-	-
Company 11	-	-	-	-	-
Company 12	13.09	29.53	1.65	19.13	20.48
Company 13	-	-	-	2.19	0.42
Company 14	13.67	12.37	9.78	9.30	14.55
Company 15	6.75	6.75	28.20	6.55	8.21
Company 16	-	-	-	6.77	1.48
Total	**61.09**	**74.52**	**55.79**	**62.64**	**70.04**

8.5.10 Option 10: Individual Processing Limits Applied to All AFA Entities

Individual processing limits are applied to each AFA entity for each species, as defined by the 10% Ownership Rule. Once the entity's limit for a species is reached, no additional processing of the limited species by any facility within the entity would be allowed. Although the processing limits do not constitute an allocation, each AFA entity could determine how its own limit might be divided among its processing facilities.

The GOA groundfish processing histories of the 20 catcher processors listed in §208 of the AFA are included in the individual entity processing limits. The AFA prohibits those 20 vessels from processing any BSAI crab, any pollock in the GOA, any groundfish in Area 630 of the GOA, and more than 10 percent of the Pacific cod in Areas 610, 620, and 640. However, other facilities included within AFA entities will be allowed to process the share crab and GOA groundfish species generated by the entity's catcher processors. (The 20 catcher processors listed in §208 of the AFA did not process any crab during the historical processing period.)

Tables 8.33-8.38 show estimates of individual processing limits for AFA entities for each species group for the two periods. The entities are based on the organizational analysis from Section 8.2, and therefore the estimates should be viewed as analytical estimates rather than final limits. The tables provide ranges of estimated limits for each species group. The lower values are derived from facilities that the analysts were able to document as part of an AFA entity and are shown in the rows labeled "documented". Higher estimates of the limits are shown in rows labeled "possible." The higher estimates were derived by adding to the documented totals, the processing volumes of other facilities that may be considered part of an AFA entity once final rules are determined and additional information and verification have been gathered.

Table 8.33 Option 10: Individual Limits Applied to All Facilities Within AFA Entities for Bering Sea Aleutian Island Groundfish, 1995-1997

Entity		Percent of Total Processing				
	AFA Links	Atka Mackerel	Flatfish	Other Species	Pacific Cod	Rockfish
Entity 1	documented	0	0.12	0.66	1.19	0.20
	possible	0	0.12	0.66	1.19	0.20
Entity 2	documented	0.06	3.09	4.99	7.41	2.84
	possible	0.06	3.09	4.99	7.41	2.84
Entity 3	documented	0.01	0.65	0.32	1.12	0.23
	possible	0.01	0.65	0.32	1.12	0.23
Entity 4	documented	10.86	13.32	6.37	8.64	6.15
	possible	11.93	28.87	14.31	11.57	21.96
Entity 5	documented	0	0.30	2.23	2.40	0.23
	possible	0	0.30	2.23	2.40	0.23
Entity 6	documented	1.77	0.02	0.65	0.12	0.09
	possible	1.77	0.02	0.65	0.12	0.09
Entity 7	documented	0.03	3.94	2.78	3.84	1.36
	possible	0.04	3.99	3.56	5.08	1.40
Entity 8	documented	0.01	0.21	0.98	3.02	0.49
	possible	0.01	0.21	0.98	3.02	0.49
Entity 9	documented	0	4.51	1.32	0.79	0.94
	possible	0	4.69	3.33	3.35	0.95
Entity 10	documented	0	0.25	0.69	2.24	1.15
	possible	0	0.25	0.69	2.24	1.15
Entity 11	documented	1.12	4.59	2.81	2.79	9.49
	possible	1.12	4.59	2.81	2.79	9.49
Entity 12	documented	0.06	0.82	3.38	9.52	2.77
	possible	0.06	0.82	3.38	9.52	2.77
Entity 13	documented	-	6.08	0.82	0.39	1.17
	possible	-	6.08	0.82	0.39	1.17
Entity 14	documented	0	0.56	0.35	0.88	0.57
	possible	0	0.56	0.35	0.88	0.57
Total Documented		**13.94**	**38.48**	**28.34**	**44.36**	**27.68**
Total Possible		**15.01**	**54.26**	**39.07**	**51.09**	**43.53**

Notes:

1/ Total documented percentages include facilities for which the analysis has documented linkages at the 10 percent level.

2/ Total possible percentages include all documented linkages as well as facilities that may be linked, depending on the application of the 10 percent rule or further investigation.

Table 8.34 Option 10: *Individual Limits* Applied to All Facilities Within AFA Entities for Gulf of Alaska Groundfish, 1995-1997

Entity Number		Percent of Total Processing					
	AFA Links	Atka Mackerel	Flatfish	Other Species	Pacific Cod	Pollock	Rockfish
Entity 1	documented	-	-	-	-	-	-
	possible	-	-	-	-	-	-
Entity 2	documented	8.70	6.98	9.66	6.98	15.86	4.44
	possible	8.70	6.98	9.66	6.98	15.86	4.44
Entity 3	documented	-	0.27	0.01	0.02	0.23	0.05
	possible	-	0.27	0.01	0.02	0.23	0.05
Entity 4	documented	0.19	5.41	0.67	1.70	0.70	2.98
	possible	2.46	8.98	2.08	2.39	0.87	10.62
Entity 5	documented	-	0.00	0.00	0.03	0.11	-
	possible	-	0.00	0.00	0.03	0.11	-
Entity 6	documented	-	-	-	-	-	-
	possible	-	-	-	-	-	-
Entity 7	documented	2.98	0.06	0.33	0.56	3.26	0.04
	possible	2.98	0.10	1.09	0.57	3.26	0.15
Entity 8	documented	0.96	0.68	1.37	13.24	5.70	0.24
	possible	0.96	0.68	1.37	13.24	5.70	0.24
Entity 9	documented	-	0.00	0.02	0.00	0.04	0.00
	possible	-	0.03	1.38	0.00	0.04	0.07
Entity 10	documented	0.00	0.02	0.01	0.20	1.70	0.00
	possible	0.00	0.02	0.01	0.20	1.70	0.00
Entity 11	documented	2.97	14.18	4.04	11.08	11.29	20.98
	possible	2.97	14.18	4.04	11.08	11.29	20.98
Entity 12	documented	1.40	1.12	1.27	16.74	27.96	0.65
	possible	1.40	1.12	1.27	16.74	27.96	0.65
Entity 13	documented	-	-	-	-	-	-
	possible	-	-	-	-	-	-
Entity 14	documented	-	0.00	-	0.01	0.08	-
	possible	-	0.00	-	0.01	0.08	-
Total Documented		**17.21**	**28.72**	**17.40**	**50.56**	**66.93**	**29.39**
Total Possible		**19.48**	**32.37**	**20.93**	**51.27**	**67.10**	**37.20**

Notes:

1/ Total documented percentages include facilities for which the analysis has documented linkages at the 10 percent level.

2/ Total possible percentages include all documented linkages as well as facilities that may be linked, depending on the application of the 10 percent rule or further investigation.

Table 8.35 Option 10: Individual Limits Applied to All Facilities Within AFA Entities for Crab, 1995-1997

Entity		Percent of Total Processing				
	AFA Links	Bairdi	Blue King	Brown King	Opilio	Red King
Entity 1	documented	-	2.79	3.56	0.72	-
	possible	-	2.79	3.56	0.72	-
Entity 2	documented	13.85	11.88	47.38	9.18	15.60
	possible	13.85	11.88	47.38	9.18	15.60
Entity 3	documented	4.06	-	-	6.33	1.38
	possible	4.06	-	-	6.33	1.38
Entity 4	documented	-	-	-	0.07	-
	possible	-	-	-	0.07	-
Entity 5	documented	-	-	-	-	1.23
	possible	-	-	-	-	1.23
Entity 6	documented	-	-	-	-	-
	possible	-	-	-	-	-
Entity 7	documented	14.27	9.27	7.80	8.96	14.09
	possible	15.79	9.79	7.80	10.60	14.91
Entity 8	documented	14.06	21.21	-	14.38	16.09
	possible	14.06	21.21	-	14.38	16.09
Entity 9	documented	-	-	-	-	-
	possible	-	-	-	-	-
Entity 10	documented	-	-	-	-	-
	possible	-	-	-	-	-
Entity 11	documented	2.18	-	-	2.30	0.39
	possible	2.18	-	-	2.30	0.39
Entity 12	documented	16.95	28.89	1.19	19.73	20.59
	possible	16.95	28.89	1.19	19.73	20.59
Entity 13	documented	-	-	-	-	-
	possible	-	-	-	-	-
Entity 14	documented	-	-	-	-	-
	possible	-	-	-	-	-
Total Documented		**65.38**	**74.05**	**59.93**	**61.67**	**69.37**
Total Possible		**66.90**	**74.56**	**59.93**	**63.31**	**70.20**

Notes:

1/ Total documented percentages include facilities for which the analysis has documented linkages at the 10 percent level.

2/ Total possible percentages include all documented linkages as well as facilities that may be linked, depending on the application of the 10 percent rule or further investigation.

Table 8.36 Option 10: Individual Limits Applied to All Facilities Within AFA Entities for Bering Sea Aleutian Island Groundfish, 1996 and 1997

Entity		Percent of Total Processing				
	AFA Links	Atka Mackerel	Flatfish	Other Species	Pacific Cod	Rockfish
Entity 1	documented	0	0.14	0.59	1.52	0.24
	possible	0	0.14	0.59	1.52	0.24
Entity 2	documented	0.04	2.46	4.58	6.42	1.58
	possible	0.04	2.46	4.58	6.42	1.58
Entity 3	documented	0.01	0.07	0.23	1.36	0.17
	possible	0.01	0.07	0.23	1.36	0.17
Entity 4	documented	10.23	12.38	5.85	7.15	5.30
	possible	10.97	28.73	14.50	10.03	21.42
Entity 5	documented	0	0.27	2.13	2.59	0.25
	possible	0	0.27	2.13	2.59	0.25
Entity 6	documented	2.11	0.02	0.86	0.13	0.11
	possible	2.11	0.02	0.86	0.13	0.11
Entity 7	documented	0.03	4.13	2.97	3.84	1.52
	possible	0.04	4.17	3.87	5.21	1.56
Entity 8	documented	0.01	0.22	1.02	3.21	0.48
	possible	0.01	0.22	1.02	3.21	0.48
Entity 9	documented	0	4.50	0.59	0.34	1.19
	possible	0	4.67	2.54	2.80	1.20
Entity 10	documented	0.01	0.25	0.86	2.33	1.12
	possible	0.01	0.25	0.86	2.33	1.12
Entity 11	documented	0.70	3.85	2.76	2.63	7.79
	possible	0.70	3.85	2.76	2.63	7.79
Entity 12	documented	0.03	0.99	4.07	10.83	2.90
	possible	0.03	0.99	4.07	10.83	2.90
Entity 13	documented	-	6.34	0.73	0.39	1.49
	possible	-	6.34	0.73	0.39	1.49
Entity 14	documented	0	0.33	0.49	1.17	0.83
	possible	0	0.33	0.49	1.17	0.83
Total Documented		**13.18**	**35.95**	**27.73**	**43.91**	**24.97**
Total Possible		**13.92**	**52.51**	**39.24**	**50.61**	**41.15**

Notes:

1/ Total documented percentages include facilities for which the analysis has documented linkages at the 10 percent level.

2/ Total possible percentages include all documented linkages as well as facilities that may be linked, depending on the application of the 10 percent rule or further investigation

Table 8.37 Option 10: Individual Limits Applied to All Facilities Within AFA Entities for Gulf of Alaska Groundfish, 1996 and 1997

Entity	AFA Links	Percent of Total Processing					
		Atka Mackerel	Flatfish	Other Species	Pacific Cod	Pollock	Rockfish
Entity 1	documented	-	-	-	-	-	-
	possible	-	-	-	-	-	-
Entity 2	documented	5.66	8.43	10.99	6.86	14.17	5.96
	possible	5.66	8.43	10.99	6.86	14.17	5.96
Entity 3	documented	-	0.38	0.02	0.02	0.08	0.08
	possible	-	0.38	0.02	0.02	0.08	0.08
Entity 4	documented	0.26	4.19	0.39	2.34	0.75	0.35
	possible	1.49	7.02	1.55	2.57	0.89	8.42
Entity 5	documented	-	0	0.01	0.05	0.05	-
	possible	-	0	0.01	0.05	0.05	-
Entity 6	documented	-	-	-	-	-	-
	possible	-	-	-	-	-	-
Entity 7	documented	3.79	0.05	0.43	0.51	1.23	0.05
	possible	3.79	0.06	0.98	0.51	1.23	0.12
Entity 8	documented	0.09	0.68	1.15	14.28	6.26	0.26
	possible	0.09	0.68	1.15	14.28	6.26	0.26
Entity 9	documented	-	0	-	0	0.06	-
	possible	-	0.04	2.00	0	0.06	0.10
Entity 10	documented	0	0.01	0.01	0.13	2.14	0
	possible	0	0.01	0.01	0.13	2.14	0
Entity 11	documented	0.16	14.47	4.69	11.62	9.92	23.60
	possible	0.16	14.47	4.69	11.62	9.92	23.60
Entity 12	documented	0.17	1.13	1.50	18.67	30.73	0.88
	possible	0.17	1.13	1.50	18.67	30.73	0.88
Entity 13	documented	-	-	-	-	-	-
	possible	-	-	-	-	-	-
Entity 14	documented	-	0	-	0.02	0.05	-
	possible	-	0	-	0.02	0.05	-
Total Documented		**10.13**	**29.35**	**19.19**	**54.49**	**65.44**	**31.17**
Total Possible		**11.36**	**32.23**	**22.90**	**54.72**	**65.57**	**39.41**

Notes:

1/ Total documented percentages include facilities for which the analysis has documented linkages at the 10 percent level.

2/ Total possible percentages include all documented linkages as well as facilities that may be linked, depending on the application of the 10 percent rule or further investigation.

Table 8.38 Option 10: Individual Limits Applied to All Facilities Within AFA Entities for Crab, 1996 and 1997

Entity		Percent of Total Processing				
	AFA Links	Bairdi	Blue King	Brown King	Opilio	Red King
Entity 1	documented	-	-	-	0.53	-
	possible	-	-	-	0.53	-
Entity 2	documented	16.62	9.87	44.36	9.77	15.80
	possible	16.62	9.87	44.36	9.77	15.80
Entity 3	documented	-	-	-	6.77	1.48
	possible	-	-	-	6.77	1.48
Entity 4	documented	-	-	-	-	-
	possible	-	-	-	-	-
Entity 5	documented	-	-	-	-	0.77
	possible	-	-	-	-	0.77
Entity 6	documented	-	-	-	-	-
	possible	-	-	-	-	-
Entity 7	documented	13.67	12.37	9.78	9.30	14.55
	possible	14.23	12.76	9.78	11.07	15.44
Entity 8	documented	18.45	22.74	-	14.94	16.54
	possible	18.45	22.74	-	14.94	16.54
Entity 9	documented	-	-	-	-	-
	possible	-	-	-	-	-
Entity 10	documented	-	-	-	-	-
	possible	-	-	-	-	-
Entity 11	documented	-	-	-	2.19	0.42
	possible	-	-	-	2.19	0.42
Entity 12	documented	13.09	29.53	1.65	19.13	20.48
	possible	13.09	29.53	1.65	19.13	20.48
Entity 13	documented	-	-	-	-	-
	possible	-	-	-	-	-
Entity 14	documented	-	-	-	-	-
	possible	-	-	-	-	-
Total Documented		**61.83**	**74.52**	**55.79**	**62.64**	**70.04**
Total Possible		**62.40**	**74.90**	**55.79**	**64.41**	**70.92**

Notes:
1/ Total documented percentages include facilities for which the analysis has documented linkages at the 10 percent level.
2/ Total possible percentages include all documented linkages as well as facilities that may be linked, depending on the application of the 10 percent rule or further investigation.

8.6 Summary and Conclusions

The subsections that follow summarize the findings of the analysis and offer conclusions regarding the imposition of processing limits on AFA processors. The overall conclusions about effectiveness of the 10 options in meeting the objectives are shown in Table 8.39 (the same as Table 8.5 introduced in Section 8.5.1). First, effectiveness of the levels at which the processing limits are imposed (overall limits, sector limits, or individual limits) is considered, followed by a comparison of effectiveness brought about by defining AFA processors at the facility, company, or entity level. Then some observations are presented regarding the interpretation of the 10% Ownership Rule. The final subsection provides a more generalized summary and conclusion from the analysis of processing limits.

Ta 8.39 Summary of the Qualitative Analysis of Processing Limits

	Overall Limits			Sector Limits			Individual Limits			
	Option 1 Facility	Option 2 Company	Option 3 Entity	Option 4 Facility	Option 5 Company	Option 6 Entity	Option 7 Facility	Option 8 Company	Option 9 AFA/Co.	Option 10 Entity
Objectives from the Perspective of Proponents of Processing Limits										
1. How does the option rate in terms of limiting AFA processing of species other than BSAI pollock to the levels achieved prior to the passage of the AFA?	Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Poor	Good
2. How does the option rate in terms of including all processing interests of AFA companies?	Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Poor	Good
3. How does the option rate in terms of preventing AFA companies from evading the limits through subsidiaries or holding companies?	Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Poor	Good
Objectives from the Perspective of AFA Processors										
4. How does the option rate in terms of allowing AFA processors to maximize their ability to realize profits in the pollock processing industry?	Good	Good	Good	Good	Good	Good	Poor	Good	Good	Good
5. How does the option rate in terms of allowing AFA processors to be able to utilize non-pollock processing capacity improvements completed prior to passage of the AFA?	Fair	Fair	Poor	Fair	Poor	Poor	Fair	Fair	Good	Fair
6. How does the option rate in terms of its effect on the market value of AFA facilities?	Good	Fair	Poor	Fair	Fair	Poor	Good	Fair	Good	Poor
Objectives from the Perspective of Non-pollock Processors Linked to AFA Processors										
7. How does the option rate in terms of restricting non-pollock processors that will not benefit directly from the AFA?	Good	Good	Poor	Good	Good	Poor	Good	Good	Good	Poor
Objectives from the Perspective of NMFS										
8. How does the option rate in terms of the Paperwork Reduction Act?	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Good	Poor
9. How does the option rate in terms of the NMFS ability to determine and set the limits?	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Good	Poor
10. How does the option rate in terms of the NMFS ability to manage the limits in-season?	Good	Fair	Fair	Good	Poor	Poor	Fair	Fair	Fair	Fair

Notes:
1/ The objectives are given a presumed rating relative to the other options from the perspective of the interest group shown. A fair rating implies that there are worse options and better options.
2/ The column headed "AFA/Co." is for the option that imposes individual processing limits on the AFA facilities in a company, but does not limit non-AFA facilities in the company.

8.6.1 Effectiveness of Limits: A Comparison of Overall, Sector, and Individual Limits

Processor caps were included in the AFA to help protect the market share of the non-AFA processors. While the AFA was being drafted, non-AFA processors expressed concerns that processors with the exclusive rights to process pollock could use profits from that fishery to increase their market share in other fisheries. The non-AFA processors would then be disadvantaged because they would be operating in a market that had a one way gate. AFA processors could increase their market share of crab, for example, but the non-AFA processors could not process any pollock from the directed fishery.

From the perspective of non-AFA processors, there do not appear to be significant differences if the processing limits are implemented as overall limits, sector limits, or individual limits. However, the level at which the limits are applied will make a significant difference to AFA processors and to NMFS.

If overall or sector-level limits are imposed, AFA processors will continue to compete against other AFA processors to attract fishermen to deliver crab and groundfish other than BSAI pollock. AFA processors will compete against other AFA processors to get their share of inputs (raw fish) before the AFA limit is reached, and will also need to compete against all non-AFA processors, who will not be restricted in any way except that they are precluded from processing pollock. Individual processing limits may reduce price competition among AFA processors. Although individual limits will not constitute an allocation and individual AFA processors will face continued competition from non-AFA processors, AFA processors will not need to compete with other AFA processors. Non-AFA processors would still be allowed to erode the AFA processor's share of these fisheries. So from a harvestors perspective, for the most part there is still a competitive market for their fish, even if the caps are set at the plant level. The harvestors may expericence difficulties making deliveries towards the end of the year if several of the AFA processors reach their individual cap and can no longer accept deliveries from catcher vessels. This will reduce marketing oportunuties for catcher vessels and may lead to lower prices, all other things being equal.

In general, individual processing limits will allow AFA processors more flexibility than with overall or sector-level limits to allocate their processing capacities and other resources, and allow them to realize more of the potential benefits of the AFA, within their historical processing shares. It should be noted however, that individual processing limits implemented at the AFA facility level could be less than optimal for AFA companies that have multiple AFA processing facilities. In such cases, AFA companies may not be able to achieve the same level of processing efficiency that might be possible if individual limits are imposed at the company level.

Annual implementation and in-season enforcement of overall processing limits appear to be less burdensome to NMFS than sector-level or individual-level limits. With overall or sector level processing limits, it is likely that NMFS will have to enforce at least two types of closures in order to enforce the processing limits and to still allow the processing of limited species as bycatch. The two types of closure would be:

1 A directed processing closure when the AFA processing total reaches a pre-determined percentage of the processing limits. A closure of directed processing will allow AFA processors to retain and process limited species when they are delivered as bycatch.

2. A closure to all processing when the full processing limit is reached.

If processing limits are imposed at the sector level, NMFS may have the additional burden of determining which processing facilities belong to which sector. This additional burden will occur if sector-level limits are

imposed on AFA companies or on AFA entities. If sector-level limits are imposed only on AFA-eligible facilities, then the sector definitions are predetermined.

If processing limits are imposed on individual processors, NMFS may be able to shift some of the monitoring burden onto the processors themselves. In such cases NMFS could report weekly cumulative processing totals to the processors, but the processors themselves would have the responsibility of determining when they should cease processing for directed fisheries. Under this scenario it may be possible to make enforcement a post-season process involving fines and sanctions for those processors that exceed their limits.

In conclusion, it appears that if processing limits are imposed, relative to other options, individual processing limits offer as much protection to non-AFA processors and may not be any more costly to implement and enforce. Individual processing limits may also allow AFA processors to realize more of the benefits of the AFA (by reducing market share competition amoung AFA processors). However, they would still be competeing in the market place with non-AFA processors to attact catcher vessels to deliver their non-pollock fish to them. This would help ensure they would continue paying the market price in most cases. Yet, as AFA processors reach their caps they will no longer be allowed to purchase fish. This will reduce the number of processors available to purchase fish from catcher vessels. If enough processors leave the market in an area, it could reduce the ex-vessel price paid to vessel owners, or increase the cost of delivering fish by forcing them to seek markets further from the fishing grounds.

8.6.2 Effectiveness of Limits: Comparisons of AFA Entities, AFA Companies, and AFA Facilities

Processing limits applied to AFA facilities will be restrictive, but less restrictive than limits applied to companies or entities. If processing limits are applied to facilities, either as a group or individually, AFA participating cooperatives would not be able to increase their shares of processing of crab and groundfish species under the jurisdiction of the NPFMC. AFA facilities would, however, be able to increase their relative processing shares of species managed solely by the State of Alaska, such as salmon, herring, and other shellfish. Additionally, limiting the processing of AFA facilities would not constrain the ability of the owners of the facilities to use AFA profits to increase their non-pollock processing shares at other facilities in which the AFA owners may have an interest.

Processing limits applied to AFA companies rather than to AFA facilities will be more effective in limiting the ability of owners of AFA facilities to increase their shares of non-pollock processing. The effectiveness of processing limits on AFA companies depends largely on the ability to define AFA companies. The analysis defines AFA companies on a conceptual basis that combines all of the processing facilities that have roughly the same ownership structure. Under this definition, non-AFA facilities owned by AFA companies or by subsidiaries of AFA companies are included in the processing limits. Thus if an AFA owner wishes to increase its shares of crab or groundfish other than BSAI pollock, it would have to do so as a minority partner. The processing limits would not place a constraint on AFA companies wishing to increase their processing shares of halibut or of species managed solely by the State of Alaska, such as salmon, herring, and other shellfish.

Processing limits applied to AFA entities as defined by the 10% Ownership Rule would appear to be more effective than limits imposed on AFA companies. With the 10% Ownership Rule it will be much more difficult for AFA owners to use profits resulting from the AFA to invest in greater processing capacity. If AFA owners wish to make new capital investments in non-pollock processing, they could make investments in salmon and herring fisheries or make investments at levels less than 10 percent of the capital value of the processors in which they are investing. In addition, because of the limits AFA processors would bring, existing owners may not welcome new investment associated with AFA profits.

Imposing processing limits on AFA entities will have some unintended and perhaps draconian consequences. Processing limits imposed on AFA entities will create significantly more paperwork for NMFS and the processing industry than the other options. This additional burden will be time-consuming and expensive, and may be viewed by many as a significant intrusion of government into private affairs of industry. Additionally, if limits are imposed on AFA entities, AFA owners will be prevented from investments in crab and groundfish processing capacity, and may choose instead to invest in additional processing capacity in species that are not limited, such as salmon, herring and halibut. Additional competition for the same processors that are calling for the limits could result.

Imposing processing limits on entities will also create other unintended consequences by limiting the activities of processors that may not be able to experience any of the benefits of the AFA. These consequences are perhaps most easily understood by using ownership interests of the Bristol Bay Economic Development Corporation as an example. As was shown Figure 8.14 in Section 8.2.5, BBEDC has a 20 percent ownership interest in the *Arctic Fjord*, an AFA catcher processor. BBEDC also has a 50 percent interest in the *Bristol Leader*, a factory longliner. Partners of Alaskan Leader Fisheries, which owns 2 other non-AFA processing facilities, own the remaining 50 percent of the Bristol Leader. Under the 10% Ownership Rule it is likely that the *Bristol Leader* and the two processing facilities owned by Alaskan Leader Fisheries would be included as part of an AFA entity and therefore be constrained by the processing limits. Furthermore, there do not appear to be any other linkages between the *Arctic Fjord* and the *Bristol Leader* or Alaskan Leader Fisheries.

The lack of a direct connection between the majority owners of the *Arctic Fjord* and the managing partners of the *Bristol Monarch* and Alaskan Leader Fisheries makes it unlikely that the *Bristol Leader* and Alaskan Leader Fisheries will realize higher processing shares of crab and groundfish in the North Pacific as a result of the AFA. Therefore, it could be argued that the *Bristol Leader* and Alaskan Leader Fisheries should not be included in the processing limits. On the other hand, it is certainly feasible that BBEDC could invest its pollock profits into additional processing capacity of the *Bristol Leader*, into the other processing facilities owned by Alaskan Leader Fisheries, or into any other processing facility. These new investments could result in higher processing shares of crab and groundfish other than pollock for the *Bristol Monarch*, Alaskan Leader Fisheries, or other BBEDC interests.

Thus it appears that although while the use of the 10% Ownership Rule in the application of processing limits will provide additional protection to processors that have no links or minor links to AFA owners, it may restrict and potentially harm other processors that are unlikely to actually benefit from the AFA. In addition, limits on AFA entities could lead to increased investments in salmon and herring processing. Finally, the paperwork and enforcement if limits are applied to AFA entities will be more burdensome and expensive for both NMFS and the industry. Therefore, it is uncertain whether the additional protection gained by applying processing limits to AFA entities outweighs the negative impacts.

Given the possibility of ambiguous results if processing limits are applied to AFA entities, the Council may wish instead to approve a less restrictive option in order to fulfill its mandate to protect processors not eligible to participate in the directed pollock fishery in the BSAI, or examine other options for defining AFA entities.

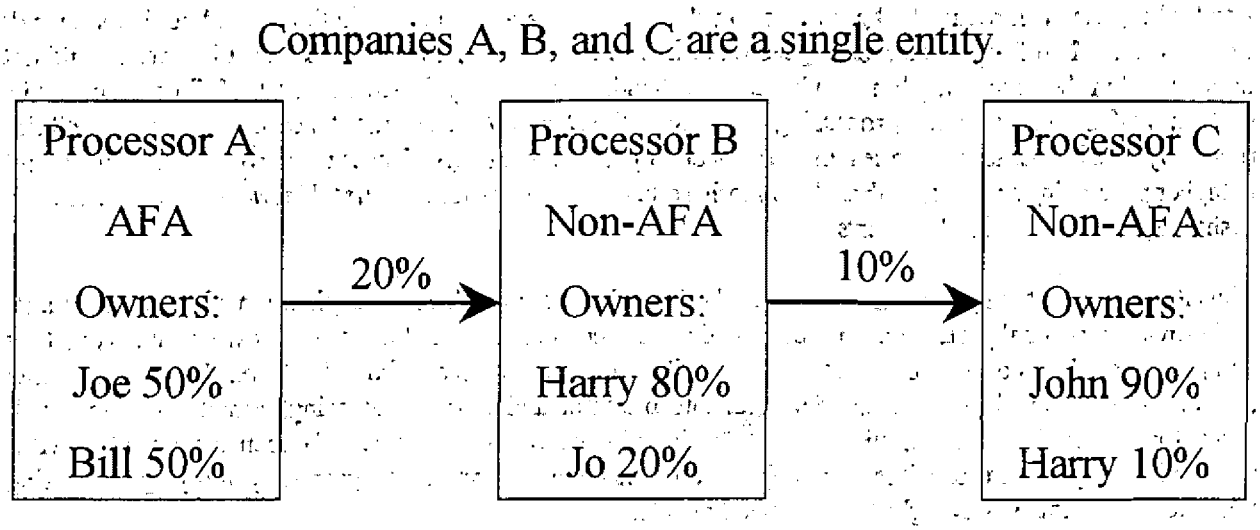
8.6.3 Alternative Interpretations of the 10% Ownership Rule

This subsection reexamines the literal interpretation of the 10% Ownership Rule as used in the analysis of processing limits and suggests alternative ways in which the 10% Ownership Rule could be applied if the Council chooses.

Although the 10% Ownership Rule was developed from language contained in the AFA, the Council has determined that Congress has given it the authority to adapt the language in the AFA to address its mandates. Therefore, the Council has the authority to interpret or adapt the 10% Ownership Rule as necessary to achieve the objectives for which the processing limits were proposed.

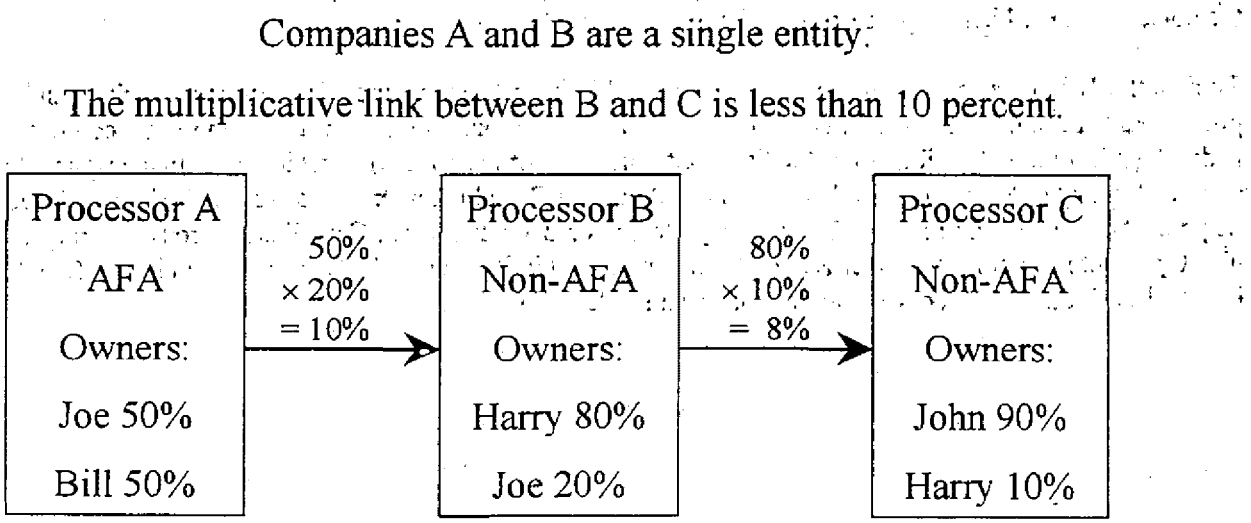
To date the 10% Ownership Rule has been interpreted in it simplest and most literal form, which considers processors to be linked if there is at least a 10 percent ownership connection, regardless of how that connection is developed. Figure 8.19 illustrates the literal interpretation of the 10% Ownership Rule. In the figure, Joe owns 50 percent of Processor A and 20 percent of Processor B, so Processor A and B are linked through Joe's 20 percent ownership in Processor B. Similarly, Processor B and Processor C are linked through Harry, with his 80 percent interest in Processor B and 10 percent interest in Processor C. Because A is linked to B and B is linked to C, all three processors are defined as a single entity.

Figure 8.19 Literal Interpretation of the 10% Ownership Rule



Another way to interpret the 10% Ownership Rule would use a multiplicative measure of ownership. In this case the shares of the common owners are multiplied together. Figure 8.20 shows how the situation from Figure 8.19 would be interpreted under a multiplicative interpretation. Joe's ownership share in Processor A is multiplied by Joe's share in Processor B. If the result is greater than 10 percent, then the Processor A is linked to Processor B. This interpretation measures the percentage of AFA interest in affiliated processors. In this case it can be said that Processor A has a 10 percent ownership interest in Processor B. The link between Processor B and Processor C has different implications. Even though Harry owns 10 percent of Processor C, the Processor B as a whole owns only 8 percent of Processor C. In this interpretation of the 10% Ownership Rule, Processor B is not linked to Processor C. An additional advantage of the multiplicative interpretation of the 10% Ownership Rule is that it provides a means by which to measure linkages that involve partnerships or more than one person.

Figure 8.20 Multiplicative Interpretation of the 10% Ownership Rule



It is also possible to interpret the 10% Ownership Rule as implying that the direct AFA interest in a processor must exceed 10 percent in order for 2 processors to be considered linked. In other words, the link must involve an owner of an AFA facility. Under this interpretation, Processors A and B would be linked in either the literal interpretation or the multiplicative interpretation of the 10% Ownership Rule, but Processor C would not be linked to the entity because Processor C has no direct AFA ownership.

Regardless of the interpretation of the 10% Ownership Rule, there still may be unintended consequences of its application. Analyzing and documenting these impacts is not possible, however, an example of these impacts is provided. Assume that the relationship between Harry and Joe began in 1990 when Processor B was constructed, and that Joe and Bill purchased Processor A in 1995. After Joe became involved with Bill in Processor A, he relinquished all management of Processor B to Harry. If processing limits are applied using the 10% Ownership Rule, Processor B will be limited, even though Harry, the managing partner and majority owner, has no interactions with Joe, except when he signs the check to Joe for 20 percent of the annual profit.

That is not to say that Processor B cannot benefit from AFA through Joe. If, for example, Joe invests some of his additional profits in Processor B to add a new crab line, then Processor B will be able to expand its percentage of crab processing as a result of Joe's participation in pollock cooperatives. However, absent any additional investment, any increases in processing shares that Processor B may be able to achieve cannot be directly linked to AFA.

Based on the discussion in this section it may be possible to craft an alternative means to restrict processors associated with the AFA facilities from increasing their shares of crab and groundfish species as a result of profits associated with AFA, without placing overly restrictive limits on processors that are only indirectly linked to the AFA. Although Chapter 8 does not specifically address any other definitions of the 10% Ownership Rule, there may be sufficient information in the analysis of the organization of the processing industry in Section 8.2 to allow the Council to develop a preferred alternative based on one of these alternative interpretations.

8.7 Overall Conclusions

The AFA instructs the Council to examine alternatives that would protect processors that will not be able to participate in pollock cooperatives from adverse effects resulting from the AFA. This chapter has examined the concept of imposing limits on the amounts of crab and groundfish other than pollock that AFA processors can process, as a means of protecting non-AFA processors.

Application of economic theory leads to the conclusion that pollock processors may be able to generate higher-than-expected profits from pollock processing because of the AFA. AFA processors may choose to reinvest those higher than expected returns into the processing of other species if it appears that returns from additional investment in processing of crab, groundfish, and other species will provide better returns than investments outside of fish processing. Because many other opportunities for investment exist, the stock market, for example, it is not certain that pollock processors will invest additional amounts into the processing of crab and other groundfish. If the processors do choose to invest in additional processing capacity, then it is likely they will be able to increase their share of the processing of other species.

It does not appear that any of the options that have been analyzed will fully address the concerns of the non-AFA processors without placing potentially harsh restrictions on processors that do not appear to be able to benefit directly from the AFA, and without imposing burdensome paperwork and enforcement costs on NMFS

and on the industry as a whole. This conclusion applies whether the processing limits are overall limits, sector limits or individual limits.

If the Council chooses to fulfill its mandate to protect non-AFA processors by imposing processing limits on crab and groundfish other than pollock, it appears that establishing limits on individual AFA companies will provide a relatively high level of protection with relatively few negative impacts.

9.0 ALTERNATIVES FOR THE IMPLEMENTATION AND MONITORING OF INSHORE COOPERATIVES

Under the AFA, the management of inshore and offshore cooperatives would differ significantly. The fishery cooperative formed by C/Ps and associated catcher vessels operate under a single offshore pollock TAC that may be apportioned among participants in the cooperative without intervention by NMFS. Under the AFA, any cooperative formed by listed motherships and associated catcher vessels could be formed and operate similarly. Because pollock TAC allocations remain at the sector level and are not sub-allocated to specific processors, management of the co-ops need differ little from traditional open access management of the pollock fishery.

However, management of the inshore co-ops authorized by the AFA pose a significantly more complex task because, unlike the offshore and mothership sectors, inshore co-ops may form around each AFA-eligible shoreside processor for a possible total of eight individual inshore co-ops, each with their own allocation of pollock TAC. The allocation of pollock to each co-op would be dependent on the aggregate pollock catch history of the catcher vessels delivering to a shoreside processor under a fishery cooperative agreement. A general summary of the issues associated with the adequacy of catch history data, database development, vessel permitting, and scheduling considerations is provided below.

9.1 Sources and Adequacy of Historic Data on Groundfish and PSC Catch by Vessel

ADF&G fish ticket data provide information, by vessel and species, of the fish landed by catcher vessels, and are available in electronic form. These data can be considered more reliable for fish with commercial value, and less reliable for species delivered but not purchased. They are not reliable for PSC catch or for groundfish discarded at sea.

Groundfish catcher-vessel logbooks, required for all catcher vessels over 60 ft LOA, document skippers' reports of groundfish and PSC at-sea discards. They do not document retained species weights. Catcher vessel logbook data are not in electronic form. Logbooks are archived with NMFS Enforcement.

Processor Weekly Production Reports provide no information on catcher vessel deliveries. They report aggregate landing amounts for a week.

Observer data, for observed catcher vessels, provide haul by haul weight estimates and species composition sampling for some hauls or sets and are available in electronic form. In some fisheries, where the observer has no opportunity to sample on a haul by haul basis, the species composition is determined for the delivery as a whole and pro-rated back out to the individual hauls. PSC management has never been done at the level of individual catcher vessels – rather data from CV observers are pooled and applied to groundfish catch by the shoreside sector as a whole.

In summary, a complete, reliable source of groundfish and PSC catch for catcher vessels suitable for determining quota allocations based on actual harvested amounts does not exist. Basing groundfish allocations on landed catch would lead to the fish tickets as the most reliable source, at least for commercially valuable species. PSC is problematic. Additional assumptions and analysis of existing observer data are likely needed to determine if using individual CV observer data would yield acceptable results. Accommodation for 30% covered vessels would have to be made. For example, one option could be to prorate PSC history to catcher vessels based on the amount of groundfish landed.

Inshore Cooperative Database Requirements. NMFS believes that a verified database of 1995-97 catcher vessel pollock landings must be developed from ADF&G fish ticket data, similar to the process for determining individual quota share for an IFQ program. Each catcher vessel would be assigned a proportion or percentage of the total 1995-97 inshore landings. This percentage would be analogous to IFQ quota share and NMFS would inform each catcher vessel owner of the official pollock quota share attributed to each AFA-listed catcher vessel. The co-op quota share of each individual inshore catcher vessel could be listed on each vessel's Alaska groundfish fishery permit. An inshore co-op's annual pollock allocation would be calculated as the sum of each participating catcher vessel's co-op pollock quota share, multiplied by the annual inshore pollock allocation.

Given the potential inaccuracies in the fish ticket data, and the allocative nature of the AFA inshore co-ops, NMFS further believes that vessel owners should be provided the opportunity to appeal the inshore co-op pollock "quota share" attributed to their vessel if the vessel owner has information to indicate the fish ticket data upon which the vessels quota shore was derived is wrong or incomplete. Therefore, a mechanism for administrating such appeals must be established. The AFA inshore co-op quota share appeals process could be similar or identical to the existing IFQ appeals procedure set out at 50 CFR 679.43

The process for developing the database on which to derive vessel-specific historic nonpollock groundfish harvest for purposes of sideboard harvest limitations would be similar to that used to establish vessel-specific pollock quota share, although NOAA General Counsel has opined that the need to provide an appeals process to address disputes about historical data on nonpollock groundfish landings is not as paramount given these data would be used to establish harvest limitations, not allocations.

The development of prohibited species catch estimates for AFA-eligible pollock catcher vessels delivering to inshore processors would be difficult without some widespread assumptions and extrapolations from limited observer data (see above discussion on adequacy of historical catch data).

9.2 New Permitting Requirements

To implement the provisions of the AFA, NMFS will need to establish a series of new permit requirements. To fulfill the statutory requirements of the AFA, this action would establish new permit requirements for AFA catcher/processors, AFA catcher vessels, AFA motherships, AFA inshore processors, and AFA inshore cooperatives. Any vessel used to engage in directed fishing for a non-CDQ allocation of pollock in the BSAI, and any processor that receives pollock harvested in a non-CDQ directed pollock fishery in the BSAI would be required to maintain a valid AFA permit onboard the vessel or at the plant location at all times that non-CDQ pollock is harvested or processed. These new AFA permits would not exempt a vessel operator, vessel owner, or pollock processor from any other applicable permit or licensing requirements required by State or Federal regulations. However, vessels fishing for BSAI pollock under the CDQ program and processors processing pollock harvested under the CDQ program would not be required to have AFA permits.

The owner of a vessel or processor could apply for an AFA permit at any time during the duration of the AFA. Once issued, AFA vessel and processor permits would be valid for the duration of the AFA and would expire on December 31, 2004. AFA vessel and processor permits could not be used on or transferred to any vessel or processor that is not listed on the permit. However, AFA permits could be amended to reflect any change in the ownership of the vessel or processor. In contrast to vessel and processor permits, AFA inshore cooperative permits would be valid only for the fishing year for which they are issued, but would be renewable on an annual basis.

AFA permit applications. NMFS will create application forms for all AFA permits that will be available upon request from the NMFS Alaska Region, and also will be available for downloading on the NMFS Alaska Region home page (http://www.fakr.noaa.gov). AFA vessel and processor permits would be issued to the current owner of a qualifying vessel or processor if he/she submits to the Regional Administrator a completed AFA permit application that is subsequently approved. NMFS also will establish an appeals process under which applicants could appeal the denial of an AFA permit or AFA permit endorsement. The appeals process for AFA permits would be similar to the process currently in place for the individual fishing quota (IFQ) program and license limitation program (LLP) appeals.

AFA catcher/processor permits. Under the AFA, the statutory list of qualified catcher/processors took effect on January 1, 1999 and NMFS has already issued AFA catcher/processor permits to the owners of all qualified catcher/processors. Currently permitted AFA catcher/processors would likely be issued new AFA permits that would be valid for the duration of the AFA. AFA catcher/processor permits will be reissued automatically and the owners of AFA catcher/processors would not be required to re-submit AFA permit applications. Two categories of AFA catcher/processor permits would be issued: Vessels listed by name in section 208(e)(1) through (20) of the AFA would be issued unrestricted AFA catcher/processor permits. Vessels qualifying for AFA catcher/processor permits under section 208(e)(21) would be issued restricted AFA catcher/processor permits, and would be limited in the aggregate to not more than 0.5 percent of the catcher/processor sector TAC allocation.

AFA catcher vessel permits. Under the AFA, a catcher vessel would qualify to fish for BSAI pollock if it is listed by name in the AFA, or, if its history of participation in the BSAI pollock fishery meets certain criteria set out in the AFA. AFA catcher vessel permits would be endorsed to authorize fishing for pollock for delivery to AFA catcher/processors, AFA inshore processors, or AFA motherships. An applicant for an AFA catcher vessel permit would be required to indicate the sector endorsement(s) that the vessel qualifies for. NMFS will establish an official AFA record that includes the relevant catch histories of all potentially qualifying vessels and will verify all claims of endorsement qualification against the official AFA record.

Members of industry have requested that a preliminary list of the AFA eligible catcher vessels be made available to the public. That list has been compiled and is included in Tables 9.1 to 9.4 below. Four separate groupings of catcher vessels are reported in this section. Those grouping correspond to the table structures in Chapter 7, where the catcher vessels that are likely eligible to make deliveries inshore, to inshore and motherships, to motherships only, and to catcher/processors are treated separately.

Table 9.1: Preliminary List of AFA Eligible Catcher Vessels in the Inshore Sector

ADF&G	Name	ADF&G	Name	ADF&G	Name
57934	AJ	55153	DONA PAULITA	48173	OCEAN HOPE 3
69765	ALASKA DAWN	14767	ELIZABETH F	64667	OCEAN STORM
38989	ALASKA ROSE	32554	ENDURANCE	51073	OCEAN ENTERPRISE
57321	ALASKAN COMMAND	54653	EXCALIBUR II	50759	PACIFIC ENTERPRISE
48215	ALDEBARAN	33112	EXODUS	54643	PACIFIC KNIGHT
40749	ALSEA	53247	F/V WESTWARD I	54645	PACIFIC MONARCH
00039	AMERICAN EAGLE	55111	FIERCE ALLEGIANCE	61450	PACIFIC PRINCE
00029	ANITA J	32473	FLYING CLOUD	61792	PACIFIC RAM
51092	ARCTIC I	40309	GOLD RUSH	00047	PACIFIC VIKING
55923	ARCTIC III	35687	GOLDEN DAWN	57149	PEGASUS
57440	ARCTIC IV	32817	GOLDEN PISCES	09200	PEGGY JO
64105	ARCTIC VI	37660	GREAT PACIFIC	12668	PERSEVERANCE
01112	ARCTIC WIND	41312	GUN-MAR	37036	POSEIDON
45978	ARCTURUS	39230	HALF MOON BAY	33744	PREDATOR
38547	ARGOSY	47795	HICKORY WIND	00006	PROGRESS
56153	AURIGA	62922	LADY JOANNE	56395	RAVEN
56154	AURORA	56119	LESLIE LEE	40840	ROYAL AMERICAN
40638	BERING ROSE	70221	LISA MARIE	00046	ROYAL ATLANTIC
62892	BLUE FOX	41520	LISA MELINDA	35957	SEA WOLF
59779	CAITLIN ANN	30332	LONESTAR	00077	SEADAWN
61432	CAPE KIWANDA	60650	MAJESTY	59476	SEEKER
57634	CARAVELLE	49617	MARATHON	00012	STAR FISH
62906	CHELSEA K	00055	MARCY J	34931	STARLITE
54648	COLLIER BROS	66196	MESSIAH	39197	STARWARD
39056	COLUMBIA	59123	MISS BERDIE	39860	STORM PETREL
53843	COMMODORE	38431	MORNING STAR	35527	SUNSET BAY
56676	DEFENDER	56164	MS AMY	40250	TOPAZ
60655	DESTINATION	00961	NORDIC STAR	00008	VIKING
08668	DOMINATOR	36808	NW ENTERPRISE	36045	VIKING EXPLORER
55199	DONA LILIANA	48171	OCEAN HOPE 1	34919	WALTER N
51672	DONA MARITTA				

Table 9.2: Preliminary List of AFA Eligible Catcher Vessels in both the Inshore and Mothership Sectors

ADF&G	Name	ADF&G	Name	ADF&G	Name
00045	ALYESKA	06440	MARK I	00033	PACIFIC FURY
00028	AMBER DAWN	00200	NORDIC FURY	58821	TRAVELER
24255	AMERICAN BEAUTY	00032	OCEAN LEADER	39946	VANGUARD
31672	MARGARET LYN	03404	OCEANIC	22294	WESTERN DAWN
12110	MAR-GUN	06931	PACIFIC CHALLENGER		

Table 9.3: Preliminary List of AFA Eligible Catcher Vessels in the Mothership Sector

ADF&G	Name	ADF&G	Name	ADF&G	Name
50570	ALEUTIAN CHALLENGER	68858	MISTY DAWN	55512	POPADO II
33697	CALIF HORIZON	38294	PACIFIC ALLIANCE	38342	VESTERAALEN
61372	FIERCE SEA				

Table 9.4: Preliminary List of AFA Eligible Catcher Vessels in the Catcher/Processor Sector

ADF&G	Name	ADF&G	Name	ADF&G	Name
62152	AMERICAN CHALLENGER	32858	NEAHKAHNIE	40969	SEA STORM
59687	FORUM STAR	00101	OCEAN HARVESTER	54654	TRACY ANNE
41021	MUIR MILACH				

AFA catcher vessel sideboard endorsements. The catcher vessel sideboard endorsements identified under the Council's preferred alternative in Chapter 7.0 would be implemented through endorsements on the catcher vessel's AFA permit. An AFA catcher vessel would be prohibited from retaining any BSAI crab species unless the catcher vessel's AFA permit contains an endorsement for that crab species. AFA catcher vessel permits could be endorsed for the Bristol Bay Red King Crab, St. Mathews Island blue king crab, Pribilof Island king crab, Aleutian Islands brown king crab, Aleutian Islands red king crab, Opilio Tanner crab, and Bairdi Tanner crab fisheries based on a vessel's history of participation in each of those fisheries and according to the criteria set out in the preferred alternative in Chapter 11.0. Applicants for AFA catcher vessel permits would be required to indicate on the permit application which AFA crab sideboard endorsements the vessel qualifies for based on the qualifying criteria set out in regulation. All claims of qualification will be verified by NMFS. To participate in a BSAI crab fishery, the operator of an AFA catcher vessel would have to have a valid LLP license for that crab fishery as well as an AFA catcher vessel permit containing an endorsement for that crab fishery.

AFA Mothership permits. Under the AFA, three motherships are authorized by name to process pollock harvested in the BSAI directed pollock fishery for delivery to motherships. The owner of a mothership would be issued an AFA mothership permit if the mothership is listed by name in section 208(d) of the AFA. However, the owner of a mothership wishing to process pollock harvested by a fishery cooperative also would be required to apply for and receive a cooperative processing endorsement on its AFA mothership permit.

Section 211(c)(2)(A) of the AFA, imposes crab processing restrictions on the owners of AFA mothership and AFA inshore that receive pollock from a fishery cooperative. These processing limits extend not just to the AFA processing facility itself, but to any other crab processing facility which shares a 10 percent or more common ownership with the AFA mothership or AFA inshore processor. To implement the crab processing restrictions contained in section 211(c)2)(A) of the AFA, NMFS would require that applicants for AFA mothership and AFA inshore processor permits disclose on their permit application the names of any crab processors in which the owners of the AFA mothership or AFA inshore processor share a 10 percent or greater ownership interest, collectively. An applicant for an AFA mothership or AFA inshore processor permit who does not disclose this crab processor ownership information would receive an AFA mothership permit or AFA inshore processor permit but would be denied an endorsement authorizing the processor to receive and process pollock harvested by a fishery cooperative.

AFA inshore processor permits. Under the AFA, inshore processors are authorized to receive and process BSAI pollock based on the processing history of the facility in 1996 and 1997. An applicant would receive an unrestricted AFA inshore processor permit if the Regional Administrator determines that the inshore processing facility processed more than 2,000 metric tons round-weight of pollock harvested in the inshore directed pollock fishery during both 1996 and 1997. An applicant would receive a restricted AFA inshore processor permit if the Regional Administrator determines that the inshore processing facility processed pollock harvested in the inshore directed pollock fishery during 1996 or 1997, but did not process more than 2,000 metric tons round-weight of pollock during both 1996 and 1997. A restricted AFA inshore processor permit would prohibit the inshore processing facility from processing more than 2,000 metric tons round-weight of BSAI pollock in any one year.

The owner of an AFA inshore processor wishing to process pollock harvested by a fishery cooperative also would be required to have a cooperative processing endorsement on the AFA inshore processing permit. The requirements for a AFA inshore processor cooperative processing endorsement would be the same as those listed for AFA motherships above.

The Council also recommended that each AFA inshore processor be restricted to operating in the single geographic location in which it operated in 1996 or 1997 when processing pollock harvested in the BSAI directed pollock fishery as set out in the options for single geographic location requirements in Chapter 4.0. To implement this restriction, land-based shoreside processors would be restricted to operating in the last physical location in which the facility processed BSAI pollock during 1996-1997 qualifying period. Stationary floating processors would be restricted to operating in a location within Alaska state waters that is within 5 nautical miles of the last position in which the floating inshore processor processed BSAI pollock during the 1996-1997 qualifying period.

Inshore cooperative fishing permits. To implement the statutory requirements of the AFA to grant allocations of pollock to inshore cooperatives, an inshore catcher vessel cooperative formed for the purpose of cooperatively managing directed fishing for pollock would be issued an AFA inshore cooperative fishing permit after submission of a completed application for an inshore cooperative fishing permit. To implement this provision of the law, an application deadline of December 1 is necessary so that NMFS and the Council can review cooperative agreements and make interim allocations of pollock TAC to cooperatives on an annual basis at the December Council meeting.

As part of the application for an inshore cooperative fishing permit, an inshore cooperative would be required to certify that: (1) The cooperative contract was signed by the owners of at least 80 percent of the qualified catcher vessels that delivered pollock to the cooperative's designated AFA inshore processor, (2) each catcher vessel in the cooperative delivered more BSAI pollock to the designated AFA inshore processor than to any other AFA inshore processor during the year prior to the year in which the cooperative fishing permit will be in effect, and (3) each member vessel is a qualified AFA catcher vessel, is otherwise eligible to fish for groundfish in the BSAI, and has no permit sanctions or other type of sanctions against it that would prevent it from fishing for groundfish in the BSAI. A catcher vessel that is ineligible to harvest BSAI pollock during the year in which the cooperative fishing permit will be in effect due to permit sanctions, lack of an AFA permit, lack of LLP permit, or lack of other required permit, could not become a member of an inshore cooperative that receives an inshore cooperative fishing permit. A cooperative fishing permit could be amended to add or subtract a qualified catcher vessel upon submission of a revised application that is received by the NMFS Alaska Region prior to the December 1 deadline and that is subsequently approved by the Regional Administrator.

Inshore cooperative fishing permits would be valid for one calendar year only, but could be renewed on an annual basis after submission of a new application that is received by NMFS prior to the application deadline and that is subsequently approved by the Regional Administrator.

Replacement vessels and processors. In the event of the actual total loss or constructive total loss of an AFA catcher vessel, AFA mothership, or AFA catcher/processor, the owner of such vessel would be able to replace the vessel with a replacement vessel that would be eligible in the same manner as the original vessel after submission of an application for an AFA replacement vessel that is subsequently approved by NMFS. The AFA contains detailed restrictions on replacement vessels and processors that are set out in Appendix 1.

9.3 Options for the allocation of pollock TAC to inshore cooperatives

9.3.1 Compensation for offshore catch history

Under the AFA, eligible inshore catcher vessels will be allowed to form cooperatives in 2000. The allocation of pollock to each cooperative will be based on the individual catch histories of each member vessel. The

Council is considering three options for calculating catch history, 1995-97, 1992-97, or the best two years from the two previous options. Section 210(b)(4) of the AFA specifically lists the years 1995, 1996 and 1997 as the years to be considered, but Section 213 of the AFA provides the Council with the authority to choose another method for allocating pollock to inshore cooperatives.

Some inshore pollock catcher vessels have made deliveries to both the inshore and offshore sectors during the qualifying years. Catcher vessels with histories split between the mothership sector and the inshore sector are able to fish both histories pursuant to the AFA. However, catcher vessels which made deliveries to both the inshore sector and the catcher vessel to catcher/processor sector lose the catch history that was delivered to the catcher/processor sector. This occurs because the AFA does not specifically create a mechanism for these catcher vessels to obtain credit for that catch history. The AFA states in section 210(b)(4) that *"any contract implementing a fishery cooperative under paragraph (1) which has been entered into by the owner of a qualified catcher vessel eligible under section 208(a) that harvested pollock for processing by catcher/processors or motherships in the directed pollock fishery during 1995, 1996, and 1997 shall, to the extent practicable, provide fair and equitable terms and conditions for the owners of such qualified catcher vessel."* This language seems to place the burden of compensating members of a cooperative on the cooperative itself. However if each inshore processor forms a separate cooperative, the burden of compensating members may be more onerous on some cooperatives than others. For example, a cooperative that did not have any members with offshore catch history would not need to "pay" any compensation, but a cooperative that had several members with offshore catch history could require substantial compensation "payments" by its members.

While the AFA states that both the catch delivered to catcher/processors and motherships would be eligible for compensation, the AFA allows catcher vessels to operate in both the inshore and mothership sectors, if they qualify for both. Therefore, several members of industry have indicated that the focus should only be on the lost catch in the catcher/processor sector. Vessels in the inshore sector that had deliveries to motherships during the qualifying years would simply lose that catch history if they did not meet the minimum requirements to be part of the mothership sector.

Section 210(b)(1) states that only catch delivered to the inshore sector will be considered by the Secretary when determining the amount of quota to be allocated to the inshore cooperative(s). Vessels will be disadvantaged in joining a cooperative if a substantial portion of their history was delivered to catcher/processors in the years used to determine catch history. As an example, a catcher vessel fishes for a catcher/processor in 1995 and 1996 and then fishes for a shore plant in 1997. That catcher vessel is not eligible under the AFA for the future to deliveries to catcher/processors. The vessel is eligible to fish for the inshore sector, but when cooperatives are formed will only receive credit for the fish delivered in 1997, while most of the other members will receive credit for 1995, 1996 and 1997. As a result, the catcher vessel in this example will be disadvantaged.

The Council authorized that a discussion paper be developed to outline *"options for compensation to inshore catcher vessels with catch history delivering to catcher/processors that is no longer available to them under AFA"*. The problem faced by these vessels could be addressed by a modification to the criteria by which the Secretary determines how much quota is allocated to each cooperative. Section 213(c)(3) of AFA provides that the Council may modify *"the criteria required in paragraph (1) of Section 210(b) to be used by the Secretary to set the percentage allowed to be harvested by such catcher vessels."*

The following change to Section 210(b)(1)(B) was recommended by Midwater Trawlers Cooperative (MTC) and would appear to remedy this problem:

". . . *the Secretary shall allow only such catcher vessels (and catcher vessels whose owners voluntarily participate pursuant to paragraph (2)) to harvest the aggregate percentage of the directed fishing allowance under Section 206(b)(1) in the year in which the fishery cooperative will be in effect that is equivalent to the aggregate total amount of pollock harvested by such catcher vessels (and by such catcher vessels whose owners voluntarily participate pursuant to paragraph (2)) in the directed pollock fishery for processing by the inshore component, together with the amount harvested by such vessels for processing by catcher/processors in the offshore component during 1995, 1996 and 1997, relative to the aggregate total amount of pollock harvested in the directed pollock fishery for processing by the inshore component together with the aggregate total amount harvested by all catcher vessels (excluding those eligible under 208(b)) for processing by catcher/processors in the offshore component during such years and shall prevent such catcher vessels (and catcher vessels whose owners voluntarily participate pursuant to paragraph (2)) from harvesting in the aggregate in excess of such percentage of such directed fishing allowance.*"

This modification would allow a catcher vessel with catch history based on deliveries to catcher/processors, that is otherwise lost under the AFA, to bring that catch history into a cooperative while sharing the burden among all members of the inshore cooperative/cooperatives. In addition, the modification does not change the AFA sector allocations.

Preliminary data indicates that 66,764 mt of pollock were delivered to catcher/processors by 42 different AFA catcher vessels from the inshore sector. The four vessels making the most deliveries accounted for 35,783 mt of the catch, or about 53 percent of the total.

A total of 1,126,275 mt of pollock was delivered by the AFA inshore catcher vessels to inshore processors between 1995-97. Adding the catch delivered inshore to the catch delivered to catcher processors will result in the total amount of pollock catch in the inshore quota pool, if vessels are compensated for their deliveries to catcher/processors. Dividing the deliveries to catcher/processors by the total quota pool yields the compensation, or "adjustment", payment that catcher vessels would be required to make.

Six sub-options setting minimum pollock delivery levels, below which a vessel would be ineligible for compensation, were included. The levels selected are 250 mt, 500 mt, 1,000 mt, 2,000 mt, 3,000 mt, and 5,000 mt. Table 10.5 reports the total amount of catch eligible for compensation at each of these thresholds in the cumulative total column. The "Inshore Adjustment" column reports the percentage of each vessels history that they would have to pay to compensate catcher vessels for their deliveries to catcher/processors. Note that the adjustment is based on the cumulative total column added to the inshore deliveries to estimate the total inshore catch pool. The bottom row of the table, titled <250 mt, shows the compensation required if no minimum catch histories were imposed.

Table 9.5: Compensation for inshore catcher vessels that had pollock deliveries to catcher/processors from 1995-97, break points are based on total catch.

Pollock to C/Ps	Number of Vessels	Pollock Catch	Avg /Vessel	Cum. Total	Inshore Adjustment
≥5,000 mt	3	31,745	10,582	31,745	-2.74%
3,000 - 4,999 mt	5	18,279	3,656	50,024	-4.25%
2,000 - 2,999 mt	2	Conf.	Conf.	Conf.	Conf.
1,000 - 1,999 mt	3	Conf.	Conf.	58,727	-4.96%
500- 999 mt	3	2,109	703	60,835	-5.12%
250 - 499 mt	11	3,831	348	65,148	-5.47%
<250 mt	15	1,400	93	66,764	-5.60%

The next two tables impose inshore catch history ceilings of 2,000 mt and 3,000 mt on the compensation calculation. The Council could also choose a ceiling of 5,000 mt, but the results are no different than the 3,000 mt ceiling. Vessels that landed an amount of pollock greater than the ceiling would not be compensated for their deliveries to catcher/processors. Including these options gives the Council the flexibility to compensate only the catcher vessels they feel have small amounts of inshore deliveries.

Table 9.6: Compensation for inshore catcher vessels that had pollock deliveries to catcher/processors and landed less than 2,000 mt to the inshore sector from 1995-97, based on total catch.

Pollock to C/Ps	Number of Vessels	Cum. Total	Inshore Adjustment
>5,000 mt	1	Conf.	Conf.
3,000 to 4,999 mt	4	21,199	-1.85%
2,000 to 2,999 mt	0	21,199	-1.85%
1,000 to 1,999 mt	1	Conf.	Conf.
500 to 999 mt	3	24,647	-2.14%
250 to 499 mt	1	Conf.	Conf.
<250 mt	2	25,200	-2.19%

Table 9.7: *Compensation for inshore catcher vessels that had pollock deliveries to catcher/processors and landed less than 3,000 mt to the inshore sector from 1995-97, based on total catch.*

Pollock to C/Ps	Number of Vessels	Cum. Total	Inshore Adjustment
≥5,000 mt	1	Conf.	Conf.
3,000 to 4,999 mt	4	21,199	-1.85%
2,000 to 2,999 mt	1	Conf	Conf.
1,000 to 1,999 mt	2	26,199	-2.27%
500 to 999 mt	3	28,307	-2.45%
250 to 499 mt	1	Conf.	Conf.
<250 mt	2	28,860	-2.50%

Note: Information in this table does not change if the inshore delivery ceiling is changed from 3,000 mt to 5,000 mt.

Table 9.8 provides information on the compensation of catcher vessels if the break points are based on average annual pollock catch from 1995-97, instead of total harvests during that time period. This method of describing catch history assigns the majority (28) of the vessels to the < 250 mt category. None of the vessels averaged 5,000 mt of pollock or more during the three years, which may be due to the limited amount of catch delivered by the these vessels to catcher/processors in 1997. Recall that 1997 was the sole qualifying year for catcher vessels in the catcher/processor sector.

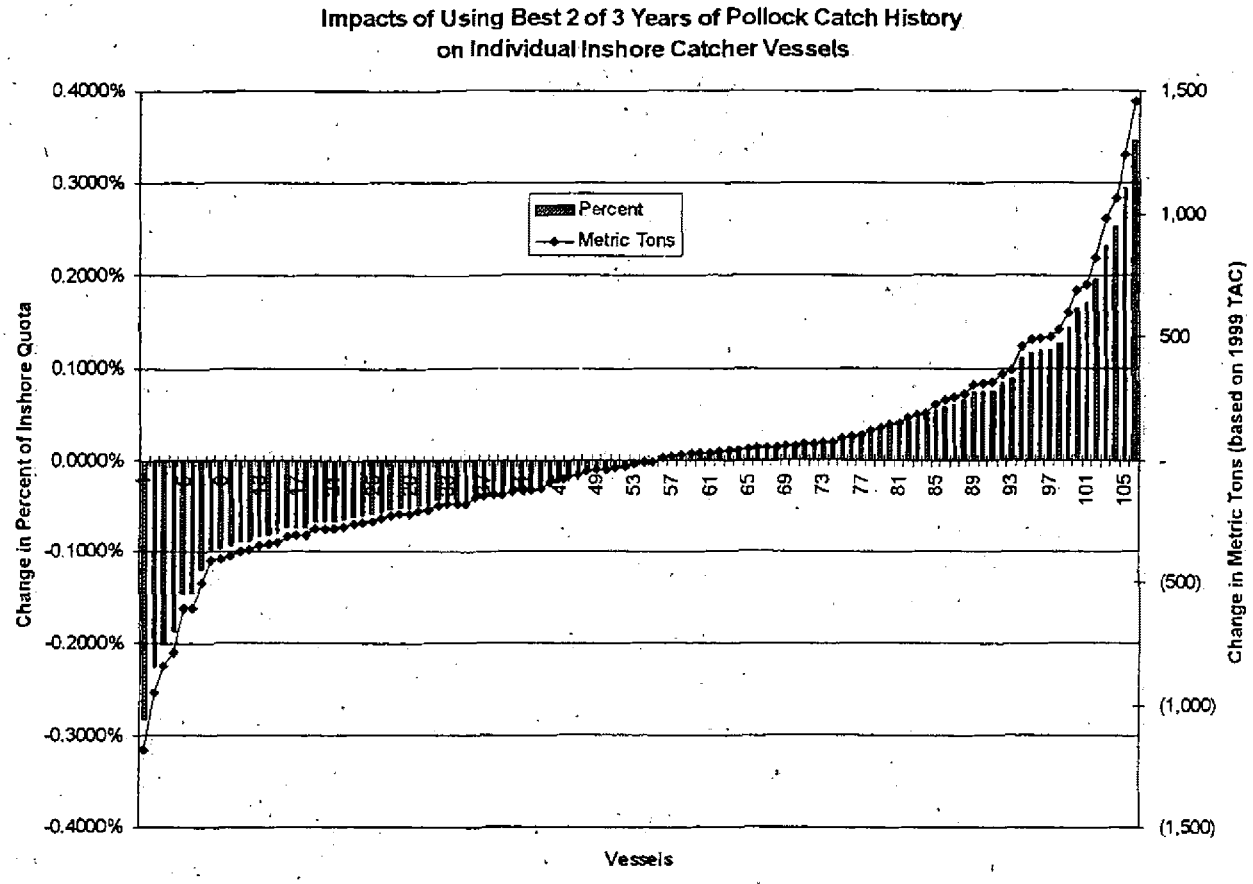
Table 9.8: Compensation for inshore catcher vessels that had pollock deliveries to catcher/processors from 1995-97, break points are based on average catch.

Pollock to C/Ps	Number of Vessels	Avg /Vessel	Inshore Adjustment
≥5,000 mt	0	0	-0.00%
3,000 - 4,999 mt	2	Conf.	Conf.
2,000 - 2,999 mt	1	Conf.	-2.74%
1,000 - 1,999 mt	5	1,219	-4.25%
500 - 999 mt	3	653	-4.73%
250 - 499 mt	3	404	-5.02%
<250 mt	28	86	-5.60%

9.4 Determine Inshore and Mothership Pollock Catch History Based on Best 2 of 3 Years

The AFA prescribes the criteria for determining which catcher vessels are eligible to participate in the inshore and mothership cooperatives in Section 208 (a) and Section 208 (c) of the Act, respectively. Those sections of the AFA do not require that all three years of catch history be used to determine the amount of pollock catcher vessels would be allowed to take with them into a cooperative.

An alternative has been added that would allow catcher vessels in the inshore sector to use their best two years of pollock catch history during the three year qualification window. The impacts of that option are depicted in the chart below. It will make about half of the vessels better off and the other half of the inshore fleet will be worse off as a result of using 2 of 3 years catch history. In terms of who wins and loses, the winners are those vessels with inconsistent catch histories, and the losers are the vessels that made approximately equal amounts of landings each year. The tails of the graph represent the vessels with the largest catch histories. In terms of tons and percent of TAC, they are the biggest winners and losers. Vessels with smaller catch levels, whether they had consistent or inconsistent catch histories, and vessels with somewhat varied catch histories are depicted in the middle portion of the chart.



9.5 Schedule for Annual Specification of Pollock Co-op Allocations

Based on AFA references to annual cooperative arrangements, NMFS assumes that the duration of a fishery cooperative would be for a one-year period. Ideally, fishery cooperative agreements should be completed by late September of each year to allow NMFS sufficient time to calculate pollock allocations based on participating catcher vessel inshore pollock "quota shares," provide the Council opportunity to review and

assess inshore pollock cooperative arrangements, and to annually specify separate inshore cooperative pollock allocations in the interim specifications. The interim specifications also would include any non-pollock harvest specifications that would be applied at either the inshore sector or cooperative level. The interim specifications would be superseded by the final specifications for fishing activity after the pollock roe season. The AFA provides for vessel entry into a cooperative after a cooperative has been formed and before the calendar year in which fishing under the co-op would occur (section 210(b)(2)). This activity would essentially change the cooperative's allocation of pollock and harvest sideboard limitations. Administrative processes should be developed to avoid having to republish inshore allocations of pollock among different cooperatives pending such changes to co-op specific participants.

9.6 Management of Inshore Catcher Vessel Co-ops

The AFA authorizes the formation of pollock co-ops within each of the three pollock industry sectors established by the AFA. However, a fundamental difference exists between the current offshore co-ops and possible future inshore-sector co-ops. The catcher/processor, offshore catcher vessel, and potential mothership co-ops require no separate action or implementation by NMFS. NMFS will monitor and enforce sectoral pollock TAC allocations in the same manner regardless of the presence or absence of the co-op because the formation of a co-op does not require NMFS to sub-allocate amounts of pollock TAC. The individual catch shares harvested by different catcher/processors, offshore catcher vessels, and the mothership fleet are of no consequence to NMFS except as they contribute to each sector's catch in the aggregate.

The inshore catcher vessel co-operatives contemplated by the AFA pose an entirely different management issue. Section 211 (b) of the AFA specifies that NMFS set-aside separate TAC allocations to each co-op upon formation of the co-op and manage each co-op's TAC allocation separately:

> *(b) CATCHER VESSELS ONSHORE.—*
>
> *(1) CATCHER VESSEL COOPERATIVES.—Effective January 1, 2000, upon the filing of a contract implementing a fishery cooperative under subsection (a) which—*
>
> *(A) is signed by the owners of 80 percent or more of the qualified catcher vessels that delivered pollock for processing by a shoreside processor in the directed pollock fishery in the year prior to the year in which the fishery cooperative will be in effect; and*
>
> *(B) specifies, except as provided in paragraph (6), that such catcher vessels will deliver pollock in the directed pollock fishery only to such shoreside processor during the year in which the fishery cooperative will be in effect and that such shoreside processor has agreed to process such pollock,* ***the Secretary shall allow only such catcher vessels (and catcher vessels whose owners voluntarily participate pursuant to paragraph (2)) to harvest the aggregate percentage of the directed fishing allowance under section 206(b)(1) in the year in which the fishery cooperative will be in effect that is equivalent to the aggregate total amount of pollock harvested by such catcher vessels (and by such catcher vessels whose owners voluntarily participate pursuant to paragraph (2)) in the directed pollock fishery for processing by the inshore component during 1995, 1996, and 1997 relative to the aggregate total amount of pollock harvested in the directed pollock fishery for processing by the inshore component during such years and shall prevent such catcher vessels (and catcher vessels whose owners voluntarily participate pursuant to paragraph (2)) from harvesting in aggregate in excess of such percentage of such directed fishing allowance.*** *[emphasis added]*
>
> *(2) VOLUNTARY PARTICIPATION.—Any contract implementing a fishery cooperative under paragraph (1) must allow the owners of other qualified catcher vessels to enter into such contract after it is filed and before the calender year in which fishing will begin under the same*

terms and conditions as the owners of the qualified catcher vessels who entered into such contract upon filing.

(3) QUALIFIED CATCHER VESSEL.—For the purposes of this subsection, a catcher vessel shall be considered a "qualified catcher vessel" if, during the year prior to the year in which the fishery cooperative will be in effect, it delivered more pollock to the shoreside processor to which it will deliver pollock under the fishery cooperative in paragraph (1) than to any other shoreside processor.

(4) CONSIDERATION OF CERTAIN VESSELS.—Any contract implementing a fishery cooperative under paragraph (1) which has been entered into by the owner of a qualified catcher vessel eligible under section 208(a) that harvested pollock for processing by catcher/processors or motherships in the directed pollock fishery during 1995, 1996, and 1997 shall, to the extent practicable, provide fair and equitable terms and conditions for the owner of such qualified catcher vessel.

(5) OPEN ACCESS.—A catcher vessel eligible under section 208(a) the catch history of which has not been attributed to a fishery cooperative under paragraph (1) may be used to deliver pollock harvested by such vessel from the directed fishing allowance under section 206(b)(1) (other than pollock reserved under paragraph (1) for a fishery cooperative) to any of the shoreside processors eligible under section 208(f). A catcher vessel eligible under section 208(a) the catch history of which has been attributed to a fishery cooperative under paragraph (1) during any calendar year may not harvest any pollock apportioned under section 206(b)(1) in such calendar year other than the pollock reserved under paragraph (1) for such fishery cooperative.

(6) TRANSFER OF COOPERATIVE HARVEST.—A contract implementing a fishery cooperative under paragraph (1) may, notwithstanding the other provisions of this subsection, provide for up to 10 percent of the pollock harvested under such cooperative to be processed by a shoreside processor eligible under section 208(f) other than the shoreside processor to which pollock will be delivered under paragraph (1).

Although the term "co-op" is used in the AFA, such a system is really closer to a voluntary IFQ system at the processor level. Implementation of such a program raises an entire suite of management issues associated with individual quota monitoring, such as those faced by the CDQ program and halibut/sablefish IFQ program. Consequently, a new regulatory and management infrastructure must be developed before NMFS can issue TAC allocations to individual inshore co-ops. The purpose of this section is to identify issues related to the management of inshore pollock co-ops.

9.6.1 Database Development and Determination of Co-op Shares

Section 211(b) of the AFA specifies in statute a formula for determining the share of the BSAI inshore pollock TAC allocation that each co-op would receive. Specifically, each co-op would receive a TAC allocation "equivalent to the aggregate total amount of pollock harvested by such catcher vessels... in the directed pollock fishery for processing by the inshore component during 1995, 1996, and 1997 relative to the aggregate total amount of pollock harvested in the directed pollock fishery for processing by the inshore component during such years."

To support the calculation of co-op pollock allocations, NMFS intends to establish a database known as the "Official NMFS AFA Record" (Official Record). This Official Record will enable NMFS to:

(a) establish harvest histories and vessel ownership for each catcher vessel which qualifies for the inshore directed fishing allowance in Section 206(b)(1);

(b) establish processing histories for shoreside processors eligible under 208(f)(1);

(c) determine appropriate co-op membership for 2000;
(d) comply with Section 210 which requires that the North Pacific Fishery Management Council (Council) and Secretary of Commerce (Secretary) make available to the public "...the amount of pollock and other fish to be harvested to each party to such contract..."; and
(e) maintain confidentiality of harvest records by distinguishing between the "owners" of confidential data; and those who seek privileges based on those data.

Official Record. The process of building the Official Record is anticipated to be similar to that used for the Individual Fishing Quota and License Limitation programs. For each inshore catcher vessel, the Official Record will be used to establish the 1995, 1996, 1997 and 1999 "fishing history". This will be compiled from Federal and State data and will contain harvest, permit, vessel, and demographic information about permit holders (including "skippers") and vessel owners. The Official Record will be presumed to be accurate but could be successfully challenged with appropriate and sufficient evidence that the Official Record is incomplete or incorrect. NMFS would notify constituents of the summarized contents of the Official Record (e.g., vessel characteristics and total pounds landed (by year and species) and afford them a finite opportunity to challenge NMFS' data. Claims that rebut the Official Record but which are not accepted by NMFS would be denied in an Initial Administrative Determination, and the constituent would be afforded the opportunity to appeal. Because the entire inshore directed fishing allowance of pollock for a year will be parsed based on the Official Record as it exists just prior to a fishing season, resolution of appeals in favor of appellants after that date would likely not affect established allocations and guideline harvest levels for that fishing year. NMFS will need to maintain records to document the data gathering/verification/denial/appeal process for each inshore delivering vessel and shoreside processor. Vessel harvest histories would be established once, and would result in calculation of the fractional share of the inshore allocation accrued to each catcher vessel.

Remaining time in 1999 is insufficient for NMFS to establish the regulatory framework, including PRA requirements; to provide summaries; and for constituents to challenge the Official Record prior to the start of fisheries in January 2000. In that case, NMFS might have to rely on the compiled Official Record without challenge for 2000 and defer that opportunity until the year 2000 for 2001 and future fisheries.

The NMFS Record will consist of (1) harvest data; (2) processing data; (3) permits data; (4) LLP eligibilities; (5) vessel characteristics, including LOA and ownership; and (6) demographic data about permit holders and vessel owners. Data would be derived from: (1) State of Alaska Fish Tickets; (2) NMFS Weekly Product Reports and/or State of Alaska Commercial Operators Annual Reports; (3) NMFS License Limitation eligibility data; (4) State of Alaska permit files; (5) NMFS and State of Alaska vessel permit and registration files; and (6) NMFS and State of Alaska demographic files. NMFS must protect confidentiality of harvest information and safeguard against inappropriate disclosure during eligibility testing and allocation/guideline harvest assignments. Therefore, in building this Official Record, NMFS must be able to unequivocally identify participating people, processors, and vessels; and must maintain confidentiality of certain data. State of Alaska data will have to be provided by the Commercial Fisheries Entry Commission, which can provide links among State harvest, permit, vessel, and person data without disclosure of Social Security numbers which are confidential under the Privacy Act.

Data Issues. Major data concerns include: (1) data accuracy and availability; (2) estimating discards and PSC; (3) basis for determining vessel pollock "quota shares;" (4) resolution of discrepancies between Fish Ticket and WPR harvest data sources; (5) time and staff resources required to process data and establish allocations and guideline harvest levels; and (6) confidentiality. Each is discussed below:

Data availability. The only complete source of inshore catcher vessel harvest information is State of Alaska fish tickets. ADF&G staff[2] has indicated that for the BSAI, groundfish and shellfish (crab) fish ticket data sets are reasonably complete, accurate and readily available through calendar year 1998 (and that little groundfish is reported on other types of fish tickets in that area). She suggested that NMFS obtain a more recent set of State data (fish tickets, vessel and permit ownership, and person demographics) than was provided for LLP implementation to date. Because of the need to receive data that are linked among data types and which use non-confidential person identifiers, NMFS needs to receive these data through the Commercial Fisheries Entry Commission (CFEC). ADF&G staff provided the following estimated schedule for reviewed fish ticket data availability from ADF&G to CFEC: data already in the fish ticket database system: within one to two months; data not yet in the system, one to two months for groundfish tickets, and within a month of the date of closure of any specific shellfish fishery. CFEC typically requires up to one month from the date of request to provide NMFS with data sets, depending on work priorities. Any data needed from NMFS' own databases are available within approximately one week.

Groundfish fish tickets for 1999 are the source of data to determine cooperative membership for 2000. These are expected to be available to NMFS between one and two months following the dates of landing. This schedule could prove problematic for co-ops that wish to operate in January 2000 if pollock fisheries extend into late 1999.

Discard data. No reliable source exists for inshore catcher vessel at-sea discards of groundfish and PSC. Additionally, several questions must be answered that will determine the method and relative ease with which discards are calculated and allocated.

First, are discards intended to be part of the individual vessel fishing histories; or at the co-op, sector, or TAC level? The answer depends on the aggregation level at which NMFS intends to "allocate" and manage groundfish and discards.

Second, what is the basis of extrapolating discards? NMFS might elect to calculate groundfish discards based on the retained catch in directed fisheries; or based on retention at any time; based solely on pollock, or on all groundfish species. PSC extrapolations might additionally depend on assignment of "target" fisheries.

Fish tickets are primarily landing documents and information on discards therein is incomplete and unreliable. Another potential data source, NMFS logbooks, are not required for catcher vessels less than 60 feet length overall (LOA); and in any case are not available electronically. The NMFS Weekly Processor Report (WPR) monitoring system uses observer-industry blended data to estimate groundfish discards and PSC bycatch on a weekly basis and for the entire inshore component. Results for the industry are extrapolated to individual processors on a prorated basis according to their groundfish product reports and an assigned "target" for the week, and are not based on, or provided at, the catcher vessel level. A serious difficulty in further extrapolating groundfish and PSC discards to catcher vessels is that fish tickets frequently "straddle" two or more weekly reporting periods (i.e., bases for WPR processor target assignments and blend discard extrapolations). Also, if any such extrapolation is made for establishing catcher vessel histories NMFS will need to establish a basis for the extrapolation (e.g., based on retained pollock or retained groundfish; or on a target fishery assignment). If based on total catch the PSC estimates would themselves be based in part on highly estimated groundfish discards. This is somewhat less of a problem if each co-op is in effect, equivalent to an entity that reported separately in a WPR although extrapolation also is required. The issue of calculating and applying discards

[2] State of Alaska Groundfish Coordinator, Gail Smith. March 1999.

in groundfish fisheries gets progressively more simple as the level of extrapolation and assignment of guideline harvest amounts is made at increasingly aggregated levels.

Basis for historical catch. For the purpose of determining directed pollock harvest histories for individual catcher vessels under section 210(b)(1), NMFS will have to consider the dates during which pollock was open for "directed fishing" in Section 210 (b) as they relate to determining vessel histories during 1995, 1996, and 1997. In particular, NMFS will determine which deliveries made after close of a directed pollock fishery should be included in that directed fishery. For groundfish other than pollock and for prohibited species, NMFS must answer the question of "what is the basis on which harvests are assigned to a vessel: catch or retained catch during the open directed fishery for that species; or any catch or retained catch of that species at any time?"

Data discrepancies. To avoid discrepancies between NMFS and fish ticket data sources resulting from any differences in product recovery rates, reporting compliance requirements, and reporting time frames, NMFS will use only fish tickets to establish both individual vessel harvest histories and to determine the total catch of pollock for the entire inshore component for each year. Blend data is the only source of groundfish discard and PSC data. As described above, extrapolating and apportioning discards and PSC is problematic.

Time and staff resources. Time and staff resources are limited. The process for determining vessel harvest histories for inshore pollock cooperatives is not substantially different from that used for implementing the Individual Fishing Quota Program (IFQ) and License Limitation Program (LLP). Much of the programming infrastructure to examine fish tickets in preparation for LLP can be applied to AFA inshore co-ops with little modification. One criterion for vessel participation in cooperatives is LLP authority to fish for pollock; and that information will expected to be available at the time NMFS needs to establish AFA catcher vessel histories later in 1999. Except for the problem of discard groundfish and PSC, there is no substantial difference in the amount of time or work required to establish a harvest history for all retained groundfish species as compared with that for pollock alone, because a complete fish tickets data set will include all groundfish species. However, it would likely require additional time for participants to rebut the NMFS Record if all species were included; and for NMFS staff to investigate the expected increased number of such instances. This could delay establishment of vessel histories and determinations of cooperative harvests limitations for non-pollock species.

Finally, 1999 deliveries by catcher vessels are needed to establish potential cooperative membership for 2000. Even a small delay in availability of late year 1999 fish tickets could delay final results and consequently, the establishment of co-op membership and allocations and guideline harvest levels for 2000 fisheries.

A significant additional problem is that no staff or consultant resources have been identified to construct or modify the Official Record for this project. Qualified persons are currently fully occupied on other priority tasks to support implementation of AFA, IFQ and IFQ/CDQ Cost Recovery, and LLP implementation.

Confidentiality. As has occurred in other programs, without specific waivers from permit holders who signed fish tickets, Alaska State confidentiality statutes may preclude NMFS' disclosure of vessel histories and subsequent review and opportunity for challenge of the Official Record by current vessel owners, who are presumed to "own" the history. This occurs fairly often.

State statute at AS 16.05.815(a)(5) prohibits the release of fish ticket data to other than the permit holder who signed the fish ticket. The permit holder signing the fish ticket often is not the vessel owner. Thus, vessel owners may not obtain historical fish ticket data for landings by their vessels without a signed waiver from each

permit holder documented on historical fish tickets. The existing limitations on the release of historical fish ticket data can be modified only through action by the Alaska State legislature.

Existing State statute does provide for the release of fish ticket or other confidential information to NMFS and the Council for purposes of fisheries management. NMFS might ameliorate concerns about access to historical landings data by providing each vessel owner the total pounds landed by species for her/his vessel over the relevant catch history period (1995 - 1997). However, NMFS could not provide specific landings data documented on specific fish tickets. Once co-op participants are identified, NMFS also could provide pollock allocations and non-pollock and PSC harvest limitations aggregated to the co-op level. NMFS' determination on co-op allocations will not be available until late in the year after co-op participants have been identified. This approach, therefore, will not address the interest of industry members to obtain historical landings information as soon as possible so the co-op negotiations may be initiated for 2000 immediately after final Council action on an FMP amendment establishing an infrastructure for inshore co-ops.

9.6.2 Annual Pollock Allocations

The formula set out in section 210(b) of the AFA generates a percentage of the annual pollock TAC that each inshore co-op would receive, but this percentage must be converted into a final TAC amount before it can be issued to a co-op by NMFS. As mentioned above, the annual amount of pollock allocated to a co-op would be calculated by summing the pollock "quota share" listed on each participating catcher vessel's fishing permit by the amount of pollock allocated to the inshore component. The resulting co-op pollock allocations would be specified annually.

These annual specification of co-op pollock allocations would be calculated and announced after determination of TACs and submission of catcher vessel membership lists. These allocations could be adjusted if additional vessels join a co-op prior to the beginning of a calendar year. The current process for establishing annual harvest specifications will require co-op allocations of pollock TAC under interim, followed by final, allocations and harvest limitations.

Co-op allocations would need to accommodate two types of harvest or share transfers. First, vessels joining co-ops after initial allocations are calculated and prior to the start of a calendar year (section 210(b)(2)) would bring their pollock "shares" into the co-op. Accommodating this is a simple matter of recalculating the co-op's allocation/limitations. Section 210(b)(6) also authorizes a co-op to transfer up to 10% of its pollock allocation to a shoreside processor eligible under section 208(f) other than the primary shoreside processor to which pollock will be delivered under the co-op agreement. Under section 210(a), these contract provisions would have to be identified prior to the start of a fishing year. Annual co-op specific pollock allocations would be specified accordingly.

At present, the pollock fishery begins on January 20 of each year under interim TACs equal to the proposed first seasonal allowance of pollock for the Bering Sea. Final TAC specifications do not become effective until late February or early March of each year due to the length of the public comment period on the proposed specifications and review required by NMFS. While the time lag between the start of the fishery on January 20 and the effective date of the final specifications is likely to be reduced under the TAC streamlining amendment adopted by the Council in 1998 and under development by NMFS, it is not likely to be completely eliminated. Consequently, if inshore co-op fishing is to begin on January 20, then provisions must be made for interim co-op shares until the final specifications become effective. This problem is not faced by the halibut and sablefish IFQ program because fishing for halibut and sablefish does not begin until March 15 of each year, after the effective date of the final specifications.

9.6.3 Management of Catcher Vessel Sideboards

Section 211 of the AFA states that "the North Pacific Council shall recommend for approval by the Secretary such conservation and management measures as it determines necessary to protect other fisheries under its jurisdiction and the participants in those fisheries, including processors, from adverse impacts caused by this Act or fishery cooperatives in the directed pollock fishery." With respect to catcher vessels, Section 211(c)(1)(A) requires that

> *By not later than July 1, 1999, the North Pacific Council shall recommend for approval by the Secretary conservation and management measures to—*
>
> *(A) **prevent the catcher vessels eligible under subsections (a), (b), and (c) of section 208 from exceeding in the aggregate the traditional harvest levels of such vessels in other fisheries under the authority of the North Pacific Council as a result of fishery cooperatives in the directed pollock fishery**; [emphasis added] and*
>
> *(B) protect processors not eligible to participate in the directed pollock fishery from adverse effects as a result of this Act or fishery cooperatives in the directed pollock fishery. If the North Pacific Council does not recommend such conservation and management measures by such date, or if the Secretary determines that such conservation and management measures recommended by the North Pacific Council are not adequate to fulfill the purposes of this paragraph, the Secretary may by regulation restrict or change the authority in section 210(b) to the extent the Secretary deems appropriate, **including by preventing fishery cooperatives from being formed pursuant to such section** [emphasis added] and by providing greater flexibility with respect to the shoreside processor or shoreside processors to which catcher vessels in a fishery cooperative under section 210(b) may deliver pollock.*

These "sideboard" requirements are different in nature from the allocations of pollock TAC to inshore co-ops under Section 210 of the AFA. First, they are limits and not allocations. The AFA makes no provisions to assure that such catcher vessels actually have the right to harvest other groundfish species at their traditional levels. Second, the AFA specifically states that such management measures apply to the aggregate catch of eligible catcher vessels and not to catch by individual vessels or co-ops. While the Council is not limited to considering sideboard provisions that would apply to the entire AFA catcher vessels fleet in aggregate, the AFA clearly anticipates that such sideboards would be applied in the aggregate.

The AFA also provides the authority to prohibit the formation of inshore fishery co-ops if catcher vessel sideboard provisions are not recommended by the Council by July 1, 1999, or if the Secretary of Commerce determines the Council's recommended sideboard provisions are inadequate to protect other fisheries.

9.6.3.1 Monitoring Sideboards at the Aggregate Sector Level

NMFS currently is monitoring 1999 AFA sideboards in the aggregate for the catcher/processor sector of the pollock fleet. The 1999 sideboards for the catcher/processor fleet were published in the interim and final 1999 specifications and are being managed through directed fishing closures. At the beginning of the fishing year, NMFS closed a suite of BSAI fisheries to AFA-listed catcher/processors because the sideboard amounts for these fisheries were determined to be inadequate to support a directed fishery by the listed C/Ps. Several species such as Pacific cod, rock sole, and yellowfin sole remained open to AFA-listed catcher/processors because the sideboard amounts for those species were adequate to support directed fishing. NMFS is challenged to manage groundfish and PSC sideboard amounts in these fisheries to prevent the AFA-listed catcher processors from exceeding their sideboard limitations.

NMFS could use a similar approach for catcher vessels, closing directed fisheries to AFA-listed catcher vessels when sideboard amounts are inadequate to support directed fishing and leaving directed fishing open for fisheries in which adequate sideboard amounts exist to support directed fishing for those species. Existing observer coverage levels combined with a system of electronic catcher vessel delivery reports should be adequate to monitor the aggregate activity of AFA-listed catcher vessels. In the case of prohibited species, catch by observed vessels would be extrapolated to unobserved vessels fishing for the same species in the same area as is currently being done for all fisheries in which observer coverage is less than 100 percent.

9.6.3.2 Monitoring Sideboards at the Individual Co-op Level

Managing sideboards at the individual co-op level poses significant additional burdens compared to managing aggregate sideboards for the fleet as a whole. In the first place, NMFS cannot possibly manage multiple species sideboards at the individual co-op level through traditional in season management measures such as closures in the *Federal Register*. The responsibility for sideboard management at the individual co-op level would have to be the legal responsibility of the co-op itself and not NMFS, similar to the management of pollock shares by individual co-ops. Second, the monitoring of individual catch limits at the co-op level raises the same monitoring concerns present in the CDQ program and discussed above with respect to the monitoring of pollock shares by co-ops. For this reason, NMFS believes that management of sideboards at the individual co-op level requires the same monitoring and observer coverage levels required by the CDQ program (e.g. 100 percent observer coverage for all trawl vessels greater than or equal to 60 ft LOA and full retention of groundfish catch and salmon PSC). This additional monitoring is especially important for PSC species which are discarded at sea. Extrapolation of PSC rates from observed to unobserved vessels at the co-op level is probably not possible given the small numbers of vessels involved in each co-op and the incentives to misreport PSC catch in the absence of an observer.

Additional complexities arise if vessels in a pollock co-op affiliated with a particular processor wish to deliver non-pollock groundfish to other processors. Tracking sideboard amounts when co-op members are delivering to more than one processor will require that timely reports on catcher vessel deliveries, or electronic shoreside processor logbooks, be in place for all processors to which co-op members wish to deliver groundfish.

9.6.4 Subdivision of Co-op Shares by Area and Season

NMFS, through emergency rule, has recently implemented reasonable and prudent alternatives (RPAs) to avoid the likelihood of the pollock fisheries off Alaska jeopardizing the continued existence of the western population of Steller sea lions, or adversely modifying its critical habitat. Permanent regulations to implement Steller sea lion RPAs are currently under development. These RPAs are likely to further divide the Bering Sea inshore pollock TAC allocation into four separate seasonal allocations with separate catch limits inside a designated critical habitat/catcher vessel operational area (CH/CVOA) conservation zone during each fishing season. Additional spatial distribution requirements may be possible during the summer and fall fishing seasons. Consequently, under the Steller sea lion RPAs, the inshore pollock TAC allocation may be subdivided into between 8 and 12 separate catch limits based on area and season.

Option 1: Managing co-op shares by area and season. If individual co-ops form around all eight of the inshore processors and NMFS subdivides each co-op share by area and season this could generate upwards of 96 separate inshore pollock TAC allocations for the Bering Sea alone. NMFS does not have the capacity to manage dozens or hundreds of individual co-op allocations using traditional in season management methods such as closure notices in the *Federal Register*. Consequently, the burden for managing such co-op shares must be born by the participants themselves as is the case with the IFQ and CDQ programs.

Due to the complexities of implementing this management program within the short time-frame required by the AFA, NMFS is not proposing to implement a more complex system under which each individual inshore cooperative would receive allocations of pollock subdivided by each management area and season. One reason for this decision is that NMFS is currently revising Steller sea lion management measures for 2000 that could divide the Bering Sea Subarea pollock TAC into four seasons and two separate areas. However, a final rule to implement Steller sea lion protection measures has not yet been published and such measures, therefore, cannot be accommodated in this AFA proposed rule. A second reason is that the complexities of managing individual cooperative TAC allocations and accounting for individual cooperative harvest overages and underages by season and area are beyond the scope of this proposed rule. NMFS has not analyzed the observer coverage levels and enforcement burdens such an option would entail.

Option 2 (Preferred): Managing co-op shares in the aggregate. Under the proposed rule, NMFS would manage the inshore cooperative and inshore non-cooperative allocations as two separate inshore fisheries. The various inshore cooperatives would be managed as a group for the purpose of making TAC apportionments by season and area and for the purpose of issuing directed fishing closures. NMFS would continue to announce directed fishing closures for each inshore fishery when the Regional Administrator determines that the TAC allocated to that fishery for a particular season and area has been reached. Under this system, fishing by inshore cooperatives would be unaffected by catcher vessels fishing in the inshore non-cooperative fishery. However, the aggregate harvests by all inshore cooperatives would determine the inshore cooperative directed fishing closures for each season and area.

Under this option, each inshore cooperative would be guaranteed the opportunity to harvest its entire annual allocation of Bering Sea Subarea pollock but would not receive a specific guarantee of harvest levels for any particular season or management area within the Bering Sea Subarea. Cooperatives wishing to further rationalize their annual operations to work with each other to prevent the activities of one cooperative from preempting the harvest plans of another cooperative within a specific season or area.

9.6.5 Data Collection and Verification

To monitor pollock TAC allocations at the inshore co-op level, NMFS must have a reporting system that is able to discern pollock landings by individual catcher vessels. Similar standards also exist to monitor non-pollock groundfish and prohibited species harvest limitations. NMFS has already developed such a system for monitoring CDQ operations and is currently developing an electronic shoreside logbook system that would provide sufficient vessel-by-vessel landing information to monitor inshore co-op activity on a vessel-by-vessel basis. Interagency discussions are also underway regarding possible merger of State and Federal reporting requirements for fish delivered by catcher vessels. A suitable system could be developed by 2000, but would require significant revisions to the existing recordkeeping and reporting program. Serious reservations exist whether implementing regulations would be effective in time for the 2000 A season pollock fishery and a target implementation date for the 2000 B season likely is more reasonable.

If the opportunity to form inshore co-ops is mandated by 2000 and insufficient time exists to implement a new Federal electronic recordkeeping and reporting system to provide timely documentation of catcher vessel deliveries, interim revisions to existing processor logbook and Weekly Production Reports (WPRs) might be considered if non-pollock harvest limitations are monitored at the aggregate sector level. These changes would require separate logbook entries and WPRs for groundfish delivered by AFA-eligible vessels. NMFS notes, however, that even these seemingly minor changes will require significant changes to existing recordkeeping and reporting forms, regulations, and associated software used by NMFS to monitor fishery quotas.

At a minimum, NMFS believes that observer coverage at inshore processors must be increased to a level that would enable each catcher vessel delivery to be observed by a NMFS observer. At most inshore processors, this would require two observers to cover the 24-hour period of operation for the plant. In certain circumstances where an inshore processor is offloading and weighing pollock at multiple locations, more that two observers could be required.

Prior to the AFA, the inshore pollock fishery was managed in the aggregate across the entire sector with NMFS issuing a single closure for the entire inshore sector upon the attainment of a seasonal allocation of pollock TAC. Under the inshore cooperative system set out in the AFA, each inshore processor and its affiliated cooperative will be operating on its own proprietary pollock allocation. Because NMFS will no longer be managing the inshore sector in the aggregate, increased monitoring is required at each individual processor to insure that cooperative allocations are not exceeded. Under a fishery cooperative, contract agreements would be established that essentially allocate specific amounts of pollock to individual vessels for purposes of directed fishing. Although NMFS does not intend to actively manage individual vessel groundfish harvests under the cooperative, the agency is challenged to ensure that overall groundfish or prohibited species catch harvest limitations are not exceeded and that the incidental catch of pollock taken in non-pollock groundfish fisheries is not credited against the pollock directed fishing allowances. To meet these management challenges, NMFS believes that an observer must be available to observe and sample each catcher vessel delivery.

9.6.6 Summary of Co-op Monitoring and Management Issues

Because NMFS does not have the capacity to actively monitor each individual co-op share and announce closures for each individual co-op in the *Federal Register* the responsibility for in season management of co-ops must be born by the co-ops themselves. The individual co-op shares authorized by the AFA are quite similar to current allocations of pollock CDQ to individual CDQ groups. In both cases, an identified group is allocated a specific percentage of the pollock TAC and is responsible for managing its fishing activity to remain within its TAC allocation. NMFS believes, therefore, that it is appropriate and necessary to treat both CDQ groups and inshore pollock co-ops in the same manner with respect to recordkeeping and monitoring.

The extension of multiple species CDQ-type monitoring to catcher vessels participating in inshore-co-ops would depend on whether nonpollock groundfish and prohibited species harvest limitations will be monitored at the sector level (i.e., all AFA-eligible catcher vessels, or all AFA catcher vessels participating in any inshore co-op), or the co-op level. If expectations exist to apportion sideboard limitations to different inshore co-ops and for NMFS to have the capability to monitor these co-op specific limitations, then the monitoring requirements and standards implemented for the MSCDQ program would need to be extended to the AFA co-op vessels as well. The complexity of database requirements and the regulatory infrastructure necessary to support multiple inshore co-ops poses concern about the ability of NMFS to implement such a program in time for the 2000 pollock A season. In the event NMFS is unable to do so, the management of the 2000 pollock fisheries would be similar to that experienced in 1999.

Current recordkeeping and observer coverage requirements for CDQ groups are contained in subpart C of 50 CFR 679. Key elements of the anticipated recordkeeping and monitoring requirements for AFA catcher vessels dependent on whether or not harvest limitations are apportioned at the sector or co-op level are summarized below:

Species Allocation	Monitoring and management standards	
	Allocated at level of multiple co-ops within a sector	Allocated at aggregate level of eligible catcher vessels within a sector
Pollock	Under section 210(b)(1), pollock must be allocated to inshore co-ops if such co-ops are developed. Given that all pollock in a directed fishery must be retained under IR/IU, NMFS expects shoreside landings of pollock to be representative of catch. At a minimum, processors would be required to maintain and submit separate logbook sheets and WPRs for co-op and non co-op deliveries of pollock by AFA-eligible vessels. Ideally, these new reporting requirements would be subsumed under new electronic shoreside logbook software being developed by NMFS that would provide for documentation of vessel-specific deliveries. Co-ops members would be jointly and severally responsible for controlling harvest activity so that pollock allocations are not exceeded.	If coops are formed, pollock must be monitored and managed at the co-op level, triggering the associated monitoring standards described in the adjacent column. Even though inshore co-ops may not be formed in any one year, the infrastructure must be developed in anticipation that co-ops will exist. Thus, the additional recordkeeping and reporting requirements necessary to monitor multiple co-op specific pollock allocations must be developed and implemented by regulation before the opportunity to form co-ops is provided to the inshore sector.

Non-pollock groundfish	Establishment of co-op specific harvest limitations of groundfish would require additional observer coverage and reporting requirements equivalent to the monitoring standards established for the MSCDQ program. These requirements would be as follows based on current regulations governing the MSCDQ program: **Requirement for Co-ops**: Each co-op would be required to submit co-op vessel catch reports for each vessels participating in the coop and fishing for groundfish. These reports would be submitted to NMFS within 7 days after delivery of catch and would document each co-ops harvesting activity relative to specified harvest limitations (See 679.5(n)(2)). Co-ops members would be jointly and severally responsible for controlling harvest activity so that harvest limitations are not exceeded. **Requirements for shoreside processors**: Any processor receiving groundfish from AFA-eligible catcher vessels would be required to have an observer present at all times while AFA-eligible catcher vessels are offloading catch and to submit a delivery reports to NMFS withing 24 hours. The type of information on a delivery report would be similar to that required under 679.5(n)(1), and generally report the identity of the vessel and species specific landed weight and area of harvest. In addition, shoreside processors must notify the observer of the offloading schedule of each groundfish delivery at least 1 hour prior to offloading to provide the observer an opportunity to monitor the sorting and weighing of the entire delivery. **Requirements for catcher vessels ≥ 60 ft LOA**: Catcher vessels over 60 ft LOA would carry observers 100 percent of the time when fishing for groundfish and would also (A) retain all groundfish species, and (B) provide space on the deck of the vessels for the observer to sort and store catch samples and a place from which to hang the observer sampling scale. **Requirements for catcher vessels < 60 ft LOA:** Catcher vessels less than 60 ft LOA may not be required to carry an observer. However, operators of catcher vessels less than 60 ft LOA must retain all groundfish.	Establishment of nonpollock groundfish harvest limitations for either all AFA-eligible vessels or only for AFA-eligible vessels that choose to participate in a co-op would require new recordkeeping and reporting requirements for any processor who takes delivery of groundfish from these AFA-eligible vessels. At a minimum, processors would be required to maintain and submit separate logbook sheets and WPRs for deliveries of groundfish by AFA-eligible vessels. Ideally, these new reporting requirements would be subsumed under new electronic logbook software being developed by NMFS that would provide for documentation of vessel-specific deliveries.

Prohibited species	**Requirements for shoreside processors:** Delivery reports of prohibited species required, similar to CDQ reports required at 679.5(n) **Requirements for trawl catcher vessels ≥ 60 ft LOA**: (A) Retain all salmon until they are delivered to a processor, and (B) retain all halibut and crab in a bin or other location until it is counted and sampled by an observer. **Requirements for catcher vessels < 60 ft LOA**: (A) Retain all salmon until they are delivered to a processor: (B) All halibut and crab must be discarded at sea. Operators of catcher vessels using trawl gear must report the at-sea discards of halibut or crab on the processor delivery report and co-op catch report.	Observed bycatch rates from AFA eligible vessels would be used to extrapolate bycatch estimates for the AFA-eligible fleet based on new vessel-specific deliver reports of groundfish for that fleet.

9.7 Requirements for the Inshore Sector to Repay Federal Loan Under AFA

Section 207 of the American Fisheries Act lays out the parameters under which the inshore sector must repay the $75 million Federal loan. The actual language from the AFA is included below:

(b) INSHORE FEE SYSTEM.—Notwithstanding the requirements of section 304(d) or 312 of the Magnuson-Stevens Act (16 U.S.C. 1854(d) and 1861a), the Secretary shall establish a fee for the repayment of such loan obligation which—

(1) shall be six-tenths (0.6) of one cent for each pound round-weight of all pollock harvested from the directed fishing allowance under section 206(b)(1); and

(2) shall begin with such pollock harvested on or after January 1, 2000, and continue without interruption until such loan obligation is fully repaid; and

(3) shall be collected in accordance with section 312(d)(2)(C) of the Magnuson-Stevens Act (16 U.S.C. 1861a(d)(2)(C)) and in accordance with such other conditions as the Secretary establishes.

Repayment of the loan will commence in the year 2000, whether or not the inshore sector is operating under cooperatives. However, benefits derived from cooperatives were likely envisioned to help offset the cost of loan payments.

10.0 ALTERNATIVES FOR THE MONITORING AND MANAGEMENT OF CATCHER/PROCESSORS AND MOTHERSHIPS

On February 4, 1998, NMFS published a final rule establishing performance, technical, operational, maintenance and testing requirements for scales used to weigh catch at sea (63 FR 5836). On June 4, 1998, NMFS published a final rule that established the requirements for observer sampling stations and required the use of scales and observer sampling stations on specified vessels participating in CDQ fisheries (63 FR 30381). Further information on the rationale for, and implementation of, the regulations establishing Equipment and operational requirements for catch weight measurement is contained in the preambles to the final rules. A proposed regulatory amendment that would make minor changes to these equipment and operational requirements is in preparation.

The at-sea scale regulations specify that vessels required to weigh total catch must have two types of NMFS-approved scales on board: a total-catch weighing scale, and an observer sampling scale. For a scale to be approved by NMFS, the manufacturer must apply to NMFS and document that the scale meets the performance and technical standards, contained in Appendix A to Part 679. Scales that meet these requirements are placed on the list of NMFS approved scales. NMFS has approved 9 models of observer-sampling scales, and 5 models of total-catch weighing scales.

Each scale must be inspected annually by a NMFS authorized inspector. An observer-sampling scale inspection takes approximately 30 minutes, a total-catch weighing scale takes three to eight hours. Scales must also be tested daily by the vessel crew when in use. The observer-sampling scale is tested daily by weighing cast iron test weights of a known weight. In order to be acceptable to NMFS, the observer-sampling scale must be accurate within 0.5 percent. The total-catch weighing scale is tested daily by passing at least 400 kg of test material (either fish or sand bags) across the scale and then weighing the test material on the observer sampling scale. The total-catch weighing scale must be accurate within 3 percent when compared against the observer platform scale. Scales that do not pass the annual inspection or daily test may not be used to weigh catch at-sea.

Since July 1, 1998, 39 observer platform scales and 23 total catch weighing scales have been inspected and approved. During 1998, approved total-catch weighing scales were used in MS-CDQ fisheries by 6 vessels that fished 60 vessel days.

The AFA requires the 20 listed catcher/processors to weigh total catch from all fisheries on a NMFS-approved scale. Catcher/processors that intended to harvest fish under the CDQ program during 1999 were required to start weighing total catch on January 1, 1999. Listed catcher/processors that do not intend to harvest fish under the CDQ program will be required to weigh total catch beginning January 1, 2000.

When an observer sampling station is required, it must be approved by NMFS and meet specifications for size, construction, location and required equipment. Sampling stations on trawl catcher/processors and motherships must provide a working area at least 1.8 m wide by 2.5 m long near where the observer samples unsorted catch. The station must be equipped with a table, an observer sampling scale, floor grating, adequate lighting and a water supply. Prior to being used and annually thereafter, the sampling stations must be inspected by NMFS staff. If requested to do so, NMFS staff will conduct pre-inspections of sampling stations to help the vessel owners better comply with the regulations. NMFS staff normally require between one and two hours to conduct a sampling station inspection. To date, NMFS staff have conducted 40 sampling station pre-inspections and 37 station inspections. The stations on 36 boats have been approved.

In that the AFA requires the listed catcher/processors to weigh total catch and to carry two observers, the requirements are very similar to those for trawl catcher/processors that participate in CDQ fisheries. However, the AFA does not require that the listed processors provide an observer sampling station, nor are the 3 listed motherships required to weigh total catch or carry two observers.

The number of vessels impacted by this action is summarized in Table 10.1

Table 10.1 Number and type of vessels that may be impacted as a result of this action.

	Vessels without NMFS-approved scales or stations*	Vessels with NMFS-Approved scales or stations*	Total
AFA catcher/processors	8	12	20
AFA motherships	1	2	3
Non AFA trawl catcher/processors	21	9	30

* One of these vessels has an approved scale but does not have an approved sampling station

10.1 Alternatives for Expanded Scale and Sampling Station Requirements

Alternative 1. (Status Quo) Do not require AFA catcher/processors or motherships to weigh all catch, carry two observers or provide an observer sampling station.

Alternative 2A. Require AFA listed catcher/processors to weigh all catch, carry two observers and provide an observer sampling station. Do not expand these requirements to include AFA listed motherships.

Alternative 2B. (Preferred Alternative) Require AFA listed catcher/processors and motherships to weigh all catch, carry two observers and provide an observer sampling station.

Both alternative 2A and 2B would require AFA-listed catcher/processors to weigh total catch. Alternative 2B would require AFA listed motherships to weigh total catch as well. Many of the AFA-listed processors already have NMFS approved scales, in most cases because they plan to participate in CDQ fisheries during 1998.

An approved observer sampling scale costs approximately $7,000 and an approved total-catch weighing scale costs approximately $45,000. Past scale installations have, in many cases, required factory alterations. Most of these have been done in conjunction with the installation of an observer sampling station. If a station were not being installed at the same time, the cost to reconfigure the factory where needed and install a scale would range from 0 to $10,000.

Vessels that are required to weigh total catch depend on the continued operation of the scale. If the scale breaks down and cannot be repaired, or if the scale is unable to pass the daily test, the vessel must stop fishing and return to port. The magnitude of this impact would be a function of the frequency of scale breakdowns that could not be repaired at sea. During pollock A1, there were 11 reported scale problems, 8 of these affected the scales ability to weigh accurately, but only one could not be repaired at sea and was repaired in Dutch Harbor. If this breakdown rate continues, and a repair trip to Dutch Harbor lasts 3 days, the AFA vessels can

expect to lose about 17 days per year. Both manufacturers have been responsive to problems as they develop and seem to be doing an excellent job of preventing problem reoccurrence. As boat operators learn how to operate and maintain the scales, and as manufacturers solve problems, the frequency of scale breakdowns should decrease.

Vessel operators are required to test the total-catch weighing scales daily. This test can be done either with fish or an alternative material supplied by the scale manufacturer. As part of the original PRA submission for the scales program, NMFS estimated that this test would require approximately 45 minutes per day. This estimate appears to be accurate for vessels testing scales with fish. Those boats that have chosen to use sand bags have reduced the test time to as little as 10 minutes.

10.2 Expanded Observer Coverage Requirements

All AFA listed C/Ps are currently required to carry at least one observer when fishing off Alaska. Processors vessels participating in CDQ fisheries and motherships taking deliveries of pollock from the CVOA during portions of the B season must also carry two observers. Alternative 2A would require the 20 listed catcher/processor vessels to carry 2 observers at all times. Based on data from 1998, the 20 listed catcher/processors carried observers a total of 3,395 days. Assuming that these vessels were carrying two observers when participating in CDQ fisheries, two observers were carried during 486 of those days and one observer was carried during the remaining 2,909 days. If 1998 data are reflective of fishing patterns under the AFA, these vessels would be expected to require an additional observer during 2,909 days. At an estimated cost of $250 per observer day, this would cost the AFA catcher/processors $727,250/yr.

The preferred alternative would require the AFA listed motherships to carry 2 observers throughout the fishing year. Based on data from 1998, the 3 listed motherships carried observers a total of 489 days. Assuming that these vessels were carrying two observers throughout the pollock B season and when taking CDQ deliveries, the motherships were carrying two observers during 304 of those days and were only carrying one observer during 185 of those days. If 1998 data are reflective of fishing patterns under the AFA, these vessels would be expected to require an additional observer during 185 days. At an estimated cost of $250 per observer day, this would cost the AFA motherships $46,250/yr.

Impacts of the preferred alternative are summarized in Table 10.2

Table 10.2 Summary of the costs of the preferred alternative for monitoring C/Ps and motherships.

	Cost per boat	AFA C/Ps with scales/stations	AFA C/Ps without scales/stations	AFA Mships
Platform scale purchase	$7,000	0	$56,000	$7,000
Total-catch weighing scale purchase	$45,000	0	$360,000	$45,000
Scale installation	$0 to $10,000	0	$40,000	$5,000
Observer Sampling station installation	$4,000 to $12,000	0	$72,000	$8,000
Lost fishing days due to scale failure	0.75 days lost per 100 days	17 days/yr		1.5 days/yr
Time for daily scale test	0.75 hrs/day	1208 hrs/yr		191 hrs/yr
Time for annual scale inspection	8 hrs/yr	160 hrs/yr		24 hrs/yr
Time for annual station inspection	7 hrs/yr	140 hrs/yr		21 hrs/yr
Cost of second observer	$250/day	$727,250/yr		$46,250/yr

10.3 Cost to NMFS

The State of Alaska, Division of Measurement Standards has a contract with NMFS to conduct scale inspections in Dutch Harbor and Seattle. Scale inspections are also conducted by NMFS staff. To date, 23 total-catch weighing scales have been inspected. To date, inspections have cost approximately $2,000 per inspection. Based on theses costs, the addition of AFA catcher/processors that do not fish CDQ should increase the number of scales inspected by about 9 boats, or $18,000/yr. The cost per inspection should be considerably lower in future years as NMFS gains experience with the program. Observer sampling stations are inspected by existing NMFS staff and the costs associated with inspecting an additional 10 vessels would not be expected to be significant.

11.0 COUNCIL'S PREFERRED ALTERNATIVES

At the June 1999 Council meeting in Kodiak, the Council identified their preferred alternatives for the AFA harvester sideboard provisions. Preferred alternatives for several other AFA related issues, such as the determination of inshore pollock catch histories, and clarification of definitions used in the AFA, were also identified (Section 11.5 contains the actual motion as passed by the Council). This chapter will provide a description of those alternatives as well as additional information on their impacts. In some cases similar information can be found in other chapters of this document. Other required provisions of the Act, such as scale and observer requirements, cooperative structures, and crab processing sideboards were not the result of Council decisions, but were mandated by the AFA itself, or were clarified by Council action in October 1999. Adjustments to some of the June actions, particularly with regard to sideboard exemptions for catcher vessels, were made in December 1999.

The Council elected not to finalize their preferred alternatives for groundfish processing sideboards. Groundfish processing sideboards will be considered by the Council in April 2000, along with alternatives for BSAI pollock excessive processing sharecaps.

Two general statements were issued by the Council regarding sideboard harvest caps. The first was a statement that the Council requested NMFS to manage all fisheries such that sideboard and PSC caps are not exceeded. Preliminary information on how NMFS intends to manage the caps is provided later in this chapter. The second directive was that all sideboard calculations for groundfish, crab, and scallops be based on the best estimate of landed catch. Landed catch excludes all catch history where fish were discarded at-sea. Landed catch was used for all sideboard cap estimates included in this chapter.

11.1 Catcher/Processor Harvest Sideboards

The Council preferred alternatives for catcher/processor sideboards differs from those in place for 1999. For 1999 the catcher/processor sideboards were based on the total catch of all 29 catcher/processors in the non-pollock target fisheries, and were expressed as a percentage of the aggregate total allowable catch for the years 1995-97. For 2000 and beyond, the sideboards are based on the landed catch of the 29 catcher/processors in all target fisheries. This alternative does not give credit to catcher/processors for catch that was discarded, but they are given credit for the catch of non-pollock species that was retained in pollock target fisheries.

Section 211 of the AFA required the Council to protect non-AFA vessels from adverse impacts resulting from BSAI pollock cooperatives. Several methods were considered to limit the AFA fleet's harvest in other fisheries to meet this mandate. After much debate over several meetings, the Council opted to use landed catch to represent the catcher/processors' catch history when determining sideboards. Obviously, using landed catch will result in smaller sideboard caps than had total catch been used. Using landed catch may also affect the number of directed fisheries that NMFS will open to the catcher/processor fleet. However, this will only occur in cases where the amount of a species that was discarded by the AFA catcher/processors would have provided enough additional history such that NMFS would deem the amount adequate to open a directed fishery for that species.

The Council also felt that giving catch history credit for discarded fish would not set a good precedent. The Magnuson-Stevens Act mandates that the Council work towards reducing discards. This subject was debated as the Council made their final decision. Some members of the Council argued that discards may increase if the AFA vessel's sideboard caps were reduced. They basically argued that the AFA fleet had lower discard rates than the non-AFA fleet which would have increased TAC at their disposal under this alternative.

However, other members of the Council argued that discards would decrease. Table 11.1 shows a comparison of the discard rates of the AFA and non-AFA catcher/processor trawl fleets. The AFA catcher/processors have lower discard rates for most of the species in which they will likely have directed fisheries. AFA catcher/processors generally have higher discard rates for species that will not be open to directed fishing. Because of the fisheries that will be open to directed fishing and NMFS management of AFA sideboards, it is likely that discards will not increase, and may decrease under this sideboard system.

The catcher/processors will still have directed fisheries for species that they were targeting in the past, even though the amount they will be allowed to catch under a cap will be reduced. Table 11.1 shows that the Pacific cod sideboards will be reduced by 28 percent, yellowfin sole 20 percent, rock sole 65 percent, and flat head sole 74 percent, relative to using total catch. The Atka mackerel fisheries in the Aleutian Islands areas will be based on the formula outlined in the AFA, so landed catch will not be used to determine sideboard caps in those fisheries. The higher historic discard rates in the other flatfish and rock sole fisheries may reduce the sideboard caps to a level that would not support a directed fishery. It is also likely that they will not have directed fisheries for other species they harvested, but mostly discarded in the years 1995-97.

Table 11.1: Trawl Catcher/Processor Discard Rates in BS/AI, 1995-97

	Catcher/processors	
Species - Area	AFA	Non-AFA
Atka Mackerel - Central Aleutian Islands	3%	19%
Atka Mackerel - Eastern Aleutian Islands	78%	13%
Atka Mackerel - Western Aleutian Islands	5%	17%
Arrowtooth Flounder - Bering Sea and Aleutian Islands	97%	90%
Other Flatfish - Bering Sea and Aleutian Islands	74%	69%
Flathead Sole - Bering Sea and Aleutian Islands	74%	33%
Greenland Turbot - Aleutian Islands	30%	13%
Greenland Turbot - Bering Sea	54%	18%
Other Species - Bering Sea and Aleutian Islands	90%	99%
Pacific Cod (Trawl Gear, Catcher Processor Vessels) - BSAI	28%	30%
Pacific Ocean Perch - Aleutian Islands	43%	15%
Pacific Ocean Perch - Bering Sea	87%	12%
Pacific Ocean Perch - Central Aleutian Islands	97%	18%
Pacific Ocean Perch - Eastern Aleutian Islands	62%	16%
Pacific Ocean Perch - Western Aleutian Islands	65%	18%
Other Rockfish - Aleutian Islands	82%	55%
Other Rockfish - Bering Sea	90%	58%
Rock Sole - Bering Sea and Aleutian Islands	65%	53%
Sablefish (Trawl Gear) - Aleutian Islands	61%	21%
Sablefish (Trawl Gear) - Bering Sea	10%	9%
Sharpchin/Northern Rockfish - Aleutian Islands	92%	69%
Squid - Bering Sea and Aleutian Islands	92%	70%
Shortraker/Rougheye Rockfish - Aleutian Islands	44%	17%
Other Red Rockfish - Bering Sea	96%	26%
Yellowfin Sole - Bering Sea and Aleutian Islands	20%	22%

Source: NMFS Blend data for 1995-97.

Reductions[3] in net revenues to these vessels caused by changes in sideboard caps cannot be determined with the data currently available. However, given the discard rates of species taken as bycatch, the revenue losses will likely result from reductions in the sideboard caps in the Pacific cod, yellowfin sole, rock sole, and flat head sole harvests. Any revenue losses by this group of vessels would be offset by gains by non-AFA vessels, in an overall context. This assumes that the Non-AFA vessels would retain these "extra" fish at the same rate, or higher, than the AFA fleet would have.

Several other alternatives were considered by the Council to represent the catcher/processor fleets' historic participation in the BSAI groundfish fisheries. These alternatives are described in Chapter 6.

11.1.1 Estimates of Catcher/Processor Sideboards

Estimates of the catcher/processor sideboard amounts are provided in Table 11.2. Information on the total catch of these species, which includes catch that was discarded, can be found in Table 6.2 of Chapter 6, but is also repeated here. Table 11.2 shows that for some species (many of the flatfish species and squid are good examples) the amount of catch that was landed is quite small when compared to the total catch.

Estimates of the value of these fisheries were also provided in Table 11.2. Those estimates, based on 1997 prices, indicate that the caps would be valued at about $13 million ex-vessel. This value underestimates the total value of these fish to catcher/processors because the value they add to the fish through processing is not included. On the other hand, it is unlikely that all of these fish would be processed. Determining what proportion would be processed is difficult, especially given the structural changes in the pollock fishery. Therefore, an attempt to estimate first wholesale value will not be included..

Based on these cap levels, it is likely that NMFS will only open directed fisheries for Atka mackerel, Pacific cod, and yellowfin sole. Perhaps directed fisheries will be opened for flathead sole, rock sole, and other flatfish. It is unlikely that there is an sufficient amount of any other species to open a directed fishery. However, the actual directed fisheries will not be determined until NMFS estimates the year 2000 sideboard amounts. Once that estimate is made, NMFS will calculate bycatch needs for other fisheries, and if an adequate amount of a species is left over, a directed fishery for that remainder can be opened. Fisheries will not be opened if the entire sideboard cap is expected to be harvested as bycatch in other directed fisheries.

[3]Note that these are only "potential" revenue changes, since these fish were not previously retained, when doing so was an option. The decision to "retain" or "discard" in the future, in the absence of this proposed action, would have turned on market and operational decisions which we have more way of assessing. It seems "unlikely" that 100% of the fish voluntarily discarded historically, would not be "retained", if the action so allowed. So the "potential" revenue loss is certainly less that the equivalent value of the (now) foregone bycatch of these species. It does not necessarily follow, however, that the reductions in "retainable" bycatch in the afa sector will translate into equivalent "gains" in retained catch in the non-afa sector. This seems to be so because, 1) the afa boats will still bycatch (but may not retain) some of this fish, and 2) the non-afa boats were discarding these species at generally higher rates than the afa operations, before this action.

Table 11.2: Estimates of Catcher/Processor Groundfish Sideboards Resulting from the Council's Preferred Alternative (Landed Catch/TAC).

Species/Area TAC Groupings	Years 1995-97 Available TAC	Total Catch	Landed Catch	Landed Catch/ TAC	1999 TAC	Estimated Cap (mt) Based on 1999 TAC	Ex-Vessel Price ($/Lb)	Value ($ Millions)
Atka Mackerel - Central AI*	103,100	23,138	22,543	11.5%	10,360	1,191	$0.05	$0.14
Atka Mackerel - Eastern AI	55,200	803	177	0.3%	7,784	25	$0.05	$0.00
Atka Mackerel - Western AI*	94,557	9,636	8,991	20.0%	12,487	2,497	$0.05	$0.29
Arrowtooth Flounder - BSAI	36,873	2,688	76	0.2%	114,201	237	$0.04	$0.02
Other Flatfish - BSAI	92,428	12,607	3,243	3.5%	130,900	4,593	$0.09	$0.91
Flathead Sole - BSAI	87,975	7,435	1,925	2.2%	65,705	1,438	$0.13	$0.40
Greenland Turbot - AI	6,839	33	23	0.3%	2,525	8	$0.28	$0.00
Greenland Turbot - BS	16,911	265	121	0.7%	5,126	37	$0.28	$0.02
Other Species - BSAI	65,925	5,599	553	0.8%	27,931	234	$0.03	$0.01
P. Cod (C/Ps)-BSAI (97 only)	51,450	17,205	12,424	24.1%	38,475	9,290	$0.21	$4.30
POP - Bering Sea	5,760	91	12	0.2%	1,190	2	$0.07	$0.00
POP - Central AI (96 & 97 only)	6,195	112	3	0.0%	3,561	2	$0.07	$0.00
POP - Eastern AI (96 & 97 only)	6,265	141	53	0.9%	3,173	27	$0.07	$0.00
POP - Western AI (96 & 97 only)	12,440	356	126	1.0%	5,753	58	$0.07	$0.01
Other Rockfish - AI	1,924	97	18	0.9%	583	5	$0.47	$0.01
Other Rockfish - BS	1,026	47	5	0.4%	314	1	$0.47	$0.00
Rock Sole - BSAI	202,107	17,888	6,317	3.1%	102,000	3,188	$0.15	$1.03
Sablefish (Trawl Gear) - AI	1,135	0	0	0.0%	293	0	$1.77	$0.00
Sablefish (Trawl Gear) - BS	1,736	9	8	0.4%	569	3	$1.77	$0.01
Sharpchin/Northern Rockfish-AI	13,254	1,034	83	0.6%	3,913	25	$0.23	$0.01
Squid - BSAI	3,670	877	73	2.0%	1,675	33	$0.04	$0.00
Shortraker/Rougheye Rockfish-AI	2,827	75	42	1.5%	625	9	$0.23	$0.00
Other Red Rockfish - BS	3,034	174	8	0.3%	227	1	$0.23	$0.00
Yellowfin Sole - BSAI	527,000	125,010	100,192	19.0%	176,783	33,610	$0.08	$5.78

* Atka mackerel percentages defined in the AFA are included as opposed to the historic catch ratio
Source: NMFS Blend data 1995-97 for catch and 1997 PACFIN reports for ex-vessel prices (the most recent year currently available.

11.1.2 Management of Catcher/Processor Sideboards

Though the final regulations have not yet been drafted, it is likely that NMFS will manage the caps through directed fishery closures. NMFS will evaluate the cap amounts at the start of the fishing season to determine if adequate amounts of a species are available for a directed fishery. Should NMFS determine that sufficient amounts are not available, then the directed fisheries for those species will closed for the entire year. If a sufficient amount of a species is available to the catcher/processor fleet, a directed fishery for that species would be opened. Once the portion of a cap to be harvested in a directed fishery is reached, the directed fishery for that species will be closed. Directed fishery limits might be considered "hard" caps, in that when reached they close a directed fishery. Species caught as bycatch, and not part of a AFA catcher/processor directed fishery, will likely be managed as "soft" caps, meaning that reaching a sideboard cap for a bycatch species

(such as squid) in a directed fishery (such as pollock) would not close the directed fishery, so long as no other overfishing levels were reached for the species taken as bycatch.

NMFS is considering managing the sideboard fisheries in the above manner to prevent closures of all directed fisheries after reaching one of the small sideboard caps. Squid taken as bycatch in the pollock fishery is a good example, but other species may also shut down the directed groundfish fisheries if reaching a bycatch species cap closes a directed fishery. According to Table 11.2, about 290 mt of squid were taken annually in the pollock fishery between 1995-97. Our estimate of the catcher/processors' squid cap is 33 mt, based on 1999 TACs. Assuming that all of the squid is taken in the pollock fishery and similar squid bycatch rates continue into the future, only about 35 percent of the catcher/processors' pollock allocation would be harvested before they reach their squid cap. However, given the current understanding of how NMFS intends to manage the fishery, reaching the cap of 33 mt. would not close the directed pollock fishery or any other directed fisheries where squid is taken as bycatch by the AFA catcher/processor fleet. Instead NMFS would not open a directed fishery for squid at the beginning of the year, because insufficient amounts of that species would be available. Not opening a directed fishery for squid will have little economic impact on the fleet, because, at present, market conditions have not lead to the development of directed fishery for squid in the BSAI.

11.1.3 Catcher/Processor PSC Sideboard Caps

Total PSC cap for listed vessels will be established based on the percentage of PSC removals in the non-pollock groundfish fisheries during 1995, 96, and 97. This information was presented in Table 6.13, and is how the AFA catcher processor fleet's PSC bycatch amounts were calculated for 1999. According to estimates published by NMFS in the March 11, 1999 Federal Register, the AFA catcher/processors will be capped at 8.4 percent of the halibut PSC available to trawl vessels, 1.2 percent of the herring, 0.7 percent of the red king crab, 15.3 percent of the *C. opilio* crab, 14.0 percent of the zone 1 *C. bairdi* crab, and 5.0 percent of the zone 2 *C. bairdi* crab. These percentages will be multiplied by the 2000 and beyond trawl PSC caps to determine the amount of each PSC species that the AFA catcher/processors will be allowed to harvest in the non-pollock target fisheries. If the overall trawl PSC caps are not reduced substantially in future years, these PSC bycatch amounts should allow the AFA catcher/processors to harvest their directed fishery allocations, since they are based on the historical catch rates.

The Council also provided the following direction on management of the PSC caps:

1. The Council requested that NMFS manage the PSC sideboard caps to allow for directed fishing of non-pollock species such that the total PSC removals do not exceed the PSC caps.

2. The listed vessels' PSC caps will not be apportioned by fishery and will be managed under open access season apportionment closures.

Additional information on the management of the PSC caps can be found in the proposed rule for this amendment package.

11.1.4 Catcher/Processor Sideboard Summary

The Council's preferred alternative does not change the PSC sideboard caps from those in place for the 1999 fishing year. Catcher/processors will continue to be capped at the same percentage of each future year's PSC allotments, as they were in 1999. Given that they were able to successfully conduct their non-pollock fisheries

in 1999, they should have adequate amounts of PSC species in future years, so long as the overall PSC caps are not reduced by a significant amount.

Groundfish sideboard caps are based on landed catch in all target fisheries under the Council's preferred alternative. The 1999 groundfish sideboard caps were based on total catch in the non-pollock target fisheries. Using the 1999 TACs, the reduction in sideboard caps would be 12,555 mt. of other flatfish, 7,580 mt. of yellowfin sole, 4,258 mt. of rock sole, and 829 mt. of Pacific cod. These reductions may result in NMFS not opening directed fisheries for other flatfish and rock sole.

11.2 Catcher Vessel Harvest Sideboards

Catcher vessels that are AFA eligible are subject to harvest limits referred to in this analysis as "sideboards". Sideboard limits have been constructed based on the historic catch of AFA eligible catcher vessels in the BSAI groundfish fisheries (excluding pollock which was allocated under the AFA), GOA groundfish, BSAI crab species, and the scallop fisheries which are managed under the Council's Fishery Management Plans. **Some vessels are exempted from certain sideboard limits. The Council also expressed their intent that vessels not be allowed to lease their BSAI pollock if they fish in the GOA and are exempt from the GOA sideboard provisions.**

11.2.1 Crab Sideboards

Crab Sideboards shall apply to all AFA vessels regardless of whether they join a cooperative or not. The Council considered exempting AFA eligible catcher vessels that did not join a cooperative from the crab sideboard caps, but ultimately decided that they should apply to all AFA eligible catcher vessels. This will ensure that vessels benefitting from the AFA will be restricted by sideboards. However the catcher vessels that have smaller pollock catch histories, and therefore may be less inclined to join a cooperative, will be most adversely impacted by this decision. That being said, there is no way to determine which vessels would have joined a cooperative if they had not been bound by the sideboards. Several factors, including internal cooperative negotiations on pollock harvest amounts and the compensation for pollock delivered to catcher/processors would impact that decision.

AFA sideboard provisions also prohibit the sale, lease, transfer or stacking of crab LLP licenses or endorsements by AFA-eligible catcher vessels. The Council intended this provision to limit the use of crab licenses earned on AFA catcher vessels, and provide additional protection for the non-AFA crab fleet. Without this restriction the AFA vessels would have had the opportunity to sell their license package and obtain a groundfish only license. The crab portion of their old license, if sold to a non-AFA vessel, would then have been allowed to fish crab outside of the sideboard restrictions. Allowing these types of transfers could have potentially increased effort in the crab fisheries contrary to the intent of the AFA.

11.2.1.1 Bristol Bay Red King Crab (BBRKC)

AFA catcher vessels that hold a BBRKC endorsement shall be capped at their five-year (91-97, excluding 94-95) weighted average share of that fishery. The sideboard cap will be calculated by summing the AFA catcher vessel's total catch during the five qualifying years and dividing that amount by the total catch of BBRKC during those years. Based on ADF&G fishticket data, the total amount of BBRKC harvested by the AFA vessels during the five qualifying years was about 4.8 million pounds. The total catch of all vessels during those years was about 37.7 million pounds. The 41 qualified AFA catcher vessels would be capped at approximately 12.8 percent of each future year's pre-season BBRKC GHL, based on these catch rates.

The GHL for the 1998 BBRKC fishery was 16.4 million pounds. If this GHL level was maintained in the future, the AFA fleet would be capped at about 2.1 million pounds. At the $2.60 per pound reported by ADF&G (from ADF&G commercial fisheries web page, August 27, 1999) for the 1998 fishing season, that equates to about $5.5 million.

ADF&G intends to manage the AFA vessels based on the aggregate cap equally apportioned to each vessel. Specifically, they intend to set a trip limit for each vessel equal to the AFA sideboard cap divided by the number of AFA vessels registered to participate in the BBRKC fishery that year. Based on data presented earlier, the trip limit would be about 51,000 pounds or about $135,000 per vessel. A trip limit of that amount is more than the average vessel harvests in the years 1996 (42,000 pounds and $109,000) or 1997 (33,000 pounds and $86,000). Equal trip limits will ease the in-season management burden on ADF&G, and will allow each vessel to know prior to fishing how much crab they are allowed to harvest. Specific measures dealing with overages and other management issues are still being developed, and cannot be reported at this time.

11.2.1.2 *C. opilio* Crab

AFA eligible catcher vessels which are also LLP qualified for a Tanner crab endorsement may participate in the BSAI *C. opilio* crab fishery if they harvested opilio crab in more than 3 of the 10 years (88-97). If a vessel did fish for opilio crab in at least four years they are eligible to participate in that fishery without further restrictions on the amount of opilio crab they can harvest in a year. Preliminary estimates indicate that five AFA catcher vessels fished at least four years in the opilio fishery, and are therefore allowed to continue participating in that fishery under the AFA sideboard restrictions. Appendix III to this document contains a separate analysis titled "Economic Reliance on Crab by AFA Section 208 Crossover Vessels: Implications for Sideboards," which was prepared under contract to Dr. Scott Matulich of Washington State University. That report details the activities of vessels in the three major crab fisheries (opilio, bairdi, and Bristol Bay red king crab) over 10 years (1988-97) with particular emphasis on the "crossover" vessels, i.e., those which are AFA qualified and also crab LLP qualified. The Council reviewed that information and considered the participation patterns therein in structuring sideboards for all crab fisheries.

11.2.1.3 *C. bairdi* Crab

Sideboard restrictions on the *C. bairdi* crab fishery excludes AFA qualified vessels that receive an LLP Tanner crab endorsement from participating in the directed bairdi fishery, unless they had catch history in the bairdi fishery in 1995 or 1996. If eligible, these vessels will be allowed to participate in the fishery only after the bairdi rebuilding goal is reached. Preliminary data indicates that 21 vessels would qualify to participate in the directed bairdi fishery based on their 1995 and 1996 history. These vessels will be capped at their aggregate historic catch levels based on the years 1995-96. Initial estimates indicate that the AFA catcher vessels would be limited to about 6.5 percent of the pre-season GHL once the fishery is rebuilt. The time frame for rebuilding this stock is difficult to predict. However the rebuilding plan outlined in Amendment 11 to the BSAI crab FMP indicates that a reasonable rebuilding period to meet the minimum stock size threshold may be in the range of the years 2005 to 2010 (NPFMC, 1999[4]). This time frame is after the current version of the AFA is scheduled

[4]North Pacific Fishery Management Council (NPFMC). 1999. A Rebuilding Plan for the Bering Sea *C. bairdi* Stock. Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis for proposed Amendment 11 to the Fishery Management Plan for the King and Tanner Crab Fisheries in the Bering Sea/Aleutian Islands and a regulatory amendment to the Bering Sea/Aleutian Islands Groundfish Fishery Management Plan. North Pacific Fishery Management Council, Anchorage, AK.

to expire, meaning it is likely that there will be no fishing for bairdi by any vessels prior to the expiration of the AFA on December 31, 2004.

AFA catcher vessels which hold an LLP Tanner crab endorsement may retain bycatch of bairdi, if retaining bairdi bycatch is allowed in the BBRKC fishery. Allowing the BBRKC vessels to retain bycatch amounts of bairdi has occurred in past years, when the fisheries were opened simultaneously. Such a provision will help reduce the amounts of bairdi crab that are discarded.

11.2.1.4 St. Matthew Blue King Crab

AFA vessels which hold a LLP endorsement for the St. Matthews king crab fishery, and had a landing in that fishery in 1995, 96 or 97, may participate in that fishery under the AFA sideboard restrictions. Only one vessel participated in St. Matthew blue king crab fishery in any of the three qualifying years. Because only one vessel is qualified, the catch history of that vessel cannot be reported under current confidentiality requirements.

11.2.1.5 Pribilof Red and Blue King Crab

AFA catcher vessels which hold an LLP endorsement for the Pribilof king crab fishery, and had a landing in that fishery in 1995, 96 or 97, may participate in that fishery under the AFA sideboard restrictions. Initial information indicates that four vessels will qualify to participate in this fishery under AFA sideboards. These vessels will be allowed to harvest about 1.2 percent of the combined pre-season GHLs, according to preliminary information. This would result in the four eligible vessels in the AFA fleet being capped at 15,600 pounds ($32,700), based on the 1998 GHL and ex-vessel prices. On average the vessels participating in the Pribilof king crab fisheries averaged 17,200 pounds in 1996 and 23,900 pounds in 1997. If the 15,600 pound cap were equally divided it would result in each vessels taking 3,900 pounds ($8,150), or about one-fifth what the average vessel harvested in the 1996 and 1997 fisheries. This is a loss of about $42,000 for AFA catcher vessels, however, that revenue will be redistributed to the Non-AFA crab vessels.

11.2.1.6 Aleutian Islands Red and Brown King Crab

An LLP and AFA qualified catcher vessel which had a landing in the last two years the Aleutian Islands red king crab and brown crab fisheries were open may participate in those fisheries. According to preliminary data no AFA vessels met this criteria, and therefore, no AFA vessels will be allowed to participate in these fisheries under the sideboard restrictions.

11.2.2 Scallop Sideboards

Measures restricting AFA catcher vessels, which participate in a cooperative, to their aggregate traditional harvest in the scallop fishery were developed by the Council. The groundfish and crab sideboards applied to all vessels regardless of whether they participated in a cooperative. It was assumed that scallop sideboards applied only to vessels that did join a cooperative because participation in a cooperative was explicitly defined by the Council.

Participation in a cooperative is defined as any use of a vessel's catch history by a cooperative, whether by direct harvest, lease, sale, or stacking of quota. The preferred alternative would limit the one AFA catcher vessel that also participated in the scallop fishery to the 3.33 percent of the upper end of the statewide GHL. That percentage will be multiplied by the upper end of the state-wide guideline harvest level, in future years, to determine the actual amount of scallops it will be allowed to harvest under a cap. A projected 1,200,000

pound GHL would result in the vessel being capped at 41,292 pounds. At an ex-vessel value of $5.50 per pound (1998 average from ADF&G web site), this equates to a cap of about $227,000 for the scallop vessel.

11.2.3 Bering Sea and Aleutian Islands Catcher Vessel Sideboards

Separate groundfish sideboard structures were developed for the BSAI and GOA. This section of the document will focus on the Council's preferred alternatives for the BSAI. Discussions of the GOA sideboard restrictions will follow in the next section.

11.2.3.1 BSAI Groundfish Sideboard Caps

BSAI sideboards shall be based on the AFA catcher vessel's catch history from 1995-97 (except Pacific cod which will be based on 1997 only and POP which is based on 1996-97). Sideboards will include non-pollock catch history in both the pollock and non-pollock target fisheries. The harvest will then be expressed as a ratio of the AFA vessels' catch to the total amount of TAC available those years. The resulting percentage will be multiplied by the TAC's set in future years to determine the actual amount of each sideboard species that can be harvested under the caps.

The Council recommends NMFS to determine the bycatch needs for the pollock and non-pollock fisheries and allow for directed fishing of non-pollock target species such that the total catch of those species should not exceed the sideboard caps. A discussion of how NMFS intends to manage the caps was provided in the catcher/processor section of this chapter.

The Council intended that catcher vessel sideboard caps apply to all AFA vessels eligible under sections 208(a)-(c) of the Act regardless of participation in a cooperative. Any vessel determined by NMFS to be eligible to participate in a cooperative will be bound by the sideboard caps outlined by the Council, if implemented by the Secretary of Commerce. The Council considered applying these caps only to vessels which participate in a cooperative. However, the Council felt that based on the direction given in section 211(c)(1)(A) of the Act, which states that the Council shall recommend measures to "prevent the catcher vessels eligible under subsections (a), (b), and (c) of section 208 from exceeding in the aggregate the traditional harvest levels of such vessels in other fisheries under the authority of the North Pacific Council as a result of fishery cooperatives in the directed pollock fishery...", they should apply the sideboards to all eligible catcher vessels to afford protection to the non-AFA eligible vessels. A discussion of this issue in chapter 7 concludes this decision will likely have the greatest impact on catcher vessels that had smaller pollock catches and were more diversified into other fisheries. To mitigate some of the impacts on these vessels the Council provided an exemption to the Pacific cod sideboard cap for catcher vessels <125' LOA that had less than 1,700 mt. of annual pollock history and made at least 30 Pacific cod landings in the BSAI from 1995-97. However, under NMFS' proposed implementation plan, vessels which 'opt out' of the BSAI pollock fishery entirely (i.e., do not apply for an AFA permit) would not be subject to the sideboards. Sideboard exemptions will be discussed in greater detail later in this section and in the Regulatory Flexibility Act section of the document.

Sideboard caps shall be applied at the AFA catcher vessel sector level (inshore delivery vessels, mothership delivery vessels, and catcher vessels that deliver to catcher/processors) in 2000. However, NMFS shall publish the proportion of the cap represented by the aggregate catch history of the vessels in each cooperative, and facilitate the formation of an inter-cooperative agreement to monitor the subdivision of the caps at the cooperative level. NMFS shall also require each cooperative agreement to contain provisions that would limit its participants to their collective 1995-97 harvest in other fisheries.

Members of industry realized that NMFS is not in a position to monitor sideboard caps at the cooperative level in the year 2000, but requested that information on the cooperative level sideboards be published so they could monitor and enforce caps at that level themselves. The inter-cooperative agreement may enable the inshore cooperatives to better rationalize their participation in harvesting sideboard species for which they will have directed fisheries, such as Pacific cod.

Sideboard caps will apply throughout the year, except for two specific exemptions. The first exemption lifts the Pacific cod sideboard cap for vessels participating in the mothership sector on March 1 of each year. The second exemption applies to catcher vessels less than 125' LOA with less than 1,700 mt. of annual average landed pollock catch history and at least 30 Pacific cod landings from 1995-97. These vessels shall be exempt from the catcher vessel trawl Pacific cod sideboard cap throughout the entire year in the BSAI. Catch history of vessels that are exempt from the sideboards will not be included when calculating the overall sideboard caps, and their catch will not accrue against the cap when determining when the cap.

Tables 11.3 through 11.5b represent estimates of the catcher vessel sideboards in terms of historic landed catch from 1995-97, the percentage of landed catch relative to TAC, an estimate of future sideboards amounts based on the 1999 ITACs, and an estimate of the ex-vessel value of those amounts, respectively. These tables do not include catch of Pacific cod by the vessels exempted from the Pacific cod cap. So, the entire Pacific cod catch history of vessels landing less than 1,700 mt. pollock annually and the catch of catcher vessels delivering to motherships after March 1, have been excluded.

Ex-vessel value estimates reported in Table 11.5b indicate that if the catcher vessels harvested, retained, and sold all of the sideboard caps they were projected to be issued in Table 11.5a, they would generate $17.7 million per year. This estimate assumes that the catcher vessels would not have any discards and they could market all of their catch. These assumptions are unlikely to occur. Therefore, the ex-vessel value estimates likely overstate the amount of revenue that will be generated from the sideboard species.

Table 11.3: Landed Catch of Non-Exempt[1] AFA Catcher Vessels in the Bering Sea and Aleutian Islands (1995-97)

Species by TAC Grouping	All Fisheries				
	CV Inshore (90 CVs)	CV to IN/MS (11 CVs)	CV to MS (10 CVs)	CV to CP (7 CVs)	All Vessels (118 CVs)
Atka Mackerel - Central AI	15	2	-	-	17
Atka Mackerel - Eastern AI	154	10	1	6	171
Atka Mackerel - Western AI	-	-	-	-	-
Arrowtooth Flounder - BSAI	1,361	302	221	267	2,151
Other Flatfish - BSAI	4,344	481	47	283	5,155
Flathead Sole - BSAI	3,088	490	346	388	4,312
Greenland Turbot - Aleutian Islands	4	-	-	10	14
Greenland Turbot - Bering Sea	609	23	9	44	685
Other Species - BSAI	1,209	254	144	260	1,867
Pacific Cod (Fixed Gear) - BSAI	50	13	-	195	258
* P. Cod (Trawl CVs)-BSAI (97 only)	36,040	3,820	2,618	5,242	47,721
Pacific Ocean Perch - Bering Sea	537	24	16	9	586
* POP - Central AI (96-97 only)	7	-	-	-	7
* POP - Eastern AI (96-97 only)	27	-	-	3	30
*POP - Western AI (96-97 only)	-	-	-	-	-
Other Rockfish - Aleutian Islands	1	1	-	4	6
Other Rockfish - Bering Sea	30	2	1	6	39
Rock Sole - BSAI	3,174	879	387	734	5,174
Sablefish (Trawl Gear) - Aleutian Islands	64	1	-	4	69
Sablefish (Trawl Gear) - Bering Sea	1	-	-	-	1
Sharpchin/Northern Rockfish - AI	1	12	-	6	19
Squid - Bering Sea and Aleutian Islands	1,339	53	20	14	1,426
Shortraker/Rougheye Rockfish - AI	3	-	-	-	3
Other Red Rockfish - Bering Sea	57	13	4	11	85
Yellowfin Sole - BSAI	31,295	4,283	994	935	37,507

Source: Alaska Department of Fish and Game fish ticket data for inshore deliveries; National Marine Fisheries Service observer data for at-sea deliveries.

* Denotes TAC groups that do not extend throughout entire time period.

[1]: The Pacific cod catch history from vessels with less than 1,700 mt. of annual average landed pollock catch and at least 30 BSAI Pacific cod landings from 1995-97 are excluded from this table, because they are exempt from the Pacific cod sideboard cap.

Table 11.4 Percent of TAC that was Landed by Non-Exempt[1] AFA Catcher Vessels in the Bering Sea and Aleutian Islands (1995-97)

	All Fisheries				
Species by TAC Grouping	CV Inshore (90 CVs)	CV to IN/MS (11 CVs)	CV to MS (10 Cvs)	CV to CP (7 CVs)	Total Catch (118 CVs)
Atka Mackerel - Central AI	0.01%	-	-	-	0.01%
Atka Mackerel - Eastern AI	0.28%	0.02%	-	0.01%	0.31%
Atka Mackerel - Western AI	-	-	-	-	-
Arrowtooth Flounder - BSAI	3.69%	0.82%	0.60%	0.72%	5.83%
Other Flatfish - BSAI	4.70%	0.46%	0.11%	0.31%	5.58%
Flathead Sole - BSAI	3.51%	0.56%	0.39%	0.44%	4.90%
Greenland Turbot - Aleutian Islands	0.06%	-	-	0.15%	0.21%
Greenland Turbot - Bering Sea	3.60%	0.14%	0.05%	0.26%	4.05%
Other Species - BSAI	1.83%	0.39%	0.22%	0.39%	2.83%
Pacific Cod (Fixed Gear) - BSAI	0.01%	-	-	0.05%	0.06%
* P.Cod (Trawl CVs)-BSAI (97 only)	55.06%	5.84%	4.00%	8.01%	72.91%
Pacific Ocean Perch - Bering Sea	9.32%	0.42%	0.28%	0.16%	10.18%
* POP - Central AI (96-97 only)	0.11%	-	-	-	0.11%
*POP - Eastern AI (96-97 only)	0.43%	-	-	0.05%	0.48%
*POP - Western AI (96-97 only)	-	-	-	-	-
Other Rockfish - Aleutian Islands	0.05%	0.05%	-	0.21%	0.31%
Other Rockfish - Bering Sea	2.92%	0.19%	0.10%	0.58%	3.79%
Rock Sole - BSAI	1.57%	0.43%	0.19%	0.36%	2.55%
Sablefish (Trawl Gear) - AI	5.64%	0.09%	-	0.35%	6.08%
Sablefish (Trawl Gear) - Bering Sea	0.06%	-	-	-	0.06%
Sharpchin/Northern Rockfish - AI	0.01%	0.09%	-	0.05%	0.15%
Squid - BSAI	36.49%	1.44%	0.54%	0.38%	38.85%
Shortraker/Rougheye Rockfish - AI	0.11%	-	-	-	0.11%
Other Red Rockfish - Bering Sea	1.88%	0.43%	0.13%	0.36%	2.80%
Yellowfin Sole - BSAI	5.94%	0.81%	0.19%	0.18%	7.12%

Sources: Alaska Department of Fish and Game fish ticket data for inshore deliveries; National Marine Fisheries Service observer data for deliveries at-sea.

* Denotes TAC groups that do not extend throughout entire time period.

[1] The Pacific cod catch history from vessels with less than 1,700 mt of annual average landed pollock catch and at least 30 BSAI Pacific cod landings from 1995-97 are excluded from this table, because they are exempt from the Pacific cod sideboard cap.

Table 11.5a: Catcher Vessel Sideboard Estimates in the Bering Sea and Aleutian Islands Based on 1999 ITACs Published in the March 11, 1999 Federal Register.

	All Fisheries				
Species by TAC Grouping	CV Inshore (90 CVs)	CV to IN/MS (11 CVs)	CV to MS (10 CVs)	CV to CP (7 CVs)	All Fisheries (118 CVs)
Atka Mackerel - Central AI	2	-	-	-	2
Atka Mackerel - Eastern AI	77	5	-	2	84
Atka Mackerel - Western AI	-	-	-	-	-
Arrowtooth Flounder - BSAI	4,214	936	685	822	6,658
Other Flatfish - BSAI	6,152	602	144	406	7,304
Flathead Sole - BSAI	2,306	368	256	289	3,220
Greenland Turbot - AI	2	-	-	4	6
Greenland Turbot - Bering Sea	185	7	3	13	208
Other Species - BSAI	511	109	61	109	790
Pacific Cod (Fixed Gear) - BSAI	8	-	-	42	50
*P. Cod (Trawl CVs)-BSAI (97 only)	21,184	2,247	1,539	3,082	28,052
Pacific Ocean Perch - Bering Sea	111	5	3	2	121
* POP - Central AI (96-97 only)	4	-	-	-	4
* POP - Eastern AI (96-97 only)	13	-	-	1	14
* POP - Western AI (96-97 only)	-	-	-	-	-
Other Rockfish - Aleutian Islands	0	0	-	1	2
Other Rockfish - Bering Sea	9	1	-	2	12
Rock Sole - BSAI	1,601	439	194	367	2,601
Sablefish (Trawl Gear) - AI	32	1	-	2	35
Sablefish (Trawl Gear) - Bering Sea	0	-	-	-	0
Sharpchin/Northern Rockfish - AI	0	3	-	2	5
Squid - BSAI	611	24	9	6	651
Shortraker/Rougheye Rockfish - AI	1	-	-	-	1
Other Red Rockfish - Bering Sea	4	1	0	1	6
Yellowfin Sole - BSAI	10,501	1,432	336	318	12,587

Source: Alaska Department of Fish and Game fish ticket data for inshore deliveries; National Marine Fisheries Service observer data for deliveries at-sea.

* Denotes TAC groups that do not extend throughout entire 1995-97 time period.

Table 11.5b: Catcher Vessel Sideboard Ex-vessel Value ($ million) Estimates in the Bering Sea and Aleutian Islands Based on 1999 ITACs Published in the March 11, 1999 Federal Register, and 1997 PACFIN Ex-vessel Prices.

Species by TAC Grouping	All Fisheries				
	CV Inshore (90 CVs)	CV to IN/MS (11 CVs)	CV to MS (10 CVs)	CV to CP (7 CVs)	All Fisheries (118 CVs)
Atka Mackerel - Central AI	$0.00	-	-	-	$0.00
Atka Mackerel - Eastern AI	$0.02	$0.00	-	$0.00	$0.02
Atka Mackerel - Western AI	-	-	-	-	-
Arrowtooth Flounder - BSAI	$0.33	$0.07	$0.05	$0.07	$0.53
Other Flatfish - BSAI	$1.22	$0.12	$0.03	$0.08	$1.45
Flathead Sole - BSAI	$0.64	$0.10	$0.71	$0.08	$0.89
Greenland Turbot - AI	$0.00	-	-	$0.00	$0.00
Greenland Turbot - Bering Sea	$0.11	$0.00	$0.00	$0.01	$0.13
Other Species - BSAI	$0.01	$0.00	$0.00	$0.00	$0.02
Pacific Cod (Fixed Gear) - BSAI	$0.00	-	-	$0.01	$0.02
*P. Cod (Trawl CVs)-BSAI (97 only)	$9.81	$1.04	$0.71	$1.43	$12.99
Pacific Ocean Perch - Bering Sea	$0.02	$0.00	$0.00	$0.00	$0.02
* POP - Central AI (96-97 only)	$0.00	-	-	-	$0.00
* POP - Eastern AI (96-97 only)	$0.00	-	-	$0.00	$0.00
* POP - Western AI (96-97 only)	-	-	-	-	-
Other Rockfish - Aleutian Islands	$0.00	$0.00	-	$0.00	$0.00
Other Rockfish - Bering Sea	$0.01	$0.00	-	$0.00	$0.01
Rock Sole - BSAI	$0.52	$0.14	$0.06	$0.12	$0.84
Sablefish (Trawl Gear) - AI	$0.16	$0.01	-	$0.01	$0.18
Sablefish (Trawl Gear) - Bering Sea	-	-	-	-	-
Sharpchin/Northern Rockfish - AI	$0.00	$0.00	-	$0.00	$0.00
Squid - BSAI	$0.05	$0.00	$0.00	$0.00	$0.05
Shortraker/Rougheye Rockfish - AI	$0.00	-	-	-	$0.00
Other Red Rockfish - Bering Sea	$0.00	$0.00	$0.00	$0.00	$0.00
Yellowfin Sole - BSAI	$1.81	$0.25	$0.06	$0.05	$2.16
Total	$14.39	$1.01	$0.54	$1.77	$17.71

Source: Alaska Department of Fish and Game fish ticket data for inshore deliveries; National Marine Fisheries Service observer data for deliveries at-sea.

* Denotes TAC groups that do not extend throughout entire 1995-97 time period.

11.2.3.2 BSAI PSC Sideboard Caps

BSAI PSC sideboard caps shall be based on the ratio of landed catch in each non-pollock target fishery to the PSC cap for that target, and shall represent an aggregate cap which is not subdivided among catcher vessel sectors. Based on this formula, preliminary estimates indicate that catcher vessels bound by sideboard caps will be allowed to harvest up to 34 percent of the halibut and crab PSC species allocated to the Pacific cod fishery, 7 percent of those allocations to the yellowfin sole fishery, 4 percent of those allocations to the rock sole/other flatfish/flathead sole fisheries, and 1 percent of those allocations to the Atka mackerel/other groundfish fisheries (after pollock has been excluded). Catcher vessels that were exempted from Pacific cod sideboard caps will not be bound by PSC sideboard caps. They will only be limited by the overall trawl PSC apportionments in the Pacific cod fishery.

As with groundfish sideboards, PSC sideboards are caps, meaning that the AFA catcher vessel fleet is not guaranteed any specific amount of PSC bycatch. Instead they are limited to a fraction of the overall trawl allocation. If an overall trawl PSC cap is reached for any target fishery (or group of target fisheries), the directed fishery will close for all trawl vessels, regardless of whether the AFA vessels have attained their aggregate PSC sideboard cap.

PSC sideboard caps will be implemented only for halibut and crab species. No PSC caps will be set for herring or the salmon species, since bycatch of those species occurs predominantly in the pollock fishery. Instead, AFA catcher vessels will be monitored as part of the overall trawl fleet under the herring and salmon PSC caps.

11.2.4 Gulf of Alaska Sideboard Caps

Like the BSAI sideboard caps, the GOA caps will be based on aggregate landed groundfish catch of AFA catcher vessels between 1995-97 (1997 only for Atka Mackerel), and will be expressed as a percentage of the TAC that was available those years. These percentages will then be multiplied by the TAC set for each species, after the TACs are set in December prior to the start of the next fishing season, to determine the actual harvest amounts that will be available to AFA catcher vessels restricted by sideboard caps.

NMFS was requested to determine the bycatch needs for pollock and non-pollock fisheries and allow for directed fishing such that the total catch of those species should not exceed the sideboard caps, meaning that NMFS will first determine bycatch needs for species that have a sufficient cap to allow for a directed fishery, and the remainder of the cap would be available as a directed fishery allowance. The result of this direction is to indicate the Council's intent that the caps are not intended to be only used as directed fishing caps, but they are also to cover bycatch needs in other directed fisheries.

The sideboard caps shall apply to all AFA vessels participating in the GOA fisheries, regardless of whether the vessels joins a cooperative (unless they 'opt out' or are exempted). Sideboard caps shall be applied throughout the year except that vessels <125' with less than 1,700 mt. of annual average BSAI pollock landed catch history and 40 GOA groundfish landings from 1995-1997 shall be exempt from GOA groundfish sideboards. This exemption differs from the BSAI exemption in that it covers any directed fisheries.

Sideboard caps will be applied at the AFA-eligible catcher vessel sector level in 2000. However, NMFS shall publish the proportion of the cap represented by the aggregate catch history of the vessels in each cooperative, and encourage the formation of an inter-cooperative agreement to monitor the sub-division of the caps at the cooperative level. NMFS shall require each cooperative agreement to contain provisions that would limit its participants to their collective 1995-97 harvest in other fisheries.

11.2.4.1 Gulf of Alaska Groundfish Sideboard Caps

Groundfish sideboard caps in the GOA are based on the amount of groundfish landed by AFA eligible catcher vessels in all target fisheries and is expressed as a ratio relative to the TAC that was available those years. The pollock portion of the sideboards will be apportioned seasonally, based on the percentage of the overall pollock TAC allocated to each quarter. When a vessel is excluded from a cap through an exemption, their catch of species covered under the exemption is not included in the cap calculation, nor will its catch accrue toward the cap.

Note that the number of vessels listed in the column heading is less in the GOA than it was in the BSAI. This is due to not all of the AFA vessels being qualified under LLP in the GOA. Another consideration is that not all vessels qualify in all areas of the GOA under LLP. Recall that licenses will be issued for the Western GOA, Central GOA (including West Yakutat), and Southeast Outside areas.

The estimates of catcher vessel sideboard caps in the GOA presented in Table 11.8a (Table 11.8b reports value estimates), provide insights into which species have adequate caps to support a directed fishery. It is expected that the directed fisheries should include pollock, Pacific cod, and shallow water flatfish. Necessary amounts of Pacific Ocean Perch, various rockfish species, sablefish, and deep water flatfish may be available in some areas, but NMFS will need to make this determination prior to the start of fishing each year.

Pollock sideboard caps are to be subdivided on a seasonal basis. The season dates published in the March 11, 1999 Federal Register notice indicate for 1999 the seasonal allocations will be 30 percent in the A season (opens January 20), 20 percent in the B season (opens June 1), and 25 percent in both the C (opens September 1) and D (opens five days after the C season closes) seasons.

Table 11.6: Landed Catch of All Eligible AFA Catcher Vessels in the Gulf of Alaska (1995-97), by AFA CV Sector

Species by TAC Grouping	AFA CV Harvests				
	CV Inshore	CV to IN/MO	CV to MO	CV to CP	Total
Atka Mackerel - Central Gulf (95-96)	1	2	0	1	4
Atka Mackerel - Gulf of Alaska (1997)	78	0	0	0	78
Atka Mackerel - Western Gulf (95-96)	228	15	0	6	249
Arrowtooth Flounder - Central Gulf	994	546	0	0	1,540
Arrowtooth Flounder - Eastern Gulf	0	23		2	25
Arrowtooth Flounder - Western Gulf	69	2	1	0	72
Deep Water Flatfish - Central Gulf	628	531		0	1,159
Deep Water Flatfish - Eastern Gulf		6		14	20
Flathead Sole - Central Gulf	68	78	0	0	146
Flathead Sole - Eastern Gulf	0	1		5	6
Flathead Sole - Western Gulf	64	1	11	1	77
Northern Rockfish - Central Gulf	294	116		0	410
Northern Rockfish - Eastern Gulf	0	0	0	0	0
Northern Rockfish - Western Gulf	1				1
Other Species - Gulf of Alaska	195	54	1	13	264
Pacific Cod (Inshore) - Central Gulf	3,638	2,039	945	1	6,623
Pacific Cod (Offshore) - Central Gulf		37	314	386	737
Pacific Cod (Offshore) - Eastern Gulf	0	0		6	6
Pacific Cod (Inshore) - Western Gulf	5,059	1,380	673	333	7,445
Pacific Cod (Offshore) - Western Gulf		13	109	527	648
Pelagic Shelf Rockfish - Central Gulf	0	0	0	0	0
Pelagic Shelf Rockfish - Eastern Gulf		1		20	21
Pelagic Shelf Rockfish - Western Gulf	1	0	0	0	1
Pollock - Chirikof District	6,892	438	17	151	7,497
Pollock - Eastern Gulf	2,990	1,123		165	4,278
Pollock - Kodiak	6,355	3,202	1,128	125	10,810
Pollock - Shumagin District	43,319	2,590	447	91	46,446
Pacific Ocean Perch - Central Gulf	286	503	0	0	789
Pacific Ocean Perch - Eastern Gulf	2	1		146	149
Pacific Ocan Perch - Western Gulf	19	0	0	0	19
Rex Sole - Central Gulf	122	71		0	193
Rex Sole - Eastern Gulf	0	8		8	16
Rex Sole - Western Gulf	12	0	0	0	12
Slope Rockfish - Central Gulf	7	2		0	9
Sablefish (Trawl Gear) - Central Gulf	84	84		0	168

Table 11.6 (Continued) Species by TAC Grouping	AFA CV Harvests				
	CV Inshore	CV to IN/MO	CV to MO	CV to CP	Total
Sablefish (Trawl Gear) - Western Gulf	3	0	0	0	3
Sablefish (Trawl Gear) - Western Yakutat		0		10	10
Shallow Water Flatfish - Central Gulf	544	1,075	5	8	1,633
Shallow Water Flatfish - Eastern Gulf	0	8		30	38
Shallow Water Flatfish - Western Gulf	303	11	5	33	352
Shortraker / Rougheye - Central Gulf	43	6		0	49
Shortraker / Rougheye - Eastern Gulf	4	2		10	16
Shortraker / Rougheye - Western Gulf	0	0	0	0	0
Thornyhead - Gulf of Alaska	20	24	0	13	57

Source: Alaska Department of Fish and Game fish ticket data; National Marine Fisheries Service observer data

* Denotes TAC groups that do not extend throughout entire time period.

Note: Excludes catch of GOA exempt vessels

Table 11.7: Percent of TAC Harvested by All Eligible AFA Catcher Vessels in the Gulf of Alaska (1995-97), by AFA Catcher Vessel Sector

Species by TAC Grouping	AFA CV Harvests				
	CV Inshore	CV to IN/MO	CV to MO	CV to CP	All Fisheries
Atka Mackerel - Central Gulf (95-96)	0.05%	0.10%	-	0.03%	0.18%
Atka Mackerel - Gulf of Alaska (1997)	7.80%	-	-	-	7.80%
Atka Mackerel - Western Gulf (95-96)	4.94%	0.32%	-	0.13%	5.39%
Arrowtooth Flounder - Central Gulf	1.33%	0.73%	-	-	2.06%
Arrowtooth Flounder - Eastern Gulf	-	0.15%	-	0.01%	0.16%
Arrowtooth Flounder - Western Gulf	0.46%	0.01%	-	-	0.47%
Deep Water Flatfish - Central Gulf	3.36%	2.84%	-	-	6.20%
Deep Water Flatfish - Eastern Gulf	-	0.06%	-	0.15%	0.21%
Flathead Sole - Central Gulf	0.45%	0.52%	-	-	0.97%
Flathead Sole - Eastern Gulf	-	0.01%	-	0.07%	0.08%
Flathead Sole - Western Gulf	1.07%	0.02%	0.18%	0.02%	1.29%
Northern Rockfish - Central Gulf	2.20%	0.87%	-	-	3.07%
Northern Rockfish - Eastern Gulf	-	-	-	-	-
Northern Rockfish - Western Gulf	0.05%	-	-	-	0.05%
Other Species - Gulf of Alaska	0.50%	0.14%	-	0.03%	0.67%
Pacific Cod (Inshore) - Central Gulf	2.98%	1.67%	0.77%	-	5.42%
Pacific Cod (Offshore) - Central Gulf	-	0.36%	3.07%	3.78%	7.21%
Pacific Cod (Offshore) - Eastern Gulf	-	-	-	0.78%	0.78%
Pacific Cod (Inshore) - Western Gulf	8.90%	2.43%	1.18%	0.59%	13.10%
Pacific Cod (Offshore) - Western Gulf	-	0.20%	1.72%	8.34%	10.26%
Pelagic Shelf Rockfish - Central Gulf	-	-	-	-	-
Pelagic Shelf Rockfish - Eastern Gulf	-	0.03%	-	0.63%	0.66%
Pelagic Shelf Rockfish - Western Gulf	0.04%	-	-	-	0.04%
Pollock - Chirikof District	11.60%	0.74%	0.03%	0.25%	12.62%
Pollock - Eastern Gulf	25.45%	9.56%	-	1.41%	36.42%
Pollock - Kodiak	11.66%	5.88%	2.07%	0.23%	19.84%
Pollock - Shumagin District	58.18%	3.48%	0.60%	0.12%	62.38%
Pacific Ocean Perch - Central Gulf	2.51%	4.41%	-	-	6.92%
Pacific Ocean Perch - Eastern Gulf	0.03%	0.02%	-	2.20%	2.25%
Pacific Ocan Perch - Western Gulf	0.51%	-	-	-	0.51%
Rex Sole - Central Gulf	0.74%	0.43%	-	-	1.17%
Rex Sole - Eastern Gulf	-	0.13%	-	0.13%	0.26%
Rex Sole - Western Gulf	0.43%	-	-	-	0.43%
Slope Rockfish - Central Gulf	0.32%	0.09%	-	-	0.41%
Sablefish (Trawl Gear) - Central Gulf	1.92%	1.92%	-	-	3.84%
Sablefish (Trawl Gear) - Western Gulf	0.23%	-	-	-	0.23%
Sablefish (Trawl Gear) - Western Yakutat	-	-	-	2.36%	2.36%
Shallow Water Flatfish - Central Gulf	1.40%	2.77%	0.01%	0.02%	4.20%
Shallow Water Flatfish - Eastern Gulf	-	0.23%	-	0.83%	1.06%

Table 11.7 (Continued).	AFA CV Harvests				
Species by TAC Grouping	CV Inshore	CV to IN/MO	CV to MO	CV to CP	All Fisheries
Shallow Water Flatfish - Western Gulf	2.24%	0.08%	0.04%	0.24%	2.60%
Shortraker / Rougheye - Central Gulf	1.27%	0.18%	-	-	1.45%
Shortraker / Rougheye - Eastern Gulf	0.26%	0.13%	-	0.66%	1.05%
Shortraker / Rougheye - Western Gulf	-	-	-	-	-
Thornyhead - Gulf of Alaska	0.41%	0.50%	-	0.27%	1.18%

Source: Alaska Department of Fish and Game fish ticket data; National Marine Fisheries Service observer data

* Denotes TAC groups that do not extend throughout entire time period.

Note: Excludes catch of GOA exempt vessels

Table 11.8a: Estimated Gulf of Alaska Sideboards (in mt) Based on 1999 TACs

Species by TAC Grouping	AFA CV Harvests				
	CV Inshore	CV to IN/MO	CV to MO	CV to CP	All Fisheries
Atka Mackerel - Gulf of Alaska (1997)	47				47
Arrowtooth Flounder - Central Gulf	333	183			515
Arrowtooth Flounder - Eastern Gulf		8		1	8
Arrowtooth Flounder - Western Gulf	23	1			24
Deep Water Flatfish - Central Gulf	92	78			170
Deep Water Flatfish - Eastern Gulf		2		5	6
Flathead Sole - Central Gulf	23	26			49
Flathead Sole - Eastern Gulf		0		1	2
Flathead Sole - Western Gulf	21	0	4	0	26
Northern Rockfish - Central Gulf	91	36			127
Other Species - Gulf of Alaska	73	20		4	98
Pacific Cod (Inshore) - Central Gulf	1,024	574	264		1,862
Pacific Cod (Offshore) - Central Gulf		12	105	130	248
Pacific Cod (Inshore) - Western Gulf	1,633	446	217	108	2,404
Pacific Cod (Offshore) - Western Gulf		4	32	153	188
Pelagic Shelf Rockfish - Eastern Gulf		0		6	6
Pollock - Chirikof District	4,505	287	12	97	4,902
Pollock - Eastern Gulf	2,148	807		119	3,074
Pollock - Kodiak	3,559	1,795	632	70	6,055
Pollock - Shumagin District	13,451	805	139	28	14,422
Pacific Ocean Perch - Central Gulf	170	298			468
Pacific Ocean Perch - Eastern Gulf	1	1		88	90
Pacific Ocan Perch - Western Gulf	9				9
Rex Sole - Central Gulf	41	24			64
Rex Sole - Eastern Gulf		3		3	6
Rex Sole - Western Gulf	5				5
Slope Rockfish - Central Gulf	2	1			3
Sablefish (Trawl Gear) - Central Gulf	21	21			43
Sablefish (Trawl Gear) - Western Gulf	1				1
Sablefish (Trawl Gear) - W Yakutat				6	6
Shallow Water Flatfish - Central Gulf	181	359	1	3	544
Shallow Water Flatfish - Eastern Gulf		3		11	14
Shallow Water Flatfish - Western Gulf	101	4	2	11	117
Shortraker / Rougheye - Central Gulf	12	2			14
Shortraker / Rougheye - Eastern Gulf	1	1		3	5
Thornyhead - Gulf of Alaska	8	10		5	23

Source: Alaska Department of Fish and Game fish ticket data; NMFS observer data

* Denotes TAC groups that do not extend throughout entire time period.

Note: Excludes catch of GOA exempt vessels

Table 11.8b: Value Estimtates of Catcher Vessel Sideboards ($ Million) -- Based on 1999 Gulf of Alaska TACs and 1997 PACFIN Ex-vessel Prices

Species by TAC Grouping	CV Inshore	CV to IN/MS	CV to MS	CV to CP	All Vessels
*Atka Mackerel - GOA (1997)	$0.02	-	-	-	$0.02
Arrowtooth Flounder - C. Gulf	$0.03	$0.01	-	-	$0.04
Arrowtooth Flounder - E. Gulf	-	$0.00	-	$0.00	$0.00
Arrowtooth Flounder - W. Gulf	$0.00	$0.00	-	-	$0.00
Deep Water Flatfish - C. Gulf	$0.03	$0.03	-	-	$0.06
Deep Water Flatfish - E. Gulf	-	$0.00	-	$0.00	$0.00
Flathead Sole - C. Gulf	$0.01	$0.01	-	-	$0.01
Flathead Sole - E. Gulf	-	$0.00	-	$0.00	$0.00
Flathead Sole - W. Gulf	$0.01	$0.00	$0.00	$0.00	$0.01
Northern Rockfish - C. Gulf	$0.03	$0.01	-	-	$0.04
Northern Rockfish - W. Gulf	$0.00	-	-	-	$0.00
Other Species - GOA	$0.01	$0.00	-	$0.00	$0.01
Pacific Cod (Inshore) - C. Gulf	$0.47	$0.27	$0.12	$0.00	$0.86
Pacific Cod (Offshore) - C. Gulf	-	$0.01	$0.05	$0.06	$0.11
Pacific Cod (Inshore) - E. Gulf	$0.01	$0.00	$0.00	$0.00	$0.01
Pacific Cod (Inshore) - W. Gulf	$0.76	$0.21	$0.10	$0.05	$1.11
Pacific Cod (Offshore) - W. Gulf	-	$0.00	$0.01	$0.07	$0.09
Pelagic Shelf Rockfish - E. Gulf	-	$0.00	-	$0.00	$0.00
Pollock - Chirikof District	$0.99	$0.06	$0.00	$0.02	$1.08
Pollock - E. Gulf	$0.47	$0.18	-	$0.03	$0.68
Pollock - Kodiak	$0.78	$0.40	$0.14	$0.02	$1.33
Pollock - Shumagin District	$2.97	$0.18	$0.03	$0.01	$3.18
Pacific Ocean Perch - C. Gulf	$0.03	$0.05	$0.00	$0.00	$0.07
Pacific Ocean Perch - E. Gulf	$0.00	$0.00	-	$0.01	$0.01
Pacific Ocan Perch - W. Gulf	$0.00	-	-	-	$0.00
Rex Sole - C. Gulf	$0.02	$0.01	-	-	$0.03
Rex Sole - E. Gulf	-	$0.00	-	$0.00	$0.00
Rex Sole - W. Gulf	$0.00	-	-	-	$0.00
Slope Rockfish - C. Gulf	$0.00	$0.00	-	-	$0.00
Sablefish (Trawl Gear) - C. Gulf	$0.08	$0.08	-	-	$0.17
Sablefish (Trawl Gear) - W. Gulf	$0.00	-	-	-	$0.00
Sablefish (Trawl Gear) - W. Yakutat	-	-	-	$0.02	$0.02
Shallow Water Flatfish - C. Gulf	$0.09	$0.17	$0.00	$0.00	$0.26
Shallow Water Flatfish - E. Gulf	-	$0.00	-	$0.01	$0.01
Shallow Water Flatfish - W. Gulf	$0.05	$0.00	$0.00	$0.01	$0.06
Shortraker / Rougheye - C. Gulf	$0.00	$0.00	$0.00	$0.00	$0.00
Shortraker / Rougheye - E. Gulf	$0.00	$0.00	$0.00	$0.00	$0.00
Thornyhead - GOA	$0.01	$0.01	-	$0.00	$0.03
Total	$6.68	$1.69	$0.46	$0.31	$9.32

Source: ADF&G fish ticket data; National Marine Fisheries Service observer data, 1997 PACFIN Price data

Note: The catch of exempt vessels was excluded.

11.2.4.2 GOA PSC Sideboards Caps

PSC sideboard caps for halibut in the GOA will be set equal to the percentage of groundfish landed, relative to TAC, aggregated by the deep[5] and shallow[6]-water PSC complexes. To calculate the halibut sideboard caps, first the overall trawl halibut allowances will be seasonally apportioned. Then the percentage of groundfish landed by the AFA fleet relative to the TAC, for the deep and shallow-water complexes seperately, will be multiplied by the seasonal apportionment of halibut to determine the tons of halibut they will be constrained by during that season.

A preliminary estimate for the deep-water complex indicates that AFA catcher vessels will be capped at 7 percent of the seasonal halibut sideboards (Table 11.9). The shallow-water cap would be set at 34 percent of the seasonal halibut apportionments, if pollock is included in the calculation. Because pollock is not an AFA species in the Gulf, including those landings in the calculation may be appropriate. Had pollock been excluded, the shallow-water halibut cap would be approximately half (16 percent) of the original estimate. Reducing the halibut cap by half would likely leave little halibut available for the directed fisheries other than pollock in the shallow-water PSC complex. According to information presented in Table 11.8b, pollock accounts for about two-thirds of the overall sideboard value, $6.27 million. The remaining species account for the other $3.05 million.

Attainment by the entire fleet of any PSC cap will close directed fishing to all trawl vessels, even if the AFA vessels have not attained their aggregate PSC cap. This is consistent with the concept that sideboards are caps and not allocations to the AFA fleet.

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[5]Deep-water species complex is comprised of sablefish, all rockfish targets, deep-water flatfish, rex sole, and arrowtooth flounder.

[6]Shallow-water species complex is comprised of pollock, Pacific cod, shallow-water flatfish, flathead sole, Atka mackerel, and "other species".

Table 11.9: Estimates of halibut PSC caps for AFA vessels in the GOA by season, based on 1999 apportionments

Complex	Jan 20 - Mar 31	Apr 1 - Jul 3	Jul 4 - Sep 30	Oct 1 - Dec 31	Total
Overall Trawl Apportionment					
Deep	100	300	400	400	1,000*
Shallow	500	100	200		1,000*
Total	600	400	600	400	2,000
Estimated AFA Sideboard Caps					
Deep	7	21	28	82*	70*
Shallow	170	34	68		340*
Total	177	55	96	82	410*

* Assumes that the 400 mt of halibut in the 4th quarter is equally divided between the deep and shallow-water complexes.

Note: The AFA vessels were capped at 7 percent of the deep-water complex trawl apportionment and 34 percent of the shallow-water complex trawl apportionment.

11.2.5 Summary of Catcher Vessel Sideboards

The sideboard caps designed by the Council should effectively limit any adverse impacts caused by cooperatives on non-AFA vessels, as mandated by the Act. This was the overarching purpose of developing sideboard restrictions for the catcher/processors and catcher vessels in the AFA fleet. In general the non-AFA vessels were concerned that allowing the AFA pollock fleet to change their harvest strategies in the BSAI pollock fishery would allow them to concentrate more effort in other fisheries. This additional effort would be to the detriment of the other vessels that had traditionally relied on those fisheries.

Using landed catch as a proxy for catch history will reduce the amount of every species available to the AFA fleets under the sideboard caps, relative to using total catch. Estimating the impacts of using retained catch versus total catch requires assumptions regarding future prices, discard rates, and harvests within the sideboard caps. Given the uncertainty associated with making these assumptions, the reliability of the estimates must be considered by the reader and should be treated as directional trends and not point estimates. However, it is very likely that using retained catch will reduce gross revenues for the AFA catcher vessels, since not all of the fish will be sold.

A summary of the changes was provided earlier in this chapter. Species discarded at the highest rates will be most impacted in terms of overall sideboard amounts. Yet many of the species with high discard rates were not taken in directed fisheries by the AFA fleet, or at least the directed fisheries were minimal. Therefore it is doubtful NMFS would have opened directed fisheries for those species even had total catch been used to determine the sideboards, since they would need to be set aside for bycatch in other directed fisheries.

Species harvested in directed fisheries generally had the lower discard rates. This makes intuitive sense. If you are trying to catch a species you are less likely to throw it back. Still there will be reductions in the amounts of species taken in directed fisheries that AFA vessels may harvest. Reductions in directed fisheries amounts of fish a particular sector can harvest may lead to reduced revenues, if prices are not affected, by allowing the

other vessels to harvest the AFA fleet's catch history that was discarded at-sea. This will likely result in a redistribution of revenue among members of the AFA and Non-AFA fleets.

It is difficult to determine if the overall benefits accruing to the AFA fleet from having pollock cooperatives will out-weigh any net revenue losses resulting from the sideboard restrictions being imposed. However, it is known that these vessels have primarily fished the pollock and Pacific cod fisheries in the past and they will continue to have access to the BSAI pollock fishery and about 73 percent of the BSAI Pacific cod catcher vessel trawl allocation. They also will be allowed to harvest about 10 percent of the GOA Pacific cod (slightly higher or lower depending on the area) and 13 to 62 percent of the GOA pollock (again depending on the area). Those catcher vessels that had limited amounts of catch history in pollock were exempted from Pacific cod sideboard restrictions in the BSAI, and Pacific cod, pollock, and other GOA directed fisheries they participated. AFA vessels that historically fished opilio crab (fished at least four years from 1988-97) were also exempted from that cap. They were allowed to continue fishing for opilio with no catch limit restrictions.

Calculating "net benefits to the Nation" resulting from these decisions is not possible. Net benefit calculations require data that are currently not available to the analysts. Additional information on costs and price/quantity relationships would be needed. However, it is reasonable to assume that the positive benefits resulting from the formation of cooperatives in the pollock fishery, where buyers and sellers share market power, and may exploit economic efficiencies not available in an "open-access" management setting, are greater than any losses generated by sideboard restrictions. It is also true that gaines/losses in this case are primarily distributional in nature, and that "net" effects of sideboards will likely tend to be close to neutral overall (all other factors being equal).

The Council decision to exempt certain vessels from the sideboards is not expected to result in the AFA vessels (both exempt and non-exempt) exceeding the overall catch historically accounted for by these vessels. The requirements for the exemptions result in a small number of vessels being exempt, and these vessels were traditionally involved to a greater extent in non-pollock fisheries than in the pollock fisheries. Finally, the Council's recommended exemptions are also responding to Section 213 of the Act, which allows management actions to mitigate adverse impacts on owners of fewer than three vessels. Without such exemptions these vessels would likely be adversely impacted to the extent they may not be able to harvest their historical share of the non-pollock species.

11.3 Non-Sideboard Decisions

The Council also selected preferred alternatives for several non-sideboard issues. Included in this suite of decisions are compensation measures for determining pollock catch history for inshore catcher vessels, conformance measures with Inshore-Offshore 3 amendment package, and clarification of the single geographic location definition for inshore processors.

11.3.1 Compensation for Inshore Catcher Vessels in the Pollock Fishery

Two compensation measures were approved by the Council. The first would allow catcher vessels that qualify for the inshore sector to count BSAI pollock catch delivered to catcher/processors, as if it were delivered inshore, when determining the percentage of the inshore quota they are allowed to take into a cooperative. To qualify to bring this catch history inshore, the vessel must have delivered at least 499 mt. of pollock to catcher/processors from 1995-97. If that criteria is met, the catcher vessel can add that pollock catch to the pollock delivered inshore that year. Preliminary estimates indicate that the catcher vessels that do not meet this

landing requirement, i.e. receiving no compensation, would have their pollock allocation reduced by about five percent.

The second compensation measure allows inshore catcher vessels to use there best two years of pollock catch history, from 1995-97, to determine their percentage of the inshore quota. The best two years would be determined after any compensation from deliveries made to catcher/processors in a year was added into that years inshore delivery total. Summing a catcher vessel's best two years generates the numerator for determining a vessel's percentage of the inshore quota. The denominator is calculated by summing the best two years of catch history for all inshore catcher vessels, whether they are AFA qualified or not. Once this calculation is done, any portion of the inshore catch history not assigned to the AFA vessels would go into the "open access" portion of the inshore pollock fishery. Preliminary estimates indicate that about 0.4 percent of the inshore allocation would default to the "open access" pool using this method. The Figure 10.1 in chapter 10 shows the distribution of "winners" and "losers" by using the best two of three year formula.

11.3.2 AFA and Inshore-Offshore 3 Conformance Measures

Several amendments were passed to make the AFA and Inshore-Offshore 3 programs consistent. In general, these amendments are minor decisions in that they are required or they are technical in nature.

The BSAI pollock allocation percentages where changed to those mandated by the Act. AFA defined those allocations to be 50 percent to the inshore sector, 40 percent to the catcher/processor sector, and 10 percent to the mothership sector, after accounting for bycatch needs in other directed fisheries and the 10 percent CDQ allocation. Other activities were primarily to achieve consistency in definitions contained in the AFA and those in the Magnuson-Stevens Act or existing regulation.

The original Inshore-Offshore directed fishing definitions applied equally in both the BSAI and the GOA. The AFA definitions, however, specifically apply only to Inshore-Offshore fish harvested in the BSAI. Therefore the Council voted to apply the same directed fishing harvest definitions to pollock in the BSAI and GOA, as was used in the original Inshore-Offshore program. The substantive effect of this alternative would apply only to pollock harvests; not Pacific cod, because Pacific cod is an Inshore-Offshore species only in the GOA. Pollock is an Inshore-Offshore species in both areas. Hence, the Inshore-Offshore definitions would apply to pollock regardless of from which area it was harvested.

The "shoreside processor" definition should apply to the processing of "groundfish," as that term is defined in the Magnuson-Stevens Act, and groundfish implementing regulations. This decision should resolve a technical inconsistency between the I-O definitions used by the AFA for the BSAI and those used by the Federal groundfish regulations for the GOA. This decision also would facilitate single I-O definitions that would be consistent in both areas.

The AFA definition of "shoreside processor" is slightly different from the one used in the Federal groundfish regulations. This results in different meanings of the term being applied in the BSAI and in the GOA. The differences are that the AFA definition refers to "fish" while existing groundfish regulations refer to "groundfish" in two places. The Magnuson-Stevens Fishery Conservation and Management Act (at section 3) defines "fish" as including all forms of marine animal and plant life other than marine mammals and birds. "Groundfish," on the other hand is defined in the regulations as including only those fish for which harvest limits are annually specified pursuant to 50 CFR 679.20(a). Hence, a processor that processes only salmon and crab harvested in the BSAI, for example, would be a "shoreside processor" under the AFA but not under the regulations at 50 CFR part 679. The effect of the Council choosing their preferred alternative should be

to prevent the provisions of the AFA from applying to salmon and crab harvested in the BSAI, for example. The AFA section 208(f) provisions would be unaffected because pollock is both a "fish" under the Magnuson-Stevens Act and a "groundfish" under the Federal regulations. Consistent application of the term "shoreside processor" should enhance consistent application of the Inshore-Offshore provisions.

11.3.2.1 Single Geographic Location

The Council also voted to restrict inshore floating processors to operating in a single geographic location in State waters of the BSAI during a fishing year in which they process pollock from the directed BSAI pollock fishery. This is consistent with historic Inshore-Offshore requirements that limited inshore floating processors to a single geographic location each year in the BSAI. They will be allowed to select a new location at the start of the next fishing year, but they will be required to remain at that location for the entire year. This regulation will prevent the two AFA floating processors from gaining an economic advantage over shorebased processors that were restricted to process pollock at the same plants that they used to process pollock during 1996-97.

The Council defined "shoreside processor", for purposes of implementing the AFA, to mean the physical plant of a shoreside processor, and limit a shoreside processor that qualifies under AFA section 208(f) to receive pollock harvested in the BSAI only at the same physical location at which that shoreside processor's plant processed pollock from the directed fishery during the qualifying years of 1996 and 1997. This will prevent shoreside processors from moving pollock processing activities to plants that did not process pollock in 1996-97.

Lastly, the Council approved extending the sunset date of the current pollock and Pacific cod allocations in the GOA FMP past the current sunset of December 31, 2001 to December 31, 2004. This latter date conforms with the sunset date for Bering Sea/Aleutian Islands pollock allocations mandated by the American Fisheries Act of 1998 (Appendix V). Inshore/Offshore (I/O) allocations of the BSAI and GOA pollock TAC and GOA Pacific cod TAC were originally established under Amendments 18/23 (I/O1) to the BSAI and GOA FMPs, respectively, for 1993-95. The allocations were extended by the Council in Amendments 38/40 (I/O2) to the respective FMPs for 1996-98. In June 1998, the Council recommended another extension of the GOA allocations under Amendment 51 (I/O3). All three amendment packages contained "sunset" provisions, requiring the Council to reexamine the allocations in three years, or see them expire. The Council has linked the sunset dates for BSAI and GOA inshore/offshore allocations since 1992 under all three Inshore/Offshore amendments (GOA Amendments 23, 40, and 51).

The EA/RIR/IRFAs for GOA Amendments 23, 40, and 51 are included here by reference. The Council's preferred alternative to extend the GOA inshore/offshore allocations through December 2004 is within the scope of the EA/RIR for Amendments 51/51. This action is also analyzed in the Public Review Draft of the EA/RIR/IRFA for Amendments 62/62 (NPFMC 1999) (now withdrawn). Upon advice by NMFS, the Council's preferred action for extending the GOA FMP sunset date for pollock and cod allocations is incorporated into this EA/RIR/IRFA because of the interrelatedness of these issues.

Current and potential preemption of resources by one industry sector over another was a focal issue for the Council with regard to setting the original inshore and offshore allocations of pollock and Pacific cod in the GOA and pollock in the BSAI. Though not necessarily a problem at that time in the BSAI, it was apparent that the capacity of the offshore catcher/processor fleet posed a real preemption threat to the inshore processing industry, which relied heavily on the pollock resource. During a series of meetings beginning in 1989, the Council and industry developed analyses of various alternative solutions to the preemption problem and set allocations of pollock and Pacific cod in the GOA and pollock in the BSAI in three separate inshore/offshore

amendment packages described above. The inshore-offshore allocation issue became an integral part of the overall effort towards addressing overcapitalization in North Pacific groundfish fisheries beginning in 1992.

Two other management actions (BSAI pollock allocations and vessel replacement restrictions) in the now withdrawn draft EA/RIR/IRFA for Amendment 62/62 have also been incorporated into the current EA/RIR/IRFA for Amendment 61/61 (Amendment 62/62 is renamed and included in Appendix V) and are addressed in the rulemaking associated with this amendment package. The Council approved changing the current inshore/offshore directed pollock allocations in the Bering Sea/Aleutian Islands FMP to conform with those allocations mandated by the AFA. At the same meeting, upon advice by NMFS that the proposed Council action for vessel replacement restrictions may result in a conflict between License Limitation Program and American Fisheries Act requirements, the Council took no action on changing the FMP language on this issue. NMFS is addressing vessel replacement requirements to conform with the AFA in the rulemaking associated with this amendment package.

11.4 Other AFA Requirements

To accurately monitor the removals of pollock and non-pollock species by members of cooperatives, NMFS will be implementing the scale and observer requirements mandated for catcher/processors by the AFA. These requirements will be implemented via regulation based on direction from Congress, since the Council took no formal action. Two observers will be required to be onboard a catcher/processor at all times while groundfish is being harvested, processed, or received from another vessel in any fishery under the authority of the Council. CDQ trained observers will likely be required to work aboard AFA catcher/processors. Currently it is unknown if adequate numbers of observers with this specialized training are available. NMFS certified scales were required for weighing fish onboard AFA catcher/processors that harvest CDQ pollock beginning on January 1, 1999. The remaining AFA catcher processors will be required to use NMFS certified scales starting on January 1, 2000.

NMFS also intends to implement the inshore pollock cooperatives for the year 2000 according to the structure prescribed in the AFA, which ties harvest vessels to deliver to specific processing plants. This issue is still being reviewed by the Council. Further discussion of pollock cooperative structure alternatives is contained in Chapter 12, and in Appendix IV.

Another issue for which a Council decision is pending is that of processor sideboards. For year 2000, NMFS intends to implement crab processing sideboards as directed by the AFA. Chapter 8 contains a detailed description of that mandate, as well as alternatives for crab and groundfish processing sideboards, which may be approved by the Council at a latter date.

The Council also provided direction on the contents of cooperative agreements and when they are to be submitted. The direction given by the Council is as follows:

1) Cooperative agreements may be one to six years in duration, but must be review annually by the Council if they are more than one year in duration. The Council's intent was that this was considered to be a post- season performance review.

2) Cooperative agreements, regardless of duration, must be submitted to the Council by December 1, of the year prior to the start of fishing.

3) Prohibit cooperative agreements from requiring cooperative vessels to deliver species other than BSAI pollock to their AFA processor.

4) Cooperative agreements shall require the disclosure of catch and bycatch statistics.

11.5 Final Motion as Passed by the Council (including actions thru December 1999)

Previous sections described the Council's Preferred alternatives. The actual motion as passed is included here for reference.

Council Actions on American Fisheries Act Issues

General : (1) NMFS will manage all fisheries such that sideboards and PSC caps are not exceeded.
(2) all sideboard calculations will be based on best estimates of landed catch.

Catcher Processor Sideboards

Groundfish:

1. Non-pollock groundfish caps (other than Atka mackerel in the central and western Aleutians) for listed vessels will be established on the basis of the percent of landed groundfish catch relative to TAC (of the original 29 vessels) in the pollock and non-pollock fisheries in 1995, 96, and 97 (for Pacific cod, 1997 only; for POP in the Aleutians, 1996 and 1997).
2. NMFS will determine the bycatch needs for pollock and non-pollock fisheries and allow for directed fishing for non-pollock target species such that the total catch of those species should not exceed the caps.

PSC Caps:

1. Total PSC cap for listed vessels will be established on the basis of percentage of PSC removals in the non-pollock groundfish fisheries in 1995, 96, and 97.
2. NMFS will allow for directed fishing of non-pollock species such that the total PSC removals do not exceed the PSC cap.
3. The listed vessels' PSC caps will not be apportioned and will be managed under open access season apportionment closures.

Catcher processor sideboards for both groundfish and PSC caps are a package and disapproval of any component would be disapproval of the whole package and returned to the Council for further action.

Catcher Vessel Sideboards

BSAI Groundfish Sideboards

1. Shall be based on vessel catch between 1995-97. (1997 for P. cod)
2. Shall be based on non-pollock catch in pollock and non-pollock targets, as a ratio of the AFA vessels' catch to TAC.

3. NMFS will determine the bycatch needs for pollock and non-pollock fisheries and allow for directed fishing for non-pollock target species such that the total catch of those species should not exceed the caps.
4. Shall apply to all AFA eligible vessels regardless of participation in a co-op.
5. Shall apply at the AFA CV sector level in 2000. However, NMFS shall publish the proportion of the cap represented by the aggregate catch history of the vessels in each co-op, and facilitate the formation of an interco-op agreement to monitor the subdivision of the caps at the co-op level. NMFS shall require each co-op agreement to contain provisions that would limit its participants to their collective 1995-97 harvest in other fisheries.
6. Shall be applied throughout the year, except:
   a. Mothership sector qualified AFA vessels' (21 vessels) CV trawl P. cod sideboards shall be lifted March 1;
   b. Vessels with less than 1700 mt of annual average landed BSAI pollock catch history and with at least 30 BSAI P. cod landings from 1995-1997, shall be exempt from the catcher vessel trawl P. cod sideboard cap.

BSAI PSC Sideboard Caps

1. Shall be based on the ratio of catch in each non-pollock target to the PSC cap for that target, and shall represent an aggregate cap (as with the AFA CP sector).
2. Attainment by the entire fleet of any PSC cap in any target fishery will close directed fishing to all trawl vessels, even if the AFA vessels have not attained their aggregate PSC cap.
3. PSC species limited to crab and halibut.

GOA Groundfish Sideboards

1. Shall be based on vessel landed groundfish catch between 1995-97.
2. Shall be based on non-pollock landed groundfish catch in non-pollock targets as a ratio of the AFA vessels' catch to TAC.
3. Shall be based on the landed pollock catch in the pollock target as a ratio of the AFA vessels' catch to TAC, and shall be apportioned seasonally.
4. NMFS will determine the bycatch needs for pollock and non-pollock fisheries and allow for directed fishing for non-pollock target species such that the total catch of those species should not exceed the caps.
5. Shall apply to all AFA vessels.
6. Shall apply at the AFA-eligible catcher vessel sector level in 2000. However, NMFS shall publish the proportion of the cap represented by the aggregate catch history of the vessels in each co-op, and encourage the formation of an inter-co-op agreement to monitor the sub-division of the caps at the co-op level. NMFS shall require each co-op agreement to contain provisions that would limit its participants to their collective 1995-97 harvest in other fisheries.
7. Shall be applied throughout the year except vessels with less than 1700 mt of annual average BSAI pollock landed catch history and with at least 40 GOA groundfish landings from 1995-1997, shall be exempt from GOA groundfish sideboards.

GOA PSC Sideboards Caps

1. Shall be based on the ratio of catch in each non-pollock target to the PSC cap for that target, and shall represent an aggregate cap, sub-divided into deep and shallow water flats.
2. Attainment by the entire fleet of any PSC cap in any target fishery will close directed fishing to all trawl vessels, even if the AFA vessels have not attained their aggregate PSC cap.
3. Shall be apportioned seasonally.

Scallop Sideboards

1. Participation in a co-op is defined as any use of a vessel's catch history by a co-op, whether by direct harvest, lease, sale, or stacking of quota.
2. Measures that would restrict pollock co-op vessels to their aggregate traditional harvest in the scallop fishery in 1997 based on a percentage of the upper end of the state-wide guideline harvest level. The cap would be this percentage applied to the upper end of the state-wide guideline harvest level established each year.

Crab Sideboards

A. Crab Sideboards shall apply to all AFA vessels.

B. Bristol Bay Red King Crab (BBRKC)

1. These AFA vessels that hold a BBRKC endorsement shall be capped at their 5-year (91-97, excluding 94-95) weighted average share. These vessels shall be managed in the aggregate.
2. This share of future catch shall apply to the pre-season BBRKC GHL.

C. Opilio — AFA LLP Alternative 9 Tanner crab endorsed vessels may participate in the opilio fishery if they harvested opilio in more than 3 of 10 years (88-97).

D. Bairdi

1. AFA qualified vessels that receive an LLP endorsement are excluded from participating in the directed bairdi fishery, except as follows: If and when the bairdi rebuilding goal is reached, the only AFA vessels allowed to participate would be those with catch history in 1995 or 96. These vessels would be capped at their aggregate historic catch for 1995-96.

2. If there is a BBRKC fishery where bairdi bycatch is allowed, the AFA Tanner crab endorsed vessels may retain bycatch bairdi.

E. AFA LLP Alternative 9 vessels which hold a LLP endorsement for either the St. Matthews or Pribilof king crab, and had a landing in that fishery in 1995, 96 or 97, may participate in that fishery. For Adak red king crab and brown crab fisheries a qualified vessel which had a landing in the last two years the fishery was open may participate in those fisheries.

F. Prohibit the sale, lease, transfer or stacking of crab LLP licenses or endorsements by AFA-eligible catcher vessels.

Non-Sideboard decisions

Compensation in Shoreside Sector Co-ops

1. Provide compensation to vessels with offshore history greater than 499 tons (as per Table 10.5).
2. Utilize the best 2 of 3 years to determine the share of the inshore pollock allocation each vessel brings to a co-op.

AFA Conformance Measures (Amendments 62/62)

Action 1, Alternative 2 Change the current inshore/offshore directed pollock allocations in the BSAI FMP to conform with those allocations mandated by the American Fisheries Act of 1998.

Action 2, Alternative 2 Extend the sunset date of the current pollock and Pacific cod allocations in the GOA FMP to conform with the date mandated for the Bering Sea/Aleutian Islands area in the American Fisheries Act of 1998.

Action 3, Alternative 1 No action. Do not change vessel replacement restrictions in the BSAI FMP.

Additionally:

1. Conforming the definitions of directed pollock harvest in the GOA and BSAI so that they are the same.
2. Substituting the term "groundfish" for "fish" in the AFA definition of "shoreside processor."
3. Applying the inshore/offshore restrictions only to directed fishing for pollock in the BSAI and GOA, and directed fishing for P. cod in the GOA. However, for the purpose of GOA catch accounting, all processors will be categorized "inshore" or "offshore."

Clarify that "shoreside processor" for purposes of Section 208(f) of the AFA means only the physical facility or vessel which processed pollock in the qualifying years 1996 and 1997, and not the entire corporate entity which owns or controls that facility or vessel.

Single Geographic Location

Restrict floating inshore processors to operating in a single geographic location in state waters of the BSAI during a fishing year in which they process pollock from the directed BSAI pollock fishery (i.e., can change location from year to year, but not in-season).

AFA Processor Sideboards for Crab

1. Adopt a single aggregate processing cap that would apply to all processing facilities owned by inshore or mothership sector AFA entities if they receive pollock from a cooperative.
   - A. NMFS will determine which processing facilities are owned by inshore or mothership AFA entities using the "limited 10% rule"
   - B. Owners of inshore or mothership AFA pollock facilities that process crab under the Council's jurisdiction would be required to identify to NMFS as part of their processing permit requirements any processing facilities in which the owner has 10% or more interest using the limited 10% rule.

2. A processing facility is any plant or US documented vessel that processes crab under the jurisdiction of the North Pacific Fishery Management Council.

3. Only the limited 10% rule will be used in determining AFA entities for purposes of the historic processing cap.

4. AFA catcher processors would not be subject to additional processing sideboards.

5. The historic processing cap would be determined annually based on the average of the 1995-1997 processing history of US documented processing vessels and processing plants owned by inshore and mothership AFA entities at the start of the fishing year.

   A. If an inshore or mothership AFA entity sells a crab processing facility to a non-AFA entity, or if a processing vessel is no longer US documented, the 1995-1997 average processing history of that plant or vessel is removed from the historic processing cap. Likewise, if an inshore or mothership AFA entity buys a non-AFA processing plant or US documented vessel, then the 1995-1997 average processing history of that plant or vessel is added to the historic processing cap.
   B. The historic processing cap would be determined based on the percentage of the catch processed by inshore or mothership AFA entities.
   C. There would be no cap for undeveloped species or species without a current GHL.
   D. The cap would apply year around.

AFA Processor Sideboards for Groundfish

Action by the Council on groundfish processing sideboards has been deferred to the April 2000 meeting, where they will also decide on **BSAI pollock processing excessive share caps.**

Cooperative Agreements and Council Review

1. Cooperative agreements may be one to six years in duration, but must be review annually by the Council if they are more than one year in duration. The Council's intent was that this was considered to be a post- season performance review.

2. Cooperative agreements, regardless of duration, must be submitted to the Council by December 1, of the year prior to the start of fishing.

3. Prohibit cooperative agreements from requiring cooperative vessels to deliver species other than BSAI pollock to their AFA processor.

4. Cooperative agreements shall require the disclosure of catch and bycatch statistics.

12.0 CONSISTENCY WITH OTHER APPLICABLE LAW

12.1 Regulatory Impact Review - Summary of Analysis in Chapters 4 through 11

The National Marine Fisheries Service (NMFS) requires the preparation of a Regulatory Impact Review (RIR) for all regulatory actions that either implement a new FMP or significantly alter an existing plan or regulations. The RIR is intended to provide a review of the changes in net and distributional benefits to society associated with proposed regulatory action, as well as a review of the problems and policy objectives prompting the action. The purpose is to ensure that the regulatory agency considers all available (reasonable) alternatives so that public welfare can be enhanced in the most efficient and cost-effective way. The RIR addresses many of the items in the regulatory philosophy and principle of Executive Order 12866. E.O. 12866 requires that the Office of Management and Budget (OMB) review proposed regulatory programs that are considered to be significant. A 'significant' regulatory action is one that is likely to:

1. Have an annual effect on the economy of $100 million or more, or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities.

2. Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency.

3. Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof, or

4. Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order.

A statement of the problem and need for action relative to the proposed actions is contained in Chapter 1, which describes the American Fisheries Act and its associated mandates. The objectives of the proposed actions are to implement the provisions of the AFA related to the BSAI pollock fisheries, while protecting other fishing fleets that are not AFA members in the other groundfish, scallop, and crab fisheries under the Council's jurisdiction. The affected fisheries are described in Chapter 2 and the description of the fleet, and impacts of the proposed alternatives were detailed in Chapters 4 through 11. Chapter 11 is a description of the Council's preferred alternatives.

12.1.1 Qualitative Summary of Impacts

Estimating the magnitude of change in net National benefits was not attempted in this amendment package, because data necessary to make that calculation were not available. Cost information, including fixed and variable operating cost statistics, is a crucial element of an effective net benefit analysis. Cost information for the BSAI and GOA groundfish and crab harvesting and processing sectors are currently not available to the analysts. Therefore, it will not be possible to complete a quantitative cost/benefit analysis of the various AFA sideboard alternatives, nor derive comparative net benefit conclusions about the several competing alternatives.

The total economic value of the fishery may increase as a result of the provisions of the AFA which allow pollock to be harvested under cooperatives. However, in general actions proposed within this amendment package are designed to limit the catch of AFA vessels in other groundfish, scallop, and crab fisheries in order to protect the vessels that participated in those fisheries from unwarranted, costly, and undesirable effects

attributable to competitive efficiencies made possible by, for example, cooperative provisions of AFA . Overall the catch of non-pollock species by AFA vessels may be somewhat reduced by these amendments, because the groundfish sideboards are based on landed catch history and the crab sideboards are more restrictive than the current LLP program in most cases. Yet given the open access nature of these fisheries and the capacity that exists in other fleets, any harvest forgone by the AFA fleet will almost certainly be harvested by members of the non-AFA fleets. Differences among the alternatives for effecting sideboards do have the potential for distributional gains and losses; primarily these are trade-offs between the AFA and non-AFA vessels. While relative operating costs and other factors would affect the "net" results of such trade-offs, the basic intent of the sideboards is to maintain the status quo, in terms of the distribution of harvest between AFA and non-AFA vessels, and therefore inter-sectoral "net" impacts would be expected to tend towards neutral.

Sideboard restrictions imposed by the Council's proposed action will likely cause some re-distributional impacts among the fleets, but the changes in net benefits to the US economy would not be expected to change by $100 million annually. However, based upon several of the other criteria articulated in the Executive Order, it appears likely that the proposed sideboard actions could constitute a 'significant' action, as this term is defined, under E.O. 12866.

That is, while none of the proposed sideboards result in economic changes which approach the $100 million annual impact threshold (separately or in combination), several do directly affect in a material way "a sector of the economy", "productivity", and "competition" (each identified as a criterion of concern in the E.O.).

None is expected to (to the best of our knowledge) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; nor (based on the foregoing analysis contained in Chapters 4 through 11) materially alter the budgetary impacts of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof. The AFA-sideboards do, however, potentially raises novel legal and policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order.

After careful review, the suite of proposed AFA-sideboard actions has been determined to be significant, as this term is defined in the Executive Order.

Notwithstanding this finding (and, while it is not possible to quantitatively measure the "net benefit to the Nation" attributable to this suite of actions), the information and analysis which are available (including the qualitative assessment of costs and benefits cited above) suggest that the National welfare is enhanced (i.e., benefits exceed costs) by adoption of these actions, which include proposed actions allowing the pollock fleets to form cooperatives. This is further substantiated by adherence to the requirements and directives provided in the AFA, as recently pass by the U.S. Congress and signed by the President.

12.2 *Initial Regulatory Flexibility Analysis (IRFA)*

12.2.1 Introduction

As described in Chapter 1, the AFA mandated the development of sideboard measures to protect other fisheries from potential incursions which could result from the pollock allocations and fishery cooperatives in the pollock fisheries. Many of the participants in these non-AFA fisheries, as well as participants in the AFA fisheries to be regulated by the sideboard measures, are small, independently owned businesses. In certain cases the AFA was explicit with regard to the nature of those sideboards, while in other cases considerable latitude was given to the Council. While the general purpose of the sideboard measures is to maintain the status quo distribution

of harvest activities in the various fisheries, the Council developed a considerable range of alternatives to effect that intent. As described in detail in Chapters 6 and 7, the different alternatives and options will have differing impacts to the participants in the fisheries. One purpose of this IRFA is to describe the differential impacts to small entities resulting from the Council's final decisions on harvester sideboards from June 1999 (processor sideboards are the subject of the analyses in Chapter 8, but the Council has postponed a decision on processor sideboards).

In addition to sideboard measures the AFA prescribes certain measures related to the BSAI pollock fisheries, including the list of vessels eligible to participate in those fisheries. While vessel eligibility is one of the items explicitly outside the Council's purview under the AFA, there are nevertheless implementing regulations pursuant to this action which will affect certain small entities in the fisheries. These are discussed as part of this IRFA.

Finally, the AFA specifies the structure under which inshore pollock cooperatives will be formed. This structure is the subject of considerable debate and is subject to possible change by the Council. In February 1999 the Council requested development of an analysis of "the economic and policy issues associated with the formation of processor/catcher vessel (and mothership/catcher vessel) cooperatives under the AFA, including the alternatives outlined in the independent catcher vessel proposal with a preliminary report to the Council in June of 1999 and a final report in October 1999". During staff discussions it became apparent that this issue was intertwined with both implementation issues related to co-op structure and with mandatory considerations under the Regulatory Flexibility Act (RFA). A contract has been initiated with economists from the University of Washington and Oregon State University to explore these issues. That information, along with a review of legal issues associated with co-op formation, will be reviewed by the Council in late 1999 and could result in actions which change the co-op structure from that described in the AFA. This Chapter contains an initial analysis of these issues related to co-op structure, and the more detailed contract analysis is attached as Appendix IV. Barring further action by the Council, the co-ops will be implemented as prescribed by the AFA.

12.2.2 Statement of Problem

Several years following "Americanization" of the commercial Bering Sea Pollock fishery in US EEZ waters, a problem of over capitalization materialized in the form of excessive fishing capacity. This was associated with expansion of domestic fishing effort, due in part, to an open access fishery management policy. The ensuing "race for fish" fostered economic inefficiencies in both this fishing sector specifically and the nation generally in terms of optimal operational practices and resource utilization, respectively.

To address the problems and allocation conflicts in this fishery, Congress passed the American Fisheries Act in October 1998, which included specific allocations of pollock harvesting and processing by industry sectors, and limitations on the participants in these sectors, as well as the authority to form fishery cooperatives. The potential operational advantages associated with these measures could impact other, non-pollock harvesters and processors. The Act mandates the Council to enact measures to protect those harvesters and processors by placing limits (sideboards) on the activities of the AFA-eligible harvesters and processors. These sideboard measures are the focus of this amendment package.

12.2.3 Objective Statement of Proposed Action and its Legal Basis

With regard to commercial fishing vessels operating in the directed pollock fishery in the BSAI, the American Fisheries Act of 1998 establishes the legal basis for achieving the objective of reducing excessive fishing capacity and management regulatory conditions that could contribute to the creation of an environment capable

of fostering operational inefficiencies in this fishery (Division C, Title II of P.L. 105-277); including co-op formation and development of sideboard measures. Mitigation of potential adverse impacts to non-AFA fishermen and processors is mandated by the Act.

12.2.4 Description of each Action (non-mutually exclusive alternatives)

The following actions implemented under authority of the AFA attempt to meet the objectives described above.

(1) reduce harvest capacity through a vessel buyout program (AFA, Section 207),
(2) revise allocation of sector specific directed fishing allowances (AFA, Section 206),
(3) restrict legal eligibility to specific vessels and processors that may participate in the BSAI commercial pollock fishery (AFA, Section 208 - eligibles, Section 209 - ineligible vessels), and
(4) develop provisions for the establishment of fishery cooperatives (AFA, Section 210) among participants in specific harvest allocation sectors (AFA Section 206), that are eligible to operate in the BSAI commercial pollock fishery through cooperative association in the follow cooperative groupings:
    a. Offshore catcher processor cooperative,
    b. Offshore catcher processor - catcher vessel cooperative,
    c. Mothership - catcher vessel cooperative, and
    d. Shoreside processor - catcher vessel cooperatives.
(5) Establish sideboard measures which restrict the activities of AFA-eligible vessels in non-pollock fisheries.

The primary focus of this amendment package is item 5 above (sideboard restrictions on AFA-eligible entities), and to a more limited extent, item 4 (co-op structure). The full list of alternatives and options is contained in Chapter 1.

12.2.5 Reasoning for, and focus of, an IRFA

To ensure a broad consideration of impacts and alternatives, this IRFA has been prepared pursuant to 5 USC 603, without first making the threshold determination of whether or not this proposed action would have a significant economic impact on small entities. NMFS interprets the intent of the RFA to address negative economic impacts, not beneficial impacts, on small entities and thus such a focus exists in these analyses that are explicitly design to address RFA compliance.

In determining the scope, or 'universe', of the entities to be considered in an IRFA, NMFS generally includes only those entities, both large and small, that can reasonably be expected to be directly or indirectly affected by the proposed action. If the effects of the rule fall primarily on a distinct segment, or portion thereof, of the industry (e.g., user group, gear type, geographic area), that segment would be considered the universe for the purpose of this analysis.

12.2.6 Requirement to Prepare an IRFA

The RFA first enacted in 1980 was designed to place the burden on the government to review all regulations to ensure that, while accomplishing their intended purposes, they do not unduly inhibit the ability of small entities to compete. The RFA recognizes that the size of a business, unit of government, or nonprofit organization frequently has a bearing on its ability to comply with a federal regulation. Major goals of the

RFA are: (1) to increase agency awareness and understanding of the impact of their regulations on small business, (2) to require that agencies communicate and explain their findings to the public, and (3) to encourage agencies to use flexibility and to provide regulatory relief to small entities. The RFA emphasizes predicting impacts on small entities as a group distinct from other entities and on the consideration of alternatives that may minimize the impacts while still achieving the stated objective of the action.

On March 29, 1996, President Clinton signed the Small Business Regulatory Enforcement Fairness Act. Among other things, the new law amended the RFA to allow judicial review of an agency's compliance with the RFA. The 1996 amendments also updated the requirements for a final regulatory flexibility analysis, including a description of the steps an agency must take to minimize the significant economic impact on small entities. Finally, the 1996 amendments expanded the authority of the Chief Counsel for Advocacy of the Small Business Administration (SBA) to file *amicus* briefs in court proceedings involving an agency's violation of the RFA.

The central focus of the IRFA should be on the qualitative economic impacts of a regulation on small entities and on the alternatives that might minimize the impacts and still accomplish the statutory objectives. The level of detail and sophistication of the analysis should reflect the significance of the impact on small entities. Under 5 U.S.C., Section 603(b) of the RFA, each IRFA is required to address:

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

12.2.7 What is a Small Entity?

The RFA recognizes and defines three kinds of small entities: (1) small businesses, (2) small non-profit organizations, and (3) and small government jurisdictions.

Small businesses. Section 601(3) of the RFA defines a 'small business' as having the same meaning as 'small business concern' which is defined under Section 3 of the Small Business Act. 'Small business' or 'small business concern' includes any firm that is independently owned and operated and not dominate in its field of operation. The SBA has further defined a "small business concern" as one "organized for profit, with a place of business located in the United States, and which operates primarily within the United States or which makes a significant contribution to the U.S. economy through payment of taxes or use of American products, materials or labor...A small business concern may be in the legal form of an individual proprietorship, partnership, limited liability company, corporation, joint venture, association, trust or cooperative, except that where the form is a joint venture there can be no more than 49 percent participation by foreign business entities in the joint venture."

The SBA has established size criteria for all major industry sectors in the US including fish harvesting and fish processing businesses. A business involved in fish harvesting is a small business if it is independently owned and operated and not dominant in its field of operation (including its affiliates) and if it has combined annual receipts not in excess of $ 3 million for all its affiliated operations worldwide. A seafood processor is a small business if it is independently owned and operated, not dominant in its field of operation, and employs 500 or fewer persons on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide. A business involved in both the harvesting and processing of seafood products is a small business if it meets the $3 million criterion for fish harvesting operations. Finally a wholesale business servicing the fishing industry is a small businesses if it employs 100 or fewer persons on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide.

The SBA has established "principles of affiliation" to determine whether a business concern is "independently owned and operated." In general, business concerns are affiliates of each other when one concern controls or has the power to control the other, or a third party controls or has the power to control both. The SBA considers factors such as ownership, management, previous relationships with or ties to another concern, and contractual relationships, in determining whether affiliation exists. Individuals or firms that have identical or substantially identical business or economic interests, such as family members, persons with common investments, or firms that are economically dependent through contractual or other relationships, are treated as one party with such interests aggregated when measuring the size of the concern in question. The SBA counts the receipts or employees of the concern whose size is at issue and those of all its domestic and foreign affiliates, regardless of whether the affiliates are organized for profit, in determining the concern's size. However, business concerns owned and controlled by Indian Tribes, Alaska Regional or Village Corporations organized pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. 1601), Native Hawaiian Organizations, or Community Development Corporations authorized by 42 U.S.C. 9805 are not considered affiliates of such entities, or with other concerns owned by these entities solely because of their common ownership.

Affiliation may be based on stock ownership when (1) A person is an affiliate of a concern if the person owns or controls, or has the power to control 50% or more of its voting stock, or a block of stock which affords control because it is large compared to other outstanding blocks of stock, or (2) If two or more persons each owns, controls or has the power to control less than 50% of the voting stock of a concern, with minority

holdings that are equal or approximately equal in size, but the aggregate of these minority holdings is large as compared with any other stock holding, each such person is presumed to be an affiliate of the concern.

Affiliation may be based on common management or joint venture arrangements. Affiliation arises where one or more officers, directors or general partners controls the board of directors and/or the management of another concern. Parties to a joint venture also may be affiliates. A contractor and subcontractor are treated as joint venturers if the ostensible subcontractor will perform primary and vital requirements of a contract or if the prime contractor is unusually reliant upon the ostensible subcontractor. All requirements of the contract are considered in reviewing such relationship, including contract management, technical responsibilities, and the percentage of subcontracted work.

Small organizations. The RFA defines "small organizations" as any nonprofit enterprise that is independently owned and operated and is not dominant in its field.

Small governmental jurisdictions. The RFA defines small governmental jurisdictions as governments of cities, counties, towns, townships, villages, school districts, or special districts with populations of less than 50,000.

12.2.8 Description of Fleet, Fishery, & Industry Directly and Reasonably Indirectly Impacted by Proposed Action

12.2.8.1 Inshore Processors

Four of the 8 inshore processors operating in the BSAI pollock fishery are either wholly owned subsidiaries or close affiliates of Japanese multi-national corporations. Due to their affiliation with large foreign entities with more than 500 employees worldwide, none of these processors is a small entity. Of the remaining 4 inshore processors, 3 are owned by U.S. companies that employ more than 500 persons in all their affiliated operations, and therefore cannot be considered small entities. The remaining inshore processor has been identified as closely affiliated with its 5 delivering catcher-boats and the gross annual receipts of the affiliated entities, taken together (the processor and its 5 affiliated catcher-boats), exceed the $3 million criterion for fish harvesting operations. Therefore, none of the inshore processors in the BSAI pollock fishery appear to meet the RFA criteria for small entities.

12.2.8.2 Pollock Catcher Boats

The AFA identifies 120 catcher boats which are eligible to harvest BSAI pollock (7 in the offshore delivery sector, 92 in the inshore sector, 7 in the mothership sector, and 14 which are eligible in both the inshore and mothership sectors). This corresponds closely to the 119 catcher boats active in the BSAI pollock target fisheries which were identified in the inshore/offshore3 analysis. Ownership information from that analysis indicated that, of the 91 catcher boats that operated exclusively or partly in the inshore sector, the available ownership data identify 26 vessels owned, in whole or in part, by inshore processors. These 26 vessels may be considered to be affiliated with their respective inshore processor owners and cannot therefore be considered small entities because none of the inshore processors in the BSAI pollock fishery, themselves, are small entities for RFA purposes. An additional 5 catcher boats have been identified as closely affiliated with an inshore floating processor. These 5 catcher boats, taken together with their affiliated processor, exceed the $3 million criterion for fish harvesting operations and are therefore not believed to be small entities.

Furthermore, an additional 20 catcher boats have ownership affiliations with other catcher boats or catcher processors. The gross annual receipts of each of these groups of affiliated catcher boats is believed to exceed

the $3 million criterion for small entities, when all their fisheries earnings are taken as a whole. The remaining 40 catcher boats operating exclusively or partly in the inshore sector are believed to qualify as "small entities". As earlier suggested, the number of catcher vessels which will be permitted to participate in future inshore pollock target fisheries in the Bering Sea management area is smaller than the totals identified above owing to provisions of the AFA. As noted in the RIR, in the initial 1999 A-1 and A-2 pollock fisheries in the Bering Sea, it is estimated that approximately 53 catcher vessels participated in the harvest of the inshore allocation. In subsequent 1999 Bering Sea pollock openings, additional catcher vessels may choose to enter the fishery, since as many as 106 appear to be "eligible" under AFA criteria for inshore sector delivery. These numbers correspond relatively well with estimates provided to the Council by the Independent Catcher Vessel Association at the January Council meeting and summarized in Table 12.1.

Twenty eight catcher boats operated in the offshore sector exclusively, while 22 operated in both sectors for a total of 50 offshore catcher boats. (As noted, this multi-sector operational pattern is precluded in the future for the seven boats affiliated with the C/P fleet, by provisions of the AFA.) Of the combined at-sea catcher boat sector, 13 have ownership affiliations with large inshore or offshore processors and, therefore, do not meet the $3 million criterion for small entities. An additional 13 catcher boats have ownership affiliations with other vessels or operations that, taken together with their affiliated entities, are believed to exceed the $3 million gross receipts criterion for small entities. The remaining 24 catcher boats operating exclusively or partly in the offshore sector are believed to qualify as "small entities" (and are among the same 120 total vessels described earlier). The number of catcher vessels which will be permitted to participate in future Bering Sea pollock target fisheries is restricted to a slightly smaller total by provisions of the AFA.

12.2.8.3 Affected Small Entities

Establishment of inshore fishery cooperatives among predetermined groups of catcher vessels and a corresponding shoreside processor will establish distinct sets of entities, large and small, and their potential for inter-related economic affects resulting from such affiliation. An attempt to summarize these relationships and numerically identify the number of affected small entities is provide below in Table 12.1.

Table 12.1 Estimated number of entities impacted by establishing shoreside processor-catcher vessel cooperatives under AFA.

Cooperative Delivery Processor	Large Entity Coop	Large Entity's Catcher Vessels	Small Entity: Independent Catcher Vessels (Pre Co-op)	Neighboring Small Government Jurisdictions Economically Impacted Entity)	Neighboring Small Government Jurisdiction (NOT Economically Impacted)	Small Non-profit Org.
Peter Pan	1	0[b] , 2[c]	3	King Cove		-
Trident	2[d]	4[b] , 7[c]	28	Sand Point	Akutan*	-
Alyeska	1[e]	2[b] , 4[c]	1	Unalaska		-
Unisea	1	1[b] , 0[c]	12	"		-
Westward	1[e]	3[b] , 2[c]	3	"		-
Tyson	1[a]	0[b] , 6[c]	0	N/A		-
Northern Victor	1[a]	4[b] , 2[c]	1	N/A		-
TOTAL Large Entity **Small Entity**	8 **0**	14 , 23 **0 0**	 **48**	0 **3**		? ?

Source: Includes information provided by the Independent Catcher Vessels Association. January, 1999.

[a] Floating processor with no direct neighboring community impact.

[b] Catcher vessels linked to corresponding shoreside processor via partial ownership.

[c] Catcher vessels majority owned by corresponding shoreside processor

[d] There are two processing facilities associated with one parent corporation (Trident) and could be interpreted as one "shoreside processor" assuming "person" as defined in the Magnuson-Stevens Act.

[e] These companies are subsidiaries of one larger corporation and therefore could be considered as one single "shoreside processor".

* CDQ community claiming no direct economic impact associated with neighboring shoreside plant.

Companies.

Approximately fifty-one (51) small entities, including forty-eight (48) independent catcher vessels delivering to shoreside processor and three (3) neighboring communities, are expected to be directly impacted by the establishment of AFA cooperatives within the inshore component of the BSAI directed pollock fishery. The significance of these impacts on small independent catcher vessel businesses will depend primarily on the contractual relationship between such vessel and their delivery processor as moderated by their collective cooperative agreement and cooperative by-laws. If conventional cooperative motives exist between processor and catcher vessel business members as to a foster mutually beneficial economic relationship, this cooperative action would not be expected to significantly impact a substantial number of these small entities. Indeed, the action would be a net gain for cooperative members and their neighboring communities. Conversely, if the processor associated with the cooperative choose to exploit its position as the sole- purchaser of pollock from cooperative co-members that operate as catcher vessels then it would be highly probable that a substantial number of small entities would be significantly impacted by this action implementing such fishery cooperatives

as authorized under AFA. This could be partially offset by the transfer allowance established under AFA Section 210(b)(6) for up to 10 percent of pollock harvested under such cooperative to be processed by another eligible shoreside processor as defined under Section 208(f) of the AFA. Until empirical data become available, likely after cooperatives have been in operation for two or more years, these questions cannot be definitively addressed.

Communities and groups.

Three neighboring small government jurisdictions (communities) that would be expected to have beneficial economic impacts associated with establishment of AFA inshore fishery cooperatives are Dutch Harbor, Sand Point, and King Cove. Impacts on these communities would be linked with benefits that would result from such AFA cooperatives by the establishment of a stable long-term supply of pollock to their neighboring shore-based processing plant. Such economic stability is expected to translate positively to these three neighboring communities (noting that the Regulatory Flexibility Act is designed to mitigate *adverse* impacts in any case). Insufficient data exists to substantiate any quantitative discussion on the impact AFA fishery cooperatives would have on small non-profit organizations that may be present in these neighboring communities. For these reasons, fishery cooperatives are not expected to create adverse economic impacts on a substantial number of small entities categorized as small government jurisdictions or small non-profit organizations.

The community of Akutan is not identified as a small community that would be impacted by this AFA fishery cooperatives. This determination is based on materials provided in 1995 to the North Pacific Fishery Management Council, NMFS, and the State of Alaska by the Aleutian Pribilof Island Community Development Association on behalf of Akutan. The Council, State of Alaska, and NMFS, agreed these materials sufficiently documented no significant impacts were accrued by the community of Akutan from the presence of the neighboring Trident Seafood processing facility. This claim of no significant economic linkage between the Trident facility and the community of Akutan directly resulted in a 1996 regulatory change that included Akutan as an eligible participant in the CDQ program.

12.2.9 Discussion of the Potential Negative Effects of AFA Inshore Cooperatives on Independent Catcher Vessel Owners

In the absence of sufficient corrective measures, potential will exist for adverse economic impacts to be incurred by independent catcher vessels participating in an AFA inshore cooperative. As currently designed under AFA, an inshore cooperative is established with only one shoreside processor operating as the primary pollock buyer. This shoreside processor may or may not be a member of the inshore co-op. The shoreside processor is an independent business concern and is not collectively owned by co-op member catcher vessels. Therefore, it is not assumed that profit-sharing would exist between the processor and catcher vessels in a given co-op. Inshore cooperatives, which require catcher vessels to deliver to a single shoreside processor, can create an economic environment that reduces price competition for pollock harvested by co-op members. The risk of this kind of biased pricing activity within a cooperative association is reduced if co-op members are successful in legally defending the clause that such an association is "operating for the mutual benefit of the members" as required under Section 1 of the June 24, 1934 Act (15 U.S.C. 521). This is important because without a competitive ex-vessel market for pollock landed by catcher vessel members, an economic incentive is created for the processor to increase its own profits at the expense of catcher vessel co-op members. Specifically, the processor could increase profits by lowering its operating cost through offering catcher vessel co-op members a price lower than the going market price otherwise determined by conditions of supply and demand in the pollock ex-vessel market. The downward shift in prices is similar to what would occur if ex-vessel market demand were reduced. Offsetting this incentive for processors to exploit their co-op catcher vessels may be

the potential need to renegotiate co-op terms annually and provisions of the Council's sideboards which allow catcher vessels to move between processor co-ops, from year-to-year, if they so desire.

Potential exist for significant negative impact on small independent catcher vessels if larger vessel choose not to fish in co-op and compete in the open-access directed pollock fishery. This would occur if the larger catcher vessel held a low catch history and the cost of co-op membership (e.g. high price of leasing sufficient pollock allocation from other co-op members) is greater than the perceived expense associated with harvesting an equivalent amount in the open access fishery. If those catcher vessel operators who choose not to participate in their designated cooperative happen to possess harvest capacities that are significantly larger than other catcher vessel that have substantial catch histories, but, for one reason or another, choose not to enter int a co-op, then in an open access setting, on an initial trip by trip basis, the larger vessels could out compete the smaller independent catcher vessels. This could further penalize the independent catcher vessel owners that choose not to join their designated AFA cooperative. Therefore, even with the option to fish in the open access fishery as an alternative to joining a co-op that is bound to a low-price processor, the open access option has significant economic risk due to their potential inability to compete with the larger catcher vessels on a trip by trip basis as a result of a difference in harvest capacities. If should also be noted that many of the largest catcher vessels in this fishery are wholly-owned by the very inshore processors which will be negotiating co-op agreements with the small independent vessel operators. This would negatively impact the competitive position of the smaller independent CV, because there would exist a lower quantity of pollock available in the open access fishery. The effect of reduced pollock harvest opportunity in the open access fishery would be a result from the existence of other catcher cooperatives having memberships of catcher vessels that retain legally defensible catch allocations created under the AFA action and thus correspondingly reduced the open access "pool" of available pollock. Thee is no *a priori* means of quantitatively predicting if this outcome will emerge; much less how significant it might be, if it does. However, it may require that the Council monitor this potentially over time, to assure that unanticipated adverse impacts on small entities do not result.

12.2.10 Potential Actions to Minimize Negative Impacts of Existing AFA Inshore Co-op Structure

In the context of an RFA analysis, a fish harvesting concern is a small entity if it has annual receipts not in excess of $3 million or it is not dominant in its field (defined in 13 CFR part 121, Standard Industrial Code categorizations). Previous sections of this chapter addressed the issue of defining a small entity specifically. An individual catcher vessel operating in the open access directed pollock fishery would typically meet this criteria. Generally, speaking, a fishery cooperative also is a small entity if it meets this same criteria. However, in the case of AFA cooperatives, both criteria would be exceeded and therefore an AFA cooperative would not be considered a small business concern (and all co-op participants *could* lose their 'small entity' status for RFA purposes).

For AFA participants, membership in a cooperative could modify their previous small entity categorization into what becomes a large entity (the co-op) due to their collective organized affiliation, as defined by the Small Business Administration. An AFA fishery cooperative, and its collective membership, is expected to have gross annual revenues in excess of $3 million and will be dominant in its field.

Therefore, once becoming a co-op member, a catcher vessel may no longer hold the "small business entity" status in the context of an Initial Regulatory Flexibility Analysis. However, the AFA allows catcher vessels to enter and exit a cooperative. As a result, the type of cooperative they leave and/or enter will impacts their economic viability. It is in this context that various types of fishery cooperatives are reviewed for their ability to minimize the negative impacts on small entities associated with this AFA action associated with inshore catcher vessels and processors (again assuming they retain their status as small entities).

12.2.10.1 Inshore Processor as Co-op Member

If the AFA inshore co-op membership is required to included not only the designated catcher vessels but the AFA identified individual inshore processor as well, then the possibility of biased pricing practices between processor and catcher vessels may still exist in the short-term but could be significantly reduced or eliminated in the long-term. It is possible that this would require such inshore cooperatives to have an exemption from US anti-trust laws similar to those established for the off-shore co-ops as articulated in Section 210(d) of the AFA. Legal clarification is required to determine the extent to which NPFMC authority would exist, if at all, to revise the AFA as granted under Section 213(c) to allow for such revision.

Under this situation, assuming its possibility, it would still remain possible for the co-op member processor to only (or primarily) take into consideration the economic interests of those co-op member catcher vessels in which it (i.e. processor) has full or partial ownership. The co-op processor member could adjust ex-vessel price and re-apportion the consolidated catch allocations among such boats in a manner that would achieve cost efficiency among their own vessels but to the potential economic detriment of the other co-op member catcher vessels. However, if the processor is a member of the CV co-op, such biased behavior practiced within the association (co-op) would be in violation of the mutual beneficial clause in the Act of June 25, 1934 authorizing the association's legal existence. For example, if not mutually agreed upon by co-op members, defining mutual benefit in the context of actual versus potential ex-vessel price would likely be a product of a time-consuming legal challenge between co-op member catcher vessels and the processor. However, in the long-term at least, potential for such internal equity violations could be reduced if the shoreside processor were a member of the catcher vessel cooperative and subject to co-op membership authority and subsequent decisions. If inshore processors are not co-op members but only contract with catcher vessel cooperatives that are required under the AFA to sell their designated catch allocation(s) to a corresponding specific processor, then the potential for biased pricing exists.

12.2.10.2 Establishment of Independent Catcher Vessel Cooperatives in the Inshore Sector

Members of the Independent Catcher Vessel Association (ICVA) operate boats in the BSAI directed pollock fishery. ICVA representatives perceive their members will incur negative economic impacts as a result of constraints imposed under the AFA. The AFA requires catcher vessels only to sell their pollock landings to the onshore processor associated with their fishery cooperative membership as defined under the AFA. ICVA has expressed concern about the negative economic impact on inshore catcher vessels that could result from such potential constraints on the competitive ex-vessel price of pollock landed and sold within the current AFA inshore cooperative design.

At its February 1999 meeting in Anchorage, the Council heard public testimony from independent catcher vessel owners recommending Council consideration of specific measures to reduce negative economic impacts of this action on their sector of small entities. Specifically the measure calls for Council action to change AFA language to allow independent catcher vessels to develop cooperatives among themselves. This modification would also eliminate the restriction on independent catcher vessel owners to sell their catch to a specific shoreside processor. The objective of such action is to allow independent catcher vessel owners the opportunity to work collectively as members of a fishery cooperative to maximize the economic returns for the individual allowable catch of pollock established under the AFA. The objective could be realized with the proposed establishment of greater flexibility among catcher vessels to land and sell their pollock to a shoreside processor offering the highest available ex-vessel market price.

The economic implications of this action on independent catcher vessels would be positive. It would also allow them to both retain the exclusive harvesting privileged associated with their co-op's collective pollock allocation as well as provide for their ability to accept the highest ex-vessel price for such pollock landings as offered by an eligible shoreside processor. Conversely, this option could result in unstable supply of pollock to shoreside processors that, during certain time periods, are unable to match ex-vessel price offers made by other shoreside processors. This could occur when various value-added products with different profit margins (e.g. surimi versus fillets) are being produced for different markets by different shoreside processor and thus enabling their offering a significant price differential to independent catcher vessels. Access to this price differential (selling to different plants at different times) would benefit independent catcher vessel but could impose direct negative economic impacts on shoreside processors and indirect negative impacts on small entities dependent on such processors. Based on SBA definition of small entities, shoreside processors are not considered likely candidates for consideration under the RFA with regard to negative impacts of this mitigating measure. However, an undetermined number of shore-based small entities would be indirectly impacted by negative economic consequences of this action. Therefore, consideration of establishing independent catcher vessel cooperatives as a measure mitigating against negative impacts of the current AFA legislation, to some degree becomes a trade-off between reducing direct affect incurred by such catcher vessels while increasing the potential for indirect affects incurred by shore-based small entities; shoreside processors notwithstanding.

Potentially significant economic and institutional efficiencies could be further achieved if inshore catcher vessel operators were allowed to establish cooperatives comprised of memberships which they choose themselves. This is in contrast to the existing inshore AFA co-op structure requiring co-op membership strictly as a function of historical landings to a given processor. Establishment of more efficient long-term cooperative relationships would exist among members if they are based on commonly shared objectives as well as on economic efficiencies of scale create by business affiliation decisions. Sales to a specific processor is a less than optimal index of commonality in operational objectives among a sub-set of inshore catcher vessels. Freedom to establish group membership through independent choice is an important design characteristic for establishing fishery cooperatives with permanence in a free-market system. The long-term viability of co-ops has traditionally proven most successful when they are naturally organized among members who share commitment and loyalty based on their inherent commonalities such as business focus, institutional structure, operational philosophy, geographic relationship, or cultural orientation. Such factors should be given due consideration when managers seek to foster the development of inshore pollock fishery cooperatives that will realize long-term benefits to both the fishery participants specifically, and to the nation in general.

The current AFA co-op structure does not allow a catcher vessel to change its cooperative affiliation from year to year and retain its harvest allocation concurrently. To change co-op membership (and ex-vessel buyer affiliation), the catcher vessel must fish in the open-access fishery for one year (AFA Section 210(b)(5)). For this open-access year, the AFA does not allow the vessel to retain its harvest privilege of pollock "quota share". It must compete for its share of pollock in the race scenario of the open-access fishery. Should the vessel owner choose to join an AFA co-op the following year and sell to the co-op's designated shoreside processor, the harvest privilege for the catcher vessel would be reauthorized. This open-access transition year requirement creates economic and resource inefficiencies associated with the catcher vessel's harvest allocation amount. It is probable that this same amount of pollock would be harvested over a shorter time period in the open-access fishery than if harvested under a co-op arrangement. As a result, open-access pollock harvests would generally yield lower recovery rates and create conditions for less than optimal market prices due to the surge in supply. Furthermore, per unit operating costs would likely be higher for the open-access operation than what could be expected under a more flexible inshore cooperative structure. Generally speaking, the transition year constraint imposed by the AFA on inshore catcher vessel owners who seek to shift their vessel's membership between

AFA co-ops, will create the potential for more, rather than less, inefficiencies in the inshore component of the BSAI directed pollock fishery.

The preceding discussion regarding alternative co-op structure is an initial attempt to define the parameters of this issue and provide some preliminary impact analysis. A separate and more thorough analysis of the issue of co-op structure (and potential alternative structures) is provided in Appendix IV. Additional analyses are being prepared for Council review in April 2000. At that time the Council may take action to alter the co-op structure rules for 2001 and beyond.

12.2.11 Evaluation of Sideboard measures as Approved by the Council

12.2.11.1 Objectives of the Sideboards

The AFA mandates establishment of sideboard provisions to protect non-BSAI-pollock harvesters and processors from the potential impacts resulting from the AFA allocations of BSAI pollock and the ability to create pollock fishery co-ops. In certain cases the AFA was very explicit regarding the nature of the sideboard provisions, but in general left a great deal of latitude to the Council in defining the specifics of these measures. As such the list of alternatives and options analyzed in Chapters 6, 7, and 8 represent a combination of Congressional intent and Council creativity in carrying out Congress' intent. The basic purpose of the proposed measures is to maintain the 'status quo' - i.e., to maintain essentially the current distribution of groundfish and crab catch (and processing) among competing user groups. More specifically, the intent of the measures is to prevent AFA pollock participants from increasing their share of the harvest and processing of non-pollock species under Council jurisdiction.

12.2.11.2 Number and Description of Small Entities Affected

The number of entities affected by the sideboard provisions is not one and the same as the number of entities affected by the co-op structure analyzed in previous sections of this chapter. While section 12.2.8 described affected entities, an additional discussion is provided here to specifically address the entities which would be directly and indirectly impacted by the sideboard restrictions in non-pollock fisheries.

Directly affected vessels, plants, and companies

The entities directly affected by the sideboard limits are a very well defined group as defined by the AFA. Harvesters and processors eligible for the BSAI pollock fisheries, and which may form pollock cooperatives, are either named specifically in the AFA or qualify by meeting specific criteria in the AFA. The Act specifies by name 20 catcher processors (offshore sector), owned by nine different companies, that are eligible to continue participating in the pollock fisheries. The Act further specifies three motherships which are eligible to process the mothership allocation under the Act, and lists 19 catcher vessels which are eligible to fish and deliver that sector's allocation (2 others not specified are eligible through landings history).

For the inshore sector, the Act does not list the eligible plants and catcher vessels by name; rather, it stipulates the landing/processing history necessary for eligibility. For catcher vessels that is >250 mt delivered onshore in 1996, or 1997, or 1998 through September 1, or >40 mt for vessels under 60'. We estimate there are 113 catcher vessels eligible in the mothership and inshore categories (92 for inshore delivery, 7 for mothership delivery, and 14 which qualify for both), and an additional 7 vessels which deliver to the offshore sector. A shoreside processor must have processed >2,000 metric tons in both 1996 and 1997 to be eligible, except that processors who did less than 2,000 mt in both 1996 and 1997 would also be eligible, but restricted from

processing more than 2,000 mt in any future year under the Act. We estimate that eight plants, owned by 7 companies fall under these definitions.

Based on information from section 12.2.8, as well as from information contained in Amendments 51/51 (the inshore/offshore 3 analysis) it appears that the only directly affected entities which would be classified as 'small entities' would be a subset of the 113 catcher vessels described above. Essentially this would be the approximately 50 catcher vessels that are predominately independently owned, as described earlier. The remaining entities, including catcher/processors, motherships, shore plants, and catcher vessels owned by larger companies would exceed the criteria for defining small entities.

Indirectly impacted entities

Depending on the specific sideboard alternatives chosen, a number of small, coastal communities in Alaska could be impacted by the proposed actions - section 12.2.8 identified 3 specific communities. Sideboard limitations may indirectly impact coastal communities in which vessels are homeported, or to which they deliver fish for processing, and could be either positive or negative depending on the specific alternatives chosen. Up to 60 communities appear to meet the definition of small entity for purpose of the IRFA.

Indirectly impacted entities are a consideration relative to the proposed action(s), since it is these vessels that the sideboard measures are intended to protect. These are vessels which participate in fisheries other than BSAI pollock and would be expected to benefit from the proposed sideboard measures, to the extent the sideboard measures are restrictive to the approximately 50 AFA vessels classified as small entities. Or, to the extent less restrictive sideboard measures approved, these vessels would be 'negatively impacted', relative to more restrictive sideboard measures. Essentially, sideboard measures were intended to protect the non-AFA vessels, many of which are small entities - the nature of those sideboard measures represents a tradeoff between AFA and non-AFA vessels. Taking BSAI and GOA groundfish and crab fisheries into account, there are as many as 1,300 additional catcher vessels which would likely qualify as small entities and which would be indirectly impacted (protected to varying degrees) by the proposed measures. This includes both fixed gear and trawl fishing vessels, ranging from 30' to over 100' in length, many of which are independently owned and operated.

12.2.11.3 Impacts of Approved Sideboard Measures

While the sideboards are generally designed to preserve the status quo distribution of harvest in the fisheries, the Council considered and analyzed a wide range of alternatives and options to effect such sideboards. These are listed in Chapter 1, detailed and analyzed in Chapters 4 through 8, and are summarized in Chapter 11 which describes the Council's final Preferred Alternative. The scope and nature of the proposed sideboard measures is intended to maintain status quo catch and processing distributions of groundfish and crab between AFA and non-AFA operations. The small entities directly affected (limited) by the proposed actions would likely be better off without sideboard restrictions in non-pollock fisheries, but the Act does not allow for that alternative (indeed the sideboards are legislated and 'mitigation' of the effects of these sideboards would counter the very intent of the Act). On average, these entities should be no worse off with the sideboard limits, assuming that they are structured to allow catch up to the amounts previously enjoyed. Among the proposed sideboard alternatives and options there are certainly some that are more restrictive than others, and some of those could be expected to create significant impacts relative to other options which could be chosen. For example, the use of landed catch only (as opposed to total catch) will generally reduce the amount of the sideboard limit for each species, although for catcher vessels (the only small entities involved) this reduction is not as significant as for

the catcher/processor sector. Reductions in the level of the sideboard limit for AFA vessels will be offset, as small entities in the non-AFA sector will realize that amount of gain in the amount of harvest available to them.

As another example, in the case of sideboards to limit catcher vessels activity in crab fisheries there are options which range from limiting those vessels to their past catch history, to denying them access to certain crab fisheries altogether. In this case, the differences among the options are very significant, and in fact could impact some catcher vessels disproportionately. For catcher vessels which are AFA-qualified, but rely to a great extent on fisheries other than BSAI pollock, restricting the overall catcher vessel sector to an aggregate historical limit will disproportionately burden those operators, who would now have to compete with other vessels for a relatively smaller quota apportionment. In the case of AFA vessels which have significant reliance on crab fisheries, losing their ability to fish crab at all would be expected to have a significant, negative impact, based on current definitions of significance related to gross revenue losses (and a substantial number of these vessels would be classified as small entities).

More restrictive sideboard measures will generally create greater impacts to the directly affected entities (AFA vessels), which would be offset by greater benefits to the indirectly affected entities (the non-AFA vessels being protected). The proposed measures themselves are designed to protect one group of small entities from the impacts of a separate Congressional action - the Act itself. Within the suite of alternative sideboard measures there are a range of potential impacts to the directly affected small entities. In its deliberations, the Council recognized that certain choices from among those alternatives would serve to reduce impacts to those small entities relative to other options available.

12.2.11.4 Measures to Mitigate Impacts of Sideboard Measures

Examples of decision areas which could result in significant impacts were summarized above. The Council's final Preferred Alternative generally serves to maintain the status quo and keep in place the current catch distributions between AFA and non-AFA vessels. For catcher vessels in the groundfish fisheries the Council's Preferred Alternative generally uses their aggregate proportion of catch from 1995 through 1997 as the basis for their allowable catch in future years, under the AFA. In order to mitigate unintended impacts to certain participants in these fisheries, the Council included an exemption to the basic sideboard limit - that is, AFA vessels with less than 1,700 mt of BSAI pollock catch, and threshold landings of non-pollock species, are exempted from the sideboard limit, and will be allowed to continue unrestricted in the other fisheries in which they are engaged (subject to overall quota and PSC closures). The group of vessels most impacted by this exemption are those which historically focused their efforts in the cod fisheries, but did enough pollock to qualify under the AFA. Without the exemption these vessels would have been disproportionately and negatively impacted by the sideboard limits. As structured they will be able to enjoy the benefits of the pollock fishery co-ops as well as continue their unrestricted involvement in other fisheries.

In general the Council enacted similar restrictions for the crab fisheries, with some important differences which further restrict the AFA vessels' participation, but which also include some mitigating measures for small entities in that sector. For Bristol Bay Red King Crab (BBRKC), the Council's Preferred Alternative restricts the AFA eligible vessels to an aggregate amount based on historical participation, much as with groundfish. However, the Council included a wider range of years to define that participation (1991 through 1997 as opposed to only 1995 through 1997) which included years of larger harvest by those vessels, and which therefore increased the level of their sideboard limit (from about 9% up to nearly 13% of the available quota).

As with the example given in groundfish, there were some AFA vessels which actually had the majority of their income from fisheries other than pollock - specifically there were three AFA vessels identified in the analyses

which had significant and long-term participation in the opilio crab fisheries. Subjecting these vessels to an aggregate sideboard limit (shared with the other AFA vessels) would have resulted in disproportionate and negative impacts to those vessels - essentially they would lose their ability to continue their historical fishing practices. To mitigate this issue, the Council chose a compromise which generally restricted AFA vessels' participation in opilio, but allowed those with a high dependence to continue. Specifically the Council Preferred Alternative only allows AFA vessels to fish opilio if they fished opilio in at least four years between 1988 and 1997; however, if they do qualify they may fish unrestricted along with other crab vessels. The result of that action is that 5 of the 39 potential 'crossover' vessels (mostly small entities) will be allowed to continue in the opilio fishery.

12.2.12 Vessels excluded from the pollock fisheries

Through analysis of the eligibility requirements, combined with testimony to the Council from affected individuals, it has become apparent that at least two (possibly three) vessels with history in the BSAI pollock fisheries have been excluded from future participation in that fishery by the eligibility requirements contained in the AFA. While these vessels have historical participation, they did not participate in the recent (1996/1997) period required by the Act. While these vessels do not comprise a 'substantial number' of small entities (relative to the total which qualify under the more general license limitation or to the total number of AFA-eligible vessels), the exclusion could be expected to have a significant, negative impact on their operations, to the extent that pollock fishing in the BSAI historically contributed a large portion of their total fisheries income.

12.2.12.1 Measures to Mitigate Impacts of this Exclusion

The list of eligible vessels is one of the two sections of the AFA that the Council cannot alter. The exclusion of the vessels mentioned above, while of concern to the Council, is not an issue for which the Council can evaluate or consider mitigating alternatives. Only Congress, through amendment to the AFA, could effect such a change. Therefore, the exclusion is not being analyzed as part of the Council's decision; rather it is being mentioned as part of an overall package, comprised of both Council actions and Congressional mandates, which will be implemented through a regulatory package being promulgated by NMFS. A potentially compensating factor is that they will not be subject to sideboard restrictions in other fisheries, and can therefore attempt to make up lost revenues by increasing participation in other fisheries. Other mitigating alternatives are beyond the purview of the Council.

12.2.13 Recordkeeping and reporting requirements (RRR)

Additional recordkeeping and reporting requirements would be expected as a result of the creation of several inshore cooperatives that each independently utilize its own unique quantity of pollock catch as an aggregate of the individual allocation of its member catcher vessels. The new recordkeeping and reporting requirements would be required to be submitted to NMFS by the fishery cooperative management, not by each individual catcher vessel operating as a cooperative member. Therefore, this additional recordkeeping and reporting requirement would not adversely impact small entities. Inshore AFA cooperatives would not qualify as small entities as defined by the Small Business Administration.

The proposed sideboard measures are not expected to require additional recordkeeping or reporting for the small entities identified; rather, the burden of accounting for the sideboard limits will fall to NMFS. Participation in pollock co-ops may necessitate additional paperwork burdens for these entities within the structure of the co-op agreements in terms of catch and bycatch allocations and accounting for those allocations; however, such participation would be voluntary and is outside the scope of the sideboard

provisions. Processor sideboard provisions, depending on the level at which they are implemented, could entail additional recordkeeping and reporting for those processors, but they are not defined as small entities for purposes of the IRFA, nor have decisions been made yet with regard to processor sideboards.

12.2.14 Relevant Federal Rules

This action is authorized by the AFA in conjunction with the Magnuson-Stevens Fisheries Conservation and Management Act as amended in 1996.

12.2.15 Summary and Conclusions

12.2.15.1 Co-op structure

Independent catcher vessel operators participating in the inshore component of the BSAI directed pollock fishery will be affected, both positively and negatively, by the establishment of AFA fishery cooperatives. However, as currently designed, independent catcher vessels could be expected overall to be worse off under the AFA cooperative structure than compared with their experience under the open-access fishery of recent years. The primary benefit to catcher vessel participation as an AFA inshore co-op member is that the vessel owner receives some assurance for the option of catching a specific amount of pollock equal to the vessel's catch history as determined by NMFS. The primary disadvantage is that this allocation may not be optimized for its economic value given the absence of a competitive ex-vessel market with more than one potential buyer. Furthermore, the potential catch would likely be reduced for independent catcher vessels that do not join an AFA cooperative.

No catch allocation is granted to catcher vessels whose owners choose not to participate in an AFA co-op. Therefore, they must operate in the open access fishery that will, in all probability, be composed of a smaller "pool" of allowable catch. This reduction in allowable catch in the open access pollock fishery will occur in the amount equal to the reserved catch allocations granted by NMFS to catcher vessel operations that do choose to join an AFA co-op. As a result, non-cooperative catcher vessels with smaller catch capacities may be disadvantaged in the open-access fishery. This condition could be exacerbated in the event that catcher vessels with small catch histories, but with large per-trip harvest capacity, choose not to join a co-op and intentionally target pollock in the open-access harvest "pool". Given the predicably shorter open-access fishery resulting from a reduced available catch, the smaller the per-trip harvest capacity of an inshore independent catcher vessel, the less successful its operation would be in the open access fishery created under the AFA.

Given their expected annual gross revenues of less than $3 million, many operators in the fishery impacted by the proposed action are small entities. For many of the catcher vessels operating in the inshore component of the directed pollock fishery, it may be assumed that these entities are independently owned and operated. In addition, there are numerous catcher vessels in this fishery that, to some degree or another, are a blend of being partially-owned or fully-owned by shore-side processors. However, the ownership characteristics of catcher vessels operating in the fishery has not been thoroughly analyzed to determine what degree, if any, they are affiliated with a larger parent company. Furthermore, because NMFS cannot quantify the exact number of small entities that may be indirectly affected by this action, or quantify the magnitude of those effects, NMFS cannot make a finding of non-significance under the RFA, with regard to issues of inshore co-op structures.

12.2.15.2 Sideboard measures

Sideboard limits are established to limit the amount of non-BSAI pollock which can be harvested by AFA-eligible vessels. Generally these limits freeze in place the current distribution of catch between AFA and non-AFA vessels. More restrictive sideboard options considered would negatively impact the small entities involved in the AFA fleet, relative to other options, though it is uncertain whether such differences would be significant. More lenient sideboard options would generally benefit the AFA fleet, though it would be at some expense to the remaining (non-AFA) fleet, many of whom are also small entities. In essence, the degree of sideboard limits represents a trade-off in impacts to two sectors of small entities, as is the case with most allocation-based management actions.

While the differences in sideboard options likely are not significant, particularly given the mitigating measures included, they do affect a substantial number of small entities. In combination with the co-op structure issues described in this section, it is impossible to make a finding of non-significance with regard to the collective actions in this amendment package.

12.3 Section 303(a)(9) -Fisheries Impact Statement

This section of the Magnuson-Stevens Act requires that any management measure submitted by the Council take into account potential impacts on the participants in the fisheries, as well as participants in adjacent fisheries. Chapters 6, 7, 8, and 11 detailed the expected impacts of the alternatives on the participants (AFA eligible vessels and conversely, the non-AFA vessels). The AFA established the pollock limited harvesting and processing entities, the allocations among the sectors, and the provisions for development of cooperatives. The AFA also established provisions for the development of sideboards, which are in fact designed to address impacts to other fisheries participants, and the focus of this amendment package is on these very sideboards; i.e., the whole scope of the proposed measures is to mitigate impacts on other fisheries which may arise as a result of the Act itself. The very nature of the sideboards is to preserve the status quo, thereby minimizing the impacts of the Act and fishery cooperatives on the non-AFA fleets. The development of these sideboard measures, based on the analyses in the preceding chapters, is not expected to have significant impacts on other fisheries, other than to protect their share of various fisheries resources. Basing the sideboard provisions on landed catch will increase the protection afforded to other fleets. Management of these caps should allow the AFA fleet to still conduct directed fisheries for species which they targeted during the years 1995-97, though perhaps at somewhat reduced levels.

12.4 Section 303(b)(6) - Limited Entry Considerations

The AFA prescribed a limited entry program for the BSAI pollock harvest and processing sectors by naming the specific catcher processors, catcher vessels, motherships, and shoreside processors which are eligible. Nothing in this proposed amendment package addresses or attempts to revise that prescribed set of players. The sideboard measures are intended to limit harvest and processing by the AFA-eligible participants in non-pollock fisheries, and with the exception of alternatives in the crab sideboards, do not propose to further limit entry in these fisheries. The notable exception is contained within certain alternatives which would prohibit AFA vessels from continuing to fish in certain crab fisheries, where they are otherwise qualified under the Council's license limitation program (LLP).

In October of 1998 the Council revised its crab LLP by imposing additional recent participation requirements (had to have fished in 1996, 1997, or 1998 in addition to the original requirements). This action reduced the overall crab fleet from 365 to approximately 297 vessels. Of the remaining 297 vessels approximately 40 of

those are also AFA-eligible and are limited, for certain species/area endorsements, from future participation in the crab fisheries. In some crab fisheries they are also limited to their historic portion of the crab GHL. The Bristol Bay red king crab fishery and opilio fisheries are good examples. In the BBRKC fishery, AFA vessels must be LLP qualified to fish. They will then be capped at their average landings history for the five years the fishery was open from 1991-97. The opilio fishery was treated differently. A vessel must have had landings in the opilio fishery in at least four years from 1988-97 to be allowed to participate in this fishery under the AFA sideboards. This action reduced the number of vessels eligible to participate in the fishery by about 35 when compared to the LLP program. In bairdi, no fishing will be allowed unless and until the biomass is rebuilt.

A separate analysis was prepared which will be incorporated as part of the overall AFA amendment package. That analysis, prepared by Dr. Scott Matulich of Washington State University under contract to the Council, examined the issue of relative dependence on the crab fisheries of all participants, including the AFA vessels which could be most directly impacted. That analysis is included as Appendix III to this document.

12.5 National Standards

The following National Standards contained within the Magnuson-Stevens Act are addressed, where relevant to the actions taken by the Council under this amendment package. Most of these standards would not be affected by the proposed sideboard provisions - while fundamental in-season management changes are implied by some of the alternatives, they do not change the overall management structure relative to the National Standards.

National Standard 1 - Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery. The Council's preferred alternative would not impact National Standard 1.

National Standard 2 - Conservation and management measures shall be based upon the best scientific information available. Information contained in this amendment package was derived from the best sources of information available to Council and NMFS Staff.

National Standard 3 - To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination. Nothing within this amendment package will impact how NMFS and ADF&G manage fish stocks in relation to National Standard 3.

National Standard 4 - Conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishing privileges among various U.S. fishermen, such allocation shall be (A) fair and equitable to all such fishermen, (B) reasonably calculated to promote conservation, and (C) carried out in such a manner that no particular, individual, corporation, or other entity acquires an excessive share of such privileges

Specific limited entry and allocative measures were prescribed by the AFA, but those are not the focus of this amendment package. Allocation of pollock and associated groundfish among the co-ops will be required by NMFS, but that is also fairly prescribed by the Act. Within the possible sideboard measures there are alternatives which will impact the distribution of the groundfish sideboard allowances among sector or co-ops, although such sideboards are generally prescribed by the Act. The Act also contains provisions to limit shares of harvest and processing, though again those measures are not included in this amendment package. One

aspect of the sideboard which could further limit entry are options which would preclude AFA catcher vessels from further participation in certain BSAI crab fisheries. This exclusion is based on AFA, LLP, and participation history in the crab fisheries, not on any criteria of state residency.

National Standard 5 - Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources, except that no such measure shall have economic allocation as its sole purpose. The Council's preferred alternatives provided protections for non-AFA fishing fleets as mandated by the AFA. Within that system, efficient operations (both AFA and non-AFA) should continue to compete for the non-AFA species.

National Standard 6 - Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

The passage of the AFA precludes most of the fishing fleet from future participation in the BSAI pollock fisheries. Conversely, the sideboard provisions developed by the Council are designed to limit the AFA vessels and processors in terms of what they can do in the non-pollock fisheries. The combined effect of these actions will be to lock in place the relative catch distributions by sector and species. Relative to the status quo fisheries, this will decrease the flexibility to enter and exit fisheries and decrease the ability to respond to variations and contingencies among fisheries, such as quota changes, price changes, and market fluctuations.

National Standard 7 - Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

Primary costs associated with the proposed measures (other than opportunity costs discussed above) will fall on the NMFS as additional implementation, monitoring, and enforcement requirements are created. Depending on the level at which sideboard limits are applied, these additional costs to the agency could be significant. Chapter 9 addresses these issues in some detail.

National Standard 8 - Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse impacts on such communities.

While none of the proposed actions directly involve community level issues, some of the sideboard provisions could indirectly affect coastal communities to the extent that the vessels directly affected are homeported or deliver catch to those communities for processing. No attempt has been made to quantify those impacts as they are generally expected to be along the lines of status quo - i.e., the provisions are designed to maintain the current distributions of catch by species among the various fisheries participants.

National Standard 9 - Conservation and management measures shall, to the extent practicable, (A) minimize bycatch, and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

Sideboard caps were calculated based on landed catch history of the AFA fleet. The Council selected this option because they did not wish to give catch history credit for discarded fish. The extent to which the discard rates of the fleets vary by species was provided in Chapter 11.

The Council may reduce the bycatch caps overall through the amendment process. One of the issues discussed in this analysis is the necessary bycatch associated with current fisheries, now that bottom trawling is banned for pollock. However, any savings in that area is likely to be small, since the pollock fisheries have historically accounted for a small portion of the crab and halibut bycatch.

National Standard 10 - Conservation and management measures shall, to the extent practicable, promote the safety of life at sea.

The preferred alternatives selected by the Council should not have any negative impacts on the safety of life at sea.

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