INITIAL REVIEW DRAFT

ENVIRONMENTAL ASSESSMENT / REGULATORY IMPACT REVIEW /
INITIAL REGULATORY FLEXIBILITY ANALYSIS

for

Allocation of Non-Pollock Groundfish and Development of a Cooperative Program for the Non-AFA Trawl Catcher Processor Sector

Proposed **AMENDMENT 80** to the
Fishery Management Plan for Groundfish
of the Bering Sea and Aleutian Islands Management Area

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EXECUTIVE SUMMARY

The North Pacific Fishery Management Council (Council) has long recognized the need to reduce bycatch, minimize waste, and improve utilization of fish resources to the extent practicable in order to provide the maximum benefit to present generations of fishermen, associated fishing industry sectors, communities, and the nation as a whole. Since at least 1995, the Non-AFA Trawl CP sector has had the highest discard rate in the Bering Sea and Aleutian Islands (BSAI) groundfish fisheries. Although the overall retention level in that sector has increased in the last decade, it is still well below other BSAI sectors. Bycatch reduction measures for the Non-AFA Trawl Catcher Processor (CP) sector are a priority focus for the Council given this sector's historical difficulty in achieving acceptable bycatch levels.

The Non-AFA Trawl CP sector is primarily a multi-species fishery that operates under a "race for fish", where vessels attempt to maximize their harvest in as little time as possible, in order to claim a larger share of the available quota. Because vessels are competing with each other for shares of the total quota, an individual vessel may be penalized for undertaking actions to reduce bycatch, such as searching for cleaner fishing grounds. Participants in the sector have indicated that the cost of implementing Amendment 79 to the Fishery Management Plan for Groundfish of the BSAI Management Area (BSAI Groundfish FMP), a groundfish retention standard for vessels greater than 125 ft length overall, which represent approximately 62 percent of the Non-AFA Trawl CP sector, on a vessel-by-vessel basis could be high.

By providing specific groundfish allocations to this sector, and allowing the formation of cooperatives, the costs associated with bycatch reduction could be reduced. Sector allocations and associated cooperatives would allow participants to focus less on harvest maximization and more on optimizing their harvest. This in turn could reduce bycatch, improve retention, and improve utilization, while also improving the economic health of the harvesting and processing industry.

Exploring sector allocations and cooperatives also accords with the Council's long-term priority, to reduce or eliminate the "race for fish" in the North Pacific. The Council recently revised its management policy for the BSAI Groundfish FMP to include an objectives that aims to "further decrease excess fishing capacity and overcapitalization by … extending programs such as community or rights-based management to some or all groundfish fisheries," (BSAI Groundfish FMP chapter 2).

Three alternatives are considered to address this problem, a status quo alternative (Alternative 1) and two alternatives that would allow the formation of multiple (Alternative 2) or single (Alternative 3) cooperatives. The alternatives evaluated in this analysis are summarized in the table below.

	Alternative 1 (Status Quo)	Alternative 2	Alternative 3
Sector Eligibility	determined by Congress	determined by Congress	determined by Congress
Primary Target Species to be Allocated	none	yellowfin sole, rock sole, flathead sole, Atka mackerel, Aleutian Islands Pacific Ocean perch	yellowfin sole, rock sole, flathead sole, Atka mackerel, Aleutian Islands Pacific Ocean perch
Allocation to Non-AFA Trawl Catcher Processor Sector	none	*Allocation:* Sector's retained catch over all retained catch, 1998-2002 *Management:* Hard cap *Yellowifn sole:* all yellowfin sole in excess of 125,000 mt threshold to be divided 30% to sector and 70% to other trawl; 2-way rollover	*Allocation:* Sector's retained catch over all total catch, 1995-2003 *Management:* Soft cap; rollover to sector *Yellowfin sole:* all yellowfin sole in excess of 100,000 mt threshold to be divided 70% to sector and 30% to other trawl; 2-way rollover
Allocation of Prohibited Species	PSC allocated by target fishery and shared among all trawl vessels	Sector allowance based on historic PSC usage,1998-2002	Sector allowance based on: a) average PSC usage, by fishery, of all trawl, 1995-2003 b) apply sector proportion as determined above c) reduce by 5%
Cooperative	none	*Threshold:* 30% minimum of eligible participants *Allocation:* based on retained catch history, 1998-2002 *Use caps:* none	*Threshold:* 67% minimum of eligible participants *Allocation:* based on total catch history, 1995-2003 *Use caps:* apply to total catch of all primary target species
Sideboards	none	*For sector:* established based on participation in other fisheries, 1998-2002 *Within sector:* established between cooperative and non-cooperative participants for unallocated species	*For sector:* established based on participation in other fisheries, 1995-2003 *Within sector:* established between cooperative and non-cooperative participants for unallocated species
CDQ	7.5% of groundfish and prohibited species (except herring) allocated to CDQ multispecies fishery	7.5% of groundfish and prohibited species (except herring) allocated to CDQ multispecies fishery	10% of allocated species, plus secondary species caught incidentally in directed fisheries, to CDQ multispecies fishery

Regulatory Impact Review

Effects on Harvest Participant and Fishing Practices

In October 2002, the Council initiated Amendment 79 to meet the Council's stated goals of reducing bycatch, minimizing waste, and improving utilization of fish resources to the extent practicable. Amendment 79 would establish a minimum groundfish retention standard (GRS). In 2002, the overall groundfish retention rate of the Non-AFA Trawl CP vessels greater than or equal to 125 ft was 71 percent. Including recent changes for determining the maximum retainable amount (MRA) for pollock, which now is determined at the end of each offload rather than at any point during the trip, coupled with the GRS are expected to reduce discards by the sector significantly. Complying with the requirements to reduce discards is expected to increase the vessel's costs, relative to pre-Amendment 79 levels.

Alternatives 2 and 3 would allocate yellowfin sole, rock sole, flathead sole, Atka mackerel, and Aleutian Islands Pacific Ocean perch to the Non-AFA Trawl CP sector.

Under Alternative 2, allocations to the Non-AFA Trawl CP sector are after deducting the Community Development Qutoa (CDQ) allocation and reserves would be above 88 percent for all allocated species. In contrast, under Alternative 3, the sector would get 73 percent for Atka mackerel, 59 percent for flathead sole, 78 percent for Aleutian Islands Pacific Ocean perch, 29 percent for rock sole, and 52 percent for yellowfin sole. Based on these projections, the Non-AFA Trawl CP sector would generate almost $70 million less per year, before rollovers, if Alternative 3 were selected over Alternative 2. The trawl limited access fishery revenue (first wholesale value) would increase by over $65 million if the harvested the entire allocation.

Under Alternative 2, the allocation of species to the Non-AFA Trawl CP sector will be managed as a hard cap, whereas under Alternative 3 the allocation would be managed as a soft cap. However, soft caps managed by the cooperative without NOAA Fisheries involvement would be treated as a hard cap system. If the allocations were managed by National Marine Fisheries Service (NMFS), then a portion of the allocations would need to be set aside as an incendental catch allowance (ICA) to accommodate the incidental catch of the allocated species. An unknown with NOAA Fisheries managed soft caps is how the ICA will be funded.

There is a strong likelihood that large portion of the species allocated to the trawl limited access fishery will go unharvested under Alternative 3. To help prevent allocated species from going unutilized, Alternative 3 includes a one-way rollover provision for allocated species that were unharvested by the trawl limited access fishery. However, the Non-AFA Trawl CP sector would be severally constrained by the prohibited species catch (PSC) allocation. Under this alternative, the PSC allocation to the sector is based on their allocation percentage of the primary species multiplied by the PSC usage of all trawl vessels, and rollovers of PSC are not included in the alternatives.

The yellowfin sole threshold program, under Alternative 2, could provide the opportunity for the AFA Trawl CP and catcher vessel (CV) sectors to expand their harvest of yellowfin sole, within their AFA sideboard caps, duringyears when pollock TAC declines relative to yellowfin sole. This assumes market conditions remain relatively stable for both fisheries. Under the yellowfin sole threshold alternative, yellowfin sole ITACs at or below the 125,000 mt threshold would be allocated as 88.5 percent to the Non-AFA Trawl CP sector and 11.5 percent to the trawl limited access fishery. The allocation of yellowfin sole above the ITACs would be 70 percent trawl limited access fishery and 30 percent Non-AFA Trawl CP sector. Under Alternative 3, any portion of ITAC exceeding the 100,000 mt threshold would be allocated 70 percent to the Non-AFA Trawl CP sector and 30 percent to the trawl limited access fishery. Initail total allowance catch (ITAC) up to the threshold would be allocated as 52 percent to the Non-AFA Trawl CP sector and 48 percent to the trawl limited access fishery. The amount of the loss to the Non-AFA Trawl CP sector from the direct allocations of yellowfin sole will likely be partially recovered through the rollover provision included in this alternative and through better fishing practices in the cooperative. However, because halibut PSC is not included in the rollovers and increases in CDQ allocations are included in Alternative 3, the expected revenue improvements are likely going to be reduced from those in Alternative 2.

The PSC allowance to the Non-AFA Trawl CP sector, under Alternative 2, would be based on the PSC usage by the Non-AFA Trawl CP sector from 1998 to 2002 while operating in BSAI. In contrast, the PSC allowance to the Non-AFA Trawl CP sector under Alternative 3 would be based on the PSC usage by all trawl vessels from 1995 to 2003 multiplied by the allocation percentages of the primary allocated species allocated to the Non-AFA Trawl CP sector.

For halibut PSC under Alternative 2, the allocation to the Non-AFA Trawl CP sector would range between 2,476 mt and 2,482 mt. The remainder of the 3,400 mt PSC allowance would be available to all other trawl vessels. For herring, the allocation would range between 245 mt and 253 mt out of a

PSC allowance of 2,012 mt allowed for all trawl sectors. The allocation of red king crab would range between 172,594 animals and 173,979 animals out of a PSC allowance of 182,225 animals for all trawl vessels. For the *C. opilio* crab, the allocation would range between 4,190,789 animals and 4,218,787 animals out of a PSC allowance of 4,494,569 animals for all trawl vessels. The *C. bairdi* Zone 1 allocation would range between 795,331 animals and 820,388 animals out of a PSC allowance of 906,500 animals for all trawl vessels. Finally, for *C. bairdi* Zone 2 crab the allocation would range between 2,536,270 animals and 2,545,180 animals out of a PSC allowance of 2,747,250 animals for all trawl vessels.

Due to time constraints, not all of the PSC allocations using the PSC option under Alternative 3 could be provided in time for initial review. Specifically, PSC allocation estimates for the non-allocated species, Atka mackerel, and AI POP were not estimated. These estimates will be provided and the analysis updated after the June 2005 meeting. Estimated PSC allocations for rock sole, flathead sole, and yellowfin sole were generated to provide some indication of what the PSC allocations to the Non-AFA Trawl CP sector would be under Alternative 3. Based on the PSC allocation estimates for the rock sole, flathead sole, and yellowfin fisheries under Alternative 3, the PSC allocation to the Non-AFA Trawl CP sector will likely be significantly lower under Alternative 3 than the PSC allocations under Alternative 2.

Using the same eligibility criteria for both Alternatives 2 and 3, 26 vessels with trawl catcher processor licenses qualified to participate in the Non-AFA Trawl CP sector. Four vessels with trawl CP licenses failed to qualify. Those vessels that failed to qualify had trawl CP catch history only during the 1995 and 1996 period. These vessels did not participate in the BSAI trawl CP fishery after 1996. Participation patterns during 1995 and 1996 may have been impacted by the implementation of the Groundfish LLP program. During those years some vessels tended to fish differently then they had traditionally. It is often speculated that several of vessels during that period were fishing for license endorsements rather than to simply harvesting fish to maximize their profits that year.

To form a cooperative under Alternative 2, 30 percent of the eligible Non-AFA Trawl CP sector participants would have to agree to form a cooperative. Since 26 vessels are qualified to join cooperatives, at least eight vessels would be needed to form a cooperative. If each of the cooperatives had the required eight vessels, there could be a maximum of three cooperatives formed in the Non-AFA Trawl CP sector. In contrast, to form a cooperative under Alternative 3 requires 67 percent of the eligible Non-AFA Trawl CP sector participants to agree to form a cooperative. Given there are 26 eligible vessels under this alternative, 17 vessels are necessary to form a cooperative. Since it is not possible to determine which vessels will join a cooperative(s) under the alternatives, very little can be said about how this option impacts the distribution of the sector's portion of the ITAC between cooperatives and the open access pool.

Consolidation in the Non-AFA Trawl CP sector under Alternative 2 would not be constrained. There would be no limit on the percentage of the Non-AFA Trawl CP sector allocation that an eligible participant (individual or entities) can use. In the extreme, the sector's entire allocation could be harvested by one firm. They would be able to remove any vessels that were not needed to harvest the quota. This would tend to reduce the number of jobs that are available in the fishery. It would also create an environment that allows the owners to maximize profits by reducing production costs through retiring excess capacity. Only the most efficient harvesting vessels that are needed to harvest the quota would be expected to remain in the fishery. Some of the retired vessels would likely be kept at the ready in case they were needed in the future. In contrast, consolidation would be limited under Alternative 3. Using total catch and catch history years 1995 to 2003 and dropping the lowest three years for each allocated species, three eligible LLP owners in the sector have over 8 percent of the combined catch history of all allocated species for each of the different catch history year combinations. The average allocation for these three LLP holders is 9.5 percent. The sum of LLP owners with over five percent of the catch history but less than eight percent is four. The sum of LLP

owners with over 2 percent of the catch history but less than 5 percent is 12. The sum of LLP owners with less than two percent of the catch history is seven. The median catch history percentage for the 26 qualified vessels is 3.3 percent.

Sideboards are included under both alternatives to prevent members of the Non-AFA Trawl CP sector from increasing their harvest of species outside their direct allocation. It is thought these vessels could increase their harvests of other species because of the harvesting flexibility they would have under the cooperative structure. Harvesting flexibility is increased because harvesters can fish at different times of the year or they can stack their cooperative harvest privileges on the most efficient vessels and use the other vessels to fish other species. Implementing sideboard limits will restrict members of the Non-AFA Trawl CP sector from harvesting more than their historic percentage of these other species.

It is not possible to estimate the overall economic impact that sideboards would have on the Non-AFA Trawl CP fleet. However, the negative impacts are likely going to be greater under Alternative 3 when compared to Alternative 2. The benefits of the sideboards to the other sectors cannot be estimated. To the extent that they are able to increase their harvest of GOA species they would benefit (Under Alternative 3). They will likely be able to harvest most, if not all, of the fish available to them under the two alternatives. **Halibut PSC limits will play a role in how much of the fish they can harvest. Additional direction on how GOA PSC should be allocated under this sideboard program is needed. Therefore, estimates of GOA PSC sideboards have not been generated in this draft of the analysis**

Effects on Catcher Processor Efficiency

Production efficiency of the Non-AFA Trawl CP sector under the status quo is limited to some degree by the race for fish under the current LLP fishery and GRS. Sector participants are compelled to race for groundfish with other sector participants, as well as other participants in other sectors throughout the period the fisheries are open. Generally, participants in the Non-AFA Trawl CP sector are equipped to produce whole and head and gut frozen products. Production of these products is likely to continue, if the status quo is maintained. Participants in the Non-AFA Trawl CP must comply with GRS, which could limit production efficiency. With higher retention rates required for vessels greater than 125 ft, sector participants are constrained in production efficiency.

Under Alternatives 2 and 3, the Non-AFA Trawl CP sector is likely to realize some gains in production efficiency capturing greater rents from the allocated fisheries despite having to comply with GRS. Most eligible participants in the Non-AFA Trawl CP sector are likely to join a cooperative under either alternative, since operations in the limited access fishery are likely to be less efficient (and less profitable).

Effects on the CDQ Program

Under Alternative 2, CDQ allocations for each of the primary target species and associated secondary species taken incidental in the primary trawl target fisheries would remain at 7.5 percent, whereas in Alternative 3 the allocation would increase to 10 percent. Under Alternative 2 the PSC allocated to the CDQ program as PSQ reserve would also remain at 7.5 percent, and under Alternative 3 the PSC allocation to the CDQ program would increase to 10 percent.

Given that the allocations to the Non-AFA Trawl CP sector, under Alternative 3, would likely cause the participants to harvest their entire allocation, it is more likely that these vessels would be available to harvest CDQ flatfish. In the past these fisheries have remained open for much of the year. Under Alternative 3, the allocations to the Non-AFA Trawl CP sector are expected to be limiting. Once these fisheries that the cooperative(s) or open access components of the Non-AFA Trawl CP sector fish are closed, it is more likely they would want to fish CDQ flatfish allocations. This could benefit the CDQ groups and the vessels that have contracts to harvest that catch. The actual benefits that each entity would generate cannot be estimated given the current information available. However, an

estimated aggregate royalty rate of $65 per metric ton was applied to the entire amount of each primary species allocated to the CDQ program to provide an estimate of the value of each allocation. The additional royalty value of a 10 percent allocation under Alternative 3 is $355,225. The increased allocation to the CDQ groups could offer opportunities for the CDQ groups to increase their participations in the Amendment 80 target fisheries and realize associated increase in royalties to them for allowing their partners to access CDQ species. However, we anticipate that any increases in the CDQ allocation would contribute a relatively small amount of the total CDQ royalties generated per year. But, these increased allocations also could allow CDQ groups to negotiate additional training opportunities, internships, and employment positions for CDQ community residents, either on board fishing vessels or in the business offices of fishing vessels' managing companies.

In addition to potential increases in the primary target CDQ species, Alternative 3 would increase the CDQ allocations of secondary species (except for Pacific cod) caught incidentally with the primary Amendment 80 target species. Alternative 2 would keep in place the current allocation of 7.5 percent of the secondary species to the CDQ groups. The 2.5 percent increase in CDQ allocations under Alternative 3, for bycatch species, is the same percentage increase as for the Amendment 80 primary species. Historically, non-target (and prohibited species catch) species have been allocated to the CDQ Program at the same level as all other species allocated to the program. Estimating the amount of each bycatch species to allocate to the CDQ Program is a complex exercise that has never been undertaken at a comprehensive level.

Historically, CDQ groups have had adequate PSQ reserves for the fishing strategies used those years. The PSQ catch by the Amendment 80 species show that no non-chinook salmon were taken in these fisheries. It is not expected that chum salmon bycatch is going increase much in these fisheries. The non-chinook salmon PSC allocation under Alternative 2 is 3,150 salmon, whereas under Alternative 3 the allocation would be 4,200 salmon. The amount of crab PSQ that would be needed in the future depends on whether CDQ groups expand their harvests of those species. If those species are more fully utilized by the CDQ groups, the crab bycatch would be expected to increase. Crab PSC allocations for the Zone 1 red king crab for Alternative 2 is 14,775 crabs, 73,500 crabs for Zone 1 *C. bairdi* crab, 222,750 crabs for Zone 2 *C. bairdi*, and 326,250 crabs for *C. opilio*. Under Alternative 3, 19,700 crabs for Zone 1 red king crab is allocated to the Non-AFA Trawl CP sector, 98,000 crabs for Zone 1 *C. bairdi*, 297,000 crabs for Zone 2 *C. bairdi*, and 435,000 crabs for *C. opilio*. The total amount of halibut PSQ mortality used in the CDQ fisheries would be expected to increase if the CDQ groups are successful in increasing their utilization of flatfish allocations such as yellowfin sole and rock sole. The allocation of halibut PSC under Alternative 2 is 343 mt, whereas under Alternative 3 the allocation is 458 mt. Herring bycatch is currently not allocated to the CDQ program and is not being considered under this program. Herring will continue to be managed as it is currently.

Effects on Consumers

Consumers are likely to be supplied with products from the Amendment 80 fisheries that resemble those currently produced under status quo management. Non-AFA Trawl CP participants are likely to continue to produce high quality frozen head and gut and whole fish, most of which is sold into Asian markets.

Production of the Non-AFA Trawl CP sector participants is likely to be similar to current production under Alternative 2. The allocations under Alternative 3 could reduce the amount of the flatfish species allocated to the Non-AFA Trawl CP sector. If the portion of the TACs assigned to sectors, other than the Non-AFA trawl CP sector, is not harvested, and the amounts of those fish rolled-over to the Non-AFA Trawl CP sector cannot be harvested due to halibut constraints, the reduced supply could negatively impact consumers through higher prices. The lack of information on these markets precludes quantitative estimates of the impacts on U.S. consumers.

Some quality improvement could occur as a result of cooperatives, but these vessels already produce high quality products because their catch is processed onboard soon after it is harvested. Any improvements in consumer benefits arising from improved quality are likely to be realized by Asian consumers, as most of the production from this sector is sold into that market.

Effects on environmental/non-use benefits

Public non-use benefits derived from the management of health stocks of these species are likely to be maintained, if the current management is perpetuated.

Under Alternatives 2 and 3, catch of all species of interest will continue to be limited by TAC or PSC limits. These limits should be effectively maintained through the monitoring and management program, perpetuating the current non-use public benefit derived from maintenance of healthy stocks.

NOAA Fisheries will make annual, exclusive cooperative allocations for the five allocated species under Alternatives 2 and 3. The proposed action will require eligible Non-AFA Trawl CP vessels under 125 ft length overall to meet the GRS if they join a cooperative. These measures should have the effect of reducing discards of these species, contributing additional non-use benefits that might arise from productive use of the resource.

If Alternative 3 reduces the harvest of these species below the allowed catch, the unharvested fish will remain in the BSAI ecosystem. This could be considered a benefit to the environment.

Effects on Management, Monitoring, and Enforcement Costs

To meet these challenges, requirements in addition to the current regulations for this fleet will be needed to be able to manage these sector allocations. NOAA Fisheries is proposing components to the Amendment 80 monitoring program for all alternatives except the status quo. These components are described below.

- All vessels would be required to weigh all catch on NOAA Fisheries-approved scales and provide an observer work station.
- All vessels would be required to weigh all catch on NOAA Fisheries-approved scales and provide an observer work station.
- All hauls would be observed by NOAA Fisheries-certified observers.
- An observer must be able to monitor the flow of fish between the point of exit from the codend to the point where the observer collects unsorted catch.
- Each vessel would be required to submit a Vessel-specific Monitoring Plan to NOAA Fisheries for approval.
- Each vessel would be required to provide the opportunity for a pre-cruise meeting.

All vessels would be required to weigh all catch on NOAA Fisheries-approved scales. Since status quo includes eligible Non-AFA Trawl CP vessels 125 ft or greater length overall and the associated cost of installing flow scales, observer stations, and additional observers, Alternatives 2 and 3 only includes the additional cost incurred from including these additional monitoring requirements for the eligible Non-AFA Trawl CP vessels under 125 ft length overall. The scales would be inspected annually and tested daily when in use to ensure they are accurate. Vessels would also be required to provide an observer work station where an observer can work safely and effectively. The stations would meet specifications for size and location and be equipped with an observer sampling station scale, a table, adequate lighting and running water. Each observer sampling station would be inspected and approved by NOAA Fisheries annually. All hauls would be observed by NOAA Fisheries-certified observers. Additionally, each vessel would be required to carry and use a NOAA Fisheries approved VMS transmitter when fishing at any time. Total costs for scale, sample station,

and observer requirements for each vessel less than 125 ft could range between $182,225 and $406,725.

In addition to costs borne by the vessels, the increase in the number of observers and its associated increase in the amount of data collected is expected to raise overall annual costs of the North Pacific Groundfish Observer Program (Observer Program). This budgetary increase can be attributed to additional staffing, augmented spending for observer sampling equipment, data entry contracts, and travel associated with inspecting sample stations and approving Vessel-specific Monitoring Plans. The Observer Program estimates increased staffing and costs associated with this action to include 1 full time equivalent staff position and approximately $120,000 annually.

In general, the performance based monitoring standards proposed are designed to 1) ensure an observer(s) is able to efficiently sample catch for species composition; 2) describe a process for implementing monitoring requirements that is transparent to NOAA Fisheries, the observers, and vessel personnel; 3) ensure observers are able to adequately sample every haul; and 4) decrease the potential for intentional and unintentional bias to be introduced into the observers' sample. Vessels could incur some costs associated with implementing factory layout changes, system installations, or operation changes to meet specific standards. Because vessels would have a wide range of options in developing a Vessel-specific Monitoring Plan, it is impossible to accurately quantify the costs associated with this component of the monitoring plan.

Because monitoring requirements for vessels under 125 ft length overall would include flow scales, observer stations, observation of every haul, and a requirement for all eligible Amendment 80 vessels to operate under an approved Vessel-specific Monitoring Plan; it is possible that some improvements to management precision and accuracy may occur with these additional requirements.

Effects on Fishing Crew

Crew participation and compensation in the Amendment 80 fisheries are likely to continue in their current manner, if the status quo management is continued.

Alternatives 2 and 3 are likely to have some minor effect on crew. Fishing can be expected to slow. In addition, some vessels that have historically participated are likely to no longer fish in the Amendment 80 fisheries. Notwithstanding this decrease in vessels in the Amendment 80 fisheries, it is likely that some vessels will leave the North Pacific fisheries entirely while some would continue to fish in other BSAI and GOA fisheries.

Crew compensation could change in some cases. Crews on some vessels that leave the Amendment 80 fisheries are likely to lose some income, if the vessel is unable to make up the loss in revenues in other fisheries. Crew on vessels that remain in the Amendment 80 fisheries could realize an increase in income from increased harvests and revenues in the fishery. Catch increases are likely under each of the two alternatives. Crew on vessels in the Non-AFA Trawl CP sector that participate in the Amendment 80 species could benefit from consolidation of harvests on fewer vessels and possible a minor increase in revenues, if quality improvements are realized.

Effects on Communities

Due to the large size and diversity of Seattle's economy, community-level impacts would not be likely as a result of implementing these alternatives. Significant benefits to other communities that are home to the Non-AFA Trawl CP fleet are not expected. Vessels located in those communities will continue to generate revenue from those fisheries. Changes in benefits to the community could occur, but the magnitude of the change is expected to be relatively small. Impacts on other communities with ties to catcher vessels cannot be quantitatively, but they are expected to be relatively small based on historic participation.

Effects on Net Benefits to the Nation

If the current management of the Amendment 79 fisheries were to continue, net benefits to the Nation are likely to remain at their current level.

Net benefits to the Nation will be affected by a few different factors under Alternatives 2 and 3. Production efficiency should increase slightly, as some participants realize moderate improvements in quality of production and the reduced costs associated with removing excess capacity. Alternative 3 could reduce total production, and that would tend to reduce producer surplus generated by harvesting vessels.

Few, in any, benefits of production improvements will be realized by U.S. consumers, as this fleet is likely to continue to primarily serve international markets. Costs of management, monitoring, and enforcement will increase to administer and oversee the cooperative allocations and monitor those vessels under 125 ft length overall that join a cooperative for GRS. These vessels will be required to purchase additional monitoring equipment. Some participants may avoid these costs altogether, if their allocations are fished by other cooperative members. Some additional benefits to the Nation could arise through reduction in bycatch, since the program requires vessels under 125 ft length overall to meet GRS if they join a cooperative. Since discard rates of these species are relatively high compared to other fisheries, these benefits are likely to be fairly modest.

Environmental Assessment

The Environmental Assessment discusses the environment that would be affected by the alternatives, and then describes the impacts of the alternatives. The following components of the environment are discussed: the primary target species to be allocated under the alternatives, prohibited species, other fish species, benthic habitat and essential fish habitat, marine mammals and seabirds, economic and socioeconomic components, and the ecosystem as a whole.

The current fishery management program, represented by Alternative 1, was analyzed in detail in the *Alaska Groundfish Fisheries Programmatic Supplemental Environmental Impact Statement* (NMFS 2004b), the *Environmental Impact Statement for Essential Fish Habitat Identification and Conservation in Alaska* (NMFS 2005), and updated in the annual Environmental Assessment of Harvest Specifications for the Years 2005-2006 (NMFS 2004a). These analyses concluded that the groundfish fisheries, in the status quo, are not effecting a significantly adverse impact on the environment.

In most instances, the effects of Alternatives 2 and 3 have been considered together, as there is little difference between these alternatives in terms of their impact on the physical and biological environment. Under both alternatives, a sector allocation is made that will allow the formation of cooperatives. This will likely change fishing patterns, and may distribute fishing for the primary target species over a longer season or more diverse area. Harvest levels for the primary target species will, however, remain unaffected, as well the existing management measures that distribute the harvest in space and time. As a result, the impact of the alternatives on these species is not assessed to be significant.

Incidental catch patterns may change as a result of Alternatives 2 and 3, as the fisheries endeavor to meet the groundfish retention standard and reduce discards. Also, an option under the alternatives would require the fisheries to reduce their historic proportion of prohibited species catch. The increased flexibility afforded to the Non-AFA Trawl CP sector under these alternatives should allow the sector to reduce discards. However, prohibited species catch limits and harvest quotas for other incidental catch species will continue to be set at biologically sustainable levels under these alternatives, and regardless of the ability of the sector to reduce its incidental catch, the impact to the sustainability of these incidental species is not assessed to be significant.

As the amount of the overall amount of fishing effort under the alternatives is likely to remain the same or decrease, the alternatives are unlikely to result in a change that would significantly impact seabirds or marine mammals that interact with the groundfish fisheries. Similarly, minimal and temporary impacts to benthic habitat and essential fish habitat are unlikely to be aggravated by these alternatives.

The economic and socioeconomic impacts of the alternatives are summarized in the RIR above.

An evaluation of the effects of the groundfish fisheries on the ecosystem is undertaken annually in the *Stock Assessment and Fishery Evaluation* report. Based on the discussions above regarding population-level impacts of Alternatives 2 and 3, and the lack of other impacts to ecosystem attributes, the alternatives are not assessed to have a significant impact on the ecosystem.

The cumulative effects of the proposed alternatives are also evaluated in the Environmental Assessment. The analysis of past actions affecting the Non-AFA Trawl CP sector showed that, since the mid-1980s, adjustments in the regulatory regime have changed the economic conditions of the groundfish fisheries in which these vessels participate. An increasingly restrictive regulatory environment and escalating compliance costs resulted in economical stress for some Non-AFA Trawl CP owners. The increased restrictions were also a primary reason that flatfish became the primary target species for the Non-AFA Trawl CP sector. Because these species are bottom-dwellers, flatfish fisheries are prone to high incidental catches of prohibited species such as halibut and crab. In addition, flatfish fisheries have limited markets—particularly with regard to size and product quality. These characteristics of the flatfish fisheries, in combination with a "race for fish" regime and other factors, led to a relatively high level of economic and regulatory discards in the Non-AFA Trawl CP sector.

In recent years, the Non-AFA Trawl CP fleet has faced increasing pressure to reduce its discard rate. In 2003, the Council established a minimum groundfish retention standard for Non-AFA Trawl CPs greater than 125 ft length overall. The GRS will result in a substantial reduction in the bycatch of the affected vessels. However, a GRS may also result in substantial costs and lost revenues for these vessels as a result of holding/processing, transporting and transferring fish that are of relatively low value or "unmarketable." In addition, the GRS measure imposes significant costs on the vessels with increased observer and scale costs.

With the possible exception of the BSAI Pacific cod allocation and rationalization programs, the reasonably foreseeable future actions cited above may have negative effects (to some degree) on the economic performance of Non-AFA Trawl CP sector. The cumulative effects of all actions—past, present, and future—are toward an increasingly restrictive regulatory environment resulting in lower harvests and gross revenues and/or higher operating costs. While some foreseeable future actions may offset these negative effects to some extent, the overall trend points to increasing economic stress for the Non-AFA Trawl CP sector.

The conclusions reached in the direct and indirect effects analysis of the cooperative alternatives indicate that the compliance costs incurred under a GRS may be mitigated by the benefits of participating in a cooperative. The costs of the GRS associated with retaining unwanted fish may be reduced or avoided altogether under a cooperative structure, as vessels can be more selective in what they catch without losing any competitive advantage. In addition, a cooperative structure may allow the sector to manage its PSC allocation in a manner that prevents PSC limits from being exceeded and thereby avoids the lower harvests and revenues associated with fishery closures when PSC limits are reached.

Initial Regulatory Flexibility Analysis

The directly regulated entities in this action are the companies that own the 26 Non-AFA Trawl CP vessels, the six CDQ groups, and the 65 communities under the CDQ program. Other BSAI trawl

vessels may also be impacted by the size of the residual ITAC of the allocated species. However, participation in harvesting these species by other members of the BSAI fleet has been limited in recent years. The harvests of vessels considered a small entity should not be constrained by the alternatives being considered. The 26 Non-AFA Trawl CP vessels are all considered to be large entities based on the $3.5 million revenue threshold. Some of the individual vessels in the fleet do not harvest $3.5 million worth of product, but the owners of those boats also own other vessels that when aggregated meet the threshold.

All CDQ groups and CDQ communities are considered to be small entities. The alternatives considered in this amendment would either maintain their current allocation or increase the amount of specific species they are allocated. The royalty value of the proposed increased allocation under Alternative 3 was estimated to be about $350,000. That is a relatively small increase in the total annual revenues by these groups, but would likely help further the mission of improving the lives of residents of rural Western Alaska.

Table of Contents

List of Figures and Tables

List of Acronyms and Abbreviations

%	percent
‘	minutes
<	less than
>	greater than
ABC	acceptable biological catch
ADF&G	Alaska Department of Fish and Game
AFA	American Fisheries Act
AI	Aleutian Islands
BSAI	Bering Sea and Aleutian Islands
BSAI Groundfish FMP	Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area
C.F.R.	Code of Federal Regulations
CDQ	community development quota
COBLZ	*C. Opilio* Bycatch Limitation Zone
Council	North Pacific Fishery Management Council
CP	catcher processor vessel
CV	catcher vessel
E.	East
EA	Environmental Assessment
EFH	essential fish habitat
EFH EIS	Final Environmental Impact Statement for Essential Fish Habitat Identification and Conservation in Alaska
ENSO	El Niño-Southern Oscillation
ESA	Endangered Species Act
FMP	fishery management plan
ft	foot/feet
FY	Federal Year
GOA	Gulf of Alaska
Groundfish PSEIS	Final Programmatic Envirohnmental Impact Statement for the Alaska Groundfish Fisheries
GRS	groundfish retention standard
ICA	incidental catch allowance
IFQ	individual fishing quota
IPHC	International Pacific Halibut Commission
IRFA	Initial Regulatory Flexibility Analysis
IR/IU	Improved Retention/Improved Utilization Program
ITAC	initial total allowable catch
kg	kilogram(s)
lb(s)	pound(s)
LLP	license limitation program
LOA	length overall
MRA	maximum retainable amount
MSA	Magnuson-Stevens Fishery Conservation and Management Act
mt	metric ton(s)
N.	North
nm	nautical miles
NMFS	National Marine Fisheries Service
NOAA Fisheries	National Marine Fisheries Service
NPFMC	North Pacific Fishery Management Council
º	degrees
Observer Program	North Pacific Groundfish Observer Program
POP	Pacific ocean perch
PSC	prohibited species catch
PSQ	prohibited species quota
RFA	Regulatory Flexibility Act
RIR	Regulatory Impact Review
TAC	total allowable catch
U.S.	United States
U.S.C.	United States Code
VMS	Vessel monitoring system
W.	West
EAI	Eastern Aleutian Islands District
CAI	Central Aleutian Islands District
WAI	Western Aleutian Islands District
BS	Bering Sea
APICDA	Aleutian Pribilof Islands Community Development Association
BBEDC	Bristol Bay Economic Development Corporation
CBSFA	Central Bering Sea Fishermen’s Association
CVRF	Coastal Villages Region Fund
YDFDA	Yukon Delta Fisheries Development Association
F/V	Fishing Vessel

1 PURPOSE AND NEED

The proposed action is to allocate Bering Sea and Aleutian Islands (BSAI) groundfish and prohibited species catch limits to the Non-American Fisheries Act (AFA) Trawl Catcher Processor (CP) sector and to develop a cooperative structure for the sector. The North Pacific Fishery Management Council (Council) for many years has focused on maintaining a healthy marine ecosystem to ensure the long-term conservation and abundance of the fisheries resources. This action is a step in realizing that goal by helping to reduce bycatch, minimize waste, and improve utilization of the BSAI fish resources.

In October 2002, the Council initiated three new improved retention/improved utilization (IR/IU) amendments with the expectation that these amendments could augment existing IR/IU regulations for flatfish. Amendment 72, approved by the Council in April 2003, provides an exemption to the IR/IU flatfish requirements for those sectors with less than a 5 percent bycatch rate of shallow-water flatfish species. Amendment 79, approved by the Council in June 2003, would establish a minimum groundfish retention standard (GRS) for Non-AFA Trawl CPs greater than 125 ft length overall. The approach of the GRS program is to phase in gradually higher retention rates. When approved by the Council in 2003, the GRS program was scheduled to start in 2005 with the initial minimum retention standard set at 65 percent of total groundfish catch followed by slightly higher predetermined retention rates over the next three years. However, since the action is yet to be approved by the Secretary of Commerce, it is unknown what the time schedule for the program will be. The action will also change the monitoring requirements for each vessel managed under the GRS, requiring flow scales, observer stations, and observations of every haul. The final IR/IU amendment initiated by the Council in October 2002, Amendment 80, would allocate BSAI yellowfin sole, flathead sole, rock sole, Atka mackerel, and Aleutian Islands Pacific Ocean perch and PSC limits to the Non-AFA Trawl CP sector in addition to a cooperative structure for the sector.

Initially, Amendment 80 was envisioned as a prohibited species catch (PSC) cooperative for the Non-AFA Trawl CP sector. In February 2003, the Council modified Amendment 80 to include a multispecies cooperative. The purpose of this change would be to allow cooperative participants to improve their retention to the extent practicable. In April 2003, the Council expanded the proposed action to include allocations of non-pollock and PSC to ten sectors operating in the BSAI. The potential for other sectors to be impacted by the allocation to the Non-AFA Trawl CP sector was enough that the Council decided that allocations to all sectors were warranted. The Council also recognized that sector allocations provided an opportunity to continue the rationalization of the BSAI groundfish. In October 2004, the Council changed the direction of Amendment 80 from allocating non-pollock groundfish to all sectors to just the Non-AFA Trawl CP sector. The Council also removed Pacific cod allocations from Amendment 80 and instead initiated a separate action to address the allocation of this species. The intent of the Council's action was to streamline Amendment 80 to reflect the amendments original purpose, to provide the Non-AFA Trawl CP sector with the ability to form a cooperative(s).

1.1 Problem Statement

The Council has long recognized that it was necessary to reduce the level of discards in the North Pacific groundfish fisheries. The Council took action that improved retention and utilization of North Pacific groundfish by implementing Amendment 49 in January 1998. This action requires all vessels fishing for groundfish in the BSAI management area to retain all pollock and Pacific cod beginning January 3, 1998, and retain all rock sole and yellowfin sole beginning January 1, 2003. In addition, the amendment established a 15 percent minimum processing standard, with no limit on product form for pollock and Pacific cod. However, in 2000, it became increasingly clear that the Non-AFA Trawl CP sector would not be able to fully meet these retention requirements by the 2003 deadline. The Council realized that IR/IU for the multi-species fisheries would be more problematic than the

pollock or Pacific cod fisheries. In a multi-species fishery, the race for fish often results in unacceptable high discards. The Council recognizing this issue, initiated action in October 2002, to establish a cooperative program for the Non-AFA Trawl CP sector. A cooperative program would provide the opportunity for sector participants to focus on reducing their bycatch rather than racing for fish, which is a step towards rationalizing the BSAI groundfish fisheries. In December 2004, the Council adopted the following Amendment 80 problem statement:

> *The Council's primary concern is to maintain a healthy marine ecosystem to ensure the long-term conservation and abundance of the groundfish and crab resources. To this end, the Council is committed to reducing bycatch, minimizing waste, and improving utilization of fish resources to the extent practicable in order to provide the maximum benefit to present generations of fishermen, associated fishing industry sectors, communities, and the nation as a whole, while at the same time continuing to look for ways to further rationalize the fisheries. Focusing on reduction of bycatch and the attendant benefits of cooperatives in meeting bycatch reduction objectives is an initial step towards rationalization of the BSAI groundfish fisheries. Bycatch reduction measures for the Non-AFA Trawl Catcher Processor sector is a priority focus in this step toward rationalization given this sector's historical difficulty in achieving acceptable bycatch levels. Allocations to this sector associated with cooperative management of catch and bycatch provide the opportunity for participants in this sector to mitigate the cost, to some degree, associated with bycatch reduction. In addition to reducing bycatch in one sector, assurance should be provided to minimize negative impacts on others.*

1.2 Need for Groundfish and Prohibited Species Catch Allocations and Cooperative Program for the Non-AFA Trawl Catcher Processor Sector

The proposed action is to allocate BSAI non-pollock groundfish and PSC allowances and develop a cooperative program for the Non-AFA Trawl CPs sector. This action is expected to eliminate the "race for fish" for the sector in addition to reducing bycatch and its associated mortalities, improve utilization of the fisheries resources, and allow the sector to manage its allocation to mitigate management costs.

The Council, since the mid 1980s, has made reducing or eliminating the "race for fish" in the North Pacific a high priority. Many of the fisheries in the North Pacific (with the exception of those that have dedicated access privileges) focus on maximizing their harvest in as little time as possible. This creates an incentive for fisherman to continually invest in bigger and faster vessels, new gear, and additional labor all for the purpose of harvesting a greater share of the available TAC. The Council, since the early 1990s, has continued to develop management programs that eliminate the "race for fish" by assigning dedicated access privileges to the industry. Some of these programs include the halibut and sablefish individual fishing quota (IFQ) and AFA. These programs have succeeded in accomplishing their intended goal by allowing the industry to improve their fishing practices and operate their businesses in a more rational manner. Reduced bycatch, higher utilization rates, increase economic returns, and improved safety are among the direct benefits of these programs.

The Council in proposing allocations of non-pollock groundfish and PSC to the Non-AFA Trawl CP sector would continue the stepwise process of rationalizing the BSAI. Although not fully rationalized, allocations to the Non-AFA Trawl CP sector would reduce the "race for fish" by allowing one sector to harvest their allocation without fear of other sectors prematurely closing the fishery when reaching the total allowable catch (TAC) or PSC limits. Sector allocations and their associated cooperatives would allow participants to focus less on harvest maximization and more on optimizing their harvest. This in turn could reduce bycatch, improve retention, and improve utilization, while also improving the economic health of the harvesting and processing industry.

Recognizing the benefits a rationalized fishery would have on reducing bycatch and discards, and improving fishery utilization, the Council has also proposed developing a cooperative program for the Non-AFA Trawl CPs sector. Since at least 1995, the Non-AFA Trawl CP sector has had the lowest retention rate in the BSAI. For example, the sector in 1995 had an overall retention rate of 59 percent. Six years later, the retention rate improved to 75 percent, but was still well below the other sectors operating in the BSAI. In the past, the Council has utilized regulations that require better retention by participants. These programs have been successful in reducing discards, but in many cases have increased production costs to the industry. These management programs have also not directly addressed one of the primary reasons for the high levels of bycatch and discards – the "race for fish." Because vessels are competing with each other for shares of the TAC, an individual vessel maybe penalized for undertaking actions to reduce bycatch, such as searching for cleaner fishing grounds, by receiving a lower share of the TAC. Creating a cooperative program for the Non-AFA Trawl CP sector allows eligible participants to take actions that would reduce bycatch without jeopardizing their share of the TAC. In addition, cooperative formation could also reduce the costs to the Non-AFA Trawl CP sector caused from the groundfish retention standard that could be implemented in 2005 or 2006. Exceeding PSC limits and failure to meet the GRS can be reduced or avoided altogether if vessels undertake action to be more selective in what they catch. As a result, the Council has initiated action to develop a cooperative(s) for the Non-AFA Trawl CP sector as a means of complying with regulations under Amendment 79, and reducing bycatch and discards and to improve utilization of the BSAI groundfish.

2 DESCRIPTION OF THE ALTERNATIVES

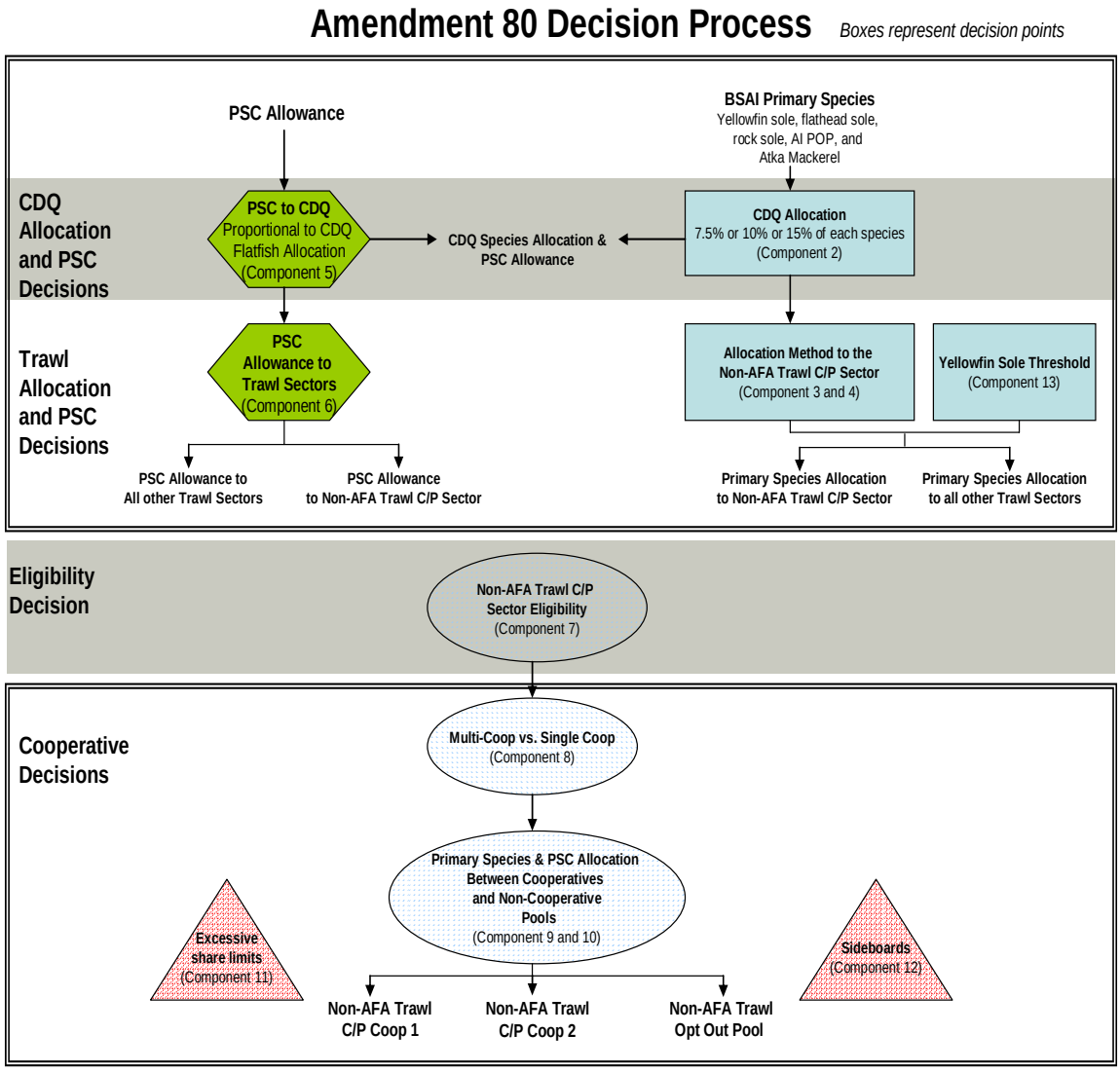
2.1 Amendment 80 Structure

This section presents a general overview of the decision process necessary for the proposed action, alternatives considered for analysis purposes, and individual components and options that make up the proposed action. As noted in the flow diagram of the Amendment 80 decision process presented below (Figure 2-1), the outcome of the proposed action is a cooperative program for the Non-AFA Trawl CP sector. To accomplish this end, the Council will need to make several key decisions.

The first set of decisions involves allocating the Amendment 80 target species to the Non-AFA Trawl CP sector and the community development quota (CDQ) program. In December 2004, the Council selected the yellowfin sole, rock sole, flathead sole, Aleutian Islands Pacific Ocean perch, and Atka mackerel as the species allocated to the Non-AFA Trawl CP sector. Next, the Council, must consider increasing the CDQ allocation for these Amendment 80 target species and those secondary species taken incidental to the primary target species or leave the allocation at its current level. Following CDQ allocations is allocations of the Amendment 80 species to the Non-AFA Trawl CP sector. Another primary decision is PSC allowance for the CDQ program and the Non-AFA Trawl CP sector. Finally, the Council in December 2004 added the option of a yellowfin sole threshold fishery. If the Council elects to have a yellowfin sole threshold fishery, the threshold must be selected and how to distribute the yellowfin sole in excess of that threshold.

The second series of major decisions the Council must consider involves developing the cooperative structure for the Non-AFA Trawl CP sector. One such decision is whether to develop a multiple cooperative program or only a single cooperative program. Another decision is determining eligibility for the Non-AFA Trawl CP sector. Once the eligibility has been determined, the distributing the sector allocation between those participants who join a cooperative and those that do not will need to be determined. Other key decisions are the sideboard species and amounts and excessive share limits.

Figure 2-1 Amendment 80 Decision Structure



2.2 Alternative 1: No Action

Under this alternative, current management of groundfish and prohibited species catch in the BSAI would remain in effect. Although Amendment 79 to the BSAI Groundfish FMP, the groundfish retention standard, has not yet been implemented, it is expected to be in place by the time any of the actions analyzed here would be implemented. Therefore, for the purposes of the analysis, it is assumed that Amendment 79 will phase in a minimum retention standard for Non-AFA Trawl CP vessels greater than 125 ft length overall over a three-year period, starting in 2006 at 75 percent and culminating in 2008 at 85 percent.

2.3 Alternative 2: Multiple Cooperatives

The eligibility criteria for the Non-AFA Trawl CP sector have been determined by Congress in the provisions of the BSAI CP Capacity Reduction Program, which was passed in November 2004. In order to qualify for the sector, a license holder must have trawl and catcher processor endorsements on their License Limitation Program permit (LLP), and must have caught and processed 150 mt of groundfish with trawl gear between 1997-2002.

This alternative will allocate the following species to the Non-AFA Trawl CP sector: yellowfin sole, rock sole, flathead sole, Atka mackerel, and Aleutian Islands subarea Pacific Ocean perch. These will be referred to as primary target species. Allocation of these species to the sector will be in proportion to the retained catch of the Non-AFA Trawl CP sector relative to the retained catch of all vessels, for the years 1998 to 2002. The unallocated portion of the primary target species quota will be reserved for all other trawl vessels with groundfish catch history between 1995 and 2004 and the appropriate LLP endorsements (the limited access trawl fishery). Non-AFA Trawl CP sector allocations of the primary target species will be managed as a hard cap: when the sector harvests all of its allocation of a primary target species, all directed fisheries for that species, as well as those fisheries that catch the species incidentally, will close for the sector. Primary species quota cannot be rolled over between trawl sectors under this alternative.

The alternative includes a threshold of 125,000 mt for the yellowfin sole quota. If, in a given year, the quota exceeds this threshold, the excess will be allocated in the following manner: 30 percent to the Non-AFA Trawl CP sector and 70 percent to the limited access trawl fishery. Specifically for this excess allocation, a two-way rollover option is allowed. A portion of the yellowfin sole reserve allocated to either the Non-AFA Trawl CP sector or the limited access fishery shall be rolled over to the other, if, after a specified date (August 1 or September 1), there is any that is projected to remain unused.

The Non-AFA Trawl CP sector will receive its own PSC allowance under this alternative, which will be based on the sector's historical usage of PSC between 1998 and 2002.

To form a cooperative, 30 percent of the eligible Non-AFA Trawl CP sector participants must agree to join. Those participants who elect not to join may either form their own cooperative (with at least 30 percent of eligible participants) or participate outside the cooperative but within the sector.

Allocation of the primary target species and PSC allowances among cooperatives and the group of sector participants who do not join a cooperative is in proportion to the retained catch of the primary target species and the PSC of the eligible license holders in each pool, for the years 1998-2002.

Within the Non-AFA Trawl CP sector, consolidation will not be constrained. An eligible participant (either individual or entity) will not be limited as to the percentage of the Non-AFA Trawl CP sector allocation it can use.

Sideboards for the Non-AFA Trawl CP sector will be established in regulation based on the sector's participation in other fisheries during the same years as used to calculate the sector's allocation, 1998 to 2002. The sideboards will remain in place until such time as other fisheries are rationalized (including sector allocations for the Pacific cod fishery). Within the Non-AFA Trawl CP sector, sideboards will be established between cooperative and non-cooperative participants for unallocated species, based on the same years.

The CDQ program will continue to be allocated 7.5 percent of all groundfish species except pollock and sablefish, including those species allocated under this alternative, as part of the CDQ multispecies fishery. The prohibited species allowance allocated to the CDQ program as prohibited species quota reserves will also continue to be issued at the same percentage as the CDQ groundfish allocation.

Table 2-1 describes Alternative 2 and the components, options, and suboptions from which it is derived.

Table 2-1 Components, options, and suboptions of Alternative 2

Topic	Component	Option	Description
Sector allocation	1	n/a	Allocate only the following primary target species: yellowfin sole, rock sole, flathead sole, Atka mackerel, and Aleutian Islands Pacific Ocean perch.
	2	2.1	7.5% CDQ allocation of each primary target species
	3	3.2	For purposes of apportionments, allocation to the Non-AFA Trawl CP shall be based on retained catch of the sector over retained catch by all sectors.
	3	1	Allocations will be managed as a hard cap.
	4	4.2	Catch history years used to determine the allocation to the Non-AFA Trawl CP sector will be 1998-2002.
PSC allocation	5	n/a	7.5% of the PSC limit for all prohibited species except herring will be allocated to the CDQ program as prohibited species quota reserves.
	6	6.1.1	Apportion PSC allowance to the Non-AFA Trawl Catch Processor sector proportionate to historical usage of PSC.
Sector eligibility	7	7.5	Qualified license holders must have caught and processed 150 mt of groundfish with trawl gear between 1997 and 2002 to be eligible for the Non-AFA Trawl CP sector.
Cooperative eligibility	8	8.1	For a cooperative to form, at least 30 percent of the sector's eligible licenses must join.
Allocation among cooperatives	9	9.2	Catch history is based on retained catch.
	10	10.3	Years of catch history used to calculate allocation of groundfish and PSC allowances between the cooperative and non-cooperative participants are 1998-2002, with no dropped year.
Consolidation	11	11.1	There is no limit on the consolidation of shares in the Non-AFA Trawl CP sector.
Sideboards	12	12.1	Sideboards for the participation of the Non-AFA Trawl CP sector in other fisheries will be established in regulation. They will remain in place until such time as other fisheries are rationalized (including sector allocations for the Pacific cod fishery).
	12	12.1.1	Sideboards within the sector will be established between cooperative and non-cooperative LLP holders.
Yellowfin sole allocation	13	13.3	Any yellowfin sole quota in excess of a given threshold will be allocated based on a different allocation formula. The threshold will be 125,000 mt.
	13	2	Any unharvested portion of the yellowfin sole reserve allocated to either the Non-AFA Trawl CP sector or the limited access fishery shall be rolled over to the other, if, after a specified date (August 1 or September 1), there is any that is projected to remain unused.
	13	1	Allocate 30% of the threshold reserve to the Non-AFA Trawl CP sector and 70% to the limited access trawl fishery.

2.4 Alternative 3: Allocate Only Primary Target Groundfish

As noted in Alternative 2, the eligibility criteria for the Non-AFA Trawl CP sector have been determined by Congress in the provisions of the BSAI CP Capacity Reduction Program. In order to qualify for the sector, a license holder must have trawl and catcher processor endorsements on their LLP and have caught and processed 150 mt of groundfish with trawl gear between 1997-2002.

This alternative will allocate the following species to the Non-AFA Trawl CP sector: yellowfin sole, rock sole, flathead sole, Atka mackerel, and Aleutian Island Pacific Ocean perch. These will be referred to as primary target species. Allocation of these species to the sector will be in proportion to the retained catch of the Non-AFA Trawl CP sector relative to the total catch by all vessels, for the years 1995 to 2003. The unallocated portion of the primary target species quota will be reserved for

all other trawl vessels with groundfish catch history between 1995 and 2004, and the appropriate LLP endorsements (the limited access fishery). Non-AFA Trawl CP sector allocations of the primary target species will be managed as a soft cap: when the sector harvests all of its allocation of a primary target species, the species will be placed on prohibited species status, and must be discarded.

The alternative also includes a rollover provision. If, after a specified date (August 1 or September 1), the limited access fishery projects that a portion of its unharvested primary target species will remain unused, it shall be rolled over to the Non-AFA Trawl CP sector.

The alternative includes a threshold of 100,000 mt for the yellowfin sole quota. If, in a given year, the quota exceeds this threshold, the excess allocated in the following manner: 70 percent to the Non-AFA Trawl CP sector and 30 percent to the limited access trawl fishery. Specifically for this excess allocation, a two-way rollover option is allowed. A portion of the yellowfin sole reserve allocated to either the Non-AFA Trawl CP sector or the limited access fishery shall be rolled over to the other, if, after a specified date (August 1 or September 1), there is any that is projected to be remained unused.

The Non-AFA Trawl CP sector will receive its own PSC allowance under this alternative. PSC usage of all trawl vessels by target fishery, from 1995 to 2002, will be calculated, to which the proportion of the Non-AFA Trawl CP sector's share of the target species quota (as determined above) will be applied. The sector's PSC allowance for each prohibited species will be 95 percent of the total amount calculated using this formula.

To form a cooperative, 67 percent of the eligible Non-AFA Trawl CP participants must agree to join. Those participants who elect not to join may participate outside a cooperative but within the sector.

Allocation of the primary target species and PSC allowances between the cooperative and the group of sector participants who do not join the cooperative is in proportion to the total catch of the primary target species and the PSC of the eligible license holders included in each pool, for the years 1995-2003. Each license holder must drop his or he three lowest annual catches, by species, during this period.

Consolidation in the Non-AFA Trawl CP sector is limited by a use cap that applies to each person (defined as either an individual or an entity). No single person may use more than a certain percentage, to be determined as part of this action, of the sector's combined allocation for all primary target species. However, if a person's attributed history at initial allocation is greater than the use cap threshold, the person's ability to exceed the cap will be grandfathered.

Sideboards for the Non-AFA Trawl CP sector will be established in regulation based on the sector's participation in other fisheries during the years 1995-2003. The sideboards will remain in place until such time as other BSAI and Gulf of Alaska fisheries are rationalized (including sector allocations for the Pacific cod fishery). Within the Non-AFA Trawl CP sector, sideboards will be established between cooperative and non-cooperative LLP participants for unallocated species, based on the same years.

The CDQ program will receive an allocation of 10 percent of each primary target species, and the associated species taken incidentally in the prosecution of these directed fisheries. The prohibited species allowance allocated to the CDQ program as prohibited species quota reserves will be issued at the same percentage as the CDQ groundfish allocation.

Table 2-2 describes Alternative 3 and the components, options, and suboptions from which it is derived.

Table 2-2 Components, options, and suboptions of Alternative 3

Topic	Component	Option	Description
Sector allocation	1	n/a	Allocate only the following primary target species: yellowfin sole, rock sole, flathead sole, Atka mackerel, and AI Pacific Ocean perch.
	2	2.2	10% CDQ allocation of each primary target species and associated species taken incidentally in the directed primary trawl target fisheries.
	3	3.3	For purposes of apportionments, allocation to the Non-AFA Trawl CP sector shall be based on retained catch of the sector over total catch by all sectors.
	3		Any unharvested portion of the primary target species that is projected to remain unused shall be rolled over to the Non-AFA Trawl CP sector at a specified date.
	3	2	Allocations will be managed as a soft cap.
	4	4.1	Catch history years used to determine the allocations to the Non-AFA Trawl CP sector will be 1995-2003.
PSC allocation	5	5.1	10% of the PSC limit for all prohibited species except herring will be allocated ot the CDQ program as prohibited species quota reserves.
	6	6.1.2	Calculate the Non-AFA Trawl Catch Processor sector's share of PSC by determining the average PSC usage, by fishery, of all trawl vessels during 1995-2002, and applying the sector's percentage as determined for the primary target species allocation.
	6	6.2.4	Allocate PSC allowance to the Non-AFA Trawl CP sector of 95% of the amount calculated.
Sector eligibility	7	7.5	Qualified license holders must have caught and processed 150 mt of groundfish with trawl gear 1997 and 2002 to be eligible for the Non-AFA Trawl CP sector.
Cooperative eligibility	8	8.2	For a cooperative to form, at least 67 percent of the sector's eligible licenses must join.
Allocation among cooperatives	9	9.1	Catch history is based on total catch.
	10	10.1	Years of catch history used to calculate allocation of groundfish and PSC allowances between the cooperative and non-cooperative participants are 1995-2003, with the three lowest annual catches, by species, dropped from the calculation.
Consolidation	11	11.2	No single individual or entity can use more than a fixed percentage of the sector's combined allocation for all primary target species.
Sideboards	12	12.1	Sideboards for the participation of the Non-AFA Trawl CP sector in other fisheries will be established in regulation. They will remain in place until such time as other fisheries are rationalized (including sector allocations for the Pacific cod fishery).
	12	12.1.1	Sideboards within the sector will be established between cooperative and non-cooperative LLP holders.
Yellowfin sole allocation	13	13.5	Any yellowfin sole quota in excess of a given threshold will be allocated based on a different allocation formula. The threshold will be 100,000 mt.
	13	13.3	Allocate 70% of the threshold reserve to the Non-AFA Trawl CP sector and 30% to the limited access trawl fishery.

2.5 Components and Options for Amendment 80

Provided below are the issues and components for sector allocation, including their possible options and suboptions. These components and their respective options and suboptions are divided into four issues comprising 15 components in total. The four issues are sector allocations of BSAI non-pollock groundfish, PSC allowance, cooperative formation, and yellowfin sole threshold fishery. Note that Alternatives 2 and 3 represent specific combinations of components and options for analysis. The

final configuration chosen by the Council could include other combinations. The Council's preferred alternative will be analyzed in the final document.

2.5.1 Issue 1: Sector Allocation of BSAI Non-Pollock Groundfish to the Non-AFA Trawl Catcher Processor Sector and CDQ Program

Component 1 Allocate only the following primary target species to the Non-AFA Trawl CP sector: yellowfin sole, rock sole, flathead sole, Atka mackerel, and Aleutian Islands Pacific Ocean perch. Species could be added or deleted through an amendment process.

Component 2 CDQ allocations for each primary target (Component 1) species in the program and associated secondary species (expect Pacific cod) taken incidental in the primary trawl target fisheries shall be removed from the TACs prior to allocation to sectors at percentage amounts equal to one of the following.

Option 2.1 7.5%

Option 2.2 10%

Option 2.3 15%

Component 3 Identifies the sector allocation calculation (after deductions for CDQs).

For purpose of allocation to the Non-AFA Trawl CP sector, each primary species allocation will be based upon the years and percentage of average catch history selected in Component 5 using one of the following:

Option 3.1 Total legal catch of the sector over total legal catch by all sectors

Option 3.2 Retained legal catch of the sector over retained legal catch by all sectors

Option 3.3 Retained legal catch of the sector over total catch by all sectors

Suboption 1 Allocations will be managed as a hard cap. When the allocation is reached, further fishing will be prohibited.

Suboption 2 Allocations will be managed as a soft cap. When the allocation is reached, species will be prohibited status.

The remaining portion of primary species included in this program will be allocated to the BSAI limited access traw*l* fishery. Trawl vessels other than Non-AFA Trawl CP with (retained) trawl catch history from 1995-2004 and with appropriate LLP endorsements may fish in the BSAI limited access trawl fishery.

Suboption Target Species Rollover: Any unharvested portion of the Amendment 80 target species in the limited access fishery that is projected to remain unused, (by a specific date, say August 1 or September 1) shall be rolled over to the Amendment 80 sector.

Component 4 Catch history years used to determine the allocation to the Non-AFA Trawl CP sector in Component 3.

Option 4.1 1995-2003

Option 4.2 1998-2002

Option 4.3 1998-2004

Option 4.4 1999-2003

Option 4.5 2000-2004

Option 4.6 The Council can select percentages for each of the species allocated to the Non-AFA Trawl CP sector.

2.5.2 Issue 2: PSC Allowance for the Non-AFA Trawl Catcher Processor Sector and the CDQ Program

Component 5 PSC is allocated to the CDQ program as PSQ reserves (except herring and Chinook salmon) are proportional to the CDQ allocation under Component 2 for each PSC limit.

Component 6 PSC allowance for the Non-AFA Trawl CP Sector.

Option 6.1 Apportion PSC to Non-AFA Trawl CP sector:

Suboption 6.1.1 Allocation based on historical usage of PSC.

Suboption 6.1.2 Percentage allocations (estimates for PSC associated with Pacific cod catch will be based on the process laid out in Component 3) selected in Component 3 multiplied by the relevant total PSC catch by all trawl vessels in each PSC fishery group.

Option 6.2 Select a Non-AFA Trawl CP sector PSC reduction option from the following that would apply to any PSC apportionment suboption selected in 6.1. PSC reduction options can vary species by species.

Suboption 6.2.1 Reduce apportionments to 60% of calculated level.

Suboption 6.2.2 Reduce apportionments to 75% of calculated level.

Suboption 6.2.3 Reduce apportionments to 90% of calculated level.

Suboption 6.2.4 Reduce apportionments to 95% of calculated level.

Suboption 6.2.5 Do not reduce apportionments from calculated level.

Option 6.3 The Council can select percentages and/or amounts for PSC allocated to the Non-AFA Trawl CP sector.

2.5.3 Issue 3: Cooperative Development for the Non-AFA Trawl Catcher Processor Sector

Basis for the distribution to the LLP license holder is the catch history of the vessel on which the LLP license is based and shall be on a fishery-by-fishery basis. The underlying principle of this program is one history per license. In cases where the fishing privileges (i.e., moratorium qualification or LLP license) of an LLP qualifying vessel have been transferred, the distribution of catch history to the LLP shall be based on the aggregate catch histories of (1) the vessel on which LLP license was based up to the date of transfer, and (2) the vessel owned or controlled by the LLP license holder and identified by the license holder as having been operated under the fishing privileges of the LLP qualifying vessel after the date of transfer. (Only one catch history per LLP license.)

Component 7 Identifies the license holders that are in the Non-AFA Trawl CP sector which would receive Sector Eligibility Endorsements. Non-AFA qualified license holders with a trawl and catcher processor endorsement would be issued a Sector Eligibility Endorsement that will be attached to that holder's LLP identifying it as a member of the Non-AFA Trawl CP sector. Only vessels that qualify for a sector eligibility endorsement may participate in cooperative under this program.

Option 7.1 Qualified license holders must have caught 500 mt of groundfish with trawl gear and processed that fish between 1998-2002

Option 7.2 Qualified license holders must have caught 1,000 mt of groundfish with trawl gear and processed that fish between 1998-2002

Option 7.3 Qualified license holders must have caught 500 mt of groundfish with trawl gear and processed that fish between 1997-2002

Option 7.4 Qualified license holders must have caught 1,000 mt of groundfish with trawl gear and processed that fish between 1997-2002

Option 7.5 Qualified license holders must have caught 150 mt of groundfish with trawl gear and processed that fish between 1997-2002

Component 8 Establishes the percentage of eligible licenses that must join a cooperative before the cooperative is allowed to operate. There may be more than one cooperative formed. No later than December 1 of each year, an application must be filed with NOAA Fisheries by the cooperative with a membership list for the year. In order to operate as a cooperative, members, as a percent of eligible LLP licenses with Non-AFA Trawl CP endorsement, must be:

Option 8.1 At least 30 percent

Option 8.2 At least 67 percent

Option 8.3 At least 100 percent

Option 8.4 All less one distinct and separate harvesters using the 10 percent threshold rule.

Component 9 Determines the method of allocation of PSC limits and groundfish between the cooperative and eligible Non-AFA Trawl CP participants who elect not to be in a cooperative.

Option 9.1 Catch history is based on total catch

Option 9.2 Catch history is based on total retained catch

Component 10 Determines which years of catch history are used for establishing cooperative allocations. The allocation of groundfish between the cooperative and those eligible participants who elect not to join a cooperative is proportional to the catch history of groundfish of the eligible license holders included in each pool. Applicable PSC limits are allocated between the cooperative and non-cooperative pool in same proportions as those species that have associated PSC limits. The catch history as determined by the option selected under this component will be indicated on the Sector Eligibility Endorsement, which indicates the license holder's membership in the Non-AFA Trawl CP sector. The aggregate histories will then be applied to the cooperative and the non-cooperative pool.

Option 10.1 1995-2003, but each license holder drops its 3 lowest annual catches by species during this period

Option 10.2 1997-2003, but each license holder drops its two lowest annual catch***es*** by species during this period

Option 10.3 1998-2002, but each license holder drops its lowest annual catch by species during this period

Suboption 10.3.1 Each license holder does not drop its lowest annual catch by species during this period

Option 10.4 1998-2003, but each license holder drops its lowest annual catch by species during this period

Suboption 10.4.1 Each license holder drops two years during this period

Option 10.5 1999-2003, but each license holder drops its lowest annual catch by species during this period

Component 11 Determines if excessive share limits are established in the Non-AFA Trawl CP sector.

Option 11.1 There is no limit on the consolidation in the Non-AFA Trawl CP sector.

Option 11.2 Consolidation in the Non-AFA Trawl CP sector is limited such that no single company or person can use more than a fixed percentage of the overall sector apportionment history. The cap will be applied across the total allocation to the sector of all species combined. The cap will be applied using the individual and collective rule. Persons (individuals or entities) that exceed the cap in the initial allocation would be grandfathered.

Component 12 Establishes measures to maintain relative amounts of non-allocated species until such time that fisheries for these species (including sector splits of Pacific cod) are further rationalized in a manner that would supersede a need for these sideboard provisions.

Option 12.1 Sideboards for the Non-AFA Trawl CP sector would be established by regulation using the same years used to calculate the apportionment of PSC and groundfish between the Non-AFA Trawl CP and limited access pool until such time as these other fisheries are rationalized, when the allocations are determined in these newly rationalized fisheries.

Suboption 12.1.1 Sideboards will be allocated between cooperative and non-cooperative LLP holders.

Option 12.2 Sideboards for the Non-AFA Trawl CP sector can be established by establishing percentages and/or amounts for the species/fisheries not included in this program. These measures maintain relative amounts of non-allocated species until such time that fisheries for these species are further rationalized in a manner that would supersede a need for these sideboard provisions.

Suboption 12.2.1 Sideboards will be allocated between cooperative and non-cooperative LLP holders.

2.5.4 Issue 4: Development of a Yellowfin Sole Threshold Fishery

Component 13 A threshold level may be established for yellowfin sole. ITAC below the threshold level will be allocated to the Non-AFA Trawl Catch Processor sector based on the formula determined in Components 3 and 4. ITAC in excess of the threshold level will be available to other sectors as well as to the Non-AFA Trawl CP sector. Threshold levels for other species may be developed at a later date.

Threshold Rollover Suboption

Suboption 1: No rollover provision

Suboption 2: Any unharvested portion of the threshold reserve allocated to the limited access fishery that is projected to remain unused by a specific date (August 1 or Sept 1) shall be reallocated to the Non-AFA Trawl CP sector. Any unharvested portion of the threshold reserve allocated to the Non-AFA Trawl CP sector that is projected to remain unused by a specific date (August1 or September 1) shall be reallocated to the limited access fishery.

For yellowfin sole, the threshold will be:

Option 13.1 80,000 mt

Option 13.2 100,000 mt

Option 13.3 125,000 mt

Option 13.4 150,000 mt

Option 13.5 175,000 mt

Allocate the threshold reserve to the Non-AFA Trawl CP sector and the BSAI limited access fishery using one of following suboptions :

Suboption 1 30% Non-AFA Trawl CP sector and 70% limited access fishery

Suboption 2 50% Non-AFA Trawl CP sector and 50% limited access fishery

Suboption 3 70% Non-AFA Trawl CP sector and 30% limited access fishery

2.5.5 Other Elements of Amendment 80

This section provides additional specifics and elements for the Non-AFA Trawl CP cooperative program. These specifics and elements are common for any cooperative program that might be developed.

- The cooperative program developed in Amendment 80b will not supersede pollock and Pacific cod IR/IU programs.
- The Groundfish Retention Standards (GRS) (Amendment 79) will be applied to the cooperative as an aggregate on an annual basis and on those vessels who do not join a cooperative as individuals. Vessels less than 125 ft LOA participating in a cooperatives are required to have on board NOAA Fisheries approved scales to determine total catch and either maintain observer coverage of every haul for verification that all fish are being weighed or use an alternative scale-use verification plan approved by NOAA Fisheries.
- Non-AFA Trawl CP sector participants that elect not to join a cooperative will be subject to all current regulations including all restrictions of the LLP and the GRS if approved.
- All qualified license holders participating in the fisheries of the Non-AFA Trawl CP sector will need to have trawl and catcher processor endorsements with general licenses for BSAI and the additional sector eligibility endorsement. Length limits within the license will also be enforced such that any new vessel entering the fishery may not exceed the Maximum Length Overall (MLOA) specified on the license.
- Permanent transfers of Sector Eligibility Endorsements will be allowed if transferred with the associated Groundfish LLP. Sector Eligibility Endorsement, the associated groundfish LLP license, and associated catch histories would not be separable or divisible. All transfers must reported to NOAA Fisheries in order to track who owns the Sector Eligibility Endorsements. The purchaser must be eligible to own a fishing vessel under MarAd regulations or must be a person who is currently eligible to own a vessel.
- Annual allocations to the cooperative will be transferable among cooperative members. Such transfers would not need to be approved by NOAA Fisheries. Any member of the cooperative will be eligible to use the catch history of any other member regardless of vessel length limitations of the LLP that carries the catch history.
- Any non-trawl or non-BSAI catches by qualified license holders that are considered part of the Non-AFA Trawl CP sector will not be included in the defined cooperative program. In addition, these non-trawl or non-BSAI catches allocated to the Non-AFA Trawl CP sector would not necessarily be excluded from other rationalization programs.

- All catch history used for allocation and eligibility purposes will be legal and documented catch.
- Disposition of groundfish species not allocated to the Non-AFA Trawl CP sector will not change as a result of the cooperative program developed in Amendment 80.
- The developed cooperative program will limit its scope to selected groundfish and prohibited species catches with trawl gear by qualified license holders in the Non-AFA Trawl CP sector in the BSAI. Groundfish species not included in the program as well as other non-specified fish species or marine resources will not be explicitly managed within the defined cooperative program. The defined cooperative program would not supersede existing regulations regarding these other marine resources.
- PSC limits for the following species will be created and allocated between the Non-AFA Trawl CP cooperative(s) and those sector participants that elect not to join a cooperative.
    - BSAI Non-AFA Trawl CP multi-species halibut cap consisting of an apportionment of species identified in Component 1.
    - BSAI Non-AFA Trawl CP multi-species red king crab cap consisting of an apportionment of the current Pacific cod trawl cap and caps for the flatfish fisheries.
    - BSAI Non-AFA Trawl CP multi-species snow crab (C. opilio) cap consisting of an apportionment of the current Pacific cod trawl cap and caps for the flatfish fisheries (includes apportionments of the trawl sablefish/turbot/arrowtooth limits).
    - BSAI Non-AFA Trawl CP multi-species Tanner crab (C. bairdi) Zone 1 cap consisting of an apportionment of the current Pacific cod trawl cap and caps for the flatfish fisheries.
    - BSAI Non-AFA Trawl CP multi-species Tanner crab (C. bairdi) Zone 2 cap consisting of an apportionment of the current Pacific cod trawl cap and caps for the flatfish fisheries.
- Bycatch limits for non-specified species or marine resources specifically for this program will not be established. However, should unreasonable bycatch or other interactions occur, specific regulations to minimize impacts will be considered.
- The cooperative(s) will have adequate internal rules. Evidence of binding private contracts and remedies for violations of contractual agreements will be provided to NOAA Fisheries. The cooperative must demonstrate an adequate mechanism for monitoring and reporting prohibited species and groundfish catch. Participants in the cooperative must agree to abide by all cooperative rules and requirements.
- Specific requirements for reporting, monitoring and enforcement, and observer protocols will be developed in regulations for participants in the cooperative program and will not be the purview of the cooperative. The Council and the Non-AFA Trawl CP sector should specify their goals and objectives for in-season monitoring and program evaluation. Recordkeeping and reporting portions of the program can then be developed to ensure that goals and objectives of the program are met in a cost effective manner.
- A detailed annual report will be required from cooperative(s) formed. Fishery managers will review the annual report and determine if the program is functioning as desired. It is recommended that in-depth assessments of program be undertaken under the auspices of the Council/NOAA Fisheries periodically (for example, every five years). In-depth studies will report the accomplishments of the program and indicate whether any changes are necessary.
- An economic and socioeconomic data collection initiative will be developed and implemented under the Non-AFA Trawl CP Cooperative Program. The collection would

include cost, revenue, ownership, and employment data on a periodic basis to provide the information necessary to study the impacts of the program. This program will be similar to the data collection program in the BSAI crab rationalization program. Details of the collection will be developed in the analysis of the alternatives.

3 REGULATORY IMPACT REVIEW: ECONOMIC IMPACTS OF THE ALTERNATIVES

This chapter provides information on the economic and socioeconomic impacts of the alternatives, as required under Executive Order 12866 (E.O. 12866). This chapter includes identifies the individuals or groups that may be affected by the proposed action, the nature of these impacts (quantifying the economic impacts wherever possible), and discussion of the tradeoffs between benefits and costs when possible.

The requirements for all regulatory actions specified in E.O. 12866 are summarized in the following statement from the order:

> *In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider. Further, in choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits (including potential economic, environment, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.*

This section addresses the requirements of E.O. 12866 to provide adequate information to determine whether an action is "significant" under E.O. 12866. The Executive Order requires that the Office of Management and Budget review proposed regulatory programs that are considered to be "significant." A "significant regulatory action" is one that is likely to:

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.

The groundfish fisheries in the Exclusive Economic Zone (3 to 200 miles offshore) of the Bering Sea and Aleutian Islands off Alaska are managed under the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area (BSAI Groundfish FMP), as developed by the North Pacific Fishery Management Council under the Magnuson-Stevens Fishery Conservation and Management Act. The BSAI Groundfish FMP was approved by the Secretary of Commerce and became effective in 1982.

Proposed Amendment 80 to the BSAI Groundfish FMP would allocate yellowfin sole, rock sole, flathead sole, Atka mackerel, Aleutian Islands Pacific Ocean perch, and prohibited species catch limits to the Non-AFA Trawl CP sector. The proposed action would also establish a cooperative structure for the Non-AFA Trawl CP sector. This document satisfies analytical requirements under E.O. 12866, the National Environmental Policy Act, and the Regulatory Flexibility Act, as well as other applicable laws.

3.1 Description of BSAI Groundfish Fisheries

3.1.1 Description of Fisheries by Species

The most recent descriptions of the BSAI groundfish fisheries are from the *Stock Assessment and Fishery Evaluation Report for the Groundfish Resources of the Bering Sea/Aleutian Islands Regions* (NPFMC 2004). Please see this document for further details on the groundfish fisheries in the BSAI.

Generally, data are presented for each BSAI groundfish fishery for 1993 through 2002. Limited catch data are reported for earlier years in order to provide a more complete historical perspective on catch. Catch data for each fishery are provided by gear type.

3.1.1.1 Yellowfin Sole Fishery

The yellowfin sole is one of the most abundant flatfish species in the eastern Bering Sea and is the target of the largest flatfish fishery in the United States. The resource inhabits the eastern Bering Sea shelf and is considered one stock. Abundance in the Aleutian Islands region is negligible.

Table 3-1 Catch of Yellowfin Sole in the BSAI by Gear Type, in mt, 1993-2002

Year	Trawl	Hook and Line	Pot	Total
1993	106,089	5	7	106,101
1994	139,883	152	15	140,050
1995	124,611	60	81	124,752
1996	129,254	148	256	129,658
1997	181,081	237	71	181,389
1998	100,783	260	111	101,154
1999	67,099	150	71	67,320
2000	83,491	288	70	83,849
2001	62,731	618	46	63,395
2002	72,391	570	38	72,999

NOTE: 2003 and 2004 data to be added later

The directed fishery typically occurs from spring through December. Yellowfin sole have annually been caught with bottom trawls on the Bering Sea shelf since the fishery began in 1954. Yellowfin sole were overexploited by foreign fisheries in 1959-62 when catches averaged 404,000 mt annually. As a result of reduced stock abundance, catches declined to an annual average of 117,800 mt from 1963-71 and further declined to an annual average of 50,700 mt from 1972-77. The lower yield in this latter period was partially due to the discontinuation of the Soviet fishery. In the early 1980s, after the stock condition had improved, catches again increased reaching a recent peak of over 227,000 mt in 1985. During the 1980s, there was also a major transition in the characteristics of the fishery. Yellowfin sole were traditionally taken exclusively by foreign fisheries and these fisheries continued to dominate through 1984. However, U.S. fisheries developed rapidly during the 1980s in the form of joint ventures, and during the last half of the decade began to dominate and then take all of the catch as the foreign fisheries were phased out of the eastern Bering Sea. Since 1990, only domestic harvesting and processing has occurred.

The 1997 catch of 181,389 mt was the largest since the fishery became completely domestic which decreased to 101,201 mt in 1998. The 2001 catch totaled 63,400 mt and 55,400 mt have been caught in 2002 through the middle of September. Thus far, the 2002 catch is 48 percent of the acceptable biological catch (ABC) and 64 percent of the TAC. The yellowfin sole harvest in 2002 has been constrained by two seasonal closures due to the attainment of halibut PSC limits: from May 11-May 21 and from June 15-June 30. In addition, zone 1 was closed on May 21 for the remainder of 2002 to

prevent exceeding the 2002 bycatch allowance of red king crab specified for the yellowfin sole target fishery.

The catch information presented above also includes yellowfin sole which were discarded. The rate of discard has ranged from a low of 14 percent of the total catch in 2001 to 30 percent in 1992. The trend has been toward fuller retention of the catch in recent years Discarding primarily occurs in the yellowfin sole directed fishery, with lesser amounts in the Pacific cod, rock sole, flathead sole, and "other flatfish" fisheries.

3.1.1.2 Rock Sole Fishery

The northern rock sole is distributed primarily on the eastern Bering Sea continental shelf and in much lesser amounts in the Aleutian Islands region. Rock sole are important as the target of a high value roe fishery occurring in February and March, which accounts for the majority of the annual catch. Rock sole catches from 1989 -2003 have averaged 49,480 mt annually. The 2003 catch of 35,395 mt was only 32 percent of the ABC of 110,000 mt (80 percent of the TAC). The 2004 catch total is 47,600 mt through September 4. Thus, rock sole remain lightly harvested in the Bering Sea and Aleutian Islands. During the 2004 fishing season rock sole harvesting was periodically closed in the Bering Sea and Aleutian Islands due to halibut bycatch restrictions on February 24.

Table 3-2 Catch of Rock Sole in the BSAI by Gear Type, in mt, 1993-2002

Year	Trawl	Hook and Line	Pot	Total
1993	63,935	18	-	63,953
1994	59,580	26	-	59,606
1995	54,982	46	-	55,028
1996	46,859	60	8	46,927
1997	67,526	36	2	67,564
1998	33,590	51	1	33,642
1999	40,449	60	2	40,511
2000	49,232	31	1	49,264
2001	29,222	31	2	29,255
2002	41,299	30	2	41,331

NOTE: 2003 and 2004 data to be added later

Although female rock sole are highly desirable when in spawning condition, large amounts of rock sole are discarded overboard in the various Bering Sea trawl target fisheries. From 1987 to 2000, rock sole were discarded in greater amounts than they were retained. The past three years indicate increased utilization of the catch. Fisheries with the highest discard rates include the rock sole roe fishery, the yellowfin sole, flathead sole, Pacific cod, and the bottom pollock fisheries.

3.1.1.3 Flathead Sole Fishery

Hippoglossoides sp. (which include flathead sole and Bering flounder) are managed as a unit stock in the Bering Sea and Aleutian Islands and were formerly a constituent of the "other flatfish." In June 1994, the Council requested the Plan Team to assign a separate ABC for flathead sole in the BSAI, rather than combining flathead sole with other flatfish as in past assessments. This request was based on a change in the directed fishing standards to allow increased retention of flatfish.

Table 3-3 Catch of Flathead Sole in the BSAI by Gear Type, in mt, 1995-2002

Year	Trawl	Hook and Line	Pot	Total
1995	14,456	255	2	14,713
1996	17,065	272	7	17,344
1997	20,357	347	-	20,704
1998	23,970	415	-	24,385
1999	17,588	254	-	17,842
2000	19,687	295	1	19,983
2001	17,333	253	-	17,586
2002	14,764	344	-	15,108

NOTE: 2003 and 2004 data to be added later

Annual catches averaged 17,700 mt from 1990-2002. The resource remains lightly harvested as the 2003 catch through 20 September is only 70 percent of the 2003 TAC of 17,000 t. Although flathead sole receive a separate ABC and TAC they are still managed in the same PSC classification as rock sole and "other flatfish" and receive the same apportionments and seasonal allowances of prohibited species. In recent years, the flathead sole fishery has been closed prior to attainment of the TAC due to the bycatch of halibut. Substantial amounts of flathead sole are discarded overboard in various eastern Bering Sea target fisheries. A substantial portion of the discards in 2002 occurred in the Pacific cod, pollock, and rock sole fisheries.

3.1.1.4 Atka Mackerel Fishery

Atka mackerel became a reported species group in the BSAI Groundfish FMP in 1978. The patterns of the Atka mackerel fishery generally reflect the behavior of the species: (1) the fishery is highly localized and usually occurs in the same few locations each; (2) the schooling semi-pelagic nature of the species makes it particularly susceptible to trawl gear fished on the bottom; and (3) trawling occurs almost exclusively at depths less than 200 m. In the early 1970s, most Atka mackerel catches were made in the western Aleutian Islands (west of 180º W. longitude). In the late 1970s and through the 1980s, fishing effort moved eastward. A majority of these landings occurred near Seguam and Amlia Islands. In 1984 and 1985 the majority of landings came from a single 1/2º latitude by 1º longitude block bounded by 52º 30' N. and 53º N. latitude, and 173º W. longitude in Seguam Pass (73 percent in 1984, 52 percent in 1985).

Prior to 1992, ABCs for Atka mackerel were allocated to the entire Aleutian management district with no additional spatial management. However, because of increases in the ABC beginning in 1992, the Council recognized the need to disperse fishing effort throughout the range of the stock to minimize the likelihood of localized depletions. In 1993, an initial Atka mackerel TAC of 32,000 mt was caught by March 11, almost entirely south of Seguam Island (Seguam Bank). This initial TAC release represented the amount of Atka mackerel which the Council thought could be appropriately harvested in the eastern portion of the Aleutian Islands subarea (based on the assessment for 1993; Lowe 1992) since there was no mechanism in place at the time to spatially allocate TACs in the Aleutians to minimize the likelihood of localized depletions. In mid-1993, however, Amendment 28 to the BSAI Groundfish FMP became effective, dividing the Aleutian Island subarea into three districts at 177° W. and 177° E. longitudes for the purposes of spatially apportioning TACs. On August 11, 1993, an additional 32,000 mt of Atka mackerel TAC was released to the Central (27,000 mt) and Western (5,000 mt) districts. Since 1994, the BSAI Atka mackerel TAC has been allocated to the three regions based on the average distribution of biomass estimated from the Aleutian Islands bottom trawl surveys.

Table 3-4 Catch of Atka mackerel in the BSAI by Gear Type, in mt, 1993-2002

Year	Trawl	Hook and Line	Pot	Total
1993	65,711	21	3	65,735
1994	65,243	110	6	65,359
1995	81,413	61	81	81,555
1996	103,853	36	54	103,943
1997	65,755	40	50	65,845
1998	55,768	90	15	55,873
1999	53,561	71	11	53,643
2000	42,293	138	9	42,440
2001	56,249	270	17	56,536
2002	41,945	43	53	42,041

NOTE: 2003 and 2004 data to be added later

Amendment 34 allocates up to 2 percent of the Atka mackerel TAC specified for the eastern BSAI to vessels using jig gear.

In June 1998, the Council passed a fishery regulatory amendment that proposed a four-year timetable to temporally and spatially disperse and reduce the level of Atka mackerel fishing within Steller sea lion critical habitat in the Aleutian Islands. Temporal dispersion was accomplished by dividing the BSAI Atka mackerel TAC into two equal seasonal allowances, an A-season beginning January 1 and ending April 15, and a B-season from September 1 to November 1. Spatial dispersion was accomplished through a planned 4-year reduction in the maximum percentage of each seasonal allowance that could be caught within critical habitat in the Central and Western Aleutian Islands. This was in addition to bans on trawling within 10 nm of all sea lion rookeries in the Aleutian district and within 20 nm of the rookeries on Seguam and Agligadak Islands (in area 541), which were instituted in 1992. The goal of spatial dispersion was to reduce the proportion of each seasonal allowance caught within critical habitat to no more than 40 percent by the year 2002. No critical habitat allowance was established in the eastern subarea because of the year-round 20 nm trawl exclusion zone around the sea lion rookeries on Seguam and Agligadak Islands that minimized effort within critical habitat. The regulations implementing this four-year phased-in change to Atka mackerel fishery management became effective on 22 January 1999 and lasted only 3 years (through 2001). In 2002, new regulations affecting management of the Atka mackerel, pollock, and Pacific cod fisheries went into effect. Furthermore, all trawling was prohibited in critical habitat from 8 August 2000 through 30 November 2000 by the Western District of the Federal Court because of violations of the Endangered Species Act (ESA).

As part of the plan to respond to the Court and comply with the ESA, NOAA Fisheries and the Council formulated new regulations for the management of Steller sea lion and groundfish fishery interactions that went into effect in 2002. The objectives of temporal and spatial fishery dispersion, cornerstones of the 1999 regulations, were retained. Season dates and allocations remained the same (A season: 50 percent of annual TAC from 20 January to 15 April; B season: 50 percent from 1 September to 1 November). However, the maximum seasonal catch percentage from critical habitat was raised from the goal of 40 percent in the 1999 regulations to 60 percent. To compensate, effort within critical habitat in the Central (542) and Western (543) Aleutian fisheries was limited by allowing access to each subarea to half the fleet at a time. Vessels fishing for Atka mackerel are randomly assigned to one of two teams, which start fishing in either area 542 or 543. Vessels may not switch areas until the other team has caught the critical habitat allocation assigned to that area. In the 2002 regulations, trawling for Atka mackerel was prohibited within 10 nm of all rookeries in areas 542 and 543; this was extended to 15 nm around Buldir Island and 3 nm around all major sea lion haulouts. Steller sea lion critical habitat east of 178°W in the Aleutian district, including all CH in

subarea 541 and a 1° longitude-wide portion of subarea 542, is closed to directed Atka mackerel fishing.

3.1.1.5 Pacific Ocean Perch Fishery

Pacific ocean perch (POP), and four other associated species of rockfish (northern rockfish; rougheye rockfish; shortraker rockfish; and sharpchin rockfish) were managed as a complex in the two distinct areas from 1979 to 1990. Known as the POP complex, these five species were managed as a single entity with a single TAC (total allowable catch). In 1991, the Council separated POP from the other red rockfish in order to provide protection from possible overfishing. Of the five species in the former POP complex, Pacific ocean perch has historically been the most abundant rockfish in this region and has contributed most to the commercial rockfish catch. Since 2001, Pacific ocean perch in the Bering BSAI area have been assessed and managed as a single stock.

Table 3-5 Catch of Pacific Ocean Perch in the BSAI by Gear Type, in mt, 1993-2002

Year	Trawl	Hook and Line	Pot	Total
1993	17,065	11	-	17,076
1994	12,548	4	-	12,552
1995	11,492	17	1	11,510
1996	15,679	2	1	15,682
1997	13,465	-	-	13,465
1998	10,003	-	-	10,003
1999	12,260	-	-	12,260
2000	9,018	10	-	9,028
2001	8,807	5	-	8,812
2002	10,526	3	-	10,529

NOTE: 2003 and 2004 data to be added later

Pacific ocean perch were highly sought by Japanese and Soviet fisheries and supported a major trawl fishery throughout the 1960s. Apparently, these stocks were not productive enough to support such large removals. Catches continued to decline throughout the 1960s and 1970s, reaching their lowest levels in the mid 1980s. With the gradual phase-out of the foreign fishery in the U.S. Exclusive Economic Zone, a small joint-venture fishery developed but was soon replaced by a domestic fishery by 1990. In 1990, the domestic fishery recorded the highest Pacific ocean perch removals since 1977.

Estimates of retained and discarded Pacific ocean perch from the fishery have been available since 1990. The eastern Bering Sea region generally shows a higher discard rate than in the Aleutian Islands region. For the period from 1990 to 2003, the Pacific ocean perch discard rate in the eastern Bering Sea averaged about 33 percent, and the 2003 discard rate was 52 percent. In contrast, the discard rate from 1990 to 2002 in the Aleutian Islands averaged about 15 percent, and the 2003 discard rate was 16 percent.

There has been little change in the distribution of observed Aleutian Islands POP catch from the foreign and joint venture fisheries (years 1977-1988) and the domestic fishery (years 1990-present) with respect to fishing depth and management area. Management area 541 contributes the largest share of the observed catch in each fishery, with 46 percent and 41 percent in the foreign/joint venture and domestic fisheries, respectively. In contrast, area 543 contributes the largest share of the catch in the 2002 fishery due to the spatial allocation of harvest quotas. Although the catch by management area between the two time periods was similar, variations appeared to occur within each of these periods. For example, area 543 contributed a large share of the catch in the late 1970s foreign fishery, as well as the domestic fishery from the mid-1990s to the present. In the late 1980s to the early 1990s, area 541 contributed a large share of the catch, and prompted management changes to spatially

allocate POP harvest. Note that the extent to which the patterns of observed catch can be used as a proxy for patterns in total catch is dependent upon the degree to which the observer sampling represents the true fishery. In particular, the proportions of total POP caught that were actually sampled by observers were very low in the foreign fishery, due to low sampling ratio prior to 1984.

3.1.1.6 Other BSAI Groundfish Fisheries

The only other groundfish target fishery that is affected by the proposed allocation is the Pacific cod fishery, therefore it is the only fishery discussed here.

Presently, the Pacific cod stock is exploited by a multiple-gear fishery, including trawl, longline, pot, and jig components. From 1980 through 2004, TAC averaged about 77 percent of ABC, and aggregate commercial catch averaged about 88 percent of TAC. In 8 of these 24 years (32 percent), TAC equaled ABC exactly, and in 5 of these 25 years (20 percent), catch exceeded TAC. Changes in ABC over time are typically attributable to three factors: 1) changes in resource abundance, 2) changes in management strategy, and 3) changes in the stock assessment model. For example, from 1980 through 2004, five different assessment models were used, though the present model has remained unchanged since 1997 (except for the addition of a new fishery selectivity era beginning in 2000). Historically, the great majority of the BSAI catch has come from the eastern Bering Sea area. During the most recent five-year period (1999-2003), the eastern Bering Sea accounted for an average of about 84 percent of the BSAI catch.

Table 3-6 Catch of Pacific Cod in the BSAI by Gear Type, in mt, 1993-2002

Year	Trawl	Hook and Line	Pot	Total
1993	99,051	65,688	2,098	166,837
1994	99,313	86,303	8,184	193,800
1995	121,530	103,199	20,299	245,028
1996	113,089	94,968	32,617	240,674
1997	111,212	124,406	22,047	257,665
1998	81,308	98,286	13,657	193,251
1999	67,190	79,021	16,150	162,361
2000	73,476	85,177	18,783	177,436
2001	50,752	96,945	16,507	164,204
2002	78,178	89,968	15,054	183,200

NOTE: 2003 and 2004 data to be added later

Current regulations specify that catches of Pacific cod will be allocated according to gear type as follows: the trawl fishery will be allocated 47 percent, the fixed gear (longline and pot) fishery will be allocated 51 percent, and the jig fishery will be allocated 2 percent; of the fixed gear allocation, the longline fishery will be allocated 80.3 percent (not counting catcher vessels less than 60 ft LOA), the pot fishery will be allocated 18.3 percent (not counting catcher vessels less than 60 ft LOA), and fixed-gear catcher vessels less than 60 ft LOA will be allocated 1.4 percent. Typically, as the harvest year progresses, it becomes apparent that one or more gear types will be unable to harvest their full allotment(s) by the end of the year. This is addressed by reallocating TAC between gear types in September of each year. Most often, such reallocations shift TAC from the trawl, jig, and sometimes pot components of the fishery to the longline catcher/processors. The longline catcher/processors typically receive 15,000-20,000 mt per year through such transfers.

3.1.2 Description of the Non-AFA Trawl Catcher Processor Sector

Please note, that due to time constraints, updated information (2002 and 2003) was not available in time for the June 2005 meeting for this section of the document. Sections 3.1.3 and 3.1.4 came from

the analysis for BSAI Amendment 79 (NEI 2004). Information in this section may not be consistent with information reported in other sections of this document since different databases were used. The information for this sector came from the Amendment 79 database, whereas the database used for all other sections of the document came from an Amendment 80 database. The information in this section will be updated after the June 05 meeting.

The Non-AFA Trawl CP sector is the most diverse of the processing sectors in the BSAI and the only sector that consistently targets a significant amount of flatfish. However, as described in the EA/RIR/IRFA for Amendment 75 (NEI 2003), the flatfish market is characterized as having significant constraints. The rock sole market, for example, prefers females with roe over smaller males. Similarly, large yellowfin sole, flathead sole and Alaska place are preferred over small fish of the same species. There are few incentives to keep small fish because they fill limited hold space with product that is largely unmarketable. In the "race for fish" regime under which the Non-AFA Trawl CP sector operate, if a vessel tries to minimize discards by reducing throughput and keeping and processing less valuable fish, its share of total catch may be reduced if others in the fleet do not follow suit. In addition, unlike larger catcher processors and shore-plants, the Non-AFA Trawl CP vessels are generally constrained from process fish-meal. Because of size constraints the Non-AFA Trawl CP sector have fewer options for processing lower value products and, therefore, are typically more likely to discard less valuable fish.

Table 3-7 shows the processed product value of the Non-AFA Trawl CP sector by BSAI target fisheries from 1995-2001. The Atka mackerel fishery has been the single largest fishery by value over the period shown. Typically, only the largest of the Non-AFA Trawl CP vessels participate in this high volume fishery. In general the Non-AFA Trawl CP sector participate in what is often referred to as the multi-species fisheries consisting of Pacific cod, rock sole, yellowfin sole and other flatfish including flathead sole. Targets in the multi-species fishery are difficult to pinpoint, because three or more species may be present in significant numbers. The multi-species fisheries as a group accounted for $82 million in 2001–61 percent of total product value. In 2000, when the Atka mackerel was curtailed by closures in Steller sea lion critical habitat, the multi-species fishery accounted for 77 percent of total value. Over the period shown, the multi-species fishery has comprised over 64 percent of the first wholesale gross revenue generated by the Non-AFA Trawl CP sector.

Table 3-7 First Wholesale Product Value of Non-AFA Trawl CP sector by BSAI Target Fishery, 1995-2001

Target Fishery	1995	1996	1997	1998	1999	2000	2001
	First Wholesale Product Value by Fishery ($Millions)						
Atka Mackerel	43.7	71.3	35.6	21.3	25.7	23.6	46.6
Pacific Cod	10.3	8.2	9.5	7.5	20.4	21.1	17.3
Other Flatfish	14.3	14.5	10.3	18.8	19.3	23.4	15.2
Rockfish	11.7	12.2	8.2	4.0	7.2	4.5	4.0
Rock Sole	29.1	27.7	25.7	15.4	16.5	21.3	17.2
Yellowfin Sole	36.9	34.1	55.0	35.8	25.4	31.8	31.7
All Fisheries	149.4	170.8	145.4	104.6	115.4	126.7	133.4

Source: NPFMC Sector Profiles Database, 2001. NOTE: More recent data to added later.

Table 3-8 show discards of all species by the Non-AFA Trawl CP sector. Overall, discards as a percent of total groundfish harvested by the Non-AFA Trawl CP sector has declined during the 1995 to 2001 period.

Table 3-8 Discarded Catch as Percent of Total Catch in the Non-AFA Trawl CP Sector in 1995-2001, by BSAI Target Fishery

Target Fishery	1995	1996	1997	1998	1999	2000	2001
	Discarded Catch as Percent of Total Groundfish Catch						
Atka Mackerel	24.0	21.6	15.7	14.9	17.4	13.8	16.3
Pacific Cod	52.3	55.2	55.5	42.9	42.5	36.2	30.3
Other Flatfish	52.2	56.6	50.3	44.1	45.6	36.9	32.8
Rockfish	18.2	19.7	12.1	8.9	8.4	5.4	12.8
Rock Sole	53.8	54.7	53.4	39.4	47.0	47.1	30.5
Yellowfin Sole	47.2	45.6	35.0	29.5	36.2	31.6	26.9
All Fisheries	41.2	38.4	36.4	29.6	33.2	30.8	24.9

Source: NPFMC Sector Profiles Database, 2001. NOTE: More recent data to added later.

The Non-AFA Trawl CP fleet consists of a relatively wide variety of vessels that range from 103 ft to 295 ft in length. As would be expected, the smaller vessels are relatively less productive than the larger vessels. From 1995-2001, the smaller vessels generated approximately 12 percent of both catch and product value (Table 3-9). However, the smaller vessels accounted for roughly 18 percent of the total discards in the sector. Vessels less than 125 ft discarded 48 percent of their catch over the seven year period, while vessels 125 ft or greater discarded 38 percent. Industry sources indicate that the smaller vessels are unable to retain as many fish as larger vessels because of limitations in hold size and processing space.

Table 3-9 Fishing Activity in the Non-AFA Trawl CP Sector in 1995-2001, by Size Class

Length Class	1995	1996	1997	1998	1999	2000	2001
Number of Vessels							
< 125'	8	7	10	7	8	7	6
> 125'	24	21	18	16	16	16	16
Product Value ($ Millions)							
< 125'	6.2	12.2	13.5	11.9	14.7	20.1	8.6
> 125'	142.9	158.6	131.9	92.7	100.7	106.6	124.8
Product Value as a Percent of Non-AFA Trawl CP Value							
< 125'	4.4	7.1	9.3	11.4	12.7	15.9	6.5
> 125'	95.7	92.9	90.7	88.6	87.3	84.1	93.6
Total Groundfish Catch (1,000 mt)							
< 125'	19.2	34.5	50.6	37.4	34.3	42.7	20.9
> 125'	284	293	303	234	234	251	241
Percent of Non-AFA Trawl CP Total Groundfish Catch							
< 125'	6.3	10.5	14.3	13.8	12.8	14.5	8.0
> 125'	93.7	89.5	85.7	86.2	87.2	85.5	92.0
Discards as a Percent of Total Groundfish Catch of Length Class							
< 125'	60.7	55.1	52.0	46.9	41.2	41.0	39.9
> 125'	39.4	36.3	34.1	27.1	32.1	29.3	27.9
Discards as a Percent of Non-AFA Trawl CP Total Discards							
< 125'	12.1	13.5	18.4	20.4	17.8	17.2	13.8
> 125'	87.9	86.5	81.6	79.6	82.2	82.8	86.2

Source: NPFMC Sector Profiles Database, 2001. NOTE: More recent data to added later.

3.1.3 Value of BSAI Groundfish Fisheries

Relative to first wholesale value, the Non-AFA Trawl CP sector is more diversified across the fisheries than other sectors. Two primary fisheries have historically contributed relatively equal shares of the first wholesale value for the Non-AFA Trawl CP fleet. Atka mackerel at $47 million and yellowfin sole at $32 million were two of the largest contributors to in 2001, each contributing 35 percent and 24 percent, respectively to first wholesale value (Table 3-10). Other fisheries which have historically contributed a smaller share of the total wholesale value for the head and gut fleet are rock sole, Pacific cod, flathead sole, and other flatfish. For the longline catcher processor fleet, the largest contributor to first wholesale value has been Pacific cod. In 1995, the first wholesale value for Pacific cod was $68 million, which was 89 percent of the total sector first wholesale value. In 2001, the contribution from Pacific cod was 96 percent of the total first wholesale value.

Table 3-10 Wholesale product value by BSAI target fishery for the Non-AFA Trawl CP sector, 1995-2001

Target Fishery	1995	1996	1997	1998	1999	2000	2001
	Wholesale Product Value ($Millions)						
Atka Mackerel	43.7	71.3	35.6	21.3	25.7	23.6	46.6
Pacific Cod	10.3	8.2	9.5	7.5	20.4	21.1	17.3
Other Flatfish	14.3	14.5	10.3	18.8	19.3	23.4	15.2
Rockfish	11.7	12.2	8.2	4.0	7.2	4.5	4.0
Rock Sole	29.1	27.7	25.7	15.4	16.5	21.3	17.2
Yellowfin Sole	36.9	34.1	55.0	35.8	25.4	31.8	31.7
All Fisheries	149.4	170.8	145.4	104.6	115.4	126.7	133.4
Total for all sectors and fisheries	429.3	372.7	363.0	299.5	388.5	498.0	548.3

Source: NPFMC Sector Profiles Database, 2001. NOTE: More recent data to added later.

3.1.3.1 BSAI Groundfish Products and Secondary Processing Activity

This section describes primary and secondary products produced in the BSAI groundfish fisheries. The discussion provides an aggregated perspective and does not examine production on a sector-by-sector basis. This section is based mainly on information provided in the document, *Alaska Groundfish Fisheries Final Programmatic Supplemental Environmental Impact Statement* (NMFS 2004b).

Primary Products

Groundfish harvested in the Alaska fisheries are made into a wide range of primary products. In this analysis primary product is defined as the product form after the initial stage of processing.[1] By this definition, all products produced directly from raw fish are considered primary products. These products may be table-ready or final product, but more often they are reprocessed before they are sent to retail markets or foodservice establishments. Secondary processing is defined as any processing that occurs after the primary products have been transferred to a different facility. Secondary processing includes the production of kamaboko from surimi and the production of breaded fish sticks from fillets.

[1] This definition of primary processing differs from definitions used by processors when they report production to NOAA Fisheries in Weekly Processor Reports. In weekly reports processors differentiate primary products, such as fillets or surimi, from ancillary products, such as roe and fish meal.

Table 3-11 shows the various primary products by weight made from BSAI groundfish during the 1998-2002 period. The table shows the various primary products by wholesale value for the same period. Atka mackerel is primarily produced as a headed and gutted or whole product. Most flatfish by volume are also headed and gutted, often with the roe left intact. A large percentage of flatfish are frozen whole, while a small percentage, primarily yellowfin sole, are made into kirimi, a steak-like product. Almost all sablefish are produced into head-and-gut product. Most of the product made from Pacific cod is headed and gutted, but a significant proportion is also made into fillets. It should be noted that comparing products by weight can be misleading. Fillets are typically skinless and boneless product. A 5-lb Pacific cod might yield 1.25 lbs of fillets. The price per pound for fillets is higher than for head-and-gut product, primarily because fillets require less secondary processing. Surimi constitutes the largest portion of pollock product, with fillets accounting for the next largest percentage. Pollock roe, which accounts for only four percent of total product by weight, is extremely important to processors because of its high price in Japan. Substantial amounts of meal and oil are also produced from pollock, although these are generally ancillary products made from bones, skin, and trimmings.

Table 3-11 Volume of BSAI Groundfish Products by Species and Product Type (1,000 mt), 1998–2002

Species/Product	1998	1999	2000	2001	2002
Flatfish					
Whole fish	31.35	9.64	11.88	7.75	13.10
Head and gut	37.81	36.44	42.32	35.16	45.84
Kirimi	6.30	4.21	6.37	6.15	2.86
Fillets	-	-	-	-	-
Other products	.86	.70	.85	.42	.74
Atka mackerel					
Whole fish	4.87	10.10	2.92	4.81	3.27
Head and gut	21.90	22.18	22.49	26.66	18.53
Other products	-	.03	-	.00	.00
Rockfish					
Whole fish	.04	1.73	.17	.46	.71
Head and gut	4.45	5.04	4.30	2.94	4.58
Other products	.01	.02	.01	2.14	.00
Sablefish					
Head and gut	.58	.88	1.09	1.25	1.37
Other products	.00	.01	.01	.01	.01

Overview of Secondary Processing Activities

During the period covered in this analysis (1995-2003) there were no major secondary processors operating in Alaska. Groundfish harvested in Alaska is most often exported as primary product, although some leaves in a raw form, such as whole frozen fish. While most of the groundfish products are exported to Asia and Europe, some are shipped to the Lower 48. How much remain in the U.S. and how much are shipped abroad varies from year to year. Products shipped to the Lower 48 may either be reprocessed (primarily in the Washington Inland Waters Region) or re-sorted and exported as a primary product. Companies such as Icicle Seafoods and Trident Seafoods have primary production capacity in Alaska and secondary processing plants in the Puget Sound area. In these cases, it would be possible to track how much Alaska product is used in secondary processing facilities and the related number of workers. However, numerous other food manufacturers take primary groundfish product from Alaska to make a variety of table-ready foods and other products.

For example, Gorton's has secondary processing facilities that reprocess groundfish products from Alaska and other areas. Data on the number of workers in all such facilities and the percentage of primary product at these facilities that originates in Alaska are not available

3.1.3.2 Product Flows and Markets for BSAI Flatfish, and Rockfish Species

Sufficient data are not readily available to analyze the volume or value of groundfish shipments from Alaska (in primary or any other form) to the Lower 48 or to foreign markets. Notwithstanding these data problems, it is possible to summarize product flows for BSAI flatfish, sole, and rockfish products and is presented below. Using the official data available as well as anecdotal information, these case studies are intended to provide a general sense of the types of products made from Alaska groundfish and the movement of those products to their final point of sale. Sole and rockfish are combined because fish buyers and cold storage operators interviewed for this analysis discussed sole and rockfish together.

Major Markets

Approximately 80 to 90 percent of the sole and rockfish harvested in the Alaska groundfish fisheries is shipped to Asia. A portion of this harvest is shipped to Europe. A very small amount of the groundfish harvested in Alaska waters is sometimes shipped directly from Alaska to Europe.

Principal Primary and Secondary Processors

Sole and rockfish processed offshore typically are shipped to Asia in headed and gutted or round form. Shore plants produce fillets as well as other products, with some products going to Asia and others remaining in the United States.

The relatively small fillets of sole and rockfish have a high labor cost per pound. This high labor cost makes it more attractive to ship the fish to China, where labor costs tend to be relatively low for secondary processing. Readily available data for sole and rockfish do not indicate the product type or amount exported from Alaska.

Market Developments

A wide range of species of sole and rockfish is harvested in Alaska—some of which have no common product name in the United States. This variety and the lack of name recognition is an issue with U.S. consumers who tend to prefer known products and reinforces the tradition of shipping sole and rockfish products to Asia. Consumers in Asia tend to be less name-sensitive with fish species.

Rockfish from Iceland and Norway has historically been considered superior to most Alaska rockfish. Only select species of rockfish found in Alaska are considered high-quality and easily marketed in countries such as Japan. Very little of the product goes to the Lower 48. Much of the sole and rockfish sold in U.S. East Coast markets, such as New England and Florida, come from Indonesia. One cold storage manager in Seattle said he expects secondary processing facilities in the United States to handle Alaska sole and rockfish in the future and believes more of this product will move from Alaska to the Lower 48 rather than to Asia.

3.1.4 Community Information

The primary source of the regional and community information presented here is the document, *Sector and Regional Profiles of the North Pacific Groundfish Fisheries – 2001* (NEI and EDAW 2001), augmented with more recent data provided by the Council.

Twenty-six catcher processors appear to be eligible for the Non-AFA Trawl CP sector. Of these vessels, 17 appear to be owned/operated out of Seattle, 6 out of other Washington communities, and 3 are based in Maine. Because all these harvesters are catcher processor vessels, they do not, in general, deliver fish to shorebased processing facilities for first processing.

Washington Inland Waters Region

The registered owners of nearly all AFA trawl catcher/processors list addresses in the Washington Inland Waters. Residents of the Washington Inland Waters region also own vessels in each catcher vessel sector that participates in the Alaska groundfish fisheries. Numbers in all categories except the smaller vessels (less than 60 ft hook-and-line/pot catcher vessels and jig catcher vessels) are large relative to ownership levels in the Alaska regions. Catcher vessels owned by residents of the Washington Inland Waters region tend to be larger than those owned by residents of Alaska, and this comparison emphasizes the region's concentration of ownership (and participation) in the BSAI groundfish fisheries. This is especially true for trawl vessels in general and large, AFA-eligible trawlers in particular. Catcher vessel ownership in this region is strongly concentrated in Seattle. Outside of Seattle, regional vessel ownership is widely dispersed. Harvest retained by these vessels is heavily concentrated in the Bering Sea FMP area. Due to the need to maintain the confidental nature of the data, catch by region for the Non-AFA Trawl CP sector can not be released.

3.1.5 Description of the Western Alaska Community Development Quota (CDQ) Program

This section provides general information about the western Alaska CDQ program. More detailed information about the CDQ Program and CDQ groups may be found at: the NOAA Fisheries, Alaska Region web site at www.fakr.noaa.gov/cdq/default.htm, the Alaska Department of Commerce, Community and Economic Development web site at www.dced.state.ak.us/bsc/CDQ/cdqstats.htm, and the Bering Sea Fishermen's Association's web site www.cdqdb.org.

3.1.5.1 Establishment and Purpose of the CDQ Program

The western Alaska CDQ program was created by the Council in 1992 as part of the inshore/offshore allocations of pollock in the BSAI fishery. As stated in the BSAI Groundfish FMP, the purpose of the CDQ program is as follows:

> The Western Alaska Community Development Quota Program is established to provide fishermen who reside in western Alaska communities a fair and reasonable opportunity to participate in the Bering Sea/Aleutian Islands groundfish fisheries, to expand their participation in salmon, herring, and other nearshore fisheries, and to help alleviate the growing social economic crisis within these communities...Through the creation and implementation of community development plans, western Alaska communities will be able to diversify their local economies, provide community residents with new opportunities to obtain stable, long-term employment, and participate in the Bering Sea/Aleutian Islands fisheries which have been foreclosed to them because of the high capital investment needed to enter the fishery.

As practically implemented, the purpose of the CDQ program is to help western Alaska communities diversify their local economies by investing in commercial fisheries other fisheries-related projects and to provide new opportunities for stable, long-term employment. The original CDQ program regulations went into effect on November 18, 1992 and have been amended numerous times since then. In 1996, the Magnuson-Stevens Act institutionalized the program as part of the BSAI Groundfish FMP.

The fishery resources allocated under the CDQ program are under federal jurisdiction, but the program is jointly managed by NOAA Fisheries and the State of Alaska (State). The State is primarily responsible for the day-to-day administration and oversight of the economic development aspects of the program and for recommending quota allocations for each CDQ applicant. NOAA Fisheries is primarily responsible for fisheries management aspects of the groundfish and halibut CDQ fisheries and broad program oversight. The specific criteria used to evaluate applications and make CDQ

allocation recommendations are implemented in State regulations. The Alaska Regional Administrator, NOAA Fisheries, acting on behalf of the U.S. Secretary of Commerce, and the Council review the State's recommendations and make the final decision about allocations among CDQ applicants.

3.1.5.2 CDQ Communities and Groups

The communities in the CDQ program are predominantly Alaska Native villages. The communities are typically remote, isolated settlements with few natural assets with which to develop and sustain a viable diversified economic base. Basic community and social infrastructure is often underdeveloped or lacking, and transportation and energy costs are high. As a result, economic opportunities have been few, unemployment rates have been chronically high, and communities (and the region) have been economically depressed.

While the CDQ communities border very productive fishing grounds, they have historically been unable to exploit this proximity. The full development of the domestic fishing and processing industry in the BSAI fisheries occurred relatively quickly between 1976 and 1990. However, the very high capital investment required to compete in these fisheries precluded small communities from participating in their development. The CDQ program serves to ameliorate some of these circumstances by extending an opportunity to qualifying communities to directly benefit from the productive harvest and use of these publicly owned resources.

Currently, 65 communities participate in the CDQ program, based on eligibility criteria listed in both the Magnuson-Stevens Act and federal regulation. The eligible communities have formed six non-profit corporations (CDQ groups) to manage and administer the CDQ allocations, investments, and economic development projects. The six CDQ groups are Aleutian Pribilof Island Community Development Association, Bristol Bay Economic Development Corporation, Central Bering Sea Fishermen's Association, Coastal Villages Region Fund, Norton Sound Economic Development Corporation, and Yukon Delta Fisheries Development Association.

3.1.5.3 CDQ Program Allocations, Harvest, and Value

Since 1992, the CDQ Program has expanded several times and now includes allocations of pollock, halibut, sablefish, crab, all of the remaining groundfish species (Pacific cod, Atka mackerel, flatfish, and rockfish), and prohibited species catch (i.e., as bycatch allowances for salmon, halibut, and crab). CDQ Program allocations vary by species. While originally set at 7.5 percent, Congress increased the pollock CDQ allocation to 10 percent in 1998 as part of the American Fisheries Act. The percentage of other catch limits allocated to the CDQ Program ("CDQ reserves") is determined by: the BSAI Crab Rationalization Program (10 percent of crab species, except for Norton Sound red king crab, which is 7.5 percent. See 70 FR 10174, March 2, 2005); the BSAI Groundfish FMP for all other groundfish and prohibited species (7.5 percent, except 20 percent for fixed gear sablefish); and, 50 CFR 679 for halibut (20 percent to 100 percent).

Establishment of the annual groundfish CDQ reserves is an extension of the groundfish specifications process. Once annual BSAI species categories and TAC amounts are established, an initial TAC amount of 85 percent of the aggregated BSAI TACs is calculated for all species, except pollock and fixed gear sablefish. The remaining 15 percent of annual TAC is equally split between the CDQ Program and a non-specified groundfish reserve. This is the basis for the annual 7.5 percent CDQ reserve, which is then apportioned among the TAC categories in place for a given year, based on the proportion each TAC category contributes to the aggregate BSAI TAC limit. The Bering Sea and Aleutian Islands pollock TACs each contribute 10 percent to CDQ reserves, while the fixed gear sablefish TAC contributes 20 percent to a CDQ reserve. CDQ reserves are allocated among CDQ groups based on allocation percentages recommended by the State and approved by NOAA Fisheries Service. The percentages can vary by species and are reviewed on a periodic basis. Changes to the

each group's allocation can be made based on need as well as the groups overall performance in achieving its plans and objectives.

Each CDQ group is eligible to receive a percentage allocation of each CDQ reserve and prohibited species quota (PSQ) reserve as recommended by the State of Alaska and approved by the NOAA Fisheries. Annual groundfish CDQ allocations for 1998 to 2004 are available at the NOAA Fisheries web site. Under the current regulations, all groundfish (except for squid and "other species") and prohibited species caught by vessels fishing for CDQ groups accrue against the CDQ allocations and none of the groundfish or prohibited species caught in the groundfish CDQ fisheries accrue against the non-CDQ apportionment of the TAC or PSC limits, with limited exceptions. The CDQ groups are required to manage their catch to stay within all of their CDQ allocations.

The 2004 CDQ allocations included approximately 187,000 metric tons of groundfish, over 2 million pounds of halibut, and approximately 3 million pounds of crab. The six CDQ groups had total revenues in 2003 of approximately $87 million, primarily from pollock royalties. Since 1992, the CDQ groups have accumulated net assets worth approximately $231 million (as of 2003), including ownership of small local processing plants, catcher vessels, and catcher/processors that participate in the groundfish, crab, salmon, and halibut fisheries.

3.1.5.4 Revenue Generation and Asset Accumulation

The revenue stream from the lease of CDQ allocations has permitted the development of considerable savings by the CDQ groups. These savings provide important capital for making investments, and asset accumulation by CDQ communities is one empirical measure of the performance of the program. Amassing equity interest in real assets represents a clear community development strategy. Data suggest that CDQ groups, when taken as a whole, have retained almost half of their gross revenues in some form of equity, whether vessel ownership, processing facilities, marketable securities, loan portfolios, and IFQ holdings. Table 3-12 shows historic consolidated revenues, expenses, and increases in net assets for the combined activities of all CDQ groups.

Table 3-12 CDQ Group Revenues, Expenses, and Increase in Net Assets, 1999-2003

Year Ending	1999	2000	2001	2002	2003
Total Unrestricted Revenues and Gains	$54,062,354	$58,306,163	$76,377,278	$69,362,946	$86,687,267
Total Expenses	$24,921,406	$32,781,529	$36,033,547	$49,666,315	$49,515,380
Increase in Net Assets (adjusted)	$30,116,694	$26,049,839	$41,205,740	$22,707,501	$37,925,087

Source: NOAA Fisheries and the State of Alaska Department of Commerce, Community, and Economic Development CDQ Program Office.

Table 3-13 outlines the combined annual balance sheets for the six CDQ groups for the years 1999 through 2003. The value of CDQ group assets in aggregate increased from around $13 million in 1992 to over $262 million in 2003 (the most recent year for which data are available). Liabilities have shown considerable fluctuation. Liability growth since 2000 is due to a large increase in investments that carry an element of debt to them, particularly investments in the offshore pollock sector.

Table 3-13 CDQ Group Liabilities and Net Assets, 1999-2003

Years Ending	1999	2000	2001	2002	2003
Total Current Assets	$46,784,417	$46,770,141	$47,279,273	$89,622,388	$110,205,408
Total Assets	$111,072,690	$152,758,789	$190,280,968	$227,066,645	$262,474,892
Total liabilities	$7,288,182	$23,947,973	$19,240,885	$34,058,020	$31,541,180
Total Net Assets	$103,784,508	$128,810,816	$171,040,083	$193,008,625	$230,933,712

Source: NOAA Fisheries and the State of Alaska Department of Commerce, Community, and Economic Development CDQ Program Office.

3.1.5.5 Employment and Income

Employment opportunities have been one of the most tangible direct benefits of the CDQ program for many western Alaska village residents. Indeed, the CDQ program has had some success in securing career track employment for many residents of qualifying communities, and has opened opportunities for non-CDQ Alaskan residents, as well. Jobs generated by the CDQ program included work aboard harvesting vessels, internships with the partner company or government agencies, work at processing plants, and administrative positions. In recent years, annual CDQ-related jobs has ranged from 1,339 people in 1999 to 2,080 in 2003. The number of jobs does not necessarily equal the number of people employed, as one person can take advantage of several short-term jobs in any given year. CDQ wages in those same years has ranged from $10.6 to $11.9 million.

The importance of CDQ pollock-related employment in terms of number of jobs and wages appears to be declining relative to employment in other fisheries. This trend reflects the expansion of the CDQ program to include other fisheries and the increased investment by CDQ groups in vessels and processing infrastructure for those fisheries. The average wage for a CDQ pollock-related job continues to surpass that of a position in other fisheries, but that differential may also be decreasing. Residents in some regions prefer local employment opportunities, and investments in regional on-shore fisheries projects has led to increased employment opportunities within or near CDQ communities.

3.2 Components and Option Analysis

Amendment 80 would allocate a percentage of the BSAI flatfish, Atka mackerel, and Aleutian Islands Pacific Ocean perch TACs to the Non-AFA Trawl CP sector. The unallocated portion will be available for a limited access fishery for the remaining trawl sectors with retained trawl catch history from 1995-2004 and the appropriate LLP endorsement. The amount of catch allocated to the Non-AFA Trawl CP sector will be based on the catch made by all vessels operating as a Non-AFA Trawl CP during the years selected for the allocation calculation. A vessel's catch history will be assigned to the sector regardless of whether they qualify to participate in that sector based on the BSAI Catcher Processor Capacity Reduction Program. For example, a vessel that harvested yellowfin sole would have the portion of their catch to the Non-AFA Trawl CP section. The vessel would then be required to meet the sector's minimum landings requirements set out in the BSAI Catcher Processor Capacity Reduction Program to fish in the sector. If the vessel does not meet the sector's minimum landings requirements, their catch would still be assigned to the sector, in proportion to how the landings were made. That vessel would still only be allowed to harvest fish from the sector's allocation in which they qualify.

A description of the four trawl sectors is presented in Table 3-14.

Table 3-14 Description of the four trawl sectors

Sector	Description
Non-AFA Trawl CPs	Trawl catcher/processor vessels that have harvested the required amount of BSAI groundfish, during the qualifying period, and are not listed by name in the AFA as being eligible to participate in the directed pollock target fisheries. This sector includes any catcher/processors that are not listed by name in the AFA, but are allowed to harvest less than 2,000 mt of pollock annually from the directed BSAI pollock fishery.
AFA Trawl CPs	The 20 trawl vessels listed by name in the AFA that are eligible to participate in the BSAI pollock fishery as catcher/processors. (A decision must be made regarding the assignment of catch made during the qualification period by the 9 vessels retired under the AFA.)
Non-AFA Trawl Catcher Vessels	Trawl catcher vessels that do not hold an AFA permit to participate in the directed BSAI pollock fishery and meet the sector's minimum landings requirements.
AFA Trawl Catcher Vessels -	All catcher vessels assigned an AFA permit that makes them eligible to target BSAI pollock. As of 2004, 112 catcher vessels held an AFA permit to participate in the directed BSAI pollock fisheries. Vessels must meet the minimum landings requirements as catcher vessels using trawl gear to participate in this sector.

3.2.1 Component 1 – Species to be included in sector allocations

Component 1 identifies the BSAI groundfish species that will comprise the primary target species group. Primary target species, in Amendment 80, are those species that will be assigned to the Non-AFA Trawl Catcher Processor (CP) sector as a direct allocation. The amount of each primary target species assigned to the Non-AFA Trawl CP sector will be calculated based on the allocation formula developed by the Council as part of this amendment. The Council's motion from the December 2004 meeting that defines the species to be allocated to the Non-AFA Trawl CP sector is listed in the box below.

Component 1 Identifies which species will be included in the sector allocations

Allocate only the following primary target species to the Non-AFA Trawl CP sector: yellowfin sole, rock sole, flathead sole, Atka mackerel, and Aleutian Islands Pacific ocean perch. Species could be added or deleted through an amendment process.

The species to be allocated under the Council's preferred alternative in Amendment 80 are BSAI yellowfin sole, rock sole, flathead sole, Atka mackerel, and Aleutian Islands Pacific ocean perch. BSAI species may be added or deleted from the current list of species allocated to the Non-AFA Trawl CP sector in the future. Species would be added through a new FMP amendment, if it is deemed to be desirable. Species that are not allocated to the Non-AFA Trawl CP sector under this option would be managed as a non-target species. Management of non-target species is expected to remain as it is currently managed for all sectors other than the Non-AFA Trawl CP sector, which could potentially be managed using sideboards. Further discussions of non-allocated species are presented below and in Section 3.2.11. The harvest of species allocated under this amendment, by members of the Non-AFA Trawl CP sector are shown in Table 3-15.

Table 3-15 Non-AFA Trawl vessel catch of allocated species

Area	Species	Total Catch 1995-2003	Average Catch 1995-2003
Aleutian Islands	Atka Mackerel	448,562	56,070
	Flathead	86	11
	POP Complex	119,714	14,964
	Rock Sole	1,770	221
	Yellowfin Sole	0	0
Bering Sea	Flathead Sole	124,204	15,525
	Rock Sole	262,307	32,788
	Yellowfin Sole	613,004	76,626

Table 3-16 below shows the target fisheries that various segments of the BSAI fleet participated in during the 2000 fishing year, as reported in NOAA Fisheries Blend data for that year. This year was selected because it is included in most of the allocation alternatives under consideration in this amendment, and it is the year prior to the substantial increases in the BSAI pollock ITACs that have limited the size of many flatfish ITACs in recent years. Variation in the target fisheries that vessel groups participate in may occur from year-to-year, but those changes are usually minor since vessels in specific sectors tend to focus on a few primary species over time

Table 3-16 Target fisheries participated in by various segments of the fleet during 2000

Vessel Group	Target Species
H&L CPs	Pacific cod, rockfish*, other species, and Greenland turbot
H&L CVs	Pacific cod, rockfish*, other species*, Greenland turbot, and arrowtooth flounder*
Jig	Pacific cod, rockfish*, and Greenland turbot*
Non-AFA Trawl CP	Atka mackerel, Pacific cod, other flatfish, rockfish, flathead sole, rock sole, Greenland turbot, arrowtooth flounder, yellowfin sole, and pollock[1]
AFA Trawl CP	Pollock, Pacific cod, other flatfish*, rockfish*, rock sole, arrowtooth flounder, and yellowfin sole.
Trawl CV	Pollock[2], Pacific cod, other flatfish*, rockfish*, rock sole*, and yellowfin sole

Source: NOAA Fisheries Blend data, 2000

Note: An asterisk indicates that minimal amounts of that species were harvested in a target fishery for that species. It is unlikely those species would be opened to directed fishing by NOAA Fisheries in that sector, unless they formed a cooperative that defined strict penalties for over-harvesting their portion of the TAC.

[1]Pollock may only be targeted by the Ocean Peace. They may only target up to 2,000 mt of pollock under current AFA regulations.

[2]Only trawl catcher vessels that have AFA permits are allowed to participate in the Non-CDQ directed pollock fishery.

Notably absent from the list of species to be allocated to the Non-AFA Trawl CP sector is Pacific cod. It is anticipated that the Non-AFA Trawl CP sector's harvest of Pacific cod will be managed through current management measures and/or sideboard limits if this amendment is implemented. However, it is important to note that a separate FMP amendment is being developed, albeit on a slower time line, that will focus strictly on Pacific cod allocations. If that amendment is implemented, it is expected to clearly define the amount of Pacific cod that may be harvested be each sector of the fleet. Recall that Pacific cod is currently allocated among various fixed gear and trawl components of the fleet. The trawl CP component of the fleet is allocated 47 percent of the Pacific cod TAC after deductions are made for CDQ allocations and Pacific cod incidental catch needs in other fisheries. The trawl allocation is then allocated equally between catcher vessels and catcher processors. AFA Trawl CPs Pacific cod harvests are limited to be within their sideboard restrictions. Sideboards for the Non-AFA Trawl CP sector would be defined as the maximum amount of Pacific cod they would be allowed to harvest. Depending on the size of each sideboard and the number of trawl catcher processors operating outside of the two sectors, the competition for the trawl CP cod could be limited. That is

especially true if the sum of the two sectors sideboards is equal to 100 percent or less of the total trawl catcher processor Pacific cod allocation. Given that the AFA Trawl CP sector is limited to 25.8 percent of the trawl cp allocation of Pacific cod, the remaining catcher processor vessels can harvest a minimum of 74.2 percent of the overall allocation.

Members of the Non-AFA Trawl CP sector will still likely race to catch species that are not allocated to them in this amendment. Users of common property resources often try to increase their profitability by utilizing more of the available public resources before other participants in the fishery can harvest them. This phenomenon is well documented in the economic literature (National Academy of Sciences, 1999). However, creating a race for fish should only be a problem if harvesting those species creates some benefit to the harvester. Benefits could either be that 1) they can sell those species at prices that would increase their profitability or 2) that catching the non-target species at a higher rate allows harvesters to more efficiently harvest their target species. If the species that are not allocated to sectors do not meet either of these criteria, then allowing them to remain unallocated should not result in a race to catch them. In that instance, harvesters will continue to catch them at "normal" incidental catch rates when harvesting their target species. Conversely, if either criterion is met, a race-for-fish could result.

The species allocated to the Non-AFA Trawl CP sector accounted for a substantial percentage of their revenue generated at the 1st wholesale level during the years 1995-2002 (see Table 3-17). This percentage will fluctuate depending on a variety of factors including 1st wholesale prices and TACs. In the future it could vary by those factors and the allocation formulas developed in this amendment.

The revenues reported in the table below show that on average 62.5 percent of the 1st wholesale revenue of Non-AFA Trawl CP vessels is generated by species that are directly allocated to them under this amendment. Another species of value to the Non-AFA Trawl CP sector is Pacific cod. Pacific cod represented over 16.7 percent of their 1st wholesale revenue over the 1995-2002 time period. The remaining species harvested by these vessels accounted for just over 20 percent of their 1st wholesale revenue. Non-AFA Trawl CP vessels will be expected to continue to generate revenue from species that are not directly allocated to them. The amount of revenue generated by those species will depend on the amount of PSC the sector is allocated and the harvest limits that are placed on those species in Component 12.

Table 3-17 Percentage of first wholesale revenue generated by Non-AFA Trawl CP vessels

Year	Amendment 80 Species	Pacific Cod	Other Species
1995	68.2%	7.1%	24.7%
1996	72.1%	7.2%	20.7%
1997	79.2%	7.7%	13.1%
1998	59.5%	21.8%	18.7%
1999	52.1%	24.5%	23.5%
2000	49.5%	23.9%	26.6%
2001	61.2%	20.8%	18.0%
2002	58.1%	20.9%	21.0%
Average 1995-2002	62.5%	16.7%	20.8%

Source: 1995-2002 NOAA Fisheries Weekly Production Report data and 1st wholesale prices developed by Terry Hiatt.

Selecting the Council's preferred alternative to define target species would exclude species like Aleutian Islands Northern rockfish from the direct allocation. Northern rockfish have traditionally been targeted in the GOA, but have often been discarded in the BSAI. Individuals have expressed concern that Aleutian Islands Northern rockfish may become a target fishery under this rationalization program. Even if Northern rockfish are not opened to directed fishing, any vessel licensed to operate in the Aleutian Islands would be allowed to retain this species as incidental catch against the amount

of the target species they retain. That behavior could lead to vessels harvesting up to the legal amount of this potentially valuable species (topping-off) in order to increase overall profits from their allocation of target species. If this practice is prevalent throughout the fishery it may result in vessel operators trying to harvest more of the non-target species before they are placed on PSC status. This could lead to a race to catch the valuable non-target species.

If a race to catch non-target species does occur, management of those TACs would become more of a focus. NOAA Fisheries would need to closely monitor the harvests of those species to ensure that the TAC is not exceeded. In addition to closely monitoring these species, they could be managed by limiting the maximum percentage of the TAC the Non-AFA Trawl CP sector would be allowed to harvest (i.e., sideboards). Component 12 of Amendment 80 will address issues related to managing the Non-AFA Trawl CP sector's harvest of species not directly allocated to them.

Options Considered but Rejected

The Council considered several options for allocating species to the Non-AFA Trawl CP sector. The most expansive option discussed would have allocated all of the Bering Sea/Aleutian Islands groundfish species or groundfish species complexes that have a TAC limit set during the annual specifications process, except those species allocated through an IFQ program or the AFA, as primary target species. This option was being considered when the Council contemplated including all of the BSAI groundfish sectors in the allocation. However, when the Council voted to limit Amendment 80 allocations to the Non-AFA Trawl CP sector, they also voted to reduce the number of species that would be included in the primary target species allocation.

Issues regarding the fleet's ability to harvest the entire allocation may have surfaced if the Council had voted to include all of the species in the target category. The problems would likely have focused on small allocations of incidentally caught species, if those allocations constrained the harvest of directed fisheries. This problem could have resulted if incidental catches of those species closed directed fisheries. For example, if the allocation of arrowtooth flounder closed the yellowfin sole fishery, it could have negative economic impacts on members of the sector that harvest yellowfin sole. Yellowfin sole are targeted by several members of the Non-AFA Trawl CP sector, and constraining their harvest because of bycatch issues related to small allocations of certain groundfish species could reduce the Non-AFA Trawl CP sector's overall profitability.

Because directed fishery closures resulting from harvesting all of a bycatch species' allocation is a primary concern associated with allocating all the TAC species, management of the allocations amounts of each species would play a significant role in determining whether this will occur. If NOAA Fisheries was requested to manage the sector allocations as hard caps that cannot be exceeded, it is quite possible that closures could occur if all species were allocated under Amendment 80. Management of the sector allocations as soft caps, caps that can be exceeded when retention of incidental catch is prohibited, results in the sector allocations taking on some of the characteristics of management systems that do not allocate non-target species to sectors. In that case, the allocations would be more like guidelines to limit directed fishing for species on a sector-by-sector basis instead of at the TAC level.

Allocating all species might lead to an imbalance in the allocations if TAC fluctuations in the future increased the amount of target species that are available relative to incidentally caught species. If the shifts in TACs were large enough, the amount of incidentally caught species would not cover the amounts needed to harvest the target species. Harvesters would then need to choose the best uses for their incidentally caught species, knowing that those species could be the limiting factor in harvesting all the targeted species.

The allocation formula being considered could be calculated using retained catch as the numerator. Basing the allocation calculations on retained catch would penalize persons that did not retain incidental catch and reward those that did. The Non-AFA Trawl CP sector could be very limited in

their ability to harvest target species by this formula, if all species were allocated to sectors. For example, if an incidentally caught species has a natural catch rate in a target fishery, and that species was retained at levels below the natural bycatch rate, the sector would not be allocated enough of that incidentally caught species to harvest their directed fisheries. If the sector had retained that species they would be allocated a larger percentage of the TAC than they traditionally caught. Their fishing operations would be less likely to be constrained by those species, as a result of the larger allocation, than they would have been if the allocation was based on total catch. The estimated changes in allocation percentages, based on the various allocation options under consideration, are shown in the allocation tables presented later in this document.

The allocation formula selected by the Council could include years when each sector's incidental catch rates do not reflect current conditions. Incidental catch rates vary from year-to-year based on relative species abundance, times of the year harvests were made, and how gear is fished. If these factors have changed from the period used in the initial allocation to when cooperatives are implemented, it could distort the relative amounts of incidentally caught species that need to be harvested in the directed fisheries.

Finally, market conditions could change so that species historically taken as incidental catch would be economically desirable to take in a directed fishery. Depending on the amount of that species a sector is allocated, they may only have enough to use as incidental catch in their other target fisheries. In this case, vessel operators could simply retain the species historically taken as incidental catch. This strategy could allow them to more fully utilize their sector's allotment of all species. If that harvesting approach is not feasible, because of other factors associated with processing or marketing of the various products, the vessel operators could consider targeting the species. For this approach to make economic sense, the increased revenue generated by targeting and selling the species that previously had little or no value would need to be sufficient to off-set any reductions in net revenue resulting from reduced harvests in target species. If that does occur, it may make economic sense for individuals to modify their harvest strategy and forgo traditional directed fisheries to target that species.

Given the above discussion, it is possible that species incidentally harvested, as part of another fishery, would not be allocated in proportions that allow vessel operators to optimize the sector's harvest. Strict enforcement of each sector's allocation could result in some sector's harvests being limited beyond what was intended when the regulations were developed.

Producer surplus would be reduced if the allocations were not made at levels that would allow target fisheries to be supported by reasonable incidental catch levels and no mechanism was built into the program to allow sectors to trade species. Options that would exclude some species from the initial allocation were also proposed to alleviate problems associated with determining the optimal allocation formula for incidentally caught species.

Other options were considered that would have excluded species from the initial allocation if they were expected to preclude the sector from harvesting their allocation of directed fisheries. Before these options could have been implemented, the species that would be excluded must be defined. The species defined as target species and included in the sector allocations could have included all of the species currently taken in directed fisheries as well as some species that have been harvested as incidental catch. Species with relatively small TACs and that are difficult to avoid catching in other directed fisheries were most likely to be excluded from the target list.

The CDQ program provides some indication of problems that have been encountered when allocating smaller TACs to a sector. Those problems would likely be encountered if the same species were allocated to the Non-AFA Trawl CP sector. Because of these problems in the CDQ program, the Council felt it was appropriate to exclude species that met that criteria from the sector allocations. Bering Sea Northern, rougheye and shortraker rockfish are examples of a species that are currently

not allocated to specific groups in the CDQ program. Those species are managed by NOAA Fisheries at the CDQ level. That management system corresponds to the non-target classification proposed under this component. Those species would not be assigned to the Non-AFA Trawl CP sector and would be available for any eligible vessel to harvest. TACs for those species would be monitored by NOAA Fisheries and they would close directed fishing for the species as appropriate. Those closures may occur at the start of the year, if insufficient amounts of catch are available, or closure notices may be issued when the TAC has been harvested to the point that the remaining quota is needed as incidental catch in other target fisheries.

Squid has been treated differently than other species in the CDQ program. Initially it was allocated to CDQ groups, but because of the randomness of the incidental catch, CDQ groups had problems staying within their allocation. These problems of managing the incidental catch amount caused the CDQ groups to request that squid be removed from the program. Subsequent to that request, squid allocations were removed from the CDQ program. Currently squid is managed at the BSAI level with no further subdivisions of the quota. Therefore, squid harvests are not counted against the overall CDQ catches when determining if fisheries should be closed. That approach is equivalent to not allocating squid to Non-AFA Trawl CP sector in this program. Squid would continue to be managed as a non-target species. Directed fisheries that harvest incidental amounts of squid, primarily the pollock fishery, would not be impacted unless incidental squid catches approach the overfishing level. Because the majority of the incidental squid catch is taken in the pollock fishery, sectors that do not harvest pollock are less likely to be substantially impacted by the treatment of squid in this program. Non-AFA Trawl CP sector vessels, except the few that are allowed to harvest up to 2,000 mt of pollock, are precluded from fishing pollock under the AFA.

The Council also considered what mechanism should be developed to alter the species allocated to sectors in the future. That mechanism would need to define the criteria that must be met before a species could be added or deleted from the target list. For example, if a target species TAC is subdivided (or combined) in the future the mechanism could allow those changes to be anticipated in the allocation rules. Or, if a species in the non-target category starts being taken as a directed fishery and its harvest limits some sector's ability to take their target allocations, it could be moved to the target category. The criteria for moving a species could be reviewed during the normal October and December specification cycles when the TACs for the next year are developed. The allocation rules would need to be clearly defined to implement the changes in this short timeline. However, if a mechanism were not developed, an FMP amendment would be required to change the list of target species. Changing the target species list through an FMP amendment could require a considerable amount of time to implement (it could take several years depending on the Council workload). Because of all the above problems associated with allocating some TAC species, the Council decided to move forward with the alternative that allocates species that are primary targets of the Non-AFA Trawl CP sector.

3.2.2 Component 2 – CDQ allocations

Amendment 80 contains two separate component (Components 2 and 5) that could increase the percentage of the groundfish TACs and PSC allocated to the CDQ program. Component 2 contains options that would allocate between 7.5 percent and 15 percent of the primary target species and "associated secondary species" (except Pacific cod) under consideration in Amendment 80 to the CDQ program. Component 5 would specify the percentage of PSC limits allocated to the CDQ Program. Given the options under consideration, the allocation percentage could range from 7.5 percent to 15 percent of the total PSC allotment for each of the PSC species currently allocated to the CDQ Program. Component 2 and Component 5 are directly related in that they both provide options for increasing allocations to the CDQ Program.

3.2.2.1 Specific CDQ Allocation Options under Component 2

Component 2 CDQ allocations

CDQ allocations for each primary target (Component 1) species in the program and associated secondary species (except Pacific cod) taken incidental in the primary trawl target fisheries shall be removed from the TACs prior to allocation to sectors at percentage amounts equal to one of the following.

Option 2.1	7.5% of the TAC of each species in the program
Option 2.2	10% of the TAC of each species in the program
Option 2.3	15% of the TAC of each species in the program

Component 2 provides a range of allocations of Amendment 80 target species that could be allocated to the CDQ Program. This includes three options: 7.5 percent (the current percentage allocation), 10 percent, and 15 percent. Increasing allocations to the CDQ Program, if completely harvested, probably would increase associated bycatch in these target fisheries. Thus, along with increases in target allocations considered under Option 2.2 and 2.3, this component would increase the allocations for incidental catch species in the Amendment 80 target fisheries. Such increases only would be applicable to species caught along with Amendment 80 target species, not all species allocated to the CDQ Program. The Council would have to specify which incidental catch species are associated with each target species. Bycatch species in the Amendment 80 target CDQ fisheries could be identified based on historical catch in such fisheries. Allocation increases to the CDQ Program for both target and incidental catch species would be removed from applicable annual TAC limits prior to any apportionments to other sectors.

3.2.2.2 Historic CDQ Harvest of Amendment 80 Primary Target Species

The prosecution of CDQ fisheries have met with varying degrees of success over time. CDQ groups have demonstrated proficiency in catching all or most of their highest valued CDQ allocations, such as pollock, Pacific cod, and crab. Lesser valued target species (such as rock sole, sablefish, and yellowfin sole) have not been as completely utilized. During the first few years of the multispecies CDQ Program (which began in late 1998), many of the flatfish CDQ allocations were not caught. This probably is due to a variety of factors. Some target fisheries (such as yellowfin sole) may have remained open all year, which meant CDQ groups' flatfish partners opted not to fish for yellowfin sole CDQ, as they had open access to yellowfin sole. In fisheries such as the AI Atka mackerel fisheries, the amount of bycatch CDQ species available to support the Atka mackerel CDQ directed fishery may have led to vessels fishing more conservatively than usual or choosing not to fish for Atka mackerel at all. Prohibitions against exceeding both CDQ and PSQ allocations has meant that both CDQ groups and their harvesting partners operate more conservatively in many fisheries. This is particularly true of incidental catch species or prohibited species, which CDQ groups may dedicate to more valuable target fisheries such as Pacific cod or pollock. The residual amounts of incidental catch species available for other target CDQ fisheries may be deemed inadequate to account for additional bycatch needs. Historical groundfish CDQ and PSQ catch is detailed in Table 3-18 and Table 3-19.

Further detail about the 2001-2004 CDQ catch of Amendment 80 species is portrayed in Table 3-20, which reports the CDQ allocations and the percentage of the allocation that was harvested for these species. These data are reported to provide insights into historic CDQ harvest trends for Amendment 80 target species. This information may provide additional context about which species' catch could be increased, with corresponding increases in royalties or other benefits to CDQ groups and member communities. The species that have been harvested at relatively high rates during past fishing years, as well as less utilized target allocations, are most likely to impact CDQ revenues if their program allocation is increased. The groundfish CDQ fisheries have matured in the last several years, and

fishing practices and relationships with harvesting partners have stabilized. Thus, groundfish CDQ catch from 1998 through 2000 is not included in subsequent discussions.

Table 3-18 Groundfish CDQ Harvests, 1999-2004

CDQ species	1999	2000	2001	2002	2003	2004
BS Pollock	99,113	113,554	138,883	148,427	149,121	149,169
AI Pollock	16	0	0	0	0	0
Bogoslof Pollock	0	0	0	0	0	0
Pacific Cod	12,495	13,527	12,363	14,128	14,465	16,009
BS FG Sablefish	18	66	40	150	66	143
AI FG Sablefish	103	120	87	129	103	14
BS Sablefish	14	6	4	27	6	21
AI Sablefish	3	1	0	6	7	0
WAI Atka Mackerel	601	1,788	1,991	1,341	1,203	1,476
CAI Atka Mackerel	822	1,807	2,467	1,591	2,129	2,248
EAI/BS Atka Mackerel	1,166	1,192	519	320	696	771
Yellowfin Sole	1,968	219	182	1,972	5,564	6,321
Rock Sole	575	401	221	553	641	892
BS Greenland Turbot	196	244	26	53	48	31
AI Greenland Turbot	37	65	35	46	33	29
Arrowtooth Flounder	787	286	139	302	437	432
Flathead Sole	724	439	223	464	392	545
Other Flatfish	283	80	35	56	89	72
Alaska Plaice	n/a	n/a	n/a	137	184	302
BS Pacific Ocean Perch	35	1	8	9	15	2
WAI Pacific Ocean Perch	317	372	318	355	404	336
CAI Pacific Ocean Perch	129	216	152	155	185	170
EAI Pacific Ocean Perch	159	167	162	167	249	165
BS Other Red Rockfish	10	7	3	2	n/a	n/a
BS Northern	n/a	n/a	n/a	n/a	2	n/a
AI Sharpchin/Northern	247	346	328	n/a	n/a	n/a
AI Northern Rockfish	n/a	n/a	n/a	342	276	n/a
BS Shortraker/rougheye	n/a	n/a	n/a	n/a	8	n/a
Northern (BSAI)	n/a	n/a	n/a	n/a	n/a	403
Shortraker (BSAI)	n/a	n/a	n/a	n/a	n/a	29
Rougheye (BSAI)	n/a	n/a	n/a	n/a	n/a	3
AI Shortraker/Rougheye	28	35	17	14	25	n/a
BS Other Rockfish	6	6	2	2	4	4
AI Other Rockfish	27	36	18	32	10	17
Other Species	1,908	2,060	1,650	2,311	2,330	3,294
Squid	n/a	51	n/a	n/a	n/a	n/a

Source: NOAA Fisheries 2005

Table 3-19 Groundfish PSQ Harvests, 1999-2004

PSQ species	1999	2000	2001	2002	2003	2004
Zone 1 Red King Crab	172	0	0	431	1,883	175
Zone 1 Bairdi Tanner Crab	2,998	17	690	4,074	9,119	1,679
Zone 2 Bairdi Tanner Crab	18,531	1,593	436	3,695	2,736	13,483
Opilio Tanner Crab	53,199	4,338	624	25,568	4,927	29,860
Pacific Halibut	217	103	86	149	175	153
Chinook Salmon	584	430	2,507	2,093	2,565	2,966
Non-Chinook Salmon	243	1	2,427	1,993	5,292	960
Pollock ICA		606.275	746.472	967.198	1286.198	1424.117
Total Chinook	1662	749	2,561.000	2103	2713	3010
Total Non-Chinook	909	1706	3,286.000	3604	8402	10424

Source: NOAA Fisheries 2005

Table 3-20 Primary Target Species CDQ Reserves, Catch, and Percent Harvested, 2001-2004

CDQ Species	2001			2002			2003			2004			Average 2001-04
	CDQ Reserve	Catch	Percent harvest	CDQ Reserve	Catch	Percent harvest	CDQ Reserve	Catch	Percent harvest	CDQ Reserve	Catch	Percent harvest	Percent harvest
WAI Atka Mackerel	2,093	1,991	95.15	1,478	1,341	90.74	1,499	1,203	80.28	1,550	1,476	95.2	90.34
CAI Atka Mackerel	2,520	2,467	97.91	1,785	1,591	89.14	2,202	2,129	96.69	2,333	2,248	96.35	95.02
EAI Atka Mackerel	585	519	88.77	413	320	77.49	799	696	87.15	843	771	91.42	86.21
Yellowfin Sole	8,475	182	2.15	6,450	1,972	30.57	6,281	5,564	88.58	6,456	6,321	97.91	54.80
Rock Sole	5,625	221	3.93	4,050	553	13.65	3,300	641	19.42	3,075	892	29	16.50
Flathead Sole	3,000	223	7.42	1,875	464	24.76	1,500	392	26.15	1,425	545	38.25	24.15
WAI POP	356	318	89.43	425	355	83.5	439	404	92.06	389	336	86.5	87.87
CAI POP	192	152	79.27	230	155	67.43	251	185	73.63	219	170	77.81	74.54
EAI POP	218	162	74.28	260	167	64.3	263	249	94.53	229	165	72.19	76.33

Source: NOAA Fisheries 2005.

Yellowfin Sole CDQ Fishery

The CDQ Program receives 7.5 percent of the annual BSAI yellowfin sole TAC. The amount of yellowfin sole allocated to the program in 2001 through 2004 is detailed in Table 3-20. That table includes catch information, as well. Until recently, the yellowfin sole CDQ fishery was not as fully prosecuted as fisheries such as pollock and Pacific cod, probably because the non-CDQ fishery did not close to directed fishing during years in which the yellowfin sole TAC was very high. A complete description of the general yellowfin sole fishery is in Section 3.1.1.1.

CDQ groups tend to specialize in targeting specific species within the mix of groundfish they are allocated. Species are often traded among CDQ groups so a group can accumulate species they are most interested in harvesting or to pool small amounts of quota to allow for more efficient harvesting operations. For example, the Aleutian Pribilof Island Community Development Association (APICDA) elected to fish yellowfin sole in 2003 through an agreement with the owners of the F/V Seafisher. In its 2003 3rd quarter report, APICDA indicated that they harvested all of their yellowfin sole allocation and part of Norton Sound Economic Development Corporation (NSEDC)'s yellowfin sole allocation. APICDA also stated that they attempted to obtain additional yellowfin quota but were

unsuccessful. Bristol Bay Economic Development Corporation (BBEDC) also targeted yellowfin sole in 2003 by harvesting their own allocation and obtaining quota from Coastal Villages Region Fund (CVRF), Central Bering Sea Fishermen's Association (CBSFA), and Yukon Delta Fisheries Development Association (YDFDA) to fish collectively for all four groups. The terms of the transfers cannot be provided, but it is expected that all of the CDQ groups derived some benefit from the harvested amount of their yellowfin sole allocation.

The two Non-AFA Trawl CP sector fishing companies associated with APICDA (F/V Seafisher) and BBEDC (U.S. Seafoods, which operates the F/V Seafreeze Alaska and F/V Ocean Peace) caught the yellowfin sole CDQ. Depending on the profitability of harvesting the yellowfin sole allocated to the CDQ program, these companies may have also benefited. The 2003 fishery was the first year that essentially all of the CDQ yellowfin sole allocation was harvested. Table 3-20 shows that close to 98 percent (6,321 mt) of the yellowfin sole CDQ was harvested in 2004, and approximately 88 percent in 2003. In contrast, CDQ groups only harvested about 30 percent of their allocation (1,972 mt) in 2002, even though the overall amount of yellowfin sole available to the CDQ groups was about the same in these years. Collaborative efforts by CDQ groups may be one of the primary reasons for this increased catch.

Flathead Sole and Rock Sole CDQ Fisheries

The CDQ fisheries for flathead sole and rock sole historically have not been very successfully prosecuted. The average percent harvested of flathead sole CDQ from 2001 to 2004 was about 24 percent. In these same years, the average annual percent of rock sole CDQ caught was about 17 percent of the amount allocated. Even this catch was not necessarily taken in directed fisheries for these two species. For example, in 2004 much of the 892 mt of rock sole CDQ that was taken was caught in the pollock (282 mt) and yellowfin sole (446 mt) target fisheries. Reasons for the low catch rates for rock sole and flathead sole vary. The non-CDQ fisheries for these species are subject to more frequent closures due to reaching either PSC limits for halibut for seasonal apportionments of the annual TACs. It may be difficult to dovetail CDQ fisheries into the non-CDQ operations of the vessels prosecuting these fisheries, or these vessels may choose to move into other fisheries once the non-CDQ fisheries for rock sole or flathead sole are closed. CDQ groups may not place as much emphasis on the harvest of these species due to their relatively low royalty value. Alternatively, CDQ groups may choose not to aggressively prosecute this fisheries due to the relatively high level of halibut bycatch that occurs in them. Halibut or other prohibited species caught in a rock sole or flathead sole CDQ fishery would have to be debited from applicable PSQ accounts, thereby decreasing the amounts of PSQ available in other CDQ target fisheries.

Atka Mackerel CDQ Fishery

Atka mackerel is currently allocated to three different subareas in the BSAI. In 2003, about 18 percent of the combined BSAI Atka mackerel TAC (63,000 mt) was available for harvest in the Eastern Aleutian Islands and Bering Sea area (EAI/BS), about 49 percent was available in the Central Aleutian Islands (CAI) area, and about 33 percent was available in the Western Aleutian Islands (WAI) area. The CDQ Program receives 7.5 percent of the each AI Atka mackerel TAC. Both the amount of Atka mackerel allocated to the CDQ Program and annual CDQ catch in 2001 through 2004 is detailed in Table 3-20. A complete description of the Atka mackerel fishery is in Section 3.1.1.4.

The Atka mackerel CDQ fishery is typically prosecuted in conjunction with the non-CDQ Atka mackerel fishery. It is often combined with the Pacific ocean perch CDQ fishery. The same fishing partners and vessels described in the prior discussion of yellowfin CDQ are used in the Atka mackerel CDQ fishery. In recent years, some CDQ groups (BBEDC, CBSFA, CVRF, and YDFDA) have transferred Atka mackerel CDQ and associated bycatch species among themselves in order to consolidate quota with one group (BBEDC) in order to collaborate on a more efficient AI trawl fishery. Proceeds from the harvest of CDQ in this endeavor are distributed among participating CDQ

groups, although the terms of such arrangements are unavailable. The fishing company associated with the harvest of that CDQ may have benefited from this arrangement, as would the fishing company that, on behalf of APICDA, harvest AI Atka mackerel and other CDQ species.

In 2003, about 90 percent of the total CDQ allocation of Atka mackerel was harvested. The largest subarea harvest was from the CAI area where 2,129 mt (97 percent) of the allocation was harvested. That same year about 696 mt (87 percent) and about 1,203 mt (80 percent) of the EAI/BS and WAI area allocations were harvested, respectively. Catch rates in 2004 were similar or higher. Table 3-20 illustrates that the majority of each AI Atka mackerel CDQ allocation was harvested in 2001, 2002, 2003, and 2004. The average harvest of WAI, CAI, and EAI/BS Atka mackerel CDQ in those years was 90 percent, 95 percent, and 86 percent, respectively. Given that relatively large percentages of the TACs were harvested in both the open access and CDQ fisheries, any increases in the CDQ allocations of Atka mackerel considered under options 2.2 and 2.3 would likely be harvested if TACs and market conditions are relatively stable, and if CDQ groups and their partners continue their recent fishing patterns.

Pacific Ocean Perch CDQ Fishery

The CDQ Program receives 7.5 percent of the each AI Pacific ocean perch TAC. The Pacific ocean perch is conducted in a similar manner to the Atka mackerel CDQ fishery described above. The fishery is prosecuted by the same vessels that fish for Atka mackerel, and usually on the same fishing trip, so temporal effort is very similar. Quota transfers patterns are also similar in recent years, with multiple groups transferring their EAI, CAI, and WAI Pacific ocean perch to one group for a combined harvest effort. Some groups continued to manage the harvest of their Pacific ocean perch allocations separately. Although the majority of the annual CDQ allocations for Pacific ocean perch appear to have been caught in recent years, this fishery has not been as successfully prosecuted as the Atka mackerel CDQ fishery. Annual catch amounts for 2001-2004 are displayed in Table 3-20. The average annual percent harvested for Pacific ocean perch ranges from a low of 75 percent for CAI Pacific ocean perch to 88 percent for WAI Pacific ocean perch. Any increases to the CDQ allocations for this species considered under Options 2.2 or 2.3 could offer CDQ groups additional harvesting opportunities.

3.2.2.3 Estimated CDQ Royalty Value for Amendment 80 Target Species

CDQ groups contract, or have other business arrangements, with a variety of seafood harvesters and processors operating in the BSAI groundfish fisheries. Access to amounts of CDQ is given in exchange for a percentage of the ex-vessel value of a particular species. Most royalty agreements are specific to a particular target species, such as pollock or Atka mackerel. Pollock CDQ royalties account for the majority of annual CDQ royalties. The combined value of CDQ royalties in 2003, the most recent year that complete CDQ royalty information in available, was approximately $54 million. Pollock CDQ royalties accounted for $42.8 million of this amount, or 82 percent of total royalties. Harvests of other groundfish, crab, and halibut CDQ yielded the remainder of CDQ royalties. Historically, pollock CDQ has by far been the highest royalty generator for CDQ groups. Since the implementation of the multispecies CDQ Program, the royalties generated by the harvest of Atka mackerel, flatfish, Pacific ocean perch, and other assorted groundfish species other than pollock and Pacific cod have not returned significant royalties to CDQ groups. Such species, in aggregate, accounted for 1.4 percent of CDQ royalties in 2003, or approximately $770,000. Table 3-21 illustrates the proportion that major species groups contributed to overall CDQ royalties in 2003.

Table 3-21 CDQ royalties by major species groups, 2001-2003

Species	Total all groups 2001	Total all groups 2002	Total all groups 2003
Pollock	$36,721,924	$39,609,795	$42,779,382
Pacific Cod	$2,733,315	$2,743,795	$3,365,920
Crab total	$2,492,197	$3,448,377	$4,612,294
Halibut	$202,822	$214,872	$1,922,821
Other species[1]	$408,683	$350,346	$767,846
Total CDQ royalties	$42,558,941	$46,367,185	$53,448,263

[1]Includes Atka mackerel, flatfish, Greenland turbot, sablefish, and other species categories.
Source: NOAA Fisheries Service. Aggregated CDQ royalty information (audited).

The species in the "other groundfish species" category in Table 3-21 includes a range of species. This includes the species under consideration in Amendment 80, as well as sablefish, Greenland turbot, and others. Complete information about royalties paid to CDQ groups for the specific catch in some groundfish CDQ categories is not available. Specific royalty rates or royalty payments by species, by CDQ group, and by year are confidential. Moreover, CDQ groups report royalty information with varying degrees of precision, sometimes combining royalties received for various species under a single category.

For purposes of this analysis, an estimated royalty rate of $65 per metric ton was calculated. This is based on dividing the estimated 2003 royalties for Amendment 80 species by the approximate amount of such species caught in 2003. These catch amounts include the Amendment 80 species caught by nonpelagic trawl gear in the Atka mackerel, yellowfin sole, flathead sole, rock sole, and rockfish (Pacific ocean perch) CDQ target fisheries. Royalty information is based on aggregate information submitted to the State and NOAA Fisheries as part of CDQ groups' financial monitoring requirements. This estimated royalty rate is intended to be used for illustrative purposes only.

CDQ target species that have not been fully harvested in the past may not increase revenues, at least in the short term, if more fish are allocated to the CDQ program. In the long term, such species may be more fully harvested, providing additional royalties, as well as other benefits to CDQ groups such as employment opportunities. In general, the further development of CDQ fisheries for those target species being considered under Amendment 80 is a long-standing goal for the CDQ groups. Increased prosecution of these fisheries depends on having strong enough markets for the products produced to cover the costs of harvesting the fish as well as having sufficient allocations of those species to cover bycatch needs in other, more valuable, target fisheries. Some portion of the Amendment 80 target species will continue to play an important role in the CDQ Program by being used to account for bycatch needs in other target fisheries, such as pollock and Pacific cod. A more detailed discussion of the potential effects of increasing the CDQ allocations and associated royalties for those species considered under Amendment 80 follows.

3.2.2.4 Projected Allocations and Value of Target Species under Option 2.2 and 2.3

Component 2 has two options to increase CDQ allocations to the CDQ Program. This includes Option 2.2, increase CDQ allocations to 10 percent, and Option 2.3, increase CDQ allocations to 15 percent of target species TACs. Projections for how much these CDQ allocations would increase are shown in Table 3-22.

Table 3-22 Projected CDQ allocation increases (mt) under Options 2.2 and 2.3, based on the 2004 TACs

Species	2004 TAC	7.5%	10%	15%
Atka mackerel, WAI	20,660	1,550	2,066	3,099
Atka mackerel, CAI	31,100	2,333	3,110	4,665
Atka mackerel, EAI	11,240	843	1,124	1,686
Flathead sole	19,000	1,425	1,900	2,850
POP, WAI	5,187	389	519	778
POP, CAI	2,926	219	293	439
POP, EAI	1,408	106	141	211
Rock sole	41,000	3,075	4,100	6,150
Yellowfin sole	86,075	6,456	8,608	12,911
Total Amd 80 species		16,396	21,861	32,789

Given these historic CDQ harvest rates, increasing the percentage of these species allocated to the CDQ program could increase the amount of these species that is harvested by the CDQ groups. However, fishing patterns are not static. Therefore, it is possible that the CDQ groups could develop markets for other target species and increase their harvests of those species to a point where larger allocations would be utilized. Alternatively, the markets for Atka mackerel, yellowfin sole, rock sole or Pacific ocean perch could weaken or the overall TAC could increase to a level that would make harvesting those CDQ species less desirable. CDQ groups have, however, indicated that they would harvest additional amounts of flatfish species, such as rock sole, if the opportunity arose.

The relatively small size of these quotas and variability in the amount of each species harvested in past years make estimating the future CDQ royalties from these species difficult. In some instances, royalty rates are based on a sliding scale according to the value of the product form produced from a given species based on current market conditions. High demand for a particular species and product form could trigger increased CDQ catch of that species, with corresponding increases in royalty payments. However, for purposes of discussion, applying the estimated, aggregate royalty rate calculated in Section 3.2.2.3 to these projected CDQ allocations may offer an indications of what affect increasing the CDQ allocations would have on CDQ royalties. The estimated royalty rate of $65 per mt was applied to the entire amount of each Amendment 80 target species CDQ allocation, giving a high end estimate of the value of each allocation percentage, as portrayed in Table 3-23. Practically speaking, it is unlikely that the entire amount of each reserve would be caught, or that those fish that were caught would all yield royalties to CDQ groups. Some amounts of Amendment 80 species are caught and discarded in other target fisheries. Besides that, some amount of the fish caught in Amendment 80 target CDQ fisheries are discarded and yield no benefit to either the vessel owner/operator or to CDQ groups.

Table 3-23 High End Estimate of the Value of Each Allocation Percentage

Species	2004 TAC (mt)	7.5% Allocation	Projected value	10% Allocation	Projected value	15% Allocation	Projected value
Atka mack., WAI	20,660	1,550	$100,750	2,066	$134,290	3,099	$201,435
Atka mack., CAI	31,100	2,333	$151,645	3,110	$202,150	4,665	$303,225
Atka mack., EAI	11,240	843	$54,795	1,124	$73,060	1,686	$109,590
Flathead sole	19,000	1,425	$92,625	1,900	$123,500	2,850	$185,250
POP, WAI	5,187	389	$25,285	519	$33,735	778	$50,570
POP, CAI	2,926	219	$14,235	293	$19,045	439	$28,535
POP, EAI	1,408	106	$6,890	141	$9,165	211	$13,715

Species	2004 TAC (mt)	7.5% Allocation	Projected value	10% Allocation	Projected value	15% Allocation	Projected value
Rock sole	41,000	3,075	$199,875	4,100	$266,500	6,150	$399,750
Yellowfin sole	86,075	6,456	$419,640	8,608	$559,520	12,911	$839,215
Total		16,396	$1,065,740	21,861	$1,420,965	32,789	$2,131,285

Note: All estimates based on a $65/mt royalty rate. Therefore, all projections are linear estimates based on mt of allocation. Substituting one species for another, in equal amounts, would not change to value that is estimated. This is likely an over-simplification of the royalties that would be negotiated.

While the projected CDQ allocations and royalty estimates calculated in the preceding tables offer some insight about the projected effects of both Options 2.2 and 2.3, it is more difficult to estimate the practical effects of these options. Each CDQ group could individually develop their own estimate of the benefits that any increased Amendment 80 allocations might provide them, particularly on a species by species basis. However, the following discussion offers general information about the potential impacts associated with Options 2.2 and 2.3 for each target species considered under Amendment 80.

If the current fishing patterns for yellowfin sole are maintained, it is likely that any increase in the yellowfin sole allocation could benefit the CDQ groups that successfully harvests yellowfin sole, either individually or cooperatively. CDQ groups would benefit from such harvest by the royalties they accrue from their harvesting partner or from royalty pass-throughs from other CDQ groups that have acquired yellowfin sole CDQ by transfer. The two fishing companies currently involved in harvesting yellowfin sole CDQ would continue to benefit if they are able to generate enough revenues from the yellowfin sole fishery to sufficiently cover their costs.

Given the recent yellowfin sole TACs, as well as the 2003 and 2004 demand for yellowfin sole by some CDQ groups, it is likely that increasing the yellowfin sole allocation under either Option 2.2 or Option 2.3 would increase CDQ royalties and other associated benefits to CDQ groups, such as employment opportunities. Exact estimates of the amount of the royalty increases cannot be made with available information. Two groups were involved in primary targeting of yellowfin sole, and releasing specific royalty amounts could violate confidentiality provisions. However, using the estimated royalty rate for Amendment 80 species, the yellowfin royalties returned to CDQ groups could range as high as $839,000 dollars per year, as shown in Table 3-23 (royalties would be higher if the actual yellowfin sole royalty is more than $65 per metric ton, or lower if the royalty estimate is less.)

The amount of Atka mackerel that would be allocated to the CDQ Program under Options 2.2. or 2.3 is portrayed in Table 3-22, based on the 2004 Atka mackerel TACs. As with yellowfin sole CDQ, if recent fishing patterns are maintained, any increase in Atka mackerel CDQ allocations could benefit the CDQ groups. This could apply to individual CDQ groups, or to those CDQ groups who pool some portion of their quotas with other groups. CDQ groups would benefit from such harvest by the royalties they accrue from their harvesting partner(s) or from royalty pass-throughs from other CDQ groups that have acquired Atka mackerel CDQ by transfer. The two fishing companies currently involved in harvesting Atka mackerel CDQ would continue to benefit if they are able to generate enough revenues from the Atka mackerel fishery to sufficiently cover their costs, as could other fishing companies that might participate in this CDQ fishery in the future.

Demand for Atka mackerel products will drive the prices in the open access fishery and royalties in the CDQ fishery. The supply of Atka mackerel on the market is not expected to change with various CDQ allocations. The total amount of Atka mackerel harvested is not expected to vary drastically if it is allocated to either the open access or CDQ sectors, and both sectors produce similar products from the fish harvested. If there is adequate market demand for Atka mackerel products, the fleet probably would harvest the available fish to the best of its ability. Since Atka mackerel CDQ allocations have historically been almost completely harvested it is likely that increasing the Atka mackerel CDQ

allocation under either Option 2.2 or Option 2.3 would increase CDQ royalties and other associated benefits to CDQ groups, such as employment opportunities.

The future royalties that would be generated from Atka mackerel, under the various allocation alternatives, cannot be projected with any certainty, but may be estimated.

Estimated royalties are shown in Table 3-23. These amounts illustrate that increasing the Atka mackerel CDQ allocation could increase CDQ royalties proportional to the amount that the CDQ allocation was increased. For example, increasing the CDQ allocation from 7.5 percent to 15 percent of the Atka mackerel TACs would double CDQ royalties from approximately $307,000 to $614,000.

Estimate allocation increases for the remaining Amendment 80 species also are included in Table 3-22 and Table 3-23. CDQ allocations for Pacific ocean perch, flathead sole, and rock sole would increase proportionally under both Options 2.2 and 2.3. If past trends are an indication, increases in the Pacific ocean perch allocations could lead to increased catch of Pacific ocean perch in the CDQ fisheries, particularly in combination with Atka mackerel. However, even with increased allocations and catch rates, Pacific ocean perch royalties would still contribute a modest amount to overall CDQ royalties. Based on royalty estimates, Pacific ocean perch could be worth a maximum of approximately $93,000 under Option 2.3. Increased allocations and catch of rock sole CDQ show more promise for increasing CDQ royalties, ranging from about $267,000 under Option 2.2 to $400,000 under Option 2.3. Flathead sole royalties could increase under Options 2.2 and 2.3 as well, but would still contribute a very modest amount to overall CDQ royalties. Estimated flathead sole royalty increases could range from $124,000 to 185,000.

Increases to CDQ allocations under Option 2.2 and 2.3 could offer opportunities for CDQ groups to increase their participations in the Amendment 80 target fisheries and realize associated increases in royalties accruing to them for allowing their partners to access CDQ species. However, we anticipate that any increases in the CDQ allocation would contribute a relatively small amount of the total CDQ royalties generated per year. But, these increased allocations also could allow CDQ groups to negotiate additional training opportunities, internships, and employment positions for CDQ community residents, either on board fishing vessels or in the business offices of fishing vessels' managing companies. Even though the total royalties generated from these species is estimated to be relatively small, members of the CDQ groups could argue that they still play an important role in meeting their overall objectives, such as providing such employment and training opportunities.

3.2.2.5 Associated Secondary (Incidental Catch) Species

In addition to potential increases in the primary target CDQ species, Options 2.2 and 2.3 associated with Component 2 could increase the CDQ allocations of secondary species (except for Pacific cod) caught incidentally with the primary Amendment 80 target species. The incidental catch species associated with these target species include most BSAI TAC species. The Amendment 80 target species also are caught incidentally in other CDQ target fisheries such as Pacific cod, pollock, or sablefish. Furthermore, some Amendment 80 target species are caught as bycatch in other Amendment 80 target fisheries, where they may be either retained and processed, or discarded. Table 3-24 shows the secondary species that were caught in the 2004 CDQ fisheries for Amendment 80 target species.

Table 3-24 Primary and secondary species in the 2004 CDQ target fisheries for Atka mackerel, yellowfin sole, Pacific Ocean perch, flathead sole, and rock sole

CDQ and PSQ Species	Target Fishery					
	Atka Mackerel	Rockfish	Flathead sole	Rock sole	Yellowfin sole	Grand Total
AI Greenland Turbot	28.467					28.47
AI Other Rockfish	15.404	0.788				16.19
AI Sablefish	0.153					0.15
Alaska Plaice			3.271	17.91	279.505	300.69
Arrowtooth Flounder	22.201	0.525	58.058	1.487	112.533	194.80
BS Greenland Turbot			2.888			2.89
BS Other Rockfish			2.082			2.08
BS Pacific Ocean Perch			0.272			0.27
BS Sablefish			19.165	0.143	0.023	19.33
CAI Atka Mackerel	2130.05	117.843				2247.89
CAI Pacific Ocean Perch	150.404	20.005				170.41
EAI Pacific Ocean Perch	165.321					165.32
EAI/BS Atka Mackerel	768.877		0.164	0.007		769.05
Flathead Sole	0.136		20.239	3.478	215.153	239.01
Northern Rockfish	310.157	90.527				400.68
Other Flatfish	0.773		11.812	1.287	17.83	31.70
Other Species	58.455	1.559	20.959	5.186	190.172	276.33
Pacific Cod	256.786	12.136	19.175	10.64	186.98	485.72
Rock Sole	14.374	1.546	7.754	105.509	446.113	575.30
Rougheye Rockfish	2.547		0.206			2.75
Shortraker Rockfish	21.652		0.061			21.71
WAI Atka Mackerel	1475.594					1475.59
WAI Pacific Ocean Perch	336.488					336.49
Yellowfin Sole			24.923	77.74	6162.148	6264.81

Source: NOAA Fisheries 2005. CDQ catch data by reported target, for non-pelagic trawl gear. All amounts in metric tons.

Some amount of every 2004 BSAI TAC category was caught in the directed CDQ fisheries for Amendment 80 target species in 2004. Squid is not allocated to the CDQ Program and is not included in this table. Approximately 759 mt of pollock was caught with non-pelagic trawl gear in the 2004 CDQ fisheries, and accrued towards the incidental catch allowance for pollock. Pollock is excluded from this discussion as this species is not under consideration for increased allocations under either Options 2.2 or 2.3. The 2001, 2002, and 2003 CDQ target fisheries for Amendment 80 target species show a similar bycatch pattern to the 2004 CDQ fisheries. Almost every annual TAC category in place for those years was caught in CDQ fisheries for Amendment 80 target species, as well. Several Bering Sea species categories, such as BS sablefish, BS Greenland turbot, and BS northern rockfish, were not caught in the CDQ nonpelagic trawl fisheries in 2003. No amount of BS other rockfish caught in CDQ non-pelagic trawl fisheries in 2002.

Component 2, Options 2.2 and 2.3 would increase the percentage of secondary species allocated to the CDQ Program in conjunction with increased allocations of Amendment 80 target species. These increases are shown in Table 3-25. The primary Amendment 80 species are excluded from this table, as is Pacific cod. Neither Option 2.2 or Option 2.3 would increase the allocations of Pacific cod to the CDQ Program, as increased Pacific cod allocations to the CDQ Program are being considered under a separate action. “Other species” is included in the table, but it should be noted that this species

category is no longer allocated among CDQ group due to concerns that the "other species" CDQ allocation was inadequate to account for the bycatch of this species in the groundfish CDQ fisheries. The Council may wish to consider whether it wants to increase the allocation of this species category in light of the previous action it has taken on "other species" CDQ.

Table 3-25 CDQ allocations for incidental catch species based on allocation percentages considered under Component 2, Options 2.1, 2.2, and 2.3

Species	2004 TAC	7.5%	10%	15%
AI Greenland Turbot	800	60	80	120
AI Other Rockfish	634	48	63	95
AI Sablefish	775	58	78	116
Alaska Plaice	10,000	750	1,000	1,500
Arrowtooth Flounder	12,000	900	1,200	1,800
BS Greenland Turbot	2,700	203	270	405
BS Other Rockfish	460	35	46	69
BS Pacific Ocean Perch	1,408	106	141	211
BS Sablefish	1,450	109	145	218
Northern Rockfish	5,000	375	500	750
Other Flatfish	3,000	225	300	450
Other Species	27,205	2,040	2,721	4,081
Rougheye Rockfish	195	15	20	29
Shortraker Rockfish	526	39	53	79

Source: NOAA Fisheries 2005

The increases CDQ allocations portrayed in Table 3-25 are a proportional increase in CDQ allocations for bycatch species that would accompany increased allocations of Amendment 80 primary species. Neither the species categories or amounts shown in this table represent a reliable estimate of the amount of these species that would be caught in the CDQ directed fisheries for Amendment 80 target species. Historical catch data indicates that additional species not shown in this table may be caught in such target fisheries. Such fisheries may need more, or less, than the amounts shown in this table in order to fully account for the bycatch of such species in either the Amendment 80 primary target fisheries, or in all CDQ target fisheries. Historically, non-target (and prohibited species catch) species have been allocated to the CDQ Program at the same level as all other species allocated to the program. Estimating the amount of each bycatch species to allocate to the CDQ Program is a complex exercise that has never been undertaken at a comprehensive level. For this analysis, however, it is possible to extrapolate the amount of secondary species that could be caught in each Amendment 80 primary species target species based on past catch rates in these CDQ fisheries.

3.2.2.6 Direct Impacts on the CDQ Groups

Although increasing the allocations of Amendment 80 primary and secondary species to the CDQ Program could benefit CDQ groups via increased royalties and other associated opportunities, increased allocations also could impart some additional costs on CDQ groups. One such cost could include the administrative costs related to negotiating new or amended harvesting and business agreements with the companies that harvest Amendment 80 target species. CDQ groups would have to update their CDPs to reflect any increased allocations that they might receive. In-season quota management costs also could increase if allocations were increased. CDQ quota managers may have to spend additional time and resources managing increased allocations and arranging inter-CDQ group quota transfers, particularly if the groups increased their annual catch rates for all of the target species considered under Amendment 80. Additionally, if requirements for reporting, catch

monitoring and enforcement, and observer protocols or coverage levels change for the Amendment 80 target species fisheries, then CDQ groups might have to adhere to, or partially bear the costs of, such changes. Costs to CDQ groups for the preceding elements cannot be estimated with available information.

3.2.2.7 Impacts of Component 2 Options on Non-CDQ Industry Components

Both Options 2.2 and 2.3 would increase primary and secondary species allocations to the CDQ sector. Selection of either option would correspondingly decrease the amount of each applicable BSAI groundfish CDQ TAC allocated to the non-CDQ sectors by either 2.5 percent (Option 2.2) or 5 percent (Option 2.3). This non-CDQ sectors include both the Non-AFA trawl catcher/processor sector directly considered under this action, and other BSAI fisheries components.

The Non-AFA trawl catcher/processor sector would lose access to a portion of each annual TAC for Amendment 80 primary species, with associated foregone revenues. This sector also could be affected by a decrease in secondary species allocations if insufficient amounts of bycatch species weren't available to fully account for the complete catch of Amendment 80 primary species. Other BSAI fisheries sectors could be adversely affected by increased CDQ sector allocations if the decreased non-CDQ TAC amounts meant that there were diminished opportunities to catch either target species, or if there were inadequate amounts of bycatch species available to support the complete prosecution of all target species. The affects of decreasing annual TACs for non-CDQ fisheries components cannot be estimated with available information. The following discussion address possible impacts of decreased primary species on the Non-AFA trawl catcher/processors.

Yellowfin sole

The fishing companies that traditionally harvested yellowfin sole would likely generate less revenue if increased allocations to the CDQ Program were adopted. Since 2002 the open access TAC for yellowfin sole has been completely harvested (historical catch of yellowfin sole is illustrated in Table 3-1). In prior years, when the TAC was set at a high level because there was sufficient yellowfin sole biomass, and there was room under the 2 million metric ton harvest cap set for the BSAI, the entire TAC was not harvested. In those years, the proposed increase in CDQ allocations would have little impact on the open access fleet, because the quota could not be utilized anyway. However, given the current, smaller yellowfin sole TACs any increase in the CDQ allocation could reduce the harvests of the open access fleet.

The fleet that potentially would be most harmed are those vessels in the Non-AFA Trawl CP sector, which has traditionally harvested the vast majority of the yellowfin sole TAC. This is the only fleet that has consistently harvested yellowfin sole in a directed fishery. The magnitude of the impact on individual companies in this fleet's financial performance would depend on several factors including, whether they participate in the directed yellowfin sole fishery, the size of the CDQ allocations, the efficiency gains from cooperatives (if they are successfully implemented), changes in market prices for yellowfin sole products, and changes in the overall TAC.

Additionally, although any increases of the yellowfin sole CDQ allocation could adversely impact this fleet financial performance as a whole, any vessels that partner with CDQ groups to catch yellowfin sole could still realize some benefit from any level of CDQ allocations, either existing or increased. Fishing companies that harvest CDQ are presumed to derive some benefit from harvesting CDQ, even if they must return part of their harvesting proceeds to CDQ groups in the form of royalties.

Atka mackerel and Pacific ocean perch

Because the TAC of Atka mackerel is fully utilized, increased allocations to the CDQ program could reduce revenues for the open access fleet, if that fleet would have otherwise caught the portion of the

TAC that would be shifted to an increased CDQ allocation. Historical Atka mackerel and Pacific ocean perch catch is detailed in Table 3-4 and Table 3-5. The vessels that have historically harvested Atka mackerel are a subset of the Non-AFA Trawl CP sector. Estimates of the impacts various allocation alternatives would have on the profitability of the companies that own these vessels cannot be generated. Information on the vessels cost structure would be need to make those estimates and that information is not available. However, if it is profitable to harvest Atka mackerel at that level, the profits of these firms could be reduced. The preceding discussion also is applicable to the Pacific ocean perch fishery, which is caught by the same fleet that fished for Atka mackerel.

If a cooperative is formed for this fleet as an outcome of Amendment 80, efficiency gains from the cooperative may offset some losses to the Non-AFA Trawl CP sector. The BSAI pollock fleet has indicated that they have achieved efficiency gains as a result of their cooperatives. While some gains in efficiency in the Atka mackerel and Pacific ocean perch fishery would be expected under a similar cooperative structure for the Non-AFA Trawl CP Sector, the magnitude of those gains cannot be estimated.

Flathead sole and rock sole

As with the other primary species, flathead sole and rock sole are species that are either fully utilized or typically have had a high utilization rate in recent years. The annual rock sole catch in 2002, 2003, and 2004 was 90 percent, 95 percent, and 113 percent of the annual TAC limit, respectively. The catch of flathead sole in those years ranged from 71 percent of TAC in 2002 to 101 percent in 2003. Any decreases in the non-CDQ TACs for these species could have similar effects on non-CDQ industry components as described above for Atka mackerel and yellowfin sole, that is, either a direct decrease in revenues or indirect costs associated with inadequate amounts of bycatch to fully support other target fisheries in other fisheries sectors.

3.2.2.8 Management Costs

The management costs to NOAA Fisheries associated with either Option 2.2 or 2.3 cannot be estimated with precision at this time. Increases to CDQ allocations have been done in the past without significant increases in the time or resources that NOAA Fisheries, Alaska Region has expended on CDQ Program administration, at least in the long term. For example, under the AFA the pollock CDQ allocation increased from 7.5 percent to 10 percent of annual pollock TACs. This led to revisions to catch reporting and monitoring software to reflect the revised allocations, but those were one-time modifications. Similarly, if CDQ Program allocations were increased as proposed under Option 2.2 or 2.3, we expect that Alaska region staff would have to expend additional resources on a variety of CDQ Program management elements. This includes, but is not limited to: coordinating the proportional distribution of increased CDQ allocations among CDQ groups with the State of Alaska; working with CDQ groups to ensure that their community development plans were updated to reflect increased allocations and changes to harvesting or business plans; modifying CDQ catch monitoring software and the CDQ catch reporting systems; and, integrating any other new requirements or changes stemming from other components of Amendment 80 with the overall CDQ Program management regime.

3.2.3 Components 3 and 4 – Sector allocation calculation

Component 3 Identifies the sector allocation calculation (after deductions for CDQs).

For purpose of allocation to the Non-AFA Trawl CP sector, each primary species allocation will be based upon the years and percentage of average catch history selected in Component 5 using one of the following:

Option 3.1 Total legal catch of the sector over total legal catch by all sectors

Option 3.2 Retained legal catch of the sector over retained legal catch by all sectors

Option 3.3 Retained legal catch of the sector over total catch by all sectors

Suboption 1 Allocations will be managed as a hard cap. When the allocation is reached, further fishing will be prohibited.

Suboption 2 Allocations will be managed as a soft cap. When the allocation is reached, species will be prohibited status.

The remaining portion of primary species included in this program will be allocated to the BSAI limited access trawl fishery. Trawl vessels other than Non-AFA Trawl CP with (retained) trawl catch history from 1995-2004 and with appropriate LLP endorsements may fish in the BSAI limited access trawl fishery.

Suboption Target Species Rollover: Any unharvested portion of the Amendment 80 target species in the limited access fishery that is projected to remain unused, (by a specific date, say August 1 or September 1) shall be rolled over to the Amendment 80 sector.

Component 4 Catch history years used to determine the allocation to the Non-AFA Trawl CP sector in Component 3.

Option 4.1 1995-2003

Option 4.2 1998-2002

Option 4.3 1998-2004

Option 4.4 1999-2003

Option 4.5 2000-2004

Option 4.6 The Council can select percentages for each of the species allocated to the Non-AFA Trawl CP sector.

Component 3 identifies three different allocation calculation options. When combined with the five different year combination options in Component 4, the two components define the allocation formulas for Atka mackerel, flathead sole, AI Pacific Ocean perch, rock sole, and yellowfin sole to the Non-AFA Trawl CP sector. Allocation calculations are done on a species-by-species basis and include only legal landings. Option 3.1 would base the allocation on total catch of each allocated species by the Non-AFA Trawl CP sector for a specific set years (defined in Component 4) divided by the total catch of all vessels for the same TAC species using the same set of years. Option 3.2 is similar to the previous option but the allocation calculation is based on retained catch of the Non-AFA Trawl CP sector divided by the retained catch of all sectors. Option 3.3 is also similar to the previous options but the calculation is based on retained catch of the Non-AFA Trawl CP sector divided by the total catch of all vessels harvesting that species' BSAI TAC.

Component 4 identifies five different year combinations that define the catch history years that would be used in conjunction with Component 3. The sets of years being considered by the Council are 1995-2003 (Option 4.1), 1998-2002 (Option 4.2), 1998-2004 (Option 4.3), 1999-2003 (Option 4.4), and 2000-2004 (Option 4.5). Since 2004 data will not be available in time to be included in this analysis, those options that include 2004 will only include data through 2003.

Option 4.6 would allow the Council to select different allocation percentages for each of the allocated species without having to select an allocation calculation option from Component 3 and year combination option from Component 4. If the Council selects Option 4.6, the percentage selected by the Council will have to be within the range of alternatives considered in this analysis to provide the

necessary information for the Council. If the percentages selected by the Council are within the ranges covered while analyzing the options in Component 3 and the options in Component 4, then no additional analysis will likely be needed.

Component 3 also includes two suboptions that address allocation management. The first suboption would manage the allocation to the Non-AFA Trawl CP sector as a hard cap, and the second suboption would manage the allocation as a soft cap. Hard and soft caps refer to methods of managing the various TAC allocations. In this discussion, hard caps indicate that when the Non-AFA Trawl CP sectors' allocation of a species is harvested, all fisheries that catch that species will be closed to directed fishing. Soft caps, on the other hand, could allow the sector to continue fishing with restrictions placed on the retention of species that have been harvested up to their allocation. A more complete discussion of hard and soft caps is provided later in this section of the document.

Also included in Component 3 is language that would create a limited access fishery for eligible trawl participants (other than a Non-AFA Trawl CP participants, which are not allowed to participate in the limited access fishery) operating in the BSAI. Any unallocated portion Atka mackerel, flathead sole, AI Pacific Ocean perch, rock sole, and yellowfin sole would go to those eligible participants in the trawl limited access fishery. To participate in the trawl limited access fishery for these species, a trawl vessel, other than Non-AFA Trawl CP vessel, must have retained trawl catch history between 1995 and 2004 and have the appropriate LLP endorsements. The intent of restricting the Non-AFA Trawl CP permits from being used in the trawl limited access fishery is to prevent these permits from fishing in both sector allocations and trawl limited access allocations simultaneously. What is unclear in the proposed action is if a Non-AFA Trawl CP vessel in which the eligible license was fished most recently would be allowed to fish in other groundfish fisheries like the trawl limited access fishery. Given the owners of these vessels will be eligible to join a cooperative, they could lease their catch history to the cooperative freeing the vessel to participant in other groundfish fisheries in either the BSAI or GOA with the proper license. If the Council wants to restrict the Non-AFA Trawl CP vessels in which the eligible license was fished on most recently, the Council should add language in the proposed action to prevent this spillover.

Finally, Component 3 includes a suboption that would authorize NOAA Fisheries to rollover any unharvested portion of the allocated species reserved for the limited access fishery that is projected to remain unused by a specific date to the Non-AFA Trawl CP sector. Include in the suboption are suggested dates, August 1 or September 1, for determining projected unused amounts of the allocated species. The action is silent on dates for the reallocation. However, in discussion with Inseason Management Section of NOAA Fisheries Alaska Region, they would prefer to have no dates for the rollover option. Like the Pacific cod fishery, Inseason Management Section would determine the appropriate rollover amounts and the appropriate date for reallocating the allocated species based on the rate of the fisheries and industry input.

The remaining portion of this section discusses the impacts of the many different allocation calculations combined with the different catch history options. Also include in this section is a discussion on the impacts of the different suboptions that are under consideration in Component 3.

3.2.3.1 Allocation Options for the Non-AFA Trawl CP Sector

Table 3-26 shows the percentage of each species that would be allocated to the Non-AFA Trawl CP sector using the three different allocation calculations and five different year combinations. Multiplying those percentages by the average TAC from 1999 to 2003 (after deductions of the CDQ allocations and reserves), for each species, provides an estimate of the amount of each species that would have been allocated to the Non-AFA Trawl CP sector had those options been adopted and implemented in regulation. The table also includes the results of those calculations, in metric tons.

Looking at the overall differences in the allocation amounts using average TAC from 1999 to 2003 and average first wholesale value of whole fish processed at-sea from 1999 to 2003 between the different options for each of the species can provide some measure of the difference in the impacts. For the Atka mackerel fishery, allocations ranged between 73 percent for Option 3.3 using years 1995-2003 and 100 percent for Option 3.2 using years 1999-2003. Allocations of Atka mackerel using the average TAC would have ranged between 39,261 mt and 53,542 mt for 1999-2003. The first wholesale value of a metric ton of Atka mackerel processed at-sea in the round is estimated to be worth $595 a metric ton using average first wholesale prices from 1999 to 2003. Given this value, the difference between the options that allocate the most and least Atka mackerel to the Non-AFA Trawl CP sector is estimated to be $8,497,195. If each of the 26 qualifying vessels divided that revenue equally it would amount to $326,815 per vessel.

Allocations in the flathead sole fishery ranged between 59 percent for Option 3.3 using years 1995-2003 and 98 percent for Option 3.2 using years any of the catch history combinations except 1995-2003. Using average TAC from 1999 to 2003, allocation amounts for the flathead sole fishery would have ranged between 21,560 mt and 35,890 mt. The first wholesale value of a metric ton of flathead sole processed at-sea in the round is estimated to be worth $882 a metric ton using average first wholesale prices from 1999-2003. Note that 2000 and 2003 first wholesale price for whole flathead sole was not available, so average was based on 1999, 2002, and 2002. Given this value, the difference between the options that allocate the most and least flathead sole to the Non-AFA Trawl CP sector is estimated to be $12,639,060. If each of the 26 qualifying vessels divided that revenue equally it would amount to $486,118 per vessel.

Table 3-26 Percent of the Amendment 80 species allocated to the Non-AFA Trawl CP sector and 2005 allocation amounts using 2005 TAC

Years	Average Annual Retained Catch of the Sector	Average Annual Total Catch of the Sector	Option 3.1 (Total/Total)		Option 3.2 (Retained/Retained)		Option 3.3 (Retained/Total)	
			Allocation		Allocation		Allocation	
			(%)	(mt)	(%)	(mt)	(%)	(mt)
Atka Mackerel (53,635 mt)								
1995-2003	45,236	52,391	84.8%	45,482	84.9%	45,536	73.2%	39,261
1998-2002	39,440	43,899	87.6%	46,990	96.1%	51,546	78.7%	42,217
1998-2003	39,159	44,739	88.1%	47,233	96.7%	51,851	77.1%	41,343
1999-2003	39,009	44,965	90.3%	48,438	99.6%	53,443	78.3%	42,023
2000-2003	37,708	44,088	90.3%	48,432	99.8%	53,542	77.2%	41,423
Flathead Sole (36,542 mt)								
1995-2003	10,584	12,441	76.4%	27,918	88.3%	32,267	59.0%	21,560
1998-2002	12,245	15,289	80.5%	29,434	97.9%	35,781	64.5%	23,575
1998-2003	11,725	14,630	80.8%	29,514	98.1%	35,858	64.7%	23,654
1999-2003	10,969	13,632	80.9%	29,546	98.2%	35,890	65.1%	23,775
2000-2003	10,804	13,438	80.9%	29,556	98.1%	35,850	65.0%	23,762
AI Pacific Ocean Perch (10,348 mt)								
1995-2003	8,444	9,766	90.6%	9,375	92.6%	9,582	78.3%	8,102
1998-2002	7,769	8,828	93.3%	9,651	100.0%	10,347	82.1%	8,493
1998-2003	8,112	9,331	91.4%	9,460	99.2%	10,267	79.5%	8,224
1999-2003	8,193	9,492	90.9%	9,410	99.1%	10,253	78.5%	8,123
2000-2003	7,847	9,170	91.0%	9,415	98.8%	10,224	77.9%	8,057

Years	Average Annual Retained Catch of the Sector	Average Annual Total Catch of the Sector	Option 3.1 (Total/Total)		Option 3.2 (Retained/Retained)		Option 3.3 (Retained/Total)	
			Allocation		Allocation		Allocation	
			(%)	(mt)	(%)	(mt)	(%)	(mt)
Rock Sole (72,719 mt)								
1995-2003	13,020	29,149	65.8%	47,849	64.5%	46,904	29.4%	21,379
1998-2002	11,875	27,132	69.9%	50,851	95.9%	69,731	30.6%	22,256
1998-2003	12,126	27,075	70.8%	51,510	96.6%	70,226	31.7%	23,070
1999-2003	12,684	27,988	71.5%	52,001	96.8%	70,389	32.4%	23,567
2000-2003	13,380	28,463	73.4%	53,351	96.9%	70,480	34.5%	25,079
Yellowfin Sole (104,379 mt)								
1995-2003	51,892	67,536	67.6%	70,560	63.8%	66,594	52.0%	54,277
1998-2002	45,501	59,042	75.9%	79,270	88.5%	92,356	58.5%	61,090
1998-2003	46,968	59,864	77.6%	80,954	89.6%	93,552	60.9%	63,516
1999-2003	45,621	57,453	79.4%	82,839	91.3%	95,249	63.0%	65,779
2000-2003	48,099	59,622	80.9%	84,486	92.8%	96,819	65.3%	68,157

[a]Data is not yet available for the 2004 period, so 2003 was the latest year used.

Source: Data summarized from 1995-2003 NOAA Fisheries Weekly Production Reports and 1995-2003 ADFG groundfish fish tickets. Total harvest for all sectors is from NOAA Fisheries blend data (1995-2002) and Catch Accounting System (2003). The 2003 fish ticket data should be considered preliminary.

In the Pacific Ocean perch fishery, allocations ranged between 78 percent for Option 3.1 using years 2000-2003 and 100 percent for Option 3.2 using years 1998-2002. Since the allocation percentages vary little across the different year combination options for Pacific Ocean perch, the allocation amounts will be virtually be the same. For example, using the average TAC from 1999-2003 for Pacific Ocean perch, allocation amounts would have ranged between 8,057 mt and 10,347 mt. The first wholesale value of a metric ton of rock fish processed at-sea in the round is estimated to be worth $1411 a metric ton using average first wholesale prices from 1999 to 2003. Note that first wholesale price for whole Aleutian Islands Pacific Ocean perch was not available, so first wholesale price for rockfish processed at-sea was used instead. Given this value, the difference between the options that allocate the most and least Aleutian Islands Pacific Ocean perch to the Non-AFA Trawl CP sector is estimated to be $3,231,190. If each of the 26 qualifying vessels divided that revenue equally it would amount to $124,277 per vessel.

Allocations in the rock sole fishery ranged between 29 percent for Option 3.3 using year 1995-2003 and 97 percent for Option 3.2 using years 1998-2003, 1999-2003, and 2000-2003. Using average TAC from 1999 to 2003, allocation amounts for the rock sole fishery would have ranged between 21,379 mt and 70,480 mt. The first wholesale value of a metric ton of rock sole processed at-sea in the round is estimated to be worth $749 a metric ton using average first wholesale prices from 1999 to 2003. First wholesale price for whole rock sole was not available for 2003, so the average price was based on 1999 to 2002. Given this information, the difference between the options that allocate the most and least rock sole to the Non-AFA Trawl CP sector is estimated to be $36,776,649. If each of the 26 qualifying vessels divided that revenue equally it would amount to $1,414,486 per vessel. Note, the value of the rock sole fishery is likely higher because a large portion of the rock sole fishery is harvested early in the season for the roe and prices for this product are significantly higher ranging between $1.06 to $1.20 from 1999 to 2003 (Hiatt 2004). For example, in 2003, approximately 61 percent of the total rock sole harvested was caught between January 20 and April 1, and in 2004, 68 percent was harvested between January 20 and April 1 (NOAA Fisheries Alaska Region).

In the yellowfin sole fishery, allocations ranged between 52 percent for Option 3.3 using years 1995-2003 and 93 percent for Option 3.2 using years 2000-2003. Allocations of yellowfin sole using the

average TAC from 1999 to 2003 would have ranged between 54,277 mt and 96,819 mt. The first wholesale value of a metric ton of yellowfin sole processed at-sea in the round is estimated to be worth $529 a metric ton using average first wholesale prices. Given this value, the difference between the options that allocate the most and least yellowfin sole to the Non-AFA Trawl CP sector is estimated to be $22,504,718. If each of the 26 qualifying vessels divided that revenue equally it would amount to $865,566 per vessel.

Option 3.1

Option 3.1 would allocate the species noted in Component 1 based on the total catch by the Non-AFA Trawl CP sector of each allocated species for a specific set of years relative to total catch of that same species and same year combination for all other sectors combined. Total catch includes both retained catch and discarded catch. Allocation percentages ranged between 93 percent for Pacific Ocean perch and 66 percent rock sole. For nearly all of the allocated species, sector allocation percentages increased as the catch history years narrowed to include only more recent years. Below is a brief description of the allocation percentages for each of the allocation species, an estimate of allocation amounts to the Non-AFA Trawl CP sector if those formulas had been applied using the average TAC, and the value of that allocation based on the average first wholesale prices for whole fish processed at-sea from 1999 to 2003. The source for the first wholesale value is from the 2004 NPFMC Bering Sea/Aleutian Islands and Gulf of Alaska SAFE. The average TAC and first wholesale prices from 1999 to 2003 were selected because it is thought to be a reasonable estimation of the future TAC and first wholesale prices in these fisheries. Note that actual allocation amounts and first wholesale value will likely vary across time since biomass and market conditions can fluctuate from year-to-year. However, the percentage of the TAC that is allocated to the Non-AFA Trawl CP sector would remain constant.

In the Atka mackerel fishery, allocations ranged between 85 percent for the years 1995-2003 and 90 percent for years 1999-2003 and 2000-2003. Allocations of Atka mackerel using the average TAC would have ranged between 45,482 mt for 1995-2003 and 48,438 mt for 1999-2003. The first wholesale value of a metric ton of Atka mackerel processed at-sea in the round is estimated to be worth $595 a metric ton using average first wholesale prices from 1999 to 2003. Given this value, the difference between the options that allocate the most and least Atka mackerel to the Non-AFA Trawl CP sector is estimated to be $1,758,820. If each of the 26 qualifying vessels divided that revenue equally it would amount to $67,647 per vessel.

Allocations in the flathead sole fishery ranged between 76 percent for years 1995 to 2003 and 81 percent for years 1999-2003 and years 2000-2003. Using average TAC from 1999 to 2003, allocation amounts for the flathead sole fishery would have ranged between 27,918 mt for 1995-2003 and 29,556 mt for 2000-2003. The first wholesale value of a metric ton of flathead sole processed at-sea in the round is estimated to be worth $882 a metric ton using average first wholesale prices from 1999-2003. Note that 2000 and 2003 first wholesale price for whole flathead sole was not available, so average was based on 1999, 2002, and 2002. Given this value, the difference between the options that allocate the most and least flathead sole to the Non-AFA Trawl CP sector is estimated to be $1,444,716. If each of the 26 qualifying vessels divided that revenue equally it would amount to $55,566 per vessel.

In the Pacific Ocean perch fishery, allocations ranged between 91 percent for the years 1995-2003 and 93 percent for 1998-2002. Since the allocation percentages vary little across the different year combination options for Pacific Ocean perch, the allocation amounts will be virtually be the same. For example, using the average TAC from 1999-2003 for Pacific Ocean perch, allocation amounts would have ranged between 9,375 mt for 1995-2003 and 9,651 mt for 1998-2002. The first wholesale value of a metric ton of rock fish processed at-sea in the round is estimated to be worth $1411 a metric ton using average first wholesale prices from 1999 to 2003. Note that first wholesale price for

whole Aleutian Islands Pacific Ocean perch was not available, so first wholesale price for rockfish processed at-sea was used instead. Given this value, the difference between the options that allocate the most and least Aleutian Islands Pacific Ocean perch to the Non-AFA Trawl CP sector is estimated to be $389,436. If each of the 26 qualifying vessels divided that revenue equally it would amount to $14,978 per vessel.

Allocations in the rock sole fishery ranged between 66 percent for 1995 to 2003 and 73 percent for 2000-2003. Using average TAC from 1999 to 2003, allocation amounts for the rock sole fishery would have ranged between 47,849 mt using 1995-2003 and 53,351 mt using 2000-2003. The first wholesale value of a metric ton of rock sole processed at-sea in the round is estimated to be worth $749 a metric ton using average first wholesale prices from 1999 to 2003. First wholesale price for whole rock sole was not available for 2003, so the average price was based on 1999 to 2002. Given this information, the difference between the options that allocate the most and least rock sole to the Non-AFA Trawl CP sector is estimated to be $4,120,998. If each of the 26 qualifying vessels divided that revenue equally it would amount to $158,500 per vessel. Note, the value of the rock sole fishery is likely higher because a large portion of the rock sole fishery is harvested early in the season for the roe and prices for this product are significantly higher ranging between $1.06 to $1.20 from 1999 to 2003 (Hiatt 2004). For example, in 2003, approximately 61 percent of the total rock sole harvested was caught between January 20 and April 1, and in 2004, 68 percent was harvested between January 20 and April 1 (NOAA Fisheries Alaska Region).

In the yellowfin sole fishery, allocations ranged between 68 percent for 1995-2003 and 81 percent for 2000-2002. Allocations of yellowfin sole using the average TAC from 1999 to 2003 would have ranged between 70,560 mt for 1995-2003 and 84,486 mt for 2000-2003. The first wholesale value of a metric ton of yellowfin sole processed at-sea in the round is estimated to be worth $529 a metric ton using average first wholesale prices. Given this value, the difference between the options that allocate the most and least yellowfin sole to the Non-AFA Trawl CP sector is estimated to be $7,366,854. If each of the 26 qualifying vessels divided that revenue equally it would amount to $283,341 per vessel.

Option 3.2

This option would allocate the species listed in Component 1 based on the retained catch by the Non-AFA Trawl CP sector for the allocated species for a select set of years relative to the retained catch of that same species and set of years by all other sectors combined. Depending on the species, the percent allocated to the Non-AFA Trawl CP sector when combined with the different catch history year combinations ranged between 100 percent for the Pacific Ocean perch and 64 percent for the yellowfin sole fishery. This allocation calculation results in larger allocations for the Non-AFA Trawl CP sector for all species, in most options using various sets of years, than either Option 3.1 or 3.3. The reason for this is due to the Non-AFA Trawl CP sector retaining a greater percentage of the "allocated species" they harvested than all other sectors combined during qualification years. Below is a brief description of the allocation percentages for each of the allocation species, estimates of allocation amounts, in metric tons, using the average TAC from 1999 to 2003, and the first wholesale value of the allocation using average first wholesale prices of whole fish processed at-sea from 1999 to 2003. The average TAC and first wholesale prices from 1999 to 2003 were selected because it is thought to be a reasonable estimation of the future TAC and first wholesale prices in these fisheries. Note that actual allocation amounts and first wholesale value will likely vary across time since biomass and market conditions can fluctuate from year-to-year. However, the percentage of the TAC that is allocated to the Non-AFA Trawl CP sector would remain constant.

In the Atka mackerel fishery, allocations ranged between 85 percent for the years 1995-2003 and 100 percent for years 1999-2003 and 2000-2003. Allocations of Atka mackerel in metric tons using the average TAC from 1999 to 2003 ranged between 45,536 mt using 1995-2003 catch history years and

53,542 mt using 1999-2003 catch history years. The first wholesale value of a metric ton of Atka mackerel processed at-sea in the round is estimated to be worth $595 a metric ton using average first wholesale prices from 1999 to 2003. Given this value, the difference between the options that allocate the most and least Atka mackerel to the Non-AFA Trawl CP sector is estimated to be $4,763,570. If each of the 26 qualifying vessels divided that revenue equally it would amount to $183,214 per vessel.

Allocations in the flathead sole fishery ranged from 88 percent using 1995 to 2003 catch history years and 98 percent for all other year options. Using average TAC from 1999 to 2003, allocation amounts for the flathead sole fishery would have ranged between 32,267 mt for the 1995-2003 period and 35,890 mt for 1999-2003. The first wholesale value of a metric ton of flathead sole processed at-sea in the round is estimated to be worth $882 a metric ton using average first wholesale prices from 1999 to 2003. Note that 2000 and 2003 first wholesale price for whole flathead sole were not available, so the average was based on 1999, 2001, and 2002 prices. Given this value, the difference between the options that allocate the most and least flathead sole to the Non-AFA Trawl CP sector is estimated to be $3,195,486. If each of the 26 qualifying vessels divided that revenue equally it would amount to $122,903 per vessel.

In the Pacific Ocean perch fishery, allocations will range between 93 percent using the 1995-2003 years to 100 percent using 1998-2002 years. Using the average TAC from 1999 to 2003, allocation amounts for the Pacific Ocean perch fishery would have ranged between 9,582 mt for the 1995-2003 period and 10,347 mt for the 1998-2002 period. The first wholesale value of a metric ton of rockfish processed at-sea in the round is estimated to be worth $1,411 a metric ton using the average first wholesale prices from 1999 to 2003. Note that first wholesale price for whole Aleutian Islands Pacific Ocean perch was not available, so first wholesale price for rockfish processed at-sea was used instead. Given this value, the difference between the options that allocate the most and least Aleutian Islands Pacific Ocean perch to the Non-AFA Trawl CP sector is estimated to be $1,079,415. If each of the 26 qualifying vessels divided that revenue equally it would amount to $41,516 per vessel.

Allocations in the rock sole fishery ranged from 65 percent using 1995-2003 catch history years and 97 percent using 2000-2003 catch history years. Allocation amounts for the rock sole fishery using average TAC from 1999 to 2003 would have ranged between 46,904 mt for the 1995-2003 period and 70,480 mt for the 2000-2003 period. The first wholesale value of a metric ton of rock sole processed at-sea in the round is estimated to be worth $749 a metric ton using average first wholesale prices from 1999 to 2003. First wholesale price for whole rock sole was not available for 2003, so the first wholesale price was based on prices from 1999 to 2002. Given this information, the difference between the options that allocate the most and least rock sole to the Non-AFA Trawl CP sector is estimated to be $17,658,424. If each of the 26 qualifying vessels divided that revenue equally it would amount to $679,170 per vessel. As noted above, the estimated value of the rock sole fishery is likely higher because a large portion of the rock sole fishery is harvested early in the season for the roe and prices for this product are significantly higher ranging between $1.06 to $1.20 from 1999 to 2003 (Hiatt 2004). For example, in 2003, approximately 61 percent of the total rock sole harvested was caught between January 20 and April 1, and in 2004, 68 percent was harvested between January 20 and April 1 (NOAA Fisheries Alaska Region).

In the yellowfin sole fishery, allocations ranged from 64 percent using the 1995-2003 catch history years and 93 percent using the 2000-2002 catch history years. Allocations of yellowfin sole using average TAC from 1999 to 2003 would have ranged between 66,594 mt for 1995-2003 period and 96,819 mt for the 2000-2003 period. The first wholesale value of a metric ton of yellowfin sole processed at-sea in the round is estimated to be worth $529 a metric ton using average first wholesale prices from 1999 to 2003. Given this value, the difference between the options that allocate the most and least yellowfin sole to the Non-AFA Trawl CP sector is estimated to be $15,989,025. If each of the 26 qualifying vessels divided that revenue equally it would amount to $614,962 per vessel.

Option 3.3

This option would allocate the primary species noted in Component 1 based on the retained catch by the Non-AFA Trawl CP sector of the allocated species for a specific set of years relative to total catch of the same species and years by all other sectors combined. Depending on the species, the allocation percentages when combined with the different year combinations ranged between 30 percent for the rock sole fishery and 82 percent for the Pacific Ocean perch fishery. These allocations are much lower for some of the species than they were under Option 1 and Option 2. Selecting this allocation calculation option could potentially be disruptive to the Non-AFA Trawl CP sector.

In general, the Non-AFA Trawl CP sector participates in what is often referred to as the multi-species fisheries consisting of Pacific cod, rock sole, yellowfin sole, and other flatfish including flathead sole. Basing an allocation on this calculation method could result in the sector receiving so small of an allocation of one species, their other fisheries could be constrained. Although it is not possible to determine the exact number of cooperatives that might form as a result of the Council selecting a multi-cooperative program, selecting this allocation calculation could result in so small of an allocation, the directed fishery for rock sole would be limited at best. Given there could be a maximum of three cooperatives plus the possibility of non-cooperative pool under a multi-cooperative program, an allocation of 29.4 percent or 21,379 mt of rock sole (1995-2003) using average TAC from 1999 to 2003 divided evenly among the groups would result in an allocation of 5,345 mt of rock sole for each group. An allocation of rock sole this low could jeopardize a directed rock sole fishery and potentially constrain their yellowfin sole and flathead sole directed fisheries if they exceed there limited rock sole allocation.

In addition, selecting this option could potentially leave large amounts of some species unutilized. Under Component 3, any portion of the primary species not allocated to the Non-AFA Trawl CP sector will be allocated to a trawl limited access fishery. Eligible participants for this limited access fishery (except Non-AFA Trawl CPs) will be those participants that have retained trawl catch history from 1995-2004 and have the appropriate LLP endorsements. In general, these participants are AFA CPs, AFA Catcher Vessels, Non-AFA Trawl CVs, and any trawl catcher processors that are not in the AFA or Non-AFA Trawl CP sectors. Two of these three sectors have sideboards for all of the allocated species under consideration. Based on these sideboards (see Table 3), if the Council selects this allocation calculation option, the two largest sectors participating in the limited access fishery would be constrained from harvesting their allocation, potentially leaving large amounts of the allocated species unharvested (see Limited Access Fishery discussion for more details).

Below is a brief description of the allocation percentages for each the allocated species, allocation amounts for the Non-AFA Trawl CP sector based on average TAC from 1999 to 2003, and first wholesale value of the allocation using average first wholesale prices of whole fish processed at-sea from 1999 to 2003. The average TAC and first wholesale prices from 1999 to 2003 were selected because it is thought to be a reasonable estimation of the future TAC and first wholesale prices in these fisheries. Note that actual allocation amounts and first wholesale value will likely vary across time since biomass and market conditions can fluctuate from year-to-year. However, the percentage of the TAC that is allocated to the Non-AFA Trawl CP sector would remain constant.

In the Atka mackerel fishery, allocations ranged between 73 percent for the years 1995-2003 and 79 percent for years1998-2002. Using average TAC from 1999 to 2003, allocation amounts for Atka mackerel would have ranged between 39,261 mt for 1995-2003 and 42,217 mt for 1998-2003. The first wholesale value of a metric ton of Atka mackerel processed at-sea in the round is estimated to be worth $595 a metric ton using average first wholesale prices from 1999 to 2003. Given this value, the difference between the options that allocate the most and least Atka mackerel to the Non-AFA Trawl CP sector is estimated to be $1,758,820. If each of the 26 qualifying vessels divided that revenue equally it would amount to $67,647 per vessel.

Allocations in the flathead sole fishery ranged between 59 percent using years 1995-2003 and 65 percent using years 1999-2003. Using average TAC from 1999 to 2003, the flathead sole allocation would have ranged between 21,560 mt using years 1995-2003 and 23,775 mt using years 1999-2003. The first wholesale value of a metric ton of flathead sole processed at-sea in the round is estimated to be worth $882 a metric ton using average first wholesale prices from 1999 to 2003. Note that 2000 and 2003 first wholesale price for whole flathead sole were not available, so the average was based on 1999, 2001, and 2002 prices. Given this value, the difference between the options that allocate the most and least flathead sole to the Non-AFA Trawl CP sector is estimated to be $1,953,630. If each of the 26 qualifying vessels divided that revenue equally it would amount to $75,140 per vessel.

In the Pacific Ocean Perch fishery, allocations ranged between 78 percent using years 1995-2003 and 2000-2003 and 82 percent using years 1998-2002. Using average TAC from 1999 to 2003, allocation amounts for the Pacific Ocean perch fishery would have ranged between 8,057 mt using years 2000-2003 and 8,493 mt using years 1998-2002. The first wholesale value of a metric ton of rockfish processed at-sea in the round is estimated to be worth $1,411 a metric ton using the average first wholesale prices from 1999 to 2003. Note that first wholesale price for whole Aleutian Islands Pacific Ocean perch was not available, so first wholesale price for rockfish processed at-sea was used instead. Given this value, the difference between the options that allocate the most and least Aleutian Islands Pacific Ocean perch to the Non-AFA Trawl CP sector is estimated to be $551,701. If each of the 26 qualifying vessels divided that revenue equally it would amount to $21,219 per vessel.

Allocations in the rock sole fishery ranged between 29 percent using the 1995 to 2003 catch history years and 35 percent using the 2000-2003 catch history years. Using average TAC from 1999 to 2003, allocation amounts for the rock sole fishery would have ranged between 21,379 mt for the 1995-2003 catch history years and 25,079 mt for the 2000-2003 catch history years. The first wholesale value of a metric ton of rock sole processed at-sea in the round is estimated to be worth $749 a metric ton using average first wholesale prices from 1999 to 2003. First wholesale price for whole rock sole was not available for 2003, so the first wholesale price was based on prices from 1999 to 2002. Given this information, the difference between the options that allocate the most and least rock sole to the Non-AFA Trawl CP sector is estimated to be $2,771,300. If each of the 26 qualifying vessels divided that revenue equally it would amount to $106,588 per vessel. As noted above, the estimated value of the rock sole fishery is likely higher because a large portion of the rock sole fishery is harvested early in the season for the roe and prices for this product are significantly higher ranging between $1.06 to $1.20 from 1999 to 2003 (Hiatt 2004). For example, in 2003, approximately 61 percent of the total rock sole harvested was caught between January 20 and April 1, and in 2004, 68 percent was harvested between January 20 and April 1 (NOAA Fisheries Alaska Region).

In the yellowfin sole fishery, allocations ranged between 52 percent using the 1995-2003 catch history years and 65 percent using the 2000-2003 catch history years. Allocations of yellowfin sole using the average TAC from 1999 to 2003 would have ranged between 54,277 mt for 1995-2003 catch history years and 68,157 mt using the 2000-2003 catch history years. The first wholesale value of a metric ton of yellowfin sole processed at-sea in the round is estimated to be worth $529 a metric ton using average first wholesale prices from 1999 to 2003. Given this value, the difference between the options that allocate the most and least yellowfin sole to the Non-AFA Trawl CP sector is estimated to be $7,342,520. If each of the 26 qualifying vessels divided that revenue equally it would amount to $282,405 per vessel.

3.2.3.2 Hard and Soft Caps

The component includes two suboptions that address how allocations to the Non-AFA Trawl CP sector will be managed. Since the action under consideration is to develop a cooperative program for the sector, all allocation management discussions will be at the cooperative level. In addition, it

should be understood that both direct and incidental catch of the allocated species would be deducted from the allocation. The first suboption would manage the allocation as a hard cap. Under a hard cap, when the cooperative has harvested its entire allocation of an allocated species, the cooperative would be restricted from directed fishing for that species. In addition, any catch of the allocated species by the cooperative incidental to other directed fisheries will be prohibited. The second suboption would manage the allocation to the Non-AFA Trawl CP sector as a soft cap. Under a soft cap managed by NOAA Fisheries, when the cooperative harvests all of its allocation of one species, that species would then be put on prohibited status for the cooperative. The cooperative would still be allowed to continue fishing in other directed fisheries, but the cooperative may not retain any incidental catch of the prohibited species. Under a soft cap managed by a cooperative, when the cooperative harvests all of its allocation of one species, the cooperative would be restricted from directed fishing for that species plus other directed fisheries that catch this species. In essence, a soft cap program managed by the cooperative is exactly like a hard cap.

A general discussion of hard and soft caps is provided below. Included in the discussion is an overview of the current management system for the allocated species. Much of the following discussion originated from a March 14, 2005 paper written by Andy Smoker addressing hard and soft caps. Other portions of the discussion also came from the April 2005 discussion paper on BSAI Pacific cod allocation written by Nicole Kimball.

Current management system

The general model for management of most groundfish species categories includes both soft and hard caps. Typically four values are associated with inseason management of any particular species. In declining amount they are: the over fishing level, the acceptable biological catch (ABC), the total allowable catch (TAC), (which may be equal to the ABC), and the directed fishing allowance. These are the basic benchmarks that are employed to allow catch while preventing over fishing of a species.

The proposed action would allocate to the Non-AFA Trawl CP sector Atka mackerel, Aleutian Islands Pacific Ocean perch, flathead sole, rock sole, and yellowfin sole. Currently, NOAA Fisheries credits both directed harvest of these allocated species and the incidental harvest of these allocated species against the TAC for these species to ensure they are not over harvested. The directed fishery for any of these species is closed when the directed fishing amount is harvested, reserving the remainder of the TAC for incidental catch in other groundfish fisheries. NOAA Fisheries allows vessels to retain incidental catch of these species (if the TAC has not been reached) taken in other directed fisheries that are open, up to the maximum retainable amount (MRA)[1]. If the fishery is closed to directed fishing and the TAC is reached, NOAA Fisheries issues a prohibition on retention for that species and all catch of that species must be discarded. If a fishery is closed to directed fishing for one of these species, the ABC has been taken, and the harvest is approaching the overfishing level, then NOAA Fisheries could close target fisheries that harvest the species in question incidentally.

Although the species proposed for allocation in this action are rarely closed because of TAC constraints (halibut PSC is the most significant constraint), NOAA Fisheries has the ability to manage these fisheries so as not impact other directed fisheries to certain extent. Currently, trawl sectors do not have an incidental catch allowance (ICA) established at the beginning of the year for any of the allocated species. NOAA Fisheries does have the ability to establish a directed fishery allowance for any of these allocated species and an ICA for any of these species caught incidentally in other trawl groundfish fisheries during the fishing year, should NOAA Fisheries determine that any allocation or apportionment of these species has been or will be reached during the season. This flexibility allows

[1] Items 10 and 11 in the tables at http://www.fakr.noaa.gov/rr/tables.htm give the percentage of a species taken as incidental catch that may be retained relative to the amount of the target species retained.

NOAA Fisheries to close the directed fishery for any of the allocated species, while at the same time allow other directed trawl fisheries to continue fishing (using the ICA). This management system is commonly referred to as a soft cap system because incidental catch of these allocated species would not shut down other groundfish target fisheries unless the overall catch of the allocated species approached the overfishing level.

An important consideration in any of the proposed management structures that further divide the current TACs, is that NOAA Fisheries is more likely to open directed fisheries with relatively small catch limits if the cooperatives are responsible for staying within their allotments. Under a system of self-management, members of the cooperative would stop fishing for a species when they harvest their allocation. Self-monitoring, enforced through agreement among the cooperative members is used in the AFA cooperatives to limit catches. Members of those cooperatives enforce catch limits through internal controls agreed to by all members of the cooperative. If they are not self-enforced internal controls, NOAA Fisheries must manage several small allocations, which will result in some small allocations not being opened to directed fishing.

Suboption 1 - Hard caps

Suboption 1 would manage the Non-AFA Trawl CP sector's allocation as a hard cap. That means when the cooperative's allocation of one of these species is fully harvested, all directed fishing for that species closes for the cooperative, as well as any fisheries in which that species would be caught incidentally by members of that cooperative. Some examples of management programs with hard caps were squid and other species. Squid and other species were allocated to participants in the CDQ program as a species category. Once the CDQ group harvested the entire allocation of squid or other species, the group could not continue fishing in a manner that might take any additional amount of squid or other species.

Hard caps are typically considered an appropriate tool when the sector is rationalized. In general, individual cooperatives are thought to better manage its allocation such that it can be used in a manner that will most benefit its participants (whether in the directed fishery or as incidental catch in other fisheries). Under a system of self-management, members of the sector are responsible for staying within their allotments through internal controls. Hard caps can also be managed by NOAA Fisheries. If NOAA Fisheries were to manage the hard caps, the agency would need to establish directed fishing allowances and ICAs for each cooperative and non-cooperative pool. This approach would be relatively difficult, given that the agency would need to determine exactly when to close the directed fishery and the amount of quota needed to be held back for incidental catch needs in the other cooperative fisheries during the year. NOAA Fisheries would likely have to be relatively conservative in establishing the ICA, given the more refined, smaller allocations to each cooperative and the annual variability of the allocated species required for incidental catch in the other cooperatives fisheries.

One issue that may complicate the use of hard caps in managing cooperative allocations is the potential for one species allocation to constrain a number of other directed fisheries. The Council currently has a number of different options under consideration that when combined would result in small allocations of rock sole for the cooperative and non-cooperative pool. For example, applying Option 3.3 in combination with Option 8.1 (requiring at least 30 percent of the eligible sector participants to form a cooperative) may jeopardize their directed fishing for rock sole and could even potentially jeopardize their yellowfin sole and flathead sole directed fisheries if the allocation of rock sole was not sufficient to account for incidental catch (see discussion in Allocation Options, Option 3.3 for further details).

Another issue that may complicate management of the allocated species using hard caps is the option in the proposed action for qualified participants to elect not to join a cooperative (Options 8.1, 8.2, and 8.4). It is uncertain whether any qualified Non-AFA Trawl CP sector participant would elect not

to participate in a cooperative. If some sector eligible participants elect not to join a cooperative, management of the allocated species using hard caps for the non-cooperative pool is likely more difficult. Since those that choose not to join a cooperative would be in a non-cooperative pool, NOAA Fisheries would be required to manage the fishery. Using hard caps to manage the non-cooperative pool are not necessarily the wrong management tool, but participants in the non-cooperative pool could not control the harvest of another participant in the pool. The resulting effect is that participants in the non-cooperative pool would race one another to harvest more of the available allocation. Since participants have no control over the actions of other members of the sector individuals could be preempted by another participant hitting a species cap and shutting down fisheries. One solution is to manage the non-cooperative pool using soft caps rather than hard caps. As noted below, soft caps allow more flexibility for NOAA Fisheries to allow the participants in the pool to continue fishing in other fisheries despite a directed fishery closure. This management system more closely reflects the current management structure than hard caps.

Suboption 2 - Soft caps

Suboption 2 would manage those species allocated to the Non-AFA Trawl CP sector as a soft cap. A soft cap applied at the sector level would provide more flexibility. However, soft caps managed at the cooperative level results in the same effect as hard caps. When the cooperative members harvests their entire allocation of a species, all directed fishing for that species closes for the cooperative, as well as any fisheries where the species is taken incidentally to the directed harvest of other species. This restriction is unfortunately a product of cooperative allocations where the catch of an allocated species is deducted from the cooperative's allocation regardless of whether the catch was made as a directed fishery or as incidental catch to another directed fishery. At a sector level or fleet level, the apparent flexibility from soft caps comes from being able to deduct the incidental catch from the optimum yield. At the cooperative level, there is no similar recourse for deducting incidental catch. Any deduction of incidental catch would come from another cooperative in order to keep the sector within their overall allocation. If multiple cooperatives form in this sector, then inter-cooperative agreements will be important in dealing with these types of issues.

Like hard caps, soft caps can be managed by NOAA Fisheries. Soft caps managed by NOAA Fisheries, means that each cooperative would receive a separate allocation, and NOAA Fisheries would designate a portion of the allocation to be set aside as an ICA to accommodate the incidental catch of the allocated species in the cooperative's other target fisheries. Under this system, the ICA could be established inseason, as NOAA Fisheries evaluates the progress of the fisheries and attempts to determine how much of the allocation needs to be set aside for use later in the year. When a cooperative has fully harvested their directed fishing allowance of an allocated species, the species would be placed on bycatch status for that cooperative, reserving the remainder of the allocation for incidental catch in other directed fisheries. If the fishery is closed to directed fishing and the ICA is harvested, NOAA Fisheries would close all fisheries that catch the species in question for that cooperative.

One of the disadvantages of having NOAA Fisheries manage the soft caps for the cooperative is that NOAA Fisheries would need to determine the amount of allocated species that is required to harvest each cooperative's directed fisheries, and apportionment that amount as an ICA. Alternatively, the ICA could be established in the annual specifications process and set at the beginning of the year, as it is for the fixed gear BSAI Pacific cod fisheries and the Bering Sea and Aleutian Islands pollock fisheries. However, specifying an ICA upfront requires NOAA Fisheries to be relatively conservative, given the more refined, smaller allocations to each cooperative and the annual variability of the allocated species required for incidental catch in the cooperative fisheries. The primary disadvantage to this approach is the potential to exceed ABC. Since some TACs are set closed to or equal to ABC, there is the potentially to exceed ABC and approach OFL resulting in all cooperatives and sectors that catch the species in question (directed and incidental) would be closed. This is less of an issue for the

species allocated under this proposed action because these TACs have been set well below the ABC in the past. However, if pollock TAC declines in the future, then some of TACs for these species, like yellowfin sole for example, could be set close to or equal to ABC. Given these disadvantages, it is generally understood that allocations are often better managed at the cooperative level. Cooperatives are generally better able to determine the appropriate level of allocation that should be reserved for directed fishing and incidental catch. Cooperatives are also generally better able to determine when they have harvested their allocation, reducing the chances of exceeding the ABC.

One of the primary reasons that cooperatives have been considered a success in other fisheries is that the fishermen have been given the opportunity to determine the best way to harvest the available quota. Each member can utilize the quota that is available to them in the proportions that makes the best sense for each fishery. Cooperative members are able to manage their quota through internal agreements that define the acceptable behavior of each individual in the group. This allows the individuals to make business decisions that generate the most profit for their firm with minimal oversight from NOAA Fisheries. NOAA Fisheries is still able to hold the cooperative as whole responsible for their collective actions, but the reduced oversight (outside of accurately counting catch) results in reduced NOAA Fisheries costs.

Finally, given that soft caps managed by the cooperative are similar to hard caps, the cooperative could be constrained in their directed fisheries if one allocation does not provide enough of a species that is needed to fund just incidental catch needs relative to other allocations. In the example noted above in the hard cap discussion, the rock sole allocation under Option 3.3 combined with Option 8.1 could potentially result in a very limited allocation of rock sole. The allocation of rock sole using these options would likely be so limited, that a directed rock sole fishery would not be possible. The allocation could even constrain other direct fisheries if there is there not enough to account for incidental catch. For further details see the discussion under Option 3.3 of the Allocation Options.

3.2.3.3 Limited Access Fishery

After allocating the proposed species to the Non-AFA Trawl CP sector, the remaining portion of the TAC available for harvest would be reserved for a trawl limited access fishery. Participants in this limited access fishery include AFA Trawl CP sector, AFA Trawl CV sector, the Non-AFA Trawl CV sector, any other trawl CPs that are not part of the Non-AFA Trawl CP sector. The Non-AFA Trawl CP sector would be precluded from participating in the limited access fishery. To be eligible to participate in the trawl limited access fishery, participants must have retained trawl catch history between 1995-2004 (i.e., 1996, 1997, 1998, 1999, 2000, 2001, 2002 and 2003) and have appropriate LLP endorsements. Based on discussions surrounding this action during the December 2004 and February 2005 meetings, staff assumes a trawl participant must have had retained trawl catch history between 1995 and 2004 rather than from 1995-2004.

In addition, staff noticed language in this portion of the Component 3 refers to vessel eligibility rather than permit eligibility. This conflicts with the overall Amendment 80 package, which is a license based program and not a vessel based program. In order to eliminate any confusion surrounding this proposed action, staff is assuming the language should read permits.

One potentially complication that could constrain some of the trawl sectors in their directed fisheries is the multi-species nature of these fisheries. Having too small of an allocation in one or more of these species relative to allocations in the other species might constraint directed fisheries. For example, having a small allocation of rock sole or flathead sole could constrain the direct fishing for yellowfin sole. Looking at the allocation calculation options under consideration, the amount left for the limited access fishery ranges between 7 and 48 percent for the yellowfin sole fishery, 3 and 71 percent for the rock sole fishery, and 2 and 41 percent for the flathead sole fishery (Table 3-27). If the Council selects an allocation option that yields 40 percent for the trawl limited access fishery for yellowfin sole, but then selects an allocation option that yields only 2 percent of the flathead sole or 3 percent of

the rock sole species, the trawl limited access fishery could be constrained while targeting yellowfin sole.

Table 3-27 shows the percentage of each species that would be allocated to the trawl limited access fishery using the three different allocation calculations and five different year combinations. Multiplying those percentages by the average TAC from 1999 to 2003 (TAC after deductions of the CDQ allocations and reserves), for each species, provides an estimate of the amount of each species that would have been allocated to the trawl limited access fishery had those options been adopted and implemented in regulation. The table also includes the results of those calculations, in metric tons.

Looking at the overall differences in the allocation amounts using average TAC from 1999 to 2003 and average first wholesale value of whole fish processed at-sea from 1999 to 2003 between the different options for each of the species can provide some measure of the difference between the options. For the Atka mackerel fishery, allocations ranged between 0.2 percent for Option 3.2 using years 2000-2003 and 27 percent for Option 3.3 using years 1995-2003. Allocations of Atka mackerel using the average TAC would have ranged between 93 mt and 14,374 mt. The first wholesale value of a metric ton of Atka mackerel processed at-sea in the round is estimated to be worth $595 per mt using average first wholesale prices from 1999 to 2003. Given this value, the difference between the options that allocate the most and least Atka mackerel to the trawl limited access fishery is estimated to be $8,497,195.

Allocations in the flathead sole fishery ranged between 2 percent for Option 3.2 using all catch history combinations except 1995-2003 and 41 percent for Option 3.3 using years 1995-2003. Using average TAC from 1999 to 2003, allocation amounts for the flathead sole fishery would have ranged between 652 mt and 14,982 mt. The first wholesale value of a metric ton of flathead sole processed at-sea in the round is estimated to be worth $882 per mt using average first wholesale prices from 1999-2003. Note that 2000 and 2003 first wholesale price for whole flathead sole was not available, so average was based on 1999, 2002, and 2002. Given this value, the difference between the options that allocate the most and least flathead sole to the trawl limited access fishery is estimated to be $12,639,060.

In the Pacific Ocean perch fishery, allocations ranged between zero percent for Option 3.2 using years 1998-2002 and 22 percent for Option 3.3 using years 1999-2003 and 2000-2003. Using average TAC from 1999-2003 for Pacific Ocean perch, allocation amounts would have ranged between 1 mt and 2,291 mt. The first wholesale value of a metric ton of rock fish processed at-sea in the round is estimated to be worth $1411 per mt using average first wholesale prices from 1999 to 2003. Note that first wholesale price for whole Aleutian Islands Pacific Ocean perch was not available, so first wholesale price for rockfish processed at-sea was used instead. Given this value, the difference between the options that allocate the most and least Aleutian Islands Pacific Ocean perch to the trawl limited access fishery is estimated to be $3,231,190.

Table 3-27 Available allocation of Amendment 80 species after allocation to the Non-AFA Trawl CP sector that would be for the trawl limited access fishery

Years	Option 3.1 (Total/Total)		Option 3.2 (Retained/Retained)		Option 3.3 (Retained/Total)	
	Allocation (%)	Allocation (mt)	Allocation (%)	Allocation (mt)	Allocation (%)	Allocation (mt)
Atka Mackerel (53,635 mt)						
1995-2003	15.2%	8,153	15.1%	8,099	26.8%	14,374
1998-2002	12.4%	6,645	3.9%	2,089	21.3%	11,418
1998-2003	11.9%	6,402	3.3%	1,784	22.9%	12,292
1999-2003	9.7%	5,197	0.4%	192	21.7%	11,612
2000-2003	9.7%	5,203	0.2%	93	22.8%	12,212

Years	Option 3.1 (Total/Total)		Option 3.2 (Retained/Retained)		Option 3.3 (Retained/Total)	
	Allocation (%)	Allocation (mt)	Allocation (%)	Allocation (mt)	Allocation (%)	Allocation (mt)
Flathead Sole (36,542 mt)						
1995-2003	23.6%	8,624	11.7%	4,275	41.0%	14,982
1998-2002	19.5%	7,108	2.1%	761	35.5%	12,967
1998-2003	19.2%	7,028	1.9%	684	35.3%	12,888
1999-2003	19.1%	6,996	1.8%	652	34.9%	12,767
2000-2003	19.1%	6,986	1.9%	692	35.0%	12,780
AI Pacific Ocean Perch (10,348 mt)						
1995-2003	9.4%	973	7.4%	766	21.7%	2,246
1998-2002	6.7%	697	0.0%	1	17.9%	1,855
1998-2003	8.6%	888	0.8%	81	20.5%	2,124
1999-2003	9.1%	938	0.9%	95	21.5%	2,225
2000-2003	9.0%	933	1.2%	124	22.1%	2,291
Rock Sole (72,719)						
1995-2003	34.2%	24,870	35.5%	25,815	70.6%	51,340
1998-2002	30.1%	21,868	4.1%	2,988	69.4%	50,463
1998-2003	29.2%	21,209	3.4%	2,493	68.3%	49,649
1999-2003	28.5%	20,718	3.2%	2,330	67.6%	49,152
2000-2003	26.6%	19,368	3.1%	2,239	65.5%	47,640
Yellowfin Sole (104,379)						
1995-2003	32.4%	33,819	36.2%	37,785	48.0%	50,102
1998-2002	24.1%	25,109	11.5%	12,023	41.5%	43,289
1998-2003	22.4%	23,425	10.4%	10,827	39.1%	40,863
1999-2003	20.6%	21,540	8.7%	9,130	37.0%	38,600
2000-2003	19.1%	19,893	7.2%	7,560	34.7%	36,222

[a]Data is not yet available for the 2004 period, so 2003 was the latest year used.

Source: Data summarized from 1995-2003 NOAA Fisheries Weekly Production Reports and 1995-2003 ADFG groundfish fish tickets. Total harvest for all sectors is from NOAA Fisheries blend data (1995-2002) and Catch Accounting System (2003). The 2003 fish ticket data should be considered preliminary.

Allocations in the rock sole fishery ranged between 3 percent for Option 3.2 using years 1998-2003, 1999-2003, and 2000-2003 and 71 percent for Option 3.3 using years 1995-2003. Using average TAC from 1999 to 2003, allocation amounts for the rock sole fishery would have ranged between 2,239 mt and 51,340 mt. The first wholesale value of a metric ton of rock sole processed at-sea in the round is estimated to be worth $749 per mt using average first wholesale prices from 1999 to 2003. First wholesale price for whole rock sole was not available for 2003, so the average price was based on 1999 to 2002. Given this information, the difference between the options that allocate the most and least rock sole to the trawl limited access fishery is estimated to be $36,776,649. Note, the value of the rock sole fishery is likely higher because a large portion of the rock sole fishery is harvested early in the season for the roe and prices for this product are significantly higher ranging between $1.06 to $1.20 from 1999 to 2003 (Hiatt et al 2004). For example, in 2003, approximately 61 percent of the total rock sole harvested was caught between January 20 and April 1, and in 2004, 68 percent was harvested between January 20 and April 1 (NOAA Fisheries Alaska Region).

In the yellowfin sole fishery, allocations ranged between 7 percent for Option 3.2 using years 2000-2003 and 48 percent for Option 3.3 using years 1995-2003. Allocations of yellowfin sole using the average TAC from 1999 to 2003 would have ranged between 7,560 mt and 50,102 mt. The first

wholesale value of a metric ton of yellowfin sole processed at-sea in the round is estimated to be worth $529 per mt using average first wholesale prices. Given this value, the difference between the options that allocate the most and least yellowfin sole to the trawl limited access fishery is estimated to be $22,504,718.

Option 3.1

This option would allocate the species noted in Component 1 based on the total catch of the Non-AFA Trawl CP sector for the allocated species for a specific set of years relative to total catch of that same species and set of years for all other sectors combined. Depending on the species, the remaining portion available for allocation to the trawl limited access fishery ranged between 7 percent for Pacific Ocean perch and 34 percent rock sole. Below is a brief description of the allocation percentages for each the allocation species, an example of allocation amounts to the trawl limited access fishery using average TAC, and first wholesale value of whole fish processed at-sea from 1999 to 2003. Note that actual allocation amounts could vary across time since annual TACs can fluctuate from year-to-year. However, the percentage of the TAC that is allocated to the trawl limited access fishery would remain constant.

In the Atka mackerel fishery, available allocations ranged between 10 percent for the years 1999-2003 and 2000-2003 and 15 percent for years 1995-2003. Allocations of Atka mackerel in metric tons using average TAC from 1999 to 2003 would have ranged between 5,197 mt for the years 1999-2003 and 8,153 mt for the years 1995-2003. The first wholesale value of a metric ton of Atka mackerel processed at-sea in the round is estimated to be worth $595 per mt using average first wholesale prices from 1999 to 2003. Given this value, the difference between the options that allocate the most and least Atka mackerel to the trawl limited access fishery is estimated to be $1,758,820.

Available allocations in the flathead sole fishery ranged between 19 percent for all of the year combinations except 1995 to 2003 and 24 percent for the years 1995-2003. Applying these percentages to the average TAC from 1999 to 2003, allocation amounts for the flathead sole fishery would have ranged between 6,986 mt for the years 2000-2003 and 8,624 mt for the years 1995-2003. The first wholesale value of a metric ton of flathead sole processed at-sea in the round is estimated to be worth $882 per mt using average first wholesale prices from 1999-2003. Note that 2000 and 2003 first wholesale price for whole flathead sole was not available, so average was based on 1999, 2002, and 2002. Given this value, the difference between the options that allocate the most and least flathead sole to the trawl limited access fishery is estimated to be $1,444,716.

In the Pacific Ocean Perch fishery, available allocations to the trawl limited access fishery will range from 7 percent using years 1998-2002 and 9 percent using all other year combinations. Applying these percents to average TAC from 1999 to 2003, allocation amounts would have ranged between 697 mt to 973 mt. The first wholesale value of a metric ton of rock fish processed at-sea in the round is estimated to be worth $1411 per mt using average first wholesale prices from 1999 to 2003. Note that first wholesale price for whole Aleutian Islands Pacific Ocean perch was not available, so first wholesale price for rockfish processed at-sea was used instead. Given this value, the difference between the options that allocate the most and least Aleutian Islands Pacific Ocean perch to the trawl limited access fishery is estimated to be $389,436.

Available allocations in the rock sole fishery ranged between 27 percent using the 2000-2003 catch history years and 34 percent using the 1995-2003 catch history years. Using average TAC from 1999 to 2003, allocation amounts to the trawl limited access fishery for rock sole would have ranged between 19,368 mt for the 2000-2003 catch history years and 24,870 mt for the 1995-2003 catch history years. The first wholesale value of a metric ton of rock sole processed at-sea in the round is estimated to be worth $749 per mt using average first wholesale prices from 1999 to 2003. First wholesale price for whole rock sole was not available for 2003, so the average price was based on 1999 to 2002. Given this information, the difference between the options that allocate the most and

least rock sole to the trawl limited access fishery is estimated to be $4,120,998. Note, the value of the rock sole fishery is likely higher because a large portion of the rock sole fishery is harvested early in the season for the roe and prices for this product are significantly higher ranging between $1.06 to $1.20 from 1999 to 2003 (Hiatt et al 2004). For example, in 2003, approximately 61 percent of the total rock sole harvested was caught between January 20 and April 1, and in 2004, 68 percent was harvested between January 20 and April 1 (NOAA Fisheries Alaska Region).

In the yellowfin sole fishery, available allocations for the trawl limited access fishery ranged between 19 percent using 2000-2003 catch history years to 32 percent using 1995-2003 catch history years. Applying these percentages to average TAC from 1999 to 2003, the amount of yellowfin sole available for the trawl limited access fishery would have ranged between 19,893 mt for 2000-2003 catch history years and 33,819 mt using the 1995-2003 catch history years. The first wholesale value of a metric ton of yellowfin sole processed at-sea in the round is estimated to be worth $529 per mt using average first wholesale prices. Given this value, the difference between the options that allocate the most and least yellowfin sole to the trawl limited access fishery is estimated to be $7,366,854.

Option 3.2

Option 3.2 would allocate the species noted in Component 1 based on the retained catch by the Non-AFA Trawl CP sector of each allocated species for a specific set of years relative to total catch of that same species and set of years for all other sectors combined. Depending on the species, the portion available for allocation to the trawl limited access fishery when combined would have ranged between zero percent for Pacific Ocean perch and 36 percent for rock sole.

In the Atka mackerel fishery, available allocations ranged between 0.2 percent for the years 2000-2003 and 15 percent for years 1995-2003. Allocations of Atka mackerel in metric tons using average TAC from 1999 to 2003 would have ranged between 93 mt for 2000-2003 and 8,099 mt for 1995-2003. The first wholesale value of a metric ton of Atka mackerel processed at-sea in the round is estimated to be worth $595 per mt using average first wholesale prices from 1999 to 2003. Given this value, the difference between the options that allocate the most and least Atka mackerel to the trawl limited access fishery is estimated to be $4,763,570.

Available allocations in the flathead sole fishery ranged between 2 percent for all of the year combinations except 1995-2003 and 12 percent for the years 1995-2003. Applying these percentages to average TAC from 1999 to 2003, allocation amounts for the flathead sole fishery would have ranged between 652 mt for 1999-2003 and 4,275 mt for 1995-2003. The first wholesale value of a metric ton of flathead sole processed at-sea in the round is estimated to be worth $882 per mt using average first wholesale prices from 1999 to 2003. Note that 2000 and 2003 first wholesale price for whole flathead sole were not available, so the average was based on 1999, 2001, and 2002 prices. Given this value, the difference between the options that allocate the most and least flathead sole to the trawl limited access fishery is estimated to be $3,195,486.

In the Pacific Ocean Perch fishery, available allocations to the trawl limited access fishery ranged between zero percent using the 1998-2002 years to 7 percent for the years 1995-2003. Applying these percents to average TAC from 1999 to 2003, allocation amounts would have ranged from one mt to 766 mt. The first wholesale value of a metric ton of rockfish processed at-sea in the round is estimated to be worth $1,411 per mt using the average first wholesale prices from 1999 to 2003. Note that first wholesale price for whole Aleutian Islands Pacific Ocean perch was not available, so first wholesale price for rockfish processed at-sea was used instead. Given this value, the difference between the options that allocate the most and least Aleutian Islands Pacific Ocean perch to the trawl limited access fishery is estimated to be $1,079,415.

Available allocations in the rock sole fishery ranged between 3 percent for all year combinations prior to 1998 and 36 percent using the years 1995-2003. Using average TAC from 1999 to 2003, allocation amounts to the trawl limited access fishery for rock sole would have ranged between 2,330 mt for the

1999-2003 catch history years and 25,815 mt for the 1995-2003 catch history years. The first wholesale value of a metric ton of rock sole processed at-sea in the round is estimated to be worth $749 per mt using average first wholesale prices from 1999 to 2003. First wholesale price for whole rock sole was not available for 2003, so the first wholesale price was based on prices from 1999 to 2002. Given this information, the difference between the options that allocate the most and least rock sole to the trawl limited access fishery is estimated to be $17,590,265. As noted above, the estimated value of the rock sole fishery is likely higher because a large portion of the rock sole fishery is harvested early in the season for the roe and prices for this product are significantly higher ranging between $1.06 to $1.20 from 1999 to 2003 (Hiatt et al 2004). For example, in 2003, approximately 61 percent of the total rock sole harvested was caught between January 20 and April 1, and in 2004, 68 percent was harvested between January 20 and April 1 (NOAA Fisheries Alaska Region).

In the yellowfin sole fishery, available allocations for the trawl limited access fishery ranged between 7 percent using the 2000-2003 catch history years to 36 percent using the 1995-2003 catch history years. Applying these percentages to average TAC from 1999 to 2003, the amount of yellowfin sole available for the trawl limited access fishery would have ranged between 7,560 mt for 2000-2003 catch history years and 37,785 mt using the 1995-2003 catch history years. The first wholesale value of a metric ton of yellowfin sole processed at-sea in the round is estimated to be worth $529 per mt using average first wholesale prices from 1999 to 2003. Given this value, the difference between the options that allocate the most and least yellowfin sole to the trawl limited access fishery is estimated to be $15,989,025.

Option 3.3

Option 3.3 would allocate the species noted in Component 1 based on the retain catch by the Non-AFA Trawl CP sector for the allocated species using a specific set of years relative to the total catch of all sectors combined for the same species and set of years. Depending on the species, the portion available for allocation to the trawl limited access fishery ranged between 18 percent for Pacific Ocean perch and 71 percent rock sole. As noted above in the discussion of the allocation calculations under Option 3.3, some portion of the allocation available for the trawl limited access fishery could potentially go unharvested due to sideboard constraints. The AFA Trawl CP sector has a sideboard limit of 23 percent of yellowfin sole, 3.7 percent of rock sole, and 3.6 percent of flathead sole (Table 3-28). The AFA Trawl CV sector has a sideboard limit of 6.47 percent for yellowfin sole, 3.41 percent of rock sole, and 5.05 percent of flathead sole (Table 3-28).

Table 3-28 Sideboards for AFA Catcher Processors and AFA Catcher Vessels

Target Fishery	Area	Season	AFA Trawl Catcher Processor	AFA Trawl Catcher Vessel
Atka mackerel	Central AI	A season	0.115	0.0001
		B season	0.115	0.0001
	Western AI	A season	0.2	0
		B season	0.2	0
	Eastern AI	A season	0	0.0032
		B season	0	0.0032
	Jig gear	-	-	0.0031
Flathead sole	-	-	0.036	0.0505

Target Fishery	Area	Season	AFA Trawl Catcher Processor	AFA Trawl Catcher Vessel
Pacific Ocean perch	Bering Sea	-	0.002	0.1
	Eastern AI	-	0.02	0.0077
	Central AI	-	0.001	0.0025
	Western AI	-	0.004	0
Rock sole	-	-	0.037	0.0341
Yellowfin sole	-	-	0.23	0.0647

In addition, Table 3-29, Table 3-30, Table 3-31, Table 3-32, and Table 3-33 show the catch of these species for these sectors was significantly smaller then what would be available for harvest under this option. For example, in the rock sole fishery, all trawl sectors combined minus the Non-AFA Trawl CP sector harvested 1,523 mt rock sole or 10.6 percent of all rock sole harvested in 1995. Under this allocation calculation option, the trawl limited access fishery would get between 66 percent and 71 percent of the entire rock sole TAC, which when applied to average TAC from 1999 to 2003, this amounts to between 47,640 mt and 51,340 mt of rock sole. Since the AFA sectors have sideboards that limit their harvest of these species, the maximum amount of rock sole they could harvest is just over 7 percent of the TAC. If the trawl limited access fishery was allocated 66 percent of the TAC that would leave 59 percent of the rock sole TAC to be harvested by non-AFA Trawl CVs and trawl catcher processors that are not included in the AFA Trawl CP sector or the Non-AFA Trawl CP sector. It is unlikely that those vessels would harvest that amount of the rock sole TAC. The same issues exist for the other allocated species. Depending on the option selected, between 5 percent to 18 percent of the yellowfin TAC and 26 percent to 32 percent of the flathead sole TAC would be assigned to vessels that are not operating under sideboards or cooperative allocations.

Table 3-29 Yellowfin sole catch history for the trawl sectors from 1995 to 2003

Year	Sector	Number of Vessels	Retained Tons	Percent of Total
1995	AFA Trawl CPs	19	14,558.1	18.6%
	AFA 9 + 3	10	5,572.9	7.1%
	AFA CVs	42	10,159.3	13.0%
1996	AFA Trawl CPs	19	21,686.6	27.3%
	AFA 9 + 3	11	2,276.6	2.9%
	Non AFA Trawl CVs	3	[a]	[a]
	AFA CVs	28	5,906.3	7.4%
1997	AFA Trawl CPs	14	17,163.0	13.5%
	AFA 9 + 3	7	5,849.1	4.6%
	Non AFA Trawl CVs	3	[a]	[a]
	AFA CVs	27	14,196.4	11.1%
1998	AFA Trawl CPs	19	10,378.7	16.1%
	AFA CVs	27	282.3	0.4%
1999	AFA Trawl CPs	16	5,627.5	13.2%
	AFA CVs	18	1,209.0	2.8%
2000	AFA Trawl CPs	14	2,333.7	4.5%
	AFA CVs	67	1,524.4	2.9%
2001	AFA Trawl CPs	14	1,216.5	2.7%
	AFA CVs	41	0.0	0.0%
2002	AFA Trawl CPs	15	1,340.5	2.5%
	AFA CVs	33	0.2	0.0%
2003	AFA Trawl CPs	13	2,988.3	5.2%
	AFA CVs	59	0.3	0.0%

[a]Data was withheld to protect confidentiality
[b]Mothership w/o FT means mothership data without fish ticket data.
Source: Data summarized from 1995-2003 NOAA Fisheries Weekly Production Reports and 1995-2003 ADFG groundfish fish tickets. The 2003 fish ticket data should be considered preliminary.

Table 3-30 Rock sole catch history for the trawl sectors from 1995 to 2003

Year	Sector	Number of Vessels	Retained Tons	Percent of Total
1995	Non-AFA Trawl CPS	32	12,563.6	87.4%
	AFA Trawl CPs	20	717.3	5.0%
	Non Trawl CPs	24	2.1	0.0%
	AFA 9 + 3	10	318.4	2.2%
	Non AFA Trawl CVs	3	[a]	[a]
	AFA CVs	47	487.2	3.4%
	Non-Trawl CVs	7	0.2	0.0%
	Motherships w/o FT[b]	28	286.6	2.0%
1996	Non-AFA Trawl CPS	29	12,437.7	95.4%
	AFA Trawl CPs	19	405.9	3.1%
	Non Trawl CPs	21	0.5	0.0%
	AFA 9 + 3	11	108.6	0.8%
	AFA CVs	30	81.7	0.6%
	Non-Trawl CVs	1	[a]	[a]
	Motherships w/o FT[b]	29	0.7	0.0%

Year	Sector	Number of Vessels	Retained Tons	Percent of Total
1997	Non-AFA Trawl CPS	28	19,420.7	89.3%
	AFA Trawl CPs	19	481.9	2.2%
	Non Trawl CPs	15	0.4	0.0%
	AFA 9 + 3	8	762.7	3.5%
	Non AFA Trawl CVs	4	0.0	0.0%
	AFA CVs	49	1,092.0	5.0%
	Non-Trawl CVs	5	0.0	0.0%
1998	Non-AFA Trawl CPS	23	9,336.1	95.1%
	AFA Trawl CPs	18	475.6	4.8%
	Non Trawl CPs	20	0.1	0.0%
	AFA CVs	46	8.1	0.1%
1999	Non-AFA Trawl CPS	23	9,901.3	96.1%
	AFA Trawl CPs	15	38.6	0.4%
	Non Trawl CPs	18	328.7	3.2%
	AFA CVs	35	31.6	0.3%
2000	Non-AFA Trawl CPS	22	10,508.9	87.7%
	AFA Trawl CPs	14	118.0	1.0%
	Non Trawl CPs	17	1,233.9	10.3%
	Non AFA Trawl CVs	4	11.2	0.1%
	AFA CVs	80	89.7	0.7%
	Motherships w/o FT[b]	6	26.3	0.2%
2001	Non-AFA Trawl CPS	22	13,127.5	98.9%
	AFA Trawl CPs	16	115.4	0.9%
	Non Trawl CPs	19	0.1	0.0%
	AFA CVs	70	1.9	0.0%
	Motherships w/o FT[b]	6	28.8	0.2%
2002	Non-AFA Trawl CPS	22	16,501.1	99.8%
	AFA Trawl CPs	16	25.5	0.2%
	Non AFA Trawl CVs	4	4.1	0.0%
	AFA CVs	60	6.7	0.0%
2003	Non-AFA Trawl CPS	22	13,382.1	99.7%
	AFA Trawl CPs	13	2.7	0.0%
	Non Trawl CPs	23	0.3	0.0%
	Non AFA Trawl CVs	8	23.3	0.2%
	AFA CVs	86	9.7	0.1%
	Motherships w/o FT[b]	5	2.8	0.0%

[a]Data was withheld to protect confidentiality
[b]Mothership w/o FT means mothership data without fish ticket data.
Source: Data summarized from 1995-2003 NOAA Fisheries Weekly Production Reports and 1995-2003 ADFG groundfish fish tickets. The 2003 fish ticket data should be considered preliminary.

Table 3-31 Flathead sole catch history for the trawl sectors from 1995 to 2003

Year	Sector	Number of Vessels	Retained Tons	Percent of Total
1995	Non-AFA Trawl CPs	32	6,161.0	92.0%
	AFA Trawl CPs	20	240.7	3.6%
	Non Trawl CPs	29	8.5	0.1%
	AFA 9 + 3	10	53.0	0.8%
	Non AFA Trawl CVs	3	[a]	[a]
	AFA CVs	48	217.6	3.2%
	Non-Trawl CVs	4	0.1	0.0%
	Motherships w/o FT[b]	27	18.9	0.3%
1996	Non-AFA Trawl CPs	29	8,641.1	96.4%
	AFA Trawl CPs	19	57.0	0.6%
	Non Trawl CPs	26	8.5	0.1%
	AFA 9 + 3	11	1.4	0.0%
	Non AFA Trawl CVs	6	0.8	0.0%
	AFA CVs	40	250.5	2.8%
1997	Non-AFA Trawl CPs	28	10,102.6	94.1%
	AFA Trawl CPs	19	70.0	0.7%
	Non Trawl CPs	23	27.2	0.3%
	AFA 9 + 3	9	196.2	1.8%
	Non AFA Trawl CVs	2	[a]	[a]
	AFA CVs	50	337.0	3.1%
1998	Non-AFA Trawl CPs	23	15,504.9	97.8%
	AFA Trawl CPs	19	247.4	1.6%
	Non Trawl CPs	30	28.3	0.2%
	Non AFA Trawl CVs	6	0.0	0.0%
	AFA CVs	59	39.1	0.2%
	Non-Trawl CVs	2	[a]	[a]
	Motherships w/o FT[b]	27	30.2	0.2%
1999	Non-AFA Trawl CPs	23	11,631.5	98.6%
	AFA Trawl CPs	15	22.3	0.2%
	Non Trawl CPs	30	131.0	1.1%
	AFA CVs	64	9.1	0.1%
2000	Non-AFA Trawl CPs	20	12,036.7	94.2%
	Non Trawl CPs	28	737.1	5.8%
	Non AFA Trawl CVs	7	1.3	0.0%
2001	Non-AFA Trawl CPs	22	12,135.0	99.8%
	AFA Trawl CPs	15	0.1	0.0%
	Non Trawl CPs	30	11.8	0.1%
	AFA CVs	79	0.0	0.0%
	Motherships w/o FT[b]	6	18.4	0.2%

Year	Sector	Number of Vessels	Retained Tons	Percent of Total
2002	Non-AFA Trawl CPs	22	9,918.4	99.7%
	AFA Trawl CPs	15	10.4	0.1%
	Non Trawl CPs	31	14.6	0.1%
	Non AFA Trawl CVs	7	0.0	0.0%
	AFA CVs	68	0.6	0.0%
2003	Non-AFA Trawl CPs	22	9,124.2	99.6%
	Non Trawl CPs	35	30.2	0.3%
	Non AFA Trawl CVs	8	1.0	0.0%
	AFA CVs	91	9.1	0.1%

[a]Data was withheld to protect confidentiality
[b]Mothership w/o FT means mothership data without fish ticket data.
Source: Data summarized from 1995-2003 NOAA Fisheries Weekly Production Reports and 1995-2003 ADFG groundfish fish tickets. The 2003 fish ticket data should be considered preliminary.

Table 3-32 Atka mackerel catch history for the trawl sectors from 1995 to 2003

Year	Sector	Number of Vessels	Retained Tons	Percent of Total
1995	Non-AFA Trawl CPs	15	52,200.3	84.9%
	AFA Trawl CPs	8	1,824.3	3.0%
	AFA 9 + 3	4	7,439.9	12.1%
	AFA CVs	11	15.9	0.0%
1996	Non-AFA Trawl CPs	18	77,626.9	91.8%
	AFA Trawl CPs	4	1,392.4	1.6%
	Non Trawl CPs	16	1.4	0.0%
	AFA 9 + 3	4	5,501.9	6.5%
	AFA CVs	18	12.7	0.0%
1997	Non-AFA Trawl CPs	11	42,344.3	78.8%
	AFA Trawl CPs	4	3,869.2	7.2%
	Non Trawl CPs	12	0.2	0.0%
	AFA 9 + 3	7	7,527.2	14.0%
	AFA CVs	3	[a]	[a]
1998	Non-AFA Trawl CPs	21	39,911.1	84.4%
	Non Trawl CPs	13	3.3	0.0%
	AFA 9 + 3	5	7,376.9	15.6%
	AFA CVs	26	0.3	0.0%
1999	Non-AFA Trawl CPs	19	44,212.4	99.0%
	AFA Trawl CPs	10	438.3	1.0%
	Non Trawl CPs	9	0.7	0.0%
	AFA CVs	12	0.2	0.0%
2000	Non-AFA Trawl CPs	16	36,423.5	100.0%
	Non Trawl CPs	8	2.7	0.0%
	Non AFA Trawl CVs	1	[a]	[a]
2001	Non-AFA Trawl CPs	18	45,526.6	99.8%
	Non Trawl CPs	14	65.1	0.1%
	AFA CVs	27	16.4	0.0%
	Motherships w/o FT[b]	6	7.8	0.0%
2002	Non-AFA Trawl CPS	17	31,125.1	99.7%
	Non Trawl CPs	9	2.2	0.0%
	Non AFA Trawl CVs	2	[a]	[a]
	AFA CVs	47	77.9	0.2%

Year	Sector	Number of Vessels	Retained Tons	Percent of Total
2003	Non-AFA Trawl CPS	17	37,757.4	99.8%
	AFA Trawl CPs	13	3.4	0.0%
	Non AFA Trawl CVs	6	0.2	0.0%
	AFA CVs	72	86.3	0.2%
	Non-Trawl CVs	22	0.3	0.0%

[a]Data was withheld to protect confidentiality
[b]Mothership w/o FT means mothership data without fish ticket data.
Source: Data summarized from 1995-2003 NOAA Fisheries Weekly Production Reports and 1995-2003 ADFG groundfish fish tickets. The 2003 fish ticket data should be considered preliminary.

Table 3-33 AI Pacific Ocean perch catch history for the trawl sectors from 1995 to 2003

Year	Sector	Number of Vessels	Retained Tons	Percent of Total
1995	Non-AFA Trawl CPS	14	8,053.1	97.5%
	AFA Trawl CPs	17	198.0	2.4%
	Non Trawl CPs	3	[a]	[a]
	AFA CVs	10	7.5	0.1%
1996	Non-AFA Trawl CPS	14	8,949.5	98.6%
	AFA Trawl CPs	14	122.2	1.3%
	AFA 9 + 3	4	1.1	0.0%
	AFA CVs	14	6.4	0.1%
1997	Non-AFA Trawl CPS	10	10,324.6	99.6%
	AFA Trawl CPs	14	0.3	0.0%
	AFA 9 + 3	6	13.4	0.1%
	AFA CVs	16	29.8	0.3%
1998	Non-AFA Trawl CPS	12	7,701.7	100.0%
	AFA Trawl CPs	7	0.9	0.0%
	Non Trawl CPs	2	[a]	[a]
	AFA CVs	13	0.7	0.0%
1999	Non-AFA Trawl CPS	12	9,580.0	100.0%
	Non Trawl CPs	1	[a]	[a]
	Non-Trawl CVs	1		
2000	Non-AFA Trawl CPS	10	6,995.6	100.0%
	Non AFA Trawl CVs	1	[a]	[a]
	Non-Trawl CVs	1	[a]	[a]
2001	Non-AFA Trawl CPS	11	6,319.5	100.0%
	Non Trawl CPs	5	0.3	0.0%
2002	Non-AFA Trawl CPS	11	8,249.1	100.0%
2003	Non-AFA Trawl CPS	10	9,823.2	96.3%
	AFA Trawl CPs	2	[a]	[a]

[a]Data was withheld to protect confidentiality
[b]Mothership w/o FT means mothership data without fish ticket data.
Source: Data summarized from 1995-2003 NOAA Fisheries Weekly Production Reports and 1995-2003 ADFG groundfish fish tickets. The 2003 fish ticket data should be considered preliminary.

In another example, the trawl limited access fishery under this option would get between 18 percent and 22 percent of the AI Pacific Ocean Perch. In years past, the participants who would be eligible for the limited access fishery when combined have harvested in years prior to the sideboard less than 200 mt annually. Under this option, the limited access fishery would receive between 1,855 mt and 2,291 mt of Pacific Ocean perch using average TAC from 1999 to 2003.

In the Atka mackerel fishery, available allocations ranged between 21 percent for the years 1998-2002 and 27 percent for years 1995-2003. Allocations of Atka mackerel in metric tons using average TAC from 1999 to 2003 would have ranged between 11,418 mt for 1998-2002 and 14,374 for 1995-2003. The first wholesale value of a metric ton of Atka mackerel processed at-sea in the round is estimated to be worth $595 per mt using average first wholesale prices from 1999 to 2003. Given this value, the difference between the options that allocate the most and least Atka mackerel to the trawl limited access fishery is estimated to be $1,758,820.

Available allocations in the flathead sole fishery ranged between 35 percent for all of the year combinations except 1995 to 2003, which had 41 percent available for the trawl limited access fishery after the Non-AFA Trawl CP sector allocation. Applying these percentages to average TAC from 1999 to 2003, allocation amounts for the flathead sole fishery would have ranged between 12,767 mt for 1999-2003 and 14,982 mt for 1995-2003. The first wholesale value of a metric ton of flathead sole processed at-sea in the round is estimated to be worth $882 per mt using average first wholesale prices from 1999 to 2003. Note that 2000 and 2003 first wholesale price for whole flathead sole were not available, so the average was based on 1999, 2001, and 2002 prices. Given this value, the difference between the options that allocate the most and least flathead sole to the trawl limited access fishery is estimated to be $1,953,630.

In the Pacific Ocean Perch fishery, available allocations to the trawl limited access fishery ranged between 18 percent using the 1998-2002 years to 22 percent using years 1995-2003. Applying these percents to average TAC from 1999 to 2003, allocation amounts would have ranged from 1,855 mt to 2,246 mt. The first wholesale value of a metric ton of rockfish processed at-sea in the round is estimated to be worth $1,411 per mt using the average first wholesale prices from 1999 to 2003. Note that first wholesale price for whole Aleutian Islands Pacific Ocean perch was not available, so first wholesale price for rockfish processed at-sea was used instead. Given this value, the difference between the options that allocate the most and least Aleutian Islands Pacific Ocean perch to the trawl limited access fishery is estimated to be $551,701.

Available allocations in the rock sole fishery ranged between 66 percent using the 2000-2003 catch history years and 71 percent using the 1995-2003 catch history years. Using average TAC from 1999 to 2003, allocation amounts to the trawl limited access fishery for rock sole would have ranged between 47,640 mt for the 2000-2003 catch history years and 51,340 mt for the 1995-2003 catch history years. The first wholesale value of a metric ton of rock sole processed at-sea in the round is estimated to be worth $749 per mt using average first wholesale prices from 1999 to 2003. First wholesale price for whole rock sole was not available for 2003, so the first wholesale price was based on prices from 1999 to 2002. Given this information, the difference between the options that allocate the most and least rock sole to the trawl limited access fishery is estimated to be $2,771,300. As noted above, the estimated value of the rock sole fishery is likely higher because a large portion of the rock sole fishery is harvested early in the season for the roe and prices for this product are significantly higher ranging between $1.06 to $1.20 from 1999 to 2003 (Hiatt et al 2004). For example, in 2003, approximately 61 percent of the total rock sole harvested was caught between January 20 and April 1, and in 2004, 68 percent was harvested between January 20 and April 1 (NOAA Fisheries Alaska Region).

In the yellowfin sole fishery, available allocations for the trawl limited access fishery ranged between 35 percent using the 2000-2003 catch history years to 48 percent using the 1995-2003 catch history years. Applying these percentages to average TAC from 1999 to 2003, the amount of yellowfin sole available for the trawl limited access fishery would have ranged between 36,222 mt for 2000-2003 catch history years and 50,102 mt using the 1995-2003 catch history years. The first wholesale value of a metric ton of yellowfin sole processed at-sea in the round is estimated to be worth $529 per mt using average first wholesale prices from 1999 to 2003. Given this value, the difference between the

options that allocate the most and least yellowfin sole to the trawl limited access fishery is estimated to be $7,342,520.

3.2.3.4 Rollovers

The final suboption included in Component 3 is the option of including a rollover program for the allocated species. It is assumed the rollover program included in the suboption would be similar to the Pacific cod rollover program. In the reallocation of Pacific cod, the Regional Administrator is authorized to reallocate any projected unharvested allocation to another sector. Under this proposed action, it assumed the Regional administrator would be authorized to reallocate any projected unharvested Atka mackerel, AI Pacific Ocean perch, flathead sole, rock sole, or yellowfin sole from the limited access fishery to the Non-AFA Trawl CP sector. Since the suboption does not include language on how to distribute the reallocation, it is assumed that any reallocated quota would be apportioned based on the division in Component 10.

The purpose of the rollover program is to ensure the entire TAC is fully utilized to the extent possible. Between 1995 and 1998, many of the eligible participants in the trawl limited access fishery targeted yellowfin sole. For example, in 1997, the AFA Trawl CP sector retained 17,163 mt of yellowfin sole and the AFA Trawl CV sector retained 14,196 mt of yellowfin sole in 1998 (Table 3-29). These sectors also targeted Atka mackerel during these early years, but then interest in this fishery declined sharply after 1998. A small amount of flathead sole and rock sole was also retained by these sectors between 1995 and 1998, but retained catch also declined sharply afterward. In general, the focus of the AFA CP sector and AFA Catcher Vessel sector since 1999 has shifted to pollock and Pacific cod, primarily because participants are getting higher profits in those fisheries compared to the yellowfin sole, flathead sole, rock sole, Atka mackerel, and AI Pacific Ocean perch fisheries. As long as participants in the limited access fishery receive higher profits in fisheries other than the ones allocated under this proposed action, there will likely be unutilized allocations.

The option gives two suggestions for a specific time for determining the unharvested amount that would be reallocated to the Non-AFA Trawl CP sector, August 1 or September 1. The August 1 date would accommodate the Non-AFA Trawl CP sector better than the September 1 date because the Non-AFA Trawl CP sector participants would have more time to harvest the reallocated amount. One fishery that could be impacted by an August 1 or September 1 rollover date would the rock sole fishery. Since rock sole has a significant roe fishery during the first two months of the year, there is a potentially for some portion of the rollover in August or September to go unharvested. For Atka mackerel fishery, the TAC is divided equally into two seasonal allowances. The first seasonal allowance is available for directed fishing by trawls from January 20 to April 15, and the second seasonal allowance is available from September 1 to November 1. Assuming the seasonal division of Atka mackerel continues, any Atka mackerel rollovers will be available for the Non-AFA Trawl CP at the beginning of the B season. One solution would be to allow Inseason Management Section of NOAA Fisheries Alaska Region to determine the appropriate amount of rollovers and the appropriate date for the reallocation. In discussions with the Inseason Management Section, they would prefer to have no dates for determining rollover amounts and reallocating yellowfin sole. Like the Pacific cod fishery, Inseason Management Section would determine the appropriate rollover amounts and the appropriate date for reallocation of yellowfin sole based on industry input and the rate of the fishery.

Determining the value of any reallocated amount is not possible since prices fluctuate and the amount reallocated is an unknown. In order for the Non-AFA Trawl CP sector to realize any benefit from the reallocation, the sector must have enough halibut PSC and enough other species to account for incidental catch in reallocated fishery.

3.2.4 Component 5 – PSC allocated to the CDQ program

Component 5

PSC is allocated to the CDQ Program as PSQ reserves (except herring and Chinook salmon) and are proportional to the CDQ allocation under Component 2 for each PSC limit.

3.2.4.1 PSQ Allocation Options under Component 5

Certain components considered under Amendment 80 would modify PSC sector allocations, including those made to the CDQ Program. Currently 7.5 percent of the annual PSC limits for salmon (Chinook and other salmon), halibut, and crab (red king, tanner, and opilio) is allocated to the CDQ program as a PSQ reserve. The PSQ reserve is not allocated to a specific groundfish target species, gear, or season. Because PSQ is not allocated for use in a specific fishery or season it can be used by the CDQ groups in whatever groundfish fishery they consider to be most important. CDQ groups are allowed to determine the best use of their PSQ reserves. The freedom to utilize PSQ where it is most valuable helps the groups in planning their annual fishing strategy to maximize returns from their groundfish CDQ allocations.

Component 5 would allocate PSC to the CDQ program as PSQ, as is currently done, but could increase the amount of the PSQ allocated to the program proportional to the amount that primary species are allocated to the program. Component 2 has two options to increase the amount of Amendment 80 primary species being allocated to the CDQ Program. Component 2, Option 2.2 would increase CDQ allocations to 10 percent, while Option 2.3 would increase CDQ allocations to 15 percent of the TAC for each Amendment 80 target species. Thus, the potential range of PSQ allocations to the CDQ Program range from 7.5 percent (Option 2.1, the status quo) to 15 percent of applicable TACs.

As discussed earlier, herring is currently not allocated to the CDQ program and is not being considered under this component. Herring bycatch will continue to be managed as it is currently. The herring PSC limit is set at one percent of stock biomass. That limit is shared by the non-CDQ and the CDQ sectors. Attainment of a herring PSC apportionment would trigger trawl closures in the two Herring Summer Savings Areas north of the Alaska Peninsula and the Herring Winter Savings Area northwest of the Pribilof Islands to the affected fishery. Those closures apply to all sectors, including the CDQ fisheries.

Increasing the Chinook Salmon PSQ allocation is not included in Component 5 because Chinook salmon savings measures only are applicable to the directed pollock fisheries, not the directed fisheries for the primary target species considered under Amendment 80.

3.2.4.2 Historical PSQ Harvest

Table 3-34 shows the PSQ reserves, catch, and percentage caught for 2001 through 2004. Catch of PSQ occurs in all groundfish CDQ fisheries. The only instances when a PSQ was exceeded during this time period were the 2003 Chinook and non-Chinook salmon PSQs, as well as the 2004 Chinook salmon PSQ. Crab and halibut PSQ reserves historically have had relatively high residual amounts during these same years. This is probably related to the historically low catch of flatfish CDQ species. As the flatfish CDQ fisheries have grown in recent years, so has the incidental catch of crab PSQ species. The catch of PSQ in the Amendment 80 target fisheries in 2004 is shown in Table 3-35. This provides a general indication that the yellowfin sole CDQ fishery catches the majority of the crab PSQ species in the CDQ fisheries, and that other target fisheries caught modest amounts of crab and other PSQ species.

Table 3-34 PSQ reserves, catch and percentage caught, 2001-2004

PSQ species	2001			2002			2003			2004			Average 2001-04
	Reserve	Catch	% caught	Reserve	Catch	% caught	Reserve	Catch	% caught	Reserve	Catch	% caught	
Zone 1 Red king crab	7,275	0	0.00	7,275	431	5.92	7,275	1,883	25.88	14,775	175	1.18	8.25%
Zone 1 Bairdi	54,750	690	1.26	73,500	4,074	5.54	73,500	9,119	12.41	73,500	1,679	2.28	5.37%
Zone 2 Bairdi	155,252	436	0.28	222,752	3,695	1.66	222,751	2,736	1.23	222,750	13,483	6.05	2.31%
Opilio Tanner	326251	624	0.19	326251	25,568	7.84	326,251	4,927	1.51	326,250	29,860	9.15	4.67%
Pacific halibut	343	86	24.98	343	149	43.48	343	175	50.93	343	153	44.64	41.01%
Chinook salmon	3,075	2,507	81.53	2,775	2,093	75.42	2,477	2,565	103.55	2,175	2,966	136.37	99.22%
non-Chinook salmon	3,152	2,427	77.00	3,152	1,993	63.23	3,151	5,292	167.95	3,150	960	30.48	84.66%

Source: NOAA Fisheries 2005.
Note: Pacific halibut mortality is reported in metric tons. All other species are listed in number of animals.

Table 3-35 PSQ catch in the 2004 CDQ fisheries for primary target species

CDQ and PSQ categories	Atka Mackerel	Rockfish	Flathead sole	Rock sole	Yellowfin sole	Grand Total
Zone 1 Red King Crab	0	0	0	0	174	174
Zone 1 Bairdi Tanner Crab	0	0	0	164	1,504	1,668
Zone 2 Bairdi Tanner Crab	0	0	216	0	13,178	13,394
Opilio Tanner Crab	0	0	109	16	29,640	29,765
Pacific Halibut	15	0	9	5	67	96
non-chinook salmon	0	0	0	0	0	0

Source: NOAA Fisheries 2005.
Note: Pacific halibut mortality is reported in metric tons. All other species are listed in number of animals.

3.2.4.3 Projected PSQ Allocations

Component 2 has two options to increase the allocations of primary target species to the CDQ Program. Component 5 would proportionately increase PSQ allocations to the CDQ Program. Thus, PSQ allocations could remain the same (7.5 percent), or increase to either 10 percent or 15 percent of each PSC catch limit. Projected PSQ allocations for each percentage are shown in Table 3-36, based on 2004 PSC catch limits.

Table 3-36 Projected increases in PSQ amounts based on 2004 PSC limits

PSQ species	2004 PSC limit	7.5%	10%	15%
Zone 1 Red King Crab	197,000	14,775	19,700	29,550
Zone 1 Bairdi Tanner Crab	980,000	73,500	98,000	147,000
Zone 2 Bairdi Tanner Crab	2970,000	222,750	297,000	445,500
Opilio Tanner Crab	4350,000	326,250	435,000	652,500
Pacific Halibut (mt)	4,575	343	458	686
Non-Chinook Salmon	42,000	3,150	4,200	6,300

3.2.4.4 Impacts on CDQ Groups

When considering changes to the PSQ reserve percentage, the Council may be asked by members of the fishing industry to determine the allocation level that allows the CDQ groups to prosecute their target fisheries without leaving PSQ unused. Making those projections would be difficult given the changes in bycatch rates that occur from year-to-year and the target fisheries that may be see increased effort or be further developed by the CDQ groups. As with the proposed increases to primary Amendment 80 target species, these proposed PSQ increases only reflect a stepwise increase in allocations without a comprehensive review of actual PSQ requirements in each CDQ target fishery, either collectively or individually.

Table 3-34 indicates that, historically, CDQ groups have had adequate PSQ reserves for the fishing strategies used those years. Projecting whether they would have enough PSQ in the future would require assumptions regarding bycatch rates of each PSC species in each of the target fisheries, the CDQ allocations of various target species, and the fishing strategies of the CDQ groups. Developing a model that takes all these factors into account is not feasible. Therefore, the discussion of the PSQ bycatch needs of the CDQ program for each species is qualitative, drawing on historic target fishery and bycatch data to supplement the discussion.

The financial impact of increasing PSQ allocations also is difficult to analyze, since CDQ groups do not receive royalties for the catch of PSQ species. CDQ groups could forego some royalties if their target fisheries were curtailed due to attainment of PSQ amounts and the subsequent relocation of fishing effort or withdrawal of their partners from a particular fishery, but precise estimates of such losses cannot be estimated. The management costs to CDQ groups of increased PSQ allocations are equivalent to those described in Section 3.2.2.6.

Non-Chinook Salmon PSQ

Two different salmon PSQ categories are allocated to the CDQ Program: Chinook and non-Chinook. Chinook salmon is excluded from this discussion as it is explicitly excluded from consideration for an allocation increase under Component 5. The non-Chinook PSC category is composed of chum salmon, pink, sockeye, and coho salmon.

The data in Table 3-34 shows that salmon PSQ reserves have typically been caught at a higher rate than other PSQ reserves. The non-Chinook area closures apply to the Chum Salmon Savings Area for all groundfish fishing, whereas Chinook area closures apply to the Chinook Salmon Savings Areas and are specific to the pollock fishery. When trawl vessels fishing for a CDQ group catch the group's non-Chinook salmon PSQ allotment, the CDQ group must prohibit those vessels from using trawl gear to harvest any groundfish inside the Chum Salmon Savings Area between September 1 and October 14. They may continue harvesting groundfish outside the Chum Salmon Savings Area during that time period.

The non-Chinook salmon reserve has held constant between 2001 and 2004, but the catch of non-Chinook salmon varied considerably over that time period. For example, in 2002 about 37 percent of the reserve was left unharvested, but in 2003 the reserve was over-harvested by about 68 percent. Given this variation in catch levels it is not impossible to estimate with any certainty what the bycatch levels would be during a specific year in the future. Salmon bycatch that accrues to the two salmon PSQ categories primarily occurs in the pollock CDQ directed fishery. Participants in the pollock fleet have testified before the Council in the past that catches of salmon PSC are random and cannot be predicted or completely avoided. In some years the catch of salmon is much lower than in other years, although fishing patterns are relatively the same. In response to this variability, as well as high salmon bycatch rates in 2003 and 2004, participants in pollock fishery are developing new strategies to reduce salmon bycatch.

Because of the randomness of salmon bycatch rates over time, members of the CDQ program have expressed concern that they may not be allocated enough of a PSQ reserve to stay within their bycatch allocation. Salmon bycatch in 2003 can be used to illustrate their concerns. In 2003, the six CDQ groups, in total, exceeded their chinook reserve by about 4 percent and their non-Chinook reserve by about 68 percent. The non-CDQ fisheries also experienced high salmon bycatch rates. These levels were not typical, because in most years the salmon reserve has not been exceeded. However, it is the years when high levels of unavoidable bycatch occurs that concerns participants in the CDQ fishery. In those years, increasing the CDQ allocation of groundfish without increasing the PSQ reserves likely would result in even more pronounced bycatch problems, and the CDQ groups may be forced to fish outside the Chum Salmon Savings Area. This could affect the yellowfin sole and other flatfish fisheries that occur in the Bering Sea, but would not affect AI target fisheries.

Crab PSQ

Table 3-34 shows that the CDQ groups have never harvested more than 26 percent of any of their crab PSQ allocations during the years 2001 through 2004. Looking at the percentage of the allotment that is left over each year, it may be tempting to simply state that the CDQ groups do not need any additional crab PSQ. However, if the amount of primary target species left unharvested and the potential for this catch to increase based on recent trends is considered, this issue becomes more complex. Section 3.2.2.2 discusses historic and recent catch patterns in the Amendment 80 target species in the CDQ sector, including indications that these fisheries are becoming more fully utilized.

In general, the majority of BSAI crab bycatch typically occurs in the trawl flatfish and Pacific cod fisheries. CDQ groups use longline gear to catch Pacific cod, rather than trawl gear, so unless that pattern changes, crab bycatch would not be an issue in that fishery. The CDQ groups are harvesting almost all of their yellowfin sole CDQ allocations. Yellowfin sole also typically has lower crab bycatch rates than other flatfish species like rock sole. So, the fisheries targeted to date by the CDQ groups have resulted in modest crab bycatch.

Fisheries that may demonstrate high levels of crab bycatch have not, historically, been fully harvested by CDQ groups. Only about 20 to 25 percent of the rock sole and flathead sole allocations have been caught in recent years (based on information presented in Table 3-18, on page 40). The amount of crab PSQ that would be needed in the future depends on whether CDQ groups expand their harvests of those species. If those species are more fully utilized by the CDQ groups, the crab bycatch would be expected to increase. Decisions to increase the crab PSQ allocations under Component 5 should consider the likelihood of increased activity in these fisheries in the future.

If a specific crab bycatch caps is reached by a CDQ group, trawl vessels fishing for it would be required to move out of the applicable crab savings area. The CDQ groups are not required to stop fishing altogether. Being forced to move harvest operations out of the savings areas could result in higher operating costs or lower catch per unit effort rates for target species. The magnitude of such impacts is likely to vary by year and fishery.

Pacific Halibut PSQ

Halibut is widely considered the most limiting PSC species in the BSAI groundfish fisheries. Unlike crab and salmon, when a halibut bycatch cap is reached the fleet is required to stop fishing instead of being limited to certain fishing areas. Halibut caps have the potential to restrict the amount of groundfish that can be harvested, as opposed to shifting operations to other areas. Halibut PSC apportionments are highly valuable for many BSAI groundfish sectors and gear types. Harvests made using pot gear are exempt from halibut constraints, so those sectors are not constrained by halibut PSC allotments. Halibut PSC is primarily taken in the longline Pacific cod and turbot fisheries. In the trawl fisheries, halibut is taken in modest amounts in “midwater” fisheries (e.g., pollock) and at higher rates in bottom fisheries such as yellowfin sole. Historically, it is fairly common for trawl

and/or longline target fisheries to be closed because seasonal halibut bycatch allotments have been fully utilized.

Halibut is not allocated to specific target fisheries in the CDQ program as is done in the non-CDQ fisheries. Thus, if a CDQ group caught all of its annual halibut PSQ allocation, it would be required to stop directed fishing for those target species that could take halibut as bycatch. This would affect just about every potential groundfish fishery except for those prosecuted with pot gear, such as sablefish. In the CDQ fisheries, halibut has not been as constraining as in the open access fisheries. During the 2001 through 2003 fishing years, the percentage of the halibut PSQ allocation caught has averaged about 41 percent of annual allocations. About 25 percent of the allotment was taken in 2001 and about 51 percent of the allotment was taken in 2003.

The total amount of halibut PSQ mortality used in the CDQ fisheries would be expected to increase if the CDQ groups are successful in increasing their utilization of flatfish allocations such as yellowfin sole and rock sole. Rock sole target fisheries typically have relatively high halibut bycatch compared to other fisheries. During 2003, about 26 kg of halibut was harvested for each metric ton of groundfish harvested in the BSAI open access rock sole fishery. The rate was lower in 2002, about 17 kg of halibut per metric ton of groundfish. As an example, if we used the 2003 halibut bycatch rates, harvesting the entire 2003 rock sole CDQ allocation would have required about an additional 71mt of halibut. The flexibility to harvest at a time of year when halibut bycatch rates are lower is limited by the importance of roe in the rock sole fishery. That fishery occurs in January and February when roe is at peak quality. After the roe is peaked in quality the value of the fish harvested declines and the profitability of harvesting rock sole declines.

3.2.4.5 Impacts on Non-CDQ Industry Components

The affects of increasing PSQ allocations under Component 5 proportional to the amount that CDQ allocations could be increased under Component 2, Options 2.2 and 2.3 cannot be estimated with any certainty. Obviously, if allocations of PSQ to the CDQ Program were increased, there would be less PSC available for the non-CDQ sector fisheries to account for their incidental catch of crab, salmon, and Pacific halibut. The yellowfin sole, rock sole, and flathead sole fisheries could be the most affected by increased PSQ allocations, since they historically experience higher bycatch rates for PSC species than do the Atka mackerel and Pacific ocean perch fisheries. But, since this action concurrently considers decreasing the amount of the Amendment 80 primary target species available for the non-CDQ fisheries, less PSC species would be needed to account for bycatch in such fisheries. However, other fisheries, such as the trawl Pacific cod fishery, could be impacted by across-the-board increases in PSQ allocations, since it also would lose access to that additional portion of PSC limits allocated to the CDQ Program. The discussions in Section 3.2.2.7 about the impacts of increasing Amendment 80 target species allocations on non-CDQ industry sectors are generally applicable to this discussion.

3.2.4.6 Effects on Management Costs

The effects on management costs of increasing the PSQ allocations to the CDQ Program from 7.5 percent to either 10 percent or 15 percent of PSC catch limits is essentially the same as described in Section 3.2.2.8.

3.2.5 Component 6 – PSC allowance for the Non-AFA Trawl Catcher Processor sector

Component 6 identifies two different allocation options for apportioning PSC allowance to the Non-AFA Trawl CP sector. The first option would allocate a portion of the trawl PSC to the Non-AFA Trawl CP sector to be used when directed fishing for allocated and non-allocated species. Suboption 6.1.1 would allocate the portion of trawl PSC allowance to the Non-AFA Trawl CP sector based on

the historical usage of PSC. Suboption 6.1.2 would allocate a portion of the trawl PSC allowance to the Non-AFA Trawl CP sector based on total PSC catch by all trawl vessels in each PSC fishery group (rock sole/other flats/flathead sole, turbot/arrowtooth/sablefish, etc.). The allocation would be based on catch during specific year combinations multiplied by the relevant percentage allocation for the allocated species. The actual allocation calculations and catch history years are based on the allocations from Components 3 and 4.

The second option in Component 6 would reduce the allocation of PSC allowance to the Non-AFA Trawl CP sector. The PSC allocation to the Non-AFA Trawl CP sector would either be set at 60 percent, 75 percent, 90 percent, 95 percent, or 100 percent (no reduction) of the PSC allocation calculated using one of the two alternatives in Option 6.1.

The third and final option in this component would allow the Council to select percentages and/or specific amounts of PSC that would be allocated to the Non-AFA Trawl CP sector. The allocation would not be based on a specific allocation calculation option or PSC allowance reduction option. If the Council selects this option, the PSC allowance selected by the Council will have to be within the range of alternatives considered in this analysis to provide the necessary information for the Council. If the PSC allowances for the Non-AFA Trawl CP sector selected by the Council are within the ranges covered while analyzing the options in this component, then no additional analysis will likely be required.

Component 6	PSC allowance for the Non-AFA Trawl CP Sector.	
Option 6.1	Apportion PSC to Non-AFA Trawl CP sector:	
	Suboption 6.1.1	Allocation based on historical usage of PSC.
	Suboption 6.1.2	Percentage allocations (estimates for PSC associated with Pacific cod catch will be based on the process laid out in Component 3) selected in Component 3 multiplied by the relevant total PSC catch by all trawl vessels in each PSC fishery group.
Option 6.2	Select a Non-AFA Trawl CP sector PSC reduction option from the following that would apply to any PSC apportionment suboption selected in 6.1. PSC reduction options can vary species by species.	
	Suboption 6.2.1	Reduce apportionments to 60% of calculated level.
	Suboption 6.2.2	Reduce apportionments to 75% of calculated level.
	Suboption 6.2.3	Reduce apportionments to 90% of calculated level.
	Suboption 6.2.4	Reduce apportionments to 95% of calculated level.
	Suboption 6.2.5	Do not reduce apportionments from calculated level.
Option 6.3	The Council can select percentages and/or amounts for PSC allocated to the Non-AFA Trawl CP sector.	

The intent of these suboptions is to allocate to the Non-AFA Trawl CP sector their own portion of the trawl PSC allowance for use in the cooperatives. With their own allocation, the cooperative would be free to use the PSC to maximize the benefits for the cooperative. With the Non-AFA Trawl CP sector getting their own allocation of PSC allowance, the cooperative no longer has to be concerned with the PSC catch of other trawl vessels outside the cooperative. Currently, the PSC allowance is apportioned by gear, so trawl vessels race to harvest as much of the TAC before the PSC allowance to the trawl gear is fully utilized. Once the TAC is taken a closure notice for the directed fishery will is issued by NOAA Fisheries. Using data from Amendment 79, Table 3-37 shows the closures of the rock sole, flathead sole, and other flatfish fisheries to directed fishing occurred regularly from 1999-2002. The closures were the result of reaching the halibut PSC allowance for that fishery PSC category.

Table 3-37 Rock Sole/Flathead Sole/Other Flatfish Fishery Closures in 1999-2002

	1999		2000		2001		2002	
	From	To	From	To	From	To	From	To
Closure #1	1-Jan	20-Jan	1-Jan	20-Jan	1-Jan	20-Jan	1-Jan	20-Jan
Closure #2	26-Feb	30-Mar	4-Mar	1-Apr	20-Mar	1-Apr	1-Mar	1-Apr
Closure #3	27-Apr	4-Jul	30-Apr	4-Jul	27-Apr	1-Jul	20-Apr	30-Jun
Closure #4	31-Aug	31-Dec	25-Aug	31-Dec	24-Aug	31-Dec	29-Jul	31-Dec

Source: NOAA Fisheries Trawl Closure Tables, 2002.

The remaining portion of this section discusses the current management of PSC allowance and the impacts of the different PSC allowance options and suboptions under consideration by the Council.

3.2.5.1 Current Management System

Currently there are PSC limits for halibut, herring, red king crab, *C. opilio*, *C. bairdi*, chinook salmon and other salmon (primarily chum salmon). NOAA Fisheries annually sets PSC limits under 50 CFR 679.21 through the annual TAC-setting process. Of this amount, 7.5 percent of each PSC limit specified for halibut and crab is allocated as a PSQ reserve for use by the groundfish CDQ program. The remaining PSC limits are apportioned to fishery categories, gear groups, or season to create more refines PSC limits. Table 3-38 shows the PSC limits for each of these species except salmon by gear and fisheries for 2005 and 2006. See appendix for PSC limits from 1995 to 2002. The purpose of seasonal apportionment is to maximized the ability of the fleet to harvest the available groundfish TAC and to minimize bycatch. The factors to be considered are 1) seasonal distribution of prohibited species, 2) seasonal distribution of target groundfish species, 3) PSC bycatch needs on a seasonal bases, 4) expected variations in bycatch rates throughout the year, 5) expected start of fishing effort, and 6) economic effects of seasonal PSC apportionments of industry sectors.

Table 3-38 2005 And 2006 Prohibited Species Bycatch Allowances For The BSAI Trawl And Non-Trawl Fisheries

Trawl Fisheries	Prohibited species and zone					
	Halibut mortality (mt) BSAI	Herring (mt) BSAI	Red King Crab (animals) Zone 1[1]	C. opilio (animals) COBLZ[1]	C. bairdi (animals)	
					Zone 1[1]	Zone 2[1]
Yellowfin sole	886	183	33,843	3,101,915	340,844	1,788,459
January 20 - April 1	262	.....	.....	.....	.....	.....
April 1 - May 21	195	.....	.....	.....	.....	.....
May 21 - July 5	49	.....	.....	.....	.....	.....
July 5 - December 31	380	.....	.....	.....	.....	.....
Rock sole/other flat/flathead sole[2]	779	27	121,413	1,082,528	365,320	596,154
January 20 - April 1	448	.....	.....	.....	.....	.....
April 1 - July 5	164	.....	.....	.....	.....	.....
July 5 - December 31	167	.....	.....	.....	.....	.....
Turbot/arrowtooth/sablefish[3]	.....	12	.....	44,946	.....	.....
Rockfish	.....	.....	.....	.....	.....	.....
July 5 - December 31	69	10	.....	44,945	.....	10,988
Pacific cod	1,434	27	26,563	139,331	183,112	324,176
Midwater trawl pollock	.....	1,562	.....	.....	.....	.....
Pollock/Atka mackerel/other[4]	232	192	406	80,903	17,224	27,473
Red King Crab Savings Subarea[6]	.....	.....	.....	.....	.....	.....
(non-pelagic trawl)	.....	.....	42,495	.....	.....	.....

Trawl Fisheries	Prohibited species and zone					
	Halibut mortality (mt) BSAI	Herring (mt) BSAI	Red King Crab (animals) Zone 1[1]	C. opilio (animals) COBLZ[1]	C. bairdi (animals)	
					Zone 1[1]	Zone 2[1]
Total trawl PSC	3,400	2,012	182,225	4,494,569	906,500	2,747,250
Non-trawl Fisheries						
Pacific cod – Total	775					
January 1 - June 10	320					
June 10 - August 15	0					
August 15 - December 31	455					
Other non-trawl – Total	58					
May 1 - December 31	58					
Groundfish pot and jig	exempt					
Sablefish hook-and-line	exempt					
Total non-trawl PSC	833					
PSQ reserve[5]	342	……	14,775	364,424	73,500	222,750
PSC grand total	4,575	2,012	197,000	4,858,993	980,000	2,970,000

[1] Refer to § 679.2 for definitions of areas.
[2] "Other flatfish" for PSC monitoring includes all flatfish species, except for halibut (a prohibited species), Greenland turbot, rock sole, yellowfin sole and arrowtooth flounder.
[3] Greenland turbot, arrowtooth flounder, and sablefish fishery category.
[4] Pollock other than pelagic trawl pollock, Atka mackerel, and "other species" fishery category.
[5] With the exception of herring, 7.5 percent of each PSC limit is allocated to the CDQ program as PSQ reserve. The PSQ reserve is not allocated by fishery, gear or season.
[6] In December 2004, the Council recommended that red king crab bycatch for trawl fisheries within the RKCSS be limited to 35 percent of the total allocation to the rock sole/flathead sole/"other flatfish" fishery category (see § 679.21(e)(3)(ii)(B)).

Groundfish fishery PSC rates are calculated by dividing the sum of the weights or counts of PSC in a set of observer data by the sum of the weight of groundfish in the data set. For rates from observed vessels that will be applied to unobserved vessels, a minimum of three different weekly observer reports are required before an average rate is used. NOAA Fisheries monitor PSC limits for the general and CDQ groundfish fisheries using PSC rate estimates. Reaching a PSC limit will result in closure of an area or a fishery season, even if the groundfish quota (e.g., TAC) remains unharvested.

For the BSAI trawl fisheries, the limit is 3,400 mt of halibut mortality after deducting 7.5 percent for PSQ reserve for use in the groundfish CDQ program. The 3,400 mt is then apportioned between the different trawl fisheries categories (yellowfin sole, Pacific cod, rock sole/other flats/flathead sole, etc.), which is further apportioned by season for some fisheries. For example, halibut allowance for the yellowfin sole fishery is 886 mt, which is then further apportioned as 262 mt for the January 20 to April 1 season, 195 for the April 1 to May 21 season, 49 mt for the May 21 to July 5 season, and 380 for the July 5 to December 31 season.

The PSC limit of red king crab is dependent on the abundance of mature female red king crabs or the spawning biomass. When the number of mature female red king crab is below or equal to the threshold of 8.4 million mature crab, or the spawning biomass is less than 14.5 million lbs, the Zone 1 PSC limit will be 32,000 red king crab. Above a threshold of 8.4 million mature crab and the effect spawning biomass is equal to or greater than 14.5 but less than 55 million lbs, the Zone 1 PSC will be 97,000 red king crab. Finally, above a threshold of 8.4 million mature crab, and the effect spawning biomass is equal to or greater than 55 million lbs, the Zone 1 PSC limit will be 197,000 red king crab. Zone 1 is closed to directed fishing when red king crab bycatch limits are attained in the specific fisheries.

PSC limits for C. bairdi are established in regulation based on their abundance as indicated by the NOAA Fisheries bottom trawl survey. When the total abundance of C. bairdi is 150,000 animals or

less, then the PSC limit for Zone 1 will be 0.5 percent of the total abundance minus 20,000 animals. Over 150 million to 270 million animals, the PSC limit will be 730,000 animals. Over 270 million to 400 million animals, then PSC limit will be 830,000 animals. Finally, over 400 million animals, the PSC limit will be 980,000 animals.

For Zone 2, the PSC limit will be 1.2 percent of the total abundance minus 30,000 animals when the total abundance of C. bairdi crabs is 175 million animals or less. Over 175 to 290 million animals, the PSC limit will be 2,070,000 animals. Over 290 million to 400 million animals, the PSC limit will be 2,520,000. Finally, over 400 million animals, the PSC limit in Zone 2 will be 2,970,000 animals.

The PSC limit of C. opilio caught by trawl vessels while engaged in directed fishing for groundfish in the C. opilio Bycatch Limitation Zone (COBLZ) will be specified annually by NOAA Fisheries, after consultation with the Council, based on total abundance of C. opilio as indicated by the NOAA Fisheries annual bottom trawl survey.

The PSC limit of Pacific herring caught while conducting any domestic trawl fishery for groundfish in the BSAI is 1 percent of the annual eastern Bering Sea herring biomass. PSC limits for Chinook salmon is 29,000 while harvesting pollock in the BSAI between January 1 and December 31. The PSC limit of non-Chinook salmon caught by vessels using trawl gear during August 15 through October 14 in the catcher vessel operation area is 29,000 fish. Both salmon PSC limits are applicable only to pelagic pollock fishing. In the event that these PSC limits are reached, no further groundfish trawling in the specified area is allowed for the remainder of the year.

For further details on the management of BSAI PSC, see Chapter 3 of the Final Programmatic Supplemental Environmental Impact Statement (NMFS 2004b).

3.2.5.2 PSC Allocation Based on Historical Usage of PSC

Suboption 6.1.1 would allocate PSC allowance to the Non-AFA Trawl CP sector based on the average historical usage of PSC relative to PSC usage of all trawlers in each of the trawl PSC fisheries categories. For example, the average PSC catch for the Non-AFA Trawl CP sector relative to all trawl sectors in the yellowfin sole PSC fishery category during the 1995 to 2003 will be credited towards the sector's overall PSC usage. The PSC allowance would allocated to the Non-AFA Trawl CP sector for use while targeting their allocation of groundfish and any other non-allocated BSAI groundfish. PSC allowance allocated to the sector will be further divided between the cooperative(s) and the non-cooperative pool based on each eligible vessel's catch history using options from Components 9 and 10.

The language in the Option 6.1.1 over simplifies the calculations necessary for determining PSC usage for the Non-AFA Trawl CP sector. As noted above, PSC usage in this option is based on historic usage, which necessitates the use of averaging over a period of years. In addition, PSC allowances for the different PSC trawl fisheries categories also fluctuate from year-to-year. To get a weighted average that accurately determines the PSC usage from year-to-year for the Non-AFA Trawl CP sector, Amendment 80 PSU usage was compared with PSC usage of all trawl vessels. Finally, since historic usage is not defined in the proposed language, it is assumed that the years used for the allocation of the primary species (Component 4) would be used for this option to provide consistency of bycatch rates for allocated species. The analysis includes PSC usage using the catch history combinations from Component 4. Specifically, the year combinations will be 1995-2003, 1998-2002, 1998-2004, 1999-2003, and 2000-2004. Note that 2003 and 2004 data are not available in time to be included in this analysis. Catch history combination alternatives that include 2003 and/or 2004 will only include data through 2002.

Tables A1 through A30 in Appendix 1 present the average PSC usage for each PSC species using two different calculations. The first PSC usage is based on the average of the total PSC usage for Amendment 80 eligible vessels divided by the total PSC usage for all trawl vessels during a set of

years. The second PSC usage is based on the average annual PSC usage by Amendment 80 eligible vessels relative to the PSC usage of all trawl vessels during a set of years. These average percent of PSC use were then multiplied by the appropriate PSC allowance for 2005/2006 to provide an estimate of the PSC allowance to the Non-AFA Trawl CP sector.

Table 3-39, Table 3-40, Table 3-41, Table 3-42, Table 3-43, and Table 3-44 show the average percent of PSC use by the Non-AFA Trawl CP sector during four different catch history year combinations and the PSC allocation in metric tons based on 2005/20-06 PSC allowance for halibut and herring and number of animals for red king crab, C. opilio, and C. bairdi in Zones 1 and 2 allocated to the Non-AFA Trawl CP sector based on PSC usage during the catch history combinations from Component 4. For halibut PSC, between 505 and 761 mt would be allocated to the sector to be used for directed fishing on Pacific cod, 69 mt for the rockfish fishery, between 87 to 131 mt for the pollock/Atka mackerel/other fisheries, between 761 to 776 mt for the rock sole/other flat/flathead sole fisheries, and between 735 to 875 mt for the yellowfin sole fishery. In sum, the total percent of trawl halibut PSC allowance allocated to the Non-AFA Trawl CP sector would range between 63 percent (2,157 mt) and 77 percent (2,612 mt).

For herring PSC, between 7 and 25 mt would be allocated to the sector to be used for directed fishing on Pacific cod, between 4 to 10 mt for the rockfish fishery, between 1 to 2 mt for the pollock/Atka mackerel/other fisheries, 27 mt for the rock sole/other flat/flathead sole fisheries, between 10 to 12 mt for the turbot/arrowtooth/sablefish fisheries, and between 153 to 182 mt for the yellowfin sole fishery. The total percent of the trawl herring PSC allowance allocated to the Non-AFA Trawl CP sector would range between 10 percent (202 mt) and 13 percent (258 mt).

For red king crab PSC, between 19,744 and 22,600 animals would be allocated to the sector to be used for directed fishing for Pacific cod, between 84 to 299 animals for the pollock/Atka mackerel fisheries, between 117,929 to 121,220 animals for the rock sole/other flat/flathead sole fisheries, and between 27,516 to 32,120 animals for the yellowfin sole fishery. The total percent of the trawl red king crab PSC allowance allocated to the Non-AFA Trawl CP sector would range between 91 percent (165,273 animals) and 97 percent (176,239 animals).

For C. opilio COBLZ crab PSC, between 94,605 and 114,708 animals would be allocated to the sector to be used for directed fishing for Pacific cod, between 44,870 to 44,940 animals for the rockfish fishery, between 16,366 to 35,570 animals for the pollock/Atka mackerel fisheries, between 1,074,246 to 1,080,972 animals for the rock sole/other flat/flathead sole fisheries, between 37,824 to 44,946 animals for the turbot/arrowtooth/sablefish fisheries, and between 2,731,238 to 3,043,630 animals for the yellowfin sole fishery. The total percent of the trawl *C. opilio* COBLZ crab PSC allowance allocated to the Non-AFA Trawl CP sector would range between 82 percent (3,999,149 animals) and 90 percent (4,364,766 animals).

For C. bairdi Zone1 crab PSC, between 119,816 and 149,629 animals would be allocated to the sector to be used for directed fishing for Pacific cod, between 3,218 to 16,301 animals for the pollock/Atka mackerel fisheries, between 348,341 to 358,325 animals for the rock sole/other flat/flathead sole fisheries, and between 216,033 to 335,921 animals for the yellowfin sole fishery. The total percent of the trawl C. bairdi Zone 1 crab PSC allowance allocated to the Non-AFA Trawl CP sector would range between 76 percent (687,408 animals) and 95 percent (860,176 animals).

Finally, for C. bairdi Zone 2 crab PSC, between 171,190 and 220,069 animals would be allocated to the sector to be used for directed fishing for Pacific cod, 10,988 animals for the rockfish fishery, between 4,714 to 20,381 animals for the pollock/Atka mackerel fisheries, between 589,794 to 596,093 animals for the rock sole/other flat/flathead sole fisheries, and between 1,523,695 to 1,771,262 animals for the yellowfin sole fishery. The total percent of the trawl C. bairdi Zone 2 crab PSC allowance allocated to the Non-AFA Trawl CP sector would range between 84 percent (2,300,381 animals) and 95 percent (2,616,793 animals).

Since PSC allowance to the sector will be further apportioned to individual cooperatives, there appears to be little reason for further apportioning PSC allocations by fishery category or season at the cooperative level. Currently, PSC is apportioned by fishery categories and by fishery category and season As noted above, the purpose of this further apportionment is to maximize the ability of the fleet to harvest the available groundfish TAC and to minimize bycatch. Since the purpose of the proposed cooperative program is to allow cooperative participants to manage their allocation of the primary species and PSC to maximize the benefits to the cooperative, further apportioning the PSC allowance would unnecessarily restricted the cooperative from achieving this goal. The PSC allowance allocated to the non-cooperative pool would still require further apportionment by fishery category and season, since members of the non-cooperative pool cannot control the actions of other members.

Any changes in the overall PSC allowance to all trawl vessels would require a proportional change in the PSC allowance to the Non-AFA Trawl CP sector. Under this option, the Non-AFA Trawl CP sector will get a fixed amount of PSC allowance (mt for halibut and herring and number of animals for crab[2]). Since the PSC allowance to the Non-AFA Trawl CP sector PSC allowance is a fixed amount of PSC, any changes in the overall PSC allowance for all trawl vessels would require a necessary proportional change in the allowance to the Non-AFA Trawl CP sector and the allowance for all other trawl vessels. Without a proportional change of PSC allowance to the Non-AFA Trawl CP sector, any changes in the overall PSC allowance will be borne by all other trawl vessels.

A concern that is often raised when options allocate bycatch or PSC based on historic usage is that vessels tend to benefit from high bycatch rates. This option would allocate PSC based on the amount of PSC that was used by the Non-AFA Trawl CP sector. If Non-AFA Trawl CP vessels had higher PSC usage rates than other vessels, they would be allocated a larger percentage of the PSC allotment than their percentage of groundfish. While this option does more closely reflect the historic use of PSC, it also tends to benefit vessels with higher than average PSC bycatch.

Assuming that cooperative members will be allowed to trade PSC among themselves, vessels with high historic PSC usage may be able to use less PSC and sell their extra to members that had lower rates. While all members of the cooperative would benefit, it is the vessel owner with the higher historic bycatch rates that would generate additional income by selling PSC that is in excess of their needs. It is also possible that they could retain their excess PSC and be able to purchase groundfish harvest allocations from other cooperative members at a discounted price, because they do not have adequate PSC to harvest the groundfish.

[2] Salmon PSC is excluded from the allocation since it is used primarily in the mid-water pollock fishery. The Ocean Peace is allowed to harvest up to 2,000 mt of pollock each year. It is assumed that any salmon harvested by that vessel would be counted against the overall salmon PSC cap.

Table 3-39 Halibut PSC allocation to the Non-AFA Trawl CP sector

Year Combinations	Average of total (%)	Average of percent (%)	Allocation of halibut PSC (2005/2006) based on average of total (mt)	Allocation of halibut PSC (2005/2006) based on average of percent (mt)
Pacific Cod				
1995-2002	0.35	0.38	505	546
1998-2002	0.48	0.48	683	695
1999-2002	0.53	0.53	756	761
2000-2002	0.52	0.53	747	757
Rockfish				
1995-2002	1.00	1.00	69	69
1998-2002	1.00	1.00	69	69
1999-2002	1.00	1.00	69	69
2000-2002	1.00	1.00	69	69
Pollock/Atka mackerel/other				
1995-2002	0.37	0.39	87	90
1998-2002	0.50	0.48	115	112
1999-2002	0.57	0.53	131	123
2000-2002	0.51	0.47	118	108
Rock sole/other flat/flathead sole				
1995-2002	0.98	0.98	763	761
1998-2002	0.99	0.99	772	772
1999-2002	1.00	1.00	776	776
2000-2002	0.99	0.99	774	775
Yellowfin sole				
1995-2002	0.84	0.83	745	735
1998-2002	0.94	0.94	837	835
1999-2002	0.98	0.97	865	864
2000-2002	0.99	0.99	875	874

Source: Amendment 80 database.

Table 3-40 Herring PSC allocation to the Non-AFA Trawl CP sector

Year Combinations	Average of total (%)	Average of percent (%)	Allocation of herring PSC (2005/2006) based on average of total (mt)	Allocation of herring PSC (2005/2006) based on average of percent (mt)
Pacific Cod				
1995-2002	0.25	0.52	7	14
1998-2002	0.80	0.67	22	18
1999-2002	0.83	0.73	22	20
2000-2002	0.91	0.90	25	24
Rockfish				
1995-2002	1.00	0.38	10	4
1998-2002	1.00	0.60	10	6
1999-2002	1.00	0.75	10	8
2000-2002	1.00	0.67	10	7

Year Combinations	Average of total (%)	Average of percent (%)	Allocation of herring PSC (2005/2006) based on average of total (mt)	Allocation of herring PSC (2005/2006) based on average of percent (mt)
Pollock/Atka mackerel/other				
1995-2002	0.01	0.00	1	1
1998-2002	0.01	0.01	2	1
1999-2002	0.01	0.01	2	1
2000-2002	0.00	0.00	0	0
Rock sole/other flat/flathead sole				
1995-2002	0.98	0.99	27	27
1998-2002	0.99	1.00	27	27
1999-2002	0.99	0.99	27	27
2000-2002	0.99	0.99	27	27
Turbot/arrowtooth/sablefish				
1995-2002	0.99	0.86	12	10
1998-2002	1.00	1.00	12	12
1999-2002	1.00	1.00	12	12
2000-2002	1.00	1.00	12	12
Yellowfin sole				
1995-2002	0.83	0.89	153	163
1998-2002	0.99	0.99	181	181
1999-2002	0.99	0.99	182	182
2000-2002	0.99	0.99	181	181

Source: Amendment 80 database.

Table 3-41 Red king crab PSC allocation to the Non-AFA Trawl CP sector

Year Combinations	Average of total (%)	Average of percent (%)	Allocation of red king crab PSC (2005/2006) based on average of total (animals)	Allocation of red king crab PSC (2005/2006) based on average of percent (animals)
Pacific Cod				
1995-2002	0.76	0.74	20,182	19,744
1998-2002	0.79	0.79	21,108	21,077
1999-2002	0.82	0.86	21,886	22,971
2000-2002	0.80	0.85	21,256	22,600
Pollock/Atka mackerel/other				
1995-2002	0.29	0.47	118	190
1998-2002	0.21	0.45	84	183
1999-2002	0.74	0.52	299	210
2000-2002	0.67	0.36	272	144

Year Combinations	Average of total (%)	Average of percent (%)	Allocation of red king crab PSC (2005/2006) based on average of total (animals)	Allocation of red king crab PSC (2005/2006) based on average of percent (animals)
Rock sole/other flat/flathead sole				
1995-2002	0.98	0.97	119,459	117,929
1998-2002	0.99	0.98	120,666	119,577
1999-2002	1.00	1.00	121,220	121,202
2000-2002	1.00	1.00	121,136	121,131
Yellowfin sole				
1995-2002	0.87	0.81	29,363	27,516
1998-2002	0.95	0.94	32,120	31,757
1999-2002	0.95	0.93	32,077	31,558
2000-2002	0.94	0.92	31,960	31,185

Source: Amendment 80 database.

Table 3-42 C. opilio PSC allocation to the Non-AFA Trawl CP sector

Year Combinations	Average of total (%)	Average of percent (%)	Allocation of *C. opilio* PSC (2005/2006) based on average of total (animals)	Allocation of *C. opilio* PSC (2005/2006) based on average of percent (animals)
Pacific Cod				
1995-2002	0.70	0.68	97,512	94,605
1998-2002	0.78	0.79	108,036	109,644
1999-2002	0.82	0.81	113,621	113,239
2000-2002	0.82	0.81	114,708	113,537
Rockfish				
1995-2002	1.00	1.00	44,940	44,920
1998-2002	1.00	1.00	44,940	44,907
1999-2002	1.00	1.00	44,939	44,895
2000-2002	1.00	1.00	44,939	44,870
Pollock/Atka mackerel/other				
1995-2002	0.20	0.30	16,366	24,256
1998-2002	0.31	0.36	25,478	28,913
1999-2002	0.29	0.37	23,285	29,639
2000-2002	0.44	0.44	35,570	35,567
Rock sole/other flat/flathead sole				
1995-2002	0.99	0.99	1,073,938	1,076,160
1998-2002	0.99	1.00	1,074,246	1,077,569
1999-2002	1.00	1.00	1,080,949	1,080,972
2000-2002	1.00	1.00	1,080,418	1,080,453

Year Combinations	Average of total (%)	Average of percent (%)	Allocation of *C. opilio* PSC (2005/2006) based on average of total (animals)	Allocation of *C. opilio* PSC (2005/2006) based on average of percent (animals)
Turbot/arrowtooth/sablefish				
1995-2002	0.84	0.95	37,824	42,702
1998-2002	1.00	1.00	44,941	44,937
1999-2002	1.00	1.00	44,946	44,946
2000-2002	1.00	1.00	44,946	44,946
Yellowfin sole				
1995-2002	0.84	0.88	2,620,028	2,731,238
1998-2002	0.96	0.94	2,966,016	2,929,657
1999-2002	0.97	0.95	2,995,244	2,934,812
2000-2002	0.98	0.98	3,043,630	3,027,840

Source: Amendment 80 database.

Table 3-43 C. bairdi Zone 1 PSC allocation to the Non-AFA Trawl CP sector

Year Combinations	Average of total (%)	Average of percent (%)	Allocation of *C. bairdi* Zone 1 PSC (2005/2006) based on average of total (animals)	Allocation of *C. bairdi* Zone 1 PSC (2005/2006) based on average of percent (animals)
Pacific Cod				
1995-2002	0.65	0.72	119,816	131,676
1998-2002	0.80	0.82	145,993	149,629
1999-2002	0.79	0.81	144,182	148,288
2000-2002	0.77	0.80	141,021	146,399
Pollock/Atka mackerel/other				
1995-2002	0.19	0.37	3,218	6,401
1998-2002	0.58	0.50	9,989	8,623
1999-2002	0.86	0.51	14,888	8,756
2000-2002	0.95	0.65	16,301	11,128
Rock sole/other flat/flathead sole				
1995-2002	0.95	0.96	348,341	350,083
1998-2002	0.97	0.97	355,108	355,774
1999-2002	0.98	0.98	358,218	358,325
2000-2002	0.98	0.97	356,718	355,993
Yellowfin sole				
1995-2002	0.63	0.74	216,033	252,502
1998-2002	0.83	0.90	284,241	306,362
1999-2002	0.95	0.96	322,708	327,486
2000-2002	0.99	0.99	335,934	335,921

Source: Amendment 80 database.

Table 3-44 C. bairdi Zone 2 PSC allocation to the Non-AFA Trawl CP sector

Year Combinations	Average of total (%)	Average of percent (%)	Allocation of *C. bairdi* Zone 2 PSC (2005/2006) based on average of total (animals)	Allocation of *C. bairdi* Zone 2 PSC (2005/2006) based on average of percent (animals)
Pacific Cod				
1995-2002	0.54	0.53	174,278	171,190
1998-2002	0.63	0.63	203,524	205,375
1999-2002	0.67	0.68	215,954	220,069
2000-2002	0.66	0.67	213,396	217,957
Rockfish				
1995-2002	1.00	1.00	10,988	10,988
1998-2002	1.00	1.00	10,988	10,988
1999-2002	1.00	1.00	10,988	10,988
2000-2002	1.00	1.00	10,988	10,988
Pollock/Atka mackerel/other				
1995-2002	0.17	0.38	4,714	10,524
1998-2002	0.22	0.52	5,976	14,282
1999-2002	0.74	0.62	20,381	16,909
2000-2002	0.62	0.54	17,010	14,867
Rock sole/other flat/flathead sole				
1995-2002	0.99	0.99	592,456	589,794
1998-2002	1.00	1.00	595,611	595,524
1999-2002	1.00	1.00	596,064	596,093
2000-2002	1.00	1.00	596,045	596,073
Yellowfin sole				
1995-2002	0.85	0.90	1,523,695	1,601,775
1998-2002	0.96	0.96	1,720,170	1,719,010
1999-2002	0.96	0.96	1,722,361	1,719,766
2000-2002	0.99	0.99	1,771,262	1,770,139

Source: Amendment 80 database.

3.2.5.3 PSC Allocation Based on Proportion of Amendment 80 Species

Suboption 6.1.2 would allocate PSC allowance to the Non-AFA Trawl CP sector based on total PSC catch by all trawl vessels in each PSC fishery group (rock sole/other flats/flathead sole, turbot/arrowtooth/sablefish, etc.) multiplied by the relevant percent of the primary species allocated to the Non-AFA Trawl CP sector. In other words, the proportion of trawl PSC usage for the Non-AFA Trawl CP sector would be based on their proportion of allocated species. This suboption is very different from Suboption 6.1.1. Under Suboption 6.1.2, any PSC usage anomalies would be smoothed out because the allocation of PSC is based on the allocation of the primary species. Under Suboption 6.1.1, the sector would be credited with any unusual years of high or low PSC usage.

PSC usage anomalies would be smoothed out in this option because the PSC allocation is based on groundfish catch and not PSC usage. If a vessel used more PSC to harvest each pound of groundfish than the average vessel they would not benefit from the higher PSC usage. However, if the higher rate of PSC usage allowed them to harvest more groundfish, then they would still receive a larger PSC allocation. They would also receive a larger groundfish allocation based on the groundfish allocation formulas being considered.

Since the years defining historical PSC usage are presented in the proposed language, the analysis assumes that the years selected in Component 4 would be the same years selected for this option in order to provide consistence on bycatch rates for allocated species. Therefore, the analysis of this option includes PSC usage based on catch history year combinations from Component 4. Specifically, the year combinations will be 1995-2003, 1998-2002, 1998-2004, 1999-2003, and 2000-2004. Note that 2003 and 2004 data is not available in time to be included in this analysis, those catch history combinations that include 2003 and 2004 will only include data through 2002.

As noted above, in order for the cooperatives to function as intended, the cooperatives will need enough PSC allowance to target other non-allocated target fisheries. Although there might be several non-allocated target fisheries the Non-AFA Trawl CP sector could participate in, the primary one is Pacific cod. In order for this option to work, estimated allocation numbers need to be generated for non-allocated species. For example, Pacific cod is not an allocated species in the proposed action. In order for the sector to get PSC allowance for the Pacific cod fishery, the Council will need to select the percent of Pacific cod caught by the Non-AFA Trawl CP sector by using allocation calculations and year combinations from Components 3 and 4. This percent of Pacific cod harvested will then be multiplied by the total PSC usage by all trawl vessels for Pacific cod to determine the allocation of PSC allowance to the Non-AFA Trawl CP sector. This same procedure will need to be completed for all non-allocated species in which there is a trawl fishery. This includes other flats, turbot, arrowtooth flounder, sablefish, rockfish, midwater trawl pollock, pollock, and other species.

Table 3-45, Table 3-46, Table 3-47, Table 3-48, Table 3-49, and Table 3-50 provide the PSC allocation in metric tons for halibut and herring and number of animals for crab to the Non-AFA Trawl CP sector based on PSC usage by all trawl vessels by multiplied by the Non-AFA Trawl CP sector's apportionment of allocated species during the catch history year combinations from Component 4. Due to time constraints, allocation data for rock sole, flathead sole, and Yellowfin was provided. The table will be expanded to include remaining allocated species and the non-allocated species after the June meeting. However, the date provide thus far does provide some indication what the PSC allowance allocated to the Non-AFA Trawl CP sector would be in comparison to different allocation calculations and catch history year and Option 6.1.1. PSC allocation to the Non-AFA Trawl CP sector using retained catch of the sector divided by the total catch of all sectors will likely result in a much lower PSC allocation amount relatively to the other calculations in Options 6.1.2 or Option 6.1.1. As noted in the discussion on Components 3 and 4, retained catch of the sector divided by the total catch of all sectors results in a low allocation of rock sole, flathead sole, and yellowfin sole relatively to the other allocation options that are under consideration. Since the PSC allocation under this option rely on allocation percentages from Component 3 and 4, the PSC allocations that are based on retained catch of the sector divided by the total catch of all sectors will likely be lower than other two options under consideration.

Halibut PSC allocation based on the total PSC usage by all trawl vessels adjusted by the calculations from Components 3 and 4 resulted in an allocation that ranged between 378 to 901 mt of halibut for the rock sole and flathead sole fisheries and 507 to 981 mt for the yellowfin sole fishery.

Herring PSC allocation based on the total herring PSC usage by all trawl vessels adjusted by the allocation percentages determined in Components 3 and 4 resulted in an allocation that ranged between 2 mt to 6 mt of herring for the rock sole and flathead sole fisheries and 15 to 52 mt for the yellowfin sole fishery.

The red king crab PSC allocation which of course was based on the total red king crab PSC usage by all trawl vessels adjusted by the calculations derived in Components 3 and 4 resulted in an allocation that ranged between 16,014 animals to 50,147 animals for the rock sole and flathead sole fisheries and 7,983 animals to 22,562 animals for the yellowfin sole fishery.

The C. opilio crab PSC allocation which of course was based on the total *C. opilio* crab PSC usage by all trawl vessels adjusted by the calculations derived in Components 3 and 4 resulted in an allocation that ranged between 226,469 animals to 594,760 animals for the rock sole and flathead sole fisheries and 760,975 animals to 1,482,619 animals for the yellowfin sole fishery.

The C. bairdi Zone 1 crab PSC allocation which of course was based on the total *C. bairdi* Zone 1 crab PSC usage by all trawl vessels adjusted by the calculations derived in Components 3 and 4 resulted in an allocation that ranged between 92,388 animals to 144,410 animals for the rock sole and flathead sole fisheries and 50,177 animals to 121,620 animals for the yellowfin sole fishery.

The C. bairdi Zone 2 crab PSC allocation which of course was based on the total *C. bairdi* Zone 2 crab PSC usage by all trawl vessels adjusted by the calculations derived in Components 3 and 4 resulted in an allocation that ranged between 87,428 animals to 280,426 animals for the rock sole and flathead sole fisheries and 185,419 animals to 383,622 animals for the yellowfin sole fishery.

As noted in the discussion above, since PSC allowances will be apportioned to Non-AFA Trawl CP cooperatives, there appears to be no need to further divide PSC allocations by fishery category or season. Currently, PSC is apportioned by fishery category and season. As noted earlier, the purpose of further apportionment to fisheries categories and seasons is to maximize the ability of the fleet to harvest the available groundfish TAC and to minimize bycatch. Since the purpose of the cooperative program proposed is to allow the cooperative participants to manage their allocation of primary species and PSC to maximize the benefit to the cooperative, further apportionments would unnecessarily restrict the cooperative from achieving this goal. As noted earlier, the PSC allowance allocated to the non-cooperative pool would likely continue to be further apportioned by fishery category and season since the non-cooperative pool does not benefit from the cooperative.

Finally, as noted above, any changes in the overall PSC allowance to all trawl vessels would require a proportional change in the PSC allowance to the Non-AFA Trawl CP sector. Under this option, the Non-AFA Trawl CP sector will get a fixed amount of PSC allowance (mt for halibut and herring and number of animals for crab). Since the PSC allowance to the Non-AFA Trawl CP sector PSC allowance is a fixed amount, any changes in the overall PSC allowance for all trawl vessels would require a necessary proportional change in the allowance to the Non-AFA Trawl CP sector and the allowance for all other trawl vessels. Without a proportional change of PSC allowance to the Non-AFA Trawl CP sector, any changes in the overall PSC allowance will be borne by all other trawl vessels.

Table 3-45 Halibut PSC allocation to the Non-AFA Trawl CP sector based on the allocation of rock sole, flathead sole, and Yellowfin sole

Year Combinations	Allocation of halibut PSC using total/total (mt)	Allocation of halibut PSC using retained/retained (mt)	Allocation of halibut PSC using retained/total (mt)
Rock sole/other flat/flathead sole			
1995-2002	607.96	654.19	378.47
1998-2002	678.47	874.25	429.46
1999-2002	703.91	900.67	450.34
2000-2002	732.05	924.55	471.76
Yellowfin sole			
1995-2002	658.70	621.67	507
1998-2002	762.98	889.64	588
1999-2002	801.06	921.12	636
2000-2002	854.99	980.76	690

Source: Amendment 80 database.

Table 3-46 Herring PSC allocation to the Non-AFA Trawl CP sector based on the allocation of rock sole, flathead sole, and Yellowfin sole

Year Combinations	Allocation of herring PSC using total/total (mt)	Allocation of herring PSC using retain/retain (mt)	Allocation of herring PSC using retain/total (mt)
Rock sole/other flat/flathead sole			
1995-2002	3.62	3.90	2.25
1998-2002	3.32	4.28	2.10
1999-2002	4.01	5.13	2.56
2000-2002	4.94	6.23	3.18
Yellowfin sole			
1995-2002	52.94	49.96	41
1998-2002	26.30	30.67	20
1999-2002	31.35	36.05	25
2000-2002	18.74	21.50	15

Source: Amendment 80 database.

Table 3-47 Red king crab PSC allocation to the Non-AFA Trawl CP sector based on the allocation of rock sole, flathead sole, and Yellowfin sole

Year Combinations	Allocation of red king crab PSC using total/total (animals)	Allocation of red king crab PSC using retain/retain (animals)	Allocation of red king crab PSC using retain/total (animals)
Rock sole/other flat/flathead sole			
1995-2002	25,723.25	27,679.67	16,013.63
1998-2002	33,203.49	42,784.81	21,017.10
1999-2002	39,191.86	50,147.07	25,073.53
2000-2002	36,819.09	46,500.79	23,727.33
Yellowfin sole			
1995-2002	10,377.75	9,794.38	7,983
1998-2002	14,553.73	16,969.77	11,217
1999-2002	17,294.82	19,886.86	13,723
2000-2002	19,669.23	22,562.48	15,876

Source: Amendment 80 database.

Table 3-48 C. opilio PSC allocation to the Non-AFA Trawl CP sector based on the allocation of rock sole, flathead sole, and Yellowfin sole

Year Combinations	Allocation of *C. opilio* PSC using total/total (animals)	Allocation of *C. opilio* PSC using retain/retain (animals)	Allocation of *C. opilio* PSC using retain/total (animals)
Rock sole/other flat/flathead sole			
1995-2002	510,105.96	548,902.75	317,558.92
1998-2002	461,568.44	594,760.39	292,163.00
1999-2002	353,988.32	452,937.81	226,468.91
2000-2002	357,897.37	452,007.68	230,639.82
Yellowfin sole			
1995-2002	1,482,618.69	1,399,276.22	1,140,476
1998-2002	1,109,657.25	1,293,869.12	855,269
1999-2002	959,069.59	1,102,809.24	760,975
2000-2002	1,140,396.32	1,308,143.12	920,493

Source: Amendment 80 database.

Table 3-49 C. bairdi Zone 1 PSC allocation to the Non-AFA Trawl CP sector based on the allocation of rock sole, flathead sole, and Yellowfin sole

Year Combinations	Allocation of *C. bairdi* Zone 1 PSC using total/total (animals)	Allocation of *C. bairdi* Zone 1 PSC using retain/retain (animals)	Allocation of *C. bairdi* Zone 1PSC using retain/total (animals)
Rock sole/other flat/flathead sole			
1995-2002	184,903.07	198,966.12	115,108.67
1998-2002	151,199.91	194,830.74	95,706.33
1999-2002	144,409.62	184,776.09	92,388.05
2000-2002	1,088,239.75	203,397.69	103,784.98
Yellowfin sole			
1995-2002	121,619.71	114,783.10	93,554
1998-2002	93,019.87	108,461.90	71,695
1999-2002	75,238.60	86,514.91	59,698
2000-2002	62,163.64	71,307.61	50,177

Source: Amendment 80 database.

Table 3-50 C. bairdi Zone 2 PSC allocation to the Non-AFA Trawl CP sector based on the allocation of rock sole, flathead sole, and Yellowfin sole

Year Combinations	Allocation of *C. bairdi* Zone 2 PSC using total/total (animals)	Allocation of *C. bairdi* Zone 2 PSC using retain/retain (animals)	Allocation of *C. bairdi* Zone 2 PSC using retain/total (animals)
Rock sole/other flat/flathead sole			
1995-2002	140,438.42	151,119.65	87,427.86
1998-2002	186,600.79	240,447.03	118,114.33
1999-2002	198,326.53	253,764.27	126,882.13
2000-2002	222,039.76	280,425.86	143,089.09
Yellowfin sole			
1995-2002	383,621.96	362,057.41	295,094
1998-2002	272,294.01	317,496.97	209,871
1999-2002	233,686.27	268,709.78	185,419
2000-2002	240,847.35	276,274.83	194,405

Source: Amendment 80 database.

3.2.5.4 PSC Allocation Reduction

As noted above, the Option 6.2 would reduce the allocation of PSC allowance to the Non-AFA Trawl CP sector. Specifically, under the suboptions considered by the Council, the Non-AFA Trawl CP sector would receive 60 percent, 75 percent, 90 percent, 95 percent, or 100 percent of their PSC allocation. The language in the option makes it clear that the remaining PSC allocation that is not allocated to the Non-AFA Trawl CP sector does not go to the other trawl sectors. The intent of the language is reduce the overall PSC removals from the BSAI.

Table 3-51 shows the PSC allocation in metric tons for halibut to the Non-AFA Trawl CP sector under each PSC reduction options under consideration. Under the 60 percent reduction of the halibut PSC allocation, the Non-AFA Trawl CP sector would receive, depending on the catch history years selected, between 1,320 mt and 1,561 mt of halibut PSC based on the 2005/2006 trawl PSC allowance of 3,400 mt. The percent of the halibut PSC allowance allocated to the trawl vessels would range between 39 percent and 46 percent. Historically, the Non-AFA Trawl CP sector used between 65 percent and 77 percent of the halibut PSC allowance on an annual basis depending on the catch history years selected. At a 75 percent reduction results in a total halibut PSC allocation ranging

between 1,650 mt and 1,953 mt to the Non-AFA Trawl CP sector. At 90 percent, the allocation would range between 1,981 mt and 2,343 mt. At 95 percent, the allocation would range between 2,201 mt and 2,603 mt. There is some question whether a 5 percent reduction in PSC would result in sector leaving unharvested allocation, but it become more apparent that as the PSC allocation to the Non-AFA Trawl CP sector is reduced from their historic average usage, there is more of a likelihood that the sector will not have enough PSC to fully harvester their entire allocation of the Amendment 80 species. The amount of allocation that would likely go unharvested can not be determine with any accuracy under the different reduction options, but the magnitude of decline under a 60 percent or 75 percent option will likely result in the sector leaving some amount of allocation unharvested and thus results in decline in first wholesale revenue for the sector.

Table 3-51 Reductions in halibut PSC allocations to the Non-AFA Trawl CP based on average annual percent of PSC usage by the Non-AFA Trawl CP sector

Year Combinations	60% of the halibut PSC allocation (mt)	75% of the halibut PSC allocation (mt)	90% of the halibut PSC allocation (mt)	95% of the halibut PSC allocation (mt)	100% of the halibut PSC allocation (mt)
Pacific Cod					
1995-2002	327	409	491	519	546
1998-2002	417	521	625	660	695
1999-2002	457	571	685	723	761
2000-2002	454	568	681	719	757
Rockfish					
1995-2002	41	52	62	65	69
1998-2002	41	52	62	65	69
1999-2002	41	52	62	65	69
2000-2002	41	52	62	65	69
Pollock/Atka mackerel/other					
1995-2002	54	67	81	85	90
1998-2002	67	84	101	106	112
1999-2002	74	92	111	117	123
2000-2002	65	81	97	103	108
Rock sole/other flat/flathead sole					
1995-2002	457	571	685	723	761
1998-2002	463	579	695	733	772
1999-2002	465	582	698	737	776
2000-2002	465	581	697	736	775
Yellowfin sole					
1995-2002	441	551	662	698	735
1998-2002	501	626	751	793	835
1999-2002	518	648	777	820	864
2000-2002	524	656	787	830	874

Source: Amendment 80 database.

3.2.6 Component 7 – Identifies License Holders that are in the Non-AFA Trawl CP Sector

Component 7 identifies the BSAI Groundfish license holders that will be eligible to participate in the Non-AFA Trawl CP sector fishery. Sector eligibility is based on the participant's at-sea trawl groundfish catch and processing activity during a specific period. Those license holders that are

determined to be eligible to participate in the fishery would receive a sector eligibility endorsement on their BSAI Groundfish license. Although there are five qualification options listed in Component 7, Option 7.5 is the only option the Council can select based on language in Section 219 of the FY 2005 Appropriations Act. That option would require eligible license holders using trawl gear to have legally harvested and processed at least 150 mt of BSAI groundfish between 1997-2002.

Component 7

Identifies the license holders that are in the Non-AFA Trawl CP sector which would receive Sector Eligibility Endorsements. Non-AFA qualified license holders with a trawl and catcher processor endorsement would be issued a Sector Eligibility Endorsement that will be attached to the holder's LLP identifying it as a member of the Non-AFA Trawl CP sector. Only vessels that qualify for a sector eligibility endorsement may participate in a cooperative under this program.

Option 7.1 Qualified license holders must have caught 500 mt of groundfish with trawl gear and processed that fish between 1998-2002.

Option 7.2 Qualified license holders must have caught 1,000 mt of groundfish with trawl gear and processed that fish between 1998-2002.

Option 7.3 Qualified license holders must have caught 500 mt of groundfish with trawl gear and processed that fish between 1997-2002.

Option 7.4 Qualified license holders must have caught 1,000 mt of groundfish with trawl gear and processed that fish between 1997-2002.

Option 7.5 Qualified license holders must have caught 150 mt of groundfish with trawl gear and processed that fish between 1997-2002.

In November 2004, Congress passed the FY 2005 Appropriations Act, which contained a BSAI Catcher Processor Capacity Reduction Program (hereinafter referred to as the "Capacity Reduction Program"). Section 219 of the Appropriation Act authorizes $75 million to reduce the capacity of the catcher processor fleets operating in the BSAI. The program also limits access to the non-pollock groundfish fisheries defined by the Act as the Atka mackerel, flathead sole, Pacific cod, Pacific Ocean perch, rock sole, turbot, or yellowfin sole fisheries in the BSAI. The Council at the 2004 meeting, asked NOAA GC to provide clarification at the February 2005 meeting of this new program to help interpret the effects on existing management regulations, and those currently under consideration by the Council, including Amendment 80. A summary of their comments is provided later in this section.

In the Capacity Reduction Program, each trawl subsector was defined. For Non-AFA Trawl CP subsector means the owner of each trawl catcher processors—

(A) that is not an AFA trawl catcher processor;

(B) to whom a valid LLP license that is endorsed for Bering Sea or Aleutian Islands trawl catcher processor fishing activity has been issued; and

(C) that the Secretary determines has harvested with trawl gear and processed not less than a total of 150 metric tons of non-pollock groundfish during the period January 1, 1997 through December 31, 2002.

Prior to the implementation of the Capacity Reduction Program, the Council had defined four eligibility options in Amendment 80 (Options 7.1 through 7.4) which were more stringent and used different year combinations then the Capacity Reduction Program definition of the Non-AFA Trawl CP sector. One of the questions posed to NOAA GC Alaska Region by the Council is whether they could adopt a more stringent eligibility requirement for participation in the Non-AFA Trawl CP sector than the eligibility requirement set out in the Act. In a letter from NOAA GC, Alaska Region dated February 9, 2005, they responded as follows:

> Section 219(a)(7) of the Act sets forth the criteria for eligibility to the Non-AFA Trawl CP subsector. Although there are some questions that have raised by the Council as to how to interpret the individual criteria contained within the Act's definition of Non-AFA Trawl CP subsector[3] it is quite clear from the language used in the definition that there are three criteria for eligibility in the subsector. Additionally, it is clear from the language used that all the criteria must be met by the owner of a trawl catcher processor in order to be eligible for the Non-AFA Trawl CP subsector given Congress' use of the word "and" at the end of subsection 219(a)(7)(B).

NOAA GC goes on to state:

> Under this component of Amendment 80, if a person meets the criteria within the options under consideration, then that person would be a member of the non-AFA trawl catcher processor sector and would be eligible to join a harvesting cooperative within that sector. With the exception of Option 8.5, all of the options currently under consideration by the Council differ from the Act's sector eligibility criterion in section 219(a)(7)(C) either in qualifying harvest tonnage amounts or qualifying years, or both.
>
> The statutory language used in section 219(a)(7) or in other sections of the Act does not include words that permit the Council or NOAA Fisheries to amend Congress' enumerated subsector qualification criteria. Additionally, there is no statutory language in section 219(a)(7) or elsewhere in the Act that would permit the application of more restrictive, or more lenient, subsector qualification criteria by the Council or NOAA Fisheries. Because the language of the Act is clear and unambiguous and is not unreasonable or illogical in its operation, there is no need to go outside of the language of the Act for its meaning. Congress did not provide the Council or NOAA Fisheries with any ability to make adjustments to the specific statutory criteria addressing eligibility in any of the subsectors. As explained earlier, under statutory rules of construction, the language of the Act is controlling and would take precedence over the language of a regulation if the regulation were not consistent with the statutory language. While the Council and NOAA Fisheries may continue to examine alternative eligibility options for the non-AFA trawl catcher processor subsector in the analysis for Amendment 80, the criteria as to who is eligible to be a member of the non-AFA trawl catcher processor subsector has been decided by Congress, and the Council and NOAA Fisheries cannot select or impose different, including more stringent, eligibility requirements for entrance to the non-AFA trawl catcher processor subsector.

Based on the response from NOAA GC, the analysis of Component 7 will only include Option 7.5, which reads "qualified license holders must have caught (at least) 150 mt of groundfish with trawl gear and processed that fish between 1997-2002." For further details on NOAA GC February 9, 2005 Memorandum, see Appendix 2.

Another question raised by the Capacity Reduction Program language was whether those vessels that qualify for the BSAI pollock fisheries under paragraph (21) of Section 208(e) would qualify for the Non-AFA Trawl CP subsector (provided that they meet the harvest requirement defined by the Act for that sector). In a Memorandum from NOAA GC, Alaska Region dated April 25, 2005, NOAA GC state that those vessels that qualify for the directed pollock fishery under section 208(e)(21) of the AFA are not AFA trawl catcher processors for purposes of the Capacity Reduction Program and therefore satisfy the first criterion in section 219(a)(7)(A) for qualification in the Non-AFA Trawl CP subsector. Upon meeting the other criteria required for eligibility into the Non-AFA Trawl CP subsector (section 219(a)(7)(B) & (C)), these vessels would be eligible to participate in the Non-AFA Trawl CP subsector. For further details on NOAA GC April 25, 2005 Memorandum, see Appendix 2.

[3] See Council Questions, 1, 3, and 4a from December 29, 2004 letter to NOAA GC in Appendix 2.

Table 3-52 provides participation patterns for vessels that are projected to either be qualified or unqualified. Twenty-six vessels with trawl catcher processor licenses qualified by harvesting the required 150 mt of BSAI groundfish with trawl gear and processed that fish between 1997 and 2002. Four vessels with trawl CP licenses failed to harvest the required 150 mt of BSAI groundfish with trawl gear and process that catch between 1997 and 2002. Those vessels that failed to qualify had trawl CP catch history only during the 1995 and 1996 period. These vessels did not participate in the BSAI trawl CP fishery after 1996. Participation patterns during 1995 and 1996 may have been impacted by the implementation of the Groundfish LLP program. In June of 1995 the Council was making their final decision on the LLP. The qualification requirements for that program counted landings through June 17, 1995. Therefore, some individuals may have exhibited harvesting and/or patterns during the first half of 1995 that could be considered atypical of their operation. Some of these activities could have carried over into 1996 if persons were concerned that additional qualification criteria could have been added to the program. Sales of vessels, bankruptcy, or other factors that preclude a vessel from operating in the fishery may have also contributed to these four vessels leaving the fishery. Of the 26 qualified vessels, 19 caught and processed BSAI groundfish every year between 1995 and 2003. Two vessels did not participate in the BSAI groundfish trawl CP fishery in two or three years throughout the 1995 to 2003 period. Three vessels did not participate in the BSAI trawl CP groundfish fishery for four or fives years. Finally, two qualified vessels have not participated in the BSAI trawl CP groundfish fishery since 1997.

Table 3-52 Participation patterns by year for qualified and unqualified vessels

Participation Years									Qualified Vessels	Unqualified Vessels	All Vessels
1995	1996	1997	1998	1999	2000	2001	2002	2003	19	0	19
1995	1996	1997	1998	1999	2000			2003	1	0	1
		1997	1998	1999	2000	2001	2002	2003	1	0	1
				1999	2000	2001	2002	2003	1	0	1
1995	1996	1997	1998	1999			2002		1	0	1
1995	1996			1999	2000	2001			1	0	1
1995	1996	1997							1	0	1
	1996	1997							1	0	1
1995	1996								0	2	2
	1996								0	1	1
1995									0	1	1
Total									**26**	**4**	**30**

Table 3-53 shows the annual retained catch of BSAI Amendment 80 species for vessels projected to be qualified and unqualified vessels. The unqualified vessels in 1995 and 1996 retained 7,205 mt and 2,571 mt of Amendment 80 groundfish, respectively. They did not participate in the BSAI trawl CP groundfish fishery after 1996. Annual retained catch of all Amendment 80 species combined for the 26 qualified vessels ranged between 111,487 mt and 172,327 mt between 1995 and 2003. The total retained catch of all Amendment 80 species combined by the qualified vessels from 1997 to 2002 was 764,236 mt or 75.7 percent of the total groundfish retained. These same qualified vessels also retained a total of 142,578 mt of Pacific cod or 14.1 percent of the total retained groundfish from 1997 to 2002, 64,353 mt of pollock or 6.4 percent, and 38,803 mt or 3.8 percent of other groundfish.

Table 3-53 Annual retained catch of Amendment 80 species for unqualified and qualified vessels from 1995 to 2003

Years	Retained Catch of Unqualified Vessels (mt)	Retained Catch of Qualified Vessels (mt)
1995	7,025	118,331
1996	2,571	153,605
1997	0	172,327
1998	0	126,158
1999	0	111,487
2000	0	116,265
2001	0	120,688
2002	0	117,310
2003	0	122,700
1995-1997	**0**	**764,236**
1995-2003	**9,776**	**1,154,970**

3.2.7 Component 8 – Establishes the Percentage of Eligible Licenses to Form Cooperative Structure

In designing a cooperative program, a primary element is the level participation needed before a cooperative is allowed to form. For the Non-AFA trawl CP's cooperative program, the Council has identified four different participation levels ranging from 30 percent to 100 percent of the qualified license holders that are eligible to participate in the sector. These options are presented in the text below.

Component 8

Establishes the percentage of eligible licenses that must join a cooperative before the cooperative is allowed to operate. No later than December 1 of each year, an application must be filed with NOAA fisheries by the cooperative with a membership list for the year. In order to operate as a cooperative, members, as a percent of eligible LLP licenses with non-AFA Trawl CP endorsement, must be:

Option 8.1	At least 30 percent
Option 8.2	At least 67 percent
Option 8.3	At least 100 percent
Option 8.4	All less one distinct and separate harvesters using the 10 percent threshold rule.

In order to qualify to participate in a Non-AFA trawl CP's cooperative, each member must hold a valid LLP with the proper endorsements and be eligible to participate in the Non-AFA trawl CPs sector. Depending on the options selected in Amendment 80, it appears that approximately 26 license holders will qualify to have the option to join a cooperative in the Non-AFA Trawl CP sector. Under Option 8.1, at least 30 percent of the eligible non-AFA trawl CPs participates must join a cooperative before it can form. Based on the approximate number of eligible participants, this option could result in three cooperatives within the sector. Under Options 8.2 and 8.3, the percent of eligible participants that must join a cooperative ranges from 67 percent to 100 percent. These options would result in a single cooperative structure. The following analysis describes the dynamics involved with the different participation levels identified by the Council.

Under a single cooperative, license holders qualified to harvest from the Non-AFA Trawl CP allocation would either join the cooperative or send their vessel and crew to fish from the limited access pool of fish. It is anticipated that qualified license holders would elect to participate in the open access pool under two conditions. The first condition is that they would be able to generate less

profit within the cooperative than they expect to be able to generate in the limited access fisheries. These participants likely have had relatively small catch histories during the time period that defines the cooperative allocations relative to their catching ability in the limited access fishery. The second reason for not joining the cooperative would be when eligible participants cannot agree to the terms and conditions defined in the cooperative agreement that do not directly impact profits, and they do not have the power to change those terms and conditions to meet their requirements. For example, a participant may not want to be involved in the internal cooperative politics, adhere to the cooperative's reporting requirements, may have other philosophical differences with a majority of the members of the cooperative, or simply do not want to be part of a cooperative. However, because profits will ultimately determine whether most members of the sector will join the cooperative, balancing the power between the owners and their competing interests is a critical part of developing a cooperative structure.

The power to force changes in a cooperative can be redistributed based on the requirements established for cooperative. Within a program that allows only a single cooperative, changing the percentage of eligible license holders that must join the cooperative before it can form will shift power within the cooperative. For example, if 100 percent of the Non-AFA Trawl CP sector were required to join the cooperative before it could form, the majority of the sector could be forced to accept more of the demands of owners that hold out from initially joining the cooperative. If the demands by the eligible participants holding-out from signing the cooperative agreement were too burdensome, the cooperative simply would not form. This scenario may not be a great hardship on qualified license holders who feel they have little to gain from a cooperative, but could be very costly for license holders that would benefit from joining a cooperative.

Fishing in a share-based fishery, such as a cooperative, is expected to increase profits for participants enough to allow for some amount of compromising between the majority and minority views. The majority may be willing to concede some of the increase in profits to the demands of the other eligible participants to attain the benefits from cooperative fishing. On the other hand, qualified license holders that have less to gain from a slower paced fishery (or who hold a different view from the group of owners that control enough votes to form the cooperative) would likely want to require a higher percentage (or even 100 percent) of the sector to join the cooperative before it could form. The ability to veto the cooperatives' formation could increase their power to negotiate terms and conditions within the cooperative agreement that they could not otherwise.

If the percentage of qualified license holders that are required to form a cooperative were reduced from 100 percent, then the power structure within the Non-AFA Trawl CP sector would change. For example, if only 67 percent of the eligible participants were required to join a cooperative before it could form, and there are 26 eligible participants[4], only 17 of the 26 need to join the cooperative for it to form. The break-point where power changes from being in the hands of those that have agreed to the terms of the cooperative and those that have not is set at 17 members. That point is critical because before that point is reached the persons that have not agreed to the terms of the cooperative wield a considerable amount of power in the cooperative negotiations. However, after the seventeenth member joins, those that have not joined suddenly have very little leverage in cooperative negotiations. In this case the nine participants that have not joined the cooperative may have to agree to the terms negotiated by the other participants of the cooperative or they could be excluded from its membership. Once the threshold for formation is reached, the bargaining power of those qualified license holders that have not agreed to its terms decreases, and the bargaining power of the members of the cooperative increases. For a cooperative to form, the majority needs to meet the minimum

[4] If 26 vessels do qualify to participate in the sector, then each 5% reduction in the percentage required to form a cooperative means that one less vessel is required to join the cooperative. This assumes the percentages are based on the number of vessels and not the number of owners, since some owners have more than one vessel in the sector.

demands of the minimum number of members required for cooperative formation. This holds for any of the percentages under consideration, and should result in a cooperative structure that more closely reflects the views of majority, relative to requiring 100 percent membership, as the percentage required for formation declines. When selecting the minimum percentage required for cooperative formation, the Council should consider the percentage at which the power to control cooperative formation should move from the majority of members to the minority.

The debate within the sector will probably reflect concern over who is allowed to control the terms and conditions of the cooperatives' bylaws. The power to change the bylaws results from several factors[5], one of the most important is the percentage of members required to join the cooperative that was discussed above. Now consider individuals within the sector. If we continue the example of requiring 17 of 26 qualified license holders are required to join the cooperative before it can form, and assume that part way through the negotiation process 16 participants have agreed to join and 10 have not agreed to terms. The 16 participants can come to terms with the demands of one of the remaining 10 sector participants and the cooperative will form. However, the majority is likely to agree to terms with the person that has terms most like the other 16 participants (or a person that would fair about the same under the cooperative or open access). That person may be able to improve their position within the cooperative by agreeing to join. People that have different requirements than the majority or with the most to lose from joining the cooperative under the other member's terms are least likely to join.

By allowing multiple cooperatives to form, the bargaining power changes in the cooperative formation process. Depending on the requirements for a cooperative to form, it could shift the power among individuals in the sector. The Council has identified one multiple cooperative option. Under Option 4.1, at least 30 percent of the qualified license holders eligible to participant in the sector must join the cooperative before it can form. Given the sector has approximately 26 qualified license holders, this equates to eight qualified license holders. In general, the smaller the number of participants needed to form a cooperative, the easier it is to form a cooperative. The option does not preclude other members of the sector from joining this cooperative if they agree to the terms of the cooperative's bylaws. This provision should help to ensure that each vessel is given the opportunity to join a cooperative. However, it may mean that the "odd-person-out" has little voice in deciding the terms of the cooperative agreement. If they did not like the terms of that cooperative, they could review the terms and conditions of the other cooperatives that may form to see which one best meets their needs. Sector participants that do not like the conditions for membership in cooperatives that have formed would have the option of finding five other members of the sector willing to form a separate cooperative or join the limited access sector. If there were not five other members that have yet to join a cooperative, that vessel would need to accept[6] the terms of one of the cooperatives or be forced to fish in the limited access fishery.

Some members of industry have argued that allowing multiple cooperatives to form would provide a better opportunity for the entire sector to rationalize. They are concerned that under a single

[5] Other factors could include negotiating skills, charisma of some members, business ties within the sector, etc.

[6] Because the cooperative had already formed in this case, it is likely that the terms and conditions for membership in the cooperative have already been defined. Persons wishing to join the cooperative would not be precluded from attempting to renegotiate those terms; however, the cooperative members would have control over any changes that were proposed. If this is a concern, the Council could define the requirements for cooperative formation in more detail to help ensure that all members of the sector have the right to negotiate the terms of a cooperative's structure before it is formed. For the Council to manage the formation of multiple cooperatives to ensure that everyone was given an opportunity to participate in their formation, they would likely need to devise a set of overall guidelines and set up an approval process for each cooperative that is formed. The approval process would likely require a timeline for negotiating cooperative terms and conditions, a period of time for allowing members to join, and a review process to ensure that everyone was given an opportunity to join their cooperative of choice.

cooperative structure, with less than a 100 percent membership requirement, the majority of the members of the sector could dictate their will over others that find those terms unpalatable. Those outside of the cooperative would either be forced to accept the will of the majority or become part of a limited access fishery. This highlights the need for the Council to consider the impacts of a percentage threshold for cooperative formation will have on the balance the power within the sector. Too much power within a group, either in the hands of the majority or the minority, is probably not optimal.

If multiple cooperatives are allowed to form, the above discussion highlights the need for setting up a structure for individuals to negotiate with representatives of the various cooperatives that may form. To facilitate those negotiations the Council has identified a deadline for cooperative formation as December 1. Sector members should negotiate with other members of the sector to form a cooperative prior to the deadline. On December 1, the cooperative would be required to submit an application with NOAA Fisheries with a membership list for the year. The cooperative application would be reviewed, and if approved NOAA Fisheries would issue the cooperative their allocation, based on the catch history of its members, at the start of the fishing year. The actual steps in this process and the actual timelines would need to be developed by the Council and NOAA Fisheries.

Finally, multiple cooperatives could result in problems with management of small quotas. Under a system that allows multiple cooperatives, there is the possibility that a cooperative would not be able to access sufficient amounts of incidentally caught fish to prosecute their target fisheries. Whether this is a problem or not depends on the management structure selected for the allocated species and the non-target species.

3.2.8 Component 9 – Determines the Method of Allocating of Primary Species Allocation and PSC Limits Between Cooperative(s) and the "Opt Out" Pool

Component 9 defines whether total catch or retained catch will be the basis for dividing the species allocated to the Non-AFA Trawl CP sector among cooperatives and the open access fishery. Historic catch, either retained or total, of the vessels in the sector, during the years defined in Component 10, will determine how the allocation will be divided. The Council's options for Component 9 are listed below.

Component 9

Determines the method of allocation of PSC limits and groundfish between the cooperative and eligible Non-AFA Trawl CP participants who elect not to be in a cooperative.

Option 9.1 Catch history is based on total catch

Option 9.2 Catch history is based on total retained catch

The total amount of the five species allocated the Non-AFA Trawl CP sector is determined under Components 3 and 4. Components 9 and 10 determine how that catch is divided among members of the Non-AFA Trawl CP sector.

Vessel length appears to be the most important factor in determining whether the allotment associated with a vessel would be increased or decreased based on using retained or total catch. In almost every case, vessels that are longer than 200 ft LOA would be credited with a larger percentage of the sector allocation when catch history is based on retained catch. In almost every instance, vessels less than 200 ft LOA have their allocation reduced. It is likely that larger vessels have retained more of their catch because they have more capacity to store and process fish that are not their primary target.

Based on the catch of Non-AFA Trawl CP vessels from 1995-2003 it is possible to estimate the percentage of retained catch to total catch for each vessel. Table 3-54 shows the average percent of catch that was retained by vessels, grouped by like percentages. Information in this table further indicates that smaller vessels will be issued a smaller percentage of the Non-AFA Trawl CP

allocation, if retained catch instead of total catch is used to calculate the distribution. Changes at the individual vessel level cannot be reported due to confidentiality restrictions placed on the use of these data by NOAA Fisheries. The table does indicate that smaller vessels are, on average, impacted more by the use of retained catch than larger vessels. Individual vessel data shows there are exceptions to this rule, but the trend holds based on vessel averages.

Table 3-54 Average percent of catch retained by vessels, grouped by like percentages

Number of Vessels	Average Vessel Length in Feet (LOA)	Average Percentage of Catch Retained (1995-2003)
5	126	43%
5	130	55%
4	144	63%
6	184	74%
6	222	87%
All 26 Non-AFA Trawl CP	165	66%

Source: NPFMC Gulf of Alaska Rationalization and IR/IU database.

3.2.9 Component 10 – Determine Which Years of Catch History are Used for Cooperative Allocation

Component 10 defines the catch history years that will be used to determine how the Non-AFA Trawl CP allocation will be divided among the cooperatives and the open access portion of the sector. The same method is applied to both the groundfish and PSC limits that are assigned to the Non-AFA Trawl CP sector. The alternatives under consideration by the Council are listed in the text box below.

Component 10

Determines which years of catch history are used for establishing cooperative allocations. The allocation of groundfish between the cooperative and those eligible participants who elect not to join a cooperative is proportional to the catch history of groundfish of the eligible license holders included in each pool. Applicable PSC limits are allocated between the cooperative and non-cooperative pool in same proportions as those species that have associated PSC limits. The catch history as determined by the option selected under this component will be indicated on the Sector Eligibility Endorsement, which indicates the license holder's membership in the Non-AFA Trawl CP sector. The aggregate histories will then be applied to the cooperative and the non-cooperative pool.

Option 10.1 1995-2003, but each license holder drops its 3 lowest annual catches by species during this period

Option 10.2 1997-2003, but each license holder drops its 2 lowest annual catches by species during this period

Option 10.3 1998-2002, but each license holder drops its lowest annual catch by species during this period

Suboption 10.3.1 Each license holder does not drop its lowest annual catch by species during this period

Option 10.4 1998-2003, but each license holder drops its lowest annual catch by species during this period

Suboption 10.4.1 Each license holder drops two years during this period

Option 10.5 1999-2003, but each license holder drops its lowest annual catch by species during this period

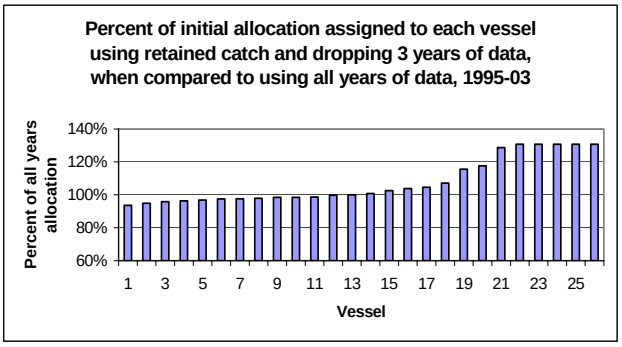
Very little quantitative information can be reported in this section. Information at the individual vessel level cannot be reported due to confidentiality constraints. Since information that would reveal catch levels cannot be reported at the vessel level, data would need to be aggregated to groups that would each include at least three companies. Aggregating data requires that assumptions regarding which vessels would join specific cooperatives and those that would not join cooperative. Making those groupings would be speculative at best and would likely provide misleading information. Therefore, a qualitative discussion of the alternatives will be provided. The discussion will focus on general impacts of the various alternatives.

Including Components 9 and 10 in the amendment will provide a structure that is more conducive to allowing cooperatives to form. Without these provisions all members of the Non-AFA Trawl CP sector would need to reach an agreement on how the sector's allocation should be divided among individual members. That would be very difficult, and would only be possible if every member of the sector agreed to the division. Without these components, every member would need to join a single cooperative or all of the cooperatives would need an inter-cooperative agreement so that everyone was held accountable. A discussion of the issues associated with requiring everyone to agree on the cooperative structure was provided in Section 3.2.8. That section concluded that the majority of the sector could be forced to accept more of the demands of owners that hold out from initially joining the cooperative. If the demands of participants holding-out from signing the cooperative agreement were too burdensome, the cooperative simply would not form. This scenario may not be a substantial hardship on qualified license holders who feel they have little to gain from a cooperative, but could be very costly for license holders that would benefit from joining a cooperative.

Several of the alternatives allow the "license holder" to drop their worst year, or years, of catch data. It is assumed that this applies to each license and not the total history associated with all of the licenses. So entities that hold more than one license could drop the worst year(s) associated with each license, as opposed to aggregating the catch history associated with all eligible permits and then dropping the worst year(s).

Allowing owners to drop years of data tends to increase the allocation to vessels that have not fished every year or have had more than average variation in their annual catch. Between 5 and 7 vessels would be able to drop years they did not fish, depending on the alternative selected. These vessels will tend to benefit from the allocations that allow persons to drop years of data. Other vessels that have had more than average variation in their historic catch would also benefit. Figure 3-1 is provided as an example of how the vessel's allocations could vary as a result of dropping years. While all vessels were allowed to drop their three worst years in this example, 13 vessels increased their allocation and 13 vessels had their allocation decrease. This change is a result of dropping their worst three years of catch history. Three vessels would have their allocation reduced by more than 4 percent. The other 10 vessels would have their percentage of the Non-AFA Trawl CP sector's allocation reduced by less than 4 percent. Thirteen vessels would have their allocation increase. Eight of the vessels would have their allocation increased by more than 15 percent. The other five vessels would have their allocation increase by 7 percent or less. This indicates that the vessels that could drop all three years or had a lot of variation in their catch history, in this example, could increase their allocation by almost 31 percent. These percentages will vary based on the alternative selected. However, this example describes the general trends that should be expected, if vessel owners are allowed to drop years of catch history. The magnitude of the impact will depend on the number of years that can be dropped and the number of vessels that did not fish or had low relative catches during years that can be dropped. Impacts on the distribution of PSC are expected to follow a similar pattern.

Figure 3-1 Impacts of dropping years of history



The actual allocations by vessel cannot be reported because of confidentiality constraints. Dropping years of data makes it difficult for individuals that have fished every year to determine how they will be impacted. However, permit holders with constant catch history, each year of the qualifying period, will be negatively impacted by dropping years of data. Permit holders that did not fish each year during the qualifying period, or had large

fluctuations in their annual catch amounts, would tend to benefit.

3.2.10 Component 11 – Excessive Share Limits

Amendment 80 will define a cooperative structure for the Non-AFA Trawl CP sector. Like many other rationalization actions that have been considered by the Council, the proposed action includes options for limiting the percentage of future TACs a person or entity may use. Two options are under consideration by the Council in this proposed action. The first option would not limit the percentages of future TACs a license holder may use, thus allowing unlimited consolidation within the sector. The second option would place a limit on the percentage of future TACs a license holder may use. In other words, this option would limit the percentage of the sector's allocation an individual license holder can bring to a cooperative, either through license holding or through intercooperative leasing. To apply this cap, intercooperative transfers would need to be conducted through individuals or entities. The intent of this option would prevent persons (individuals or entities) from entering a cooperative with an excessive share of the apportionment to that cooperative. The use cap would be set as a fixed percentage of the sector's allocation and would be applied across all species combined that are allocated to the sector. The option will determine each license holder's percentage of the sector allocation using the "individual and collective rule." This rule basically says that the amount of the sector allocation a person is credited with holding is calculated by assigning a person with:

1) all of the harvest rights they own outright;

2) harvest rights equal to the percentage of the partnership, corporation, or other entity owned by an individual (e.g., if a person owns 25 percent of a corporation, they are credited with "owning/controlling" 25 percent of the harvest rights held by the corporation).

Finally, this option would grandfather license holders that exceed the cap in the initial allocation. Grandfathering a person at their initial allocation level means that they may own a percentage of the sector's allocation that is above the excessive share limit, as long as it is issued to them at the time of the initial allocation. They are not allowed to purchase or otherwise acquire more rights to harvest those fisheries, unless they divest of their initial allocation until they fall below to use cap. At that time they may acquire harvest rights until they reach the excessive share cap.

As noted above, the use caps defined in Option 7.2 would limit eligible individuals or entities from accruing an excessive share of the cooperative apportionment prior them enter the cooperative. However, the option is silent on use caps that would limit the amount of cooperative apportionment that could be harvested on any vessel. Use caps at the individual vessel level are included in both the crab rationalization program and the rockfish pilot program. The purpose of use caps on individual vessels would be to insure that a certain number of vessels continue to participate in the Non-AFA Trawl CP sector. Without use caps at the individual vessel level, owners could work together within the cooperative and fish the cooperative's entire apportionment on a single vessel. Although captains and crew still employed in the fishery after consolidation would likely have longer periods of work, this consolidation of fishing would clearly affect skippers and crew resulting in loss of employment, since fewer vessels would be operating. If the Council sees a need for limiting the amount of consolidation within the cooperatives, the Council may want to include use caps at the vessel level.

Component 11	Establishment of excessive share limits in the non-AFA trawl CP sector.
Option 11.1	There is no limit on the consolidation in the non-AFA trawl CP sector.
Option 11.2	Consolidation in the non-AFA trawl CP sector is limited such that no single company can hold more than a fixed percentage of the overall sector apportionment history. The cap will be applied across the total allocation to the sector of all species combined. The cap will be applied using the individual and collective rule. Persons (individuals or entities) that exceed the cap in the initial allocation would be grandfathered.

National Standard 4 of the Magnuson-Stevens Fishery Conservation and Management Act states that fishery management programs that allocate or assign fishing privileges shall be carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of privileges.

The National Research Council study "Sharing the Fish," stated that ownership and use caps are generally favored as a means to prevent excessive shares (or the ownership or a disproportionate amount of shares by a single person or entity) (NAS 1999). In fisheries with excess capital, it is likely that issuance of transferable quota share, or other individual harvest rights such as those assigned under cooperatives, will result in some consolidation, as surplus capacity leaves the fishery. While this consolidation might be favored on economic efficiency grounds (e.g., for exploiting economics of scale), concentration of share holdings in a relatively few individuals or entities can result in excessive market power. The concentration of market power can affect working conditions, prices, and wages, and harm small participants in a fishery.[7] Although caps on ownership and use of shares are generally viewed as a means to prevent excessive concentration of shares, the level of the cap could vary among fisheries depending on the particular nature of the fishery and the objectives of the cap.

Establishing use and/or vessels caps will have little success in providing extensive opportunities for new entrants. The primary reason for the limited opportunities for new entrants is because of the low number of historical participants in these fisheries. It is projected that only 26 vessels will qualify for the Non-AFA Trawl CP sector. Some companies participating in the Non-AFA Trawl CP sector own more than 1 vessel. Therefore, it is assumed that the number of entities owning these vessels is considerably less than 26. Another reason limiting the opportunities for new entrants is that annual allocations to a cooperative will be fully transferable within the cooperative. Any member of the cooperative will be eligible to use the catch history of any other member regardless of vessel length limitations of the LLP that carries the catch history. If an owner, for any reason, decides not to participate in the Amendment 80 fisheries, they could transfer their catch history to another cooperative member and collect agreed upon revenues from the cooperative. Although allowing transfer of catch history is a valuable tool for fleet consolidation, it also limits the opportunities for new entrants to enter the fishery through vessel ownership. Given the proposed action is silent on vessel consolidation limits, the eligible fleet could possible consolidate to fewer than 20 vessels.

The Council might want to consider establishing use/vessel caps to maintain some level of the current fleet distribution to prevent consolidation of market power. Permitting fully transferable catch history within a cooperative and not limiting the size of the fleet through vessel caps, could allow owners to gain influence over the working conditions and gain more influence of their labor market. However, if the Council would like to maintain some consistency in the fleet size to prevent consolidation of market power, then vessel caps could be used to achieve this goal. For example, a vessel cap that prevents any vessel from harvesting more than 5 percent of the sector allocation would result in at 20 vessels being used to harvest the entire sector allocation. Similar to vessel caps, use caps would prevent the consolidation of endorsed licenses. Without use caps, owners would be free to combine catch history from endorsed licenses, thereby potentially gaining influence over the labor market for the Non-AFA Trawl CP sector. To prevent undue influence in the labor markets, the Council might want to consider establishing a use cap that allows some consolidation but limits contraction of catch history to a few permit holders.

[7] Concentration of shares in a fishery is unlikely to affect final product markets, as most fisheries' outputs compete in a world market. Concentration of shares, however, could affect the balance of power between the eligible participants in the Non-AFA Trawl CP sector.

The Council must determine both the rationale for its use caps and whether they are warranted in this fishery, and if so, what the appropriate level those use caps necessary to serve the rationale. Assessing whether the Council's selections would serve its purpose is complicated by several factors. One group of the factors complicating an accurate assessment of user caps and whether they are need given the fluctuating pollock stocks and the impact those fluctuations have on the TAC of allocated species. The limited information on first wholesale prices and costs of production for these allocated species also limits out ability to estimate impacts on profitability of these at-sea processors. Without knowing at-sea processor profits, it is difficult to estimate with any certainty the number of participants the different allocated fisheries can support. Another factor making it difficult to assess user caps for the Non-AFA Trawl CP sector is predicting the amount of consolidation that would occur without caps. This information would provide some measure of the impacts of the user caps. Another factor complicating an accurate assessment of user caps is unavailability of ownership data. Without this data, it is difficult to determine an estimate of the current distribution of interests in the fishery, preventing an accurate assessment of the number of participants currently supported in the fishery. Combined, these factors make it difficult to provide an accurate estimate of whether use caps are needed for the Non-AFA Trawl CP sector and what those caps should be.

User cap analysis

Several factors could be used to assess whether caps are needed and if the cap serves the objectives of the Council. The number of participants that would remain in the sector if all participants buy or lease shares up to the cap would illustrate the potential limit on concentration of shares. The number of participants in the fisheries allocated to the Non-AFA Trawl CP sector historically will provide some indication of the number of participants that these fisheries have supported historically.[8] The number of participants historically in the fishery also provides some insight into whether the cap is consistent with past participation levels. Also, since allocations might be a reflection of historic participation, the number of persons that would receive allocations at or above the cap might also provide some insight into whether the cap is consistent with historic participation, if participation is stable over time. The analysis below is intended to provide the Council with a discussion of the options under consideration and available data that might form the basis for a decision of an acceptable ownership cap if one is needed.

Use caps were analyzed using vessel data aggregated at the LLP owner level. Given the proposed use caps would be applied across all allocated species combined, vessel catch history for the allocated species were aggregated to show the number of owners above specific use caps. These percentages were analyzed based on the allocation options at the cooperative and the non-cooperative pool level for the Non-AFA Trawl CP sector (Components 9 and 10). These allocations are based on the activity of single vessels and do not consider common ownership of vessels. The analysis of use caps relied on vessel ownership and LLP license holder data from NOAA Fisheries Restricted Access Management Division to aggregate the allocations made to each vessel. The aggregation is incomplete for fully analyzing caps since the Restricted Access Management Division files identify only the owner of record and do not provide full ownership information. Ownership of allocations is likely consolidated more than is indicated by the analysis. However, this level of consolidation cannot be determined based on available records. Since no information is available concerning the percentage of ownership of any vessel or LLP license by any person, the analysis credits each registered owner with full ownership of the entire allocation.

Table 3-55 shows the number of eligible LLP owners based on one LLP owner per qualified Non-AFA Trawl CP vessel that exceeded specific percentages of catch history using vessel data

[8] Historical participation for each fishery allocated to the Non-AFA Trawl CP sector is shown in Section 3.2.3. However, given entry and exit over time, one may not be able to conclude that these numbers accurately reflect those "supported", or "supportable" by the fisheries.

aggregated to the company level. The data in the table and the analysis likely underestimates consolidation of shares (since the ownership records used for the analysis are incomplete). In some cases, ownership could be overestimated since the entire allocation is credited to each owner of record. Finally, Table 3-56 provides the mean, median, and the average of the four largest allocations.

Table 3-55 Use caps analyzed using vessel data at the LLP license holder level for each year combination under Option 9.1, total catch, and Option 9.2, retained catch

Allocation Option/ Catch History Years	Sum of LLP owners with over 8 percent catch history		Sum of LLP owners with over 5 percent catch history		Sum of LLP owners with over 2 percent catch history		Sum of LLP owners with less than 2 percent catch history	
	Option 9.1	Option 9.2	Option 9.1	Option 9.2	Option 9.1	Option 9.2	Option 9.1	Option 9.2
1995-2003 (drop lowest 3)	3	4	4	3	12	10	7	9
1997-2003 (drop lowest 2)	3	4	4	3	12	11	7	8
1998-2002 (drop lowest)	3	4	5	4	11	9	7	9
1998-2002	3	*	4	*	12	10	7	9
1998-2003 (drop lowest)	3	5	5	3	11	9	7	9
1999-2003 (drop lowest)	3	5	5	3	11	9	7	9

Source: NPFMC Amendment 80 Database

Table 3-56 Mean, median, and average allocation to the four processors that have the percent of the catch history of all allocated species combined under Option 9.1, total catch, and Option 9.2, retained catch

Allocation Option/ Catch History Years	Mean		Median		Average of four largest allocations	
	Option 9.1	Option 9.2	Option 9.1	Option 9.2	Option 9.1	Option 9.2
1995-2003 (drop lowest 3)	3.8	3.8	3.3	2.9	9.5	11.1
1997-2003 (drop lowest 2)	3.8	3.8	3.4	3	9.3	10.9
1998-2002 (drop lowest)	3.8	3.8	3.5	2.8	9.6	11.4
1998-2002	3.8	3.8	3.5	2.8	9.8	11.6
1998-2003 (drop lowest)	3.8	3.8	3.5	2.9	9.5	11.1
1999-2003 (drop lowest)	3.8	3.8	3.6	3.1	9.2	10.7

Source: NPFMC Amendment 80 Database

Looking at information using the total catch option from Table 3-55 and Table 3-56, three eligible LLP owners in the Non-AFA Trawl CP sector have over 8 percent of the combined catch history of all allocated species for each of the different catch history years combinations. The average allocation for these three LLP holders ranges between 9.2 percent using years 1999-2003 dropping the lowest year during the period to 9.2 percent using years 1998-2002 and not dropping any years. The number of LLP holders with catch history over 5 percent but less than 8 percent would range between four and five depending on the catch history years used and drop year options. The number eligible Non-AFA CP LLP holders with over 2 percent of the catch history but less than five percent ranged between 11 and 12, again depending on the years selected and the drop year options. The number of LLP owners with less than 2 percent of the catch history was seven for all the catch history year

combinations. The mean catch history for the 26 qualified LLP holders under all of the different catch history options was 3.8 percent. The median catch history under the catch history year combinations ranged between 3.3 percent to 3.6 percent.

Looking at catch history data using the retain catch option from Table 3-55 and Table 3-56, the number of eligible LLP owners in the Non-AFA Trawl CP sector that have over 8 percent of the combined catch history of all allocated species for each of the different catch history years combinations ranges between four and five. The average allocation for the three LLP holders with the largest catch history ranges between 10.7 percent using years 1999-2003 dropping the lowest year during the period to 11.6 percent using years 1998-2002 and not dropping any years. The number of LLP holders with catch history over 5 percent but less than 8 percent ranges between three and four depending on the catch history years used and drop year options. The number eligible Non-AFA CP LLP holders with over 2 percent of the catch history but less than five percent ranged between 9 and 11, again depending on the years selected and the drop year options. The number of LLP owners with less than 2 percent of the catch history ranged between 8 and 9 depending on the years selected and the drop year options. The mean catch history for the 26 qualified LLP holders under all of the different catch history options was 3.8 percent. The median catch history under the catch history year combinations ranged between 2.8 percent to 3.1 percent.

3.2.11 Component 12 – Sideboards for Pacific Cod and Non-Allocated Species

Allowing members of the Non-AFA Trawl CP sector to form a cooperative, or cooperatives, should allow them to rationalize when and where they fish. The increased flexibility in planning their fishing year should enable them to alter their historic fishing patterns to improve their efficiency in terms of the costs associated with harvesting catch and the price they receive for their product. However, the flexibility that allows them to change their fishing patterns could also give them a competitive advantage over other participants in the North Pacific fisheries that are unable to rationalize their fishing strategies. For example, if members of the Non-AFA Trawl CP sector can decide the best time for them to fish their allocation, it may provide them opportunities to increase their participation in the GOA or in other BSAI fisheries where their presence was more limited under the old system. The cooperative members' participation in these fisheries would only be limited by the restrictions on their groundfish license and its associated endorsements and the amount of PSC they are allocated. Expanding their participation in the fisheries that are not directly allocated to the Non-AFA Trawl CP sector would likely result in the other participants having less fish available to harvest. Fishermen that have historically participated in those fisheries may feel they are disadvantaged as a result of the cooperatives, and they may request that harvest limits be placed on the fishermen participating in cooperatives to restore the balance that existed prior to the cooperative(s) forming.

Harvest limits would allow the cooperative members to catch up to their "historic" amounts of species they harvested in the fisheries, out side of their cooperative allocation. Harvest limits are not an allocation. They are a limit on the maximum amount of a species the sector can take, but that amount is not guaranteed to the sector. Cooperative harvest limits were first developed as part of the AFA and were frequently referred to as "sideboards" in that amendment, since they limited the cooperative members' expansion into other fisheries. Given that similar impacts could result from allowing cooperatives to form under Amendment 80, to those envisioned under the AFA, the Council thought it would be prudent to consider harvest limits as part of this amendment package. The options considered by the Council are shown in Component 12 of this document and are provided in the text box below.

Component 12

Establishes measures to maintain relative amounts of non-allocated species until such time that fisheries for these species (including sector splits of Pacific cod) are further rationalized in a manner that would supersede a need for these sideboard provisions.

Option 12.1 Sideboards for the Non-AFA Trawl CP sector would be established by regulation using the same years used to calculate the apportionment of PSC and groundfish between the Non-AFA Trawl CP and limited access pool until such time as these other fisheries are rationalized, when the allocations are determined in these newly rationalized fisheries.

Suboption 12.1.1 Sideboards will be allocated between cooperative and non-cooperative LLP holders.

Option 12.2 Sideboards for the Non-AFA Trawl CP sector can be established by establishing percentages and/or amounts for the species/fisheries not included in this program. These measures maintain relative amounts of non-allocated species until such time that fisheries for these species are further rationalized in a manner that would supersede a need for these sideboard provisions.

Suboption 12.2.1 Sideboards will be allocated between cooperative and non-cooperative LLP holders.

Two primary options are under consideration for harvest restrictions and a suboption is included in each main option. Option 12.1 would implement a system limiting the harvest of species that are not allocated under Component 1. The harvest limit amount would be based on the harvest of sideboard species by members of the Non-AFA Trawl CP sector during the years used to determine the Non-AFA Trawl CP sector's allocation of target species. Option 12.2 simply makes a statement that harvest limits could be implemented at a level that the Council determines to be appropriate. This option would require the Council to determine the appropriate level of the sideboards. It is assumed that if the level of the sideboard selected falls within the range analyzed in Option 12.1 that no additional analysis would be needed. However, if the sideboards were set at levels outside the bounds of those considered in Option 12.1, then its impacts may need to be reviewed in more detail. In addition, based on the language provided, selecting Option 12.2 would not require that sideboard limits be implemented at the time of final action. The way this option is structured, sideboards could be selected at a specified level, the Council could state their intent to implement sideboards in the future, or they could decide not to implement sideboards. If the Council wanted to implement sideboards in the future, they could continue to work on them on another timeline, in essence, a new FMP amendment. This seems to be the least preferable of the options. Selecting this option, without actually defining a sideboard percentage for each species would not provide any protection for the other sectors of the fleet, if it is thought to be needed. Basically it would have the same impact as taking no action on this component and initiating another FMP amendment in the future. Given the time it would take to develop a new FMP amendment, it would likely lag behind this amendment by several months.

The suboption included under each of the components would allocate sideboards to the cooperative and non-cooperative members of the Non-AFA Trawl CP sector, separately. If the suboption is not selected a single sideboard allocation would be made to the Non-AFA Trawl CP sector. Selecting the option to allocate a single sideboard cap could likely reduce the benefits that cooperative members are able to generate from the program. Cooperative members would need to plan their fishing seasons such that the sideboard species would not close their target fisheries. To ensure that the sideboard species would not limit their target catches they would likely need to race to catch their target species before the sideboard species are taken. This could be necessary since the cooperative members have no control over the harvesting activities of non-cooperative members. Therefore, implementing the suboption would tend to benefit the cooperative members. Depending on the size of the allocation made to the non-cooperative members they could be limited in the numer of the directed fisheries they could participate. Because it is not possible to predict the members of the Non-AFA Trawl CP sector that would join a cooperative, we cannot estimate their allocation. Without that information it is not possible to provide a quantitative estimate of the expected impact.

3.2.11.1 Gulf of Alaska

Two important factors should be considered when discussing the need for harvest restrictions in the GOA. The first is the Gulf rationalization program that is currently being contemplated. Implementing a rationalization program that allocates all of the GOA TACs to vessels or groups of vessels would reduce or eliminate the need for additional harvest restrictions. The need for additional sideboard restrictions would likely be eliminated if the rationalization program covered the Central and Western GOA areas and was structured as an IFQ or cooperative program. If the rationalization program was based on revising the LLP to reduce the number of vessels that could fish, limiting the harvest of the Non-AFA Trawl CP sector could still benefit other vessel owners. Other vessel owners may also benefit from harvest limitations on the Non-AFA Trawl CP vessels if the GOA rationalization is implemented after Amendment 80 or the Council rejects the GOA rationalization program. The second issue is the halibut bycatch limits that tend to restrict the amount of several groundfish species harvested in the GOA. Halibut bycatch limits often constrain harvests in the deep and shallow water complexes. If vessels do not have adequate amounts of halibut PSC to increase their groundfish harvests, increasing their goundfish harvests will not occur.

Over two-thirds[9] of the vessels expected to qualify for the Non-AFA Trawl CP sector also hold groundfish area endorsements that allow them to fish in the Western and/or Central GOA sub-areas. If all of those vessels were to participate in the Gulf, at higher levels of catch than they have traditionally, they could have a substantial impact on the other vessels that harvest in the GOA.

GOA pollock harvests made by vessels operating in the offshore component of the fleet are limited by Inshore-Offshore regulations. Those regulations allocate 100 percent of the GOA pollock TAC to vessels operating as part of the inshore component[10]. Three Non-AFA Trawl CPs held an inshore endorsement on their Federal Fisheries Permit in 2004. The remaining vessels in that sector would not be allowed to participate in a directed GOA pollock fishery given their current offshore designation. Unless more vessels apply for an inshore endorsement, it is unlikely that additional harvest limits are needed in the GOA pollock fishery. Remember that the three vessels are limited by the inshore/offshore regulations in terms of the amount of fish they can process in a week. However, if the intent is to limit pollock bycatch in other fisheries as well as effort in the directed pollock fishery, sideboards may be appropriate.

Pacific cod harvests are also regulated by Inshore/Offshore amendments in the GOA. Those regulations assign 90 percent of the Pacific cod TAC to the inshore component. The Offshore component is allowed to harvesting up to 10 percent of the quota as incidental catch in other directed fisheries. Given that the Offshore component does not have directed fisheries for Pacific cod in the GOA and inshore participation is limited to about three vessels in 2004, additional regulations on harvest restrictions are not likely needed in the directed Pacific cod fishery. Even if more of the Non-AFA Trawl CP vessels that are less than 125 ft LOA apply for an Inshore endorsement in the future, they would still be limited to processing less than 126 mt of pollock and Pacific cod each week.

The deep-water flatfish complex includes dover sole, Greenland turbot, and deepsea sole. Historically the TACs for the deep-water species complex have been relatively small. The Western Gulf TAC in was only 330 mt, as of April 28, 2005, and the Central Gulf TAC was 3,340 mt. During the 2004

[9] This preliminary estimate is based on the licenses currently assigned to the vessels that appear to qualify under the alternatives being considered by the Council.

[10] An inshore processor is defined in 50 CFR Section 679.2 as either a shoreside plant, a stationary floating processor that holds an inshore endorsement on their Federal Fisheries Permit and operates in a in single geographic location while processing Pacific cod or pollock harvested in a directed fishery within Alaska state waters for the entire year, or a mobile processing vessel that has an inshore endorsement on their Federal Fisheries Permit and is less than 125' LOA and processes less than 126mt of pollock and Pacific cod per week.

fishing year, only 7 mt (2 percent) of the Western Gulf TAC and 614 mt (21 percent) of the Central Gulf TAC was harvested. Deep-water flatfish harvests were limited, in part, because of halibut constraints. A specific amount of halibut PSC is apportioned to trawl vessels harvesting deep-water species complex[11] (see Table 3-57). This grouping of species includes rockfish species in addition to deep-water flatfish. GOA fishermen often determine that it makes better business sense to use the halibut PSC they are allotted to harvest the more valuable rockfish species. Deep-water flatfish are then often left unharvested because insufficient halibut is available for the fleet to harvest all of the deep-water species TACs, and because of market conditions that yield a relatively low price for the product.

Table 3-57 GOA halibut bycatch allotments in 2005 for the deep-water species complex and dates closure notices were issued

Season Start	Season End	Amount of Halibut	Date Closed by Halibut
January 20	April 1	100mt	March 23
April 1	July 5	300mt	April 8 (reopened April 24)
July 5	September 1	400mt	-
September 1	October 1	Any remainder	-
October 1	December 31	300mt*	-

Sources: NOAA Fisheries website listings of 2005 Information Bulletins and Final 2005 GOA apportionments.
*No apportionment is made between the shallow-water and deep-water complex during the 5th season (October 1 – December 31).

Any vessel that is assigned a valid LLP with the appropriate gear and area endorsements may fish for deep-water flatfish in the GOA. The majority of the Non-AFA Trawl CP fleet hold a valid endorsement to fish in the Western or Central Gulf. These vessels would compete against other trawl catcher vessels and other catcher/processors for deep-water flatfish species. However, based on the constraints imposed by halibut bycatch limits and the amount of the TAC traditionally left unharvested, the harvest limits for deep-water flatfish fishery are likely to be a larger percentage of the TAC than has been harvested recently. Non-AFA Trawl CP vessels that participate in GOA fisheries are expected to continue to harvest species that allow them to generate the greatest profits within the halibut bycatch limits. Based on historic market conditions, halibut bycatch rates, and current TACs it is expected that the fleet will continue focusing their effort on rockfish harvests and leave part of the deep-water flatfish allocation unharvested.

The shallow-water species complex[12] is comprised of the GOA flatfish species managed under the Gulf FMP excluding deep-water flatfish, flathead sole, rex sole, and arrowtooth flounder. In 2005 the shallow-water flatfish TAC in the Western GOA was 4,500 mt and in the Central Gulf it was 13,000 mt. (as of April 28, 2005). The shallow-water flatfish TACs are much larger than the deep-water flatfish TACs. During 2004, only 136 mt (3 percent) of the Western Gulf shallow-water flatfish TAC was harvested. In the Central Gulf, 2,806 mt (22 percent) of the TAC was harvested. As was the case with deep-water flatfish, halibut bycatch limits played a large role in limiting the harvest.

Halibut bycatch mortality in the shallow-water species complex during 2004 exceeded the 900mt allocation (Table 3-58). Most of the halibut (814 mt.) was harvested during the 4th season (September 1st – September 30th) that was closed by NOAA Fisheries on September 10th. Fisheries in the shallow-water complex were not closed at any other time during the year because of halibut caps.

[11] Regulations at § 679.21(d)(3)(iii) authorize apportionments of the halibut PSC limit to a deep water species complex, comprised of sablefish, rockfish, deep water flatfish, rex sole, and arrowtooth flounder.

[12] Regulations at § 679.21(d)(3)(iii) authorize apportionments of the halibut PSC limit to a shallow water species complex, comprised of pollock, Pacific cod, shallow water flatfish, flathead sole, Atka mackerel, and "other species".

However, the limits did impact on the amount of shallow-water flatfish that was harvested, given the amount of that species that went unharvested.

Table 3-58 Seasons defined for halibut bycatch allotments and dates closure notices were issued for the shallow water species complex

Season Start	Season End	Amount of Halibut	Total Catch	Date Closed by Halibut
January 20	April 1	450mt	396mt	-
April 1	July 5	100mt	157mt	-
July 5	September 1	200mt	35mt	-
September 1	October 1	150mt	814mt	September 10
October 1	December 31	300mt*		-

Sources: NOAA Fisheries website listings of 2005 Information Bulletins and Final 2005 GOA apportionments.
* No apportionment is made between the shallow-water and deep-water complex during the 5th season (Oct 1 – Dec 31).

Conclusions drawn from deep-water flatfish also apply to shallow-water flatfish. Halibut bycatch limits and the markets for shallow-water flatfish, relative to other species[13] in the shallow-water species complex, typically result in the TACs not being fully harvested. Therefore, it is unlikely that harvest restrictions for the Non-AFA Trawl CP sector will be necessary.

Rockfish in the GOA are assigned to the deep-water species complex for the purpose of accounting for halibut bycatch. However, the TAC, rather than the halibut bycatch mortality, typically causes the rockfish fisheries to be closed to directed fishing. The majority of the harvests occurred during the month of July. Table 3-59 provides a brief summary of the rockfish closures during 2004.

Table 3-59 Directed fishing closure dates for various GOA rockfish species during 2004

Species	West Yakutat*	Central Gulf	Western Gulf
Pacific Ocean Perch (POP)	July 16 (TAC)	July 12 (TAC)	July 17 (TAC)
Northern Rockfish	n/a	Jul 25 (H)	July 24 (TAC)
Pelagic Rockfish	July 21 (TAC)	Jul 25 (H), Oct 1 (H)	Jul 25 (H), Oct 1 (H)
Shortraker/Rougheye Rockfish	January 1	Jan. 1	Jan. 1, Jul 28 (PSC)
Other Rockfish	January 1	Jan. 1, Jul. 28 (PSC)	January 1

Notes: POP, Northern rockfish, and pelagic shelf rockfish opened to directed fishing on July 4th for the first time in 2004. Shortraker/rougheye, thornyhead, and other rockfish were placed on bycatch status January 1st. Those species were never opened to directed fishing. The reason the fishery was closed is listed in the parentheses and (TAC) means the Total Allowable catch of the species was taken for that season, (H) means that the fishery was closed because the halibut PSC limit was reached, and (PSC) means the species was placed on PSC status.
*Shortraker/rougheye rockfish are managed as an Eastern Gulf species.

Table 3-59 indicates that of the rockfish species in the GOA, POP fisheries generally close first. In 2004 POP was only open to directed fishing for about fourteen days in the Western Gulf, eight days in the Central Gulf, and thirteen days in West Yakutat. Northern rockfish was the next species to close in the Central and Western Gulf. Those fisheries stayed open about 3 weeks in both areas. Pelagic shelf rockfish stayed open to directed fishing about 2.5 weeks in West Yakutat and about a 3 weeks in the Central and Western Gulf.

These short seasons indicate that when rockfish fisheries are open, a substantial amount of effort moves into those fisheries. Whether additional effort would flow into those fisheries if the Non-AFA Trawl CP sector was rationalized is not known. However, the increase, if any, may be limited given that few fishing opportunities historically existed in the BSAI during the month of July. Vessels would have had the opportunity to participate in those fisheries in the past had they so wished.

[13] Pollock and Pacific cod.

Table 3-60, Table 3-61, and Table 3-62 show estimates of the GOA sideboards using the various allocation options under Option 12.1. Note that it is assumed that the percentages selected under Options 12.2 would fall within the range covered in these tables. However, because the actual percentages are not specified for that option no estimates are provided.

Table 3-60 GOA sideboard estimates based on total catch of Non-AFA Trawl CP vessels divided by the total catch of all vessels

Area/species		1995-2003	1998-2002	1998-2003	1999-2003	2000-2003
Pollock						
	Pollock 610	0.5%	0.4%	0.5%	0.6%	0.7%
	Pollock Central +	0.9%	0.1%	0.2%	0.2%	0.3%
Central Gulf						
	Arrowtooth Flounder	47.3%	49.1%	51.4%	51.9%	54.7%
	Deep Water Flatfish	21.2%	15.8%	19.7%	22.4%	32.3%
	Shallow Water Flatfish	4.8%	4.0%	3.5%	3.4%	3.3%
	Flathead Sole	28.9%	26.6%	27.3%	27.7%	26.4%
	Rex Sole	78.0%	90.4%	91.4%	92.4%	93.2%
	Pacific Ocean Perch	47.5%	47.8%	47.1%	48.7%	51.9%
	Shortraker/Rougheye Rockfish	40.0%	32.4%	33.0%	33.9%	37.1%
	Thornyhead Rockfish	20.7%	16.1%	21.7%	23.6%	27.2%
	Pelagic Shelf Rockfish	49.8%	47.0%	48.9%	49.7%	48.3%
	Northern Rockfish	43.4%	31.2%	33.4%	34.5%	35.5%
	Other Rockfish	87.1%	69.8%	73.9%	80.1%	95.6%
	Pacific Cod	5.1%	13.6%	6.1%	4.9%	6.1%
	Sablefish (Trawl)	35.0%	34.6%	35.7%	36.5%	41.7%
Western Gulf						
	Arrowtooth Flounder	72.2%	71.7%	75.9%	77.1%	79.6%
	Deep Water Flatfish	25.9%	34.9%	41.8%	47.0%	48.8%
	Shallow Water Flatfish	47.3%	48.6%	48.7%	54.5%	61.5%
	Flathead Sole	69.5%	73.5%	74.4%	73.6%	74.5%
	Rex Sole	90.2%	96.6%	97.4%	97.9%	96.0%
	Pacific Ocean Perch	93.3%	92.6%	89.5%	88.7%	89.5%
	Shortraker/Rougheye Rockfish	70.2%	36.9%	89.9%	97.6%	99.9%
	Thornyhead Rockfish	44.1%	36.7%	38.1%	39.8%	41.1%
	Pelagic Shelf Rockfish	73.7%	87.1%	89.2%	93.9%	97.1%
	Northern Rockfish	95.7%	88.0%	94.6%	96.0%	98.3%
	Other Rockfish	1.1%	0.8%	1.1%	1.2%	0.8%
	Pacific Cod	2.8%	3.1%	3.3%	3.7%	3.9%
	Sablefish (Trawl)	69.0%	65.6%	65.4%	65.6%	65.7%
Entire Gulf						
	Atka Mackerel	87.6%	61.2%	71.9%	77.6%	87.3%
	Other Species	20.2%	17.9%	18.0%	18.1%	17.2%

Source: Total catch of the Non-AFA Trawl CP sector was estimated using the Council IRFA data set, and total catch of all vessels was taken from the 1995-2003 NOAA Fisheries catch reports (www.fakr.noaa.gov).

Note: These tables were generated with data that are considered to be preliminary by the analysts. The official sideboard estimates generated using this method could vary from those reported here.

Table 3-61 GOA sideboard estimates based on retained catch of Non-AFA Trawl CP vessels divided by the retained catch of all vessels.

Area/Species		1995-2003	1998-2002	1998-2003	1999-2003	2000-2003
Pollock						
	Pollock 610	0.2%	0.3%	0.3%	0.4%	0.4%
	Pollock Central Gulf+	0.1%	0.1%	0.2%	0.2%	0.3%
Central Gulf						
	Arrowtooth Flounder	39.0%	43.8%	47.0%	46.6%	49.3%
	Deep Water Flatfish	11.9%	4.3%	4.8%	4.2%	4.6%
	Shallow Water Flatfish	3.1%	1.7%	1.6%	1.4%	1.3%
	Flathead Sole	24.9%	22.3%	23.0%	23.3%	22.4%
	Rex Sole	81.2%	92.2%	93.2%	94.3%	94.9%
	Pacific Ocean Perch	45.7%	45.9%	45.3%	47.1%	46.5%
	Shortraker/Rougheye Rockfish	31.1%	37.2%	36.0%	39.0%	39.3%
	Thornyhead Rockfish	21.3%	16.7%	22.9%	25.3%	28.8%
	Pelagic Shelf Rockfish	49.9%	46.9%	50.1%	51.3%	49.3%
	Northern Rockfish	39.2%	26.2%	28.8%	29.8%	30.1%
	Other Rockfish	67.9%	27.4%	25.8%	18.5%	14.3%
	Pacific Cod	4.5%	6.2%	6.2%	5.3%	6.2%
	Sablefish	35.4%	35.5%	36.2%	37.4%	37.5%
Western Gulf						
	Arrowtooth Flounder	73.6%	76.5%	74.2%	73.6%	72.9%
	Deep Water Flatfish	6.5%	24.3%	24.1%	30.7%	40.3%
	Shallow Water Flatfish	72.9%	67.7%	69.2%	70.8%	74.9%
	Flathead Sole	70.9%	70.9%	73.0%	72.6%	72.3%
	Rex Sole	91.8%	97.4%	98.3%	98.9%	96.9%
	Pacific Ocean Perch	95.8%	95.3%	90.8%	89.7%	90.6%
	Shortraker/Rougheye Rockfish	100.0%	55.4%	100.0%	100.0%	100.0%
	Thornyhead Rockfish	43.5%	35.4%	37.0%	39.2%	39.1%
	Pelagic Shelf Rockfish	80.9%	100.0%	100.0%	100.0%	100.0%
	Northern Rockfish	100.0%	96.3%	100.0%	100.0%	100.0%
	Other Rockfish	1.0%	0.1%	0.9%	1.1%	1.2%
	Pacific Cod	2.3%	2.7%	2.6%	2.9%	2.9%
	Sablefish	79.2%	72.9%	74.9%	75.2%	73.9%
Entire Gulf						
	Atka Mackerel	86.9%	63.0%	53.2%	52.8%	57.1%
	Other Species	6.3%	4.0%	8.6%	9.4%	10.1%

Source: Retained catch of the Non-AFA Trawl CP sector was estimated using the Council IRFA data set, and retained catch of all vessels was taken from the 1995-2003 NOAA Fisheries discard reports (www.fakr.noaa.gov).

Note: These tables were generated with data that are considered to be preliminary by the analysts. The official sideboard estimates generated using this method could vary from those reported here.

Table 3-62 GOA sideboard estimates based on retained catch of Non-AFA Trawl CP vessels divided by the total catch of all vessels

Area/Species		1995-2003	1998-2002	1998-2003	1999-2003	2000-2003
Pollock						
	Pollock 610	0.2%	0.3%	0.4%	0.5%	0.5%
	Pollock Central +	0.1%	0.1%	0.2%	0.2%	0.2%
Central Gulf						
	Arrowtooth Flounder	11.0%	14.0%	15.4%	16.3%	18.2%
	Deep Water Flatfish	9.3%	3.5%	3.7%	3.1%	3.3%
	Shallow Water Flatfish	2.7%	1.6%	1.5%	1.3%	1.2%
	Flathead Sole	20.8%	19.2%	20.0%	20.3%	20.1%
	Rex Sole	75.1%	88.3%	89.1%	90.1%	90.7%
	Pacific Ocean Perch	39.7%	41.2%	40.1%	41.9%	44.2%
	Shortraker/Rougheye Rockfish	33.1%	28.2%	28.7%	30.9%	33.8%
	Thornyhead Rockfish	17.8%	14.8%	20.1%	22.1%	25.4%
	Pelagic Shelf Rockfish	46.3%	44.7%	46.5%	47.3%	45.5%
	Northern Rockfish	34.3%	23.3%	26.0%	27.2%	27.6%
	Other Rockfish	22.4%	9.7%	8.7%	6.3%	5.6%
	Pacific Cod	4.2%	13.3%	5.9%	4.6%	5.7%
	Sablefish (Trawl)	24.4%	23.7%	24.4%	24.5%	26.8%
Western Gulf						
	Arrowtooth Flounder	32.5%	36.0%	37.8%	39.9%	42.1%
	Deep Water Flatfish	3.1%	6.2%	5.2%	5.6%	6.9%
	Shallow Water Flatfish	29.2%	23.0%	25.3%	28.4%	33.0%
	Flathead Sole	52.1%	51.7%	54.0%	53.7%	55.5%
	Rex Sole	87.4%	93.1%	94.0%	94.4%	92.6%
	Pacific Ocean Perch	80.6%	82.5%	74.5%	72.9%	71.7%
	Shortraker/Rougheye Rockfish	65.7%	32.0%	84.0%	92.0%	100.0%
	Thornyhead Rockfish	37.0%	29.8%	31.5%	33.3%	34.5%
	Pelagic Shelf Rockfish	65.1%	80.2%	81.8%	86.1%	90.4%
	Northern Rockfish	70.2%	71.7%	72.4%	73.7%	71.9%
	Other Rockfish	0.5%	0.1%	0.5%	0.5%	0.6%
	Pacific Cod	2.2%	2.9%	2.8%	3.2%	3.2%
	Sablefish (Trawl)	41.1%	36.2%	35.6%	35.4%	35.6%
Entire Gulf						
	Atka Mackerel	70.3%	43.8%	46.1%	51.2%	57.1%
	Other Species	1.6%	0.7%	2.3%	2.6%	3.1%

Source: Retained catch of the Non-AFA Trawl CP sector was estimated using the Council IRFA data set, and total catch of all vessels was taken from the 1995-2003 NOAA Fisheries catch reports (www.fakr.noaa.gov).

Note: These tables were generated with data that is considered to be preliminary by the analysts. The official sideboard estimates generated using this method could vary from those reported here.

In conclusion, it is likely that the GOA fisheries will continue to be constrained by the halibut PSC limits. Given the importance of halibut PSC in the GOA fisheries, the Council may want to establish a halibut PSC sideboard for the Non-AFA Trawl CP sector. If the Council elects to include sideboards for GOA halibut PSC, the Council would need to provide some language to be included in the alternatives. The PSC halibut sideboard for the Non-AFA Trawl CP sector will drive the harvests of

the flatfish species. If they are able to better manage their halibut usage, they could be constrained by sideboards limits in the flatfish fisheries.

The fisheries that appear to have historically been given a high harvest priority by the Non-AFA Trawl CP sector, in terms of using GOA halibut PSC first, are rockfish species. Because they have been given a high priority and the resulting high sideboards, the Non-AFA Trawl CP sector would be allowed to harvest most the TAC of those species in the Western Gulf under any sideboard option. In 2004, 60 percent of the Western Gulf - northern rockfish TAC and 43 percent of the pelagic shelf rockfish TAC was harvested before the fishery was closed due to the halibut PSC limit being reached. The percentages of these species that would be allocated as sideboards are greater than the percentage of the TAC taken that year. POP harvests were more than the sideboards so they would be more likely to constrain harvests. The sideboard percentages are lower in the Central Gulf, but they would still be set between 30 and 50 percent of most rockfish TACs. Pelagic shelf and northern rockfish harvests in 2004 were larger than the sideboards, so the sideboard limits could potentially constrain rockfish harvests in the Central Gulf.

The shallow-water flatfish sideboard limit would be considerably larger in the Western than the Central Gulf. The deep-water flatfish sideboards also tend to be larger when more recent years are used in the calculation. During the 2004 fishing year only 4 percent of the Western Gulf – shallow-water flatfish TAC was harvested, and only 16 percent of the deep-water flatfish TAC was harvested. Only the deep-water flatfish sideboard, calculated using retained catch of the Non-AFA Trawl CP sector divided by total catch of all vessels, results in a smaller sideboard. Under most options the sideboards would not be expected to constrain harvests given the current fishery conditions. Should halibut bycatch become less of a constraint, sideboards could be a binding constraint.

Sideboards would be a constraint in the Central Gulf – deep-water and shallow-water flatfish fisheries. In 2004, 41 percent of the deep-water TAC and 34 percent of the shallow-water TAC was harvested. The sideboards for shallow-water flatfish are projected to be less than 5 percent of the TAC. The deep-water flatfish sideboard could be as high as 32 percent or as low as 3 percent, depending on the option selected. A low sideboard could limit catch in the future.

Sideboard limits, in general, are largest when they are based on either the retained catch of the Non-AFA Trawl CP sector divided by the retained catch of all vessels, or on the total catch of the Non-AFA Trawl CP sector divided by the total catch of all vessels. Sideboard limits are generally considerably smaller when they are based on retained catch of the Non-AFA Trawl CP sector divided by total catch of all sectors. The sideboard limits tend to be larger based on total catch of the Non-AFA Trawl CP sector divided by total catch of all sectors when the Non-AFA Trawl CP sector had relatively higher discard rates than other sectors. The Non-AFA Trawl CP sector tends to be have higher sideboard limits when the calculation is based on retained catch of the Non-AFA Trawl CP sector divided by retained catch of all vessels when they have retained a greater percentage of species harvested than the other sectors.

3.2.11.2 Bering Sea/Aleutian Islands

Two BSAI species that would be allocated to BSAI sectors in quantities that would support target fisheries are pollock and Pacific. As discussed earlier, the Non-AFA Trawl CP sector member's pollock harvests are already limited under the AFA. Only the Ocean Peace, in the Non-AFA Trawl CP sector, is allowed to participate in the directed pollock fishery. Other vessels will not be allowed to increase their pollock harvests above the incidental catch allowance. It is possible that incidental catches of pollock could increase over time. However, this is a very sensitive issue. Dramatic increases in pollock catches are strongly discouraged and would likely be closely scrutinized by members of the pollock fleet as well as NOAA Fisheries staff. The current pollock ICA is set at 3 percent of the TAC. If NOAA Fisheries determines an increase in the pollock ICA is needed they will report to the Council and provide information as to why the increase is necessary.

Given the conditions that exist in the pollock fisheries it is unlikely that additional harvest limits are needed in that fishery. However, if the AFA fleet's concerns over ICA increases are viewed as valid concerns, the percentage taken by the Non-AFA Trawl CP sector could be constrained by sideboards. The sideboard limits in the Bering Sea would be set a just over 50 percent of the ICA.

Pacific cod is another species that would be allocated to other components of the BSAI fleet in amounts that could support a directed fishery. Fixed gear Pacific cod harvests are restricted to vessels that hold a valid Pacific cod endorsement on their license. Based on LLP data as preliminary estimates of qualified vessels, none of the vessels that would qualify for the Non-AFA Trawl CP sector currently hold a license with an endorsement that would allow them to participate in a fixed gear Pacific cod fishery. If a vessel did obtain a license with the appropriate endorsement, they would likely be competing against other vessels that primarily fish Pacific cod when harvesting groundfish. Hook-and-Line CPs are allocated 80 percent of the fixed gear Pacific cod quota. Those vessels typically fish almost exclusively for Pacific cod. Allowing a Non-AFA Trawl CP vessel to obtain an endorsement and participate in that fishery with hook-and-line gear would not be expected to disadvantage other hook-and-line CPs. It would simply allow one hook-and-line CP to replace another. Since the licenses can only be used on vessels that are approximately the same length[14], it is not anticipated that the Non-AFA Trawl CPs would have substantially greater harvesting power than the vessel they would replace.

The Pacific cod allocation to the hook-and-line catcher vessels greater than 60 ft LOA is only 0.3 percent of the fixed gear quota. It is unlikely that members of the Non-AFA Trawl CP sector would enter that fishery given the limited quota and the limited number of endorsed licenses that are available. Most of the vessels that hold those endorsements rely on other fisheries to generate the majority of their income. Therefore, they would need to purchase a replacement license to continue fishing their primary fisheries. It may be difficult for them to generate sufficient income from trading licenses to justify selling the license package they currently hold.

The remaining fixed gear Pacific cod fisheries are for pot gear. Vessels harvesting Pacific cod with pot gear typically fish cod as secondary fishery to their crab operation. Pacific cod were often harvested in the past after the Opilio fishery closed and during other times of the year when tanner and red and blue king crab fisheries were closed. Crab rationalization should allow these vessels to harvest Pacific cod during times of the year that allows them to maximize profits. It is unlikely that the Non-AFA Trawl CP fleet would want or be able to obtain a substantial number of licenses for the fishery. If they did they would still need to compete against other vessels that are able to rationalize their participation in their other fisheries.

Pacific cod quota for harvest by trawl vessels is equally divided among the catcher vessels and catcher processors. The catcher processors allocation would be divided between the AFA Trawl CPs and the Non-AFA Trawl CPs. The AFA Trawl CPs Pacific cod harvests are limited to be within their sideboard restrictions. Sideboards for the Non-AFA Trawl CP sector would be define as the maximum amount of Pacific cod they would be allowed to harvest in this capacity. Depending on the size of the Non-AFA Trawl CP sideboard and the number of trawl catcher processors operating outside the two sectors, the competition for the trawl CP cod could be limited. That is especially true if the sum of the two sectors sideboards is equal to 100 percent of less of the total trawl CP Pacific cod allocation. Given that the AFA Trawl CP sector is limited to 25.8 percent of the trawl CP allocation of Pacific cod, the Non-AFA Trawl CP vessels can harvest a minimum of 74.2 percent of the overall allocation to the trawl CP sector.

[14] The LLP program allows the license to be used on a vessel (limited by the 125' LOA ceiling) that is 1.2 times the length of the vessels that earned the LLP. Vessels that are greater than or equal to 125' are not allowed to use a license that was issue to a vessel that is smaller than it.

An allocation of the Pacific cod fishery is being considered under a separate amendment. If that amendment were implemented, it would likely negate the need for Pacific cod sideboards, since each sector would have their own cod allocation in addition to the halibut PSC associated with that harvest. Those allocations would negate the need for Pacific cod sideboards.

Only the Non-AFA Trawl CV sector remains to be discussed. That fishery appears to be the most at risk of gaining additional effort as a result of the Non-AFA Trawl CP sector forming a cooperative. The level of risk will depend on the number of vessels that elect to participate in both the Non-AFA Trawl CP sector and the Non-AFA Trawl CV sector. Catcher processor vessels are allowed to operate as a catcher vessels and there are no Pacific cod endorsements for trawl gear in the BSAI. The Council may wish to restrict eligible Non-AFA Trawl CP vessels from participating in the Non-AFA Trawl CV sector. If it is not reasonable to restrict participation of the eligible vessels from participating in the Non-AFA Trawl CV sector and sufficient vessels could participate in both sectors, harvest restrictions for the Non-AFA Trawl CP sector may be warranted.

Several BSAI flatfish species are targeted primarily by members of the Non-AFA Trawl CP sector, and are included in the species to be directly allocated to the Non-AFA Trawl CP sector. Given their historic participation in those fisheries, the majority of the flatfish TACs will likely be allocated to them. Preliminary data indicates that, depending on the allocation alternative selected, between 60 percent and 90 percent of the BSAI yellowfin sole TAC will be assigned the Non-AFA Trawl CP sector. The percentage of rock sole and flathead sole allocated to them is expected to be about as large as was projected for yellowfin sole. Like flatfish, the vast majority (over 90 percent) of the AI POP TAC is expected to be allocated to the Non-AFA Trawl CP sector.

Table 3-63, Table 3-64, and Table 3-65 contain estimates of the BSAI sideboards under the various alternatives in Option 12.1. These tables show that the sideboard limits vary more across species than they do for a species over the various time periods. Sideboards tend to be larger in the BS than in the AI (except for other rockfish). Rockfish species that have TACs set for both the BS and AI and Pacific cod, tend to have sideboards from 55 percent to over 80 percent. Because these sideboards are calculated using everyone's total catch, they represent approximately what the sector would catch under historic fishing conditions and TACs.

Table 3-63 BSAI Sideboard estimates based on total catch of the Non-AFA Trawl CP sector divided by the total catch of all vessels

Area and Species	1995-2003	1998-2002	1998-2003	1999-2003	2000-2003
Bering Sea					
Other Rockfish	27.00%	39.19%	33.99%	36.72%	40.09%
Pacific Ocean Perch	28.35%	15.27%	14.63%	13.55%	12.18%
Sablefish (Trawl)	27.57%	36.66%	29.78%	31.25%	27.95%
Greenland Turbot	19.86%	20.32%	20.22%	23.12%	21.56%
Pollock - Incidental Catch	n/a	n/a	n/a	51.70%	53.73%
Aleutian Islands					
Other Rockfish	38.98%	57.52%	54.96%	62.89%	44.30%
Sablefish (Trawl)	5.90%	5.14%	4.66%	4.81%	5.16%
Greenland Turbot	12.89%	5.08%	6.32%	8.32%	10.04%
Pollock	n/a	n/a	n/a	25.67%	22.90%

Area and Species	1995-2003	1998-2002	1998-2003	1999-2003	2000-2003
Bering Sea & Aleutian Islands					
Arrowtooth Flounder	22.77%	17.36%	19.71%	17.05%	24.21%
Northern Rockfish	76.80%	74.71%	79.18%	81.65%	78.12%
Other Flatfish/Alaska Plaice	4.25%	3.27%	4.18%	4.94%	9.78%
Other Species&Squid	33.29%	36.20%	34.39%	33.91%	35.56%
Pacific Cod (Trawl –CP)	n/a	70.66%	72.67%	78.12%	79.61%
Shortraker/Rougheye Rockfish	73.67%	66.54%	63.31%	71.74%	55.13%
Bogoslof District					
Pollock (Incidental Catch)	n/a	n/a	n/a	2.41%	2.20%

Source: Retained catch of the Non-AFA Trawl CP sector was estimated using the Council IRFA data set, and total catch of all vessels was taken from the 1995-2003 NOAA Fisheries catch reports (www.fakr.noaa.gov).

Note: These tables were generated with data that is considered to be preliminary by the analysts. The official sideboard estimates generated using this method could vary from those reported here. Pollock sideboards were only calculated for the years when the AFA was in place and a pollock ICA was established. Pacific cod sideboards were not calculated for the 1995-2003 period because the CV/CP split of the trawl allocation did not begin until 1997.

Table 3-64 reports the sideboard estimates when retained catch is used for both the Non-AFA Trawl CP sector's catch and the total catch. Most of the sideboard estimates using retained catch are larger than when total catch is used. Other rockfish, Bering Sea POP, arrowtooth flounder, and BS Greenland turbot had the largest percentage increases when retained catch was used. That indicates the Non-AFA Trawl CP sector tends to retain more of these species than other sectors. Aleutian Islands Greenland turbot sideboards did not change much when retained catch is used compared to total catch. The sideboard amounts are decreased for other species/squid and shortraker/rougheye rockfish when retained catch is used to calculate sideboards. The reduction is due to the Non-AFA Trawl CP sector retaining a smaller percentage of these species than other sectors. Therefore, other species could potentially limit the amount of allocated species they can harvest.

Table 3-64 BSAI Sideboard estimates based on retained catch of the Non-AFA Trawl CP sector divided by the retained catch of all vessels

Area and Species	1995-2003	1998-2002	1998-2003	1999-2003	2000-2003
Bering Sea					
Other Rockfish	49.37%	52.12%	57.12%	61.28%	63.84%
Pacific Ocean Perch	54.59%	38.62%	31.70%	34.58%	32.30%
Sablefish (Trawl)	*	96.91%	*	*	*
Greenland Turbot	20.30%	21.38%	20.81%	24.68%	23.71%
Pollock – Incidental Catch	n/a	n/a	n/a	*	*
Aleutian Islands					
Other Rockfish	59.62%	80.26%	74.67%	79.87%	46.11%
Sablefish (Trawl)	*	84.73%	*	*	*
Greenland Turbot	43.75%	24.73%	27.99%	33.60%	36.19%
Pollock	n/a	n/a	n/a	*	*

Area and Species	1995-2003	1998-2002	1998-2003	1999-2003	2000-2003
Bering Sea & Aleutians					
Arrowtooth Flounder	74.36%	77.48%	77.25%	78.12%	77.50%
Northern Rockfish	76.96%	67.17%	63.76%	65.12%	57.73%
Other Flatfish	18.46%	33.64%	37.14%	44.01%	47.09%
Other Species&Squid	12.55%	16.38%	15.88%	16.30%	17.31%
Pacific Cod (Trawl - CP)	*	74.41%	*	*	*
Shortraker/Rougheye Rockfish	36.73%	69.38%	66.73%	82.31%	53.67%
Bogoslof District					
Pollock (Incidental Catch)	n/a	n/a	n/a	*	*

Source: Retained catch of the Non-AFA Trawl CP sector was estimated using the Council IRFA data set, and total catch of all vessels was taken from the 1995-2003 NOAA Fisheries catch reports (www.fakr.noaa.gov).

Note: These tables were generated with data that is considered to be preliminary by the analysts. The official sideboard estimates generated using this method could vary from those reported here. Pollock sideboards were only calculated for the years when the AFA was in place and a pollock ICA was established. Pacific cod sideboards were not calculated for the 1995-2003 period because the CV/CP split of the trawl allocation did not begin until 1997. An asterisk indicates that the data could not be calculated with the retained catch data available for the entire BSAI fleet, at the time the tables were developed.

Table 3-65 reports the BSAI sideboard estimates when the retained catch of the Non-AFA Trawl CP sector is divided by the total catch of all sectors. This method of calculating sideboards results in lower amounts than either of the other methods. All of the Bering Sea species decline from 3 to 10 percent using this method when compared to total catch. Other rockfish declined the most of the AI TACs. It declined from 17 to 25 percent depending on the years used. The other AI sideboards only decline by about 1 percent. Northern rockfish (67 to 79 percent), other species (31 – 34 percent), and shortraker rougheye rockfish (23 to 29 percent) had the largest decreases in sideboards of the species that have a TAC set for BSAI species, when compared to Table 3-64. Other flatfish and Pacific cod tended to change a relatively small amount, for most year combinations, when compared to Table 3-64.

Table 3-65 BSAI Sideboard estimates based on retained catch of the Non-AFA Trawl CP sector divided by the total catch of all vessels

Area and Species	1995-2003	1998-2002	1998-2003	1999-2003	2000-2003
Bering Sea					
Other Rockfish	21.01%	29.74%	26.79%	29.53%	33.34%
Pacific Ocean Perch	22.96%	9.16%	8.40%	7.09%	6.61%
Sablefish (Trawl)	24.05%	33.39%	26.41%	27.72%	24.71%
Greenland Turbot	15.95%	16.64%	16.31%	18.81%	17.18%
Pollock – Incidental Catch	n/a	n/a	n/a	51.70%	53.73%
Aleutian Islands					
Other Rockfish	21.65%	36.09%	32.47%	38.27%	22.69%
Sablefish (Trawl)	5.61%	4.87%	4.45%	4.72%	5.11%
Greenland Turbot	11.49%	4.68%	5.71%	7.59%	9.14%
Pollock	n/a	n/a	n/a	25.67%	22.90%

Area and Species	1995-2003	1998-2002	1998-2003	1999-2003	2000-2003
Bering Sea & Aleutians					
Arrowtooth Flounder	6.10%	5.53%	6.36%	5.96%	9.05%
Northern Rockfish	9.32%	3.97%	3.50%	3.11%	1.92%
Other Flatfish/Alaska Plaice	1.48%	1.19%	1.48%	1.67%	3.04%
Other Species&Squid	1.79%	2.01%	2.41%	2.61%	3.26%
Pacific Cod (Trawl - CP)	n/a	70.30%	72.37%	77.80%	79.58%
Shortraker/Rougheye Rockfish	44.21%	43.28%	39.23%	45.43%	30.92%
Bogoslof District					
Pollock (Incidental Catch)	n/a	n/a	n/a	2.41%	2.20%

Source: Retained catch of the Non-AFA Trawl CP sector was estimated using the Council IRFA data set, and total catch of all vessels was taken from the 1995-2003 NOAA Fisheries catch reports (www.fakr.noaa.gov).

Note: These tables were generated with data that is considered to be preliminary by the analysts. The official sideboard estimates generated using this method could vary from those reported here. Pollock sideboards were only calculated for the years when the AFA was in place and a pollock ICA was established. Pacific cod sideboards were not calculated for the 1995-2003 period because the CV/CP split of the trawl allocation did not begin until 1997.

Halibut PSC limits will play a role in how much of the fish they can harvest. Additional direction on how GOA PSC should be allocated under this sideboard program is needed. Therefore, estimates of GOA PSC sideboards have not been generated in this draft of the analysis

3.2.11.3 Crab

The BSAI crab fisheries are currently managed under a license limitation program, but the Council has approved a voluntary cooperative program for the crab fisheries. It is anticipated that the crab cooperatives will be in place by time the Non-AFA Trawl CP cooperatives could be developed and implemented. If that happens, harvest limits in the crab fishery would not be needed.

3.2.12 Component 13 – Harvest Threshold Development for the Yellowfin Sole Fishery

Component 13 allows for a different allocation of yellowfin sole to the Non-AFA Trawl CP sector and trawl limited access fishery[15] when the ITAC for yellowfin sole exceeds a specific threshold. Specifically, when the allocation for yellowfin sole exceeds the Council selected threshold, the portion of yellowfin sole above the threshold would be allocated using different percentages for the Non-AFA Trawl CP sector and the trawl limited access fishery than those determined in Components 3 and 4. The portion of yellowfin below the threshold would continue to be allocated to the Non-AFA Trawl CP sector and the trawl limited access fishery based on the formula determined in Components 3 and 4. Thresholds under consideration by the Council to trigger the alternative allocation percentages are 80,000 mt, 100,000 mt, 125,000 mt, 150,000 mt, and 150,000 mt. The component also includes a suboption for rolling over any yellowfin sole that is projected to go unharvested from the trawl limited access fishery to the Non-AFA Trawl CP sector or from the Non-AFA Trawl CP sector to the trawl limited access fishery. The purpose of the rollover suboption is to help ensure that the yellowfin sole allocations are more fully utilized. The suboption suggests two dates, August 1 or September 1, for determining projected unused amounts of the allocated yellowfin sole. These dates would require NOAA Fisheries to determine the amount of yellowfin sole that would be rolled-over from one sector to another on a specific date. Members of the Alaska Region Inseason management

[15] The trawl limited access fishery is defined as all trawl vessels that operate in the BSAI that are not included in the Non-AFA Trawl CP sector. AFA vessels are also included in this group even though their harvest is limited by sideboard limits imposed on their non-pollock harvests.

staff have suggested that dates for determining rollover amounts and dates for reallocating yellowfin sole are not necessary for the proposed action. In fact, they have indicated that they may be able to take advantage of the flexibility of not including rollover dates, given the constantly changing fisheries, to rollover portions of the ITAC when they can be used best.

The intent of threshold action is to better accommodate major shifts in the yellowfin sole trawl fisheries during a period of high ITAC as well as providing harvesting opportunities for some trawl sectors, while also maintaining some consistency in the historical catch in other trawl sectors. For example, if future pollock TACs were to decline dramatically and the yellowfin sole TAC was increased above the predetermined threshold level, the distribution of yellowfin sole above that threshold level could be modified from the percentages calculated using Components 3 and 4. The change is proposed to better accommodate the trawl limited access fishery participants. Provided below is a copy of the proposed threshold action. The threshold program was developed to expand the harvesting opportunities for some trawl sectors during periods of high TACs in the flatfish fisheries, while also maintaining some consistency in the historical catch distribution among the trawl sectors.

The allocation options under consideration for the portion of yellowfin sole above the threshold are 30/70, 50/50, and 70/30 splits between the Non-AFA Trawl CP sector and the trawl limited access fishery. Any portion of the yellowfin sole ITAC above the threshold would be distributed between the Non-AFA Trawl CP sector and the trawl limited access fishery using one of those ratios. For example, with a threshold of 125,000 mt and an ITAC of 135,000 mt, the Non-AFA Trawl CP sector would be allocated between 19 and 48 percent of the yellowfin sole ITAC below the threshold (125,000 mt), and depending on the distribution selected by the Council the Non-AFA Trawl CP would be allocated either 30, 50, or 70 percent of the remaining 10,000 mt of yellowfin sole above the threshold. The trawl limited access fishery would be allocated the remaining yellowfin sole.

Component 13

A threshold level may be established for yellowfin sole. ITAC below the threshold level will be allocated to the Non-AFA Trawl Catch Processor sector based on the formula determined in Components 3 and 4. ITAC in excess of the threshold level will be available to other sectors as well as to the Non-AFA Trawl CP sector. Threshold levels for other species may be developed at a later date.

Suboption Threshold Rollover

Suboption 1: No rollover provision

Suboption 2: Any unharvested portion of the threshold reserve allocated to the limited access fishery that is projected to remain unused by a specific date (August 1 or Sept 1) shall be reallocated to the Non-AFA Trawl CP sector. Any unharvested portion of the threshold reserve allocated to the Non-AFA Trawl CP sector that is projected to remain unused by a specific date (August1 or September 1) shall be reallocated to the limited access fishery.

For yellowfin sole, the threshold will be:

Option 13.1 80,000 MT

Option 13.2 100,000 MT

Option 13.3 125,000 MT

Option 13.4 150,000 MT

Option 13.5 175,000 MT

Allocate the threshold reserve to the Non-AFA Trawl CP sector and the BSAI limited access fishery using one of following suboptions :

Suboption 1 30% Non-AFA Trawl CP sector and 70% limited access fishery

Suboption 2 50% Non-AFA Trawl CP sector and 50% limited access fishery

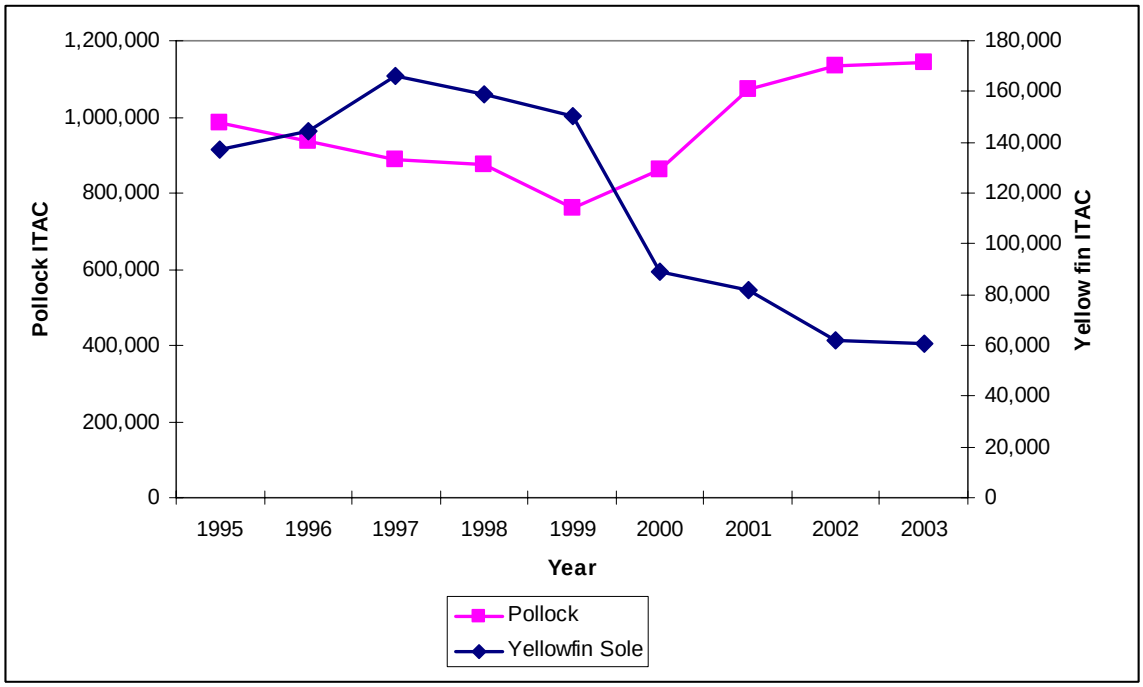
Suboption 3 70% Non-AFA Trawl CP sector and 30% limited access fishery

The remaining portion of this section provides a discussion of the impacts of the different threshold amounts and the different allocation percentages for the Non-AFA Trawl CP sector and the trawl limited access fishery participants.

During scoping of this option, various criteria were suggested for developing the allocation options when the yellowfin sole ITAC is above the threshold. Some of the suggestions included selecting allocation amounts that best develop the yellowfin sole fishery, while continuing to reduce PSC and discards of other species. In addition, the allocation percentages selected should allow traditional participants to maintain their historic catch, while at the same time recognize the potential efficiency improvements of the sector from cooperatives, which may allow for expanded harvesting and processing capacity. Other factors that were noted when selecting the allocation percentages are the ability of the sectors to harvest the threshold allocation. Combined, all of these criteria were suggested by the Council as means to help guide the body during final action when determining the appropriate allocation percentage of yellowfin sole above the threshold.

Although these suggested criteria are useful when trying to balance the needs of the traditional participants with those of future participants, it is difficult to determine the baseline needs of the traditional participants and future participants, that may want to enter the fishery of expand their effort, with any certainty. One of the primary reasons for this difficulty is the interrelationship of the pollock fishery and the 2 million mt cap and its influence on the yellowfin sole fishery. As seen in Figure 3-2, between 1995 and 1999, when the pollock ITAC declined, the ITAC for yellowfin sole increased every year except 1999. When the pollock ITAC increased between 1999 and 2003, the yellowfin sole ITAC declined. Although there could be a number of other reasons for the potential inverse relationship between pollock ITAC and yellowfin ITAC including biomass and market conditions, the interrelationship between the 2 million mt cap and the pollock fisheries is likely the primary influence on the yellowfin sole fishery. Since the increases in pollock ITAC leave less room under the 2 million mt cap, other BSAI ITACs must decrease to ensure that the total BSAI removals remains under the 2 million mt limit. This results in species like yellowfin sole having their ITAC set at levels below those that could be supported by biomass levels that year.

Figure 3-2 Annual pollock and yellow fin sole ITAC from 1995 to 2003



Given the difficulty in determining the baseline information, each allocation group could make an argument that the threshold program is not providing for their needs. Their argument would depend on the allocation calculation method selected from Components 3 and 4, combined with a specific threshold and a distribution of yellowfin sole ITAC above the threshold. In order to provide some guidance, the next set of tables provides catch data for both groups and allocation data at each threshold. Specifically, Table 3-66 provides the annual ITAC for pollock and yellowfin sole, annual total catch and retained catch for the Non-AFA Trawl CP sector and the limited access fishery from 1995 to 2003. The allocations to these groups at or below the threshold are determined by applying the allocation calculation from Component 3 with the set of catch history years from Component 4 multiplied by the yellowfin sole ITAC. Any amount of ITAC over the threshold would be distributed to the sector using the allocation percentages from suboption 1, 2, or 3 of this component.

Using data from these tables, some general observations concerning the overall allocations to each group given a specific threshold and distribution of the portion of yellowfin sole above the threshold can be provided. The average annual retained catch of the Non-AFA Trawl CP sector from 1995 to 2003 was 67,536 mt or 81 percent of the total retained harvest, while the average annual retained catch of all eligible participants in the trawl limited access fishery was 13,808 mt or 17 of the total retained harvest. The average annual total catch for both groups is within the range of allocation options under consideration for thresholds of 80,000 mt, 100,000 mt, and 125,000 mt. However, at a threshold of 80,000 mt, allocation percentages using Option 3.3 would result in allocations to the Non-AFA Trawl CP sector less than their annual average total catch from 1995-2003. Similarly, if the Council selected Option 3.2 and any catch history years after 1998, the remaining portion of yellowfin sole available for the trawl limited access fishery would result in an allocation less than their annual total catch of yellowfin sole from 1995-2003. A threshold of 150,000 or 175,000 would result in allocation of yellowfin sole greater than the annual average total catch for Non-AFA Trawl CP sector. Using retain catch as a measure for the threshold allocation does not take into account the necessary incidental catch associated with the multi-species groundfish

At a threshold of 80,000 mt, depending the allocation option selected and the catch history years selected, the Non-AFA Trawl CP sector would allocated between 41,600 mt of yellowfin sole at an estimated first wholesale value of $22 million and 74,206 mt at an estimated first wholesale value of 39 million. Allocations of yellowfin sole at 80,000 mt threshold to the trawl limited access fishery would range between 5,794 mt at an estimated first wholesale value of $3 million to 38,400 mt at an estimated first wholesale value of $20 million.

At a threshold of 100,000, the allocations of yellowfin sole to the Non-AFA Trawl CP sector would range between 52,000 mt at an estimated first wholesale value of $28 million and 92,757 mt at an estimated first wholesale value of $49 million. Allocations of yellowfin sole to the trawl limited access fishery would range between 7,243 mt at an estimated first wholesale value of $4 million and 48,000 mt at an estimated first wholesale value of $25 million.

At a threshold of 125,000, the allocations of yellowfin sole to the Non-AFA Trawl CP sector would range between 65,000 mt at an estimated first wholesale value of $34 million and 115,946 mt at an estimated first wholesale value of $61 million. Allocations of yellowfin sole to the trawl limited access fishery would range between 9,054 mt at an estimated first wholesale value of $5 million and 60,000 mt at an estimated first wholesale value of $32 million.

At a threshold of 150,000, the allocations of yellowfin sole to the Non-AFA Trawl CP sector would range between 78,000 mt at an estimated first wholesale value of $41 million and 139,135 mt at an estimated first wholesale value of $74 million. Allocations of yellowfin sole to the trawl limited access fishery would range between 10,865 mt at an estimated first wholesale value of $6 million and 72,000 mt at an estimated first wholesale value of $38 million.

At a threshold of 175,000, the allocations of yellowfin sole to the Non-AFA Trawl CP sector would range between 91,000 mt at an estimated first wholesale value of $48 million and 162,325 mt at an estimated first wholesale value of $86 million. Allocations of yellowfin sole to the trawl limited access fishery would range between 12,675 mt at an estimated first wholesale value of $7 million and 84,000 mt at an estimated first wholesale value of $44 million.

Allocation of yellowfin sole ITAC above the threshold could adjust some of the disparity between historical fishing patterns and allocations that could be created under Components 3 and 4 for traditional participants. The allocation of yellowfin sole ITAC above the threshold could also be used to provide some of the opportunity suggested by the Council in developing criteria for selecting distribution levels between the two groups. For example, a distribution of 70 percent of the yellowfin sole ITAC above a threshold of 100,000 to the Non-AFA Trawl CP combined with any group of catch history years under Option 3.3 would result in total allocation of yellowfin sole higher the annual average retained catch for the sector from 1995-2003. However, selecting a 70 percent distribution for yellowfin sole ITAC above an 80,000 mt threshold for the Non-AFA Trawl CP sector would provide less opportunities for future participants than a 70 percent distribution of yellowfin sole ITAC above a threshold of 125,000 or 150,000 mt to the trawl limited access fishery. In addition, if the Non-AFA Trawl CP sector's allocation is limited to their historic average and additional yellowfin sole is on the market, prices of yellowfin could drop sharply, resulting in the sector generating less revenue. It has been argued in the past the market for yellowfin sole is limited, and if the available supple of product reaches a given level, the price drops to a level that does not support harvesting more yellowfin sole. If this is true and more vessels enter the fishery, the members of the Non-AFA Trawl CP sector could actually be worse off even though they have their historic allocation. It could also negate some of the benefits of the cooperative as companies race to get their product to market first.

Many of the same issues in this component are similar to those raised in the analysis of the allocation calculations options in Components 3 and 4. Specifically, depending on the threshold selected and the distribution of yellowfin sole over the threshold, there is potential for some portion of the yellowfin sole allocation to go unharvested due to bycatch constraints. Bycatch of halibut by the Non-AFA Trawl CP sector is routinely sited as the primary reason for closure of the yellowfin sole fishery prior to harvesting the entire ITAC. Although development of a cooperative structure for the sector may slow the fishery enough to allow cooperative members to avoid high bycatch areas thus extend the fishery, the sector will likely continued to be challenged to avoid high halibut bycatch. Over the past several years, participants in the trawl limited access fishery have focused mostly on pollock (for those vessels that are AFA qualified) and Pacific cod. If their focus were to shift to yellowfin sole in the future, these participants would likely also face the same issue as the Non-AFA Trawl CP sector, to limit their bycatch of halibut.

Table 3-66 Allocation percentages, amounts, and first wholesale value of yellowfin sole to the Non-AFA Trawl Catch Process sector at each threshold option

Years	Option 3.1 (Total/Total)			Option 3.2 (Retained/Retained)			Option 3.3 (Retained/Total)		
	Allocation Percent	Allocation at threshold (mt)	Estimated First Wholesale Value[1]	Allocation Percent	Allocation at threshold (mt)	Estimated First Wholesale Value[1]	Alloca-tion Percent	Allocation at threshold (mt)	Estimated First Wholesale Value[1]
80,000 mt threshold									
1995-2003	67.6%	54,080	$28,608,320	63.8%	51,040	$27,000,160	52.0%	41,600	$22,006,400
1998-2002	75.9%	60,755	$32,139,541	88.5%	70,785	$37,445,363	58.5%	46,822	$24,768,587
1998-2003	77.6%	62,046	$32,822,569	89.6%	71,702	$37,930,407	60.9%	48,681	$25,752,217
1999-2003	79.4%	63,491	$33,586,848	91.3%	73,003	$38,618,334	63.0%	50,416	$26,669,875
2000-2003	80.9%	64,753	$34,254,462	92.8%	74,206	$39,254,713	65.3%	52,238	$27,634,146
100,000 mt threshold									
1995-2003	67.6%	67,600	$35,760,400	63.8%	63,800	$33,750,200	52.0%	52,000	$27,508,000
1998-2002	75.9%	75,944	$40,174,427	88.5%	88,481	$46,806,704	58.5%	58,527	$30,960,734
1998-2003	77.6%	77,558	$41,028,211	89.6%	89,628	$47,413,009	60.9%	60,851	$32,190,271
1999-2003	79.4%	79,364	$41,983,560	91.3%	91,253	$48,272,917	63.0%	63,020	$33,337,343
2000-2003	80.9%	80,942	$42,818,078	92.8%	92,757	$49,068,391	65.3%	65,298	$34,542,682
125,000 mt threshold									
1995-2003	67.6%	84,500	$44,700,500	63.8%	79,750	$42,187,750	52.0%	65,000	$34,385,000
1998-2002	75.9%	94,930	$50,218,033	88.5%	110,602	$58,508,380	58.5%	73,159	$38,700,918
1998-2003	77.6%	96,948	$51,285,264	89.6%	112,035	$59,266,261	60.9%	76,064	$40,237,839
1999-2003	79.4%	99,205	$52,479,450	91.3%	114,066	$60,341,146	63.0%	78,774	$41,671,679
2000-2003	80.9%	101,177	$53,522,597	92.8%	115,946	$61,335,489	65.3%	81,623	$43,178,353
150,000 mt threshold									
1995-2003	67.6%	101,400	$53,640,600	63.8%	95,700	$50,625,300	52.0%	78,000	$41,262,000
1998-2002	75.9%	113,916	$60,261,640	88.5%	132,722	$70,210,056	58.5%	87,790	$46,441,101
1998-2003	77.6%	116,337	$61,542,317	89.6%	134,441	$71,119,513	60.9%	91,277	$48,285,406
1999-2003	79.4%	119,046	$62,975,340	91.3%	136,880	$72,409,375	63.0%	94,529	$50,006,015
2000-2003	80.9%	121,412	$64,227,116	92.8%	139,135	$73,602,586	65.3%	97,947	$51,814,024
175,000 mt threshold									
1995-2003	67.6%	118,300	$62,580,700	63.8%	111,650	$59,062,850	52.0%	91,000	$48,139,000
1998-2002	75.9%	132,902	$70,305,247	88.5%	154,843	$81,911,731	58.5%	102,422	$54,181,285
1998-2003	77.6%	135,727	$71,799,370	89.6%	156,848	$82,972,765	60.9%	106,490	$56,332,974
1999-2003	79.4%	138,887	$73,471,230	91.3%	159,693	$84,477,605	63.0%	110,284	$58,340,351
2000-2003	80.9%	141,648	$74,931,636	92.8%	162,325	$85,869,684	65.3%	114,272	$60,449,694

[a]Data is not yet available for the 2004 period, so 2003 was the latest year used.
[1]Average first wholesale value for whole yellowfin sole processed at-sea from 1999 to 2003.
Source: Data summarized from 1995-2003 NOAA Fisheries Weekly Production Reports and 1995-2003 ADFG groundfish fish tickets. Total harvest for all sectors is from NOAA Fisheries blend data (1995-2002) and Catch Accounting System (2003). The 2003 fish ticket data should be considered preliminary

Table 3-67 Allocation percentages, amounts, and first wholesale value of yellowfin sole to the trawl limited access fishery at the each threshold option

	Option 3.1 (Total/Total)			Option 3.2 (Retained/Retained)			Option 3.3 (Retained/Total)		
Years	Allocation Percent	Allocation (mt)	Estimated First Wholesale Value[1]	Allocation Percent	Allocation (mt)	Estimated First Wholesale Value[1]	Allocation Percent	Allocation (mt)	Estimated First Wholesale Value[1]
80,000 mt threshold									
1995-2003	32.4%	25,920	$13,711,680	36.2%	28,960	$15,319,840	48.0%	38,400	$20,313,600
1998-2002	24.1%	19,245	$10,180,459	11.5%	9,215	$4,874,637	41.5%	33,178	$17,551,413
1998-2003	22.4%	17,954	$9,497,431	10.4%	8,298	$4,389,593	39.1%	31,319	$16,567,783
1999-2003	20.6%	16,509	$8,733,152	8.7%	6,997	$3,701,666	37.0%	29,584	$15,650,125
2000-2003	19.1%	15,247	$8,065,538	7.2%	5,794	$3,065,287	34.7%	27,762	$14,685,854
100,000 mt threshold									
1995-2003	32.4%	32,400	$17,139,600	36.2%	36,200	$19,149,800	48.0%	48,000	$25,392,000
1998-2002	24.1%	24,056	$12,725,573	11.5%	11,519	$6,093,296	41.5%	41,473	$21,939,266
1998-2003	22.4%	22,442	$11,871,789	10.4%	10,372	$5,486,991	39.1%	39,149	$20,709,729
1999-2003	20.6%	20,636	$10,916,440	8.7%	8,747	$4,627,083	37.0%	36,980	$19,562,657
2000-2003	19.1%	19,058	$10,081,922	7.2%	7,243	$3,831,609	34.7%	34,702	$18,357,318
125,000 mt threshold									
1995-2003	32.4%	40,500	$21,424,500	36.2%	45,250	$23,937,250	48.0%	60,000	$31,740,000
1998-2002	24.1%	30,070	$15,906,967	11.5%	14,398	$7,616,620	41.5%	51,841	$27,424,082
1998-2003	22.4%	28,052	$14,839,736	10.4%	12,965	$6,858,739	39.1%	48,936	$25,887,161
1999-2003	20.6%	25,795	$13,645,550	8.7%	10,934	$5,783,854	37.0%	46,226	$24,453,321
2000-2003	19.1%	23,823	$12,602,403	7.2%	9,054	$4,789,511	34.7%	43,377	$22,946,647
150,000 mt threshold									
1995-2003	32.4%	48,600	$25,709,400	36.2%	54,300	$28,724,700	48.0%	72,000	$38,088,000
1998-2002	24.1%	36,084	$19,088,360	11.5%	17,278	$9,139,944	41.5%	62,210	$32,908,899
1998-2003	22.4%	33,663	$17,807,683	10.4%	15,559	$8,230,487	39.1%	58,723	$31,064,594
1999-2003	20.6%	30,954	$16,374,660	8.7%	13,120	$6,940,625	37.0%	55,471	$29,343,985
2000-2003	19.1%	28,588	$15,122,884	7.2%	10,865	$5,747,414	34.7%	52,053	$27,535,976
175,000 mt threshold									
1995-2003	32.4%	56,700	$29,994,300	36.2%	63,350	$33,512,150	48.0%	84,000	$44,436,000
1998-2002	24.1%	42,098	$22,269,753	11.5%	20,157	$10,663,269	41.5%	72,578	$38,393,715
1998-2003	22.4%	39,273	$20,775,630	10.4%	18,152	$9,602,235	39.1%	68,510	$36,242,026
1999-2003	20.6%	36,113	$19,103,770	8.7%	15,307	$8,097,395	37.0%	64,716	$34,234,649
2000-2003	19.1%	33,352	$17,643,364	7.2%	12,675	$6,705,316	34.7%	60,728	$32,125,306

[a]Data is not yet available for the 2004 period, so 2003 was the latest year used.
[1]Average first wholesale value for whole yellowfin sole processed at-sea from 1999 to 2003.
Source: Data summarized from 1995-2003 NOAA Fisheries Weekly Production Reports and 1995-2003 ADFG groundfish fish tickets. Total harvest for all sectors is from NOAA Fisheries blend data (1995-2002) and Catch Accounting System (2003). The 2003 fish ticket data should be considered preliminary

In addition, the trawl limited access fishery could be constrained by the sideboards on the AFA Trawl CP sector and the AFA Trawl Catcher Vessel sector. The AFA Trawl CP sector has a yellowfin sideboard limit of 23 percent, while the AFA Trawl Catcher Vessel sector has a limit of 6.47 percent. Combined these two sectors have a sideboard limited of 29.47 percent of the yellowfin sole ITAC. Based on the allocation to the Non-AFA Trawl CP sector, the remaining portion of yellowfin sole that

could be allocated to the trawl limited access fishery would range between 7.2 and 48 percent below the threshold, while above the threshold the allocation options for yellowfin sole are 30, 50, or 70 percent. If the Council selects options that would allocate significantly more yellowfin sole to the trawl limited access fishery than the combined sideboard of the two AFA sectors, there is the potential some amount of the yellowfin sole could go unharvested.

To limit unutilized yellowfin sole the threshold component includes a rollover option. The purpose of the rollover provision is to ensure the ITAC of yellowfin sole is fully utilized to the extent possible. In addition, as noted above, because the allocation of yellowfin sole above the threshold will not necessarily be based on historical fishing patterns, the rollover provision will allow some adjustment to the allocations to reflect historical fishing patterns.

Similar to the discussion on rollovers in Components 3 and 4, it is assumed that the Regional Administrator would be authorized to reallocate any projected unharvested allocation of yellowfin sole in the trawl limited access fishery to the Non-AFA Trawl CP sector. This option also would allow the Regional Administrator to rollover unharvested yellowfin sole by the Non-AFA Trawl CP sector to the trawl limited access fishery. The suboption does not include language on how to distribute the reallocated yellowfin sole between the different groups in Non-AFA Trawl CP. It is assumed that any reallocation of quota to the Non-AFA Trawl CP would be apportioned based on the division in Component 10. The options gives two suggestions for a specific time for determining the unharvested amount of yellowfin sole that would be reallocated, August 1 or September 1. The August 1 date would accommodate the Non-AFA Trawl CP sector and trawl limited access fisher as opposed to the later September 1 date because participants would have more time to harvest the reallocated amount. In discussions with the Inseason Management Section of NOAA Fisheries Alaska Region, they would prefer to have no dates for determining rollover amounts and reallocating yellowfin sole. Like the Pacific cod fishery, Inseason Management Section of NOAA Fisheries Alaska Region would determine the appropriate rollover amounts and the appropriate date for reallocation of yellowfin sole based on industry input and the rate of the fishery.

3.2.13 Other Elements of Amendment 80

Amendment 80 was proposed to develop the allocation and framework for a cooperative system for members of the Non-AFA Trawl CP sector. Developing the cooperative program's structure requires the Council to define several components that together comprise the management system. To aid the Council in developing appropriate components for the cooperative program's structure, a committee was formed. Members of that committee included individuals from various sectors of the North Pacific fishing industry that could provide a broad viewpoint of the impacts of the various components. NOAA Fisheries, ADF&G, and the Council provided staff support for the committee. The committee met several times to develop a list of elements and options that were used by the Council as a starting point to develop a cooperative structure. Some components of the program contained several options. In other cases, the committee was able to agree on a preferred alternative, after determining that other options being considered were inferior. The components that have only one option are called the "single-option components" in this document and are described in this section. A discussion of the Amendment 80 components with multiple options is provided in the previous sections of this document.

The single-option components are a critical part of the overall cooperative program. Those components describe how the cooperative will function with other sectors of the North Pacific fishing fleet, set parameters regarding how members of the cooperative interact with each other, and lay out some parameters for interaction with NOAA Fisheries and the Council. Each single-option component will be discussed in the following section to provide an understanding of how the component would function and the impacts selecting that component will have on public and private

sectors. Many of the single-option components were selected because other options would be contrary to other objective of the Council. For example, they would overturn the IR/IU program or would circumvent the LLP program. When possible the committee rational for selecting a single-option component will be provided.

3.2.13.1 Pollock and Pacific Cod IR/IU Programs

Amendment 80 will not replace the pollock and Pacific cod IR/IU programs.

The pollock and Pacific cod IR/IU program was initially implemented on January 3, 1998 under Amendment 49 to the BSAI Groundfish FMP. Regulations defining the pollock and Pacific cod IR/IU program are contained in §679.27. Those regulations indicate that "the owner or operator of a vessel that is required to obtain a Federal fisheries or processor permit under § 679.4 must comply with the IR/IU program set out in this section while fishing for groundfish in the GOA or BSAI, fishing for groundfish in waters of the State of Alaska that are shoreward of the GOA or BSAI, or when processing groundfish harvested in the GOA or BSAI."

As referenced earlier, for a complete description of the IR/IU requirements refer to §679.27 of the Alaska Federal fishery regulations. The general requirements of the pollock and Pacific cod IR/IU program are that a vessel must retain:

(1) An amount equal to or exceeding 15 percent of the round-weight catch or round-weight delivery of that species during the fishing trip, when directed fishing for an IR/IU species is open.

(2) An amount equal to or exceeding 15 percent of the round-weight catch or round-weight delivery of that species during the fishing trip or 15 percent of the maximum retainableamount for that species, whichever is lower, when directed fishing for an IR/IU species is prohibited.

(3) Retention of an IR/IU species is prohibited that species may not be retained.

These requirements will not be altered as a result of Amendment 80 and members of the Non-AFA Trawl CP sector will be required to abide by those regulations. The Council always has the option to recommend that those regulations be altered in the future, outside of Amendment 80, if they determine such an action is appropriate.

The impacts of the pollock and Pacific cod IR/IU program are discussed in Amendment 49 and are included here by reference. However, since this amendment does not alter the regulations that are currently in place, including this alternative will continue the status quo impacts of the regulations.

Selecting an alternative, other than the Council's preferred alternative, would change the IR/IU program for pollock and Pacific cod. The intent of Amendment 80 is to allow members of the Non-AFA Trawl CP sector to operate in an environment that helps them meet IR/IU standards. It would be contrary to the spirit of this amendment to allow Non-AFA Trawl CPs to operate under a different IR/IU standard than the rest of the fleet. They will still be required to retain the amounts of pollock and Pacific cod that are defined above.

3.2.13.2 Groundfish Retention Standards

The Groundfish Retention Standards (GRS) (Amendment 79) will be applied to the cooperative as an aggregate on an annual basis and on those vessels who do not join a cooperative as individuals. Vessels less than 125 ft LOA participating in a cooperatives are required to have on board NOAA Fisheries approved scales to determine total catch and either maintain observer coverage of every haul for verification that all fish are being weighed or use an alternative scale-use verification plan approved by NOAA Fisheries.

In June 2003, the Council took final action on Amendment 79, approving a GRS program for the non-AFA trawl catcher/processors greater than 125 ft LOA operating in the BSAI. The program was scheduled to phase in required retention rates, starting at 65 percent in 2005. A revision to the

program would push the start date back to 2006 with a required retention rate of 75 percent. Required retention rates would then increase annually until it reaches 85 percent in 2008. After 2008, the retention rate would continue to be set at 85 percent, unless it was altered through the normal amendment process. Retention rates are calculated based on the round-weight catch or round-weight delivery of that species during the fishing trip.

This component changes the current Amendment 79 requirements by allowing vessels in the cooperative to pool their catch rates in order to meet the proposed GRS. All members of a cooperative or the open access portion of the fishery may pool their retention rated to meet the standard. Vessels with higher retention rates could help vessels with lower retention rates by the GRS to meet the average retention rate required for the group as a whole. As long as the average of all vessels in the pool is higher than the minimum retention rates required, the vessels in their group will have met the GRS. Allowing vessels to average their retention rates should reduce the risks associated with individual vessels exceeding the required retention rate. Vessel owners that did not meet the minimum rate may be required to compensate other members of the cooperative that had higher retention rates. However, the cost of compensating other members of the cooperative may be less than the fines/penalties that would be assessed for exceeding the GRS. In years when some cooperative members exceed the minimum retention standard, they would be in a position to increase revenues by allowing other members of the fleet to avoid fines/penalties by accessing their "excess" retention. Fewer sanctions being imposed on its members may also improve how that sector of the fishing fleet is perceived by the public.

Averaging retention rates would help vessels participating in fisheries with historically low retention rates. Participants in the rock sole fishery have traditionally not retained undersized or male fish, due to market conditions for those products. Table 11 from the September 12, 2003 Economic Safe Report indicates that, in 2002, 36.9 percent of the groundfish harvested in the rock sole target fishery was not retained. Meeting the increased GRS will likely be more costly in that fishery than in fisheries that have higher historic retention rates. The same Economic Safe reports that in 2002 the amount of groundfish not retained in the BSAI rockfish fisheries was only 9.2 percent. Recall that rockfish are not being allocated to the cooperative, so the cooperative is less likely to improve retention rates in the rockfish fishery. Flatfish species were discarded at the highest rate in the rockfish fisheries. In the Atka mackerel fishery the amount of groundfish not retained 24.5 percent. These retention rates indicate that it would likely be easier for participants in the rockfish or Atka mackerel fishery to meet the GRS than rock sole fishery participants. It also indicates that those fisheries may aid participants in the rock sole fishery in meeting the GRS. While the participants in the rockfish fishery could help vessels in the rock sole fishery meet the retention standard, the relative TACs in those fisheries make it unlikely that the rockfish fisheries could, by themselves, support members of the rock sole fishery in meeting the retention standard.

This alternative requires vessels less than 125 ft LOA, that join a cooperative, to have on board NOAA Fisheries approved scales to determine total catch and either maintain observer coverage of every haul for verification that all fish are being weighed or use an alternative scale-use verification plan approved by NOAA Fisheries. Preliminary data indicates that 10 of the 26 vessels that would qualify to join a cooperative are less than 125 ft LOA. Those 10 vessels would be directly impacted by this requirement. Three companies that own a vessel less than 125 ft LOA have more than one boat in this fleet (according to LLP data). Only one of those companies have a vessel longer than 125 ft LOA.

These additional requirements are included to help monitor the total harvest of these vessels. Keeping accurate records of the actual harvest of allocated species, sideboard species, and PSC species are a critical part of a cooperative program. Section 3.4 of this amendment contains more detail on the required monitoring and enforcement of this program. Implementing these measures was considered by NOAA Fisheries to be a necessary part of allowing cooperatives to form.

It was argued under Amendment 79 (NEI 2004) that it was too costly for smaller vessels in this fleet, in terms of dollars and/or physical space on the vessel, to require these catch monitoring provisions. Data from Amendment 79 indicates that approved marine flow scales are estimated to cost approximately $50,000. Equipment to outfit an observer station, including a motion-compensated platform scale to verify the accuracy of the total catch weight flow scale, would cost between $6,000 and $12,000. Installation costs are more difficult to estimate. Installation costs for the scales and observer stations could range between $20,000 to over $100,000. The requirement that every haul be observed will most likely necessitate the deployment of at least one additional observer aboard each of the less than 125 ft vessels.[1] It is estimated that the annual cost of an additional NOAA Fisheries-certified observer would be approximately $82,000 per vessel.

However under a cooperative, the vessel owner has additional options to help meet these requirements. They include fishing at a slower pace to have better counts of their harvest, or fishing their cooperative allotment on vessel within their cooperative that already has the required equipment. Whether all of these vessels will be able to stack their history on another vessel is not known. However, this provision is likely to impact which vessels join a cooperative. If these vessels are able to develop a strategy to meet these requirements in a cooperative they will likely join the cooperative that allows them to generate the most profits. If they are unable to develop a strategy to harvest their catch, while meeting these additional requirements, they may be forced to remain in the open access pool to avoid these additional costs. Given the information that is currently available it is not possible to predict which vessels will join cooperatives. Their decision will likely be based on historic alliances within the sector and their ability to operate at level that is at least as profitable as they could be in the open access pool of the Non-AFA Trawl CP sector.

3.2.13.3 LLP and GRS Requirements for Non-AFA Trawl CP Vessels Electing Not to Join a Cooperative

Non-AFA Trawl CP sector participants that elect not to join a cooperative will be subject to all current regulations including all restrictions of the LLP and the GRS if approved.

This component defines the management structure for vessels in the Non-AFA Trawl CP sector that elect not to join a cooperative. Vessels participating in the open access will continue to be bound by the current management structure and any additional amendments that are implemented for those vessels.

Sections 3.2.8 and 3.2.9 of this document discuss the division of catch between members of the Non-AFA Trawl CP sector that join a cooperative and those that do not. Management of the open access fisheries will be the same as under the status quo. The current fishery is described in Section 3.1 of this document. Those management provisions are included here by reference. In summary, NOAA Fisheries will require every harvesting vessel to be assigned a valid groundfish license for the BSAI that would allow them to meet all length and endorsement (gear and area) requirements of the LLP. Fisheries will be opened and closed based on the amount of the TAC that remains to be harvested that is in excess of the projected bycatch needs in other fisheries. When a species is closed to directed fishing, vessel operators will only be allowed to retain up to the MRA. If harvests of that species exceed the TAC, the species could be placed on PSC status. A species on PSC status may not be retained. If the catch of a species approaches the overfishing level, all fisheries that take that species as bycatch could be closed.

[1] A vessel could choose not to carry two observers, but it would have to file a fishing plan with NOAA Fisheries that shows it will fish in a way that will allow the single observer to sample 100 percent of the hauls. Typically such a plan requires that the vessel fish only 12 hour per day.

The LLP defines the Federal fishing areas, gear types, and in some cases species that a vessel associated with a license may fish. Licenses also define the maximum length of vessels that can be fished using the license. Licenses grant their holders the privilege of participating in fisheries that occur in Federal waters of the GOA and BSAI. License holders must abide by all other regulations that are in place to manage the fisheries.

GRS standards are proposed for participants in the Non-AFA Trawl CP sector. Regardless of whether a vessel greater than 125 ft LOA joins a cooperative they must meet the groundfish retention standards that are set for their pool of vessels. It is expected that those standards will be easier to meet if the vessel is operating within the cooperative. However, if an owner wishes to participate in the open access sector they may, but they are not exempt from complying with the defined retention rates starting in 2006. Vessels less than 125 ft LOA would be exempt from the GRS requirements if they do not join a cooperative. Being exempt from the GRS and the requirements and the costs associated with additional monitoring requirements may provide some vessel owners sufficient incentive not to join a cooperative, unless they are able to stack their harvest privileges on another vessel.

3.2.13.4 LLP Requirements for Non-AFA Trawl Catcher Processor Sector Participants

All qualified license holders participating in the fisheries of the Non-AFA Trawl CP sector will need to have trawl and catcher processor endorsements with general licenses for BSAI and the additional sector eligibility endorsement. Length limits within the license will also be enforced such that any new vessel entering the fishery may not exceed the Maximum Length Overall (MLOA) specified on the license.

This component requires all vessels in the Non-AFA Trawl CP sector to have a valid BSAI groundfish license, that allows them to fish as a catcher processor with trawl gear in the BSAI, attached to their boat to participate in the fishery. The license must also be endorsed for a vessel length that is required for that vessel.

Requiring vessels to maintain their license limits the number of licenses that are available for vessel owners to use in other fisheries. If vessels were not required to have a valid license to fish in the Non-AFA Trawl CP sector, the owner of the license would be able to sell it to another vessel owner. The purchaser of the license could bring a new vessel into the BSAI fisheries and harvest fish from the portion of the TACs available to them. The vessel owners most likely to be impacted by moving licenses would be those owners whose vessels harvest species with trawl gear in the BSAI or Western or Central GOA.

Even though Amendment 80 is specific to the BSAI, members of the Non-AFA Trawl CP sector would need to retain their LLP license package if they wanted to participate in GOA fisheries. Current regulations for the GOA require vessels, of the size that would qualify for the Non-AFA Trawl CP sector, to have a GOA groundfish license to harvest groundfish species from Federal waters. Because initially issued licenses cannot be separated, the owner could not sell only the BSAI portion of the license and retain the GOA license. Keeping the LLP requirements in place will help protect members of the GOA fisheries from potential increases in fishing effort, that could result if the licenses were sold to individuals that planed to use them above historical levels in the GOA.

It is anticipated that the Non-AFA Trawl CP endorsement will be attached to the general groundfish license. If sideboards were implemented they would also be attached to the license. Therefore, only the owner of those licenses would be allowed to participate in the Non-AFA Trawl CP sector.

Requiring members of the Non-AFA Trawl CP sector to have a valid BSAI license also will limit the areas a vessel can fish to those endorsed on the license. If a vessel is assigned to a license that only has a Bering Sea endorsement they will not be allowed to fish in the Aleutian Islands. Alternatively, if a vessel holds just an Aleutian Islands endorsement they would not be allowed to expand into the Bering Sea.

Based on the current licenses held by the potential Non-AFA Trawl CP sector, it appears that a minimum of 3 vessels are fishing under licenses that do not have an Aleutian Islands endorsement and at least one vessel does not have a Bering Sea endorsement. If the LLP requirements were removed for the Non-AFA Trawl CP sector, those vessels would be allowed to begin fishing the areas they were excluded from under the LLP. The benefits they would derive from fishing new areas would depend on the relative costs associated with harvesting fish from the two areas, the relative size of the TACs in the two areas when they are managed separately, and the fisheries that are open at given times of the year. Estimates of these factors cannot be made into the future. However, if a vessel owner has more options available to them they will likely select the option that generates the most profit. Fishing in areas previously closed to them could benefit vessel owners economically, though the magnitude of the benefit cannot be estimated. People that had historically fished that area/species under the LLP would likely realize negative economic consequences.

3.2.13.5 Transfer of Sector Eligibility Endorsements

Permanent transfers of Sector Eligibility Endorsements would be allowed if transferred with the associated Groundfish LLP. Sector Eligibility Endorsement, the associated groundfish LLP license, and associated catch histories would not be separable or divisible. All transfers must be reported to NOAA Fisheries in order to track who owns the Sector Eligibility Endorsements. The purchaser must be eligible to own a fishing vessel under MarAd regulations or any person who is currently eligible to own a vessel.

This component defines the system that allows a Non-AFA Trawl CP sector member to sell their rights to participate in the sector. It also defines the persons who are allowed to purchase those rights.

Rights to participate in the Non-AFA Trawl CP sector are granted by adding an eligibility endorsement to the BSAI Groundfish license. That endorsement identifies the amount of allocated species, sideboard species, and PSC species members bring the Non-AFA Trawl CP sector. The endorsement is permanently affixed to the BSAI Groundfish license. If a person sells the groundfish license, they also must sell the sector endorsement and the fishing rights assigned to the sector through that endorsement. Because the license and endorsement (with associated sector allocation amounts) cannot be separated, the entire package must be sold. Selling the package means that the entire sector allocation associated with that endorsement must also be sold with the rest of the package. Selling only of portion of the sector allocation associated with the endorsement is not permitted.

Sale of the license would follow the same rules currently in place for selling a BSAI Groundfish license. The parties buying and selling the license would need to request NOAA Fisheries to transfer the license. All transfers require an "Application For Transfer - License Limitation Program Groundfish/Crab License" form to be completed by the parties in the transaction. The form identifies parties involved and the general terms of the contract and the financing of the sale. The transaction is official only after NOAA Fisheries receives the application and approves the transfer.

Persons purchasing the license must either meet the AFA qualifications for vessel ownership or be currently eligible to own U.S. fishing vessels. The provision would allow persons currently eligible to own a U.S. fishing vessel to purchase an additional license with the associated catch history. This provision was included to enable persons that were exempted from the AFA's 75 percent U.S. ownership standard to buy licenses/endorsements. Without that provision, vessel owners currently fishing, but not meeting the AFA eligibility requirements, would be excluded from purchasing additional licenses and the associated catch histories that determine allocations to the sector.

3.2.13.6 Transfer of Cooperative Allocations Within the Cooperative

Annual allocations to the cooperative will be transferable among cooperative members. Such transfers would not need to be approved by NOAA Fisheries. Any member vessel of the cooperative will be eligible to use the catch history of any other member vessel regardless of vessel length.

Component 14.6 addresses how NOAA Fisheries will account for the harvest of fish made within the cooperative. In general, this component indicates that NOAA Fisheries will monitor catch at the cooperative level. NOAA Fisheries will only be concerned with whether the cooperative exceeds its allocation. If the cooperative exceeds its harvest limit NOAA Fisheries will impose penalties on the cooperative.

Vessels within the cooperative, though contractual agreements, will determine who is allowed to harvest the allocation NOAA Fisheries makes to the sector. The contracts signed by individual cooperative members specify the penalties individuals are subject to if they exceed their harvest limit. Members of the cooperative that had their allocation reduced, as a result of other cooperative members over-harvesting their allocation, would be entitled to compensation from the individuals harvesting excessive amounts.

Because NOAA Fisheries is not tasked with monitoring whether a vessel catches more of a species than they were assigned when entering the cooperative, based on the percentage of the Non-AFA Trawl CP sector allocation identified on their endorsement, members of the cooperative are free to trade or lease the rights to fish. Members of the cooperative will determine the amount of each species individuals are allocated. Trades or leases of fishing rights within the cooperative will be enforced through contractual agreements entered into by the various parties. If the terms of the contracts were not adhered to, the parties in conflict would take their dispute to the appropriate civil court. NOAA Fisheries would not be responsible for hearing the dispute nor would they penalize the individual that exceeded their personal harvest limit imposed by the cooperative.

Allowing members of the sector to trade harvest rights among themselves, without the need for NOAA Fisheries approval, with allow them to quickly react to conditions in the fishery. The process for transferring catch rights could take several days or weeks if NOAA Fisheries was required to approve each transfer. Contracts between individuals can be drafted and executed quickly. Decreasing the time it takes to complete a transfer should allow individuals to increase their efficiency and quickly react to conditions on the fishing grounds.

Allowing NOAA Fisheries to monitor catch at the cooperative level will also reduce the enforcement burden. Required NOAA Fisheries to monitor the catch of individual vessels would impose the same monitoring requirements as an IFQ program. While the monitoring of the fleet is expected to be a high priority and require extensive observer coverage, ensuring that individual members do not exceed their allocation would likely be more burdensome for NOAA Fisheries and industry. Monitoring each allocation would require NOAA Fisheries to determine whether more than 20 vessels have exceeded their allocation. Each allocation would be comprised of several species.

Under the cooperative level monitoring system, NOAA Fisheries would need to determine if the cooperative as a whole exceeded their catch allowance. They would also need to close directed fishing for species in the open access fisheries that may occur in the Non-AFA Trawl CP sector, prior to those allocations being exceeded. Monitoring two sets of allocations[16] is expected to be less of a burden in terms of both labor costs and time.

The excessive share analysis in this amendment applies only to the total amount the allocations that a person brings into a cooperative. If vessel caps are included in this program, NOAA Fisheries would then need to monitor the catch of individual vessels to ensure the vessel cap is not exceeded. That does not necessarily mean that they would need to monitor transfers within the cooperative. They could simply monitor the catch of vessels, using the proposed monitoring systems to determine if a use cap had been exceeded.

[16] The total number of allocations would increase if multiple cooperatives were allowed to form. Additional cooperatives would increase the monitoring burden for NOAA Fisheries.

Overall, this provision is expected to reduce NOAA Fisheries management costs, while allowing the Non-AFA Trawl CP sector to efficiently transfer harvest rights within a cooperative. This should help cooperative members maximize the benefits they receive from their allocation. Additional tracking of harvest rights do not appear to be necessary given the objectives of this program.

3.2.13.7 GOA and Non-Trawl Catches Made by Non-AFA Trawl CP Vessels

Any non-trawl, or non-BSAI catches made by vessels fishing under a LLP with a Non-AFA Trawl CP sector endorsement will not be accounted for under Amendment 80. These catches would count towards the catch limits assigned to the sector the vessel was operating in at the time of harvest. Those catches would not necessarily be excluded from other rationalization programs.

This component may no longer be necessary. It was developed when allocations were being considered for several BSAI harvesting sectors. Sectors were based on the mode a vessel was operating in when the catch was made. If a vessel was harvesting and processing groundfish using trawl gear, and they were not an AFA vessel, the catch would have been included in the Non-AFA Trawl CP sector's harvest when determining their allocation. That same vessel could have later in the year harvested fish with trawl gear, but not processed the fish. That catch would have been assigned to the Non-AFA Trawl CV sector. Because only the Non-AFA Trawl CP sector is receiving a direct allocation, all of their catch is assigned to that sector.

Including this provision would also reduce the protections provided under the sideboard alternative. If only BSAI harvests were counted, it would negate all sideboard protections for the GOA. It would also allow Non-AFA Trawl CPs to use fixed gear to fish in the BSAI, without having that catch count against sideboard limits. These activities would conflict with the overall goals of the sideboard caps that are proposed under this amendment.

3.2.13.8 Qualifying Catch History

All catch history used for allocation and eligibility purposes will be legal and documented catch.

This component ensures that any data used to calculate the allocation to the Non-AFA Trawl CP sector or eligibility to qualify for the sector must be legal and documented catch. Catch history data for catcher processor vessels is collected and maintained by NOAA Fisheries. That data will be used to determine the amount of catch each catcher processor is credited with harvesting. Catch that was made illegally or was not reported to NOAA Fisheries based on their record keeping and reporting requirements, would not be counted in this calculation.

Catcher processor vessels that have "checked-in" to operate in the BSAI and GOA groundfish fisheries during a week must file a Weekly Production Report with NOAA Fisheries. Weekly Production Reports were submitted as paper copies starting in the 1980s, but in recent years they can be submitted electronically. Examples of the required reports and their instructions may be found at http://www.fakr.noaa.gov/rr/report.htm. The record keeping and reporting instructions indicate that the Weekly Production Report is a summary of the Daily Cumulative Production Logbook. The Weekly Production Report must be submitted to the Regional Administrator by 1200 hours A.l.t on the Tuesday following the applicable reporting period. The report contains data on the amount of product produced during the week, the discarded catches, and general information on the vessel and crew. Corrections and revisions may be made to the Weekly Production Report by submitting a revision to an original report. Only fish that were harvested and processed legally and reported to the Regional Administrator following these guidelines will be included in the allocation and eligibility database.

A reason the Council is applying this requirement is to minimize challenges to the data used to determine a permit holder's fishing history. If this requirement were not included at person would be able to challenge their catch history based on personal records. While personal records could be

useful if data submitted to the Regional Administrator were lost or incorrectly entered into the database, it is not acceptable as a replacement for data that was never reported to the Regional Administrator.

Using only legal and documented catch to determine the distribution of TAC will streamline the implementation process. It will reduce the time NOAA Fisheries needs to determine a permit holder's catch history, and it should reduce the number of appeals to the Regional Administrator. It also ensure that only data used to help manage the historic fisheries will be counted when determining future allocations.

3.2.13.9 Groundfish Species Not Allocated to Non-AFA Trawl CP Sector

Disposition of groundfish species not allocated to the Non-AFA Trawl CP sector will not change as a result of the cooperative program developed in Amendment 80.

Several groundfish species are not allocated to the Non-AFA Trawl CP sector under Component 1. This component reaffirms that those groundfish species not allocated will be managed as they are currently. A discussion of the current management program was provided under Component 1. Continuing the current management programs for those species are not expected to impose any negative economic impacts on persons participating in those fisheries.

One change may occur to traditional management measures for non-allocated species. That change is imposing harvest limits for these species on the Non-AFA Trawl CP sector. Component 12, Section 3.2.11 in this document discusses the issue of limiting the Non-AFA Trawl CP sector's harvest in fisheries that are not directly allocated to them. That section also provides information on the potential impacts. Imposing harvests limits in GOA fisheries, for example, would result in both sideboard limits and the total TAC being monitored. This change will not have a direct impact on any vessels except the Non-AFA Trawl sector. All other vessels will continue to be constrained by the overall ITAC, while members of the Non-AFA Trawl CP sector will be limited by the sideboard cap. This component is not intended to superceed other current regulations for vessels outside the Non-AFA Trawl CP sector. It simply is intended to state that harvests by vessels outside the Non-AFA Trawl CP sector will continue to be managed as open access, cooperatives, or IFQ fisheries based on the regulations currently in place for those fisheries.

3.2.13.10 Scope of the cooperative program

The developed cooperative program will limit its scope to selected groundfish and prohibited species catches with trawl gear by qualified license holders in the Non-AFA Trawl CP sector in the BSAI. Groundfish species not included in the program as well as other non-specified fish species or marine resources will not be explicitly managed within the defined cooperative program. The defined cooperative program would not supersede existing regulations regarding these other marine resources.

Regulations developed under Amendment 80 would be limited to management of the Non-AFA Trawl CP sector and the species that are assigned to that sector. Harvests of species that are not assigned to the cooperative, as an exclusive allocation, sideboard limits, or PSC could not be adequately controlled by the cooperative. Members of the BSAI fishing fleet, operating outside of the sector, would be allowed to harvest those species not directly allocated to the Non-AFA Trawl CP sector. Because the Non-AFA Trawl CP sector cannot control the actions of other members of the fishing fleet, it was considered inappropriate to hold the Non-AFA Trawl CP sector responsible for the actions of individuals they have no control over. The language in this alternative is designed to clearly state that the cooperative(s) formed under Amendment 80 would be responsible for staying within the allocations they are granted, but they should not be required to try influence the activities of persons operating outside of their cooperative(s). This applies to groundfish harvests as well as interactions with other protected species.

Interactions between the fishing fleet and other marine species (e.g., marine mammals or sea birds) would be considered at the North Pacific level instead of the sector level. Interactions between the North Pacific fishing fleet and certain protected species can impact the operation of fisheries beyond the Non-AFA Trawl CP sector. Because of the far-reaching implications of those interactions, it may be appropriate to continue to mange those species at a higher level than the Non-AFA Trawl CP sector. Regulations that are currently in place to protect those species would not be altered by implementation of Amendment 80. For example, the following text regarding short-tailed albatross was taken from NOAA Fisheries Alaska Region Information Bulletin 03-77.

"The USFWS [United States Fish and Wildlife Service] anticipates … that up to two short-tailed albatross could be taken in the groundfish trawl fishery off Alaska over the time period in which the biological opinion remains in effect (approximately 5 years). … If the level of anticipated take is exceeded in any of these fisheries, NOAA Fisheries must immediately reinitiate a consultation with the USFWS to review the need for possible modification to the fishery. Modifications could range from changes to requirements for seabird avoidance measures to fishery closures. The exact modifications cannot be predicted at this time."

If the trawl fleet catches two short-tailed albatross while the biological opinion is in effect, NOAA Fisheries would be required to consult with U.S. Fish and Wildlife Service to determine the appropriate action that should be taken to prevent additional catches. Since that action could include closing fisheries, it would likely be difficult to apportion the two-bird catch, over a period of about 5 years, between the various trawl sectors without imposing the threat of closing fisheries on the group that harvests one albatross. The prospect of leaving no room for error over a five-year period, could cause a lot of apprehension within the fleet. Keeping the total number of short-tailed albatross that may be caught in a single pool would reduce the possibility of fisheries being closed and would tend to reduce apprehension.

It would be unreasonable to hold the Non-AFA Trawl CP cooperative responsible for things that are out of their control. This single-option component recognizes that fact, and explicitly states that only species allocated to this sector under Amendment 80 would be managed under the cooperative (Amendment 80). Species that are not assigned to the sector or marine resources that are not covered under the BSAI Groundfish FMP will continue to be managed as they are currently. If additional protections were needed for those species, the Council or the appropriate management agency would need to initiate a separate management action to ensure they are adequately protected.

3.2.13.11 PSC Species Allocated to the Non-AFA Trawl CP Sector

PSC limits for the following species will be created and allocated between the Non-AFA Trawl CP cooperative(s) and those sector participants that elect not to join a cooperative.

- BSAI Non-AFA Trawl CP multi-species halibut cap consisting of an apportionment of species identified in Component 1.
- BSAI Non-AFA Trawl CP multi-species red king crab cap consisting of an apportionment of the current Pacific cod trawl cap and caps for the flatfish fisheries.
- BSAI Non-AFA Trawl CP multi-species snow crab (C. opilio) cap consisting of an apportionment of the current Pacific cod trawl cap and caps for the flatfish fisheries (includes apportionments of the trawl sablefish/turbot/arrowtooth limits).
- BSAI Non-AFA Trawl CP multi-species Tanner crab (C. bairdi) Zone 1 cap consisting of an apportionment of the current Pacific cod trawl cap and caps for the flatfish fisheries.
- BSAI Non-AFA Trawl CP multi-species Tanner crab (C. bairdi) Zone 2 cap consisting of an apportionment of the current Pacific cod trawl cap and caps for the flatfish fisheries.

This component indicates that PSC species, except herring and salmon, would be allocated among members of the Non-AFA Trawl CP sector. Specifically, those PSC species will be allocated to the

cooperative(s) that may form and the open access portion of the Non-AFA Trawl CP sector. Separate allocations to the cooperative(s) and open access vessels will help ensure that one group does not preempt the other. Consider a case where the halibut PSC was simply allocated to a Non-AFA Trawl CP sector as a whole. If the halibut cap were reached, it would close down both the open access fishery and the cooperative. Cooperative members that were planning to harvest their allocation later in the year would be forced to stop fishing with some of their target species still available. The prospect of not being able to harvest their target species would likely result in them changing their harvest strategies. They would likely try to harvest their allocation before the halibut PSC limit was taken. To accomplish that they would either need to start harvesting their directed fishing allocations earlier in the year or catch fish faster when they start fishing. In either case, it would result in the PSC limitations causing a race to catch directed fishery allocations. A more complete discussion of the PSC allocations under Amendment 80 can be found in Sections 3.2.5 and 3.2.4 of this document.

If the PSC harvest limits are allocated among the cooperative(s) and open access components. The members of the open access fleet would still need to race to catch a larger portion of the available quota. Cooperative members, on the other hand, would likely be allocated specific amounts of target species and PSC by the cooperative bylaws. This ensures that cooperative members have legal recourse if their PSC allotment is harvested by other members of the cooperative.

Herring was excluded because it is not assigned to sectors under Amendment 80. It is also important to recall that the herring PSC is primarily allocated to the mid-water pollock trawl fishery. Pollock, taken in the directed pollock fishery, is excluded from the allocations in this amendment. Because pollock allocations are excluded, it reduces the need to allocate herring PSC to the sectors.

Allocating herring among CDQ groups has also proven to be problematic in the past. As a result of various problems that were encountered, it has been removed from that program. The reasons for excluding herring are presented in Section 3.2.4 of Amendment 80. That section of the document describes the alternatives for PSC allocations to the CDQ program.

Salmon is also excluded from this amendment. Salmon is traditionally harvested in midwater fisheries. The chinook salmon PSC limit applies only to the directed pollock fishery (see §679.21 of the Alaska Federal fishery regulations). Non-chinook salmon (chum) bycatch limits are set for trawl gear during the August 15 through October 14 time period and reaching the harvest limit closes the Catcher Vessel Operational Area to fishing with trawl gear from the remainder of the period September 1 through October 14. Since neither of these closures would have a substantial impact on the vessels participating in the fisheries allocated under Amendment 80, they are excluded from the PSC allocation.

3.2.13.12 Management of non-specified species and marine resources

Bycatch limits for non-specified species or marine resources specifically for this program would not be established. However, should unreasonable bycatch or other interactions occur, specific regulations to minimize impacts will be considered.

Implementing this component would continue to manage non-specified species as they are currently being managed. The catch of these species would be monitored and to the extent possible the biomass of the stocks would be tracked. Targeting of these species would be discouraged NPFMC 2003. To help attain these goals, at a minimum, a maximum retainable amount would be set to discourage targeting of non-specified species.

The need to monitor the harvests of non-specified species has already been highlighted as a concern. Formation of the Non-Target Species Ad-Hoc Working Group is one example of a Council action that has already been taken to address those concerns. The Council is expected to take additional actions in the future if they are needed.

Discouraging the targeting of these species may be more important under a rationalized fishery. If some of the non-specified species are marketable commodities, then some fishermen with resources available to target them may elect to do so. Species that have, or will develop, markets are the most likely to require additional protections in the future. Since the markets for many of these species are limited, or do not exist, there is no incentive for fishermen to increase their catches at this time.

Current information does not allow a list of the non-specified species that may be marketable in the future to be developed. The ability of producers to provide a constant supply of the product at a competitive price, relative to substitutes in the market, will play a role in determining whether a species will be marketed. Consumer tastes and preferences also play an important role. If consumers do not like the attributes of a specific fish, they are likely to buy a species that they prefer.

3.2.13.13 Internal Cooperative Rules

The cooperative(s) will have adequate internal rules. Evidence of binding private contracts and remedies for violations of contractual agreements will be provided to NOAA Fisheries. The cooperative must demonstrate an adequate mechanism for monitoring and reporting prohibited species and groundfish catch. Participants in the cooperative must agree to abide by all cooperative rules and requirements.

A benefit of cooperative(s) formation is that NOAA fisheries can monitor the activity of the cooperative as a whole instead of individual vessels, while allowing individual members of the cooperative to rationalize their fishing operation. The reason this is possible is that the cooperative is accountable to NOAA Fisheries for its activity, and individual members of the cooperative are accountable to the cooperative. If violations of fishing regulations occur NOAA Fisheries will take action against the cooperative instead of individuals. Monitoring the activity of the cooperative reduces NOAA Fisheries' monitoring burden, because harvests of individual allocations do not need to be tracked. However, if the cooperative does not develop adequate internal rules, NOAA Fisheries may not be able to take appropriate action against the cooperative if violations do occur. To ensure that adequate internal cooperative rules do exist, a representative of the cooperative must provide NOAA Fisheries with the contractual agreement signed by all the cooperative members.

The contractual agreement must contain sufficient remedies if violations of the contract occur. Those remedies will allow the cooperative to take action against individual members if they do not perform to contract requirements. Members of the cooperative must police their activities through terms of the contract, without such a requirement it is likely that NOAA Fisheries would need to increase monitoring of the cooperatives. Increased monitoring costs would reduce benefits that the general public derives from cooperatives.

AFA pollock cooperatives are required to provide similar information. The requirements of the AFA cooperative contracts can be found at §679.61(e) of the Alaska Federal fishery regulations. In general, they are required provide on an annual basis the name of the designated cooperative representative that is responsible for filing all reports on their behalf, an agent that is the primary NOAA Fisheries contact person for the cooperative, the list of parties to the contract, the list of vessels that harvest the cooperative's allocation, and the promise to provide specific pieces of data on an annual basis. These types of information will also be required from the Non-AFA Trawl CP cooperatives. NOAA Fisheries will provide the cooperatives a list of the information they need to manage the cooperatives, and the Council will require specific information that they fell is required to monitor important activities of the cooperative. These requirements will impose a cost to the industry. However, the cost should be relatively small and is necessary to allow NOAA Fisheries to properly manage the cooperatives.

3.2.13.14 Reporting, Monitoring, and Enforcement, and Observer Protocols

Specific requirements for reporting, monitoring and enforcement, and observer protocols will be developed in regulations for participants in the cooperative program and will not be the purview of the cooperative. The Council and the Non-AFA Trawl CP sector should specify their goals and objectives for in-season monitoring and program evaluation. Recordkeeping and reporting portions of the program can then be developed to ensure that goals and objectives of the program are met in a cost-effective manner.

This component states that specific requirements related to reporting, monitoring, and enforcement, and observer protocols are to be defined by NOAA Fisheries. They ultimately need to determine the parameters of the catch monitoring system that will be used to enforce Amendment 80. A discussion of their requirements is provided in Section 3.2.3 of this document. That section focuses on observer coverage levels and other monitoring requirements that are needed to enforce this program. Those requirements are included here by reference.

As part of the overall monitoring process the Council and the Non-AFA Trawl CP sector should specify their goals and objectives for inseason monitoring and program evaluation. This request should include the types of information they would like to see, on a periodic basis, to track the activities of the cooperatives and the impacts they are have on other segments of the North Pacific fishing fleet. Once the goals are clearly stated, it is possible for NOAA Fisheries develop regulations to ensure that information is collected. There are two potential tools that could be used to collect the information that is currently not available. The first is though the cooperative's annual reports. If there are specific pieces of information that are sought, they could be included in the required information in the annual cooperative reports. Other information could be collected through the proposed mandatory social and economic data collection program being considered under this amendment. Non-confidential information could then be made available to the Council and general public to answer specific questions regarding how the goals and objectives of the program are being met.

3.2.13.15 Annual Cooperative Reports

A detailed annual report will be required from cooperative(s) formed. Fishery managers will review the annual report and determine if the program is functioning as desired. It is recommended that in-depth assessments of program be undertaken under the auspices of the Council/NOAA Fisheries periodically (for example, every five years). In-depth studies will report the accomplishments of the program and indicate whether any changes are necessary.

Detailed annual reports will be required from all cooperatives that form in the Non-AFA Trawl CP sector. Those reports are anticipated to allow fishery managers, government agencies, and the general public to review the program and determine if the program is functioning as it was envisioned. The timing of the annual reports will likely correspond to the end of the fishing season. Draft reports will likely be due at the December Council meeting and the final reports due around the first of the year.

Regulations implementing the BSAI pollock cooperatives required cooperative members to provide annual reports on the 1) allowed catch and bycatch of pollock and all sideboard species by whatever method is used to determine those allocations; 2) actual catch and bycatch in the directed pollock fishery by vessel, and in sideboard fisheries by whatever method is used to determine those sideboards; 3) methods used to monitor fisheries in which cooperative vessels participated; and 4) actions taken by cooperatives to enforce vessel or aggregate catches that exceeded allowed catch and bycatch in pollock and all sideboard fisheries. This information is provided annually by the cooperatives to inform government agencies and the public of the cooperative's activities. Similar reports are envisioned regarding the harvest of species allocated to the Non-AFA Trawl CP sector and the other activities of the cooperative. If the Council and NOAA Fisheries determine that additional information than that collected from pollock cooperatives is needed, it would be mandated in the

regulations implementing the program. The provisions in this option would ensure that such information is collected and made available.

This component also would require that in-depth studies be conducted on a periodic basis to examine the impacts of the program. It is suggested that these studies of the program be conducted every five years. This seems like a reasonable general time frame. Requiring more frequent studies would not provide time to collect sufficient data to analyze the impacts the program is having on various sectors of the fishery. This was a concern that was raised with the initial report to Congress on the impacts of the AFA was developed. However, if the length of time between reports is too long, undesirable impacts to go unnoticed longer than necessary.

It is not possible to estimate the costs of these reports. The costs will depend on the amount of information that is requested and how frequently the reports are required. The costs will likely fall primarily on NOAA Fisheries and the Council in developing the reports. A costs of requiring frequent reports is that it will further reduce the time and NOAA Fisheries and Council staff have to devote to other projects.

3.2.13.16 Economic and Socioeconomic Data Collection

An economic and socioeconomic data collection initiative will be developed and implemented under the Non-AFA Trawl CP Cooperative Program. The collection would include cost, revenue, ownership, and employment data on a periodic basis to provide the information necessary to study the impacts of the program. This program will be similar to the data collection program in the BSAI crab rationalization program. Details of the collection will be developed in the analysis of the alternatives.

This component would implement a mandatory data collection program. Surveys will need to be developed under a cooperative effort between the various government agencies that will collect and use the data and the owners of vessels in the Non-AFA Trawl CP fleet. Input from industry will be sought to ensure that the surveys ask appropriate questions and cover all of the issues that need to be addressed to describe changes that occur in the Non-AFA Trawl CP fleet. The Alaska Fisheries Science Center will likely be tasked with developing the surveys and contacting the appropriate individuals to design the surveys. Their staffs initial thoughts on the program would be to determine how the various companies store their information and develop a system that takes advantage of the way members of the sector do business. This concept will require additional work by NOAA Fisheries staff, before the exact method collecting the information can be defined.

Surveys used to collect the necessary data would need to be developed after this program is approved. It is expected that the surveys developed for the pollock fishery and those that are being developed for the crab fishery would serve as starting points. Modifying those surveys could shorten the timeline needed to develop the instruments. Developing the surveys is not expected to increase the time between approval and implementation of the program.

The surveys for crab catcher processor vessels have recently been developed. Those surveys are estimated to require 25 hours a year for each vessel. Given that 26 vessels are likely to be included in the Non-AFA Trawl CP sector it is estimated that about 650 man-hours would be expended by the fleet to meet this requirement each year. Additional time could be needed the first year because historical data may also be requested. Historical data would allow analysts to better understand the fishery prior to implementing the cooperative program.

The proposed information collection program is expected to allow analysts to accurately review the impacts of Non-AFA Trawl CP cooperatives. Impacts on members of the cooperative(s), fishermen outside the cooperative(s), and support industries for the Non-AFA Trawl CP sector would be considered. If these data are not collected, the reports required to describe the impacts of the program on periodic basis could not provide sufficient detail to describe the effects cooperatives. Many of the changes caused by the program would then need to be discussed in a qualitative fashion. The

qualitative discussions would rely on conversations held with members of industry and information reported in the annual cooperative reports. Neither of these sources is expected to provide data that is consistent enough over a period of time to develop economic models. Collection of the requested data should allow analysts to provide a more detailed quantitative discussion of the social and economic impacts of the program.

3.3 Expected Effects of the Alternatives

This section provides the analysis of the three structural alternatives: 1) Status Quo/No Action, 2) multiple cooperative program, and 3) single cooperative program. Assessing the effects of the alternatives involves some degree of speculation. In general, the effects arise from the actions of individual participants in the fisheries under the incentives created by the different alternatives. Predictability of these individual actions and their effects is constrained by the novelty of the program under consideration and incompleteness of information concerning the fisheries, including the absence of complete economic information and well-tested models that predict behavior under different institutional structures. In addition, unpredictable factors, such as conditions in different fisheries and of the different stocks and condition of the overall economy, could influence the responses of the participants under the alternatives.

To examine the impacts of the alternatives, the analysis begins by considering practices and participation in harvesting and processing that are likely to arise under the various management systems proposed by the alternatives. These differences in fishing and processing practices, together with the management changes, drive environmental, economic, and socioeconomic impacts. Through this methodology, all of the different impacts are brought to light allowing the reader to determine the significant of impacts of the different alternatives.

3.3.1 Effects on Harvest Participation and Fishing Practices

Patterns and levels of harvester participation in the BSAI groundfish fisheries are likely to vary under the different alternatives. Under the status quo alternative, participation is likely to be similar to what is currently taking place in the fisheries.

Alternative 1: Status Quo/No Action

Status quo in the BSAI groundfish fisheries addressed under this action are described in Section 3.1. That section includes a description of the fisheries, description of the harvesting and At-Sea processing sectors, the fishery value for the BSAI groundfish fisheries, community information, and background information on the Western Alaska Community Development Quota (CDQ) program.

Analysis of the status quo also includes the groundfish retention standards (GRS) that could be implemented under Amendment 79 sometime later this year. In October 2002, the Council initiated Amendment 79 to meet the Council's stated goals of reducing bycatch, minimizing waste, and improving utilization of fish resources to the extent practicable. Amendment 79 would establish a minimum GRS. Although Amendment 79 has not been approved by the Secretary of Commerce, the amendment, when original approved by the Council in June 2003, would phase in the GRS over a four-year period beginning in 2005, starting at 65 percent and increasing to 85 percent. Since that time, the phased-in portion of the amendment has been modified to start in 2006 at 75 percent, based on conversations with NOAA Fisheries regarding the pending Proposed Rule. That amendment package has not been submitted to the Secretary of Commerce yet for approval. The phased in element allows time for those vessels with lower retention rates to adjust their operations in order to meet the higher retention rates. Under the preferred alternative only the Non-AFA Trawl CP vessels greater than or equal to 125 ft LOA would be required to comply with the GRS, which would be determined and enforced at the end of the year. In 2002, the overall groundfish retention rate of the Non-AFA Trawl CP vessels greater than or equal to 125 ft was 71 percent. Including recent changes

for determining the MRA for pollock, which now is determined at the end of each offload rather than at any point during the trip, coupled with the GRS are expected to reduce discards by the sector significantly. Information in Table 3-68 shows the expected increases in retained catch and product weight, and the increase in retained product weight as a percentage of total sector production. Also shown are the number of boats affected by the GRS, the combined retention rate of the fleet as a whole, and the combined retention rate of vessels affected by the GRS. Overall, the table shows that due to increased retention resulting from the MRA change during the first two years of the program, the GRS is expected to have almost no effect on retention rates in the fleet. Only after 2007 do retention rates increase due to the GRS.

Table 3-68 Expected affects to the Non-AFA Trawl CP sector from Amendment 79 and pollock MRA enforcement changes

	2005	2006	2007	2008
Additional Retained Catch	6,619	18,531	31,929	50,137
Additional Retained Product	4,216	12,489	21,695	34,682
Increase as a Percent of Total Product	2.4%	7.2%	12.5%	20.0%
Number of GRS Affected Boats	2	12	15	16
Retention Rate of GRS Affected Boats	73.7	76.8	80.2	85.1
Retention Rate of HT-CP Fleet	71.7	74.3	77.1	81.3

Source: Analysis of BSAI Amendment 79, NEI 2004

Alternatives 2 and 3: Multiple Cooperatives and Single Cooperatives

Alternatives 2 and 3 would allocate yellowfin sole, rock sole, flathead sole, Atka mackerel, and Aleutian Island Pacific Ocean perch to the Non-AFA Trawl CP sector. For Alternative 2, the allocation of the primary target species will be equal to retained catch of the Non-AFA Trawl CP sector divided by the retained catch by all sectors for the years 1998 to 2002, whereas for Alternative 3 the allocation will be based on retained catch of the sector divided by the total catch by all sectors for the years 1995 to 2003. The remaining portion of the primary target species not allocated will be reserved for the trawl limited access fishery for all other trawl vessels with catch history during 1995-2004 and having the appropriate LLP endorsements.

Table 3-69 shows the allocation of the primary species to the Non-AFA Trawl CP sector and the trawl limited access fishery under Alternatives 2 and 3. Also included in the table is an estimate of allocation amounts using average annual TACs from 1999 to 2003 after deducting the portion of the TAC allocated to CDQ program (Alternative 2 is 7.5 percent and Alternative 3 is 10 percent) and 7.5 percent for reserves. The table also includes the first wholesale value of the allocation using the average first wholesale price for the species from 1999 to 2003. Based on these projections the Non-AFA Trawl CP sector would generate almost $70 million less per year, before rollovers, if Alternative 3 was selected over Alternative 2. The trawl limited access fishery revenue (at the 1st wholesale level) would increase by just over $65 million if they harvested the entire allocation. The difference between the two amounts is a result of an increased allocation to the CDQ program.

Table 3-69 Allocations of Amendment 80 species under Alternative 2 and 3

Alternative 2						
Allocated Species	**Non-AFA Trawl CP Sector**			**Trawl Limited Access Fishery**		
	Allocation Percent	Allocation (mt)	First wholesale value	Allocation percent	Allocation (mt)	First wholesale value
Atka mackerel	96.1%	43,814	$26,069,390	3.9%	1,776	$1,056,512
Flathead sole	97.9%	30,414	$26,825,016	2.1%	647	$570,522
AI POP	100%	8,795	$12,409,745	0.0%	0	$0
Rock sole	95.9%	59,271	$44,394,241	4.1%	2,540	$1,902,310
Yellowfin sole	88.5%	78,502	$41,527,875	11.5%	10,220	$5,406,142
Total	N/A	220,796	$151,226,267	N/A	15,183	$8,935,486
Alternative 3						
Allocated Species	**Non-AFA Trawl CP Sector**			**Trawl Limited Access Fishery**		
	Allocation Percent	Allocation (mt)	First wholesale value	Allocation percent	Allocation (mt)	First wholesale value
Atka mackerel	73.2%	32,390	$19,272,243	26.8%	11,859	$7,055,837
Flathead sole	59.0%	17,787	$15,688,134	41.0%	12,360	$10,901,652
AI POP	78.3%	6,684	$9,431,124	21.7%	1,853	$2,614,583
Rock sole	29.4%	17,638	$13,210,862	70.6%	42,356	$31,724,270
Yellowfin sole	52.0%	44,779	$23,688,091	48.0%	41,334	$21,865,765
Total	N/A	119,278	$81,290,454	N/A	109,762	$74.162,107

Source: Allocation amounts for each alternative were calculated using allocation calculations from Components 3 and 4 and applied to the average TAC for each species from 1999 to 2003. The first wholesale value data was developed from average first wholesale price for whole fish for each of the allocated species from 1999 to 2003. The first wholesale price data was from the Economic Status of the Groundfish Fisheries off Alaska, 2003

Below is a brief description of the allocation percentages for each of the allocated species, allocation amounts for the Non-AFA Trawl CP sector and the trawl limited access fishery based on average TAC from 1999 to 2003, and first wholesale value of the allocation using average first wholesale prices for whole fish processed at-sea from 1999 to 2003. The average TAC and first wholesale prices from 1999 to 2003 were selected because it is thought to be a reasonable estimation of the future TAC and first wholesale prices in these fisheries. Note that actual allocation amounts and first wholesale value will likely vary across time since biomass and market conditions fluctuate from year-to-year. However, the percentage of the TAC that is allocated to the Non-AFA Trawl CP sector and the trawl limited access sector would remain constant.

Under Alternative 2, the allocation amounts to the trawl limited access fishery are less than the combined AFA Trawl CP and CV sideboards for all of the allocated species. Persons operating the trawl limited access fishery will need to compete against the Non-AFA Trawl CV sector and the AFA sectors to harvest these species. Recall that the sideboards are not an allocation. They were developed to limit the total amount of a species a sector that has been "rationalized" may harvest. Unless the trawl limited access fishery is able to successfully compete with the vessels in cooperatives the will have little or no opportunity to expand their harvest in these fisheries if the pollock and Pacific cod TAC were to decline or the market conditions for these species improves. During the years 1995 to 1997, participants in the AFA Trawl CP and CV sectors participated in these fisheries in larger numbers, harvesting a larger percentage of these fisheries than in recent years. One of the primary reasons, potentially, for the decline in the number of AFA Trawl CP and CV participants is the increase in pollock TAC. As the pollock TAC increases, relative to the species allocated under this

program, the participants in AFA Trawl CP and CV sectors focus more on the pollock fishery. However, if pollock declines, these participants could shift more of their focus to the allocated species, if it is profitable.

In contrast, the allocation amounts to the trawl limited access fishery under Alternative 3 are often far greater than the combined AFA Trawl CP and CV sideboards for these allocated species. Specifically, flathead sole, AI Pacific Ocean perch, rock sole, and yellowfin sole. The likely result of allocating to the trawl limited access fishery amount in excess of the AFA Trawl CP and CV sectors is that large portions of the allocations will likely go unharvested. For example, the combined AFA Trawl CP and CV sideboard for rock sole is 7.11 percent. If the Council selected this allocation option for rock sole, the allocation to the trawl limited access fishery would be 70.6 percent of the TAC. Assuming the AFA CP and CV sector harvested rock sole up to their sideboards, the remaining allocation available for the Non-AFA Trawl CV sector would be 63.49 percent of the rock sole TAC. However, the Non-AFA Trawl CV sector has traditionally not harvested rock sole to the degree necessary to harvest 63.49 percent of the TAC. Between 1995 and 2002, the number of Non-AFA Trawl CVs that have retained rock sole has ranged between three and five. In 2003, the number increased to eight. In all of those years, the amount retained by the Non-AFA Trawl CV sector has been less then one percent of the total rock sole retained by all sectors.

Alternative 3 includes a provision that would allow NOAA Fisheries to rollover any portion of the trawl limited access fishery allotment, of the five species allocated to the Non-AFA Trawl CP sector, that is projected to go unused by a given date. This component of the program may help to improve the Non-AFA Trawl CP sector's access to fish that would otherwise go unharvested. However, there are two issues associated with the rollover provision that would decrease the sector's benefits relative to a direct allocation early in the year. The first issue is timing of the fisheries. If the 63.49 percent of the TAC is allocated to the trawl limited access fishery, as shown under this option, it is possible that much of that rock sole TAC will be available to roll-over, given historic rock sole usage by those vessels. The rock sole fishery historically has occurred in the late winter months of late January, February, and early March. These fishing times correspond to when the trawl fishery is opened in the BSAI, when rock sole roe is usually at its highest quality, and when halibut PSC is still available for the rock sole/other flatfish/flathead sole complex. Some members of the Non-AFA Trawl CP sector begin their fishing year in the Atka mackerel or Pacific cod fishery. Other members start in the rock sole fishery. When the roe is at its prime, vessels tend to shift from the other fisheries into the rock sole fishery. Vessels then exit the rock sole fishery when the roe value declines, the TAC is harvested, or the halibut is used. If the allocation results in small amounts of the TAC being available early in the year it is like that the Non-AFA Trawl CP sector's rock sole allocation will be harvested and they will be forced to stop fishing earlier than if the allocation was larger. If the other sectors do not harvest their portion of the TAC and large amount of quota had to be rolled over late in the year, it may be of less value to the fleet than if it was available earlier.

Halibut PSC release times are also a good indicator of when the fleet places the most value on harvesting a species. Over 57 percent of the halibut PSC for the rock sole fishery is available for the January 20 through April 1 time period. Smaller releases of halibut PSC are made later in the year. Given that halibut is often a limiting factor in the rock sole fishery, the amount of halibut each sector is given is important. Alternative 3 would give the Non-AFA Trawl CP sector a smaller share (29 percent) of the TAC than Alternative 2 (96 percent). Since the halibut allocation under Alternative 3 is based on the percentage of groundfish they are allocated, their halibut PSC would tend to constrain their rock sole harvest more than under Alternative 2, where it is based on historic PSC usage. This constraint would be amplified by the fact that the roll-over only covers groundfish species, so no additional halibut PSC would be made available to the Non-AFA Trawl CP sector. The amount of halibut assigned to the cooperative under Alternative 3, based strictly on rock sole harvests, would be about 226 mt. It is unlikely that amount of halibut would fund harvesting the amount of rock sole that

is expected to be rolled-over plus their initial allocation. Halibut assigned to the cooperative from other fisheries would have to be used to harvest the rock sole. However, the harvests of other species are likely to face similar problems. Under this alternative, it is possible that several vessels would prefer not to be part of the cooperative, because of the opportunities that would exist in the open access.

In another example, the combined yellowfin sole sideboard for the AFA Trawl CP and CV sector is 29.47 percent. If the Council selected this alternative, the allocation of yellowfin sole to the trawl limited access fishery would be 48 percent of the TAC. Assuming the AFA CP and CV sector harvested yellowfin sole up to their sideboards, the remaining allocation available for the Non-AFA Trawl CV sector would be 18 percent of the yellowfin sole TAC. Again, the Non-AFA Trawl CV sector has not traditionally harvested yellowfin sole to level necessary to harvest the remaining 18 percent of the yellowfin TAC. Between 1995 and 1997, only two or three Non-AFA Trawl CV vessels have retained yellowfin sole. The amount they retained during these years is withheld to protect confidentiality. However, it is expected that some of the yellowfin sole would go unharvested by these sectors.

Under Alternative 2, after deducting the CDQ allocation and reserves, the Non-AFA Trawl CP sector would get 96 percent of the Atka mackerel TAC and the trawl limited access fishery would get the remaining 4 percent of the TAC. Under Alternative 3, the Non-AFA Trawl CP sector would get 73 percent and the trawl limited access fishery would get 27 percent of the TAC. Allocations of Atka mackerel using the average annual TAC from 1999 to 2003 and deducting the appropriate percent of the TAC for the CDQ program based on the alternative and 7.5 percent for reserves would yield an allocation of 43,814 mt under Alternative 2 and 32,390 mt under Alternative 3 to the Non-AFA Trawl CP sector. The allocation to the trawl limited access fishery under the two alternatives would be 1,776 mt and 11,859 mt, respectively. Using a first wholesale value for whole Atka mackerel from 1999 to 2003 of $595 per mt, the estimated value of the allocations are $26 million and $19 million for the Non-AFA Trawl CP sector and $1 million and $7 million for the trawl limited access fishery, respectively. If each of the 26 qualified vessels in the Non-AFA Trawl CP sector divided the estimated value of the allocation equally, it would amount to $1 million for each vessel under Alternative 2 and $0.73 million for Alternative 3, for a difference of $0.27 million per vessel. However, since the Atka mackerel (and all other species) harvest privileges are determined by the amount of catch each vessels brings into the cooperative, a equal distribution of the revenue among qualified vessels will not occur. These average amounts of revenue provided for each species in this section are included for discussion purposes only. They are not intended to project the total amount of revenue individual vessels will generate.

For the flathead sole fishery, the Non-AFA Trawl CP sector would get 98 percent of the TAC under Alternative 2 versus 59 percent under Alternative 3, after deducting the CDQ allocations and reserves. The trawl limited access fishery would get the remaining 2 percent flathead sole TAC under Alternative 2, while under Alternative 3 they would get 41 percent of the TAC. Allocations of flathead sole using the average annual TACs from 1999 to 2003 for the Non-AFA Trawl CP sector after deducting the CDQ allocations and 7.5 percent for reserves the allocation would be 30,414 mt and 17,787 mt, respectively. The allocation to the trawl limited access fishery would be 647 mt and 12,360 mt, respectively. Using a first wholesale value for whole flathead sole from 1999 to 2003 of $882 per mt, the estimated value of the allocation of flathead sole to the Non-AFA Trawl CP sector would be $27 million and $16 million, whereas the value of the allocation to the trawl limited access fishery would be $0.6 million and $11 million, respectively. Dividing the estimated value of the allocation to the Non-AFA Trawl CP sector by the 26 eligible vessels evenly, it would be $1.04 million per vessel under Alternative 2 compared to $0.62 million per vessel under Alternative 3, for a difference of $0.42 million per vessel.

For the Aleutian Islands Pacific Ocean perch fishery, the Non-AFA Trawl CP sector would get 100 percent of the TAC under Alternative 2 and 78 percent under Alternative 3, after deducting CDQ allocations and reserves. The trawl limited access fishery would get zero percent of the TAC under Alternative 2 and 22 percent of the TAC under Alternative 3. Appling these percentages against the average annual TACs for Aleutian Islands Pacific Ocean perch from 1999 to 2003 and deducting the CDQ allocation form the TAC and 7.5 for reserves, the allocation to the Non-AFA Trawl CP sector would be 8,795 mt under Alternative 2 and 6,684 under Alternative 3. The trawl limited access fishery would not get an allocation of Aleutian Islands Pacific Ocean perch under Alternative 2, whereas under Alternative 3 they would get 1,853 mt. The lack of an allocation under Alternative 2 could pose an issue not only in any future directed fishing of Pacific Ocean perch, but any other fisheries that catch Pacific Ocean perch incidental. Without an allocation, the Aleutian Islands Pacific Ocean perch would be on bycatch status only for the trawl limited access fishery. Using a first wholesale value for whole Aleutian Islands Pacific Ocean perch from 1999 to 2003 of $1411 per mt, the estimated value of the allocation to the Non-AFA Trawl CP sector would be $12 million and $9 million, whereas the value of the trawl limited access fishery would be $3 million under Alternative 3. If each of the 26 qualified vessels in the Non-AFA Trawl CP sector divided the estimated value of the allocation equally, it would amount to $0.46 million for each vessel under Alternative 2 and $0.35 million for Alternative 3, for a difference of $0.11 million per vessel.

For the rock sole fishery, the Non-AFA Trawl CP sector would get 96 percent of the TAC under Alternative 2 and 29 percent under Alternative 3, after deducting the CDQ allocation and reserves. The allocation to the trawl limited access fishery would be 4 percent under Alternative 2 and 71 percent under Alternative 3. Using the average annual TACs for rock sole from 1999 to 2003 and deducting the CDQ allocations and 7.5 percent for reserves, the allocation to the Non-AFA Trawl CP sector would be 59,271 mt under Alternative 2 and 17,638 mt under Alternative 3. The allocation to the trawl limited access fishery would be 2,540 mt and 42,356 mt, respectively. Using a first wholesale value for whole rock sole from 1999 to 2003 of $749 per mt, the estimated value of the allocation would be $44 million under Alternative 2 and $13 million under Alternative 3 for the Non-AFA Trawl CP sector. The value of the allocation to the trawl limited access fishery is $2 million and $32 million, respectively. Dividing the estimated value of the allocation to the Non-AFA Trawl CP sector by the 26 eligible vessels evenly, it would be $1.69 million per vessel under Alternative 2 compared to $0.50 million per vessel under Alternative 3, for a difference of $1.19 million per vessel.

For the yellowfin sole fishery, the Non-AFA Trawl CP sector would get 89 percent of the TAC under Alternative 2 and 52 percent under Alternative 3, after deducting the CDQ allocation and reserves. The allocation to the trawl limited access fishery would be 11 percent under Alternative 2 and 48 percent under Alternative 3. Appling these percentages against the average annual TACs for yellowfin sole from 1999 to 2003 and deducting CDQ allocations and 7.5 percent for reserves, the allocation to the Non-AFA Trawl CP sector would be 78,502 mt and 44,779 mt, respectively. The remaining 10,220 mt of yellowfin sole under Alternative 2 and 41,334 mt under Alternative 3 would be allocated to trawl limited access fishery. Using a first wholesale value for whole yellowfin sole from 1999 to 2003 of $529 per mt, the estimated value of the allocation would be $42 million under Alternative 2 and $24 million under Alternative 3 for the Non-AFA Trawl CP sector. Whereas the value of the allocation to the trawl limited access fishery under the two alternatives would be $5 million and $22 million, respectively. Dividing the estimated value of the allocation to the Non-AFA Trawl CP sector by the 26 eligible vessels evenly, it would be worth $1.62 million per vessel under Alternative 2 compared to $0.92 million per vessel under Alternative 3, for a difference of $0.70 million per vessel.

Under Alternative 2, the allocation of the primary species to the Non-AFA Trawl CP sector will be managed as a hard cap, whereas under Alternative 3 the allocated would be managed as a soft cap. Under a hard cap, when one of the cooperative's allocation of one of the species is fully harvested, all

directed fishing for that species closes for the cooperative, as well as any fisheries in which that species would be caught incidentally by members of that cooperative. In general, individual cooperatives are thought to manage their allocations in a manner that will benefit its participants the most (whether in the directed fishery or as incidental catch in other fisheries). Under a system of hard caps, cooperative members are responsible for staying within their allotments through internal controls. In comparison, soft caps managed by the cooperative without NOAA Fisheries' involvement, under Alternative 3, would be identical to the hard cap system in Alternative 2. However, if the allocations were managed by NOAA Fisheries, then a portion of the allocation would need to be set aside as an ICA to accommodate the incidental catch of the allocated species. Under this type of management, when a cooperative has fully harvested their directed fishing allowance of an allocated species, the species would be placed on bycatch status for that cooperative, reserving the remainder of the allocation for incidental catch in other directed fisheries. If the fishery is closed to directed fishing and the ICA is fully harvested, NOAA Fisheries would close all the cooperative's fisheries that catch that species.

If a NOAA Fisheries-managed ICA system is used under Alternative 3, one unknown is how the ICA would be funded. The ICA theoretically could be deducted before the allocation to the Non-AFA Trawl CP sector and trawl limited access fishery or at the sector or cooperative level. ICAs deducted before the allocation to the sectors would likely advantage the Non-AFA Trawl CP sector over the trawl limited access fishery since they would likely harvest their entire allocation of each of the allocated species under this alternative before the trawl limited access fishery thus utilizing the portion of the ICA provided by the trawl limited access fishery. An ICA deducted at the sector level would likely advantage the cooperative since it could utilize the portion of the ICA provided by the non-cooperative pool to continue fishing in their allocated fisheries. An ICA deducted at the cooperative level would likely leave the cooperative with less allocation to manage as it sees fit, because NOAA Fisheries, in determining the ICA, tends to be relatively conservative, especially as the allocation gets smaller (e.g., as fisheries are divided more by seasons and sectors).

As discussed earlier, to help prevent allocated species from going unutilized, Alternative 3 would include a one-way rollover provision for allocated species that were unharvested by the trawl limited access fishery. The Regional Administrator would reallocated any projected unharvested Atka mackerel, AI Pacific Ocean perch, flathead sole, rock sole, or yellowfin sole from the trawl limited access fishery to the Non-AFA Trawl CP sector. The reallocation of quota would be apportioned based on how the Council elects to divide the allocation of the primary species between the cooperative and the non-cooperative pool.

There is a strong likelihood that large portions of the species allocated to the trawl limited access fishery will go unharvested under Alternative 3. The rollover provision could provide some additional fishing opportunities for the Non-AFA Trawl CP sector. However, the sector would be severally constrained by their PSC allocation. Under this alternative, the PSC allocation to the Non-AFA Trawl CP sector is based on their allocation percentage of the primary species multiplied by the PSC usage of all trawl vessels. Alternative 3 results in a relatively low percentage of the allocated species, in comparison to Alternative 2, being assigned to the Non-AFA Trawl CP Sector. Since the PSC allocation to the Non-AFA Trawl CP sector is based on the amount of groundfish allocated to the sector, the PSC will likely not be large enough to cover the portion of the allocated species rolled over from the trawl limited access fishery.

Both alternatives include a yellowfin sole threshold that would distribute yellowfin sole in different proportions than under the primary allocation formula. Alternative 2 includes a threshold of 125,000 mt for the yellowfin sole fishery, whereas Alternative 3 includes a 100,000 mt threshold. Under Alternative 2, any portion of ITAC exceeding the 125,000 mt threshold would be allocated in the following manner: 30 percent to the Non-AFA Trawl CP sector and 70 percent to the trawl limited access fishery. ITACs at or below the 125,000 mt threshold would be allocated as 88.5 percent to the

Non-AFA Trawl CP sector and 11.5 percent to the trawl limited access fishery. An estimation of the allocation of yellowfin sole at the 125,000 mt threshold would be 110,602 mt to the Non-AFA Trawl CP sector and 14,398 mt to the trawl limited access fishery. Using first wholesale prices for whole yellowfin sole from 1999 to 2003 of $529 per mt, the estimated first wholesale value of the allocation would be $47 million for the Non-AFA Trawl CP sector and $8 million for the trawl limited access fishery.

Under Alternative 3, any portion of ITAC exceeding the 100,000 mt threshold would be allocated 70 percent to the Non-AFA Trawl CP sector and 30 percent to the trawl limited access fishery. ITACs up to the threshold would be allocated as 52 percent to the Non-AFA Trawl CP sector and 48 percent to the trawl limited access fishery. An estimation of the allocation of yellowfin sole at the 100,000 mt threshold would be 52,000 mt to the Non-AFA Trawl CP sector and 48,000 mt to the trawl limited access fishery. The estimated first wholesale value of the allocation would be $28 million for the Non-AFA Trawl CP sector and $25 million for the trawl limited access fishery. Estimated yellowfin sole first wholesale revenues to the Non-AFA Trawl CP sector are projected to be reduced by $19 million annually by selecting Alternative 3 over Alternative 2. This estimate is before rollovers occur and it assumes no change in CDQ allocations. The amount of the loss will likely be partially recovered through the rollover and better fishing practices in the cooperative. Because halibut PSC is not included in the rollovers and increases in CDQ allocations are included in Alternative 3, the expected revenue improvements are likely going to be reduced from those in Alternative 2. It is unknown at this time how much of the losses will be transferred to other sectors of the fishery in terms of increased revenue, versus how much will simply be a reduction in overall benefits derived from the fishery. However, given the current level of participation by other sectors in the yellowfin sole fishery, some reduction in net National benefits is expected.

Under Alternative 2, the yellowfin sole threshold program could provide the opportunity for the AFA Trawl CP and CV sectors to expand their harvest of yellowfin sole in periods when pollock TAC declines relative to yellowfin sole, assuming markets conditions remain relatively stable for both fisheries. As noted in Section 3.2.12, there appears to be an inverse relationship between pollock and yellowfin sole TACs during the 1995 to 2003 period. This inverse relationship is in part due to the influence of the 2 million metric ton cap in the BSAI on these two fisheries. Since increases in pollock TAC leave less room under the 2 million metric cap, other BSAI TAC must decrease to ensure that the total BSAI removals remains under the 2 million mt limit. As a result, species like yellowfin sole have their ITAC set at levels below those that could be supported by biomass levels that year. In periods where the pollock TAC has declined enough to allow yellowfin sole ITAC to increase above the threshold, 70 percent of the portion of yellowfin sole ITAC above the threshold will be allocated to the trawl limited access fishery, providing an increasing opportunity for participants in the trawl limited access fishery to expand their harvest of yellowfin sole. For example, at a yellowfin sole ITAC of 150,000 mt, the total yellowfin sole allocated to the trawl limited access fishery is 31,898 mt or 21 percent of the ITAC. At an ITAC of 175,000 mt, the total yellowfin sole allocated to the trawl limited access fishery is 49,398 mt or 28 percent of the ITAC.

The alternative would include a two-way rollover provision for unharvested yellowfin sole from the threshold program. The Regional Administrator would reallocate any projected unharvested allocation of yellowfin sole in the trawl limited access fishery to the Non-AFA Trawl CP sector. Although its very unlikely under this alternative, the Regional administer could also reallocate any projected unharvested allocation of yellowfin sole from the Non-AFA Trawl CP sector to the trawl limited access fishery. The reallocation of the quota to the Non-AFA Trawl CP sector would be apportioned based on the division of the sectors allocation of the primary species.

In contrast, with the yellowfin sole threshold rollover provision included in this alternative, Alternative 3 would likely result in large amounts of stranded yellowfin sole when the ITAC is only slightly greater than the 100,000 mt threshold. However, as the portion of ITAC above the threshold

increases, there is a potential for the trawl limited access fishery to harvest a larger portion of their allocation, but likely not enough to harvest their entire allocation. Because of the influence of the pollock TAC and the 2 million metric ton cap, pollock and yellowfin sole TACs have traditionally had an inverse relationship. If the pollock TAC declines, there is a potential for the yellowfin sole TAC to increase to levels seen in the mid 1990s. If first wholesale prices continue to remain strong despite the increase in yellowfin sole in the market place, it is likely the AFA Trawl CP and CV sectors will harvest more of their yellowfin sole sideboard when yellowfin sole TACs are larger. Members of the yellowfin sole fishery have stated in the past that the market for yellowfin sole is limited in terms of the amount of product that can be sold. The quantity of product that can be sold in the market before the price deteriorates to the point where it is not profitable to fish is not known. However new participants entering the yellowfin sole fishery, if the TAC increases and the market is truly constrained, would tend to reduce the revenue (and likely profitability) of the Non-AFA Trawl CP sector. Additional information[17] that is not currently available is needed before any quantitative projections of the impact that quantity changes in the market will have on the 1st wholesale prices of yellowfin sole products can be made.

Alternative 2 would allocate 7.5 percent of the PSC to the CDQ program as PSQ, whereas under Alternative 3, it would be increased to 10 percent. The affects of increasing PSQ under Alternative 3 to 10 percent cannot be estimated with any certainty. Obviously, if allocations of PSC to the CDQ program were increased, there would be less PSC available for the non-CDQ sector fisheries to cover their incidental catch of crab, salmon, and Pacific halibut. The yellowfin sole, rock sole, and flathead sole fisheries could be the most affected inform increasing PSQ allocations, since they historically experience higher bycatch rates for PSC species than do the Atka mackerel and Pacific Ocean perch fisheries. But, since this action concurrently considers decreasing the amount of the Amendment 80 primary target species available for the non-CDQ fisheries, less PSC species would be needed to account for bycatch in such fisheries. However, other fisheries, such as the trawl Pacific cod fishery, could be impacted by across-the-board increases in PSQ allocations, since it also would lose access to that additional portion of PSC limits allocated to the CDQ program.

The PSC allowance to the Non-AFA Trawl CP sector, under Alternative 2, would be based on the PSC usage by the Non-AFA Trawl CP sector from 1998 to 2002 while operating in BSAI. In contrast, the PSC allowance to the Non-AFA Trawl CP sector under Alternative 3 would be based on the PSC usage by all trawl vessels from 1995 to 2003 multiplied by the allocation percentages of the primary allocated species allocated to the Non-AFA Trawl CP sector. Under both alternatives, PSC allowance would be allocated to the Non-AFA Trawl CP sector for use while targeting their allocation of groundfish and any other non-allocated BSAI groundfish. PSC allowance allocated to the sector will be further divided between the cooperatives and the non-cooperative pool. Under Alternative 2, this allocation would be based on the retained catch of the eligible participants during the 1998 to 2002 period with no dropped year. Under Alternative 3, this allocation would be based on the total catch of the eligible participants during the 1995 to 2003 period dropping the three lowest annual catches by species during this period.

Since the purpose of the PSC allocation is to provide the Non-AFA Trawl CP sector with enough PSC for the cooperatives to harvest their allocation of the primary species, Alternative 3 will require generation of artificial allocation estimates for several non-allocated species. Specifically, percentages have to be generated for Pacific cod, other flatfish, turbot, arrowtooth, sablefish, rockfish, and other species. These artificial allocation percentages would be generated using the same procedure as the allocation calculation for the primary species, retained catch of the sector divided by

[17] To estimate the price flexibility for yellowfin sole, information on prices of other goods and services that could substitute for yellowfin sole, consumer income levels, tastes and preferences of consumers, consumer wealth, and population size would be needed

the total catch of all sectors for each of the non-allocated species from 1995 to 2003. Due to time constraints, these estimates were not generated. This estimates will be generated after the June 2005 meeting.

Table 3-70 provides the PSC allocations for Alternative 2. There are two allocation calculations provided in the table. The first is the average total PSC used by the Non-AFA Trawl CP sector relative to the total PSC used by all trawl sectors from 1998 to 2002. The second is the average annual PSC usage by the Non-AFA Trawl CP sector relative to the annual PSC usage for all trawl vessels from 1998 to 2002. These percentages were then multiplied by the 2005/2006 PSC allowance for each of the PSC trawl fisheries categories to determine the PSC allowance allocated to the Non-AFA Trawl CP sector. Overall, there was very little difference between the two calculations and there was no consistency on which calculation produced the largest allocation. For halibut PSC, the allocation to the Non-AFA Trawl CP sector would range between 2,476 mt and 2,482 mt out of a PSC allowance of 3,400 mt for all trawl sectors. For herring, the allocation would range between 245 mt and 253 mt out of a PSC allowance of 2,012 mt allowed for all trawl sectors. The allocation of red king crab would range between 172,594 animals and 173,979 animals out of a PSC allowance of 182,225 animals for all trawl vessels. For the C. opilio crab, the allocation would range between 4,190,789 animals and 4,218,787 animals out of a PSC allowance of 4,494,569 animals for all trawl vessels. The C. bairdi Zone 1 allocation would range between 795,331 animals and 820,388 animals out of a PSC allowance of 906,500 animals for all trawl vessels. Finally, for C. bairdi Zone 2 crab the allocation would range between 2,536,270 animals and 2,545,180 animals out of a PSC allowance of 2,747,250 animals for all trawl vessels.

Table 3-71 provides the PSC allocations for rock sole, flathead sole, and yellowfin sole under Alternative 3. Due to time constraints, not all of the PSC allocations using the PSC option under Alternative 3 could be provided in time for initial review. Specifically, PSC allocation estimates for the non-allocated species, Atka mackerel, and AI POP were not estimated. These estimates will be provided and the analysis updated after the June 2005 meeting. In the mean time, estimated PSC allocations for rock sole, flathead sole, and yellowfin sole were generated to provide the reader with some indication of what the PSC allocations to the Non-AFA Trawl CP sector would be under Alternative 3. Based on the PSC allocation estimates for the rock sole, flathead sole, and yellowfin fisheries under Alternative 3, the PSC allocation to the Non-AFA Trawl CP sector will likely be significantly lower under Alternative 3 than the PSC allocations under Alternative 2. The primary PSC allocations under Alternative 3 are significantly lower than Alternative 2 because the PSC allocated to the Non-AFA Trawl CP sector is based on retained catch of the sector divided by the total catch of all sectors. Another reason is the years used to determine the PSC usage for all trawl vessels. Between 1995 to 1998, the pollock TAC was lower relative to more recent years and the TACs for rock sole, flathead sole, and yellowfin sole were higher relative to more recent years, so the AFA Trawl CP sector and AFA Trawl CV sector harvested a larger share of the flatfish in those years relative to more recent years and thus used more PSC allowance for all species. Overall, the PSC allocation to the Non-AFA Trawl CP sector under Alternative 3 will likely result in the sector not being able to harvest any allocation of Amendment 80 species that would be rolled over from the trawl limited access fishery.

For halibut PSC for the rock sole, flathead sole, and yellowfin sole fishery under Alternative 3, the allocation Non-AFA Trawl CP sector would be 885 mt. For herring, the allocation would be 43 mt. The allocation of red king crab under Alternative 3 would be 23,997 animals. For the C. opilio crab fishery, the allocation would be 1,458,035 animals. The C. bairdi Zone 1 crab allocation would be 208,662 animals. Finally, the allocation of C. bairdi Zone 2 crab would be 383,522 animals.

Alternative 3 would also reduce PSC apportionments to 95 percent of the Non-AFA Trawl CP sector PSC allocation. Again, looking only at rock sole, flathead sole, and yellowfin sole fisheries, the PSC allocation to the Non-AFA Trawl CP sector would leave in question the ability of the sector to harvest

any amount of the Amendment 80 species that was rolled over from the trawl limited access fishery. Taking into consideration the 5 percent reduction in PSC allowance for the Non-AFA Trawl CP sector, the halibut PSC allocation for the rock sole, flathead sole, and yellowfin sole fisheries would be 841 mt, herring allocation would be 41 mt, red king crab allocation would be 22,797 animals, C. opilio crab allocation would be 1,385,133 animals, C. bairdi Zone 1 crab allocation would be 198,229 animals, and C. bairdi Zone 2 allocation would be 363,396 animals.

Table 3-70 PSC allocations based on PSC usage by the Non-AFA Trawl CP sector from 1998 to 2002

PSC Trawl Category	Average total PSC usage (%)	Average annual PSC usage (%)	Allocation of PSC using average total PSC usage	Allocation of PSC using average annual PSC usage
Halibut (mt)				
Pacific cod	0.48	0.48	683	695
Rockfish	1.00	1.00	69	69
Pollock/Atka mackerel/other	0.50	0.48	115	112
Rock sole/other flat/flathead sole	0.99	0.99	772	772
Turbot/arrowtooth/sablefish	0.00	0.00	0	0
Yellowfin sole	0.94	0.94	837	835
Total	N/A	N/A	**2,476**	**2,482**
Herring (mt)				
Pacific cod	0.80	0.67	22	18
Rockfish	1.00	0.60	10	6
Pollock/Atka mackerel/other	0.01	0.01	2	1
Rock sole/other flat/flathead sole	0.99	1.00	27	27
Turbot/arrowtooth/sablefish	1.00	1.00	12	12
Yellowfin sole	0.99	0.99	181	181
Total	N/A	N/A	**253**	**245**
Red King Crab (animals)				
Pacific cod	0.79	0.79	21,108	21,077
Rockfish	0	0	0	0
Pollock/Atka mackerel/other	0.21	0.45	84	183
Rock sole/other flat/flathead sole	0.99	0.98	120,666	119,577
Turbot/arrowtooth/sablefish	0.00	0.00	0	0
Yellowfin sole	0.95	0.94	32,120	31,757
Total	N/A	N/A	**173,979**	**172,594**
***C. opilio* (animals)**				
Pacific cod	0.78	0.79	108,036	109,644
Rockfish	1.00	1.00	69	69
Pollock/Atka mackerel/other	0.31	0.36	25,478	28,913
Rock sole/other flat/flathead sole	0.99	1.00	1,074,246	1,077,569
Turbot/arrowtooth/sablefish	1.00	1.00	44,941	44,937
Yellowfin sole	0.96	0.94	2,966,016	2,929,657
Total	N/A	N/A	**4,218,787**	**4,190,789**

PSC Trawl Category	Average total PSC usage (%)	Average annual PSC usage (%)	Allocation of PSC using average total PSC usage	Allocation of PSC using average annual PSC usage
***C. bairdi* Zone 1**				
Pacific cod	0.80	0.82	145,993	149,629
Rockfish	0.00	0.00	0	0
Pollock/Atka mackerel/other	0.58	0.50	9,989	8,623
Rock sole/other flat/flathead sole	0.97	0.97	355,108	355,774
Turbot/arrowtooth/sablefish	0.00	0.00	0	0
Yellowfin sole	0.83	0.90	284,241	306,362
Total	N/A	N/A	**795,331**	**820,388**
***C. bairdi* Zone 2**				
Pacific cod	0.63	0.63	203,524	205,375
Rockfish	1.00	1.00	10,988	10,988
Pollock/Atka mackerel/other	0.22	0.52	5,976	14,282
Rock sole/other flat/flathead sole	1.00	1.00	595,611	595,524
Turbot/arrowtooth/sablefish	0.00	0.00	0	0
Yellowfin sole	0.96	0.96	1,720,170	1,719,010
Total	N/A	N/A	**2,536,270**	**2,545,180**

Source: Amendment 80 database. Average total PSC determine using total PSC usage from 98-02 for Non-AFA Trawl CP sector divided by the total usage of all trawl sectors. Average annual PSC was determine by averaging annual PSC usage by the Non-AFA Trawl CP sector relative to all trawl vessels. These percentages where multiplied by the 2005/2006 PSC allowance to determine allocation.

Table 3-71 PSC allocations based on allocation percentage of the primary species multiplied by the total trawl PSC usage from 1995 to 2002

PSC Trawl Category	PSC allocation using total/total	PSC allocation using retain/retain	PSC allocation using retain/total
Halibut (mt)			
Rock sole/other flat/flathead sole	608	654	378
Yellowfin sole	659	622	507
Total	**1,267**	**1,276**	**885**
Herring (mt)			
Rock sole/other flat/flathead sole	4	4	2
Yellowfin sole	53	50	41
Total	**57**	**54**	**43**
Red king crab (animals)			
Rock sole/other flat/flathead sole	25,723.25	27,679.67	16,014
Yellowfin sole	10,377.75	9,794.38	7,983
Total	**36,101.00**	**37,474.05**	**23,997**
***C. opilio* (animals)**			
Rock sole/other flat/flathead sole	510,105.96	548,902.75	317,559
Yellowfin sole	1,482,618.69	1,399,276.22	1,140,476
Total	**1,992,724.65**	**1,948,178.97**	**1,458,035**

***C. bairdi* Zone 1 (animals)**			
Rock sole/other flat/flathead sole	184,903.07	198,966.12	115,109
Yellowfin sole	121,619.71	114,783.10	93,554
Total	**306,522.77**	**313,749.21**	**208,662**
***C. bairdi* Zone 2 (animals)**			
Rock sole/other flat/flathead sole	140,438.42	151,119.65	87,428
Yellowfin sole	383,621.96	362,057.41	295,094
Total	**524,060.38**	**513,177.06**	**382,522**

Source: Amendment 80 database. Allocation amounts are based on the percentage of allocation of the primary species multiplied by the total trawl PSC usage for that species.

In November 2004, Congress passed the FY 2005 Appropriations Act, which contained a BSAI Catcher Processor Capacity Reduction Program. The program limits access to the non-pollock groundfish fisheries defined by the Act as the Atka mackerel, flathead sole, Pacific cod, Pacific Ocean perch, rock sole, turbot, or yellowfin sole fisheries in the BSAI. Program language defines the Non-AFA Trawl CP subsector as the owner of each trawl catcher processors—

(A) that is not an AFA trawl catcher processor;
(B) to whom a valid LLP license that is endorsed for Bering Sea or Aleutian Islands trawl catcher processor fishing activity has been issued; and
(C) that the Secretary determines has harvested with trawl gear and processed not less than a total of 150 metric tons of non-pollock groundfish during the period January 1, 1997 through December 31, 2002.

Based on the above language, eligibility criteria for Alternatives 2 and 3 are the same. Using these criteria, 26 vessels with trawl catcher processor license qualified by harvesting the required 150 mt of BSAI groundfish with trawl gear and processed that fish between 1997 and 2002. Four vessels with trawl CP licenses failed to harvest the required 150 mt of BSAI groundfish with trawl gear and process that catch between 1997 and 2002. Those vessels that failed to qualify had trawl CP catch history only during the 1995 and 1996 period. These vessels did not participate in the BSAI trawl CP fishery after 1996. Participation patterns during 1995 and 1996 may have been impacts by the implementation of the Groundfish LLP program.

To form a cooperative under Alternative 2, 30 percent of the eligible Non-AFA Trawl CP sector participants would have to agree to form a cooperative. Since 26 vessels are qualified to join cooperatives, at least eight vessels would be needed to form a cooperative. If each of the cooperatives had the required eight vessels, there could be a maximum of three cooperatives formed in the Non-AFA Trawl CP sector. This alternative does not preclude more than eight vessels from joining a cooperative if they agree to the terms of the cooperative's bylaws, so the actual number of cooperatives would be either 1, 2, or 3 depending on how vessels group together. This provision should help to ensure that each vessel is given the opportunity to join a cooperative. However, it may mean that the "odd-person-out" has little voice in deciding the terms of the cooperative agreement. It seems less likely that the "odd-person-out" would be worse off under this alternative then they would have been under any other cooperative structure that did not require 100 percent participation. Each vessel owner would have the option to join, any of three potential cooperatives, so it could be argued that they are more likely to find a cooperative that would help them meet their objectives. Participants who elect not to join any of the cooperatives could elect to participate outside a cooperative but within the sector. Given there is the potential for multiple cooperatives to form under this alternative, there is a need to establish a structure for individuals to negotiate with representatives of the various cooperatives that may form.

Allocation of the primary species and PSC allowances between cooperatives and those participants who elect not to join a cooperative for Alternative 2 is based on the retained catch of the allocated species of the eligible license holders included in each cooperative and the non-cooperative pool for the years 1998-2002, with no years of catch history excluded. Since it is not possible to determine which vessels will join a cooperative(s) very little can be said about how this option impacts the distribution of the sector's TAC between cooperatives and open access pool. Including this option does allow members of the sector to know how much of the sector's allocation they take with them into a cooperative or the open access pool. Without determining this ahead of time, it would be very unlikely that the participants would agree on a system to divide the allocation without a lot of debate. Depending on whether all members could agree, it could stop the formation of cooperatives. If one vessel owner would not agree to the terms of the distribution, then they could derail the formation of cooperatives. Without this provision in the program, it would require 100 percent of the sector members to join a cooperative.

In contrast, to form a cooperative under Alternative 3 requires 67 percent of the eligible Non-AFA Trawl CP sector participants to agree to form a cooperative. Given there are 26 eligible vessels under this alternative, 17 vessels are necessary to form a cooperative. Those qualified participants who elect not to join a cooperative would participate outside the cooperative but within the sector. For a cooperative to form, the majority of the eligible participants need to meet the minimum demands of 17 participants. Cooperative negotiation advantage between eligible participants who want to form a cooperative will shift once 17 participants have agreed to form a cooperative. Prior to the required 17 participants collectively agreeing to form a cooperative, the participants that have not agreed to join the cooperative have some amount of leverage in cooperative negotiations over those that have agree to form a cooperative. However, after the 17th member joins, those that have not joined suddenly have very little leverage in cooperative negotiations.

Under Alternative 3, the allocation of the primary target species and PSC allowance between the cooperative and those sector participants who elect not to join a cooperative is based on the total catch of the allocated species to the eligible license holders include in each pool for the years 1995 to 2003. Each license holder must drop its three lowest years of total catch for each of the allocated species. Given that is not possible to determine with certainty which vessels will join the cooperative very little can be said about the impacts of this option will have on distribution of catch, other than it will vary somewhat over that seen in Alternative 2. The other impacts of this provision are the same as Alternative 2. Without defining how the allocation is divided, it is not possible for cooperative to form unless all members of the sector join the cooperative.

Consolidation in the Non-AFA Trawl CP sector under Alternative 2 would not be constrained. There would be no limit on the percentage of the Non-AFA Trawl CP sector allocation that an eligible participant (individual or entities) can use. Using total catch and catch history years 1998 to 2002 for each of the allocated species combined, the number of eligible LLP owners in the sector have over 8 percent catch history was confidential. The average allocation for these LLP holders was also confidential. The sum of LLP owners with over five percent of the catch history but less than eight percent is confidential. The sum of LLP owners with over 2 percent of the catch history but less than 5 percent is 10. The sum of LLP owners with less than two percent of the catch history is nine. The median catch history percentage for the 26 qualified vessels is 2.8 percent. In the extreme, the sector's entire allocation could be harvested by one firm. They would be able to remove any vessels that were not needed to harvest the quota. This would tend to reduce the number of jobs that are available in the fishery. It would also create an environment that allows the owners to maximize profits by reducing production costs through retiring excess capacity. Only the most efficient harvesting vessels that are needed to harvest the quota would be expected to remain in the fishery. Some of the retired vessels would likely be kept at the ready in case they were needed in the future.

In contrast, consolidation would be limited under Alternative 3. Consolidation in the Non-AFA Trawl CP sector is limited such that no single company or person can use more than a fixed percentage of the overall sector apportionment history. The cap will be applied across the total allocation to the sector of all species combined. The cap will be applied using the individual and collective rule. Persons (individuals and entities) that exceed the cap in the initial allocation would be grandfathered. Using total catch and catch history years 1995 to 2003 drop the lowest three years for each allocated species, three eligible LLP owners in the sector have over 8 percent of the combined catch history of all allocated species for each of the different catch history year combinations. The average allocation for these three LLP holders is 9.5 percent. The sum of LLP owners with over five percent of the catch history but less than eight percent is four. The sum of LLP owners with over 2 percent of the catch history but less than 5 percent is 12. The sum of LLP owners with less than two percent of the catch history is seven. The median catch history percentage for the 26 qualified vessels is 3.3 percent.

Sideboards for the Non-AFA Trawl CP sector would be established by regulation based on the 1998 to 2002 years for Alternative 2 and 1995 to 2003 years for Alternative 3. The sideboards would remain in place until such time as other BSAI and GOA fisheries are rationalized (including Pacific cod sector allocation). Within the Non-AFA Trawl CP sector, sideboards will be allocated between cooperative and non-cooperative LLP holders based on the same years used to allocate the primary species between the cooperative participants and non-cooperative participants.

The general impacts of sideboards under Alternatives 2 and 3 are similar. The primary difference is the magnitude of the impacts based on the relative size of the sideboards. Sideboards are included under both alternatives to prevent members of the Non-AFA Trawl CP sector from increasing their harvest of species outside their direct allocation. It is thought these vessels could increase their harvests of other species because of the harvesting flexibility they would have under the cooperative structure. Harvesting flexibility is increased because harvesters can fish at different times of the year or they can stack their cooperative harvest privileges on the most efficient vessels and use the other vessels to fish other species. Implementing sideboard limits will restrict members of the Non-AFA Trawl CP sector from harvesting more than their historic percentage of these other species.

Sideboards are not needed for the BSAI crab fisheries, because that fishery has been rationalized. The remaining fisheries of concern are the BSAI and GOA groundfish fisheries. Table 3-72 provides estimates of the BSAI sideboards for the two alternatives. Pollock ICA sideboards were included in some of the options using more recent years of data. They were not calculated for either Alternative 2 or Alternative 3, because pollock ICAs were not implemented until 1999. Pacific cod sideboard estimates are included in Alternative 2 because it includes only years after the cod TAC was divided between trawl catcher vessels and trawl catcher processor.

When the Non-AFA Trawl CP sector's BSAI average annual catch from 1998-2003 is compared with the estimated sideboards, it indicates that Alternative 2 more closely represents the sector's historical catch. Alternative 3 would result in sideboards that are much lower than historic catch for many species. The sideboard limits for flatfish and rockfish species whose ITAC is for the entire BSAI show the greatest difference. These low sideboard caps could limit the amount of the allocated species the sector can harvest. Recall that like PSC species, no provisions are included in this amendment to roll-over sideboard species to the Non-AFA Trawl CP sector. It is not possible, given annual TAC fluctuations, changes in incidental catch rates, and PSC constraints to estimate the economic impact selecting Alternative 3 would have on the Non-AFA Trawl CP sector. However, it is apparent that the sideboards would limit directed fisheries much earlier in the year under Alternative 3 than they would under Alternative 2.

Table 3-72 BSAI Sideboard estimates and average historic catch

Species	Alternative 2			Alternative 3			Average Catch of Non-AFA Trawl CPs (98-03)
	Sideboard %	2005 ITAC (mt)	Estimated Sideboard (mt)	Sideboard %	2005 ITAC (mt)	Estimated Sideboard (mt)	
Bering Sea							
Other Rockfish	52.12%	391	204	21.01%	391	82	138
Pacific Ocean Perch	38.62%	1,190	460	22.96%	1,190	273	231
Sablefish (Trawl)	96.91%	1,037	1,005	24.05%	1,037	249	221
Greenland Turbot	21.38%	2,295	491	15.95%	2,295	366	1,077
Aleutian Islands							
Other Rockfish	80.26%	502	403	21.65%	502	109	315
Sablefish (Trawl)	84.73%	557	472	5.61%	557	31	22
Greenland Turbot	24.73%	680	168	11.49%	680	78	165
Bering Sea & Aleutians							
Arrowtooth Flounder	77.48%	10,200	7,903	6.10%	10,200	622	9,351
Northern Rockfish	67.17%	4,625	3,107	9.32%	4,625	431	4,026
Other Flatfish	33.64%	2,975	1,001	1.48%	2,975	44	2,138
Alaska Plaice	33.64%	6,800	2,288	1.48%	6,800	101	
Other Species	16.38%	24,650	4,038	1.79%	24,650	441	8,892
Pacific Cod - Trawl CP	74.41%	44,779	33,320	*	44,779	*	25,257
Shortraker Rockfish	69.38%	552	383	44.21%	552	244	368
Rougheye Rockfish	69.38%	207	144	44.21%	207	92	

Source: Sideboard percent was estimated using the retained catch of the 26 Non-AFA Trawl CP vessels (as estimated in the Council IR/IU and GOA Rationalization data base) divided by the retained (Alt 2) or total (Alt 3) catch of all vessels in the BSAI, as reported in the NOAA Fisheries catch and bycatch reports (1995-2003).

Table 3-73 reports the estimated sideboards under Alternatives 2 and 3. Average annual catch of the Non-AFA Trawl CP sector from 1998-2003 is also included in the table. These data indicate that, under Alternative 3, arrowtooth flounder, rex sole (in the Western Gulf), and flathead sole sideboard limits are considerably less than the historic catch levels. The sideboards in those fisheries could constrain the harvest of those species in directed fisheries or other fisheries that take those species as incidental catch. Sideboard limits under Alternative 2 are generally less of a constraint. The sideboards for the rockfish species appear to be less constraining in the Central Gulf than the Western Gulf. This may be due to how catch data for the 26 qualified vessels was aggregated for some species in the Central Gulf and West Yakutat areas.

Table 3-73 GOA sideboard estimates and average historic catch

Species	Alternative 2			Alternative 3			Average Catch of Non-AFA Trawl CPs (98-03)
	Sideboard %	2005 ITAC (mt)	Estimated Sideboard (mt)	Sideboard %	2005 ITAC (mt)	Estimated Sideboard (mt)	
Pollock 610	0.30%	30,380	91	0.20%	30,380	61	120
Pollock 620	0.10%	34,404	34	0.10%	34,404	34	100
Pollock 630	0.10%	18,718	19	0.10%	18,718	19	
Arrowtooth Flounder	43.80%	25,000	10,950	11.00%	25,000	2,750	7,750
Deep Water Flatfish	4.30%	3,340	144	9.30%	3,340	311	252
Shallow Water Flatfish	1.70%	13,000	221	2.70%	13,000	351	173

Species	Alternative 2			Alternative 3			Average Catch of Non-AFA Trawl CPs (98-03)
	Sideboard %	2005 ITAC (mt)	Estimated Sideboard (mt)	Sideboard %	2005 ITAC (mt)	Estimated Sideboard (mt)	
Flathead Sole	22.30%	5,000	1,115	20.80%	5,000	1,040	369
Rex Sole	92.20%	7,340	6,767	75.10%	7,340	5,512	2,317
Pacific Ocean Perch	45.90%	8,535	3,918	39.70%	8,535	3,388	4,179
Rougheye Rockfish	37.20%	557	207	33.10%	557	184	495
Shortracker Rockfish	37.20%	324	121	33.10%	324	107	
Thornyhead Rockfish	16.70%	1,010	169	17.80%	1,010	180	210
Pelagic Shelf Rockfish	46.90%	3,067	1,438	46.30%	3,067	1,420	1,620
Northern Rockfish	26.20%	4,283	1,122	34.30%	4,283	1,469	1,156
Other Rockfish	27.40%	300	82	22.40%	300	67	233
Pacific Cod	6.20%	25,086	1,555	4.20%	25,086	1,054	2,024
Sablefish	35.50%	1,450	515	24.40%	1,450	354	524
Arrowtooth Flounder	76.50%	8,000	6,120	32.50%	8,000	2,600	4,218
Deep Water Flatfish	24.30%	330	80	3.10%	330	10	9
Shallow Water Flatfish	67.70%	4,500	3,047	29.20%	4,500	1,314	143
Flathead Sole	70.90%	2,000	1,418	52.10%	2,000	1,042	314
Rex Sole	97.40%	1,680	1,636	87.40%	1,680	1,468	572
Pacific Ocean Perch	95.30%	2,567	2,446	80.60%	2,567	2,069	1,456
Rougheye Rockfish	55.40%	188	104	65.70%	188	124	161
Shortracker Rockfish	55.40%	155	86	65.70%	155	102	
Thornyhead Rockfish	35.40%	410	145	37.00%	410	152	116
Pelagic Shelf Rockfish	100.00%	377	377	65.10%	377	245	135
Northern Rockfish	96.30%	808	778	70.20%	808	567	443
Other Rockfish	0.10%	40	0	0.50%	40	0	23
Pacific Cod	2.70%	15,687	424	2.20%	15,687	345	553
Sablefish	72.90%	508	370	41.10%	508	209	116
Atka Mackerel	63.00%	600	378	70.30%	600	422	178
Other Species	4.00%	13,871	555	1.60%	13,871	222	853

Source: Sideboard percent was estimated using the retained catch of the 26 Non-AFA Trawl CP vessels (as estimated in the Council IR/IU and GOA Rationalization data base) divided by the retained (Alt 2) or total (Alt 3) catch of all vessels in the GOA, as reported in the NOAA Fisheries catch and bycatch reports (1995-2003).

The Alternative 3 sideboard limits would likely reduce the harvest of the Non-AFA Trawl CP sector below historic levels. This is primarily due to the fact the alternative is calculated using the retained catch of the Non-AFA Trawl CP sector as the numerator and the total catch of all vessels as the denominator. The first wholesale revenues generated by the Non-AFA Trawl CP sector in the Gulf could decline if that Alternative were implemented and vessels were not able to make up the loss of available fish with higher profits per ton of production. Alternative 3 is also be expected to cause production to decline in the BSAI, since sideboards for species like other flatfish are well below their historic usage. If once the cap is reached vessels are required to stop fishing for any species that takes them as incidental catch, several of the fisheries for species directly allocated under this program could be closed before the TAC or halibut catch limit is reached.

It is not possible to estimate the overall economic impact that sideboards would have on the Non-AFA Trawl CP fleet. However, the negative impacts are likely going to be greater under Alternative 3 when compared to Alternative 2. The benefits of the sideboards to the other sectors cannot be

estimated. To the extent that they are able to increase their harvest of GOA species they would benefit (Under Alternative 3). They will likely be able to harvest most, if not all, of the fish available to them under the two alternatives. Halibut PSC limits will play a role in how much of the fish they can harvest.

Net benefits to the Nation will depend on which sectors can most efficiently harvest, process, and market the sideboard species and the species whose harvest they could constrain. Information is not available to make those projections.

3.3.2 Effects on Catcher Processor Efficiency

This section of the analysis examines the effects of the alternatives on the efficiency of the Non-AFA Trawl CP sector. To establish a framework for this portion of the analysis, a brief description of production efficiency (and its role in overall economic efficiency that is used to examine the net benefits of an action) follows. In the simplest terms, production efficiency is the difference between production revenues and production costs. Production efficiency is a measure of the effectiveness of a producer in using inputs to produce one or more outputs, focusing on the relationship between the quantity and quality of outputs produced and the quantity and quality of the various inputs (e.g., fuel, vessels, and labor) used for that production[18]. Two different types of efficiencies contribute to, and together constitute, production efficiency. "Technical efficiency" refers only to the production process that converts inputs to outputs and is a measure of the quantities of inputs used and the quantity of outputs produced in a production process (independent of prices and their effects). Decreasing quantities of inputs and increasing quantities of outputs are sources of technical efficiencies. "Allocative efficiency" considers both the markets for inputs and outputs and the choices of inputs and outputs and is a measure of the economic benefits of the choosing different mixtures of these inputs and output in production. Allocative efficiency necessarily considers the costs and revenues generated by these choices. Collectively, these two types of efficiency define "production efficiency". Overall production efficiency, which is the concern of this section, therefore requires the consideration of both the choices that the producer makes in the markets for inputs and outputs and the process by which inputs are converted to outputs. In the end, overall production efficiency may be measured by the returns to producers—the difference between the producer's revenues generated by outputs and the producer's costs of inputs.

To develop an understanding of production efficiencies under the alternatives, it is helpful to develop a framework for assessing returns to producers in the fisheries and the sources of those returns. Three different sources contribute to returns to producers in the fisheries: resource rents, harvester normal profits, and processor normal profits. First, fish that will be harvested and processed have a scarcity value while unharvested in the water is realized by harvesting and processing. Once the fish is harvested and processed, this value is captured by the industry. The value referred to here is the resource rents, or the value of fish in its natural state that is realized only by the harvesting and processing of the fish. In the case of catcher processors, this value is captured entirely by the catcher processor. For the shore-based sector, the ex vessel price determines the division of resource rents

[18] Economists estimate four different contributions to production efficiency, all of which together constitute production efficiency:

1. Reducing the quantities of inputs used to produce a given set of outputs;
2. Increasing the quantities of outputs produced with a given set of inputs;
3. Reducing the cost of production by improving the mixture of inputs used to produce a given set of outputs; and
4. Increasing revenues by improving the mixture of outputs produced using a given set of inputs.

The first two of these estimates are "technical efficiency" and refer only to the production process that converts inputs to outputs (rather than the markets for inputs and outputs). The later two measures are "allocative efficiency" and require consideration of both the markets for inputs and outputs and choices of inputs and outputs.

between the catcher vessels and the shore-based processors. This value however, is only one part of the returns realized through the harvesting and processing of fish.

In addition to resource rents, each sector is generally expected to receive its normal profits (or a reasonable return on investment in the industry). The normal returns on harvesting investments and normal returns on processing investments are the other two sources of returns in the fisheries. As in any business, harvesters and processors invest capital and effort on the reasonable expectation of receiving a return on that investment.

Alternative 1: Status quo/no action

Production efficiency of the Non-AFA Trawl CP sector under the status quo is limited to some degree by the race for fish under the current LLP fishery and GRS. Sector participants are compelled to race for groundfish with other sector participants, as well as other participants in other sectors throughout the period the fisheries are open. Under the race for fish, quality of the groundfish harvested likely suffer to some extent, as participants adopt fishing techniques to maximize catch rates, which may lead to diminished quality and dissipation of a portion of the resource rents. Particularly on vessels with smaller processing plants, fishermen harvest fish at a rate that exceeds the rate at which the plant can process that fish. If fish are held too long prior to processing, quality will decline. Generally, participants in the Non-AFA Trawl CP sector are equipped to produce whole and head and gut frozen products. Production of these products is likely to continue, if the status quo is maintained. In addition, participants in the Non-AFA Trawl CP must comply with GRS, which also limits production efficiency. With higher retention rates required for vessels greater than 125 ft, sector participants are constrained in production efficiency. The magnitude of the negative effect on production efficiency depends on 1) how much additional fish retained would decrease the vessel hold space available for more valuable product; and 2) whether there will be any revenues earned from product derived from the additional groundfish retained. There is the potential that Non-AFA Trawl CP sector participants might incur extra operating costs associated with holding/processing, transporting, and transferring fish that are of relatively low value or even "unmarketable" at the higher levels of GRS. However, changes in technology, fishing techniques, and markets could reduce, overtime, those potentially higher operational costs associated with the GRS program on the Non-AFA Trawl CP sector. Vessels that struggle with technical efficiency could also retire from the fishery having the cooperative catch their share of the quota.

Alternatives 2 and 3: Multiple Cooperatives and Single Cooperative

Under Alternatives 2 and 3, the Non-AFA Trawl CP sector is likely to realize some gains in production efficiency capturing greater rents from the allocated fisheries despite having to comply with GRS. Most eligible participants in the Non-AFA Trawl CP sector are likely to join a cooperative under either alternative, since operations in the limited access fishery are likely to be less efficient (and profitable).

The primary efficiency gains in the catcher processor sector under Alternatives 2 and 3 will result from improvements in technical efficiency. Allocative efficiency gains are unlikely to occur since the vessels participating in this sector are equipped to produce only whole and head and gut products and are unlikely to reconfigure different production outputs. Technical efficiency gains should occur as participants are able to slow the pace of fishing and processing. In the slower fishery, participants are likely to be able to reduce expenditures on inputs to some degree (possible scaling down crews slightly) and increasing output slightly (with less loss due to diminished quality). Additional technical efficiencies should arise because of the cooperative structure of the alternatives. In a cooperative, participants will be free to consolidate fishing up to the user cap and/or vessel cap level. Consolidating catch on fewer vessels in the fishery should also reduce harvest costs. This could be particular useful for those vessels that can not economically or structurally accommodate the required enforcement and monitoring conditions necessary for the GRS program. Finally, although technical

efficiencies should be realized by the Non-AFA Trawl CP sector overall, some participants eligible for the program may realize efficiencies that are substantially less than those realized by others. Eligible participants that receive small allocations of the primary species may have little to gain from coordinating the harvest of relatively small allocations, particularly since sideboards will limit their harvest from other BSAI or GOA fisheries. For vessels that struggle with technical efficiency, the cooperative would likely have other vessels harvest their allocation and retire the vessel.

3.3.3 Effects on the CDQ Program

Under Alternative 2, CDQ allocations for each of the groundfish species noted in Component 1 and associated secondary species taken incidental in the primary trawl target fisheries would remain at 7.5 percent, whereas in Alternative 3 the allocation would increase to 10 percent. Under Alternative 2 the PSC allocated to the CDQ program as PSQ reserve would also remain at 7.5 percent, and under Alternative 3 the PSC allocation to the CDQ program would increase to 10 percent. Since CDQ allocation under Alternative 2 is the same as status quo alternative, much of the information concerning this alternative is provided in the Section 3.1.5.

During the first few years of the multispecies CDQ Program (which began in late 1998), many of the flatfish CDQ allocations were not caught. This probably is due to a variety of factors. Some target fisheries (such as yellowfin sole) may have remained open all year, which meant CDQ groups' flatfish partners opted not to fish for yellowfin sole CDQ, as they had open access to yellowfin sole. In fisheries such as the Atka mackerel fisheries, the amount of bycatch CDQ species available to support the Atka mackerel CDQ directed fishery may have led to vessels fishing more conservatively than usual or choosing not to fish for Atka mackerel at all. Prohibitions against exceeding both CDQ and PSQ allocations has meant that both CDQ groups and their harvesting partners operate more conservatively in many fisheries. This is particularly true of incidental catch species or prohibited species, which CDQ groups may dedicate to more valuable target fisheries such as Pacific cod or pollock. The residual amounts of incidental catch species available for other target CDQ fisheries may be deemed inadequate to account for additional bycatch needs.

Table 3-74 shows the 2001 through 2004 CDQ catch for each of the allocated species. Until recently, the yellowfin sole CDQ fishery was not as fully prosecuted as fisheries such as pollock and Pacific cod, probable because the non-CDQ fishery did not close to directed fishing during years in which the yellowfin sole TAC was very high. As noted in the table below, close to 98 percent (6,321 mt) of the yellowfin sole CDQ was harvest in 2004, and approximately 88 percent in 2003. For Atka mackerel, approximately 90 percent of the total CDQ allocation was harvested in 2003. Catch rates in 2004 were similar or higher. The average annual percent harvest for Pacific Ocean perch ranged from a low of 75 percent for central AI to 88 percent for western AI. The CDQ fisheries for flathead sole and rock sole historically has not been as successfully prosecuted as the other allocated species. The average percent harvested of flathead sole CDQ from 2001 to 2004 was about 24 percent. In these same years, the average annual percent of rock sole CDQ caught was about 17 percent of the amount allocated.

Given that the allocations to the Non-AFA Trawl CP sector, under Alternative 3, would likely cause the participants to harvest their entire allocation, it is more likely that these vessels would be available to harvest CDQ flatfish. In the past these fisheries have remained open for much of the year. Under Alternative 3 the allocations are expected to be limiting. Once these fisheries that the cooperative(s) or open access components of the Non-AFA Trawl CP sector fish are closed, it is more likely they would want to fish CDQ flatfish allocations. This could benefit the CDQ groups and the vessels that have contracts to harvest that catch. The actual benefits that each entity would generate cannot be estimated given the current information available. To make those estimates the analysts would need to know the cost structure of the harvesting vessels, the revenues they generate from selling CDQ fish, the royalties they pay to the CDQ groups and the actual amount of each species they would harvest.

Much of this information cannot be obtained from data sources that are currently available.

Table 3-74 Amendment 80 Target CDQ Reserves, Catch, and Percent Harvested, 2001-2004

CDQ Species	2001			2002			2003			2004			Average 01-04
	CDQ Reserve	Catch	% harvest	CDQ Reserve	Catch	% harvest	CDQ Reserve	Catch	% harvest	CDQ Reserve	Catch	% harvest	% harvest
WAI Atka Mackerel	2,093	1,991	95.15	1,478	1,341	90.74	1,499	1,203	80.28	1,550	1,476	95.2	90.34
CAI Atka Mackerel	2,520	2,467	97.91	1,785	1,591	89.14	2,202	2,129	96.69	2,333	2,248	96.35	95.02
EAI Atka Mackerel	585	519	88.77	413	320	77.49	799	696	87.15	843	771	91.42	86.21
Yellowfin Sole	8,475	182	2.15	6,450	1,972	30.57	6,281	5,564	88.58	6,456	6,321	97.91	54.80
Rock Sole	5,625	221	3.93	4,050	553	13.65	3,300	641	19.42	3,075	892	29	16.50
Flathead Sole	3,000	223	7.42	1,875	464	24.76	1,500	392	26.15	1,425	545	38.25	24.15
WAI POP	356	318	89.43	425	355	83.5	439	404	92.06	389	336	86.5	87.87
CAI POP	192	152	79.27	230	155	67.43	251	185	73.63	219	170	77.81	74.54
EAI POP	218	162	74.28	260	167	64.3	263	249	94.53	229	165	72.19	76.33

Source: NOAA Fisheries 2005.

The relatively small size of these quotas and variability in the amount of each species harvest in past years make estimating the future CDQ royalties from each of the allocated species difficult. In some instances, royalty rates are based on a sliding scale according to the value of the product form produced from a given species based on current market condition. High demand for a particular species and product form could trigger increased CDQ catch of that species, with corresponding increases in royalty payments. However, for purposes of discussion, an estimated aggregate royalty rate of $65 per metric ton was applied to the entire amount of each primary species allocated to the CDQ program to provide an estimate of the value of each allocation. These estimates of the allocation and the value of each allocation to the CDQ program is provided in Table 3-75.

Table 3-75 Projected CDQ allocation (mt) and value under Alternatives 2 and 3, based on the 2004 TACs

Species	Alternative 2		Alternative 3	
	Allocation (mt)	Projected value	Allocation (mt)	Projected value
Atka mackerel, WAI	1,550	$100,750	2,066	$134,290
Atka mackerel, CAI	2,333	$151,645	3,100	$202,150
Atka mackerel, EAI	843	$54,795	1,124	$73,060
Flathead sole	1,425	$92,625	1,900	$123,500
POP WAI	389	$25,285	519	$33,735
POP CAI	219	$14,235	293	$19,045
POP EAI	106	$6,890	141	$9,165
Rock sole	3,075	$199,875	4,100	$266,500
Yellowfin sole	6,456	$419,640	8,608	$559,520
Total	**16,396**	**$1,065,740**	**21,861**	**$1,420,965**

Note: The royalty rate of $65 per metric ton was estimated based on the total royalties for all species divided by total allocation. The projected value by species does not take into account difference is royalty value by species. For some species the estimate will be too low and for other species it will likely be too high. The total amount likely is a better reflection of total royalty payment than the individual species estimates.

Practically speaking, it is unlikely that the entire amount of each reserve would be caught, or that those fish that were caught would all yield royalties to CDQ groups. Some amounts of the primary allocated species are caught and discarded in other target fisheries. In addition, some amount of the fish caught in the primary allocated CDQ fisheries are discarded and yield no benefit to either the vessel owner/operator or to CDQ groups. If the royalty estimate of $65 per mt. is accurate, then the estimate in the above table would represent the maximum value to the CDQ program under Alternative 3.

The increased allocation under Alternative 3 to the CDQ groups could offer opportunities for the CDQ groups to increase their participations in the Amendment 80 target fisheries and realize associated increase in royalties to them for allowing their partners to access CDQ species. However, we anticipate that any increases in the CDQ allocation would contribute a relatively small amount of the total CDQ royalties generated per year. But, these increased allocations also could allow CDQ groups to negotiate additional training opportunities, internships, and employment positions for CDQ community residents, either on board fishing vessels or in the business offices of fishing vessels' managing companies. Even though the total royalties generated from these species is estimated to be relatively small, members of the CDQ groups could argue that they still play an important role in meeting their overall objectives, such as providing such employment and training opportunities.

In the yellowfin sole fishery, the CDQ group receives 7.5 percent of the annual BSAI yellowfin sole TAC. Until recently, the yellowfin sole CDQ fishery was not as fully prosecuted as fisheries such as pollock and Pacific cod. This was primarily due to the non-CDQ fishery did not close to directed fishing during years in which the yellowfin sole TAC was very high. CDQ groups tend to specialize in targeting specific species within the mix of groundfish they are allocated. Species are often traded among CDQ groups so a group can accumulate species they are most interested in harvesting or to pool small amounts of quota to allow for more efficient harvesting operations. The 2003 fishery was the first year that essentially all of the CDQ yellowfin sole allocation was harvested. Table 3-74 shows that close to 98 percent (6,231 mt) of the yellowfin sole CDQ was harvested in 2004, and approximately 88 percent in 2003. In contrast, CDQ groups only harvested about 30 percent of their allocation in 2002. Given that relatively large percentages of the TACs were harvested in both the open access and CDQ fisheries, the 7.5 percent under Alternative 2 would continue to be harvested, and the increase to 10 percent under Alternative 3 would likely also be harvested if TACs and market conditions are relatively stable, and if CDQ groups and their partners continue their recent fishing patterns. Although not significant, the estimated royalty value of the CDQ allocation under Alternative 2 is $419,640 per year, and under Alternative 3 the estimated royalty value of the allocation is $559,520 per year, for a difference of $139,880 per year.

The CDQ program receives 7.5 percent of the Atka mackerel TAC. The Atka mackerel CDQ fishery is typically prosecuted in conjunction with the non-CDQ Atka mackerel fishery. It is often combined with the Pacific Ocean perch CDQ fishery. In 2003, about 90 percent of the total CDQ allocation of Atka mackerel was harvested. The largest subarea harvest was from the central AI area where 2,129 mt (97 percent) of the allocation was harvested. During that same year, about 696 mt (87 percent) and about 1,203 mt (80 percent) of the eastern AI/BS and western AI area allocations were harvested, respectively. Catch rates in 2004 were similar or higher. Given that relatively large percentages of the TACs were harvested in both the open access and CDQ fisheries, the 7.5 percent under Alternative 2 would continue to be harvested, and the increase to 10 percent under Alternative 3 would likely also be harvested if TACs and market conditions are relatively stable, and if CDQ groups and their partners continue their recent fishing patterns. The estimated royalty value of the CDQ allocation under Alternative 2 for Atka mackerel is $307,190 per year, and under Alternative 3 the estimated royalty value of the allocation is $409,500 per year, for a difference of $102,310 per year.

The CDQ program currently receives 7.5 percent of the AI Pacific Ocean perch TAC. The Pacific Ocean perch is conducted in a similar manner to the Atka mackerel CDQ fishery. The fishery is

prosecuted by the same vessels that fish for Atka mackerel, and usually on the same fishing trip, so temporal effect is similar under both alternatives. Although the majority of the annual CDQ allocation for Pacific Ocean perch appear to have been caught in recent years, this fishery has not been as successfully prosecuted as the Atka mackerel CDQ fishery. The average annual percent harvested for Pacific ocean perch ranges from a low of 75 percent for central AI to 88 percent for western AI. Under Alternative 2, the 7.5 percent allocation of Pacific Ocean perch will continue to provide additional harvesting opportunities, whereas under Alternative 3, the allocation of 10 of the Pacific Ocean perch TAC to the CDQ groups will provide even more harvesting opportunities. The estimated royalty value of the allocation of Pacific Ocean perch under Alternative 2 is $46,410 per year, and under Alternative 3 the estimate value is $61,945 per year for a difference of $15,535 per year.

The CDQ program also currently receives 7.5 percent of the TAC for rock sole and flathead sole. These CDQ fisheries have historically not been successfully prosecuted. The average percent harvested of flathead sole CDQ from 2001 to 2004 was about 24 percent. In these same years, the average annual percent of rock sole CDQ caught was about 17 percent of the amount allocated. Even this catch was not necessarily taken in directed fisheries for these two species. Reasons for the low catch rates for rock sole and flathead sole vary. The non-CDQ fisheries for these species are subject to more frequent closures due to reaching either halibut PSC limits or seasonal apportionments. CDQ groups may not place as much emphasis on the harvest of these species due to their relatively low royalty value. Alternatively, CDQ groups may choose not aggressively prosecute this fisheries due to the relatively high level of halibut bycatch that occurs in them. Halibut or other prohibited species caught in these fisheries would have to be debited from applicable PSQ accounts, thereby decreasing the amounts of PSQ available in other CDQ target fisheries. Under Alternative 2, the 7.5 percent allocation of flathead sole and rock sole will continue to provide ample harvesting opportunities, whereas under Alternative 3, the allocation of 10 of the flathead sole and rocksole TAC to the CDQ groups will provide even more harvesting opportunities. Based on the current catch rates for flathead sole and rock sole by the CDQ groups, it is not likely the CDQ groups will harvest the entire allocation under either Alternatives 2 or 3. Assuming they can harvest their allocations, the estimated royalty value of the allocation of flathead sole under Alternative 2 is $92,625 per year, and the estimated value of the allocation under Alternative 3 is $123,500 per year, for a difference of $30,875 per year. The estimated royalty value of the allocation of rock sole under Alternative 2 is $199,875 per year, and the estimated value of the allocation under Alternative 3 is $266,500 per year, for a difference of $66,625 per year.

In addition to potential increases in the primary target CDQ species, Alternative 3 would increase the CDQ allocations of secondary species (except for Pacific cod) caught incidentally with the primary Amendment 80 target species. Alternative 2 would keep in place the current allocation of 7.5 percent of the secondary species to the CDQ groups. The incidental catch species associated with these target species include most BSAI TAC species. The Amendment 80 target species also are caught incidentally in other CDQ target fisheries such as Pacific cod, pollock, or sablefish. Furthermore, some Amendment 80 target species are caught as bycatch in other Amendment 80 target fisheries, where they may be either retained and processed, or discarded. Table 3-76 shows the secondary species that were caught in the 2004 CDQ fisheries for Amendment 80 target species.

Table 3-76 Primary and secondary species in the 2004 CDQ target fisheries for Atka mackerel, yellowfin sole, POP, flathead sole, and rock sole

CDQ and PSQ Species	Target Fishery					
	Atka Mackerel	Rockfish	Flathead sole	Rock sole	Yellowfin sole	Grand Total
AI Greenland Turbot	28.467					28.47
AI Other Rockfish	15.404	0.788				16.19
AI Sablefish	0.153					0.15
Alaska Plaice			3.271	17.91	279.505	300.69
Arrowtooth Flounder	22.201	0.525	58.058	1.487	112.533	194.80
BS Greenland Turbot			2.888			2.89
BS Other Rockfish			2.082			2.08
BS Pacific Ocean Perch			0.272			0.27
BS Sablefish			19.165	0.143	0.023	19.33
CAI Atka Mackerel	2130.05	117.843				2247.89
CAI Pacific Ocean Perch	150.404	20.005				170.41
EAI Pacific Ocean Perch	165.321					165.32
EAI/BS Atka Mackerel	768.877		0.164	0.007		769.05
Flathead Sole	0.136		20.239	3.478	215.153	239.01
Northern Rockfish	310.157	90.527				400.68
Other Flatfish	0.773		11.812	1.287	17.83	31.70
Other Species	58.455	1.559	20.959	5.186	190.172	276.33
Pacific Cod	256.786	12.136	19.175	10.64	186.98	485.72
Rock Sole	14.374	1.546	7.754	105.509	446.113	575.30
Rougheye Rockfish	2.547		0.206			2.75
Shortraker Rockfish	21.652		0.061			21.71
WAI Atka Mackerel	1475.594					1475.59
WAI Pacific Ocean Perch	336.488					336.49
Yellowfin Sole			24.923	77.74	6162.148	6264.81

Source: NOAA Fisheries 2005. CDQ catch data by reported target, for non-pelagic trawl gear. All amounts in metric tons.

Some amount of every BSAI TAC category was caught in the directed CDQ fisheries for Amendment 80 target species in 2004. Squid is not allocated to the CDQ Program and is not included in this table. Approximately 759 mt of pollock was caught with non-pelagic trawl gear in the 2004 CDQ fisheries, and accrued towards the incidental catch allowance for pollock. Pollock is excluded from this discussion as this species is not under consideration for increased allocations under Alternatives 2 or 3. The 2001, 2002, and 2003 CDQ target fisheries for Amendment 80 target species show a similar bycatch pattern to the 2004 CDQ fisheries. Almost every annual TAC category in place for those years was caught in CDQ fisheries for Amendment 80 target species, as well.

Alternative 3 would increase the percentage of secondary species allocated to the CDQ Program in conjunction with increased allocations of Amendment 80 target species. The increase is shown in Table 3-77. The allocation under Alternative 2 is also shown in the table. The primary Amendment 80 species are excluded from this table, as is Pacific cod. Neither alternative would increase the allocations of Pacific cod to the CDQ Program, as increased Pacific cod allocations to the CDQ Program are being considered under a separate action. "Other species" is included in the table, but it should be noted that this species category is no longer allocated among CDQ group due to concerns that the "other species" CDQ allocation was inadequate to account for the bycatch of this species in

the groundfish CDQ fisheries. The Council may wish to consider whether it wants to increase the allocation of this species category in light of the previous action it has taken on "other species" CDQ.

Table 3-77 CDQ allocations for incidental catch species based on allocation percentages considered under Alternatives 2 and 3

Species	2004 TAC	Alternative 2	Alternative 3
AI Greenland Turbot	800	60	80
AI Other Rockfish	634	48	63
AI Sablefish	775	58	78
Alaska Plaice	10,000	750	1,000
Arrowtooth Flounder	12,000	900	1,200
BS Greenland Turbot	2,700	203	270
BS Other Rockfish	460	35	46
BS Pacific Ocean Perch	1,408	106	141
BS Sablefish	1,450	109	145
Northern Rockfish	5,000	375	500
Other Flatfish	3,000	225	300
Other Species	27,205	2,040	2,721
Rougheye Rockfish	195	15	20
Shortraker Rockfish	526	39	53

Source: NOAA Fisheries 2004 TACs

The 2.5 percent increase in CDQ allocations under Alternative 3, for bycatch species, is the same percentage increase as for the Amendment 80 primary species. Neither the species categories nor amounts shown in this table represent a reliable estimate of the amount of these species that would be caught in the CDQ directed fisheries for Amendment 80 target species. Historical catch data indicates that species not shown in this table may be caught in the target fisheries. These fisheries may need more, or less of an allocation, than the amounts shown in this table to fully account for the bycatch of species in either the Amendment 80 primary target fisheries, or in all CDQ target fisheries. Historically, non-target (and prohibited species catch) species have been allocated to the CDQ Program at the same level as all other species allocated to the program. Estimating the amount of each bycatch species to allocate to the CDQ Program is a complex exercise that has never been undertaken at a comprehensive level.

Table 3-78 indicates that, historically, CDQ groups have had adequate PSQ reserves for the fishing strategies used those years. Projecting whether they would have enough PSQ in the future under Alternatives 2 or 3 would require assumptions regarding bycatch rates of each PSC species in each of the target fisheries, the CDQ allocations of various target species, and the fishing strategies of the CDQ groups. Developing a model that takes all these factors into account is not feasible. Therefore, the discussion of the PSQ bycatch needs of the CDQ program for each species is qualitative, drawing on historic target fishery and bycatch data to supplement the discussion.

Table 3-78 PSQ catch in the 2004 CDQ fisheries for primary target species

CDQ and PSQ categories	Atka Mackerel	Rockfish	Flathead sole	Rock sole	Yellowfin sole	Grand Total
Zone 1 Red King Crab	0	0	0	0	174	174
Zone 1 Bairdi Tanner Crab	0	0	0	164	1,504	1,668
Zone 2 Bairdi Tanner Crab	0	0	216	0	13,178	13,394
Opilio Tanner Crab	0	0	109	16	29,640	29,765
Pacific Halibut	15	0	9	5	67	96
non-chinook salmon	0	0	0	0	0	0

Source: NOAA Fisheries 2005.
Note: Pacific halibut mortality is reported in metric tons. All other species are listed in number of animals.

The financial impact of increasing PSQ allocations also is difficult to analyze, since CDQ groups do not receive royalties for the catch of PSQ species. CDQ groups could forego some royalties if their target fisheries were curtailed due to attainment of PSQ amounts and the subsequent relocation of fishing effort or withdrawal of their partners from a particular fishery, but precise estimates of such losses cannot be estimated. The management costs to CDQ groups of increased PSQ allocations are equivalent to those described in Section 3.2.2.6.

The non-Chinook PSC category is composed of chum salmon, pink, sockeye, and coho salmon. The data in Table 3-78 show that salmon PSQ reserves have typically been caught at a higher rate than other PSQ reserves. The non-Chinook salmon reserve has held constant between 2001 and 2004, but the catch of non-Chinook salmon varied considerably over that time period. For example, in 2002 about 37 percent of the reserve was left unharvested, but in 2003 the reserve was over-harvested by about 68 percent. Salmon bycatch that accrues to the two salmon PSQ categories primarily occurs in the pollock CDQ directed fishery. In fact, the PSQ catch by the Amendment 80 species show that no non-chinook salmon were taken in these fisheries. Increasing the non-chinook salmon allocation would be done to keep the CDQ pollock fishery from closing the chum area before these fisheries are harvested. It is not expected that chum salmon bycatch is going increase much in these fisheries. The non-chinook salmon PSC allocation under Alternative 2 is 3,150 salmon, whereas under Alternative 3 the allocation would be 4,200 salmon.

Table 3-78 shows that the CDQ groups have never harvested more than 26 percent of any of their crab PSQ allocations during the years 2001 through 2004. In general, the majority of BSAI crab bycatch typically occurs in the trawl flatfish and Pacific cod fisheries. The CDQ groups are harvesting almost all of their yellowfin sole CDQ allocations. Yellowfin sole also typically has lower crab bycatch rates than flatfish species like rock sole. Fisheries that may demonstrate high levels of crab bycatch have not, historically, been fully harvested by CDQ groups. Only about 20 to 25 percent of the rock sole and flathead sole allocations have been caught in recent years. The amount of crab PSQ that would be needed in the future depends on whether CDQ groups expand their harvests of those species. If those species are more fully utilized by the CDQ groups, the crab bycatch would be expected to increase. Decisions to increase the crab PSQ allocations under Alternative 3 should consider the likelihood of increased activity in these fisheries in the future. As noted in Table 3-79, Crab PSC allocations for the Zone 1 red king crab for Alternative 2 is 14,775 crabs, 73,500 crabs for Zone 1 C. bairdi crab, 222,750 crabs for Zone 2 C. bairdi, and 326,250 crabs for C. opilio. Under Alternative 3, 19,700 crabs for Zone 1 red king crab is allocated to the Non-AFA Trawl CP sector, 98,000 crabs for Zone 1 C. bairdi, 297,000 crabs for Zone 2 C. bairdi, and 435,000 crabs for C. opilio.

Halibut is widely considered the most limiting PSC species in the BSAI groundfish fisheries. Unlike crab and salmon, when a halibut bycatch cap is reached the fleet is required to stop fishing instead of being limited to certain fishing areas. Halibut caps have the potential to restrict the amount of

groundfish that can be harvested, as opposed to shifting operations to other areas. Halibut is not allocated to specific target fisheries in the CDQ program as is done in the non-CDQ fisheries. Thus, if a CDQ group caught all of its annual halibut PSQ allocation, it would be required to stop directed fishing for those target species that could take halibut as bycatch. This would affect just about every potential groundfish fishery except for those prosecuted with pot gear, such as sablefish. In the CDQ fisheries, halibut catch limits have not been as constraining as in the open access fisheries. During the 2001 through 2003 fishing years, the percentage of the halibut PSQ allocation caught has averaged about 41 percent of annual allocations. About 25 percent of the allotment was taken in 2001 and about 51 percent of the allotment was taken in 2003.

The total amount of halibut PSQ mortality used in the CDQ fisheries would be expected to increase if the CDQ groups are successful in increasing their utilization of flatfish allocations such as yellowfin sole and rock sole. Rock sole target fisheries typically have relatively high halibut bycatch compared to other fisheries. During 2003, about 26 kg of halibut was harvested for each metric ton of groundfish harvested in the BSAI open access rock sole fishery. The rate was lower in 2002, about 17 kg of halibut per metric ton of groundfish. As an example, if we used the 2003 halibut bycatch rates, harvesting the entire 2003 rock sole CDQ allocation would have required about an additional 71mt of halibut. The flexibility to harvest at a time of year when halibut bycatch rates are lower is limited by the importance of roe in the rock sole fishery. That fishery occurs in January and February when roe is at peak quality. After the roe is peaked in quality the value of the fish harvested declines and the profitability of harvesting rock sole declines. The allocation of halibut PSC under Alternative 2 is 343 mt, whereas under Alternative 3 the allocation is 458 mt.

Herring bycatch is currently not allocated to the CDQ program and is not being considered under this program. Herring will continue to be managed as it is currently. The herring PSC limit is set at one percent of stock biomass. That limit is shared by the non-CDQ and the CDQ sectors. In addition, increasing the Chinook Salmon PSQ allocation is not included in either Alternatives 2 or three because Chinook salmon savings measures only are applicable to the directed pollock fisheries, not the directed fisheries for the primary target species considered under Amendment 80.

Table 3-79 Projected increases in PSQ amounts based on 2004 PSC limits

PSQ species	2004 PSC limit	7.5%	10%	15%
Zone 1 Red King Crab	197,000	14,775	19,700	29,550
Zone 1 Bairdi Tanner Crab	980,000	73,500	98,000	147,000
Zone 2 Bairdi Tanner Crab	2970,000	222,750	297,000	445,500
Opilio Tanner Crab	4350,000	326,250	435,000	652,500
Pacific Halibut (mt)	4,575	343	458	686
Non-Chinook Salmon	42,000	3,150	4,200	6,300

3.3.4 Effects on Consumers

This section examines the effects of the allocation of the Amendment 80 species to the Non-AFA Trawl CP sector and the development of cooperative program for the Non-AFA Trawl CP sector on consumers. To allow an examination of the net benefits to the nation, where possible, the effects on U.S. consumers are distinguished from the effects on consumers in other markets.

Alternative 1: Status quo

Consumers are likely to be supplied with products from the Amendment 80 fisheries that resemble those currently produced under status quo management. Non-AFA Trawl CP participants are likely to continue to produce high quality frozen head and gut and whole fish, most of which is sold into Asian markets.

Alternatives 2 and 3: Multiple Cooperatives and Single Cooperative

Production of the Non-AFA Trawl CP sector participants is likely to be similar to current production under Alternative 2. The allocations under Alternative 3 could reduce the amount of the flatfish species allocated to the Non-AFA Trawl CP sector. If the portion of the TACs assigned to sectors, other than the Non-AFA trawl CP sector, is not harvested, and the amounts of those fish rolled-over to the Non-AFA Trawl CP sector cannot be harvested due to halibut constraints, the reduced supply could negatively impact consumers through higher prices. The lack of information on these markets precludes quantitative estimates of the impacts on U.S. consumers.

Some quality improvement could occur as a result of cooperatives, but these vessels already produce high quality products because their catch is processed onboard soon after it is harvested. Any improvements in consumer benefits arising from improved quality are likely to be realized by Asian consumers, as most of the production from this sector is sold into that market.

3.3.5 Effects on Environmental/Non-use Benefits

Improvements in environmental conditions are valued by the public at large. For example, preservation of endangered species is often considered to have significant value to the public. Although Amendment 80 species populations could be of less concern to the public than high visibility species such as bald eagles, it is likely that the public values preservation of these stocks. The value of knowing that a stock is well maintained in its natural habitat is commonly referred to as a non-use value. In addition to the existence of a resource, the public also likely values the use of the resource. For example, even if fish stocks are well managed and catch is at levels that maintain acceptable stock sizes, the public may experience some loss of value, if catch from the Amendment 80 fisheries are not well utilized and goes to waste. No known studies of these non-use values have been conducted to date, preventing any quantitative estimates of their value. This sector, however, provides a qualitative analysis of these non-use benefits.[19]

Alternative 1: Status quo

In the current fisheries, catch of all species of interest are limited either by TAC or by PSC limits. Managers monitor harvests inseason, closing the fisheries when the total allowable catch is estimated to be taken. Managers have become quite adept in their estimates, and have generally succeeded in maintaining catch below TAC. Occasionally, TACs are exceeded, but overages have not exceeded OFL or threatened stocks. Public non-use benefits derived from the management of health stocks of these species are likely to be maintained, if the current management is perpetuated.

Although total catch of each species is limited, discard is permitted of all species harvested but limited to the GRS. Secondary species tend to have low discard rates. Mortality of discards of incidental catch reduces the non-use values to the public that arise through productive use of the resource.

Alternatives 2 and 3: Multiple Cooperatives and Single Cooperative

Under Alternatives 2 and 3, catch of all species of interest will continue to be limited by TAC or PSC limits. These limits should be effectively maintained through the monitoring and management program, perpetuating the current non-use public benefit derived from maintenance of healthy stocks.

NOAA Fisheries will make annual, exclusive cooperative allocations for the five allocated species under Alternatives 2 and 3. The proposed action will require eligible Non-AFA Trawl CP vessels under 125 ft LOA to meet the GRS if they join a cooperative. These measures should have the effect

[19] This section intends to discuss only the public benefits from the environmental consequences of the alternatives.

of reducing discards of these species, contributing additional non-use benefits that might arise from productive use of the resource.

If Alternative 3 reduces the harvest of these species below the allowed catch, the unharvested fish will remain in the BSAI ecosystem. This could be considered a benefit to the environment.

3.3.6 Effects on Management, Monitoring, and Enforcement

The authority for monitoring and enforcement requirements in Exclusive Economic Zone fisheries stems from a number of National Standards in the Magnuson Stevens Conservation and Management Act (Magnuson-Stevens Act) and other federal law, among them are 1) National Standard 1, stating that conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from fisheries in Federal waters; 2) National Standard 7 that encourages decision makers to consider costs and benefits of proposed federal actions and whether the action will have reasonable costs (such as those required to enforce the action) in comparison with the benefits of the action; and 3) which require consideration of the effects of a federal action on protected species by the Marine Mammal Protection Act and Endangered Species Act. Other applicable statutes and executive orders require NOAA Fisheries and the Council to consider an action's effects on various entities, and the costs and benefits of an action to society. Plans for fishery monitoring and the resulting compliance of fleets that consider these criteria, may enhance the effectiveness of a proposed action. For example, in considering National Standard 1, a monitoring program that failed to discourage the misreporting of catch could lead to an overfished status of a species and have implications for the optimum yield of a fishery. The development of effective monitoring and accounting of cost effective programs for target and non-target species allocations to a fishing sector and/or cooperatives is a challenge.

Over the past 20 years, numerous quota allocation systems have been implemented worldwide. Proponents of individual or sector quotas hypothesize that these systems foster resource stewardship among the shareholders in the resource, which leads to increased voluntary compliance with conservation measures. Some have even argued that quota holders should be allowed to set their own catch quotas because of their vested interest in the long-term viability of the resource. Unfortunately, evidence from previously implemented individual and sector quota fisheries has tended to show otherwise, and practices such as high-grading, illegal discarding, and under reporting of catches occur in many quota based fisheries. To reduce the occurrence of these activities and conform to MSA National Standards, adequate monitoring and enforcement is vital in implementing any quota based program, including the alternative currently under consideration by the Council for Amendment 80.

Alternative 1: Status Quo/No Action

As noted above, Amendment 79 would establish a minimum GRS for Non-AFA Trawl CP vessels greater than or equal to 125 ft LOA. Because it is necessary to monitor Non-AFA Trawl CP vessels to ensure compliance with the GRS, there is some cost the industry. The Amendment 79 analysis indicates there were 16 active Non-AFA Trawl CP vessels greater than or equal to 125 ft LOA in 2002. NOAA Fisheries estimates that seven of these 16 vessels would have to install approved marine flow scales and observer stations. Approved marine flow scales are estimated to cost approximately $50,000. Equipment to outfit an observer station, including a motion-compensated platform scale to verify the accuracy of the total catch weight flow scale, would cost between $6,000 and $12,000. Installation costs are more difficult to estimate. Installation costs for the scales and observer stations could range between $20,000 to over $100,000. The requirement that every haul be observed will

most likely necessitate the deployment of one additional observer aboard each of the 16 vessels.[1] It is estimated that the annual cost of an additional NOAA Fisheries-certified observer would be approximately $82,000 per vessel.

While the costs of the GRS program appear high, the Council designed Amendment 79 to minimize costs by enforcing higher retention rates only on the portion of the fleet with the lowest retention rates. The Council, in June 2003, stated that the proposed action under Amendment 79 would reduce costs to the fishing industry relative to the proposed action under Amendment 49, which was approved by the Secretary in 1997. Amendment 49 would have required all vessels fishing for groundfish in the BSAI management area to retain all rock sole and yellowfin sole beginning January 1, 2003. "The costs [under Amendment 79] are far less than what were originally... considered [under Amendment 49], and we've tried to adjust the program to minimize those costs" (Chairman David Benton, NPFMC, June 2003).

Alternative 2 and 3: Multiple Cooperatives and Single Cooperative

Monitoring Objectives for NOAA Fisheries-Managed Quota Based Fisheries

Based on the lessons learned from other quota based fisheries, to assist in consolidating or reducing effort in a sector by improving certainty and security of an allocation, and to conform to MSA National Standards, NOAA Fisheries believes that any quota based fishery must be developed with sufficient safeguards to meet the following objectives:

NOAA Fisheries must be able to ensure the total weight, species composition, and catch location are reported accurately for each haul, set or delivery.

NOAA Fisheries needs data that will provide accurate and reliable estimates of the total catch by species and area, especially for the quota species. An acceptable catch monitoring system must:

- allow for independent verification of catch weight, species composition and location data for every haul, set or delivery;
- ensure all catch is weighed accurately;
- provide an auditable record of the weight of each haul or delivery;
- reduce the potential for biasing observer estimates wherever possible; and
- ensure the estimation process is clearly defined and communicated to internal and external constituents.

NOAA Fisheries must be able to ensure regulations governing the fishery are complied with.

Quota share holders have a strong incentive to maximize the value of each pound of their quota. One way to do this is to engage in practices such as illegal high grading, fishing in closed areas, or under-reporting catch. An effective quota management program must recognize the incentive to engage in these sorts of activities is increased under most quota systems and provide sufficient measures to minimize them.

There must be an authoritative, timely and unambiguous record of quota harvested.

All concerned parties (NOAA Fisheries, other management agencies, and quota holders) must have access to a single authoritative record which clearly details the amount of quota harvested.

[1] A vessel could choose not to carry two observers, but it would have to file a fishing plan with NOAA Fisheries that shows it will fish in a way that will allow the single observer to sample 100 percent of the hauls. Typically such a plan requires that the vessel fish only 12 hour per day.

To the extent that this record is edited, all parties must receive, or have access to the edited record.

Based on experience gained under the CDQ and AFA programs, we anticipate NOAA Fisheries or observer estimates of catch will be routinely challenged by quota holders. Contention may be reduced by allowing quota holders or cooperatives to self report catch. However, quota holders have a financial incentive to under-report certain components of catch and, without a reliable source for independent verification; a self reporting system is vulnerable to fraud.

Monitoring Challenges Specific to Amendment 80 and the Head and Gut Fleet

In addition to the monitoring challenges documented under other quota programs, Amendment 80 has several unique challenges that are specific to this proposed action. These are described below:

With the exception of the multispecies community development quota program, prior quota based programs implemented for the North Pacific fisheries have been focused on one or two species. These programs have been able to rely upon accurate catch weighing for determining the total weight of a haul or delivery and, because catches are dominated by the quota species, errors associated with the estimation of species composition are generally of low importance in terms of accurate quota accounting. However, Amendment 80 is intended to provide secure allocations for a multiple species fishery where catches generally consist of heterogeneously mixed species or species groups in the same haul. It is also intended to improve operational efficiency through a sector allocation and one or more cooperatives that are anticipated to internally manage improved retention and utilization of IR/IU species. Unfortunately, because of the magnitude of hauls, diversity of species, and range of vessel characteristics, it is not feasible to sort and weigh each quota species individually in the non-AFA Trawl CP fleet and quota accounting must depend on observer sampling for species composition. Because any of the quota species could potentially limit fishing, the accurate estimation of species composition is critical and, to the extent an individual operation or sector disagrees with the estimate, contentious.

Component 6 develop criteria for PSC allocation to the Non-AFA Trawl CP sector. Prohibited species such as halibut and crab are an additional concern because these species are required to be discarded at sea. Thus, catch composition data collected by an observer onboard a vessel is the sole source of information for NOAA Fisheries' independent estimates of PSC. In contrast, limiting species, such as rockfish, may be retained and processed and the harvest of these species would be reported. However, maximum retainable amount (MRA) regulations require vessels to discard certain species when catch amounts are in excess of the MRA. Vessels retaining a species where retention is limited by an MRA may choose to retain only high value fish. This practice is commonly known as highgrading. Under these scenarios, observer collected information continues to be the only source of independently verifiable data on total catch and species composition.

Unfortunately, any sampling strategy will have errors associated with its precision. When sampling is provided across a sufficiently large number of hauls, errors of precision will tend to be smaller. In other words, any particular observer sample may not be representative of the entire catch while the aggregate of samples may be very representative of the entire catch for a fleet or season. However, under the cooperative allocation for Amendment 80 and some existing quota programs where catch is managed at a finer scale (for each vessel or coop), variances in sampling are more likely to provide comparatively imprecise accounting of catch on the scale of the individual haul. In general, these errors can be reduced by taking larger samples or a greater number of samples.

Some of the alternatives currently under consideration by the Council for Amendment 80 could create scenarios where some vessels operate in a coop, while others may operate in a restricted access fishery. Options also exist for allocating certain non-target species to the sector as a hard cap or as a soft cap. Where soft caps are proposed, species that are not open to directed fishing are retained in restricted amounts under a MRA. Monitoring challenges could vary widely depending on the

recommendation the Council makes to the Secretary, or by the behavior of the fleet. For example, if all but one or two eligible vessels choose to operate under a coop, the one or two remaining vessels would be allocated a portion of the overall allocation available to the sector. These vessels may have incentives to maximize efficiencies and productivity similar to the rest of the sector operating under a coop, or they may have an incentive to continue to race for fish as in a restricted access or regulated access fishery. From a monitoring perspective, the challenges associated with managing the coop vs. the non-coop vessels are very similar, especially if a sector or set of vessels remaining in restricted access believe that their access to a certain amount of the available catch is secure. For these reasons, vessels which continue to fish in non-coop fisheries would *also* be subject to increased monitoring standards. This would have the additional effect of reducing monitoring program complexity where vessels are targeting the same species under different management programs.

Amendment 80 does not fully allocate all target species these Non-AFA Trawl CP Sector vessels have historically harvested. Under some of the alternatives, vessels could target allocated and non-allocated species during the same trip and the monitoring objectives and management structure are different between quota fisheries and non-quota fisheries. Consequently, a monitoring plan would have to be in place for all fishing operations on any vessel fishing subject to Amendment 80 while fishing in the BSAI.

NOAA Fisheries considers the monitoring standards implemented under the AFA to be sufficient to meet the monitoring needs of that quota fishery. The standards envisioned under Amendment 80 are more rigorous than those developed for the AFA pollock fishery. AFA pollock fisheries differ from the Non-AFA Trawl CP Sector fisheries in that only one species is allocated under the AFA, and incidental catch is generally very low. Under Amendment 80, multiple species (but not all species) would be allocated to the Non-AFA Trawl CP Sector. In some instances, allocated species may be fished in a restricted access fishery by the same vessels. This creates the need for a more intricate monitoring program to manage the increased complexities of multiple species allocations than those set out in the AFA, where a single species is managed, and the CDQ fisheries, where nearly all species are managed under a hard cap. The management challenges associated with Amendment 80 are discussed elsewhere in this analysis.

Proposed Monitoring Standards

As described in earlier sections, Amendment 80 creates monitoring and catch accounting challenges that are greater than other quota programs. To meet these challenges, requirements in addition to the current regulations for this fleet will be needed to be able to manage these sector allocations. NOAA Fisheries is proposing components to the Amendment 80 monitoring program for all alternatives except the status quo. These components are described below.

All vessels would be required to weigh all catch on NOAA Fisheries-approved scales and provide an observer work station.

> NOAA Fisheries-approved scales would be inspected annually and tested daily when in use to ensure they are accurate. Vessels would also be required to provide an observer work station where an observer can work safely and effectively. The stations would meet specifications for size and location and be equipped with an observer sampling station scale, a table, adequate lighting, floor grating, and running water. Each observer sampling station would be inspected and approved by NOAA Fisheries annually.

All hauls would be observed by NOAA Fisheries-certified observers.

> Typically, this would mean at least two observers per vessel. Each observer would work 12 hour shifts and no more than 9 of those hours may be spent conducting observer sampling. To the extent that observer sample sizes may increase, vessels may have to modify their fishing practices

to accommodate these work restrictions. Regulations specific to equipment for catch weighing and sampling are found at §679.28. Observer requirements are found at §679.50.

As described above, there are catch estimation issues associated with current sampling methodologies for multispecies fisheries under Amendment 80. One way to mitigate these issues is to increase the sample size. In general, observers currently have three sampling options for a given species in a haul: basket, partial, or whole haul sampling. Basket samples are minimum 300 kg samples generally collected at random or systematic intervals. Whole haul samples represent a census of a given species in a haul and fully account for a given species. Partial haul samples use the same methodology as a whole haul, but only a known portion of the haul is sampled.

Because multiple species are often abundant in Non-AFA Trawl CP Sector hauls, whole haul sampling for the target species is rarely an option and space limitations generally prevent observers from taking partial haul samples. Thus, almost all samples taken in these fisheries are basket samples. To increase sample sizes, observers must have space to store and sort their samples. Sample station space requirements for AFA were implemented for a fishery where the large majority of the catch is generally pollock, and partial or whole hauls are commonly taken. Depending on the vessel, these space requirements could be insufficient to take large samples in multispecies fisheries.

An observer must be able to monitor the flow of fish between the point of exit from the codend to the point where the observer collects unsorted catch.

To ensure this occurs, no fish would be able to exit the codend until the observer is present on deck. Also, no fish can exit the live tank until all fish are removed from the codend and the observer is present in the factory. To ensure no removals of catch occur while an observer may be conducting other duties, no one may enter the live tank for any reason when fish are exiting the live tank. This requirement could be burdensome to some vessels, as it could slow processing activities. To reduce the cost associated with this diminished efficiency, vessels could decide to redesign their live tanks to reduce the need for human intervention in facilitating the flow of fish.

Each vessel would be required to submit a Vessel-specific Monitoring Plan to NOAA Fisheries for approval.

Head and gut trawlers vary in size, facilities, layout, and fishing practices more than AFA catcher/processors or motherships. Because of this wide variability, a performance based catch monitoring system is more appropriate for the head and gut fleet. A performance based standard enables these vessels to have flexibility in developing a catch monitoring system that works best for their factory layout and fishing practices. Performance standards are useful both to NOAA Fisheries and industry because as technologies advance, a vessel's ability to improve its monitoring plan and reduce costs is not dampened by regulatory inflexibility. Rather than putting effort and money into meeting regulatory requirements, vessels could reduce costs and improve operating efficiencies by incorporating a monitoring program tailored to that specific vessel while still meeting NOAA Fisheries' information and data quality needs. A vessel monitoring plan would consist of diagrams, drawings, descriptions, or other tools to show how the vessel intends to meet the standards described below.

<u>Part I: Standards and descriptions of vessel practices to reduce potential interference with observer samples</u>

Recent enforcement cases on two vessels in the Non-AFA Trawl CP Sector who engaged in practices to intentionally interfere with observer sampling highlight the need for increased monitoring. Part I of a vessel monitoring plan would describe how the vessel intends to implement measures which would reduce the ability of the vessel to interfere with observer samples.

- Each vessel must describe all scenarios for the entire flow of fish from the location where the fish exit the codend to the location where the observer has completed all sampling. This description should include areas such as the live tanks, sorting areas and flow scale(s), including all incline belts and any other aides or hindrances to the flow of fish. If more than one flow scale will be used, the plan should detail how and when the scales will be used to ensure both lines are not running simultaneously.
- From a single point (observation point) an observer must be able to monitor the entire flow of fish from inside the live tank or bin to the point where the observer obtains a sample to ensure no removals or sorting of catch occur prior to observer sampling. The observation point must be located adjacent to or within the observer work station. An observer must be able to walk between the work station and the observation point without encountering undue or unusual safety hazards.
- Each vessel would be required to describe the procedure the vessel would use to test each scale used to weigh total catch. The vessel would also list the test weights and equipment required to test the scale, where the test weights and equipment are stored and the personnel responsible for testing the scale. This standard is currently required in existing regulations found at §679.28, but vessels use a variety of methods and materials to complete is this requirement. A description of the procedures used by each vessel would be beneficial in familiarizing observers with the process used aboard the vessel.

Part II: Standards and descriptions of vessel practices to enhance sampling environment for the observer

Observer sampling challenges associated with head and gut vessels in multiple species fisheries are described above. Part II to the vessel monitoring plan describes requirements that would enhance the sampling environment to enable the observer to better meet these sampling challenges.

- Each vessel would be required to detail the amount and location of space to accommodate a minimum sample size for an observer to sort and store catch. This area must be within the observer sample station. Because of a need for an increased number of samples or an increased sample size, this standard may require space for observer sampling or sample storage which is in addition to requirements described at §679.28. NOAA Fisheries is exploring increased sample needs and will provide input in future versions of this analysis.
- The vessel operator, or a person designated by the vessel operator, would be responsible for ensuring the elements of the vessel monitoring plan are implemented and observers are oriented to the vessel and the vessel's fishing practices.
- Each vessel owner would be required to provide a diagram, drawn to scale, of the following:
  - Incline belts (include angle, length and speed it is run under normal operations)
  - Bin doors (include diameter)
  - Sorting area for observer to access unsorted catch
  - Flow scale
  - Live tanks with dimensions and any interior obstructions
  - Deck of vessel with opening to live tanks
  - Location of any monitoring tools used to ensure the observer has access to unsorted catch
  - Observer sampling station

Vessels would submit vessel monitoring plans to NOAA Fisheries for review to determine if the vessel monitoring plans meet minimum monitoring standards as outlined in regulation. Following a vessel inspection by NOAA Fisheries staff, plans that met the standards described in regulation would be approved. A vessel monitoring plan that met all of the performance standards would be approved by NOAA Fisheries for one year, unless changes were made in vessel operations or layout that did not conform to the vessel monitoring plan. After one year, NOAA Fisheries would review the vessel monitoring plan with vessel management to ensure the vessel monitoring plan continued to meet the performance standards.

If Amendment 80 is adopted, time will be needed for vessels to develop and NOAA Fisheries to review and approve vessel monitoring plans prior to fishing. Since the concept of vessel monitoring plans is to allow vessels flexibility to use a range of monitoring tools in meeting performance standards, it is impossible to estimate the time needed for vessels to develop vessel monitoring plans. For example, one vessel may choose to carry an additional observer while another could choose to redesign portions of their factory to allow an observer to monitor the entire flow of fish. The first example would require minimal time to implement while the second would likely require some time in a shipyard during non-fishing periods. NOAA Fisheries would need about 20 business days to review and approve a vessel monitoring plan and an additional 10 business days to arrange for an inspection of the changes to a vessel which would be required of an approved vessel monitoring plan. This time could be longer if a vessel's vessel monitoring plan is disapproved.

Each vessel would be required to provide the opportunity for a pre-cruise meeting.

Pre-cruise meetings would require notification by the vessel operator 6 hours prior to departure for a fishing trip for which they will be carrying a new observer. Pre-cruise meetings have three primary goals. The first goal is to establish a professional working relationship early in the observers' interactions with vessel personnel. The second is to clarify prior to disembarking on a fishing trip what is expected of each participant according to regulations and the vessel monitoring plan. The final goal is to provide both the observer and the vessel personnel an opportunity to discuss specific issues prior to those issues becoming problems. A pre-cruise meeting would include at least one NOAA Fisheries staff member, the vessel operator and the observer(s). NOAA Fisheries has offered pre-cruise meetings to vessels on a voluntary basis for the last 5 years and participants in these meetings have found them to be extremely beneficial. Given Amendment 80 would be monitored, in part, with a new performance based monitoring system where every vessel's vessel monitoring plan could be different, observers and vessel personnel would benefit from a mutual understanding of the observers' role in the vessel monitoring plan.

Costs, Effects, and Benefits of Monitoring Program

This section summarizes the costs and provides an effects analysis of monitoring components for all Non-AFA Trawl CP Sector vessels that would be subject to Amendment 80. It is intended to apply to the alternatives as they were proposed by the Council in February, 2005, regardless of the alternative adopted by the Council. These monitoring components and the justification for them are described in further above. NOAA Fisheries is proposing two components to the Amendment 80 monitoring program for all alternatives except the status quo. First, vessels would be required to meet the monitoring and catch accounting standards that apply to AFA pollock fisheries. Second, vessels would be required to operate under a performance based monitoring plan specific to each vessel. Some of the known accounting costs, effects of imposing these costs on the sector, and other potential benefits of this monitoring are described below.

Costs and Effects Associated with First Component of Monitoring Program Under Status Quo

The monitoring needs for AFA catcher processors are similar to those of the Non-AFA Trawl CP Sector operating under any Amendment 80 action alternative. Based on NOAA Fisheries experience with the AFA fleet, some data have been obtained on the accounting costs of purchasing and installing equipment, modifying factories, and retaining observers on vessels potentially regulated by this action. Data on other opportunity costs of these requirements are not available, but where possible qualitative discussion is included. Other variables that may affect producer and consumer surplus of this monitoring program are discussed, but they are speculative.

All vessels would be required to weigh all catch on NOAA Fisheries-approved scales. Since status quo includes eligible Non-AFA Trawl CP Sector vessels 125 ft or greater LOA and the associated cost of installing flow scales, observer stations, and additional observers, Alternatives 2 and 3 only includes the additional cost incurred from including these additional monitoring requirements for the eligible Non-AFA Trawl CP Sector vessels under 125 ft LOA. The scales would be inspected annually and tested daily when in use to ensure they are accurate. Vessels would also be required to provide an observer work station where an observer can work safely and effectively. The stations would meet specifications for size and location and be equipped with an observer sampling station scale, a table, adequate lighting and running water. Each observer sampling station would be inspected and approved by NOAA Fisheries annually. All hauls would be observed by NOAA Fisheries-certified observers. Additionally, each vessel would be required to carry and use a NOAA Fisheries approved VMS transmitter when fishing at any time. Regulations specific to equipment for catch weighing and sampling and VMS are found at §679.28. Observer requirements are found at §679.50.

Approved flow scales are estimated to cost approximately $50,000. Equipment to outfit an observer station, including a motion-compensated platform scale to verify the accuracy of the flow scale, would cost between $6,000 and $12,000. Installation costs are much more difficult to estimate. Due to space constraints on many catcher processors, the need to relocate sorting space and processing equipment, and the wide range of configurations on individual vessels, the installation cost range for the scales and observer sample stations could be between $20,000 and $250,000 per vessel, although installation costs exceeding $100,000 are expected to be rare. Therefore, the total cost of purchasing and installing flow scales to weigh groundfish catch on Non-AFA Trawl CP sector vessels may range between $76,000 and $300,000 per vessel (Alan Kinsolving, NOAA Fisheries, *pers. comm*, April, 2005). Some Non-AFA Trawl CP Sector vessels participate in other fisheries, which have heightened monitoring requirements and have already installed flow scales and/or sample stations. These vessels may not incur any of the costs associated with this equipment or with any factory changes. Table 3-80 lists Non-AFA Trawl CP Sector vessels active in 2004 and their current flow scale and sample station status.

Table 3-80 Non-AFA Trawl Catcher Processor Sector vessels less than 125 feet active in 2004 and status of flow scale and sample station

	Non-AFA Trawl CP Sector Vessels < 125 feet
Total Number of Vessels	10
Vessels with Scales	2
Vessels without Scales	8
Vessels with Observer Stations	1
Vessels without Observer Stations	9

Source: NOAA Fisheries, Alaska Region

The requirement that every haul be observed will most likely necessitate the deployment of two observers aboard each vessel. Current regulations require trawl vessels 125 ft or longer to carry one NOAA Fisheries-certified observer 100 percent of the time while fishing for groundfish. Therefore,

observer coverage on these vessels would have to be doubled. Generally, trawl vessels less than 125 ft are required to carry an observer 30 percent of their fishing days. Vessels less than 125 ft would be required to increase observer coverage by a greater amount.

It is estimated the cost of an additional NOAA Fisheries-certified observer is about $355 per deployment day (not including food costs) for each vessel. Non-AFA Trawl CP sector vessels less than 125 ft averaged about 26 fishing weeks per year based on NOAA Fisheries weekly production report data. This equates to about 182 fishing days per year. However, this number is likely high because weekly production reports are submitted on a weekly basis, regardless whether fishing occurred for all seven days during that reporting period. Even though Non-AFA Trawl CP Sector vessels less than 125 ft only are required to carry an observer for 30 percent of their fishing days, these vessels carried an observer for an average of 69 days, or 37 percent. Increasing observer coverage from 69 fishing days to 182 fishing days would be approximately $40,115. Since all hauls would be required to be observed, an additional observer would be about $64,610. The total increase in observer coverage costs for vessels less than 125 ft would be approximately $104,725.

Under Amendment 80, vessels may choose to slow fishing operations to increase efficiencies and decrease the amount of time they operate in marginal weather. To the extent vessels choose to increase their fishing days, they would experience increased observer costs. While these costs can be expected to increase, they are impossible to estimate now.

A variety of other costs are associated with a requirement for vessels to install marine scales, including the cost of reduced efficiency as a result of changes in procedures for harvesting, sorting, discarding, or processing groundfish. For example, sorting space may be reduced and processing equipment may have to be moved to accommodate the scale, possibly reducing the efficiency of the factory. These costs will vary among the vessels, depending on factory configuration. However, under Amendment 80 where vessels or coops would receive an allocation of some target species, vessels could slow fishing practices and increase operating efficiencies without the negative impacts associated with these behaviors under a race for fish.

Additional crew time may be required to monitor and record information from the scale and to test, maintain, and repair the scale. NOAA Fisheries estimates that the annual cost of maintenance for the scales currently installed on catcher processors has been approximately $1,500 to $2,000. Costs could increase if vessels increase their total fishing activity days because with the extra retention seasons could last longer. Finally, vessel operators may choose to purchase spare parts or a back-up scale depending on the amount of fishing time that could be lost if the scales break down.

Total costs for scale, sample station, and observer requirements for each vessel less than 125 ft could range between $182,225 and $406,725.

Because of the high costs associated increased observer coverage requirements, some vessels may decide to operate under an approved alternate vessel monitoring plan. Under an alternative fishing plan, NOAA Fisheries would approve a plan submitted by a vessel where it would be able to operate under reduced observer coverage if they could submit documentation, which describes a plan for reduced fishing effort. Flow scales and sample stations would still be required. Alternately, vessels may decide to lease or sell their history to a coop. This is likely to benefit a coop by idling redundant fishing capacity, reducing overall operating costs, and reducing expenditures on required monitoring provisions.

In addition to costs borne by the vessels, the increase in the number of observers and its associated increase in the amount of data collected is expected to raise overall annual costs of the North Pacific Groundfish Observer Program (Observer Program). This budgetary increase can be attributed to additional staffing, augmented spending for observer sampling equipment, data entry contracts, and travel associated with inspecting sample stations and approving vessel monitoring plans. The

Observer Program estimates increased staffing and costs associated with this action to include one full time equivalent staff position and approximately $120,000 annually.

Costs and Effects Associated with Second Component of Monitoring Program

The second component to the Amendment 80 monitoring program would require all Non-AFA Trawl CP Sector vessels to operate under a vessel monitoring plan while operating in the BSAI. A vessel monitoring plan would be submitted by each vessel to NOAA Fisheries for approval and describe how it would meet a series of performance based standards which NOAA Fisheries would need to create an adequate and enforceable monitoring program. Performance based standards proposed for Non-AFA Trawl CP Sector vessels under Amendment 80 are described in further detail above. These standards and the process for obtaining approval of vessel monitoring plans would be described in regulation.

Performance based monitoring plans are in place for processing plants receiving deliveries of AFA pollock and rationalized crab and are intended to provide vessels and processors flexibility in adapting their operations to meeting NOAA Fisheries' monitoring needs. NOAA Fisheries is proposing vessel monitoring plans for the Non-AFA Trawl CP Sector because these vessels vary substantially in size, factory layout, and facilities and a flexible monitoring program could reduce costs. Because vessels would have a wide range of options in developing a vessel monitoring plan, it is impossible to accurately quantify the costs associated with this component of the monitoring plan. However, it may be possible to describe some of the costs vessels may generally incur based on NOAA Fisheries' monitoring needs. These descriptions are contained in Table 3-81.

In general, the performance based monitoring standards proposed are designed to 1) ensure an observer(s) is able to efficiently sample catch for species composition; 2) describe a process for implementing monitoring requirements that is transparent to NOAA Fisheries, the observers, and vessel personnel; 3) ensure observers are able to adequately sample every haul; and 4) decrease the potential for intentional and unintentional bias to be introduced into the observers' sample. Vessels could incur some costs associated with implementing factory layout changes, system installations, or operation changes to meet specific standards. For example, a vessel could choose to install a closed circuit camera system or make factory modifications to help ensure no fish are removed from the catch prior to sampling by an observer. Alternatively, a vessel could choose to deploy a third observer to monitor for physical or mechanical presorting.

Table 3-81 Estimated costs of implementing monitoring standards

Performance Based Standard	Estimated Costs
Each vessel would be required to describe the procedure the vessel would use to test each scale used to weigh total catch. The vessel would also list the test weights and equipment required to test the scale, where the test weights and equipment are stored and the personnel responsible for testing the scale.	Requirements for testing scale equipment are described in '679.28. Vessels could incur costs in decreased processing associated with the time it takes to conduct a daily scale test. However, this time and costs associated with this standard would be minimal.
Each vessel would be required to detail the amount and location of space to accommodate a minimum sample size for an observer to sort and store catch. This area must be within or adjacent to the observer sample station. Because of a need for an increased number of samples or an increased sample size, this standard may require space for observer sampling or sample storage which is in addition to requirements described at '679.28.	This is designed to make it possible for the observer(s) to more effectively sample for species composition. There could be costs associated with slower processing capacity relative to the status quo. However, vessels would likely slow fishing operations for other reasons. This standard could result in additional factory layout modifications. Vessels have a wide range of possibilities to meet this standard and it is impossible to estimate the associated costs

Performance Based Standard	Estimated Costs
Each vessel must describe all scenarios for the entire flow of fish from the location where the fish exit the codend to the location where the observer has completed all sampling. This description should include areas such as live tanks, sorting areas and flow scale(s), including all incline belts and any other aides or hindrances to the flow of fish. If more than one flow scale will be used, the plan should detail how and when the scales will be used to ensure both lines are not running simultaneously.	This standard consists of a description of the flow of fish during normal operations. There are minimal to no costs associated with this standard.
From a single point (observation point) an observer must be able to monitor the entire flow of fish from inside the live tank or bin to the point where the observer obtains a sample to ensure no removals or sorting of catch occur prior to observer sampling. The observation point must be located adjacent to or within the observer work station. An observer must be able to walk between the work station and the observation point without encountering undue or unusual safety hazards.	This standard could result in additional factory layout modifications, equipment installations, or observer coverage. Vessels have a wide range of possibilities to meet this standard and it is impossible to estimate the associated costs.
The vessel operator, or a person designated by the vessel operator, would be responsible for ensuring the elements of the VMP are implemented and observers are oriented to the vessel and the vessel's fishing practices.	This standard is designed to ensure implementation of the VMP, and ensuring the observer is aware of vessel operating procedures under the VMP. Costs associated with this standard would be minimal to none.
Each vessel owner would be required to provide a diagram, drawn to scale, of the following: factory, incline belts (angle and length and speed it is run), bin doors (diameter), sorting area with number of sorters, flow scale, live tanks with dimensions and obstructions, deck of vessel with opening to live tanks, location of any monitoring tools used to ensure the observer has access to unsorted catch, observer sampling station	This standard would require a diagram of the processing components of each vessel. Costs associated with this standard would likely be included in the estimated costs of a factory redesign.

Costs Associated with Additional Monitoring Requirements

An observer must have access to all unsorted catch and be able to monitor the flow of fish between the point of exit from the codend to the point where the observer collects unsorted catch. To ensure this occurs, no fish would be able exit the codend until the observer is present on deck. Also, no fish can exit the live tank until all fish are removed from the codend and the observer is present in the factory. To ensure no removals of catch occur while an observer may be conducting other duties, no one may enter the live tank for any reason when fish are exiting the live tank.

This requirement could be burdensome to some vessels, as it could slow processing activities. To reduce the cost associated with this diminished efficiency, vessels could decide to redesign their live tanks to reduce the need for human intervention in facilitating the flow of fish. Some vessels have designed their factories to accomplish this, and this requirement would be less burdensome on them. For vessels that choose to modify their factory to facilitate the flow of fish from a fish bin without human intervention, estimated costs are included in those estimated for reconfiguration of vessel factories above.

Other Effects of the Monitoring Program

Because monitoring requirements for each vessel managed under Amendment 80 would include flow scales, observer stations, observation of every haul, and a requirement for vessels to operate under an approved vessel monitoring plan; it is possible that some improvements to management precision and

accuracy may occur with these additional requirements. For example, it is anticipated that having flow scales on the Non-AFA Trawl CP Sector would provide managers with more precise haul specific estimates (or verifiable measures) of total weight.

Creation of a program to form one or more Non-AFA Trawl CP Sector cooperatives under Amendment 80 is also anticipated to reduce some industry costs associated with the status quo limited access fishery by potentially removing unnecessary fishing effort, reallocating effort to more efficient use, and also reducing some redundant capital investment. It is also possible lengthened seasons may result in quality improvements in catch, or seasonal distribution advantages that could improve revenues in the directed flatfish and mackerel fisheries. Whether the allocation of flatfish and other species included in the alternatives are sufficiently secure for operations to form a cooperative and receive these benefits may partially depend upon the technical feasibility of enumerating resource harvests at the level of an individual firm. Technical feasibility of measurement and enforcement of goods in creation of secure property is summarized in economic literature[20].

A number of variables may be considered by members of the Non-AFA Trawl CP Sector in deciding whether to join a cooperative. Among them are the quality of data that they receive about a competing vessel's reported catches of allocated species, and potentially some unallocated species. This data may affect the expected value of catch and discard or retention amounts of potentially held and traded (through cooperative contracts) fish by each competing operation.[21] Uncertainty in the accuracy of reported catches of directed fisheries, non-target fishery catch and retention, and regulatory discards, may lead to insufficiently secure privileges not amenable to a market system. Thus, one of the intended products of the monitoring program proposed by NOAA Fisheries for Amendment 80 is to reduce catch and discard uncertainty for its individual members to a sufficient level for coop formation.

In the proposed Amendment 80, sector and cooperative allocation of target species is intended to improve the Non-AFA Trawl CP Sector's retention and utilization of groundfish. If estimates of total groundfish and PSC catch for the Non-AFA Trawl CP Sector cooperatives are subject to inaccuracy at some level and these stocks are targeted by other sectors (such as the AFA and halibut/sablefish fisheries), this could also translate into catch uncertainty for sectors other than the Non-AFA Trawl CP Sector. The costs of inaccurate catch and discard estimates of scarce target resources are potentially imposed on more than one sector, particularly if a given sector is able to bias estimates through inadequate monitoring. The combination of AFA monitoring tools and vessel monitoring plans proposed by NOAA Fisheries is likely to increase accuracy, so the proposed monitoring program is unlikely to independently constrain either the Council's consideration of this form of management tool or the formation Non-AFA Trawl CP Sector cooperatives. There is no data available to suggest how the value of the fishery may improve with differing levels of monitoring. However, we anticipate the initial Council recommendation for a program or the formation of cooperatives could be impeded at the present level of monitoring.

In the rapidly paced open access groundfish fisheries, small errors in the timing of season closures for some directed species could result in significant over-harvest or under-harvest. It is not possible to determine, with existing information, if reducing the error in these decisions would result in long run

[20] The premise that information is a critical component of severability and exclusion in property is as old as some of the earliest literature on the commons. See: *The Tragedy Of The Common Revisited* by Beryl Crowe (1969) reprinted in *Managing The Commons* by Garrett Hardin and John Baden W.H. Freeman, 1977; ISBN 0-7167-0476-5

[21] The role of uncertainty in information is explored in several articles under this website: *The Role Of Property Rights In Resource Management*: http://www.spatialgovernance.com/economics/611lec03A.htm © John S. Cook - Created on 4 July 2004. "The benefits of rule governed behavior reside in reduced levels of conflict and uncertainty in the use of resources. In other words, property rights give greater security of tenure and predictability over outcomes than would occur if the rules did not exist."

improvements in the utilization of groundfish fisheries, but it is unlikely the additional data collected under this monitoring program would increase errors in the timing of seasonal openings and closings.

Presently, many vessels in the Non-AFA Trawl CP Sector are required to employ only one observer. Generally, this results in less than 100 percent of the hauls being sampled. Under the Amendment 80 requirement for two observers, all hauls would be observed and sampled. NOAA Fisheries would no longer have to rely on secondary sources, such as the skipper's estimates or total weekly production figures, as the basis for calculating catch weight for the Non-AFA Trawl CP Sector vessels. In turn, this would decrease the number of hauls to which NOAA Fisheries would need to extrapolate broader (less precise) averages for this fleet, in the absence of haul specific data.

For example, if a vessel operates on the fishing grounds for several weeks and has less than 100 percent of its hauls observed, some of the bycatch estimates for that vessel are based on "rates" derived from other observed hauls and applied to the estimated total catch. If NOAA Fisheries has haul specific information from observer sampling, that improved information on actual bycatch amounts would supplant the use of data based on an estimated rate from other observed hauls. The extension of coverage to two observers per vessel would allow for the sampling of every haul and could result in reducing risk associated with the timing of openings and closings for some groundfish fisheries (i.e., decrease the probability stocks would be overfished or under-harvested).

The magnitude of management risk (particularly from the timing of season length) to non-target species could potentially be reduced by the additional sampling requirements for Amendment 80 observer coverage. The precision of in-season estimates of prohibited species removals in fisheries, where less than 100 percent of the hauls are sampled, is sometimes low. NOAA Fisheries managers suggest improved sampling on vessels with unobserved hauls would provide a better understanding of the precision and accuracy associated with removals of PSC and non-target species. Improved data may lead to more precise estimates of the residual stock, and more precision in the timing of optimum closure dates based on PSC interception rates.

It is possible that there will be additional value, accruing to the fishery from improved management data, from data collected on the variation between hauls, where an increased number of samples are taken to monitor Amendment 80. This additional information could be generated in two potential ways. One is through the collection of data that could be used to estimate sampling variability among observers. Thus, if there is a potential difference between observers leading to error or increased bias in samples between one observer and another, these additional data may assist with evaluating these effects. If the differences are systematic, it won't be possible to "resolve" the error, because one would not know which observer is right and which is wrong; however, the data might be useful in evaluating sampling uncertainty attributable to the observer.

More frequent sampling of catch from these vessels may allow for increased biological information on non-target species. The value of increased biological data, however, is uncertain. More biological information in the haul sampling on these operations may or may not translate into "better" management decisions, or more valuable fisheries.

It should be noted that under the proposed rule for Amendment 79 (which is pending), Non-AFA Trawl CP Sector vessels 125 ft or greater would be required to ensure all hauls can be observed. If Amendment 79 is approved, the incremental benefits described above associated with Amendment 80 would be reduced as only the vessels less than 125 ft would increase observer, scale, and sampling station requirements.

Finally, some performance based monitoring standards are designed to increase the accuracy of observer collected data by decreasing occurrences of intentional presorting. Recently two separate prosecutions of highly sophisticated presorting activities occurred where vessel personnel

intentionally biased observer samples. NOAA Fisheries intends to only approve vessel monitoring plans which adequately address presorting concerns raised by these activities.

3.3.7 Effects on Fishing Crew

Alternative 1: Status quo

Crew participation and compensation in the Amendment 80 fisheries are likely to continue in their current manner, if the status quo management in continued. Most crewmembers currently work several different fisheries on the same vessel, while some move to other vessels for particular fisheries. Crew are compensated on a share basis, receiving a specific percent of the vessel's revenues (with crew of greater experience or in more demanding positions receiving greater shares). The existing patterns of participation and compensation are likely to remain the same, if the current management is maintained.

Alternatives 2 and 3: Multiple Cooperatives and Single Cooperative

Alternatives 2 and 3 are likely to have some minor effect on crew. Fishing can be expected to slow. In addition, some vessels that have historically participated are likely to no longer fish in the Amendment 80 fisheries. Notwithstanding this decrease in vessels in the Amendment 80 fisheries, it is likely that some vessels will leave the North Pacific fisheries entirely while some would continue to fish in other BSAI and GOA fisheries.

Crew compensation could change in some cases. Crews on some vessels that leave the Amendment 80 fisheries are likely to lose some income, if the vessel is unable to make up the loss in revenues in other fisheries. This income could be a substantial portion of a person's annual income. In addition, crew on vessels that remain in the Amendment 80 fisheries could realize an increase in income from increased harvests and revenues in the fishery. Catch increases are likely under each of the two alternatives. Crew on vessels in the Non-AFA Trawl CP sector that participate in the Amendment 80 species could benefit from consolidation of harvests on fewer vessels and possible a minor increase in revenues, if quality improvements are realized.

3.3.8 Effects on Net Benefits to the Nation[22]

The net benefits to the Nation arising out of the change in management can accrue from several sources. First, production efficiencies in harvesting and processing could occur as a direct result of management changes. These production changes may affect the benefits realized by U.S. consumers, through changes in product quality, availability, variety, and price. Further, the changes in conduct of the fisheries and management could result in changes in the environment, which yield benefit changes to the Nation through ecosystem productivity changes and welfare changes attributable to non use/passive use values. These various contributing effects of the alternatives to the net benefits to the Nation are summarized in the sections above. This section summarized the different effects to allow comparison of the different alternatives and conclusions concerning the overall effects of the alternatives on net benefits to the Nation.

Alternative 1: Status Quo

[22] At the October 2004 Council meeting, the Scientific Statistical Committee encouraged staff to consider using cost effectiveness analysis (CEA) in place of cost-benefit analysis (CBA) or in addition to CBA. Cost-effectiveness analysis can provide a rigourous way to identify options that achieve the most effective use of the resources available without requiring monetization of all of the relevant benefits or costs. Generally, cost-effectivenss analysis is designed to compare a set of regulatory actions with the same primary outcome. The CEA model is applicable if the benefits of the different alternatives are equivalent in order to compare the different costs. The benefits of each of the alternatives in the proposed action are not equivalent, so the CEA model would likely be ineffective in determining the least cost alternative.

If the current management of the Amendment 80 fisheries were to continue, net benefits to the Nation are likely to remain at their current level. For the Non-AFA Trawl CP sector, quality of the whole and head and gut production is relatively high. Few consumer benefits from this production are realized in the U.S., as most fish is sold into foreign markets. Costs of monitoring and management are high, as catch is monitored at the vessel level. Non-use benefits to the public are decreased to some extent by waste and bycatch.

Alternatives 2 and 3: Multiple Cooperative and Single Cooperative

Net benefits to the Nation will be affected by a few different factors under Alternatives 2 and 3. Production efficiency should increase slightly, as some participants realize moderate improvements in quality of production and the reduced costs associated with removing excess capacity. Alternative 3 could reduce total production, and that would tend to reduce producer surplus generated by harvesting vessels.

Few, in any, benefits of production improvements will be realized by U.S. consumers, as this fleet is likely to continue to primarily serve international markets. Costs of management, monitoring, and enforcement will increase to administer and oversee the cooperative allocations and monitor those vessels under 125 ft that join a cooperative for GRS. These vessels will be required to purchase additional monitoring equipment. Some participants may avoid these costs altogether, if their allocations are fished by other cooperative members. Some additional benefits to the Nation could arise through reduction in bycatch, since the program requires vessels under 125 ft to meet GRS if they join a cooperative. Since discard rates of these species are relatively high compared to other fisheries, these benefits are likely to be fairly modest.

4 ENVIRONMENTAL ASSESSMENT

The purpose of this section is to analyze the environmental impacts of the proposed Federal action, to allocate Bering Sea and Aleutian Islands (BSAI) non-pollock groundfish and/or prohibited species catch to specific sectors operating in the BSAI area and develop a cooperative structure for the Non-American Fisheries Act (AFA) Trawl CP sector. An environmental assessment is intended, in a concise manner, to provide sufficient evidence of whether or not the environmental impacts of the action are significant (40 CFR 1508.9).

The four required components of an environmental assessment are included below: brief discussions of the need for the proposal (Section 4.1), of alternatives (Section 4.2), and of the environmental impacts of the proposed action and alternatives (Section 4.3). A list of agencies and persons consulted is included later in this document, in Section 8.1, on page 235 of this document.

4.1 Purpose and Need

Since the mid-1990s, the Council has recognized the need to reduce bycatch, minimize waste, and improve utilization of fish resources to the extent practicable in order to provide the maximum benefit to present generations of fishermen, associated fishing industry sectors, communities, and the nation as a whole. Since at least 1995, the Non-AFA Trawl CP sector has had the highest discard rate in the BSAI. Although the overall retention level in that sector has increased in the last decade, it is still well below other BSAI sectors. Bycatch reduction measures for the Non-AFA Trawl CP sector are a priority focus for the Council given this sector's historical difficulty in achieving acceptable bycatch levels.

In order to address this issue, the Council, under Amendment 79 to the BSAI Groundfish FMP, required all non-AFA trawl CP vessels greater than 125 ft length overall (about 58 percent of the sector) to retain a minimum percentage of their total groundfish catch. The predetermined percentage (85 percent), which represents the groundfish retention standard, will be phased in over three years. The amendment also increased the monitoring requirements for these vessels, requiring flow scales, observer stations, and observations of every haul. The amendment has not yet been approved by the Secretary, and will likely go into effect January 1, 2006.

The Non-AFA Trawl CP sector is primarily a multi-species fishery that operates under a "race for fish", where vessels attempt to maximize their harvest in as little time as possible, in order to claim a larger share of the available quota. Because vessels are competing with each other for shares of the total quota, an individual vessel may be penalized for undertaking actions to reduce bycatch, such as searching for cleaner fishing grounds. Participants in the sector have indicated that the cost of implementing Amendment 79 on a vessel-by-vessel basis could be very high.

By providing specific groundfish allocations to this sector, and allowing the formation of cooperatives, the costs associated with bycatch reduction can be mitigated. Sector allocations and associated cooperatives would allow participants to focus less on harvest maximization and more on optimizing their harvest. This in turn could reduce bycatch, improve retention, and improve utilization, while also improving the economic health of the harvesting and processing industry.

Exploring sector allocations and cooperatives also accords with the Council's long-term priority, to reduce or eliminate the "race for fish" in the North Pacific. The Council recently revised its management policy for the BSAI Groundfish FMP to include an objectives that aims to "further decrease excess fishing capacity and overcapitalization by … extending programs such as community or rights-based management to some or all groundfish fisheries," (BSAI Groundfish FMP chapter 2).

Further elaboration on the history of the proposed action, and the Council's exact problem statement, can be found in Section 1, starting on page 1 of this document.

4.2 Alternatives Considered

The analysis of the proposed action is divided into a number of decision points, relating to sector allocations and the formation of cooperatives. Section 2.5, starting on page 9 of this document, provides a detailed accounting of the various issues, components, options, and suboptions for this amendment.

For analysis, these components and options have been combined into defined alternatives. The alternatives are described in the sections that follow. Table 4-1 compares the features of each of the alternatives.

Table 4-1 Comparison of the Alternatives

	Alternative 1 (Status Quo)	Alternative 2	Alternative 3
Sector Eligibility	determined by Congress	determined by Congress	determined by Congress
Primary Target Species to be Allocated	none	yellowfin sole, rock sole, flathead sole, Atka mackerel, Aleutian Islands Pacific Ocean perch	yellowfin sole, rock sole, flathead sole, Atka mackerel, Aleutian Islands Pacific Ocean perch
Allocation to Sector	none	*Allocation:* Sector's retained catch over all retained catch, 1998-2002 *Management:* Hard cap *Yellowifn sole:* all yellowfin sole in excess of 125,000 mt threshold to be divided 30% to sector and 70% to other trawl; 2-way rollover	*Allocation:* Sector's retained catch over all total catch, 1995-2003 *Management:* Soft cap; rollover to sector *Yellowfin sole:* all yellowfin sole in excess of 100,000 mt threshold to be divided 70% to sector and 30% to other trawl; 2-way rollover
Allocation of Prohibited Species	PSC allocated by target fishery and shared among all trawl vessels	Sector allowance based on historic PSC usage,1998-2002	Sector allowance based on: a) average PSC usage, by fishery, of all trawl, 1995-2003 b) apply sector proportion as determined above c) reduce by 5%
Cooperative	none	*Threshold:* 30% minimum of eligible participants *Allocation:* based on retained catch history, 1998-2002 *Use caps:* none	*Threshold:* 67% minimum of eligible participants *Allocation:* based on total catch history, 1995-2003 *Use caps:* apply to total catch of all primary target species
Sideboards	none	*For sector:* established based on participation in other fisheries, 1998-2002 *Within sector:* established between cooperative and non-cooperative participants for unallocated species	*For sector:* established based on participation in other fisheries, 1995-2003 *Within sector:* established between cooperative and non-cooperative participants for unallocated species
CDQ	7.5% of groundfish and prohibited species (except herring) allocated to CDQ multispecies fishery	7.5% of groundfish and prohibited species (except herring) allocated to CDQ multispecies fishery	10% of allocated species, plus secondary species caught incidentally in directed fisheries, to CDQ multispecies fishery

4.2.1 Alternative 1: No Action

Under this alternative, current management of groundfish and PSC in the BSAI would remain in effect. Although Amendment 79 to the BSAI Groundfish FMP, the groundfish retention standard (GRS), has not yet been implemented, it is expected to be in place by the time any of the actions analyzed here would be implemented. Therefore, for the purposes of the analysis, it is assumed that Amendment 79 will phase in a minimum retention standard for Non-AFA Trawl CPs greater than 125 ft length overall over a three-year period, starting in 2006 at 75 percent and culminating in 2008 at 85 percent.

4.2.2 Alternative 2: Multiple Cooperatives

The eligibility criteria for the Non-AFA Trawl CP sector have been determined by Congress in the provisions of the BSAI Catcher Processor Capacity Reduction Program, which was passed in November 2004. In order to qualify for the sector, a license holder must have trawl and catcher processor endorsements on their LLP, and must have caught and processed 150 mt of groundfish with trawl gear between 1997-2002.

This alternative will allocate the following species to the Non-AFA Trawl CP sector: yellowfin sole, rock sole, flathead sole, Atka mackerel, and Aleutian Islands subarea Pacific Ocean perch. These will be referred to as primary target species. Allocation of these species to the sector will be in proportion to the retained catch of the Non-AFA Trawl CP sector relative to the retained catch of all vessels, for the years 1998 to 2002. The unallocated portion of the primary target species quota will be reserved for all other trawl vessels with groundfish catch history between 1995 and 2004 and the appropriate LLP endorsements (the limited access trawl fishery). Non-AFA Trawl CP sector allocations of the primary target species will be managed as a hard cap: when the sector harvests all of its allocation of a primary target species, all directed fisheries for that species, as well as those fisheries that catch the species incidentally, will close for the sector. Primary species quota cannot be rolled over between trawl sectors under this alternative.

The alternative includes a threshold of 125,000 metric tons for the yellowfin sole quota. If, in a given year, the quota exceeds this threshold, the excess will be allocated in the following manner: 30 percent to the Non-AFA Trawl CP sector and 70 percent to the limited access trawl fishery. Specifically for this excess allocation, a two-way rollover option is allowed. A portion of the yellowfin sole reserve allocated to either the Non-AFA Trawl CP sector or the limited access fishery shall be rolled over to the other, if, after a specified date (August 1 or September 1), there is any that is projected to remain unused.

The Non-AFA Trawl CP sector will receive its own PSC allowance under this alternative, which will be based on the sector's historical usage of PSC between 1998 and 2002.

To form a cooperative, 30 percent of the eligible Non-AFA Trawl CP sector participants must agree to join. Those participants who elect not to join may either form their own cooperative (with at least 30 percent of eligible participants) or participate outside the cooperative but within the sector.

Allocation of the primary target species and PSC allowances among cooperatives and the group of sector participants who do not join a cooperative is in proportion to the retained catch of the primary target species and the PSC of the eligible license holders in each pool, for the years 1998-2002.

Within the Non-AFA Trawl CP sector, consolidation will not be constrained. An eligible participant (either individual or entity) will not be limited as to the percentage of the Non-AFA Trawl CP sector allocation it can use.

Sideboards for the Non-AFA Trawl CP sector will be established in regulation based on the sector's participation in other fisheries during the same years as used to calculate the sector's allocation, 1998 to 2002. The sideboards will remain in place until such time as other fisheries are rationalized

(including sector allocations for the Pacific cod fishery). Within the Non-AFA Trawl CP sector, sideboards will be established between cooperative and non-cooperative participants for unallocated species, based on the same years.

The CDQ program will continue to be allocated 7.5 percent of all groundfish species except pollock and sablefish, including those species allocated under this alternative, as part of the CDQ multispecies fishery. The prohibited species allowance allocated to the CDQ program as prohibited species quota reserves will also continue to be issued at the same percentage as the CDQ groundfish allocation.

4.2.3 Alternative 3: Allocate Only Primary Target Groundfish

As noted in Alternative 2, the eligibility criteria for the Non-AFA Trawl CP sector have been determined by Congress in the provisions of the BSAI Catcher Processor Capacity Reduction Program. In order to qualify for the sector, a license holder must have trawl and catcher processor endorsements on their LLP and have caught and processed 150 mt of groundfish with trawl gear between 1997-2002.

This alternative will allocate the following species to the Non-AFA Trawl CP sector: yellowfin sole, rock sole, flathead sole, Atka mackerel, and Aleutian Island Pacific Ocean perch. These will be referred to as primary target species. Allocation of these species to the sector will be in proportion to the retained catch of the Non-AFA Trawl CP sector relative to the total catch by all vessels, for the years 1995 to 2003. The unallocated portion of the primary target species quota will be reserved for all other trawl vessels with groundfish catch history between 1995 and 2004, and the appropriate LLP endorsements (the limited access fishery). Non-AFA Trawl CP sector allocations of the primary target species will be managed as a soft cap: when the sector harvests all of its allocation of a primary target species, the species will be placed on prohibited species status, and must be discarded.

The alternative also includes a rollover provision. If, after a specified date (August 1 or September 1), the limited access fishery projects that a portion of its unharvested primary target species will remain unused, it shall be rolled over to the Non-AFA Trawl CP sector.

The alternative includes a threshold of 100,000 mt for the yellowfin sole quota. If, in a given year, the quota exceeds this threshold, the excess allocated in the following manner: 70 percent to the Non-AFA Trawl CP sector and 30 percent to the limited access trawl fishery. Specifically for this excess allocation, a two-way rollover option is allowed. A portion of the yellowfin sole reserve allocated to either the Non-AFA Trawl CP sector or the limited access fishery shall be rolled over to the other, if, after a specified date (August 1 or September 1), there is any that is projected to be remained unused.

The Non-AFA Trawl CP sector will receive its own PSC allowance under this alternative. PSC usage of all trawl vessels by target fishery, from 1995 to 2002, will be calculated, to which the proportion of the Non-AFA Trawl CP sector's share of the target species quota (as determined above) will be applied. The sector's PSC allowance for each prohibited species will be 95 percent of the total amount calculated using this formula.

To form a cooperative, 67 percent of the eligible Non-AFA Trawl CP participants must agree to join. Those participants who elect not to join may participate outside a cooperative but within the sector.

Allocation of the primary target species and PSC allowances between the cooperative and the group of sector participants who do not join the cooperative is in proportion to the total catch of the primary target species and the PSC of the eligible license holders included in each pool, for the years 1995-2003. Each license holder must drop his or he three lowest annual catches, by species, during this period.

Consolidation in the Non-AFA Trawl CP sector is limited by a use cap that applies to each person (defined as either an individual or an entity). No single person may use more than a certain percentage, to be determined as part of this action, of the sector's combined allocation for all primary

target species. However, if a person's attributed history at initial allocation is greater than the use cap threshold, the person's ability to exceed the cap will be grandfathered.

Sideboards for the Non-AFA Trawl CP sector will be established in regulation based on the sector's participation in other fisheries during the years 1995-2003. The sideboards will remain in place until such time as other BSAI and GOA fisheries are rationalized (including sector allocations for the Pacific cod fishery). Within the Non-AFA Trawl CP sector, sideboards will be established between cooperative and non-cooperative LLP participants for unallocated species, based on the same years.

The CDQ program will receive an allocation of 10 percent of each primary target species, and the associated species taken incidentally in the prosecution of these directed fisheries. The prohibited species allowance allocated to the CDQ program as prohibited species quota reserves will be issued at the same percentage as the CDQ groundfish allocation.

4.3 Probable Environmental Impacts

This section analyzes the alternatives for their effect on the biological, physical, and human environment. The alternatives change the management of the primary target fisheries, by providing a sector allocation to the Non-AFA Trawl CP sector and allowing them to create (a) cooperative(s). The environmental impacts are therefore discussed in reference to the impacts of the primary target fisheries.

As appropriate, each section discusses the environment that would be affected by the alternatives, and then describes the impacts of the alternatives. The following components of the environment are discussed: the primary target species to be allocated under the alternatives, prohibited species, other fish species, benthic habitat and essential fish habitat, marine mammals and seabirds, economic and socioeconomic components, and the ecosystem as a whole. In most instances, the effects of Alternatives 2 and 3 are considered together, as there is little difference between these alternatives in terms of their impact on the physical and biological environment.

4.3.1 Criteria used to Evaluate the Alternatives

The intent of the Environmental Assessment is to determine whether the proposed action is likely to produce a significant impact on the environment, in which case preparation of an Environmental Impact Statement is required. Although economic and socio-economic impacts must be evaluated, such impacts by themselves, without influence on the physical or biological environment, are not sufficient to require the preparation of an Environmental Impact Statement.

In order to assess whether impacts are significant, the analysts have established the criteria listed in Table 4-2. Although the economic and socioeconomic impacts of the alternatives are fully discussed in the sections that follow, significance criteria for these impacts have not been established as such criteria are not necessary for the purposes of this Environmental Assessment.

Table 4-2 Criteria used to Evaluate the Alternatives

Component	Criteria
Fish species	An effect is considered to be significant if it can be reasonably expected to jeopardize the sustainability of the species or species group.
Habitat	An effect is considered to be significant if it exceeds a threshold of minimal or temporary disturbance to habitat.
Seabirds and marine mammals	An effect is considered to be significant if it can be reasonably expected to alter the population trend outside the range of natural fluctuation.
Ecosystem	An effect is considered to be significant if it produces population-level impacts for marine species, or changes community- or ecosystem-level attributes beyond the range of natural variability for the system.

4.3.2 Primary Target Species

The primary target species that are to be allocated under the proposed action are yellowfin sole, rock sole, flathead sole, Atka mackerel, and Aleutian Islands Pacific Ocean perch. Table 4-3 illustrates the biomass, and allowable and actual catch levels of these species. Historic catch levels of these species can be found in Section 3.1.1.

Table 4-3 Projected Biomass and Catch Specifications of Primary Target Species, in mt.

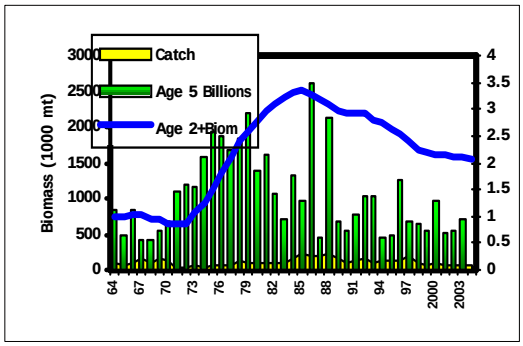
	2004					2005	
	Projected Biomass	Overfishing Level	Acceptable Biological Catch	Total Allowable Catch	Actual Catch	Projected Biomass	Total Allowable Catch
Yellowfin sole	1,560,000[1]	135,000	114,000	86,075	69,021	1,560,000	90,686
Northern rock sole	1,160,000[1]	166,000	139,000	41,000	47,734	1,380,000	41,500
Flathead sole	505,000[2]	86,200	61,900	19,000	16,849	560,000	19,500
Atka mackerel[3]	286,000[2]	78,500	66,780	63,000	55,963	486,000	63,000
AI Pacific Ocean perch[4]	349,000[2]	15,800	11,172	11,172	10,493	379,000	11,200

[1]represents age 2+ biomass
[2]represents age 3+ biomass
[3]Atka mackerel catch specifications are listed for the BSAI as a whole, but for management are further subdivided by district
[4]Pacific Ocean perch biomass and overfishing level is assessed BSAI-wide; catch specifications are listed for the Aleutian Islands as a whole, but for management are further subdivided by district.

Yellowfin sole

Yellowfin sole is one of the most abundant flatfish species in the eastern Bering Sea. They inhabit the continental shelf, and abundance in the Aleutian Islands region is negligible. The yellowfin sole stock has been declining since the mid-1980s, however in recent years appears to be more stable. Abundance and recruitment trends are illustrated in Figure 4-1.

Figure 4-1 Yellowfin Sole Abundance and Recruitment Trends



The directed fishery is prosecuted beginning in late January or February, and continuing through to the early fall. The target fishery is allocated a halibut PSC allowance in four seasons, and the fishery has been constrained by this cap. Once the halibut PSC allowance is used, the directed fishery must close until the next PSC seasonal allowance is allocated. In 2004, however, the yellowfin sole fishery did not exceed the halibut PSC limit, but was in fact closed to directed fishing on June 4th as it approached its TAC limit. In recent years, the yellowfin sole fishery has also been constrained by the red king crab PSC limit.

Other than in the directed fishery, yellowfin sole is also caught incidentally in the directed rock sole, flathead sole, Pacific cod, and in small amounts the pollock fisheries. The overall discard rate of yellowfin sole between 2000 and 2003 was about 15 percent. While most of these discards occur in the directed fishery (7,370 mt in 2003), the discard rate is highest, at 80 percent, in the Pacific cod fishery (which discarded 1,348 mt in 2003) (Wildebuer and Nichol 2004)

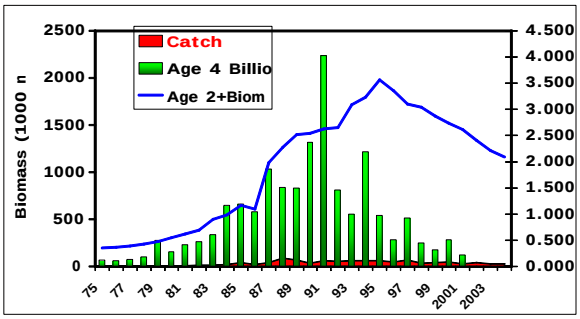
The predominant species that are caught incidentally in the yellowfin sole fishery include pollock, rock sole, Pacific cod, general groundfish, flathead sole, arrowtooth flounder (Wildebuer and Nichol 2004).

Further information on yellowfin sole may be found in the yellowfin sole chapter of the annual *Stock Assessment and Fishery Evaluation* report (Wildebuer and Nichol 2004), and in the *Alaska Groundfish Fisheries Programmatic Supplemental Environmental Impact Statement*, also referred to as the Groundfish PSEIS (NMFS 2004b). Habitat information for yellowfin sole is contained in the *Environmental Impact Statement for Essential Fish Habitat Identification and Conservation in Alaska*, referred to as the EFH EIS (NMFS 2005).

Northern rock sole

Yellowfin sole and northern rock sole are the dominant flatfish species in the Bering Sea. Although two species of rock sole are known to occur in the North Pacific ocean, the northern rock sole predominates in the BSAI. Although biomass of rock sole increased from 2002 to 2003, it is expected to decline over the next few years. Abundance and recruitment trends are illustrated in Figure 4-2.

Figure 4-2 Northern Rock Sole Abundance and Recruitment Trends



Adults exhibit a benthic lifestyle, and in the eastern Bering Sea, occupy separate winter and summertime feeding distributions on the continental shelf. Northern rock sole spawn during the winter-early spring period of December-March. Rock sole are important as the target of a high value roe fishery in February and March that accounts for the majority of the annual catch. In recent years, the rock sole fishery has been constrained by halibut and red king crab PSC limits.

Other than in the directed fishery, rock sole is also caught incidentally in the directed rock sole, flathead sole, Pacific cod, and in small amounts the pollock fisheries. From 1987 to 2000 rock sole were discarded in greater amounts than they were retained. The past three years indicate increased utilization of catch (between 55 and 66 percent of rock sole were retained). Discards are highest in the directed fishery (15,903 mt in 2003) (Wildebuer and Walters 2004).

The predominant species that are caught incidentally in the rock sole fishery include pollock, Pacific cod, general groundfish, flathead sole, arrowtooth flounder, and Alaska plaice (Wildebuer and Walters 2004).

Further information on northern rock sole may be found in the northern rock sole chapter of the annual *Stock Assessment and Fishery Evaluation* report (Wildebuer and Walters 2004), and in the Groundfish PSEIS (NMFS 2004b) and the EFH EIS (NMFS 2005).

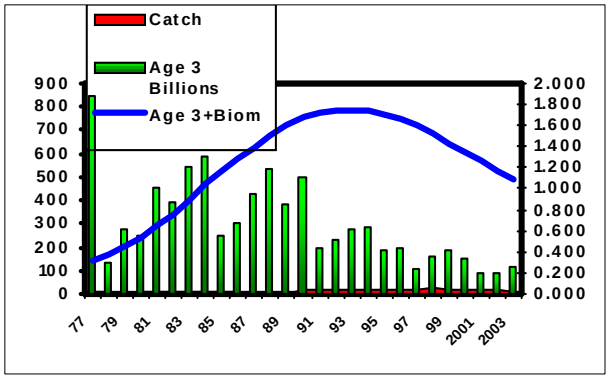
Flathead sole

Flathead sole is managed as a unit stock with the related and morphologically similar Bering Flounder, whose ranges overlap in the BSAI (Spencer, Walters, and Wildebuer 2004).

Abundance and recruitment trends are illustrated in Figure 4-3. Biomass peaked in early 1990s, and has been declining since that time.

Flathead sole are caught between January and early fall, often incidentally in directed yellowfin sole and rock sole fisheries. Flathead sole are often targeted later in the year. As with yellowfin sole, the fishery is often constrained by halibut and red king crab PSC limits, although in 2004, the directed fishery was instead closed as it exceeded the TAC.

Figure 4-3 Flathead Sole Abundance and Recruitment Trends



The overall discard rate for flathead sole in 2003 was approximately 28 percent of the catch (3,866 mt). In addition to the directed flatfish fisheries, flathead sole is also caught in the Pacific cod fishery and the pelagic trawl pollock fishery (Spencer, Walters, and Wildebuer 2004).

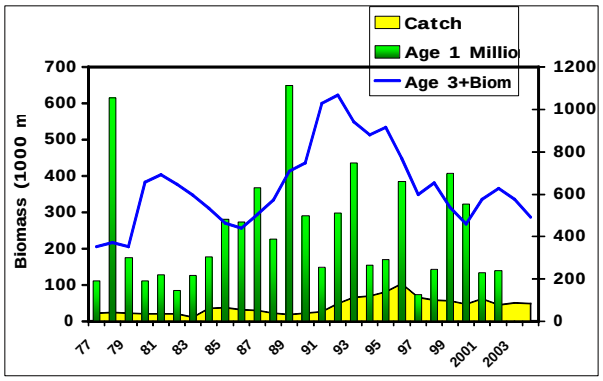
Further information on flathead sole may be found in the flathead sole chapter of the annual *Stock Assessment and Fishery Evaluation* report (Spencer, Walters, and Wildebuer 2004)), and in the Groundfish PSEIS (NMFS 2004b) and the EFH EIS (NMFS 2005).

Atka mackerel

The center of abundance for Atka mackerel is in the Aleutian Islands, with a geographical range extending to the waters off Kamchatka, the eastern Bering Sea, and the Gulf of Alaska. Tag capture information from Alaska suggests that Atka mackerel populations are localized and do not travel long distances. Atka mackerel are not targeted in the eastern Bering Sea.

Biomass increased from 1977 to a peak in 1992, declined over the 1990s, and in recent years has fluctuated. Abundance and recruitment trends are illustrated in Figure 4-4.

Figure 4-4 Atka Mackerel Abundance and Recruitment Trends



Catches have been relatively high since 1992, in response to evidence of a large exploitable biomass in the central and western Aleutian Islands. The Atka mackerel fishery takes place primarily with bottom trawl gear at depths of less than 200 m. The fishery is highly localized and takes place in the same few locations each year (Lowe, Ianelli, Zenger, Aydin, and Lauth 2004).

In 1993, TAC allocations for Atka mackerel in the Aleutian Islands subarea were divided into districts, in part to allow localized management. In 2005, the TACs for Atka mackerel by district were 7,500 mt in the combined Eastern Aleutian Islands district/Bering Sea subarea, 35,500 in the Central Aleutian Islands, and 20,000 in the Western Aleutian Islands.

Atka mackerel are an important prey for Steller sea lions, and management measures have been taken to reduce the impacts of an Atka mackerel fishery on Steller sea lions. Since June 1998, the Atka mackerel fishery has been dispersed, both temporally and spatially, to reduce localized depletions of Atka mackerel. The TAC is now be equally split into two seasons, and the amount taken within sea lion critical habitat is limited.

Atka mackerel are not commonly caught incidentally in other directed Aleutian Islands fisheries. The largest amounts of discards of Atka mackerel, which are likely undersized fish, occur in the directed

Atka mackerel trawl fishery. Atka mackerel are also caught as bycatch in the trawl Pacific cod and Pacific Ocean perch fisheries (Lowe, Ianelli, Zenger, Aydin, and Lauth 2004).

Further information on Atka mackerel may be found in the Atka mackerel chapter of the annual *Stock Assessment and Fishery Evaluation* report (Lowe, Ianelli, Zenger, Aydin, and Lauth 2004), and in the Groundfish PSEIS (NMFS 2004b) and the EFH EIS (NMFS 2005).

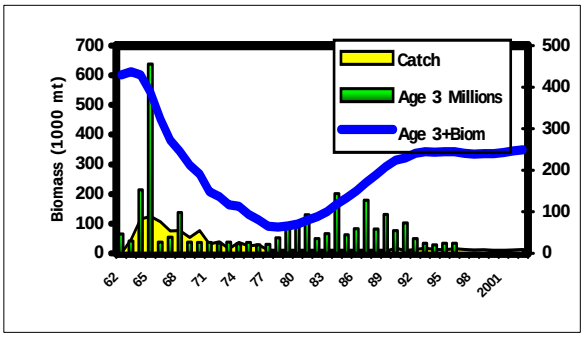
Aleutian Islands Pacific Ocean perch

Pacific ocean perch (commonly referred to by its acronym POP) are the dominant red rockfish species in the north Pacific. They are caught primarily along the Aleutian Islands, and to a lesser extent in the eastern Bering Sea and Gulf of Alaska.

Pacific ocean perch inhabit the outer continental shelf and upper slope regions of the north Pacific Ocean and Bering Sea, and are managed as a single stock.

Heavy exploitation by foreign fleets resulted in peak catches of 47,000 mt in the eastern Bering Sea in 1961, and 109,100 mt in 1965 in the Aleutian Islands, and subsequent biomass declines. Above average year classes in the early 1980s has boosted biomass levels, which have remained relatively stable since 1995. Abundance and recruitment trends are illustrated in Figure 4-5.

Figure 4-5 Pacific Ocean Perch Abundance and Recruitment Trends



ABCs and TACs for POP are apportioned by subarea, and for the Aleutian Islands, are further allocated by district. POP is not a directed fishery in the Bering Sea. In 2005, the TAC by district for POP was 3,080 mt in the eastern Aleutian Islands, 3,035 in the central Aleutian Islands, and 5,085 in the western Aleutian Islands.

The discard rate of POP in the Aleutian Islands averaged 15 percent between 1990 and 2003, and was 16 percent in 2003 (2,040 mt).

Further information on Pacific Ocean perch may be found in the Pacific Ocean perch chapter of the annual *Stock Assessment and Fishery Evaluation* report (Spencer, Ianelli, and Zenger 2004), and in the Groundfish PSEIS (NMFS 2004b) and the EFH EIS (NMFS 2005).

Effects of the alternatives

The current fishery management program was analyzed in detail in the Groundfish PSEIS (NMFS 2004b), and updated in the annual Environmental Assessment of Harvest Specifications for the Years 2005-2006 (NMFS 2004a). These analyses concluded that the primary target species are all at sustainable population levels. Under the existing management program, the probability that overfishing would occur is low for all stocks, as risk averse measures are built into the management program. As a result, impacts on primary target stocks under Alternative 1 are determined not to be significant.

Alternatives 2 and 3 are not distinguishable in terms of impacts to the primary target species, and are considered together. Under both alternatives, a sector allocation is made that will allow the formation of cooperatives. This will change fishing patterns, and may distribute fishing for the primary target species over a longer season or more diverse area.

4.3.3 Prohibited Species

Prohibited species in the BSAI Groundfish FMP are Pacific halibut, Pacific herring, Pacific salmon and steelhead, king crab, and Tanner crab. These species must be avoided while fishing for groundfish, and must be returned to the sea with a minimum of injury except when their retention is authorized by other applicable law. In order to control the catch of those species in the groundfish fisheries, the Council has instituted prohibited species catch limits for the trawl fisheries for halibut, herring, red king crab, *Chionoecetes bairdi* crab, *C. opilio* crab, and Chinook and other salmon. These PSC limits are applied by target fishery and season.

Table 4-4 illustrates the contribution, in 2003, of the primary target species fisheries to the overall bycatch of prohibited species. The Atka mackerel and Pacific Ocean perch directed fisheries catch very little PSC. Among the flatfish targets, minimal herring and salmon is caught incidentally. Halibut and crab are, however, incidentally caught in these fisheries. The rest of this section will concentrate on these prohibited species.

Table 4-4 Contribution of Directed Fishery to Overall Bycatch of Prohibited Species in 2003.

Directed Fishery	Sectors prosecuting directed fishery[1] CP = Catcher Processor CV = Catcher Vessel	Halibut[2]	Herring[2]	Red king crab[2]	*C. bairdi* crab[2]	Other tanner crab[2]	Salmon[2]
Yellowfin sole	Non-AFA Trawl CP AFA Trawl CP Trawl CV	19%	3%	26%	22%	44%	<1%
Rock sole	Non-AFA Trawl CP AFA Trawl CP Trawl CV[3]	23%	<1%	50%	22%	5%	<1%
Flathead sole	Non-AFA Trawl CP AFA Trawl CP[3] Trawl CV[3]	4%	<1%	<1%	29%	29%	<1%
Atka mackerel	Non-AFA Trawl CP	2%	0	<1%	0	0	<1%
AI Pacific Ocean perch	Non-AFA Trawl CP AFA Trawl CP[3] Trawl CV[3] Hook & Line CP[3] Hook & Line CV[3] Jig[3]	1.6%	0	1.5%	<1%	0	<1%

[1]Source: NOAA Fisheries Blend data, 2000
[2]Source: Hiatt et al. 2004

Pacific Halibut

Pacific halibut fisheries are managed by the International Pacific Halibut Commission (IPHC), under a treaty between the U.S. and Canada. The IPHC management process and stock assessments take into account all fishery removals (bycatch in the Federal and State groundfish fisheries, and catch in the IPHC-regulated commercial, subsistence, and sport fisheries) when determining halibut allocations to the directed fisheries. In recent years, incidental bycatch mortality of halibut has represented about 13 percent of total fishery mortality (NMFS 2004b).

Pacific halibut are considered a single stock from the Pacific west coast to the Bering Sea. During the summer Pacific halibut are found along the northeast continental shelf, and adults make seasonal migrations between summer feeding grounds and deeper spawning grounds. The halibut resource is considered to be healthy, and total catch has been near record levels in recent years (NMFS 2004b)

The BSAI Groundfish FMP employs mechanisms to reduce the incidental catch of halibut in the groundfish fisheries. Table 4-5 shows recent PSC limits for halibut, for the trawl fisheries as a whole, and for flatfish target fisheries, as well as the amount of halibut bycatch.

Table 4-5 Trawl and Flatfish Halibut Mortality Limits and Bycatch, in mt

Year	Trawl halibut mortality limit[1]	Actual trawl halibut mortality	Halibut mortality limit for target flatfish fisheries	Actual flatfish halibut mortality
2002	3,400	3,363	1,765	1,991
2003	3,400	3,278	1,665	1,814
2004	3,400	3,185	1,665	1,383

[1]Distributed among Pacific cod, yellowfin sole, mixed flatfish, pollock, and rockfish target fisheries.

Further information on halibut may be found in the Groundfish PSEIS (NMFS 2004b).

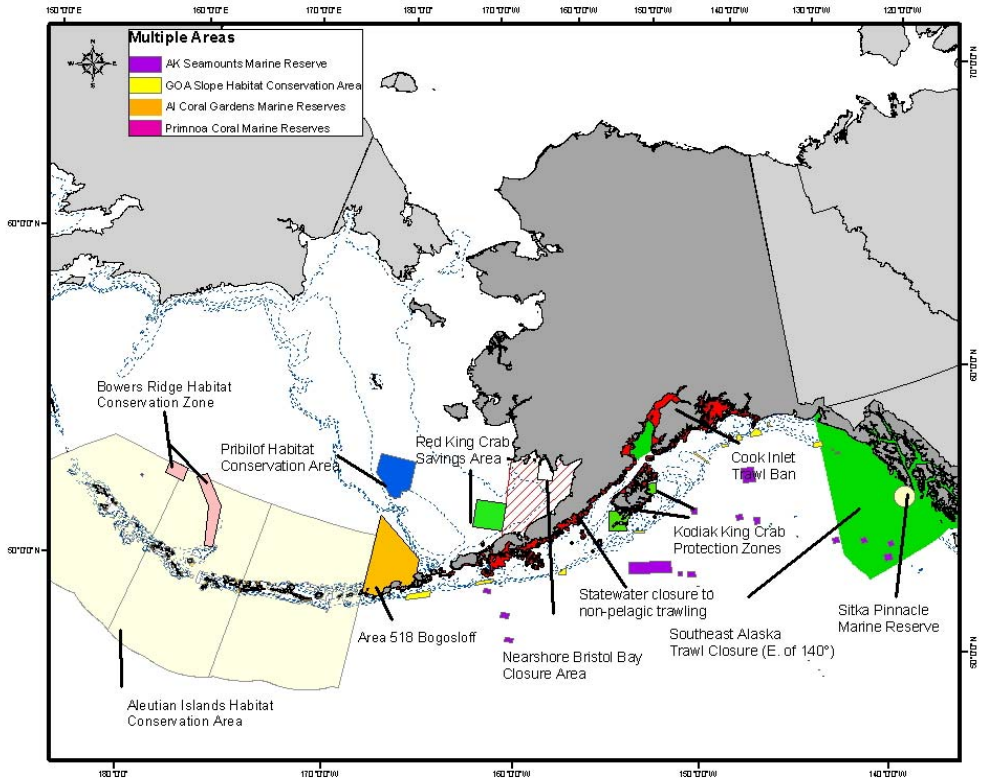
Crab

The interactions of the groundfish fisheries with three types of crab are monitored in the BSAI Groundfish FMP: red king crab, *C. opilio*, and *C. bairdi*. The directed crab fisheries are managed by the State of Alaska, with Federal oversight established in the BSAI King and Tanner Crab FMP.

Red king crab are widely distributed throughout the BSAI, along the shelf up to depths of 250 m. Bairdi Tanner crab are distributed on the continental shelf, and are concentrated around the Pribilof Islands and immediately north of the Alaska Peninsula. Opilio Tanner crab are distributed on the continental shelf and are common at depths of no more than 200m.

Numerous trawl closure areas have been implemented in the BSAI Groundfish FMP to mitigate potential concerns about unobserved crab mortality (crab wounded or killed but not captured) and possible habitat degradation due to trawling or dredging (Figure 4-6). The FMP also establishes PSC limits for these species based on the total abundance of the species. The upper limits are approximately 0.5 percent of total animals for red king crab, 1.2 percent for *C. bairdi*, and 0.1 percent for *C. opilio* (NMFS 2004a). Because incidental catch of crab is small, relative to other sources of mortality, time and area closures for trawl gear are thought to be more effective in reducing effects on crab stocks (Witherell and Harrington 1996).

Figure 4-6 Trawl Closures in the BSAI



PSC limits apply to crab caught within specified PSC Limitation Zones, and are apportioned by gear, target fishery, and season. Table 4-6 demonstrates the PSC limits and bycatch of crab species during the last three years, for the target flatfish fisheries. For the *C. opilio* and *C. bairdi* crab, bycatch levels are far less than the PSC limit, and catch of Tanner crab does not constrain the flatfish fisheries. Attainment of the red king crab PSC limit closed Zone 1 to the yellowfin sole fishery in May of 2002 and 2003, and closed it to the remaining flatfish target fisheries in February of 2002.

Table 4-6 Crab PSC Limits for Target Flatfish Fisheries, and Bycatch, in numbers of crab

Year	Zone 1 red king crab PSC limit	Zone 1 red king crab bycatch	*C. opilio* PSC limit	*C. opilio* bycatch	Zone 1 *C. bairdi* PSC limit	Zone 1 *C. bairdi* bycatch	Zone 2 *C. bairdi* PSC limit	Zone 2 *C. bairdi* bycatch
2002	76,446	77,219	3,746,111	787,577	706,164	312,746	2,384,643	528,683
2003	76,446	75,157	3,746,111	556,442	706,164	256,670	2,384,643	498,738
2004	155,256	68,497	3,746,111	1,631,939	706,164	147,166	2,384,643	248,285

NOTE: Zone 1 encompasses much of the waters of Bristol Bay west to 165º W. longitude; adjacent to the west, Zone 2 extends northwest and encompasses the Pribilof Islands. The *C. opilio* PSC limit applies to crab caught within the *C. Opilio* Bycatch Limitation Zone, which encompasses the Pribilof Islands and extends northwest.

Further information on the crab species may be found in the Groundfish PSEIS (NMFS 2004b). Habitat information for crab species, including the impacts of non-pelagic trawl gear on that habitat, is contained in the *Environmental Impact Statement for Essential Fish Habitat Identification and Conservation in Alaska*, referred to as the EFH EIS (NMFS 2005).

Effects of the alternatives

Of the five primary target species fisheries, only the flatfish fisheries catch prohibited species incidentally, and for these fisheries, interaction is primarily with halibut and crab (Table 4-4).

Because of the minimal interaction of the primary target species fisheries with herring and salmon, the environmental impacts of the alternatives on these species are not significant.

The Groundfish PSEIS concluded that under current management, any direct or indirect of effects of bycatch on Pacific halibut are taken into account in the IPHC management process and mitigated by the BSAI Groundfish FMP measures to reduce bycatch in the groundfish fisheries. Although the flatfish fisheries have exceeded their halibut PSC allowance in two out of the last three years, the overall halibut PSC limit for trawl fisheries has not been exceeded. As a result, Alternative 1 is not deemed to have a significant impact on the Pacific halibut stock or directed halibut fisheries.

As demonstrated in Table 4-5, the directed trawl fisheries for yellowfin sole, rock sole, and flathead sole tend to catch at least their full allowance of halibut PSC. Under Alternatives 2 and 3, the Non-AFA Trawl CP sector would receive a PSC allowance for halibut that is not target fishery specific, therefore allowing them the flexibility to manage their operations such as to maximize their catch of target species. Allowing the sector to form cooperatives, and thus eliminate the race for fish, will also tend to allow vessels to avoid areas of high halibut bycatch. This should allow the sector to avoid exceeding its allowance of halibut PSC, however they are likely to use it in full. As under the status quo, this should not result in a significant impact on the Pacific halibut stock.

PSC limits for the crab stocks, as discussed above, represent a very small proportion of the crab populations. In the case of *C. bairdi* and *C. opilio* crab, only a small proportion of the PSC limit is actually caught in the flatfish fisheries. Closure areas are also in place to protect crab stocks from other consequences of bottom trawling. Given these low levels of catch, even if crab PSC limits are reached, it is unlikely that any effects on crab stocks could be detected. Therefore the effect of Alternative 1 on all crab stocks is not rated as significant.

As with halibut, under Alternatives 2 and 3, the Non-AFA Trawl CP sector should be able to more easily manage its crab PSC allowances to avoid exceeding bycatch limits. Any difference between these alternatives and Alternative 1 is only likely to benefit the crab resource, but not to a degree that would be detectable at a population level, therefore the effect is determined not to be significant.

4.3.4 Other Fish Species

Interaction of the primary target fisheries with other fish species

With the exception of forage fish and non-specified species, all other fish species that interact either directly or indirectly with the primary target fisheries are managed by quota. The stocks are assessed annually, and levels of overfishing and acceptable biological catch are recommended, based on which the Council determines TACs. For forage fish, a maximum retainable allowance applies that means that no more than 2 percent of catch onboard may consist of these species. Non-specified species are defined in the FMP as species of no commercial value, which are discarded.

Other flatfish species are caught in the directed fisheries for yellowfin sole, rock sole, and flathead sole. These include arrowtooth flounder, Alaska plaice, and starry flounder. These species are less valuable than the other flatfish species and often have high discard rates.

After other flatfish, the pollock and Pacific cod are the species most often caught incidentally in the flatfish target fisheries. The flatfish trawl fisheries contribute to the bycatch of sculpins and skates, although the Pacific cod fishery accounts by far for the majority of skate bycatch (Hiatt et al 2004). The incidental catch of sculpins and skates is within acceptable management limits, however a thorough assessment of these species has not been made due to a lack of data. The uncertainty surrounding the accuracy of the management limit is therefore correspondingly high.

Rockfish are the subject of high incidental catch in the Atka mackerel fishery in the Aleutian Islands. Discards of northern rockfish from the directed Atka mackerel fishery account for a large portion of the AI northern rockfish TAC. The 2003 Atka mackerel fishery discarded 4,123 mt of northern

rockfish, which accounted for 70 percent of the northern TAC. The majority of the light dusky rockfish TAC is also caught incidentally in the fishery (Lowe et al 2004).

The Pacific Ocean perch fishery in the Aleutian Islands catches between 40 and 71 percent of the TAC for shortraker and rougheye rockfishes (between 1194 and 2002). Other species caught incidentally included Atka mackerel, pollock, Pacific cod, and arrowtooth flounder in 2003.

There is little interaction between the primary target fisheries and sharks, squid, octopi, forage fish., and non-specified species. The role of the primary target species as predators or prey of these species will not be affected, as the total removals are unchanged under the proposed action.

Further information on these fish species, including abundance trends and stock assessments, may be found in the *Stock Assessment and Fishery Evaluation* report (NPFMC 2004); also in the Groundfish PSEIS (NMFS 2004b) and the EFH EIS (NMFS 2005).

Effects of the alternatives

For the fish species that are caught incidentally in the primary target species fisheries, the majority are assessed annually, and are managed using conservative catch quotas. The Groundfish PSEIS (NMFS 2004b), and the Harvest Specifications Environmental Assessment (NMFS 2004a) both conclude that these species are at sustainable population levels, and are unlikely to be subject to overfishing under the current, risk-averse management program. Minimal interaction occurs between the primary target species fisheries and forage fish or non-specified species. As a result, impacts on these species under Alternative 1 are not significant.

Under both Alternatives 2 and 3, fishing patterns may change with the formation of cooperatives. This may result in longer seasons, and may change the patterns of incidental catch as cooperatives with a fixed allocation have more flexibility to respond to environmental conditions. Such changes will not be of such a degree as to impact the sustainability of managed species, however, as long as the species are managed under conservative quotas. Therefore the alternatives are considered not to be significant.

4.3.5 Marine Mammals and Seabirds

Interaction of the primary target fisheries with marine mammals and seabirds

Marine mammals that occur in the BSAI are ESA-listed Steller sea lions, ESA-listed great whales, other cetaceans, northern fur seals, harbor seals, other pinnipeds, and sea otters. Direct and indirect interactions between marine mammals and the groundfish fisheries occur due to the overlap in the size and species of groundfish that are at once important marine mammal prey and fishery resources.

The most numerous seabird species that occur in Alaskan waters are northern fulmars, storm petrels, kittiwakes, murres, auklets, and puffins. These groups, and others, represent 38 species of seabirds that breed in Alaska. Marine waters off Alaska provide critical feeding grounds for these species as well as others that do not feed in Alaska but migrate to Alaska during summer or winter. Impacts of fishery management on seabirds are difficult to predict due to the lack of information on many aspects of seabird ecology. Impacts may include incidental take of seabirds from fishing gear and vessel strikes, and effects on food abundance and availability.

For species that are listed under the Endangered Species Act and present in the BSAI management area, Section 7 consultations have been undertaken with respect to the impact of the Federal groundfish fisheries. In some instances, such as with the western stock of the Steller sea lion, the consultation has resulted in reasonable and prudent alternative recommendations that have been put in place in the groundfish fisheries to mitigate any potential impact of the fisheries on the species. In all cases, the consultations have concluded that the action of the fisheries is unlikely to result in jeopardy or adverse modification of critical habitat for the species.

The primary target species fisheries in the Bering Sea and Aleutian Islands have a very minor direct take of marine mammals and seabirds, which is likely to have a very minor contribution to total mortality, and is interpreted to be safe in the *Stock Assessment and Fishery Evaluation* report (Wildebuer and Nichol 2004, Wildebuer and Walters 2004, Lowe et al 2004).

Further information on marine mammals and seabirds may be found in the Groundfish PSEIS (NMFS 2004b).

Effects of the alternatives

The Groundfish PSEIS found that the current management regime is effective at providing protection to ESA-listed seabirds and marine mammals, and that current fishing has no adverse impacts on these species. Direct and indirect interactions of marine mammals and seabirds with the primary target fisheries are few, and are not likely to create a population-level impact on these species. Alternative 1 is not considered to have a significant impact on marine mammals and seabirds.

Alternatives 2 and 3 will not change the amount of groundfish harvested. Fishing effort may decrease as forming cooperatives allows participants to increase efficiency; however, any change is unlikely to be sufficiently substantial as to result in a population level impact on the marine mammal and seabird species with which the sector interacts. The alternatives are therefore considered not to have a significant impact.

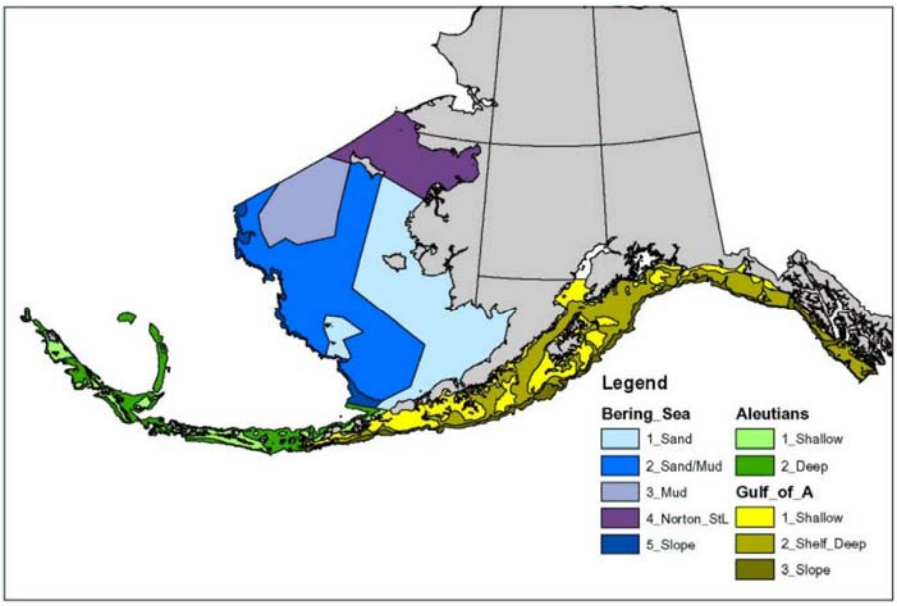
4.3.6 Benthic Habitat and Essential Fish Habitat

Benthic habitat encompasses seafloor that is generally believed to be at greater risk of impacts of fishing than non-benthic habitat in the water column. The Groundfish PSEIS (NMFS 2004b) contains a discussion of the effects of fishing, including bottom trawls as used by the Non-AFA Trawl CP sector, on habitat. Trawling in the eastern Bering Sea and Aleutian Islands is concentrated in specific areas, both due to management area closures and general reductions in fishing effort. Effects of trawling include mortality of benthic organisms, alteration of the physical habitat structure.

The eastern Bering Sea sediments are a mixture of the major grades representing the full range of potential grain sizes of mud (subgrades clay and silt), sand, and gravel. The distribution of benthic sediment types in the shelf is related to depth. McConnaughey and Smith (2000) and Smith and McConnaughey (1999) describe the available sediment data for the EBS shelf. These data were used to describe four habitat types. The first, situated around the shallow eastern and southern perimeter and near the Priblof Islands, has primarily sand substrates with a little gravel. The second, across the central shelf out to the 100 m contour, has mixtures of sand and mud. A third, west of a line between St. Matthew and St. Lawrence islands, has primarily mud (silt) substrates, with some mixing with sand (Figure 4-7). Finally, the areas north and east of St. Lawrence Island, including Norton Sound, have a complex mixture of substrates.

The Aleutian Islands area has complicated mixes of substrates, including a significant proportion of hard substrates (pebbles, cobbles, boulders, and rock), but data are not available to describe the spatial distribution of these substrates. In 2002 and 2003, NOAA Fisheries and Alaska Fishery Science Center scientists discovered unique habitat in the central Aleutian Islands consisting of high density "gardens" of corals, sponges, and other sedentary invertebrates (Stone 2003). This habitat had not been previously documented in the North Pacific Ocean or Bering Sea and appeared to be particularly sensitive to bottom disturbance. These areas have been designated as habitat areas of particular concern by the Council (BSAI Amendment 65), and fishing closures have been instituted to protect these areas from bottom contact gear.

Figure 4-7 Surficial Sediment Textural Characteristics, according to Naidu (1988)



Essential fish habitat (EFH) is the general distribution of a species described by life stage. General distribution is a subset of a species population and is 95 percent of the population for a particular life stage, if life history data are available for the species. Maps and descriptions of EFH for the BSAI groundfish species, and further information on benthic habitat and EFH, are available in the EFH EIS (NMFS 2005).

Effects of the alternatives

The effects of the Non-AFA Trawl CP sector on benthic habitat and essential fish habitat were analyzed in the EFH EIS (NMFS 2005). Effort levels in the flatfish fisheries are considered low and occur in areas of less sensitive habitat (rock, gravel, mud, and sand). The *Stock Assessment and Fishery Evaluation* report notes a possible concern in the Atka mackerel and Pacific Ocean perch fisheries due to unknown bycatch levels of coral, bryazoan, or sponge biota (Lowe et al 2004, Spencer et al 2004). However, recent closures in the Aleutian Islands (under BSAI Amendments 65 and 78) have protected sensitive habitat areas from future adverse impact due to fishing. Current fishing has minimal and temporary effects on benthic habitat and essential fish habitat. These effects are likely to continue, if current management is maintained.

The direct effect of groundfish fisheries on mortality of benthic organisms is likely to be affected by the amount of harvest that is permitted. Benthic community diversity may also be affected by changes to the location of harvest. Although Alternatives 2 and 3 may create some changes to fishing patterns, particularly by potentially adding to the season length of the primary target fisheries, the amount of the harvest, and the location of harvest is unlikely to change. The minimal and temporary effects that are due to current fishing are likely to continue under these alternatives, however these effects are not significant.

4.3.7 Economic and Socio-Economic

The section includes the economic and socio-economic information pertaining to the fisheries effected by this action, the a description of the Non-AFA Trawl CP sector, the value of the BSAI groundfish fisheries, and community information. The affected environment information can be found in the RIR Section 3.1.1

Economic Effects of the Alternatives

Effects on Harvest Participant and Fishing Practices

In October 2002, the Council initiated Amendment 79 to meet the Council's stated goals of reducing bycatch, minimizing waste, and improving utilization of fish resources to the extent practicable. Amendment 79 would establish a minimum groundfish retention standard (GRS). In 2002, the overall groundfish retention rate of the Non-AFA Trawl CP vessels greater than or equal to 125 ft was 71 percent. Including recent changes for determining the maximum retainable amount (MRA) for pollock, which now is determined at the end of each offload rather than at any point during the trip, coupled with the GRS are expected to reduce discards by the sector significantly. Complying with the requirements to reduce discards is expected to increase the vessel's costs, relative to pre-Amendment 79 levels.

Alternatives 2 and 3 would allocate yellowfin sole, rock sole, flathead sole, Atka mackerel, and Aleutian Islands Pacific Ocean perch to the Non-AFA Trawl CP sector.

Under Alternative 2, allocations to the Non-AFA Trawl CP sector are after deducting the Community Development Qutoa (CDQ) allocation and reserves would be above 88 percent for all allocated species. In contrast, under Alternative 3, the sector would get 73 percent for Atka mackerel, 59 percent for flathead sole, 78 percent for Aleutian Islands Pacific Ocean perch, 29 percent for rock sole, and 52 percent for yellowfin sole. Based on these projections, the Non-AFA Trawl CP sector would generate almost $70 million less per year, before rollovers, if Alternative 3 were selected over Alternative 2. The trawl limited access fishery revenue (first wholesale value) would increase by over $65 million if the harvested the entire allocation.

Under Alternative 2, the allocation of species to the Non-AFA Trawl CP sector will be managed as a hard cap, whereas under Alternative 3 the allocation would be managed as a soft cap. However, soft caps managed by the cooperative without NOAA Fisheries involvement would be treated as a hard cap system. If the allocations were managed by National Marine Fisheries Service (NMFS), then a portion of the allocations would need to be set aside as an incendental catch allowance (ICA) to accommodate the incidental catch of the allocated species. An unknown with NOAA Fisheries managed soft caps is how the ICA will be funded.

There is a strong likelihood that large portion of the species allocated to the trawl limited access fishery will go unharvested under Alternative 3. To help prevent allocated species from going unutilized, Alternative 3 includes a one-way rollover provision for allocated species that were unharvested by the trawl limited access fishery. However, the Non-AFA Trawl CP sector would be severally constrained by the prohibited species catch (PSC) allocation. Under this alternative, the PSC allocation to the sector is based on their allocation percentage of the primary species multiplied by the PSC usage of all trawl vessels, and rollovers of PSC are not included in the alternatives.

The yellowfin sole threshold program, under Alternative 2, could provide the opportunity for the AFA Trawl CP and catcher vessel (CV) sectors to expand their harvest of yellowfin sole, within their AFA sideboard caps, duringyears when pollock TAC declines relative to yellowfin sole. This assumes market conditions remain relatively stable for both fisheries. Under the yellowfin sole threshold alternative, yellowfin sole ITACs at or below the 125,000 mt threshold would be allocated as 88.5 percent to the Non-AFA Trawl CP sector and 11.5 percent to the trawl limited access fishery. The allocation of yellowfin sole above the ITACs would be 70 percent trawl limited access fishery and 30 percent Non-AFA Trawl CP sector. Under Alternative 3, any portion of ITAC exceeding the 100,000 mt threshold would be allocated 70 percent to the Non-AFA Trawl CP sector and 30 percent to the trawl limited access fishery. Initail total allowance catch (ITAC) up to the threshold would be allocated as 52 percent to the Non-AFA Trawl CP sector and 48 percent to the trawl limited access fishery. The amount of the loss to the Non-AFA Trawl CP sector from the direct allocations of yellowfin sole will likely be partially recovered through the rollover provision included in this

alternative and through better fishing practices in the cooperative. However, because halibut PSC is not included in the rollovers and increases in CDQ allocations are included in Alternative 3, the expected revenue improvements are likely going to be reduced from those in Alternative 2.

The PSC allowance to the Non-AFA Trawl CP sector, under Alternative 2, would be based on the PSC usage by the Non-AFA Trawl CP sector from 1998 to 2002 while operating in BSAI. In contrast, the PSC allowance to the Non-AFA Trawl CP sector under Alternative 3 would be based on the PSC usage by all trawl vessels from 1995 to 2003 multiplied by the allocation percentages of the primary allocated species allocated to the Non-AFA Trawl CP sector.

For halibut PSC under Alternative 2, the allocation to the Non-AFA Trawl CP sector would range between 2,476 mt and 2,482 mt. The remainder of the 3,400 mt PSC allowance would be available to all other trawl vessels. For herring, the allocation would range between 245 mt and 253 mt out of a PSC allowance of 2,012 mt allowed for all trawl sectors. The allocation of red king crab would range between 172,594 animals and 173,979 animals out of a PSC allowance of 182,225 animals for all trawl vessels. For the *C. opilio* crab, the allocation would range between 4,190,789 animals and 4,218,787 animals out of a PSC allowance of 4,494,569 animals for all trawl vessels. The *C. bairdi* Zone 1 allocation would range between 795,331 animals and 820,388 animals out of a PSC allowance of 906,500 animals for all trawl vessels. Finally, for *C. bairdi* Zone 2 crab the allocation would range between 2,536,270 animals and 2,545,180 animals out of a PSC allowance of 2,747,250 animals for all trawl vessels.

Due to time constraints, not all of the PSC allocations using the PSC option under Alternative 3 could be provided in time for initial review. Specifically, PSC allocation estimates for the non-allocated species, Atka mackerel, and AI POP were not estimated. These estimates will be provided and the analysis updated after the June 2005 meeting. Estimated PSC allocations for rock sole, flathead sole, and yellowfin sole were generated to provide some indication of what the PSC allocations to the Non-AFA Trawl CP sector would be under Alternative 3. Based on the PSC allocation estimates for the rock sole, flathead sole, and yellowfin fisheries under Alternative 3, the PSC allocation to the Non-AFA Trawl CP sector will likely be significantly lower under Alternative 3 than the PSC allocations under Alternative 2.

Using the same eligibility criteria for both Alternatives 2 and 3, 26 vessels with trawl catcher processor licenses qualified to participate in the Non-AFA Trawl CP sector. Four vessels with trawl CP licenses failed to qualify. Those vessels that failed to qualify had trawl CP catch history only during the 1995 and 1996 period. These vessels did not participate in the BSAI trawl CP fishery after 1996. Participation patterns during 1995 and 1996 may have been impacted by the implementation of the Groundfish LLP program. During those years some vessels tended to fish differently then they had traditionally. It is often speculated that several of vessels during that period were fishing for license endorsements rather than to simply harvesting fish to maximize their profits that year.

To form a cooperative under Alternative 2, 30 percent of the eligible Non-AFA Trawl CP sector participants would have to agree to form a cooperative. Since 26 vessels are qualified to join cooperatives, at least eight vessels would be needed to form a cooperative. If each of the cooperatives had the required eight vessels, there could be a maximum of three cooperatives formed in the Non-AFA Trawl CP sector. In contrast, to form a cooperative under Alternative 3 requires 67 percent of the eligible Non-AFA Trawl CP sector participants to agree to form a cooperative. Given there are 26 eligible vessels under this alternative, 17 vessels are necessary to form a cooperative. Since it is not possible to determine which vessels will join a cooperative(s) under the alternatives, very little can be said about how this option impacts the distribution of the sector's portion of the ITAC between cooperatives and the open access pool.

Consolidation in the Non-AFA Trawl CP sector under Alternative 2 would not be constrained. There would be no limit on the percentage of the Non-AFA Trawl CP sector allocation that an eligible

participant (individual or entities) can use. In the extreme, the sector's entire allocation could be harvested by one firm. They would be able to remove any vessels that were not needed to harvest the quota. This would tend to reduce the number of jobs that are available in the fishery. It would also create an environment that allows the owners to maximize profits by reducing production costs through retiring excess capacity. Only the most efficient harvesting vessels that are needed to harvest the quota would be expected to remain in the fishery. Some of the retired vessels would likely be kept at the ready in case they were needed in the future. In contrast, consolidation would be limited under Alternative 3. Using total catch and catch history years 1995 to 2003 and dropping the lowest three years for each allocated species, three eligible LLP owners in the sector have over 8 percent of the combined catch history of all allocated species for each of the different catch history year combinations. The average allocation for these three LLP holders is 9.5 percent. The sum of LLP owners with over five percent of the catch history but less than eight percent is four. The sum of LLP owners with over 2 percent of the catch history but less than 5 percent is 12. The sum of LLP owners with less than two percent of the catch history is seven. The median catch history percentage for the 26 qualified vessels is 3.3 percent.

Sideboards are included under both alternatives to prevent members of the Non-AFA Trawl CP sector from increasing their harvest of species outside their direct allocation. It is thought these vessels could increase their harvests of other species because of the harvesting flexibility they would have under the cooperative structure. Harvesting flexibility is increased because harvesters can fish at different times of the year or they can stack their cooperative harvest privileges on the most efficient vessels and use the other vessels to fish other species. Implementing sideboard limits will restrict members of the Non-AFA Trawl CP sector from harvesting more than their historic percentage of these other species.

It is not possible to estimate the overall economic impact that sideboards would have on the Non-AFA Trawl CP fleet. However, the negative impacts are likely going to be greater under Alternative 3 when compared to Alternative 2. The benefits of the sideboards to the other sectors cannot be estimated. To the extent that they are able to increase their harvest of GOA species they would benefit (Under Alternative 3). They will likely be able to harvest most, if not all, of the fish available to them under the two alternatives.

Effects on Catcher Processor Efficiency

Production efficiency of the Non-AFA Trawl CP sector under the status quo is limited to some degree by the race for fish under the current LLP fishery and GRS. Sector participants are compelled to race for groundfish with other sector participants, as well as other participants in other sectors throughout the period the fisheries are open. Generally, participants in the Non-AFA Trawl CP sector are equipped to produce whole and head and gut frozen products. Production of these products is likely to continue, if the status quo is maintained. Participants in the Non-AFA Trawl CP must comply with GRS, which could limit production efficiency. With higher retention rates required for vessels greater than 125 ft, sector participants are constrained in production efficiency.

Under Alternatives 2 and 3, the Non-AFA Trawl CP sector is likely to realize some gains in production efficiency capturing greater rents from the allocated fisheries despite having to comply with GRS. Most eligible participants in the Non-AFA Trawl CP sector are likely to join a cooperative under either alternative, since operations in the limited access fishery are likely to be less efficient (and less profitable).

Effects on the CDQ Program

Under Alternative 2, CDQ allocations for each of the primary target species and associated secondary species taken incidental in the primary trawl target fisheries would remain at 7.5 percent, whereas in Alternative 3 the allocation would increase to 10 percent. Under Alternative 2 the PSC allocated to the CDQ program as PSQ reserve would also remain at 7.5 percent, and under Alternative 3 the PSC allocation to the CDQ program would increase to 10 percent.

Given that the allocations to the Non-AFA Trawl CP sector, under Alternative 3, would likely cause the participants to harvest their entire allocation, it is more likely that these vessels would be available to harvest CDQ flatfish. In the past these fisheries have remained open for much of the year. Under Alternative 3, the allocations to the Non-AFA Trawl CP sector are expected to be limiting. Once these fisheries that the cooperative(s) or open access components of the Non-AFA Trawl CP sector fish are closed, it is more likely they would want to fish CDQ flatfish allocations. This could benefit the CDQ groups and the vessels that have contracts to harvest that catch. The actual benefits that each entity would generate cannot be estimated given the current information available. However, an estimated aggregate royalty rate of $65 per metric ton was applied to the entire amount of each primary species allocated to the CDQ program to provide an estimate of the value of each allocation. The additional royalty value of a 10 percent allocation under Alternative 3 is $355,225. The increased allocation to the CDQ groups could offer opportunities for the CDQ groups to increase their participations in the Amendment 80 target fisheries and realize associated increase in royalties to them for allowing their partners to access CDQ species. However, we anticipate that any increases in the CDQ allocation would contribute a relatively small amount of the total CDQ royalties generated per year. But, these increased allocations also could allow CDQ groups to negotiate additional training opportunities, internships, and employment positions for CDQ community residents, either on board fishing vessels or in the business offices of fishing vessels' managing companies.

In addition to potential increases in the primary target CDQ species, Alternative 3 would increase the CDQ allocations of secondary species (except for Pacific cod) caught incidentally with the primary Amendment 80 target species. Alternative 2 would keep in place the current allocation of 7.5 percent of the secondary species to the CDQ groups. The 2.5 percent increase in CDQ allocations under Alternative 3, for bycatch species, is the same percentage increase as for the Amendment 80 primary species. Historically, non-target (and prohibited species catch) species have been allocated to the CDQ Program at the same level as all other species allocated to the program. Estimating the amount of each bycatch species to allocate to the CDQ Program is a complex exercise that has never been undertaken at a comprehensive level.

Historically, CDQ groups have had adequate PSQ reserves for the fishing strategies used those years. The PSQ catch by the Amendment 80 species show that no non-chinook salmon were taken in these fisheries. It is not expected that chum salmon bycatch is going increase much in these fisheries. The non-chinook salmon PSC allocation under Alternative 2 is 3,150 salmon, whereas under Alternative 3 the allocation would be 4,200 salmon. The amount of crab PSQ that would be needed in the future depends on whether CDQ groups expand their harvests of those species. If those species are more fully utilized by the CDQ groups, the crab bycatch would be expected to increase. Crab PSC allocations for the Zone 1 red king crab for Alternative 2 is 14,775 crabs, 73,500 crabs for Zone 1 *C. bairdi* crab, 222,750 crabs for Zone 2 *C. bairdi*, and 326,250 crabs for *C. opilio*. Under Alternative 3, 19,700 crabs for Zone 1 red king crab is allocated to the Non-AFA Trawl CP sector, 98,000 crabs for Zone 1 *C. bairdi*, 297,000 crabs for Zone 2 *C. bairdi*, and 435,000 crabs for *C. opilio*. The total amount of halibut PSQ mortality used in the CDQ fisheries would be expected to increase if the CDQ groups are successful in increasing their utilization of flatfish allocations such as yellowfin sole and rock sole. The allocation of halibut PSC under Alternative 2 is 343 mt, whereas under Alternative 3 the allocation is 458 mt. Herring bycatch is currently not allocated to the CDQ program and is not being considered under this program. Herring will continue to be managed as it is currently.

Effects on Consumers

Consumers are likely to be supplied with products from the Amendment 80 fisheries that resemble those currently produced under status quo management. Non-AFA Trawl CP participants are likely to continue to produce high quality frozen head and gut and whole fish, most of which is sold into Asian markets.

Production of the Non-AFA Trawl CP sector participants is likely to be similar to current production under Alternative 2. The allocations under Alternative 3 could reduce the amount of the flatfish species allocated to the Non-AFA Trawl CP sector. If the portion of the TACs assigned to sectors, other than the Non-AFA trawl CP sector, is not harvested, and the amounts of those fish rolled-over to the Non-AFA Trawl CP sector cannot be harvested due to halibut constraints, the reduced supply could negatively impact consumers through higher prices. The lack of information on these markets precludes quantitative estimates of the impacts on U.S. consumers.

Some quality improvement could occur as a result of cooperatives, but these vessels already produce high quality products because their catch is processed onboard soon after it is harvested. Any improvements in consumer benefits arising from improved quality are likely to be realized by Asian consumers, as most of the production from this sector is sold into that market.

Effects on environmental/non-use benefits

Public non-use benefits derived from the management of health stocks of these species are likely to be maintained, if the current management is perpetuated.

Under Alternatives 2 and 3, catch of all species of interest will continue to be limited by TAC or PSC limits. These limits should be effectively maintained through the monitoring and management program, perpetuating the current non-use public benefit derived from maintenance of healthy stocks.

NOAA Fisheries will make annual, exclusive cooperative allocations for the five allocated species under Alternatives 2 and 3. The proposed action will require eligible Non-AFA Trawl CP vessels under 125 ft length overall to meet the GRS if they join a cooperative. These measures should have the effect of reducing discards of these species, contributing additional non-use benefits that might arise from productive use of the resource.

If Alternative 3 reduces the harvest of these species below the allowed catch, the unharvested fish will remain in the BSAI ecosystem. This could be considered a benefit to the environment.

Effects on Management, Monitoring, and Enforcement Costs

To meet these challenges, requirements in addition to the current regulations for this fleet will be needed to be able to manage these sector allocations. NOAA Fisheries is proposing components to the Amendment 80 monitoring program for all alternatives except the status quo. These components are described below.

- All vessels would be required to weigh all catch on NOAA Fisheries-approved scales and provide an observer work station.
- All vessels would be required to weigh all catch on NOAA Fisheries-approved scales and provide an observer work station.
- All hauls would be observed by NOAA Fisheries-certified observers.
- An observer must be able to monitor the flow of fish between the point of exit from the codend to the point where the observer collects unsorted catch.
- Each vessel would be required to submit a Vessel-specific Monitoring Plan to NOAA Fisheries for approval.
- Each vessel would be required to provide the opportunity for a pre-cruise meeting.

All vessels would be required to weigh all catch on NOAA Fisheries-approved scales. Since status quo includes eligible Non-AFA Trawl CP vessels 125 ft or greater length overall and the associated cost of installing flow scales, observer stations, and additional observers, Alternatives 2 and 3 only includes the additional cost incurred from including these additional monitoring requirements for the

eligible Non-AFA Trawl CP vessels under 125 ft length overall. The scales would be inspected annually and tested daily when in use to ensure they are accurate. Vessels would also be required to provide an observer work station where an observer can work safely and effectively. The stations would meet specifications for size and location and be equipped with an observer sampling station scale, a table, adequate lighting and running water. Each observer sampling station would be inspected and approved by NOAA Fisheries annually. All hauls would be observed by NOAA Fisheries-certified observers. Additionally, each vessel would be required to carry and use a NOAA Fisheries approved VMS transmitter when fishing at any time. Total costs for scale, sample station, and observer requirements for each vessel less than 125 ft could range between $182,225 and $406,725.

In addition to costs borne by the vessels, the increase in the number of observers and its associated increase in the amount of data collected is expected to raise overall annual costs of the North Pacific Groundfish Observer Program (Observer Program). This budgetary increase can be attributed to additional staffing, augmented spending for observer sampling equipment, data entry contracts, and travel associated with inspecting sample stations and approving Vessel-specific Monitoring Plans. The Observer Program estimates increased staffing and costs associated with this action to include 1 full time equivalent staff position and approximately $120,000 annually.

In general, the performance based monitoring standards proposed are designed to 1) ensure an observer(s) is able to efficiently sample catch for species composition; 2) describe a process for implementing monitoring requirements that is transparent to NOAA Fisheries, the observers, and vessel personnel; 3) ensure observers are able to adequately sample every haul; and 4) decrease the potential for intentional and unintentional bias to be introduced into the observers' sample. Vessels could incur some costs associated with implementing factory layout changes, system installations, or operation changes to meet specific standards. Because vessels would have a wide range of options in developing a Vessel-specific Monitoring Plan, it is impossible to accurately quantify the costs associated with this component of the monitoring plan.

Because monitoring requirements for vessels under 125 ft length overall would include flow scales, observer stations, observation of every haul, and a requirement for all eligible Amendment 80 vessels to operate under an approved Vessel-specific Monitoring Plan; it is possible that some improvements to management precision and accuracy may occur with these additional requirements.

Effects on Fishing Crew

Crew participation and compensation in the Amendment 80 fisheries are likely to continue in their current manner, if the status quo management is continued.

Alternatives 2 and 3 are likely to have some minor effect on crew. Fishing can be expected to slow. In addition, some vessels that have historically participated are likely to no longer fish in the Amendment 80 fisheries. Notwithstanding this decrease in vessels in the Amendment 80 fisheries, it is likely that some vessels will leave the North Pacific fisheries entirely while some would continue to fish in other BSAI and GOA fisheries.

Crew compensation could change in some cases. Crews on some vessels that leave the Amendment 80 fisheries are likely to lose some income, if the vessel is unable to make up the loss in revenues in other fisheries. Crew on vessels that remain in the Amendment 80 fisheries could realize an increase in income from increased harvests and revenues in the fishery. Catch increases are likely under each of the two alternatives. Crew on vessels in the Non-AFA Trawl CP sector that participate in the Amendment 80 species could benefit from consolidation of harvests on fewer vessels and possible a minor increase in revenues, if quality improvements are realized.

Effects on net benefits to the nation

If the current management of the Amendment 79 fisheries were to continue, net benefits to the Nation are likely to remain at their current level.

Net benefits to the Nation will be affected by a few different factors under Alternatives 2 and 3. Production efficiency should increase slightly, as some participants realize moderate improvements in quality of production and the reduced costs associated with removing excess capacity. Alternative 3 could reduce total production, and that would tend to reduce producer surplus generated by harvesting vessels.

Few, in any, benefits of production improvements will be realized by U.S. consumers, as this fleet is likely to continue to primarily serve international markets. Costs of management, monitoring, and enforcement will increase to administer and oversee the cooperative allocations and monitor those vessels under 125 ft length overall that join a cooperative for GRS. These vessels will be required to purchase additional monitoring equipment. Some participants may avoid these costs altogether, if their allocations are fished by other cooperative members. Some additional benefits to the Nation could arise through reduction in bycatch, since the program requires vessels under 125 ft length overall to meet GRS if they join a cooperative. Since discard rates of these species are relatively high compared to other fisheries, these benefits are likely to be fairly modest.

Effects of the Alternatives on Communities

Twenty-six catcher processors appear to be eligible for the Non-AFA Trawl CP sector. Of these vessels, 17 appear to be owned/operated out of Seattle, 6 out of other Washington communities, and 3 are based in Maine. Because all these harvesters are catcher processor vessels, they do not, in general, deliver fish to shorebased processing facilities for first processing. The economic and social impacts that result from these vessels participating in the fisheries are mainly felt in the communities where the owners live, where the vessel is docked when not fishing, and where the vessels dock when in Alaska, but not fishing.

Allocations in this program will distribute the ITAC of five BSAI species among the Non-AFA Trawl CP sector and the remainder of the BSAI trawl fleet. The alternatives in Section 3.2.3 show estimates of how the ITAC of these species will be distributed among those sectors. Based on estimates in those sections for the alternatives using retained catch as the numerator and denominator, the Non-AFA Trawl CP sector will be assigned over 90 percent of the ITACs under most options. If retained catch of Non-AFA Trawl CP sector is used for the numerator and total catch of all vessels is used for the denominator, then the percentage of the ITAC allocated to the Non-AFA Trawl CP sector drops dramatically.

Using retained catch for both the numerator and denominator, is expected to result in relatively small impact on fishing communities. The allocation will be divided among vessels that are primarily located in Washington, with much of the fleet concentrated in the Seattle area. This option fairly closely reflects the catch levels of these vessels in recent years. If retained catch is used for the numerator and total catch is used for the denominator, then there is a greater potential for redistribution of benefits among communities. The magnitude of the impact would depend on the amount of these species harvested by catcher vessels. Any additional catch by AFA Catcher Processor vessels would be expected to benefit same areas as are represented by the Non-AFA Trawl CP sector. Catcher vessel deliveries would tend to benefit the vessel owner’s home community as well as the community that takes delivery of the catch. Historically, AFA Catcher Vessels have delivered their yellowfin sole sideboard catches to Unalaska or Sand Point. It is neither possible to predict the extent that deliveries of these species to shorebased processors will change under these options, nor is it possible to project their economic impact to those communities quantitatively. However, catcher vessels that do deliver their catch to shorebased plants have traditionally played a small role in these fisheries. Given the historic levels of participation by catcher vessels, this action is not expected to

have a substantial impact on fishing communities. The greater Seattle area is expected to continue to receive the greatest benefit from these fisheries. This action could redistribute the amount of benefits individuals within that community receive, but overall the benefits to the community are expected to be about the same. Some employment could be lost if the fleet size is reduced. Data are not available to determine where harvesting and processing employees live, or which vessels will leave the fishery, so those impacts cannot be estimated.

In summary, due to the large size and diversity of Seattle's economy, community-level impacts would not be likely as a result of implementing these alternatives. Significant benefits to other communities that are home to the Non-AFA Trawl CP fleet are not expected. Vessels located in those communities will continue to generate revenue from those fisheries. Changes in benefits to the community could occur, but the magnitude of the change is expected to be relatively small. Impacts on other communities with ties to catcher vessels cannot be quantitatively, but they are expected to be relatively small based on historic participation.

This amendment could also increase the allocation of species to the CDQ program. Currently the CDQ program is allocated 7.5 percent of the groundfish TAC of species included in this amendment. Increasing the CDQ allocation of those species to 10 percent could increase CDQ program revenues by $250,000. A complete discussion of the impacts that changing the CDQ allocation would have on the various groups are presented in Section 3.2.2 and 3.2.4 of this document.

4.3.8 Ecosystem

Ecosystems are populations (consisting of single species) and communities (consisting of two or more species) of interacting organisms and their physical environment that form a functional unit with a characteristic trophic structure (food web) and material cycles (movement of mass and energy among groups).

Three natural processes underlie changes in population structure of species in marine ecosystems: competition, predation, and environmental disturbance. Natural variations in recruitment, survivorship, and growth of fish stocks are consequences of these processes. Human activities, such as commercial fisheries, can also influence the structure and function of marine ecosystems. Fishing may affect ecosystems by altering energy flows, changing predator-prey relationships and community structure, introducing foreign species, affecting trophic or functional diversity, altering genetic diversity, altering habitat, and damaging benthic organisms or communities.

An assessment of the ecosystem trends in the BSAI management area was undertaken by Livingston et al. in 1999. The study showed a stable trophic level of catch and stable populations overall. The trophic level of the Bering Sea harvest has risen slightly since the early 1950s and appears to have stabilized as of 1994.

Further information on the ecosystem may be found in the Ecosystems Considerations appendix to the *Stock Assessment and Fisheries* Evaluation report (NPFMC 2004) and the Groundfish PSEIS (NMFS 2004b).

Effects of the alternatives

An evaluation of the effects of the five primary target species fisheries on the ecosystem is undertaken annually in the *Stock Assessment and Fishery Evaluation* report. None of the chapter authors cite an adverse effect on the ecosystem deriving from these fisheries. There are areas cited as possible concerns, due to lack of data. These include the catch of coral, bryazoan, or sponge biota in the Atka mackerel and Pacific Ocean perch fisheries, as discussed above, and the effect of bycatch levels on species for which age-structured assessments are not available.

At an ecosystem level, the impacts of Alternatives 2 and 3 from Alternative 1 cannot be distinguished. Based on the discussions above regarding population-level impacts, and the lack of

other impacts to ecosystem attributes, the alternatives will not have a significant impact on the ecosystem.

4.3.9 Cumulative Effects

Analysis of the potential cumulative effects of a proposed action and its alternatives is a requirement of NEPA. Cumulative effects are those combined effects on the quality of the human environment that result from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions, regardless of what Federal or non-Federal agency or person undertakes such other actions (40 CFR 1508.7, 1508.25(a), and 1508.25(c)). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The concept behind cumulative effects analysis is to capture the total effects of many actions over time that would be missed by evaluating each action individually. At the same time, the CEQ guidelines recognize that it is not practical to analyze the cumulative effects of an action on the universe but to focus on those effects that are truly meaningful.

The 2004 Final Alaska Groundfish Fisheries Programmatic Supplemental Environmental Impact Statement (Groundfish PSEIS) assesses the potential direct and indirect effects of groundfish FMP policy alternatives in combination with other factors that affect physical, biological and socioeconomic resource components of the BSAI and GOA environment. To the extent practicable, this analysis incorporates the cumulative effects analysis of the Groundfish PSEIS, including the persistent effects of past actions and the effects of reasonable foreseeable future actions.

Beyond the cumulative impacts analysis documented in the Groundfish PSEIS, no additional past, present, or reasonably foreseeable cumulative negative impacts on the natural and physical environment (including fish stocks, essential fish habitat, ESA-listed species, marine mammals, seabirds, or marine ecosystems), fishing communities, fishing safety or consumers have been identified that would accrue from the proposed action. Cumulatively significant negative impacts on these resources are not anticipated with the proposed action because no negative direct or indirect effects on the resources have been identified.

While there are no expected cumulative adverse impacts on the natural and physical environment, fishing communities, fishing safety or consumers, there may be economic effects on the Non-AFA Trawl CP (head-and-gut) sector as a result of the proposed action in combination with other actions. As discussed below, Non-AFA Trawl CPs have experienced several regulatory changes in the past several years that have affected their economic performance. Moreover, a number of reasonably foreseeable future actions are expected to affect the socioeconomic condition of this harvesting sector.

4.3.9.1 Past and Present Actions

This section describes the effects of the original BSAI Groundfish FMP and its amendments and other pertinent external factors that could contribute to potential cumulative impacts on the Non-AFA Trawl CP sector. Past actions are evaluated to determine whether there are lingering effects that may still result in synergistic or incremental impacts when combined with the proposed action.

The Groundfish PSEIS noted that the availability and consistency of data limits the ability to analyze the effects of past actions on the economic condition of selected sectors of the Alaska groundfish fishery. According to the Groundfish PSEIS, analyses are also limited by the difficulty of delineating the cause-and-effect relationships between multiple factors and the resultant economic effects. Many factors substantially affect the economic status of the Alaska groundfish fishery. Changes in markets, biological conditions and fishery management regulations can result in changes in the revenues and operating costs of firms participating in the fisheries as well as changes in fleet size and composition. Isolating the effects of a single factor is seldom possible. Nonetheless, this analysis has identified a

number of key actions that have contributed to the current economic status of the Non-AFA Trawl CP sector. The Non-AFA Trawl CP sector is generally considered synonymous with the head-gut-sector. Because the participation of these vessels in the Alaska groundfish fishery pre-dates the passage of the American Fisheries Act of 1998, both terms will be used in this discussion.

Catcher processors whose relatively small size limited their processing lines to heading and gutting were among the first U.S.-flagged fishing vessels to enter the groundfish fisheries of the North Pacific as these fisheries became "Americanized" after the passage of the Fishery Conservation and Management Act of 1976. These vessels initially focused on high-value groundfish such as sablefish and rockfish in the GOA and Aleutian Islands. The head-and-gut fleet also participated in the relatively high-volume flatfish and Pacific cod fisheries in the BSAI. Pollock were generally not targeted except at the peak of the roe season because of their comparatively low value as headed and gutted product.

The mid- to late-1980s saw increased restrictions on the domestic groundfish fishery, due primarily to problems with incidental catches of non-target species. In 1983, the BSAI Groundfish FMP established a prohibited species catch policy for domestic fisheries and defined prohibited species to include crab, halibut, herring, crab, and salmon. In 1987, the Council established bycatch limitation zones for prohibited species and established limits on the amounts of PSC that could be taken. The halibut PSC limit had the greatest impact on the head-and-gut sector, as it often resulted in the early closure of target fisheries. Only rarely were these vessels able to catch the entire TAC available to them.

In addition, a number of other fishery regulations enacted during mid-1980s and 1990s precluded the head-and-gut fleet from participating in some of the more profitable fisheries. These regulatory measures included a prohibition on the use of trawls in the directed sablefish fishery in 1986 and a ban on roe stripping in 1991. Inshore-offshore allocations established in 1992 reserved 80 percent of the Pacific cod in the GOA to inshore operations, which were defined, in part, as catcher processors less than 125 ft in length provided their total catch stayed within an 18 mt per day limit. These allocations and size limits prevented all but the smallest head-and-gut catcher processors from participating in the GOA Pacific cod fishery. Fishing opportunities for the head-and-gut sector in the GOA were further limited by the Groundfish and Crab License Limitation Program which closed the Eastern Gulf to trawling. While trawl catches in the Eastern Gulf were not large compared to non-trawl catches or to trawl catches in other areas, head-and-gut vessels were the primary participants in the trawl fishery for high value rockfish species.

A sequence of Steller sea lion protection measures that began in the 1990s limited the Atka mackerel, Pacific cod and rockfish harvests of the head-and-gut fleet. The measures closed some of the best fishing grounds for these target species, thereby adversely affecting the profitability of the head-and-gut catcher processors.

As result of these various regulatory measures and other restrictions, flatfish became the primary target species for the head-and-gut sector. Because these species are bottom-dwellers, flatfish fisheries are prone to high incidental catches of prohibited species such as halibut and crab. In addition, flatfish fisheries have limited markets—particularly with regard to size and product quality. These characteristics of the fisheries, in combination with the pollock maximum retainable amounts (MRA) and the "race for fish" regime under which the head-and-gut sector operated, led to a relatively high level of economic and regulatory discards by the head-and-gut sector.

In 1996, the US Congress reauthorized the Magnuson Fishery Conservation and Management Act (renaming it the Magnuson-Stevens Act) and included a mandate to reduce discards (bycatch) to the extent practicable. Following that mandate, the waste reduction initiatives of the Council resulted in implementation of IR/IU measures for pollock and Pacific cod in both the GOA and BSAI in 1998. IR/IU for flatfish was also approved by the Council and NOAA Fisheries at that time but was

scheduled for implementation in 2003. The delay was meant to give the head-and-gut sector a change to develop gears and markets to meet the requirements of the regulations. The inability of head-and-gut vessels to make fish meal out of the fish they catch made it more difficult for this sector to adjust to full retention than for the surimi and fillet trawl catcher processors (a number of practical obstacles, as well as Coast Guard and NOAA Fisheries regulations on vessel upgrades, effectively prevents these vessels from installing fish meal plants). However, a positive outcome of the IR/IU for pollock has been the development of a more consistent market for headed and gutted pollock in Asia—these fish are partially thawed and further processed before entering global markets. The increase in price of Pacific cod products due to reduced Atlantic cod harvests from the Barents Sea and an improving Asian economy has also resulted in higher gross product values for the head-and-gut sector. While headed and gutted fish harvested by Japanese and Korean vessels from Russian waters has increased competition in the marketplace, the expansion of buyers of head and gutted product in China, Europe and the U.S. has given the head-and-gut fleet the ability to switch markets as prices across markets change.

Retention and utilization of flatfish by the head-and-gut sector gradually improved, but by 2000 the head-and-gut fleet recognized that it would not have the markets and gears to remain viable participants after IR/IU was implemented in 2003. In October 2002, the Council voted to delay the 2003 implementation of IR/IU regulations for flatfish in the BSAI in order to pursue alternative means of reducing discards of flatfish and other groundfish. That action, Amendment 75 to the BSAI Groundfish FMP, would have delayed implementation of IR/IU for flatfish until June 1, 2004. Amendment 75 was only partially approved by the Secretary of Commerce. The approved part was the delay of imposing IR/IU requirements on catches of IR/IU flatfish in the BSAI. The part of Amendment 75 not approved was the date of June 1, 2004, on which this delay would have ended. The practical effect of partially approving Amendment 75 was that the proposed FMP text was modified by removing reference to rock sole and yellowfin sole as IR/IU species, thereby postponing indefinitely IR/IU for flatfish. GOA Groundfish FMP Amendment 72, approved by the Council in April 2003, outlines requirements and exemptions for full flatfish retention in the GOA, specifying an annual review process to ascertain whether sectors in the GOA are meeting the 5 percent maximum bycatch threshold to remain exempt from full flatfish retention requirements. Although it is not known at this time specifically how Amendment 72 might change fisheries or fisheries management, the intention is to reduce bycatch and discards of flatfish.

As part of Amendment 75, the Council also initiated analysis of several trailing amendments with the expectation that these amendments could augment or replace IR/IU for flatfish. BSAI Groundfish FMPAmendment 79, adopted by the Council in June 2003, phases in a progressively higher minimum groundfish retention standard (GRS) for Non-AFA Trawl CPs greater than 125 ft length overall. The action also changes the monitoring requirements for each vessel managed under the GRS, requiring flow scales, observer stations, and observations of every haul. NOAA Fisheries is expected to issue a proposed rule based on the Council recommendations in the summer of 2005. The final trailing amendment initiated by the Council is the proposed action, which would allocate selected BSAI species and PSC limits to the Non-AFA Trawl CP sector and allow the sector to form fishery cooperatives.

Along with Amendment 79, the Council also recommended that the regulations establishing pollock MRA be revised by adjusting the MRA enforcement period for pollock harvested in the BSAI from enforcement at anytime during a fishing trip to enforcement at the time of offload. This action is intended to reduce regulatory discards of pollock caught incidentally in the directed fisheries for non-pollock groundfish species without increasing the overall amount of pollock that has been historically caught as incidental catch in these fisheries. In particular, Non-AFA Trawl CPs incidentally catch significant amounts of pollock in other groundfish fisheries. (Other non-AFA vessels do not catch significant amounts of pollock and are therefore seldom affected by the MRA for pollock on a haul-

by-haul basis.) Prior to the June Council actions, the proposed GRS program and pollock MRA revision were considered as components of one action to reduce discard amounts in the BSAI. However, the Council recognized that the MRA change was simpler to implement than the GRS action and requested NOAA Fisheries to expedite the pollock MRA revision. In June 2004, NOAA Fisheries issued a final rule implementing the pollock MRA revision.

In February 2005, the Council took action to conserve essential fish habitat (EFH) from potential adverse effects of fishing. To minimize the effects of fishing on EFH, the Council's preferred alternative prohibits all bottom trawling in the AI except in small discrete 'open' areas. If approved by the Secretary of Commerce, regulations are expected be in place by August 2006. According to the 2005 EFH EIS, the spatial relocation of fishing effort caused by the measures to minimize the effects of fishing on EFH is expected to result in reductions in harvest and gross revenue for certain sectors of the fishing industry, including the Non-AFA Trawl CP fleet, but the extent of the negative impact cannot be measured at this time. Vessels may be able, with additional effort, to make up foregone harvests from closed areas by changing location or gear strategies, but the costs associated with the extra effort are unknown.

In February 2005, the Council also took action to identify habitat areas of particular concern, which would allow for a more focused application of protection measures to the most sensitive areas of EFH. Six areas in the AI will be closed to all bottom contact fishing gear (longlines, pots, trawls, etc.) and bottom trawling for all groundfish species will be prohibited in ten designated areas along the continental shelf of the GOA. According to the 2005 EA/RIR/IRFA that evaluated alternatives to designate and conserve habitat areas of particular concern, these designations are unlikely to have the potential to significantly affect the revenues or costs of any groundfish harvesting sector, including the Non-AFA Trawl CPs.

4.3.9.2 Reasonably Foreseeable Future Actions

As discussed previously, a cumulative effects assessment should also identify reasonably foreseeable future events that are relevant to the proposed action, and should look at the incremental effect the proposed action might have if those reasonably foreseeable events occur. The focus must be on actions that are likely to occur or probable, rather than those that are merely possible. To identify actions within the purview of NOAA Fisheries and the Council that are sufficiently likely to occur (as opposed to "highly speculative" actions), this analysis examined authorized planning documents recently issued by the Council. Five reasonably foreseeable management actions relevant to this analysis were identified—the allocation of BSAI Pacific cod, GOA groundfish rationalization, the Central GOA rockfish demonstration program, protection of EFH in the Bering Sea, and non-target species management. Another future action likely to be relevant when assessing the cumulative effects of the alternatives is a recent proposal by the Alaska Board of Fisheries to modify pollock closures for Steller sea lion protection in State waters.

The Groundfish PSEIS describes several factors external to the fishery management regime that have influenced the costs and revenues of harvesting sectors in the Alaska groundfish fishery and may continue to do so. These factors include foreign fishing, product prices, vessel fuel costs and market forces beyond the region that affect the costs of insurance, labor, and so forth. While these external factors could have significant economic impacts on the Non-AFA Trawl CP sector in the future, a discussion of what those effects might be would be speculative.

Bering Sea/Aleutian Islands Pacific Cod Allocations

The Council is considering revising current allocations of BSAI Pacific cod among trawl, jig, and fixed gear that were implemented in 1997 (BSAI Groundfish FMPAmendment 46). The basis for determining sector allocations will be catch history as well as consideration of socio-economic factors. Sectors for which catch history will be calculated are as follows: AFA Trawl CPs; Non-AFA

Trawl CPs; AFA Trawl Catcher Vessels; Non-AFA Trawl Catcher Vessels; Longline CPs; Longline Catcher Vessels ≥ 60'; Pot CPs; Pot Catcher Vessels ≥ 60'; Fixed Gear Catcher Vessels <60'; and Jig Catcher Vessels.

In the event that the BSAI Pacific cod ABC/TAC is apportioned between the BS and the AI management areas, the Council is also considering establishing a protocol that would continue to maintain the benefits of sector allocations and minimize competition among gear groups; recognize differences in dependence among gear groups and sectors that fish for Pacific cod in the BS and AI; and ensure that the distribution of harvest remains consistent with biomass distribution and associated harvest strategy.

Anticipated Effects

Allocations adjusted to better reflect historic use by sectors will reduce uncertainty and provide stability for participants in the BSAI Pacific cod fishery who have made significant investments and have a long-term dependence on the resource.

In April 2005, the Council approved highlighting the issue of allocating Pacific cod between cooperative and non-cooperative LLP holders eligible for the Non-AFA Trawl CP sector under Amendment 80.

Gulf of Alaska Groundfish Rationalization

The Council is considering alternative management approaches to "rationalize" the GOA groundfish fisheries. Rationalization may improve the economic stability to the various participants in the fishery, which include harvesters, processors, and residents of fishing communities. The Council is considering these policies at the request of the GOA groundfish industry to address increasing concerns about the economic stability of the fisheries. Some of these concerns include changing market opportunities and stock abundance, increasing concern about the long-term economic health of fishing dependent communities, and the limited ability of the fishing industry to respond to environmental concerns under the existing management regime. The Council may consider rationalizing the fishery through individual fishing quotas or cooperatives, and allocations to communities.

Anticipated Effects

Although it is not known at this time specifically how the Council recommendations might change fisheries or fisheries management, the intention of the rationalization program is to provide economic and socioeconomic benefits to participants in GOA groundfish fisheries, including Non-AFA Trawl CPs. By reducing competition for shares of the total allowable catch, rationalization allows fishermen to select the least cost combination and deployment of fishing inputs. Furthermore, with smaller haul sizes, more careful processing, the ability to match fishing effort to processing capacity and the opportunity to search out fish of optimal size, fishermen are able to increase yields, improve product quality and optimize product mix to market conditions.

However, the actual allocation of harvest shares in GOA fisheries under rationalization may not necessarily be favorable to the Non-AFA Trawl CP sector as a whole. If the shares allocated to Non-AFA Trawl CPs are significantly less than historical levels, vessels in the sector may feel that they are economically worse off after rationalization.

Central Gulf of Alaska Rockfish Demonstration Program

In 2004, the US Congress directed the Secretary of Commerce to establish, in consultation with the Council, a pilot program for management of three rockfish fisheries in the Central GOA. The program is designed as a short-term two-year program for immediate economic relief until comprehensive GOA rationalization can be implemented. Under the pilot program, target rockfish species would be

annually allocated to a cooperative based on historical participation of eligible members of the cooperative.

Anticipated Effects

According to the Preliminary Review Draft EA/RIR/IRFA prepared by the NPFMC (2005), the catcher processor sector (which includes Non-AFA Trawl CPs) is likely to realize some gains in production efficiency under the pilot program alternatives, capturing greater rents from the fishery. Efficiency gains should occur as participants are able to slow the pace of fishing and processing. In the slower fishery, participants are likely to be able to reduce expenditures on inputs to some degree (possibly scaling down crews slightly) and increasing outputs slightly (with less loss due to diminished quality). Additional efficiencies should arise because of the cooperative structure of the alternative. In a cooperative, participants will be free to consolidate fishing up to the 60 percent vessel cap. Consolidating catch on fewer vessels in the fishery should also reduce harvest costs. Some cooperatives may also improve efficiency in other July fisheries, if they are able to reduce the number of vessels in the rockfish fishery or change the timing of rockfish harvests (away from the traditional early July fishery).

Measures to Minimize Fishing Effects on Bering Sea Essential Fish Habitat

As noted in the discussion of past and present actions, the Council took action in February 2005 to conserve EFH in the AI and GOA from potential adverse effects of fishing. At that time, the Council also took action to initiate an expanded analysis of alternatives to minimize the effects of fishing on EFH in the Bering Sea, and conduct an assessment of gear modification that tiers off of the EFH FEIS. The analysis will include the existing alternative in the EFH FEIS, an alternative to leave the rolling closure area open, and options to the closed areas south of Nunivak Island and north of the Bogoslof Area, as well as other alternatives to be developed.

Anticipated Effects

Measures to minimize the effects of fishing in the Bering Sea could have a negative economic effect on certain harvesting sectors in the Alaska groundfish fishery, including the Non-AFA Trawl CP sector, by reducing the harvest of target species and/or increasing operating costs. Because specific measures have not yet been identified and their effects evaluated, the economic impacts are uncertain.

Non-target Species Management

The Council is considering amendments to the BSAI and GOA FMPs to identify and manage stock assemblages for single species and species assemblages that are incidentally-caught. The intent is to protect non-target species from the negative fishing effects of target fisheries. OFL, ABC, and TAC would be set for each assemblage. Management options also include prohibiting directed fishing and maximum retainable allowances.

Anticipated Effects

Measures to protect non-target species could have a negative economic effect on certain harvesting sectors in the Alaska groundfish fishery, including the Non-AFA Trawl CP sector, by reducing the harvest of target species and/or increasing operating costs. Because specific measures have not yet been identified and their effects evaluated, the economic impacts are uncertain.

Aleutian Islands Pollock Fishery in State Waters

In November 2002, the Alaska Board of Fisheries adopted the same Steller sea lion protection measures for the State parallel groundfish fisheries in the AI as were established for Federal fisheries. However, in March 2005, the Alaska Board of Fisheries considered a proposal to revise pollock closures for Steller sea lion protection in State waters of the Aleutian Islands from 170º to 180º W. longitude, in State waters of the Western Gulf of Alaska from 157º to 163º W. longitude, and in the Cook Inlet Management Area between 149º and 150º W. longitude to allow harvesting of pollock.

The State would not actively manage the harvests in the pollock fisheries in State waters; rather, ADF&G would treat these fisheries similar to other parallel fisheries through the annually issued global emergency order—the Federal government would manage harvests against Federally-established TACs and allocations, open and close seasons, establish gear restrictions, etc.

The Alaska Board of Fisheries has deferred this proposal to the October 2005 work session of the Board for further action. In addition, the Board intends to refer the proposal to the Board/Council joint protocol committee for discussion and coordination with the NPFMC.

Anticipated Effects

An alteration of the pollock closures in State waters to allow harvesting of pollock may trigger the need to conduct a formal re-consultation under section 7 of the Endangered Species Act. The outcome of a consultation is uncertain, but a "jeopardy opinion" could result in additional fishing restrictions on certain harvesting sectors in the Alaska groundfish fishery, including Non-AFA Trawl CPs.

4.3.9.3 Summary of Cumulative Effects

The analysis of past actions affecting the Non-AFA Trawl CP sector showed that, since the mid-1980s, adjustments in the regulatory regime have changed the economic conditions of the groundfish fisheries in which these vessels participate. An increasingly restrictive regulatory environment and escalating compliance costs resulted in economical stress for some Non-AFA Trawl CP owners. The increased restrictions were also a primary reason that flatfish became the primary target species for the Non-AFA Trawl CP sector. Because these species are bottom-dwellers, flatfish fisheries are prone to high incidental catches of prohibited species such as halibut and crab. In addition, flatfish fisheries have limited markets—particularly with regard to size and product quality. These characteristics of the flatfish fisheries, in combination with a "race for fish" regime and other factors, led to a relatively high level of economic and regulatory discards in the Non-AFA Trawl CP sector.

In recent years, the Non-AFA Trawl CP fleet has faced increasing pressure to reduce its discard rate. In 2003, the Council established a minimum groundfish retention standard for Non-AFA Trawl CPs greater than 125 ft length overall. The GRS will result in a substantial reduction in the bycatch of the affected vessels. However, a GRS may also result in substantial costs and lost revenues for these vessels as a result of holding/processing, transporting and transferring fish that are of relatively low value or "unmarketable." In addition, the GRS measure imposes significant costs on the vessels with increased observer and scale costs.

With the possible exception of the BSAI Pacific cod allocation and rationalization programs, the reasonably foreseeable future actions cited above may have negative effects (to some degree) on the economic performance of Non-AFA Trawl CP sector. The cumulative effects of all actions—past, present, and future—are toward an increasingly restrictive regulatory environment resulting in lower harvests and gross revenues and/or higher operating costs.

4.3.9.4 Contributions to Cumulative Effects Related to the Proposed Action

The conclusions reached in the direct and indirect effects analysis of the cooperative alternatives indicate that the compliance costs incurred under a GRS may be mitigated by the benefits of participating in a cooperative. The costs of the GRS associated with retaining unwanted fish may be reduced or avoided altogether under a cooperative structure, as vessels can be more selective in what they catch without losing any competitive advantage. In addition, a cooperative structure may allow the sector to manage its PSC allocation in a manner that prevents PSC limits from being exceeded and thereby avoids the lower harvests and revenues associated with fishery closures when PSC limits are reached.

In principle, an allocation of BSAI Pacific cod to the Non-AFA Trawl CP sector would transform the sideboards for Pacific cod proposed under the cooperative alternatives to an actual allocation. Sideboards would impose a cap on the percent of the Pacific cod TAC the sector can harvest, while an allocation would provide a guaranteed harvest amount. The greater certainty under a sector-based BSAI Pacific Cod allocation may facilitate the negotiations necessary for formation of cooperatives.

The proposed split of the Pacific cod TAC is also likely to have an effect on cooperative negotiations. Some vessels in the Non-AFA Trawl CP sector are not eligible to fish in the Aleutian Islands subarea of the BSAI Groundfish FMP because they do not hold AI endorsements. If some portion of the Pacific cod TAC is required to be taken in the AI, ineligible vessels will experience a decrease in their bargaining power relative to vessels that are eligible to fish in the AI.

GOA rationalization is likely to enhance the overall cooperative negotiation process by providing vessel owners greater flexibility to allocate resources. For example, Non-AFA Trawl CPs that receive a small catch allocation under rationalization will be able to trade that share to vessels less dependent on Bering Sea fisheries. In other words, GOA rationalization may allow vessel owners to bring more bargaining chips to the negotiating table and thereby expand the likelihood that negotiations will yield gains for everyone. However, those owners with no interest in GOA fisheries will probably see their individual bargaining power in cooperative negotiations decline relative to those that do have fishing interests in the Gulf.

The effects of the Central GOA rockfish demonstration program on the cooperative negotiation process are expected to be similar to those under Gulf rationalization. It is also likely that the formation of fishing cooperatives will reduce the negative effects of the sideboards imposed under the demonstration program.

5 INITIAL REGULATORY FLEXIBILITY ANALYSIS

The Regulatory Flexibility Act (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 significant adverse impacts on small entities as a group distinct from other entities and on the consideration of alternatives that may minimize the impacts while still achieving the stated objective of the action. When an agency publishes a proposed rule, it must prepare and make available for public review an Initial Regulatory Flexibility Analysis (IRFA) that describes the impact of the proposed rule on small entities. When an agency publishes a final rule, it must prepare a Final Regulatory Flexibility Analysis. Analysis requirements for the IRFA are described below in more detail. In the case of the issues and alternatives considered in this analysis, the Council will make recommendations for the preferred alternative, and, if approved by the Secretary, NOAA Fisheries will develop proposed regulatory amendments to implement the Council's preferred alternative.

The preceding analysis addresses the issues required under the RFA. Most, if not all, of the affected entities would be considered small entities under the RFA (Section 601(3)). To ensure a broad consideration of impacts and alternatives, an 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. A definitive assessment of the impacts on small entities, however, is dependent on the specific alternatives and options selected by the Council and thus cannot be conducted until after final action.

The IRFA must contain:

- 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 Fishery Conservation and Management 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.

In determining the scope, or 'universe', of the entities to be considered in an IRFA, only those entities, both large and small, that are directly regulated by the proposed action are included. 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. The intent of the RFA to address negative economic impacts, not beneficial impacts, and thus such a focus exists in analyses that are designed to address RFA compliance.

Data on cost structure, affiliation, and operational procedures and strategies in the fishing sectors subject to the proposed regulatory action are insufficient, at present, to permit preparation of a "factual basis" upon which to certify that the preferred alternative does not have the potential to result in a "significant adverse impact on a substantial number of small entities" (as those terms are defined under the RFA). Because, based on all available information, it is not possible to 'certify' this outcome, should the proposed action be adopted, a formal IRFA, focusing on the complete range of available alternatives, has been prepared and is included.

5.1 Definition of a Small Entity

The RFA recognizes and defines three kinds of small entities: (1) small businesses, (2) small non-profit organizations, and (3) 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 dominant in its field of operation. The Small Business Act has further defined a "small business concern" as one "organized for profit, with a place of business located in the U.S., and which operates primarily within the U.S. or which makes a significant contribution to the U.S. economy through payment of taxes or use of American products, materials or labor... A small business concern may be in the legal form of an individual proprietorship, partnership, limited liability company, corporation, joint venture, association, trust or cooperative, except that where the form is a joint venture there can be no more than 49 percent participation by foreign business entities in the joint venture."

The SBA has established size criteria for all major industry sectors in the U.S. including fish harvesting entities, for-hire entities, fish processing businesses, and fish dealers. 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 $3.5 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. Finally, a wholesale business servicing the fishing industry (fish dealer) 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.

Small organizations The RFA defines "small organizations" as any not-for-profit 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.

5.2 Reason for Considering the Proposed Action

The Council's problem statement is listed in section 1.1 of this document. It provides the Council's rational for proposing the alternatives being considered. The general reason the Council cited for considering the proposed actions is to allow members of the Non-AFA Trawl CP sector to implement a cooperative based management system that will help enable them to meet the requirements of IR/IU without facing undue hardships. This amendment would allocate specific percentages of the TAC for five BSAI species that the Non-AFA Trawl CP sector has traditionally harvested. The various allocation formulas considered for those species to the Non-AFA Trawl CP sector are discussed in Sections 3.2.3 and 3.2.5. Sections 3.2.8 and 3.2.9 describe how the sector allocation would be divided among the vessels in the sector. Harvest limits placed on the Non-AFA Trawl CP sector, for other species that are not allocated to the sector, could be implemented under Section 3.2.11.

The reason a cooperative based program is being considered is that it could provide the opportunity for cooperative members to focus on reducing their bycatch rather than simply racing to harvest fish. This is considered an important step towards rationalizing the BSAI groundfish fisheries. Under the cooperative program, each member of the cooperative would be assigned the privilege of harvesting a specific amount of each of the five species allocated to the Non-AFA Trawl CP sector. Knowing how much of each species they can harvest allows them to determine the most efficient harvesting method while reducing discards. These methods may include fishing areas/times with lower incidental catch rates or taking the time to retain more of the fish that are caught.

Another potential action included in this amendment would increase the allocation of specified BSAI species to the CDQ program from the current 7.5 percent of the TAC. This action is proposed to help residents of remote communities, located close to the BSAI fishing grounds, to continue developing strong local economies in areas that have historically had very limited economic opportunities.

5.3 Objectives of and Legal Basis for the Proposed Action

The objectives of the program are to allow members of the Non-AFA Trawl CP sector to be able to meet the new IR/IU requirements without facing undo hardships and to continue aiding residents of specific remote communities in developing their economies.

The legal basis for these actions is that regulation of the Federal Bering Sea/Aleutian Islands and Gulf of Alaska groundfish fisheries is allowed under the Magnuson-Stevens Fishery Conservation and Management Act. In the Alaska region, the North Pacific Fishery Management Council is responsible for preparing management plans for marine fishery resources requiring conservation and management. NOAA Fisheries, an agency within the National Oceanic and Atmospheric Administration of the U.S. Department of Commerce, is charged with carrying out the federal mandates with regard to marine fish, once they are approved by the Secretary. NOAA Fisheries Alaska Regional Office and Alaska Fisheries Science Center review the management actions recommended by the Council.

5.4 Number and Description of Affected Small Entities

For purposes of the IRFA all individuals, companies, and corporations that participate in the directed fisheries for BSAI yellowfin sole, BSAI Atka mackerel, BSAI rock sole, BSAI flathead sole, and AI Pacific ocean perch are considered directly regulated. The Non-AFA Trawl CP sector vessels are the primary participants in these fisheries. From 2000-2003 they retained 99.8 percent of total the Atka mackerel that was retained, 98.1 percent of the flathead sole, 98.8 percent of the Pacific ocean perch, 96.9 percent of the rock sole, and 92.8 percent of the yellowfin sole. The other catcher processors harvesting these species are members of the AFA CP sector. They are limited to harvesting 23 percent of the yellowfin sole ITAC under the AFA. During the 2004 fishing year 3 AFA CPs owned by two companies participated in the directed fishery for yellowfin sole (PCC 2004). They did not participate

in a directed fishery for any other species covered in this action. In November 2004, Congress passed the FY 2005 Appropriations Act, which contained a BSAI Catcher Processor Capacity Reduction Program. That program precludes any catcher processors, other than the 26 Non-AFA Trawl CPs and the AFA Trawl CPs, from directed fishing for BSAI yellowfin sole, BSAI Atka mackerel, BSAI rock sole, BSAI flathead sole, or AI Pacific ocean perch. Trawl catcher vessels rarely target these species. The AFA Trawl CVs may harvest up to 6.47 percent of the yellowfin sole ITAC (including yellowfin sole incidental catch in other fisheries), 3.41 percent of the rock sole ITAC, 5.05 percent of the flathead sole ITAC, less than one percent of the Atka mackerel ITACs, and less than 1 percent of the AI Pacific ocean perch ITACs. Given these small harvest limits it is unlikely they can participate in these directed fisheries, with the possible exception of yellowfin sole. Other catch vessels have traditionally not harvested these species in the BSAI. Harvesting vessels with annual receipts of less than $3.5 million, are considered small entities directly regulated by this proposed action.

Small governmental jurisdictions, CDQ Communities, are also directly regulated under this action. They will also be described in this section.

Based on the projections provided in Section 3.2.6, it appears that a total of 26 Non-AFA Trawl CPs would qualify to join a cooperative(s) as a result of this amendment. Catcher processor vessels both harvest and process the fish they catch. These companies then sell their product into the first wholesale market. The owners of all 26 vessels had annual receipts that averaged over $3.5 million in first wholesale revenue from 1995-2002[23]. According to RFA guidelines all of the vessels in the Non-AFA Trawl CP sector should be classified as large entities. Two AFA Trawl CP companies harvested yellowfin sole in 2004. Both of those companies are considered large entities. Finally, no trawl catcher vessels are known to regularly target these species. Therefore, no harvesting companies directly regulated by this action are considered to be small entities.

Two alternatives addressed in this analysis could change the groundfish and PSQ allocations to the six CDQ groups. Those groups represent 65 western Alaska communities that are eligible for the CDQ program. The CDQ groups and their associated communities are listed below.

1. Aleutian Pribilof Island Community Development Association: communities include Akutan, Atka, False Pass, and Nelson Lagoon.
2. Bristol Bay Economic Development Corporation: communities include Aleknagik, Clark's Point, Dililngham, Egegik, Ekuk, Ekwok, King Salmon, Levelock, Manokotak, Naknek, Pilot Point, Port Heiden, Portage Creek, South Naknek, Togiak, Twin Hills, and Ugashik.
3. Central Bering Sea Fisherman's Association: Saint Paul is the only community included.
4. Coastal Villages Region Fund: communities include Chefornak, Chevak, Eek, Goodnews Bay, Hooper Bay, Kipnuk, Kongiganak, Kwigillingok, Mekoryuk, Napakiak, Napaskiak, Newtok, Nightmute, Oscarville, Platinum, Quinhagak, Scammon Bay, Tooksook Bay, Tuntutuliak, and Tununak.
5. Norton Sound Economic Development Corporation: communities include Brevig Mission, Diomede/Ignalik, Elim, Gambell, Golovin, Koyuk, Nome, Savoonga, Shaktoolik, Saint Michael, Stebbins, Teller, Unakleet, Wales, and White Mountain.
6. Yukon Delta Fisheries Development Association: communities include Alakanuk, Emmonak, Grayling, Kotlik, Mountain Village, and Nunam Iqua.

All of the CDQ groups and their associated communities are considered small entities according to RFA guidelines.

[23] 2002 is the most recent year of 1st wholesale data that was available to the analysts, so 2003 and 2004 data are excluded from these estimates. First wholesale price data, by product form, was generated by Terry Hiatt at the NOAA Fisheries Alaska Fisheries Science Center. Those prices were then multiplied by the species and product forms in the NOAA Fisheries Weekly Production Report data, by Elaine Dinneford on the NPFMC staff, to generate these revenue estimates.

5.5 Recordkeeping and Reporting Requirements

Implementing this program would require the cooperatives that are formed to supply annual reports on their activities (see Section 3.3.6). The annual reports will likely require cooperative members to increase the amount of time spent on fulfilling their reporting requirements. The annual reports will likely take more time in the first years of the program. After a good working template is developed for the annual report it will require members to update the information in the report. Updating the reports will probably require less time than creating the first reports. These reporting requirements will apply to any company that is a member of the cooperative. However, it is the responsibility of the collective cooperative membership to ensure that the report is submitted in a timely and accurate fashion.

Additional record keeping requirements may be needed by individual firms. If firms do not currently record information that is requested in the annual report, those firms will need to add that information their records. Those firms that already record the data will not have additional requirements. It is not possible to determine which firms will be most impacted by the requirements, since the information each firm collects is based on what they need to operate their business and the current reporting requirements. Any additional reporting requirements will apply to both small and large entities that join a cooperative. Each firm will know the reporting requirements that they are expected to meet if they join a cooperative. Any firm joining a cooperative will know these requirements and it is assumed that the benefits from cooperative membership outweigh the costs imposed by the new recordkeeping and reporting requirements.

CDQ groups will continue to be required to report information to the Federal and State governments (see Section 3.2.2.6). The change in allocations may impose greater reporting requirements, but the costs are expected to be less than the benefits derived from selling or harvesting the allocation.

5.6 Relevant Federal Rules that May Duplicate, Overlap, or Conflict with Proposed Action

The management measures being proposed do not appear to duplicate, overlap, or conflict with any other relevant Federal rules.

5.7 Description of Significant Alternatives

Alternative 1 (No action/Status quo):

Alternative 1 would not change the current management structure in the BSAI. CDQ groups and CDQ communities, the small entities impacted by the proposed amendment, would continue to receive their current allotment of groundfish, crab, halibut, and PSQ species.

The Non-AFA Trawl CP sector, all considered large entities, would continue to operate in the open access fishery. The new IR/IU requirements, when implemented, would need to be met without the aid of a cooperative harvesting structure. AFA CPs and catcher vessels could continue to harvest up to their sideboard limits of these species.

Alternatives 2 and 3 (Establish Cooperatives for Non-AFA Trawl CP Sector):

Alternatives 2 and 3 would both result in the Non-AF Trawl CP sector being allocated specific percentages of the BSAI TACs for yellowfin sole, rock sole, AI Atka mackerel, flathead sole, and AI POP (see Section 3.2.3). The Non-AFA Trawl CP sector would also be allocated specific amounts of PSC species (see Section 3.2.5). These companies would then be able to rationalize their harvest strategies to better meet the IR/IU flatfish retention requirements. The 26 potential cooperative members would all be considered large entities under RFA guidelines. Depending on the alternative selected the AFA Trawl CP sector could be limited beyond their current sideboards. The two

companies harvesting yellowfin sole in 2004 could be negatively impacted. They are considered large entities.

CDQ allocations for specific BSAI groundfish species could be increased from 7.5 percent to either 10 or 15 percent. The PSQ allocations could also be increased by similar percentages (see Section 3.2.5). Section 3.2.2.3 provides estimates of the projected royalty increases that could result under the 10 or 15 percent increase. The projected estimates in that section are admittedly crude, but information to make more precise estimates is not available. The estimates were based on a projected royalty payment of $65 per ton for each species allocated in Component 1 of this amendment. Based on that royalty assumption, the various CDQ allocations under consideration, and the 2005 TACs it was estimated that CDQ royalties would increase by approximately $355,000 with a 10 percent allocation to the CDQ groups and $1.1 million under a 15 percent allocation. The royalty increases under the 10 and 15 percent options would increase the overall royalties received by the CDQ groups by about 0.7 percent and two percent, respectively, given that over $53.4 million in royalties were generated in 2003.

5.8 Measures Taken to Reduce Impacts on Small Entities

The Council is considering placing harvest restrictions on the Non-AFA Trawl CP sector for species they are not directly allocated. A complete discussion of this issue can be found in Section 3.2.11 of this document. The harvest restrictions could apply to the BSAI groundfish species that are not directly allocated to the sector and GOA groundfish. Harvest restrictions (often referred to as sideboards) are implemented to ensure that members of the cooperative(s) cannot take advantage of their more flexible-harvesting environment to increase their harvest of open access species. Without these harvest restrictions it is possible that some small entities could be disadvantaged by the Non-AFA Trawl CPs increasing their harvest. The small entities that could be impacted are the harvesters and processors in the BSAI and GOA that utilize the species not directly allocated to the vessels in the Non-AFA Trawl CP sector.

An increased allocation to the CDQ groups and communities would have positive benefits to them. The cost of that increase would be borne by the vessels that traditionally harvest the allocated species. Those entities are considered large entities. A complete analysis of this issue can be found in Section 3.2.2 of this Amendment. However, the expected value of the allocation to the CDQ communities is expected to be about $250,000 or less depending on the alternative selected.

6 CONSISTENCY WITH OTHER APPLICABLE LAWS OR POLICIES

6.1 Consistency with the Magnuson-Stevens Act

6.1.1 National Standards

Below are the 10 National Standards as contained in the Magnuson-Stevens Act (Act), and a brief discussion of the consistency of the proposed alternatives with those National Standards, where applicable.

National Standard 1 - Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery

A portion of the BSAI yellowfin sole, rock sole, Atka mackerel, flathead sole, and AI Pacific ocean perch ITAC will be allocated to the Non-AFA Trawl CP sector. Vessels within that sector that choose to join a cooperative will then be able to harvest the cooperative's allocation of those species in a rationalized manner. When harvesting these species in the cooperative, members will be constrained by the cooperative's allocation. NOAA Fisheries will hold members of the cooperative responsible for staying within their allocation. Vessels outside the cooperative will continue to be managed as they were in the past. The amendment also contains options that would allow NOAA Fisheries to move species from the open access fisheries to the cooperative if it is determined they will not be harvested. This could help achieve optimum yield from the fishery without overfishing the species. BSAI yellowfin sole, rock sole, Atka mackerel, flathead sole, and AI Pacific ocean perch stocks are not currently in danger of overfishing and are considered stable. Overall yield in terms will be unaffected by the allocations if the rollover provisions function properly. If they do not, the optimum yield from the rock sole fishery is most likely to be impacted. In terms of achieving 'optimum yield' from the fishery, the Act defines 'optimum', with respect to yield from the fishery, as the amount of fish which:

(A) will provide the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities, and taking into account the protection of marine ecosystems;

(B) is prescribed as such on the basis of the maximum sustainable yield from the fishery, as reduced by any relevant economic, social, or ecological factor; and,

(C) in the case of an overfished fishery, provides for rebuilding to a level consistent with producing the maximum sustainable yield in such fishery.

Overall benefits to the Nation may be affected by these trade-offs, though our ability to quantify those effects is quite limited. While distributional impacts across fishing industry sectors are certainly implied by the alternatives, overall net benefits to the Nation would not be expected to change to an identifiable degree between the alternatives under consideration.

National Standard 2 - Conservation and management measures shall be based upon the best scientific information available.

Information in this analysis represents the most current, comprehensive set of information available to the Council, recognizing that some information (such as operational costs) is unavailable. Information previously developed on the BSAI trawl fisheries, as well as the most recent information available, has been incorporated into this analysis. It represents the best scientific information available.

National Standard 3- To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

The annual TAC is set for BSAI yellowfin sole, rock sole and flathead sole according to the Council and NMFS's harvest specification process. Atka mackerel TACs are set currently set for the Eastern Aleutian Islands/Bering Sea, Central Aleutian Islands, and Western Aleutian Islands. Pacific ocean perch TACs are set for the Bering Sea, Eastern Aleutian Islands, Central Aleutian Islands, and Western Aleutian Islands areas. NMFS conducts the stock assessment for these species and makes allowable biological catch recommendations to the Council. The Council sets the TAC for these species based on the most recent stock assessment and survey information. These BSAI stocks will continue to be managed as a single stock under the alternatives for establishing a Non-AFA Trawl CP sector allocation, although separate quotas for each sector would be established and monitored in-season by NMFS.

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.

Allocation percentages being considered are based on industry sectors. Nothing in the alternatives considers residency as a criteria for the Council's decision. Residents of various states, including Alaska and the Pacific Northwest, participate in each of the major sectors affected by these allocations. Within each sector, no further allocations are made to individual fishermen by NOAA Fisheries[24], nor are discriminations made among fishermen based on residency or any other criteria. While allocations are made based on industry sectors, it is possible for entities to have exclusive privileges to harvest amounts of a species inside the cooperative. The excessive share options considered would limit the total amount of species a permit holder would be allowed to take into the cooperative. This amendment also contains discussions of potential caps on the amount of fish individual vessels in the cooperative could harvest.

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 wording of this standard was changed in the recent Magnuson-Stevens Act authorization, to 'consider' rather than 'promote' efficiency. Efficiency in the context of this change refers to economic efficiency, and the reason for the change, essentially, is to de-emphasize to some degree the importance of economics relative to other considerations (Senate Report of the Committee on Commerce, Science, and Transportation on S. 39, the Sustainable Fisheries Act, 1996). The analysis presents information relative to these perspectives and provides information on the economic improvements that could be realized under a cooperative harvesting system. The impacts of the flatfish retention standards set to be implemented in 2006 were a driving force in the development of this amendment. Flatfish fishermen were concerned that without an improvement in their operating environment (in this case those that can be obtained under cooperatives), it would not be possible to remain economically viable under the new retention standards.

National Standard 6 - Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

This amendment contains options that would allow portions of the TAC that are projected to go unharvested to be rolled-over from the general trawl allocation to the Non-AFA Trawl CP sector. This contingency plan was established to take into account the possibility that members of that sector

[24] Allocations are made to the cooperatives and the cooperatives are then allowed to divide the allocation among its members based upon a predefined agreement.

will not harvest their entire allocation. The program does not contain a provision to roll catch from the Non-AFA Trawl CP sector to the other sector, because they have historically been the primary harvesters of these species.

The yellowfin sole threshold option contains it own plan to redistribute yellowfin sole among the sectors at different levels than are calculated under components 3 and 4. That option also could allow the Regional Administrator to rollover amounts of the TAC that is projected to go unused to the sector whose harvest is constrained. This is a two-way rollover, where the other options would only allow species to be rolled to the Non-AFA Trawl CP sector.

National Standard 7 - Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

All of the alternatives under consideration appear to be consistent with this standard.

National Standard 8 - Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.

Many of the coastal communities in Alaska and the Pacific Northwest participate in the crab and groundfish fisheries in one way or another, whether it be processing, support businesses, or as the harbor/home port to fishermen and processing workers. Major groundfish and crab ports in Alaska that process catch from the Bering Sea include Dutch Harbor, St. Paul, Akutan, Sand Point, King Cove, and Kodiak. Additionally, the Seattle, Washington area is home port to many catcher and catcher processor vessels operating in these fisheries. Summary information on these coastal communities is provided in the "Faces of the Fisheries" (NPFMC 1994), the Steller Sea Lion SEIS (NMFS 2001b) and the Draft Programmatic SEIS (2001a).

Twenty-six catcher processors appear to be eligible for the Non-AFA Trawl CP sector. Of these vessels, 17 appear to be operated out of Seattle, 6 out of other Washington communities, and 3 from Maine. Because all the harvesters are catcher processor vessels, they do not, in general, deliver fish to shorebased processing facilities for first processing. Catcher vessels that do deliver their catch to shorebased plants have traditionally played a small role in these fisheries.

This amendment could also increase the allocation of species to the CDQ program. Currently the CDQ program is allocated 7.5 percent of the groundfish TAC of species included in this amendment. Increasing the CDQ allocation of those species to 10 percent could increase to CDQ program revenues by $250,000. A complete discussion of the impacts that changing the CDQ allocation would have on the various groups are presented in Section 3.2.2 and 3.2.5 of this document.

National Standard 9 -Conservation and management measures shall, to the extent practicable, (A) minimize bycatch, and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

This amendment package is being considered to help members of the Non-AFA Trawl CP sector meet the new groundfish retention standards that are being implemented in 2006. Those standards will require vessels to retain 75 percent of their groundfish harvests in 2006 and that retention rate will increase to 85 percent by 2008. It is expected that fishing under a cooperative structure will allow members of the Non-AFA Trawl CP sector to reduce bycatch and retain more of the fish that are incidentally harvested.

National Standard 10 - Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

The alternatives under consideration appear to be consistent with this standard. None of the alternatives or options proposed to modify the Non-AFA Trawl CP allocation percentages would change safety requirements for fishing vessels. Allowing these vessels to choose when to fish gives them the opportunity to fish under better conditions. Whether they take advantage of the opportunities will likely depend on the economic consequences of those decisions.

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

Section 303(a)(9) of the Magnuson-Stevens Act requires that any plan or amendment include a fishery impact statement which shall assess and describe the likely effects, if any, of the conservation and management measures on a) participants in the fisheries and fishing communities affected by the plan or amendment; and b) participants in the fisheries conducted in adjacent areas under the authority of another Council, after consultation with such Council and representatives of those participants taking into account potential impacts on the participants in the fisheries, as well as participants in adjacent fisheries.

The alternative actions considered in this analysis are described in Section 2.5 of this document. The impacts of these actions on participants in the fisheries and fishing communities are the topic of Sections 3.0 and 4.0

6.1.2.1 Fishery Participants

The actions taken as part of this amendment directly impact the participants in the BSAI flatfish fisheries, the CDQ groups, and CDQ communities. Participants in the Non-AFA Trawl CP sector have traditionally harvested the majority of the BSAI species allocated under this amendment. During the more recent years, the participants in that sector have harvested over 90 percent of each of those species. Vessels in the Non-AFA Trawl CP sector have also traditionally contracted to harvest the CDQ allocations of these species. Summaries of the sector's can be found in Section 3.2.1.3 and 3.2.1.4 of this document.

A total of 26 vessels appear to qualify for the Non-AFA Trawl CPs sector. Seventeen of the vessels appear to operate out of Seattle, 6 vessels out of other Washington communities, and 3 vessels out of Maine. Several of the companies own and operate more than one vessel. Data that are currently available does not allow the analysts to exactly define ownership in this fleet. However, information produced in Amendment 79 (NPFMC, 2003) indicates that companies own from 1 to 5 of the qualified vessels.

The vessels range in length from 103' LOA to 295' LOA. The largest vessels are reported to harvest and retain more fish than smaller vessels, on average. Because the allocations to the Non-AFA Trawl CP sector are based on total or retained catch, the larger vessels will typically be assigned a percentage of the TAC to take into a cooperative or the open assess than smaller vessels.

Portions of the TACs that are not allocated to the Non-AFA Trawl CP sector may be harvested by the AFA Catcher Processors, AFA Catcher Vessels, or other trawl catcher vessels. During 2004, 3 AFA CPs harvested yellowfin sole as a directed fishery. A small number of AFA Catcher Vessels have also participated in harvesting yellowfin sole during the spring fishery. Members of the AFA fleets generally do not participate in directed fishing for other Amendment 80 species. The number of Non-AFA catcher vessels that participate in these fisheries is also very limited.

6.1.2.2 Fishing Communities

The fishing communities that are expected to benefit from this program are the locations the vessels offload, take on supplies, and the owners and crew live. The Non-AFA Trawl Catcher Processor fleet, as stated in Section 5.2.1, is primarily from Washington. Seattle, Billingham, Duval, Port Orchard, and South Bend are listed as the owner's residence for the Washington vessels. Seattle is home to the

majority of the vessels/owners and should realize the most benefits, followed by Bellingham and then the other three communities. Rockland, Maine is the other community that is expected to benefit as a result of being affiliated with vessels in this fleet.

Information on the residence of the crew and processing workers on these vessels is not available. Those communities will benefit to the extent that workers spend their income in those locations. It is not possible to estimate the total benefits to each community given existing data.

Alaska communities that provide crew members and support services to the fleet will also benefit. The services these communities supply are typically related to shipyard work, providing supplies to the fleet while they are in Alaska, or off-loading product. These communities are likely to be located close to the harvesting areas and include port communities like Unalaska, Kodiak, and others. A primary source of regional and community information is the, *Sector and Regional Profiles of the North Pacific Groundfish Fisheries – 2001* (Northern Economics, Inc. and EDAW, Inc., 2001).

Increasing the allocation to CDQ program will benefit the Western Alaska communities that are part of the CDQ program. Any increases in the allocation to those groups will reduce the percentage of the TAC that is available to the Non-AFA Trawl CP sector and other Non-CDQ harvesters. Members of those sectors can still harvest the CDQ allocation if they reach an agreement with a CDQ group to harvest their catch. Part of that agreement will include the fishing company paying the CDQ group a royalty to harvest the fish. A complete discussion of the CDQ allocation alternatives may be found in Section 3.2.1.2 of this document.

6.1.2.3 Participants in Fisheries of Adjacent Areas

Neither the proposed action nor alternatives considered would significantly affect participants in the fisheries conducted in adjacent areas under the authority of another Council.

6.2 Marine Mammal Protection Act (MMPA)

The alternatives analyzed in this action are not likely to result in any significant impact to marine mammals.

6.3 Coastal Zone Management Act

This action is consistent with the Coastal Zone Management Act.

6.4 Executive Order 12898 Environmental Justice

E. O. 12898 focuses on environmental justice in relation to minority populations and low-income populations. The EPA defines environmental justice (EJ) as the: "fair treatment for people of all races, cultures, and incomes, regarding the development of environmental laws, regulations, and policies." This executive order was spurred by the growing need to address the impacts of environmental pollution on particular segments of our society. This order (Environmental Justice, 59 Fed. Reg. 7629) requires each Federal agency to achieve environmental justice by addressing “disproportionately high and adverse human health and environmental effects on minority and low-income populations.” The EPA responded by developing an Environmental Justice Strategy focusing the agency's efforts in addressing these concerns.

In order to determine whether environmental justice concerns exist, the demographics of the affected area should be examined to determine whether minority populations and low-income populations are present, and if so, a determination must be made as to whether implementation of the alternatives may cause disproportionately high and adverse human health or environmental effects on these populations. Environmental justice concerns typically embody pollution and other environmental

health issues, but the EPA has stated that addressing environmental justice concerns is consistent with NEPA and thus all Federal agencies are required to identify and address these issues.

The Non-AFA Trawl CP sector is based in the States of Washington and Maine, with Washington being home to over 88 percent of the vessels. The importance of fisheries to these regions and their population and minority profiles are included in Chapter 3 of the Steller Sea Lion SEIS (Section 3.12.2.1) and Appendix F(4)(NMFS 2001b). The data do not exist to determine where the deck and processing crews of these vessels reside. Those communities will also be impacted by this action. These impacts will be more pronounced if some of the vessels leave the fishery in an effort to reduce excess harvesting capacity.

Members of the 65 Western Alaskan communities associated with the six CDQ groups will be impacted by this action. The CDQ groups could share up to $250,000 in additional CDQ royalties based on information provided in Section 3.2.1.2. Those communities are considered to have relatively low income levels and the residents have limited economic opportunities. Royalties, to the CDQ program, would be paid by members of the groundfish fleet that harvest these species for their CDQ partners. The royalty payments could be considered as transfers in income from the harvesting sector, likely members of the Non-AFA Trawl CP sector, to the CDQ program. Since most of the harvesting fleet is located in Seattle and Billingham, those communities will realize the greatest reduction in benefits.

Because the harvesting and processing of these species is primarily done at-sea, the environmental impacts of these actions on low-income individuals are expected to be small. The support of these vessels in Alaskan communities will bring additional income to those regions and should have little impact on the health of the residents of those communities. Therefore, regardless of whether one sector would receive an economic benefit upon approval of this action relative to the status quo, it has been determined that the proposed actions do not appear to have any significant individual or cumulative environmental or human health effects, thus no distinct population, minority or otherwise, should be affected in this regard.

6.5 Management Policy of the BSAI Groundfish FMP

The alternatives discussed in this action accord with the management policy of the BSAI Groundfish FMP. The Council's management policy includes an objectives that aims to "further decrease excess fishing capacity and overcapitalization by … extending programs such as community or rights-based management to some or all groundfish fisheries," (BSAI Groundfish FMP chapter 2). By developing a sector allocation for the Non-AFA Trawl CP sector, and allowing the sector to form cooperatives, the Council is consistent with its management policy.

7 REFERENCES

Hiatt, T., R. Felthoven, C. Seung, and J. Terry. 2004. Stock Assessment and Fishery Evaluation Report for the Groundfish Fisheries of the Gulf of Alaska and Bering Sea / Aleutian Island Area: Economic Status for the Groundfish Fisheries Off Alaska, 2003. North Pacific Fishery Management Council, 605 W 4th Ave, Suite 306, Anchorage, Alaska, 99501. November 2004. pp. 132.

Livingston, P.A., Low, L.L., and Marasco, R.J. (1999). "Eastern Bering Sea Ecosystem Trends." Large Marine Ecosystems of the Pacific Rim: Assessment, Sustainability, and Management, K. Sherman and Q. Tang (eds.), Blackwell Science, Inc., Malden, MA, pp.140-162.

Lowe, S. 1992. [atka mackerel stock assessment from 1993 SAFE; ref'd on p. 19]

Lowe, S., J. Ianelli, H. Zenger, K.Aydin, and R. Lauth. 2004. "Stock Assessment of Aleutian Islands Atka Mackerel". *In* Stock Assessment and Fishery Evaluation Report for the Groundfish Resources of the Bering Sea / Aleutian Islands Regions. Compiled by the Plan Team for the Groundfish Fisheries of the Bering Sea and Aleutian Islands. North Pacific Fishery Management Council, 605 W 4th Ave, Suite 306, Anchorage, Alaska, 99501. November 2004. pp. 857-925.

McConnaughey, R.A., and K.R. Smith. 2000. Associations between flatfish abundance and surficial sediments in the eastern Bering Sea. *Can. J. Fisher. Aquat. Sci.* 57(12):2,410-2,419.

Naidu, A.S. 1988. Marine surficial sediments. Section 1.4. *In* C. N. Ehler, D. J. Basta, T. F. LaPointe, and G. C. Ray (editors). Bering, Chukchi, and Beaufort Seas coastal and ocean zones strategic assessment: Data atlas. U.S. Dep. Commer., NOAA, Natl Ocean Ser., Off. Oceanog. and Mar. Assess., Ocean Assess. Div., Str. Assess. Br. Silver Spring, Maryland.

National Academy of Sciences. 1999. Sharing the Fish: Toward a National Policy on Individual Fishing Quotas. pp 26-32. National Academy Press. Washington D.C.

NMFS. 2004a. Environmental Assessment/Initial Regulatory Flexibility Analysis for the Harvest Specifications for the Years 2005-2006 Alaska Groundfish Fisheries Implemented under the Authority of the BSAI and GOA Groundfish Fisheries Management Plans. NMFS Alaska Region, P.O.Box 21668, Juneau, Alaska 99802-1668. pp. 204.

NMFS. 2004b. Final Programmatic Supplemental Environmental Impact Statement for the Alaska Groundfish Fisheries. NMFS Alaska Region, P.O.Box 21668, Juneau, Alaska 99802-1668. pp.7000.

NMFS. 2005. Environmental Impact Statement for Essential Fish Habitat Identification and Conservation in Alaska. March 2005. NMFS P.O. Box 21668, Juneau, AK 99801.

NPFMC, 2003. Minutes from the Non-Target Species Ad Hoc Working Group. September 4, 2003. http://www.fakr.noaa.gov/npfmc/current_issues/non_target/nontarget903.pdf

NPFMC. 2004. Stock Assessment and Fishery Evaluation Report for the Groundfish Resources of the Bering Sea / Aleutian Islands Regions. Compiled by the Plan Team for the Groundfish Fisheries of the Bering Sea and Aleutian Islands. North Pacific Fishery Management Council, 605 W 4th Ave, Suite 306, Anchorage, Alaska, 99501. November 2004. pp. 1094.

[NEI] Northern Economics, Inc. 2003. Environmental Assessment/Initial Regulatory Flexibility Analysis for Amendment 75.

Northern Economics, Inc. 2004. Environmental Assessment/Initial Regulatory Flexibility Analysis for Amendment 79.

[NEI and EDAW] Northern Economics, Inc. and EDAW, Inc. 2001. Sector and Regional Profiles of the North Pacific Groundfish Fisheries – 2001.

PCC. 2004. [ref'd on p. 218]

PCC. 2005. Pollock Conservation Cooperative and High Seas Catcher's Cooperative Final Joint Annual Report to the NPFMC. http://www.atsea.org/. January 31, 2005.

Smith, K.R., and R.A. McConnaughey. 1999. "Surficial sediments of the eastern Bering Sea continental shelf: EBSSED database documentation." NOAA Technical Memorandum, *NMFS-AFSC-104*, U.S. Department of Commerce, NMFS Alaska Fisheries Science Center, 7600 Sand Point Way NE, Seattle, Washington 98115-0070. 41 pp.

Spencer, P.D., G.E. Walters, and T.K. Wilderbuer. 2004. "Flathead Sole". *In* Stock Assessment and Fishery Evaluation Report for the Groundfish Resources of the Bering Sea / Aleutian Islands Regions. Compiled by the Plan Team for the Groundfish Fisheries of the Bering Sea and Aleutian Islands. North Pacific Fishery Management Council, 605 W 4th Ave, Suite 306, Anchorage, Alaska, 99501. November 2004. pp. 551-616.

Spencer, P.D., J.N. Ianelli, and H. Zenger. 2004. "Pacific Ocean Perch". *In* Stock Assessment and Fishery Evaluation Report for the Groundfish Resources of the Bering Sea / Aleutian Islands Regions. Compiled by the Plan Team for the Groundfish Fisheries of the Bering Sea and Aleutian Islands. North Pacific Fishery Management Council, 605 W 4th Ave, Suite 306, Anchorage, Alaska, 99501. November 2004. pp. 675-745.

Stone, R. 2003. Personal communications while drafting HAPC proposal for GOA HAPC sites. NOAA Fisheries, Alaska Fisheries Science Center, Auke Bay Laboratory, Juneau, Alaska.

Wildebuer, T.K. and D. Nichol. 2004. "Yellowfin Sole". *In* Stock Assessment and Fishery Evaluation Report for the Groundfish Resources of the Bering Sea / Aleutian Islands Regions. Compiled by the Plan Team for the Groundfish Fisheries of the Bering Sea and Aleutian Islands. North Pacific Fishery Management Council, 605 W 4th Ave, Suite 306, Anchorage, Alaska, 99501. November 2004. pp. 369-425.

Wildebuer, T.K. and G.E. Walters. 2004. "Northern Rock Sole". *In* Stock Assessment and Fishery Evaluation Report for the Groundfish Resources of the Bering Sea / Aleutian Islands Regions. Compiled by the Plan Team for the Groundfish Fisheries of the Bering Sea and Aleutian Islands. North Pacific Fishery Management Council, 605 W 4th Ave, Suite 306, Anchorage, Alaska, 99501. November 2004. pp. 501-549.

Witherell, D., and G. Harrington. 1996. "Evaluation of Alternative Management Measures to Reduce the Impacts of Trawling and Dredging on Bering Sea Crab Stocks." *In* High Latitude Crabs: Biology, Management, and Economics. Alaska Sea Grant Report, AK-SG-96-02, Alaska Sea Grant Program, 304 Eielson Building, University of Alaska Fairbanks, Fairbanks, AK 99775. pp. 41-58.

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APPENDIX 1 PSC Allowance Tables

Table 7 Halibut PSC allowance in the Pacific cod fishery during 2005/2006, halibut PSC usage, average PSC usage, and halibut PSC allocation to the Non-AFA Trawl CP sector in the Pacific cod fishery

Pacific Cod				
Year	BSAI halibut PSC allocations (mt)	Amendment 80 qualified halibut PSC usage (mt)	Total halibut PSC usage for all trawl vessels (mt)	Percent of Amendment 80 halibut PSC usage of trawl usage (%)
1995	1,550	322	1,511	0.21
1996	1,685	258	1,640	0.16
1997	1,600	321	1,276	0.25
1998	1,550	355	1,186	0.30
1999	1,550	736	1,364	0.54
2000	1,550	422	935	0.45
2001	1,334	405	672	0.60
2002	1,434	598	1,128	0.53
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of halibut PSC (2005/2006) based on average of total (mt)	Allocation of halibut PSC (2005/2006) based on average of percent (mt)
1995-2002	0.35	0.38	505	546
1998-2002	0.48	0.48	683	695
1999-2003	0.53	0.53	756	761
2000-2002	0.52	0.53	747	757

Table 8 Halibut PSC allowance in the rockfish fishery during 2005/2006, halibut PSC usage, average PSC usage, and halibut PSC allocation to the Non-AFA Trawl CP sector in the rockfish fishery.

Rockfish				
Year	BSAI halibut PSC allocations (mt)	Amendment 80 qualified halibut PSC usage (mt)	Total halibut PSC usage for all trawl vessels (mt)	Percent of Amendment 80 halibut PSC usage of trawl usage (%)
1995	110	74	74	1.00
1996	110	49	50	0.98
1997	100	14	14	1.00
1998	75	19	19	1.00
1999	75	52	52	1.00
2000	75	11	11	0.99
2001	69	55	55	1.00
2002	69	68	68	1.00
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of halibut PSC (2005/2006) based on average of total (mt)	Allocation of halibut PSC (2005/2006) based on average of percent (mt)
1995-2002	1.00	1.00	69	69
1998-2002	1.00	1.00	69	69
1999-2003	1.00	1.00	69	69
2000-2002	1.00	1.00	69	69

Table 9 Halibut PSC allowance in the pollock/Atka mackerel/other fisheries during 2005/2006, halibut PSC usage, average PSC usage, and halibut PSC allocation to the Non-AFA Trawl CP sector in the pollock/Atka mackerel/other fisheries.

Pollock/Atka mackerel/other				
Year	BSAI halibut PSC allocations (mt)	Amendment 80 qualified halibut PSC usage (mt)	Total halibut PSC usage for all trawl vessels (mt)	Percent of Amendment 80 halibut PSC usage of trawl usage (%)
1995	555	50	421	0.12
1996	430	131	462	0.28
1997	350	80	276	0.29
1998	350	95	335	0.28
1999	250	199	273	0.73
2000	250	255	339	0.75
2001	232	87	260	0.34
2002	232	59	187	0.31
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of halibut PSC (2005/2006) based on average of total (mt)	Allocation of halibut PSC (2005/2006) based on average of percent (mt)
1995-2002	0.37	0.39	87	90
1998-2002	0.50	0.48	115	112
1999-2003	0.57	0.53	131	123
2000-2002	0.51	0.47	118	108

Table 10 Halibut PSC allowance in the rock sole/other flat/flathead sole fishery during 2005/2006, halibut PSC usage, average PSC usage, and halibut PSC allocation to the Non-AFA Trawl CP sector in the rock sole/other flat/rock sole fishery.

Rock sole/other flat/flathead sole				
Year	BSAI halibut PSC allocations (mt)	Amendment 80 qualified halibut PSC usage (mt)	Total halibut PSC usage for all trawl vessels (mt)	Percent of Amendment 80 halibut PSC usage of trawl usage (%)
1995	690	623	698	0.89
1996	730	678	683	0.99
1997	795	935	958	0.98
1998	795	792	816	0.97
1999	795	850	850	1.00
2000	842	880	885	0.99
2001	854	1,121	1,130	0.99
2002	779	828	830	1.00
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of halibut PSC (2005/2006) based on average of total (mt)	Allocation of halibut PSC (2005/2006) based on average of percent (mt)
1995-2002	0.98	0.98	763	761
1998-2002	0.99	0.99	772	772
1999-2003	1.00	1.00	776	776
2000-2002	0.99	0.99	774	775

Table 11 Halibut PSC allowance in the yellowfin fishery during 2005/2006, halibut PSC usage, average PSC usage, and halibut PSC allocation to the Non-AFA Trawl CP sector in the yellowfin sole fishery.

Yellowfin sole				
Year	BSAI halibut PSC allocations (mt)	Amendment 80 qualified halibut PSC usage (mt)	Total halibut PSC usage for all trawl vessels (mt)	Percent of Amendment 80 halibut PSC usage of trawl usage (%)
1995	750	366	770	0.48
1996	820	713	920	0.77
1997	930	731	1,078	0.68
1998	1,005	805	991	0.81
1999	1,005	812	865	0.94
2000	958	942	957	0.98
2001	911	1,028	1,051	0.98
2002	886	1,160	1,162	1.00
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of halibut PSC (2005/2006) based on average of total (mt)	Allocation of halibut PSC (2005/2006) based on average of percent (mt)
1995-2002	0.84	0.83	745	735
1998-2002	0.94	0.94	837	835
1999-2003	0.98	0.97	865	864
2000-2002	0.99	0.99	875	874

Table 12 Herring PSC allowance in the Pacific cod fishery during 2005/2006, herring PSC usage, average PSC usage, and herring PSC allocation to the Non-AFA Trawl CP sector in the Pacific cod fishery.

Pacific Cod				
Year	BSAI herring PSC allocations (mt)	Amendment 80 qualified herring on PSC usage (mt)	Total herring PSC usage for all trawl vessels (mt)	Percent of Amendment 80 herring PSC usage of trawl usage (%)
1995	24	0.19	8.19	0.02
1996	22	0.25	18.08	0.01
1997	20	0.49	0.63	0.78
1998	22	0.38	0.85	0.44
1999	22	0.22	1.13	0.20
2000	24	0.76	0.90	0.84
2001	20	4.43	4.96	0.89
2002	20	2.67	2.75	0.97
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of herring PSC (2005/2006) based on average of total (mt)	Allocation of herring PSC (2005/2006) based on average of percent (mt)
1995-2002	0.25	0.52	7	14
1998-2002	0.80	0.67	22	18
1999-2003	0.83	0.73	22	20
2000-2002	0.91	0.90	25	24

Table 13 Herring PSC allowance in the rockfish fishery during 2005/2006, herring PSC usage, average PSC usage, and herring PSC allocation to the Non-AFA Trawl CP sector in the rockfish fishery.

Rockfish				
Year	BSAI herring PSC allocations (mt)	Amendment 80 qualified herring on PSC usage (mt)	Total herring PSC usage for all trawl vessels (mt)	Percent of Amendment 80 herring PSC usage of trawl usage (%)
1995	8	0.00	0.00	0.00
1996	7	0.00	0.00	0.00
1997	7	0.00	0.00	0.00
1998	8	0.00	0.00	0.00
1999	8	0.01	0.01	1.00
2000	9	0.03	0.03	1.00
2001	7	0.00	0.00	0.00
2002	7	0.12	0.12	1.00
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of herring PSC (2005/2006) based on average of total (mt)	Allocation of herring PSC (2005/2006) based on average of percent (mt)
1995-2002	1.00	0.38	10	4
1998-2002	1.00	0.60	10	6
1999-2003	1.00	0.75	10	8
2000-2002	1.00	0.67	10	7

Table 14 Herring PSC allowance in the pollock/Atka mackerel/other fisheries during 2005/2006, herring PSC usage, average PSC usage, and herring PSC allocation to the Non-AFA Trawl CP sector in the pollock/Atka mackerel/other fisheries.

Pollock/Atka mackerel/other				
Year	BSAI herring PSC allocations (mt)	Amendment 80 qualified herring on PSC usage (mt)	Total herring PSC usage for all trawl vessels (mt)	Percent of Amendment 80 herring PSC usage of trawl usage (%)
1995	169	6	905	0.01
1996	154	3	1,242	0.00
1997	143	2	1,135	0.00
1998	155	1	801	0.00
1999	152	17	803	0.02
2000	161	0	485	0.00
2001	146	1	226	0.00
2002	146	0	109	0.00
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of herring PSC (2005/2006) based on average of total (mt)	Allocation of herring PSC (2005/2006) based on average of percent (mt)
1995-2002	0.01	0.00	1	1
1998-2002	0.01	0.01	2	1
1999-2003	0.01	0.01	2	1
2000-2002	0.00	0.00	0	0

Table 15 Herring PSC allowance in the rock sole/other flat/flathead sole fisheries during 2005/2006, herring PSC usage, average PSC usage, and herring PSC allocation to the Non-AFA Trawl CP sector in the rock sole/other flat/flathead sole fisheries.

Rock sole/other flat/flathead sole				
Year	BSAI herring PSC allocations (mt)	Amendment 80 qualified herring on PSC usage (mt)	Total herring PSC usage for all trawl vessels (mt)	Percent of Amendment 80 herring PSC usage of trawl usage (%)
1995		0.84	0.85	0.99
1996		2.53	2.55	0.99
1997		14.96	15.35	0.98
1998	22	1.03	1.03	1.00
1999	22	1.86	1.86	1.00
2000	24	1.67	1.67	1.00
2001	20	12.99	13.26	0.98
2002	20	4.24	4.24	1.00
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of herring PSC (2005/2006) based on average of total (mt)	Allocation of herring PSC (2005/2006) based on average of percent (mt)
1995-2002	0.98	0.99	27	27
1998-2002	0.99	1.00	27	27
1999-2003	0.99	0.99	27	27
2000-2002	0.99	0.99	27	27

Table 16 Herring PSC allowance in the turbot/arrowtooth/sablefish fisheries during 2005/2006, herring PSC usage, average PSC usage, and herring PSC allocation to the Non-AFA Trawl CP sector in the turbot/arrowtooth/sablefish fisheries.

Turbot/arrowtooth/sablefish				
Year	BSAI herring PSC allocations (mt)	Amendment 80 qualified herring on PSC usage (mt)	Total herring PSC usage for all trawl vessels (mt)	Percent of Amendment 80 herring PSC usage of trawl usage (%)
1995		0.00	0.02	0.00
1996		0.09	0.09	1.00
1997				
1998		0.13	0.13	1.00
1999	10	0.57	0.57	1.00
2000	11	0.08	0.08	1.00
2001	9	0.34	0.34	1.00
2002	9	0.06	0.06	1.00
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of herring PSC (2005/2006) based on average of total (mt)	Allocation of herring PSC (2005/2006) based on average of percent (mt)
1995-2002	0.99	0.86	12	10
1998-2002	1.00	1.00	12	12
1999-2003	1.00	1.00	12	12
2000-2002	1.00	1.00	12	12

Table 17 Herring PSC allowance in the yellowfin sole fishery during 2005/2006, herring PSC usage, average PSC usage, and herring PSC allocation to the Non-AFA Trawl CP sector in the yellowfin sole fishery.

Yellowfin sole				
Year	BSAI herring PSC allocations (mt)	Amendment 80 qualified herring on PSC usage (mt)	Total herring PSC usage for all trawl vessels (mt)	Percent of Amendment 80 herring PSC usage of trawl usage (%)
1995	315	43	56	0.77
1996	287	241	250	0.97
1997	267	66	147	0.45
1998	268	15	15	0.96
1999	254	88	88	1.00
2000	169	24	25	0.99
2001	139	26	26	0.98
2002	139	19	19	1.00
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of herring PSC (2005/2006) based on average of total (mt)	Allocation of herring PSC (2005/2006) based on average of percent (mt)
1995-2002	0.83	0.89	153	163
1998-2002	0.99	0.99	181	181
1999-2003	0.99	0.99	182	182
2000-2002	0.99	0.99	181	181

Table 18 Red king crab PSC allowance in the Pacific cod fishery during 2005/2006, red king crab PSC usage, average PSC usage, and red king crab PSC allocation to the Non-AFA Trawl CP sector in the Pacific cod fishery

Pacific Cod				
Year	BSAI red king crab PSC allocations (animals)	Amendment 80 qualified red king crab PSC usage (animals)	Total red king crab PSC usage for all trawl vessels (animals)	Percent of Amendment 80 red king crab PSC usage of trawl usage (%)
1995	10,000	2,301	4,880	0.47
1996	10,000	2,770	3,412	0.81
1997	7,500	1,538	2,211	0.70
1998	7,500	1,853	3,646	0.51
1999	15,813	7,200	7,941	0.91
2000	12,600	4,328	5,009	0.86
2001	11,664	2,241	2,442	0.92
2002	11,664	15,600	20,254	0.77
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of red king crab PSC (2005/2006) based on average of total (animals)	Allocation of red king crab PSC (2005/2006) based on average of percent (animals)
1995-2002	0.76	0.74	20,182	19,744
1998-2002	0.79	0.79	21,108	21,077
1999-2003	0.82	0.86	21,886	22,971
2000-2002	0.80	0.85	21,256	22,600

Table 19 Red king crab PSC allowance in the pollock/Atka mackerel/other fisheries during 2005/2006, red king crab PSC usage, average PSC usage, and red king crab PSC allocation to the Non-AFA Trawl CP sector in the pollock/Atka mackerel/other fisheries.

Pollock/Atka mackerel/other				
Year	BSAI red king crab PSC allocations (animals)	Amendment 80 qualified red king crab PSC usage (animals)	Total red king crab PSC usage for all trawl vessels (animals)	Percent of Amendment 80 red king crab PSC usage of trawl usage (%)
1995	30,000	261	4,906	0.05
1996	30,000	5,627	11,477	0.49
1997	7,500	130	137	0.95
1998	7,500	2,744	14,392	0.19
1999	1,970	91	91	1.00
2000	1,795	0	0	0.00
2001	1,615	16	121	0.14
2002	1,615	229	246	0.93
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of red king crab PSC (2005/2006) based on average of total (animals)	Allocation of red king crab PSC (2005/2006) based on average of percent (animals)
1995-2002	0.29	0.47	118	190
1998-2002	0.21	0.45	84	183
1999-2003	0.74	0.52	299	210
2000-2002	0.67	0.36	272	144

Table 20 Red king crab PSC allowance in the rock sole/other flat/flathead sole fisheries during 2005/2006, red king crab PSC usage, average PSC usage, and red king crab PSC allocation to the Non-AFA Trawl CP sector in the rock sole/other flat/flathead sole fisher

	Rock sole/other flat/flathead sole			
Year	BSAI red king crab PSC allocations (animals)	Amendment 80 qualified red king crab PSC usage (animals)	Total red king crab PSC usage for all trawl vessels (animals)	Percent of Amendment 80 red king crab PSC usage of trawl usage (%)
1995	110,000	18,159	21,465	0.85
1996	110,000	9,286	9,286	1.00
1997	75,000	38,321	38,321	1.00
1998	75,000	14,004	15,036	0.93
1999	158,133	62,652	62,652	1.00
2000	70,005	53,514	53,792	0.99
2001	64,782	26,907	26,955	1.00
2002	59,782	62,332	62,332	1.00
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of red king crab PSC (2005/2006) based on average of total (animals)	Allocation of red king crab PSC (2005/2006) based on average of percent (animals)
1995-2002	0.98	0.97	119,459	117,929
1998-2002	0.99	0.98	120,666	119,577
1999-2003	1.00	1.00	121,220	121,202
2000-2002	1.00	1.00	121,136	121,131

Table 21 Red king crab PSC allowance in the yellowfin sole fishery during 2005/2006, red king crab PSC usage, average PSC usage, and red king crab PSC allocation to the Non-AFA Trawl CP sector in the yellowfin sole fishery.

Yellowfin sole				
Year	BSAI red king crab PSC allocations (animals)	Amendment 80 qualified red king crab PSC usage (animals)	Total red king crab PSC usage for all trawl vessels (animals)	Percent of Amendment 80 red king crab PSC usage of trawl usage (%)
1995	50,000	2,836	10,106	0.28
1996	50,000	5,554	6,792	0.82
1997	10,000	7,172	10,041	0.71
1998	10,000	8,413	8,747	0.96
1999	21,084	13,699	14,188	0.97
2000	12,600	13,112	16,890	0.78
2001	11,664	32,575	32,575	1.00
2002	16,664	23,194	23,474	0.99
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of red king crab PSC (2005/2006) based on average of total (animals)	Allocation of red king crab PSC (2005/2006) based on average of percent (animals)
1995-2002	0.87	0.81	29,363	27,516
1998-2002	0.95	0.94	32,120	31,757
1999-2003	0.95	0.93	32,077	31,558
2000-2002	0.94	0.92	31,960	31,185

Table 22 *C. opilio* PSC allowance in the Pacific cod fishery during 2005/2006, C. opilio PSC usage, average PSC usage, and *C. opilio* PSC allocation to the Non-AFA Trawl CP sector in the Pacific cod fishery.

Pacific Cod				
Year	BSAI *C. opilio* crab PSC allocations (animals)	Amendment 80 qualified *C. opilio* crab PSC usage (animals)	Total *C. opilio* crab PSC usage for all trawl vessels (animals)	Percent of Amendment 80 *C. opilio* crab PSC usage of trawl usage (%)
1995		12,863	47,422	0.27
1996		65,556	110,125	0.60
1997		293,427	465,172	0.63
1998		176,178	257,671	0.68
1999	133,513	218,595	271,102	0.81
2000	133,545	106,438	134,347	0.79
2001	524,736	28,630	36,074	0.79
2002	124,736	126,877	147,754	0.86
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of *C. opilio* PSC (2005/2006) based on average of total (animals)	Allocation of *C. opilio* PSC (2005/2006) based on average of % (animals)
1995-2002	0.70	0.68	97,512	94,605
1998-2002	0.78	0.79	108,036	109,644
1999-2003	0.82	0.81	113,621	113,239
2000-2002	0.82	0.81	114,708	113,537

Table 23 ***C. opilio*** **PSC allowance in the rockfish fishery during 2005/2006,** ***C. opilio*** **PSC usage, average PSC usage, and** ***C. opilio*** **PSC allocation to the Non-AFA Trawl CP sector in the rockfish fishery.**

Rockfish				
Year	BSAI *C. opilio* crab PSC allocations (animals)	Amendment 80 qualified *C. opilio* crab PSC usage (animals)	Total *C. opilio* crab PSC usage for all trawl vessels (animals)	Percent of Amendment 80 *C. opilio* crab PSC usage of trawl usage (%)
1995		74	74	1.00
1996		138	138	1.00
1997		0	0	
1998		890	890	1.00
1999	44,504	152	152	1.00
2000	44,370	263	264	1.00
2001	44,028	0	0	
2002	40,237	5,939	5,939	1.00
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of *C. opilio* PSC (2005/2006) based on average of total (animals)	Allocation of *C. opilio* PSC (2005/2006) based on average of percent (animals)
1995-2002	1.00	1.00	44,940	44,920
1998-2002	1.00	1.00	44,940	44,907
1999-2003	1.00	1.00	44,939	44,895
2000-2002	1.00	1.00	44,939	44,870

Table 24 ***C. opilio*** **PSC allowance in the pollock/Atka mackerel/other fisheries during 2005/2006,** ***C. opilio*** **PSC usage, average PSC usage, and** ***C. opilio*** **PSC allocation to the Non-AFA Trawl CP sector in the pollock/Atka mackerel/other fisheries.**

Pollock/Atka mackerel/other				
Year	BSAI *C. opilio* crab PSC allocations (animals)	Amendment 80 qualified *C. opilio* crab PSC usage (animals)	Total *C. opilio* crab PSC usage for all trawl vessels (animals)	Percent of Amendment 80 *C. opilio* crab PSC usage of trawl usage (%)
1995		55,631	209,485	0.27
1996		20,993	64,238	0.33
1997		4,162	216,193	0.02
1998		42,116	131,007	0.32
1999	77,578	2,404	16,408	0.15
2000	77,430	2,449	6,679	0.37
2001	72,428	3,062	5,679	0.54
2002	72,428	1,201	2,908	0.41
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of *C. opilio* PSC (2005/2006) based on average of total (animals)	Allocation of *C. opilio* PSC (2005/2006) based on average of percent (animals)
1995-2002	0.20	0.30	16,366	24,256
1998-2002	0.31	0.36	25,478	28,913
1999-2003	0.29	0.37	23,285	29,639
2000-2002	0.44	0.44	35,570	35,567

Table 25 ***C. opilio*** **PSC allowance in the rock sole/other flat/flathead sole fisheries during 2005/2006, *C. opilio* PSC usage, average PSC usage, and *C. opilio* PSC allocation to the Non-AFA Trawl CP sector in the rock sole/other flat/flathead sole fisheries.**

Rock sole/other flat/flathead sole				
Year	BSAI *C. opilio* crab PSC allocations (animals)	Amendment 80 qualified *C. opilio* crab PSC usage (animals)	Total *C. opilio* crab PSC usage for all trawl vessels (animals)	Percent of Amendment 80 *C. opilio* crab PSC usage of trawl usage (%)
1995		901,818	915,754	0.98
1996		842,946	843,249	1.00
1997		911,840	919,731	0.99
1998		1,189,964	1,210,733	0.98
1999	801,080	467,414	467,414	1.00
2000	940,470	415,955	417,923	1.00
2001	469,130	742,060	742,788	1.00
2002	969,130	230,068	230,082	1.00
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of *C. opilio* PSC (2005/2006) based on average of total (animals)	Allocation of *C. opilio* PSC (2005/2006) based on average of percent (animals)
1995-2002	0.99	0.99	1,073,938	1,076,160
1998-2002	0.99	1.00	1,074,246	1,077,569
1999-2003	1.00	1.00	1,080,949	1,080,972
2000-2002	1.00	1.00	1,080,418	1,080,453

Table 26 ***C. opilio*** **PSC allowance in the turbot/arrowtooth/sablefish fisheries during 2005/2006, *C. opilio* PSC usage, average PSC usage, and *C. opilio* PSC allocation to the Non-AFA Trawl CP sector in the turbot/arrowtooth/sablefish fisheries.**

Turbot/arrowtooth/sablefish				
Year	BSAI *C. opilio* crab PSC allocations (animals)	Amendment 80 qualified *C. opilio* crab PSC usage (animals)	Total *C. opilio* crab PSC usage for all trawl vessels (animals)	Percent of Amendment 80 *C. opilio* crab PSC usage of trawl usage (%)
1995		34,483	52,935	0.65
1996		5,927	5,927	1.00
1997				
1998		7,243	7,250	1.00
1999	44,504	2,952	2,952	1.00
2000	44,370	6,542	6,542	1.00
2001	40,238	17,402	17,402	1.00
2002	40,238	23,481	23,481	1.00
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of *C. opilio* PSC (2005/2006) based on average of total (animals)	Allocation of *C. opilio* PSC (2005/2006) based on average of percent (animals)
1995-2002	0.84	0.95	37,824	42,702
1998-2002	1.00	1.00	44,941	44,937
1999-2003	1.00	1.00	44,946	44,946
2000-2002	1.00	1.00	44,946	44,946

Table 27 ***C. opilio*** **PSC allowance in the yellowfin sole during 2005/2006,** ***C. opilio*** **PSC usage, average PSC usage, and** ***C. opilio*** **PSC allocation to the Non-AFA Trawl CP sector in the yellowfin sole fishery.**

Yellowfin sole				
Year	BSAI *C. opilio* crab PSC allocations (animals)	Amendment 80 qualified *C. opilio* crab PSC usage (animals)	Total *C. opilio* crab PSC usage for all trawl vessels (animals)	Percent of Amendment 80 *C. opilio* crab PSC usage of trawl usage (%)
1995		2,518,887	3,940,742	0.64
1996		2,164,855	2,619,934	0.83
1997		3,146,544	3,675,112	0.86
1998		2,324,301	2,478,410	0.94
1999	3,248,821	515,984	602,674	0.86
2000	3,109,815	2,416,196	2,449,746	0.99
2001	2,876,981	1,038,174	1,050,170	0.99
2002	2,776,981	695,080	728,995	0.95
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of *C. opilio* PSC (2005/2006) based on average of total (animals)	Allocation of *C. opilio* PSC (2005/2006) based on average of percent (animals)
1995-2002	0.84	0.88	2,620,028	2,731,238
1998-2002	0.96	0.94	2,966,016	2,929,657
1999-2003	0.97	0.95	2,995,244	2,934,812
2000-2002	0.98	0.98	3,043,630	3,027,840

Table 28 ***C. bairdi*** **Zone 1 PSC allowance in the Pacific cod fishery during 2005/2006,** ***C. bairdi*** **Zone 1 PSC usage, average PSC usage, and** ***C. bairdi*** **Zone 1 PSC allocation to the Non-AFA Trawl CP sector in the Pacific cod fishery.**

Pacific Cod				
Year	BSAI *C. bairdi* (Zone 1) PSC allocations (animals)	Amendment 80 qualified *C. bairdi* (Zone 1) PSC usage (animals)	Total *C. bairdi* (Zone 1) PSC usage for all trawl vessels (animals)	Percent of Amendment 80 *C. bairdi* (Zone 1) PSC usage of trawl usage (%)
1995	225,000	72,304	195,054	0.37
1996	250,000	64,501	128,364	0.50
1997	133,224	109,141	137,471	0.79
1998	148,224	55,192	65,204	0.85
1999	147,263	66,546	79,148	0.84
2000	167,411	45,748	55,379	0.83
2001	136,400	38,018	44,841	0.85
2002	183,112	104,741	144,550	0.72
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of *C. bairdi* PSC (Zone 1) (2005/2006) based on average of total (animals)	Allocation of *C. bairdi* PSC (Zone 1) (2005/2006) based on average of percent (animals)
1995-2002	0.65	0.72	119,816	131,676
1998-2002	0.80	0.82	145,993	149,629
1999-2003	0.79	0.81	144,182	148,288
2000-2002	0.77	0.80	141,021	146,399

Table 29 *C. bairdi* Zone 1 PSC allowance in the pollock/Atka mackerel/other fisheries during 2005/2006, *C. bairdi* Zone 1 PSC usage, average PSC usage, and *C. bairdi* Zone 1 PSC allocation to the Non-AFA Trawl CP sector in the pollock/Atka mackerel/other fisheries.

Pollock/Atka mackerel/other				
Year	BSAI *C. bairdi* (Zone 1) PSC allocations (animals)	Amendment 80 qualified *C. bairdi* (Zone 1) PSC usage (animals)	Total *C. bairdi* (Zone 1) PSC usage for all trawl vessels (animals)	Percent of Amendment 80 *C. bairdi* (Zone 1) PSC usage of trawl usage (%)
1995	75,000	22,673	105,848	0.21
1996	75,000	1,582	78,822	0.02
1997	44,408	2,562	10,862	0.24
1998	29,408	8,368	17,815	0.47
1999	14,077	63	665	0.10
2000	16,019	0	69	0.00
2001	12,830	4,451	4,705	0.95
2002	17,224	1,452	1,464	0.99
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of *C. bairdi* PSC (Zone 1) (2005/2006) based on average of total (animals)	Allocation of *C. bairdi* PSC (Zone 1) (2005/2006) based on average of percent (animals)
1995-2002	0.19	0.37	3,218	6,401
1998-2002	0.58	0.50	9,989	8,623
1999-2003	0.86	0.51	14,888	8,756
2000-2002	0.95	0.65	16,301	11,128

Table 30 *C. bairdi* Zone 1 PSC allowance in the rock sole/other flat/flathead sole fisheries during 2005/2006, *C. bairdi* Zone 1 PSC usage, average PSC usage, and *C. bairdi* Zone 1 PSC allocation to the Non-AFA Trawl CP sector in the rock sole/other flat/flathead sole

Rock sole/other flat/flathead sole				
Year	BSAI *C. bairdi* (Zone 1) PSC allocations (animals)	Amendment 80 qualified *C. bairdi* (Zone 1) PSC usage (animals)	Total *C. bairdi* (Zone 1) PSC usage for all trawl vessels (animals)	Percent of Amendment 80 *C. bairdi* (Zone 1) PSC usage of trawl usage (%)
1995	475,000	270,081	338,521	0.80
1996	425,000	340,889	341,178	1.00
1997	296,052	398,397	398,397	1.00
1998	296,052	233,897	247,263	0.95
1999	294,134	132,217	132,217	1.00
2000	334,407	178,225	192,852	0.92
2001	272,126	146,146	146,255	1.00
2002	365,320	286,732	286,732	1.00
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of *C. bairdi* PSC (Zone 1) (2005/2006) based on average of total (animals)	Allocation of *C. bairdi* PSC (Zone 1) (2005/2006) based on average of percent (animals)
1995-2002	0.95	0.96	348,341	350,083
1998-2002	0.97	0.97	355,108	355,774
1999-2003	0.98	0.98	358,218	358,325
2000-2002	0.98	0.97	356,718	355,993

Table 31 ***C. bairdi*** **Zone 1 PSC allowance in the yellowfin sole fishery during 2005/2006,** ***C. bairdi*** **Zone 1 PSC usage, average PSC usage, and** ***C. bairdi*** **Zone 1 PSC allocation to the Non-AFA Trawl CP sector in the yellowfin sole fishery.**

Yellowfin sole				
Year	BSAI *C. bairdi* (Zone 1) PSC allocations (animals)	Amendment 80 qualified *C. bairdi* (Zone 1) PSC usage (animals)	Total *C. bairdi* (Zone 1) PSC usage for all trawl vessels (animals)	Percent of Amendment 80 *C. bairdi* (Zone 1) PSC usage of trawl usage (%)
1995	225,000	80,804	260,026	0.31
1996	250,000	209,414	292,023	0.72
1997	276,316	111,013	274,458	0.40
1998	276,316	152,149	233,743	0.65
1999	274,526	131,669	148,515	0.89
2000	312,163	78,913	82,124	0.96
2001	253,894	122,383	122,383	1.00
2002	340,844	25,904	26,014	1.00
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of *C. bairdi* PSC (Zone 1) (2005/2006) based on average of total (animals)	Allocation of *C. bairdi* PSC (Zone 1) (2005/2006) based on average of percent (animals)
1995-2002	0.63	0.74	216,033	252,502
1998-2002	0.83	0.90	284,241	306,362
1999-2003	0.95	0.96	322,708	327,486
2000-2002	0.99	0.99	335,934	335,921

Table 32 ***C. bairdi*** **Zone 2 PSC allowance in the Pacific cod fishery during 2005/2006,** ***C. bairdi*** **Zone 2 PSC usage, average PSC usage, and** ***C. bairdi*** **Zone 2 PSC allocation to the Non-AFA Trawl CP sector in the Pacific cod fishery.**

Pacific Cod				
Year	BSAI *C. bairdi* (Zone 2) PSC allocations (animals)	Amendment 80 qualified *C. bairdi* (Zone 2) PSC usage (animals)	Total *C. bairdi* (Zone 2) PSC usage for all trawl vessels (animals)	Percent of Amendment 80 *C. bairdi* (Zone 2) PSC usage of trawl usage (%)
1995	260,000	12,938	44,375	0.29
1996	260,000	6,048	38,432	0.16
1997	195,000	52,532	86,398	0.61
1998	195,000	17,469	38,630	0.45
1999	218,288	24,295	34,787	0.70
2000	298,116	16,253	26,482	0.61
2001	225,941	19,338	25,417	0.76
2002	324,176	57,972	90,235	0.64
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of *C. bairdi* PSC (Zone 2) (2005/2006) based on average of total (animals)	Allocation of *C. bairdi* PSC (Zone 2) (2005/2006) based on average of percent (animals)
1995-2002	0.54	0.53	174,278	171,190
1998-2002	0.63	0.63	203,524	205,375
1999-2003	0.67	0.68	215,954	220,069
2000-2002	0.66	0.67	213,396	217,957

Table 33 *C. bairdi* Zone 2 PSC allowance in the rockfish fishery during 2005/2006, *C. bairdi* Zone 2 PSC usage, average PSC usage, and *C. bairdi* Zone 2 PSC allocation to the Non-AFA Trawl CP sector in the rockfish fishery.

Rockfish				
Year	BSAI *C. bairdi* (Zone 2) PSC allocations (animals)	Amendment 80 qualified *C. bairdi* (Zone 2) PSC usage (animals)	Allocation of *C. bairdi* PSC (Zone 2) (2005/2006) based on average of total (animals)	Allocation of *C. bairdi* PSC (Zone 2) (2005/2006) based on average of percent (animals)
1995	10000			
1996	10000	531	531	1.00
1997	7000	351	351	1.00
1998	7000	699	699	1.00
1999	7836			
2000	10884	27	27	1.00
2001	7658			
2002	10988	199	199	1.00
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of *C. bairdi* PSC (Zone 2) (2005/2006) based on average of total (animals)	Allocation of *C. bairdi* PSC (Zone 2) (2005/2006) based on average of percent (animals)
1995-2002	1.00	1.00	10,988	10,988
1998-2002	1.00	1.00	10,988	10,988
1999-2003	1.00	1.00	10,988	10,988
2000-2002	1.00	1.00	10,988	10,988

Table 34 *C. bairdi* Zone 2 PSC allowance in the pollock/Atka mackerel/other fisheries during 2005/2006, *C. bairdi* Zone 2 PSC usage, average PSC usage, and *C. bairdi* Zone 2 PSC allocation to the Non-AFA Trawl CP sector in the pollock/Atka mackerel/other fisheries.

Pollock/Atka mackerel/other				
Year	BSAI *C. bairdi* (Zone 2) PSC allocations (animals)	Amendment 80 qualified *C. bairdi* (Zone 2) PSC usage (animals)	Total *C. bairdi* (Zone 2) PSC usage for all trawl vessels (animals)	Percent of Amendment 80 *C. bairdi* (Zone 2) PSC usage of trawl usage (%)
1995	690,000	6,351	48,169	0.13
1996	690,000	2,020	11,900	0.17
1997	470,000	1,013	6,184	0.16
1998	470,000	5,150	37,461	0.14
1999	20,335	2,684	3,201	0.84
2000	27,720	1,241	1,464	0.85
2001	19,148	102	195	0.52
2002	27,473	216	860	0.25
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of *C. bairdi* PSC (Zone 2) (2005/2006) based on average of total (animals)	Allocation of *C. bairdi* PSC (Zone 2) (2005/2006) based on average of percent (animals)
1995-2002	0.17	0.38	4,714	10,524
1998-2002	0.22	0.52	5,976	14,282
1999-2003	0.74	0.62	20,381	16,909
2000-2002	0.62	0.54	17,010	14,867

Table 35 C. bairdi Zone 2 PSC allowance in the rock sole/other flat/flathead sole fisheries during 2005/2006, C. bairdi Zone 2 PSC usage, average PSC usage, and C. bairdi Zone 2 PSC allocation to the Non-AFA Trawl CP sector in the rock sole/other flat/flathead so

Rock sole/other flat/flathead sole				
Year	BSAI *C. bairdi* (Zone 2) PSC allocations (animals)	Amendment 80 qualified *C. bairdi* (Zone 2) PSC usage (animals)	Total *C. bairdi* (Zone 2) PSC usage for all trawl vessels (animals)	Percent of Amendment 80 *C. bairdi* (Zone 2) PSC usage of trawl usage (%)
1995	510,000	77,154	80,122	0.96
1996	510,000	128,695	128,695	1.00
1997	357,000	127,173	132,892	0.96
1998	357,000	198,640	199,613	1.00
1999	399,635	178,235	178,235	1.00
2000	545,832	200,639	200,639	1.00
2001	415,501	399,460	399,608	1.00
2002	596,154	262,593	262,602	1.00
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of *C. bairdi* PSC (Zone 2) (2005/2006) based on average of total (animals)	Allocation of *C. bairdi* PSC (Zone 2) (2005/2006) based on average of percent (animals)
1995-2002	0.99	0.99	592,456	589,794
1998-2002	1.00	1.00	595,611	595,524
1999-2003	1.00	1.00	596,064	596,093
2000-2002	1.00	1.00	596,045	596,073

Table 36 C. bairdi Zone 2 PSC allowance in the yellowfin sole fishery during 2005/2006, C. bairdi Zone 2 PSC usage, average PSC usage, and C. bairdi Zone 2 PSC allocation to the Non-AFA Trawl CP sector in the yellowfin sole fishery.

Yellowfin sole				
Year	BSAI *C. bairdi* (Zone 2) PSC allocations (animals)	Amendment 80 qualified *C. bairdi* (Zone 2) PSC usage (animals)	Total *C. bairdi* (Zone 2) PSC usage for all trawl vessels (animals)	Percent of Amendment 80 *C. bairdi* (Zone 2) PSC usage of trawl usage (%)
1995	1,525,000	807,997	1,116,051	0.72
1996	1,530,000	617,262	788,173	0.78
1997	1,071,000	717,280	841,912	0.85
1998	1,071,000	591,525	616,507	0.96
1999	1,198,906	249,210	284,131	0.88
2000	1,637,448	420,899	422,348	1.00
2001	1,246,502	201,708	202,292	1.00
2002	1,788,459	261,935	268,490	0.98
Year Combinations	Average of total (%)	Average of percent (%)	Allocation of *C. bairdi* PSC (Zone 2) (2005/2006) based on average of total (animals)	Allocation of *C. bairdi* PSC (Zone 2) (2005/2006) based on average of percent (animals)
1995-2002	0.85	0.90	1,523,695	1,601,775
1998-2002	0.96	0.96	1,720,170	1,719,010
1999-2003	0.96	0.96	1,722,361	1,719,766
2000-2002	0.99	0.99	1,771,262	1,770,139

APPENDIX 2 Correspondence Regarding Non-AFA Trawl Catcher Processor Sector Eligibility

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of General Counsel
P.O. Box 21109
Juneau, Alaska 99802-1109

April 25, 2005

MEMORANDUM FOR: Chris Oliver, Executive Director
North Pacific Fishery Management Council

THROUGH: Lisa L. Lindeman
Alaska Regional Counsel

FROM: Lauren M. Smoker
Attorney-Advisor

SUBJECT: Responses to Council Question 1 Concerning the BSAI Non-Pollock Groundfish Fisheries

This memorandum responds to Question 1 in your letter of December 29, 2004, requesting legal guidance on several issues concerning the statutory provisions for the BSAI non-pollock groundfish fishery and the BSAI Catcher Processor Capacity Reduction Program (hereinafter referred to as the "Capacity Reduction Program") that are included in the Department of Commerce and Related Agencies Appropriations Act, 2005, which is included in Public Law No. 108-447 (hereinafter referred to as the "Act"). We have previously provided responses to Questions 4.b and 6. We have not fully developed responses to the remaining questions. We will provide those to you as soon as possible.

Council Question 1: Section 219(a)(1) of the Act defines the AFA Trawl Catcher Processor subsector as "the owners of each catcher/processor listed in paragraphs (1) through (20) of section 208(e) of the American Fisheries Act (16 U.S.C. 1851 note)." However, section 208(e) paragraph (21) of the American Fisheries Act (AFA) includes "any catcher/processor not listed in this subsection and determined by the Secretary to have harvested more than 2,000 metric tons of the pollock in the 1997 directed pollock fishery and determined to be eligible to harvest pollock in the directed pollock fishery under the license limitation program recommended by the North Pacific Council and approved by the Secretary, . . ." Given that the Act's definition of the AFA Trawl Catcher Processor subsector includes only paragraphs (1) through (20) of section 208(e) of the AFA and not paragraph (21), please clarify:

a. Whether those vessels that qualify for the BSAI pollock fisheries under paragraph (21) of section 208(e) are precluded from participating in the Capacity Reduction Program and the non-pollock groundfish fishery as AFA vessels.

NOAA GC response: Section 219(g)(1) of the Act states that "Only a member of a catcher processor subsector may participate in — (A) the catcher processor sector of the BSAI non-pollock groundfish fishery;[1] or (B) the fishing capacity reduction program authorized by subsection (b)." The Act does not define the phrase "catcher processor sector" in section 219(g)(1)(A), but section 219(a)(3) of the Act defines the phrase "catcher processor subsector" as:

(1) the AFA trawl catcher processor subsector;
(2) the non-AFA trawl catcher processor subsector;
(3) the longline catcher processor subsector; and
(4) the pot catcher processor subsector.

The Act defines the AFA trawl catcher processor subsector as "the owners of each catcher/processor listed in paragraphs (1) through (20) of section 208(e) of the American Fisheries Act (16 U.S.C. 1851 note)." The statutory language used to define the AFA trawl catcher processor subsector is quite clear and unambiguous and does not appear to be unreasonable or illogical in its operation. Given the clear language of the Act, the AFA trawl catcher processor subsector includes only the owners of the vessels listed in section 208(e)(1) through (20) of the AFA and excludes all others. The owner of any trawl catcher processor vessel that qualifies for participation in the BSAI pollock fishery under section 208(e)(21) of the AFA is not within the AFA trawl catcher processor subsector as defined by the Act. Therefore, the owners of AFA section 208(e)(21) vessels are not members of the AFA trawl catcher processor subsector and are precluded from participating in the Capacity Reduction Program and the catcher processor sector of the BSAI groundfish fishery as members of the AFA trawl catcher processor subsector.

b. Whether those vessels that qualify for the BSAI pollock fishery under paragraph (21) of section 208(e) of the AFA would qualify for the non-AFA trawl catcher processor subsector (provided that they meet the harvest requirements defined by the Act for that sector).

NOAA GC response: For purposes of participation in the Capacity Reduction Program as well as the catcher processor sector of the BSAI non-pollock groundfish fishery, section 219(a)(7) of

[1]The Act at section 219(a)(8) defines "non-pollock groundfish fishery" as "target species of Atka mackerel, flathead sole, Pacific cod, Pacific Ocean perch, rock sole, turbot, or yellowfin sole harvested in the BSAI." By way of comparison, component 1 of Amendment 80 currently identifies the target species to be included in the non-AFA trawl catcher processor sector allocation as Atka mackerel, flathead sole, Aleutian Islands Pacific Ocean perch, rock sole, and yellowfin sole.

the Act defines the non-AFA trawl catcher processor subsector as "the owner of each trawl catcher processor – (A) that is not an AFA trawl catcher processor; (B) to whom a valid LLP license that is endorsed for Bering Sea or Aleutian Islands trawl catcher processor fishing activity has been issued; and (C) that the Secretary determines has harvested with trawl gear and processed not less than a total of 150 metric tons of non-pollock groundfish during the period January 1, 1997, through December 31, 2002." Council Question 1.b focuses on the interpretation of the first criterion in section 219(a)(7)(A) and whether the owners of those vessels that qualify for the directed pollock fishery under section 208(e)(21) of the AFA are ***not*** AFA trawl catcher processors for purposes of the Act.

In responding to this Council question, the first step in statutory interpretation is to discern the "plain meaning" of the statutory language.[2] Rules of statutory interpretation provide that words, not defined by the statute, are to be interpreted as taking their ordinary, contemporary, common meaning[3] unless the ordinary meaning fails to fit the statutory text.[4] Additionally, "[t]he plain meaning of a particular statutory provision is not determined by considering language of that provision in isolation; rather, determining the plain meaning of a statutory provision requires considering the provision at issue in the context of the statute as a whole."[5]

If the meaning of the statute is plain, i.e. the language is clear and unambiguous on its face,[6] "admits of no more than one meaning,"[7] and "is not unreasonable or illogical in its operation,"[8]

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[2] *Caminetti v. U.S.*, 242 U.S. 470, 485 (1917) ("the meaning of the statute must, in the first instance, be sought in the language in which the act is framed"). *See also*, Sutherland Stat. Construction § 46:01 (6th Ed).

[3] *A-Z Intern. v. Phillips*, 323 F3d 1141, 1146 (9th Cir. 2003).

[4] *Johnson v. U.S.*, 120 S.Ct. 1795, 1804 n. 9 (2000) (rule of construction prefers the ordinary meaning of statutory terms, but uncommon sense of term may be relied on when the ordinary meaning fails to fit the text and when the realization of clear congressional policy is in tension with the result that customary interpretive rules would deliver).

[5] *Patenaude v. Equitable Life Assurance Society of the U.S.*, 290 F3d 1020, 1025 (9th Cir. 2002). *See also U.S. v. Maria-Gonzalez*, 268 F.3d 664, 668 (9th Cir. 2001) (to determine whether the language of a statute is plain and unambiguous, court considers that language as well as the "context and design of the statute as a whole"); *Alabama Power Co. v. U.S. EPA*, 40 F.3d 450, 454 (D.C. Cir. 1994) (to determine whether Congress has unambiguously expressed its intent, court applies traditional tools of statutory interpretation to text at issue as well as to the language and design of statute as whole).

[6] Sutherland Stat. Construction § 45:02 (6th Ed).

[7] *McCord v. Bailey*, 636 F.2d 606, 614-15 (D.C. Cir. 1980).

[8] Sutherland Stat. Construction § 46:01 (6th Ed).

then the statute "need not and cannot be interpreted by a court"[9] and "the sole function of the courts is to enforce it according to its terms."[10] The result is that a "clear and unambiguous" statutory provision generally is one having a meaning that is not contradicted by other language in the same act.[11]

"Only statutes that are of doubtful meaning are subject to the process of statutory interpretation."[12] Ambiguity exists "when a statute is capable of being understood by reasonably

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[9]Sutherland Stat. Construction § 45:02 (6th Ed); *Barnhart v. Sigmon Coal Co.*, 122 S.Ct. 941, 950, 956 (2002) (the inquiry ceases in a statutory construction case if the statutory language is unambiguous and the statutory scheme is coherent and consistent; Courts must presume that a legislature says in a statute what it means and means in a statute what it says there; when the words of a statute are unambiguous then this first canon is also the last: judicial inquiry is complete).

[10]*Caminetti v. U.S.*, 242 U.S. 470, 485 (1917); *see also*, Sutherland Stat. Construction § 46:01(6th Ed); *Atlantic Mutual Ins. Co. v. Comm. of Internal Revenue*, 118 S.Ct. 1413, 1417 (1998) (in construing statute, court and administrative agency must give effect to unambiguously expressed intent of Congress); *Freytag v. Comm. of Internal Revenue*, 111 S Ct. 2631, 2636 (1991) (When Supreme Court finds terms of statute unambiguous, judicial inquiry should be complete except in rare and exceptional circumstances).

[11]Sutherland Stat. Construction § 46:05 (6th Ed).

[12]Sutherland Stat. Construction § 45:02 (6th Ed). *See also*, *Villegas-Valenzuela v. I.N.S.*, 103 F.3d 805, 809 (9th Cir. 1996) (language of statute controls where it is not ambiguous or unconstitutional); *Idaho First Natl Bank v. Comm. of Internal Revenue*, 997 F.2d 1285, 1289 (9th Cir. 1993) (task of resolving meaning of statute begins with language of statute itself and if language is unambiguous and literal application does not conflict with intentions of drafters, plain meaning should prevail); *Montero-Martinez v. Ashcroft*, 277 F.3d 1137, 1141 (9th Cir. 2002) (if the language used in a statute has a plain and unambiguous meaning, court's inquiry must cease); *County of L.A. v. Shalala*, 192 F.3d 1005, 1012-13 (D.C. Cir. 1999) (court initiates statutory analysis by first asking whether Congress has directly spoken to the precise question at issue. If, after exhausting the traditional tools of statutory construction, the court of appeals ascertains that Congress' intent is clear, that is the end of the matter; but if the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the administrative agency's answer is based on a permissible construction of the statute.); *Harper v. U.S. Seafoods L.P.*, 278 F.3d 971, 975 (9th Cir. 2002) (if the language of a statute is clear, a court looks no further than that language in determning the statute's meaning; the only exception to this rule would be for absurd or impracticable consequences).

well-informed persons in two or more different senses."[13] In these situations, agencies are permitted to develop a reasonable interpretation of a term or phrase.[14]

Congress used the phrase "AFA trawl catcher processor" in section 219(a)(7)(A) but did not define this phrase in the Act.[15] However, the lack of a statutory definition does not necessarily mean that the phrase is therefore ambiguous and subject to agency interpretation.[16] In such instances, as explained above, the ordinary or common meaning of an undefined word or phrase is to be applied in the context of the statute as a whole unless the ordinary meaning fails to fit within the statutory text as a whole.

There is sufficient support within the AFA and NOAA Fisheries regulations implementing the AFA to conclude that, prior to passage of the Act, the common meaning of the phrase "AFA trawl catcher processor" was any vessel that is authorized by section 208(e) of the AFA to participate in the directed pollock fishery, including those vessels that qualify under section 208(e)(21) of the AFA. Section 208 of the AFA is entitled "Eligible Vessels and Processors" and subsection 208(e) is entitled "Catcher/Processors." Additionally, NOAA Fisheries regulations implementing the AFA define the phrase "AFA catcher processor" as "a catcher processor permitted to harvest BSAI pollock under 679.4(l)(2)."[17] Under section 679.4(l)(2), NOAA Fisheries issues AFA catcher processor permits to all of the vessels that qualify under section

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[13]Sutherland Stat. Construction § 45:02 (6th Ed). *See also, DeGeorge v. U.S. Dist. Court for Cent. Dist. of California*, 219 F.3d 930, 939 (9th Cir. 2000) (a statute is ambiguous if it gives rise to more than one reasonable interpretation); *Local Joint Exec. Board of Culinary/Barenders Trust Fund v. Las Vegas Sands, Inc.*, 244 F.3d 1152, 1157 (9th Cir. 2001) (if alternative readings of a federal statute are possible, court determines whether one construction makes more sense than the other as a means of attributing a rational purpose to Congress); *Brown v. Gardner*, 115 S.Ct. 552, 555 (1994) (ambiguity is a creature not of definitional possibilities but of statutory context); *U.S. ex rel Findley v. FPC-Boron Employees' Club*, 105 F.3d 675, 681 (D.C. Cir. 1997) (if ambiguity persists, court must construe ambiguous term in statute to contain that permissible meaning which fits most logically into the body of both previously and subsequently enacted law).

[14]*See Chevron U.S.A., Inc. V. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842-45 (1984) (holding that if statute is silent or ambiguous with respect to specific issue, agency's interpretation of statute must be upheld if agency's construction of statute is permissible and not arbitrary, capricious, or "manifestly contrary to the statute").

[15]Section 219(a)(7)(A) is the only place in the Act where the phrase "AFA trawl catcher processor" appears.

[16]*AFL-CIO v. Glickman*, 215 F.3d 7, 10 (D.C. Cir. 2000) (lack of statutory definition does not render a term ambiguous, but, instead, it simply leads a court to give the term its ordinary, common meaning. *See also, Engine Manufacturers Association v. U.S. EPA*, 88 F.3d 1075, 1088 (D.C. Cir. 1996) (if statute clearly requires particular outcome then mere fact that statute does so implicitly rather than expressly does not mean that it is silent for purposes of *Chevron* analysis).

[17]50 CFR 679.2.

208(e), including vessels that qualify under AFA section 208(e)(21). These regulatory provisions were in effect during the development of the Act and its passage.[18]

While this pre-Act common meaning of the phrase "AFA trawl catcher processor" still applies in the context of the AFA and the directed pollock fishery, the pre-Act common meaning should not be applied to the phrase used in section 219(a)(7)(A) because it fails to fit the statutory text of the Act. As explained in NOAA GC's response to Council Question 1.a., the AFA trawl catcher processor subsector is defined by the Act to be only those vessels listed in paragraphs (1) through (20) of section 208(e) of the AFA. The Act's definition of the "AFA trawl catcher processor subsector" clearly and unambiguously excluded any AFA catcher processor that qualified under section 208(e)(21) from the subsector, although it is clear that those vessels remain eligible AFA catcher processors for purposes of the AFA. Congress was aware that there are vessels that qualify for the directed pollock fishery under section 208(e)(21) of the AFA and could have included all of the catcher processor vessels that are eligible under section 208(e) of the AFA in the Act's definition of "AFA trawl catcher processor subsector." Including all of the vessels that are eligible in paragraphs (1) through (21) of section 208(e) of the AFA would have applied the pre-Act ordinary meaning of "AFA trawl catcher processor" into the Act. Instead, Congress chose to exclude AFA section 208(e)(21) vessels from the Act's definition of AFA trawl catcher processor subsector and more narrowly defined which AFA trawl catcher processors would continue to be considered AFA trawl catcher processors in the non-pollock groundfish fishery. Congress could have used its prior definition of AFA trawl catcher processor in the Act and chose not to do so. It is evident from the exclusion of section 208(e)(21) vessels in the Act's definition of the AFA trawl catcher processor subsector that Congress did not intend to incorporate wholesale all of the vessels that are considered AFA trawl catcher processors for purposes of the directed pollock fishery as AFA trawl catcher processors for purposes of the non-pollock groundfish fishery. The language in the Act suggests that Congress purposely decided to have a slightly different group of vessels as AFA trawl catcher processors in the catcher processor sector of the non-pollock groundfish fishery than the group of vessels that are AFA trawl catcher processors in the directed pollock fishery. Therefore, to apply the pollock fishery's common meaning of AFA trawl catcher processor to section 219(a)(7)(A) for purposes of the non-pollock groundfish fishery would not be consistent with the full statutory language of the Act.

If the pre-Act common meaning is not applied, the meaning of the phrase "AFA trawl catcher processor" in section 219(a)(7)(A) still must be discerned. For the reasons explained below, the plain meaning of the phrase "AFA trawl catcher processor" as used in section 219(a)(7)(A) of the Act likely means those trawl catcher processors that are identified in paragraphs (1) through (20) of section 208(e) of the AFA.

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[18]The final rule implementing section 679.4(l) was published in the Federal Register on December 30, 2002 (67 FR 79692).

First, as explained above, it is clear from the statutory language used in the Act that the Act redefined what vessels are to be considered AFA trawl catcher processors for purposes of the Act and the non-pollock groundfish fishery through its explicit definition of the AFA trawl catcher processor subsector. Congress implicitly identified the universe of AFA trawl catcher processors for purposes of the Act and the non-pollock groundfish fishery when it explicitly and exclusively identified the vessels that comprise the AFA trawl catcher processor subsector. Because the Act specifically identifies only those vessels listed in AFA section 208(e)(1) through (20) as being within the AFA trawl catcher processor subsector, the Act implicitly defines the phrase "AFA trawl catcher processor" as those 20 vessels. No other meaning for the phrase "AFA trawl catcher processor" is apparent from the statutory language of the Act.

Second, such an interpretation applies a plain meaning that appears to be consistent with and not contrary to the intentions of Congress, and does not appear to result in unreasonable, absurd, illogical, or impracticable consequences. The legislative history for section 208(e)(21) of the AFA states that the section was intended to "allow a small number of catcher/processors (perhaps as few as one) to continue to harvest the relatively small amount of pollock they harvested in the past **while relying primarily on other fisheries**." (Emphasis added.)[19] Section 208(e)(21) of the AFA acknowledges the participation of vessels in the directed pollock fishery while at the same time recognizing that those vessels primarily participate in non-pollock fisheries. Furthermore, different definitions of AFA trawl catcher processor can co-exist harmoniously because they apply to separate and distinct fisheries. Whereas the AFA is applicable to participation in the directed pollock fishery, the Act is applicable to participation in the catcher processor sector of a completely different fishery, the non-pollock groundfish fishery. A vessel that is an AFA trawl catcher processor for purposes of the directed pollock fishery, and not an AFA trawl catcher processor for purposes of the catcher processor sector of the non-pollock groundfish fishery does not appear to create a conflict with Congressional intent or produce an unreasonable, absurd, illogical, or impracticable consequence.

Third, the legislative history is silent in regards to the interpretation of the phrase in section 219(a)(7)(A). While it is evident from the statutory language that the phrase certainly includes vessels listed in paragraphs (1) through (20) of section 208(e) of the AFA, there is nothing in the legislative history that indicates Congress' intent to exclude vessels that qualify for the directed pollock fishery under section 208(e)(21) of the AFA from participation in the catcher processor sector of the BSAI non-pollock groundfish fishery or the Capacity Reduction Program. Instead, the floor statements made in support of section 219 reflect Congress' intent to include active and latent participants[20] and to provide each subsector, rather than Congress, with the ability to make the initial determinations as to what capacity will be removed from the non-pollock groundfish fishery.[21]

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[19] 144 CONG REC. S12,779 (daily ed. Oct. 21, 1998).

[20] 151 CONG. REC. S11,747-48 (daily ed. Nov. 20, 2004) (statement of Sen. Murray).

[21] *Id.*, at S11,748.

Given the above, the plain meaning of the phrase "AFA trawl catcher processor" as used in section 219(a)(7)(A) of the Act means those vessels identified in paragraphs (1) through (20) of section 208(e) the AFA. Consequently, vessels that qualify for the directed pollock fishery under section 208(e)(21) of the AFA are not AFA trawl catcher processors for purposes of the Act and therefore satisfy the first criterion in section 219(a)(7)(A) for qualification in the non-AFA trawl catcher processor subsector.

cc: NOAA GC
GCF

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of General Counsel
P.O. Box 21109
Juneau, Alaska 99802-1109

February 9, 2005

MEMORANDUM FOR: Chris Oliver, Executive Director
North Pacific Fishery Management Council

THROUGH: Lisa L. Lindeman
Alaska Regional Counsel

FROM: Lauren M. Smoker
Attorney-Advisor

SUBJECT: Responses to Council Questions 4.b and 6 concerning the BSAI non-pollock groundfish fisheries

This memorandum responds to your letter of December 29, 2004, requesting legal guidance on several issues concerning the statutory provisions for the BSAI non-pollock groundfish fishery and the BSAI Catcher Processor Capacity Reduction Program (hereinafter referred to as the "Capacity Reduction Program") that are included in the Department of Commerce and Related Agencies Appropriations Act, 2005, which is included in Public Law No. 108-447 (hereinafter referred to as the "Act").[1] For convenience, a copy of the Act is attached to this memorandum. We are providing responses to Questions 4.b and 6. We have not fully developed responses to the remaining questions. We will provide those to you as soon as possible and before the April 2005 Council meeting.

The questions the Council has posed involve issues of statutory interpretation. Therefore, the following brief overview of two main tenets or rules of statutory construction is provided as a starting point for our responses. First, under the rules of statutory construction, the language of a statute is controlling and takes precedence over the language of a regulation if the regulation is not consistent with the statutory language.[2] A statute is the charter for the administrative agency charged with implementing it.[3] A regulation issued by an agency under the authority of a

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[1]Your letter also contained questions for NOAA General Counsel in other topic areas, such as Gulf of Alaska rockfish and observers. Our office has responded or will respond to those questions separately.

[2]Singer, Norman J., Sutherland Statutory Construction §31:02 (5th ed. 1992).

[3]*Id.*

particular statute therefore must be authorized by and consistent with the statute, and administrative action cannot be in excess of the authority conferred by the statute.[4] Because Congress is the source of a federal administrative agency's powers, the provisions of the statute will prevail in any case of conflict between a statute and an agency regulation implementing that statute.[5]

Second, when the language of a statute is clear and unambiguous and not unreasonable or illogical in its operation, a court may not go outside the language of the statute for its meaning.[6] This is known as the plain meaning rule. Only statutes that are ambiguous are subject to the process of statutory interpretation.[7] Ambiguity exists when a statute is capable of being understood by reasonably well informed persons in two or more different senses.[8] Even if a specific provision is clearly worded, ambiguity can exist if some other section of the statutory program expands or constricts the provision's meaning, if the plain meaning of the provision is repugnant to the general purview of the act, or if the provision when considered in conjunction with other provisions of the statutory program import a different meaning.[9]

The Council's questions 4.b and 6 and NOAA GC's responses are provided below.

Council Question 4.b: Section 219(a)(7) defines the Non-AFA Trawl Catcher Processor subsector as the owner of each trawl catcher processor that is not an AFA trawl catcher processor, that holds a valid LLP license with Bering Sea or Aleutian Islands endorsement, and that the Secretary determines has harvested with trawl gear and processed not less than a total of 150 metric tons of non-pollock groundfish during the period January 1, 1997 through December 31, 2002:

b. Given that the Council is currently developing a cooperative program for the non-AFA trawl catcher processors along with allocations for the non-pollock groundfish fisheries in Amendment 80, can the Council adopt a more stringent eligibility requirement for participation in non-AFA trawl catcher processor cooperatives than the eligibility requirement set out in the Act?

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[4] *Id.*

[5] *Id.*

[6] *Id.*, at §46:01 (6th ed. 2000).

[7] *Id.*

[8] *Id.*, at §46:04.

[9] *Id.*, at §46:01.

NOAA GC response: Section 219(a)(7) reads as follows:

> (7) Non-AFA Trawl Catcher Processor Subsector.— The term "non-AFA trawl catcher processor subsector" means the owner of each trawl catcher processor—
>
> (A) that is not an AFA trawl catcher processor;
>
> (B) to whom a valid LLP license that is endorsed for Bering Sea or Aleutian Islands trawl catcher processor fishing activity has been issued; and
>
> (C) that the Secretary determines has harvested with trawl gear and processed not less than a total of 150 metric tons of non-pollock groundfish during the period January 1, 1997 through December 31, 2002.

Section 219(a)(7) of the Act sets forth the criteria for eligibility to the non-AFA trawl catcher processor subsector. Although there are some questions that have been raised by the Council as to how to interpret the individual criteria contained within the Act's definition of non-AFA trawl catcher processor subsector,[10] it is quite clear from the language used in the definition that there are three criteria for eligibility in the subsector. Additionally, it is clear from the language used that all the criteria must be met by the owner of a trawl catcher processor in order to be eligible for the non-AFA trawl catcher processor subsector given Congress' use of the word "and" at the end of subsection 219(a)(7)(B).

The Council's current options for eligibility criteria for both the non-AFA trawl catcher processor sector and harvesting cooperatives formed within the sector are contained in Component 9 of the Council's December 2004 motion on Amendment 80. Component 9 currently reads as follows:

> **Component 9** Identifies the license holders that are in the Non-AFA Trawl Catcher Processor sector which would receive Sector Eligibility Endorsements. Non-AFA qualified license holders with a trawl and catcher processor endorsement would be issued a Sector Eligibility Endorsement that will be attached to that holder's LLP identifying it as a member of the Non-AFA Trawl Catcher Processor sector. Only vessels that qualify for a sector eligibility endorsement may participate in cooperative under this program.
>
> Option 9.1 Qualified license holders must have caught 500 mt. of groundfish with trawl gear and processed that fish between 1998-2002.
> Option 9.2 Qualified license holders must have caught 1,000 mt. of groundfish with trawl gear and processed that fish between 1998-2002.
> Option 9.3 Qualified license holders must have caught 500 mt. of groundfish with trawl gear and processed that fish between 1997-2002.
> Option 9.4 Qualified license holders must have caught 1,000 mt. of groundfish with trawl gear and processed that fish between 1997-2002.
> Option 9.5 Qualified license holders must have caught 150 mt. of groundfish with trawl

[10] See Council Questions, 1, 3, and 4.a.

gear and processed that fish between 1997-2002.

Under this component of Amendment 80, if a person meets the criteria within the options under consideration, then that person would be a member of the non-AFA trawl catcher processor sector and would be eligible to join a harvesting cooperative within that sector. With the exception of Option 9.5,[11] all of the options currently under consideration by the Council differ from the Act's sector eligibility criterion in section 219(a)(7)(C) either in qualifying harvest tonnage amounts or qualifying years, or both.

The statutory language used in section 219(a)(7) or in other sections of the Act does not include words that permit the Council or NOAA Fisheries to amend Congress' enumerated subsector qualification criteria. Additionally, there is no statutory language in section 219(a)(7) or elsewhere in the Act that would permit the application of more restrictive, or more lenient, subsector qualification criteria by the Council or NOAA Fisheries. Because the language of the Act is clear and unambiguous and is not unreasonable or illogical in its operation, there is no need to go outside of the language of the Act for its meaning. Congress did not provide the Council or NOAA Fisheries with any ability to make adjustments to the specific statutory criteria addressing eligibility in any of the subsectors. As explained earlier, under statutory rules of construction, the language of the Act is controlling and would take precedence over the language of a regulation if the regulation were not consistent with the statutory language. While the Council and NOAA Fisheries may continue to examine alternative eligibility options for the non-AFA trawl catcher processor subsector in the analysis for Amendment 80, the criteria as to who is eligible to be a member of the non-AFA trawl catcher processor subsector has been decided by Congress, and the Council and NOAA Fisheries cannot select or impose different, including more stringent, eligibility requirements for entrance to the non-AFA trawl catcher processor subsector.

Although the Act defines who is eligible for the non-AFA trawl catcher processor subsector, the Act does not address the issue of eligibility in a harvesting cooperative ***within*** the non-AFA trawl catcher processor subsector. The imposition of more restrictive eligibility criteria for the formation of harvesting cooperatives does not appear to be prohibited by the Act. If the Council chooses, the Council could examine eligibility requirements for harvesting cooperative formation within the non-AFA trawl catcher processor subsector that would be more stringent than the subsector's eligibility requirements, and adopt such measures if the measures are consistent with the requirements of the Magnuson-Stevens Act and other applicable law, including the Act. It is important to note, however, that the Council could not use harvesting cooperative eligibility requirements as a means to effect changes to the Act's eligibility criteria for the non-AFA trawl catcher processor subsector. For example, if the Council would make an allocation of BSAI non-pollock groundfish to the non-AFA trawl catcher processor subsector, the Council could not allocate all the subsector's allocation to harvesting cooperatives within that subsector if the

[11]The Council added Option 9.5 at their December meeting because of the Act's criterion at section 219(a)(7)(C).

eligibility criteria for harvesting cooperatives are more restrictive than the criteria for subsector eligibility. Under this example, only those persons that would meet the more stringent harvesting cooperative eligibility criteria would be eligible to participate in the non-AFA trawl catcher processor subsector, impermissibly amending the statutory criteria for participation in that subsector.

Council Question 6: Relative to further development of Amendment 80 (allocations of flatfish species and cooperative development for the H&G catcher/processor sector), if the Council continues its current course and does not include allocations of those species to AFA sectors, would that in any way compromise those sectors' eligibility for the legislated non-pollock buyback program?

NOAA GC response: For the following reasons, NOAA General Counsel has determined that the ability of the four catcher processor subsectors, as defined in the Act, to participate in the Act's Capacity Reduction Program is not dependent on the receipt of an allocation of non-pollock groundfish. Therefore, the catcher processor subsectors as defined in the Act, including the AFA trawl catcher processor subsector, are not precluded from participation in the Capacity Reduction Program if the Council continues its current course and does not include allocations of non-pollock groundfish to those catcher processor subsectors in Amendment 80.

The Act, in sections 219(b) through (f), establishes the voluntary Capacity Reduction Program.[12] Under section 219(e)(1), participation in the Capacity Reduction Program begins with the development of a capacity reduction plan by the members of a catcher processor subsector, and submission of that capacity reduction plan to the Secretary of Commerce (Secretary) after notice to the Council. None of the statutory provisions in the Act concerning the Capacity Reduction Program tie Amendment 80 to participation in the Capacity Reduction Program or make a subsector's inclusion in Amendment 80 a prerequisite for that subsector's participation in the Capacity Reduction Program. In fact, the statutory language of the Act makes no specific reference to Amendment 80 at all.

More importantly, the ability of a catcher processor subsector to participate in the Capacity Reduction Program is not dependent on first receiving an allocation of BSAI non-pollock groundfish. There is no statutory provision within sections 219(b) through (f) of the Act that makes an allocation of non-pollock groundfish to a catcher processor subsector a criterion for participation in the Capacity Reduction Program or a criterion for the development and submission of a capacity reduction plan to the Secretary. Because a subsector's participation in

[12]Section 219(b) establishes the authority for the Capacity Reduction Program; section 219(c) addresses the availability of Capacity Reduction Program funds to the four defined catcher processor subsectors; section 219(d) contains requirements for binding reduction contracts; section 219(e) contains the provisions concerning the development, approval and notification of catcher processor subsector capacity reduction plans; and section 219(f) addresses the actions that are to be undertaken by other federal agencies upon the request of the Secretary of Commerce.

the Capacity Reduction Program is not dependent on first receiving an allocation of non-pollock groundfish, each subsector defined in the Act is capable of participating in the Capacity Reduction Program regardless of whether it is included in Amendment 80.

Attachment

be deposited in the NOAA Operations, Research, and Facilities Appropriations Account and treated as an offsetting collection and only be available for financing additional scholarships.

SEC. 215. Section 402(f) of Public Law 107–372 is amended—

(1) in paragraph (1), by striking "All right" and inserting "For the period ending April 3, 2008, all right"; and

(2) in paragraph (3), by inserting "for the period ending April 3, 2008" after "and annually thereafter".

SEC. 216. Of the amounts made available under this heading for the National Oceanic and Atmospheric Administration, the Secretary of Commerce shall pay by March 1, 2005, $5,000,000 to the National Marine Sanctuaries Foundation to capitalize a fund for ocean activities.

SEC. 217. Any funding provided under this title used to implement the Department of Commerce's E-Government Initiatives shall be subject to the procedures set forth in section 605 of this Act.

SEC. 218. A fishing capacity reduction program for the Federal Gulf of Mexico Reef Fish Fishery Management Plan principally intended for commercial long line vessels is authorized to be financed through a capacity reduction loan of $35,000,000 pursuant to sections 1111 and 1112 of title XI of the Merchant Marine Act of 1936 (46 U.S.C. App. 1279f and 1279g) subject to the conditions of this section. In accordance with the Federal Credit Reform Act of 1990 (2 U.S.C. 661 et seq.), $350,000 is hereby appropriated for the subsidy cost of the loan authorized under this section and shall remain available until expended. The Secretary of Commerce, working in close coordination with active fishery participants, is hereby authorized to design and implement a comprehensive voluntary capacity reduction program using the loan authorized under this section. The Secretary shall set the loan term at 35 years and repayment shall begin within 1 year of final implementation of the program. In addition to the authority of the Gulf of Mexico Regional Fishery Management Council to develop and recommend conservation and management measures for the Gulf of Mexico reef fish fishery, the Secretary of Commerce is authorized to develop and implement a limited access program pursuant to the standards set forth in section 303(b)(6) of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1853(b)(6)).

SEC. 219. (a) DEFINITIONS.—In this section:

(1) AFA TRAWL CATCHER PROCESSOR SUBSECTOR.—The term "AFA trawl catcher processor subsector" means the owners of each catcher/processor listed in paragraphs (1) through (20) of section 208(e) of the American Fisheries Act (16 U.S.C. 1851 note).

(2) BSAI.—The term "BSAI" has the meaning given the term "Bering Sea and Aleutian Islands Management Area" in section 679.2 of title 50, Code of Federal Regulations (or successor regulation).

(3) CATCHER PROCESSOR SUBSECTOR.—The term "catcher processor subsector" means, as appropriate, one of the following:

(A) The longline catcher processor subsector.

(B) The AFA trawl catcher processor subsector.

(C) The non-AFA trawl catcher processor subsector.

(D) The pot catcher processor subsector.

(4) COUNCIL.—The term "Council" means the North Pacific Fishery Management Council established in section 302(a)(1)(G)

of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1852(a)(1)(G)).

(5) LLP LICENSE.—The term "LLP license" means a Federal License Limitation program groundfish license issued pursuant to section 679.4(k) of title 50, Code of Federal Regulations (or successor regulation).

(6) LONGLINE CATCHER PROCESSOR SUBSECTOR.—The term "longline catcher processor subsector" means the holders of an LLP license that is noninterim and transferable, or that is interim and subsequently becomes noninterim and transferable, and that is endorsed for Bering Sea or Aleutian Islands catcher processor fishing activity, C/P, Pcod, and hook and line gear.

(7) NON-AFA TRAWL CATCHER PROCESSOR SUBSECTOR.—The term "non-AFA trawl catcher processor subsector" means the owner of each trawl catcher processor—

(A) that is not an AFA trawl catcher processor;

(B) to whom a valid LLP license that is endorsed for Bering Sea or Aleutian Islands trawl catcher processor fishing activity has been issued; and

(C) that the Secretary determines has harvested with trawl gear and processed not less than a total of 150 metric tons of non-pollock groundfish during the period January 1, 1997 through December 31, 2002.

(8) NON-POLLOCK GROUNDFISH FISHERY.—The term "non-pollock groundfish fishery" means target species of Atka mackerel, flathead sole, Pacific cod, Pacific Ocean perch, rock sole, turbot, or yellowfin sole harvested in the BSAI.

(9) POT CATCHER PROCESSOR SUBSECTOR.—The term "pot catcher processor subsector" means the holders of an LLP license that is noninterim and transferable, or that is interim and subsequently becomes noninterim and transferable, and that is endorsed for Bering Sea or Aleutian Islands catcher processor fishing activity, C/P, Pcod, and pot gear.

(10) SECRETARY.—Except as otherwise provided in this Act, the term "Secretary" means the Secretary of Commerce.

(b) AUTHORITY FOR BSAI CATCHER PROCESSOR CAPACITY REDUCTION PROGRAM.—

(1) IN GENERAL.—A fishing capacity reduction program for the non-pollock groundfish fishery in the BSAI is authorized to be financed through a capacity reduction loan of not more than $75,000,000 under sections 1111 and 1112 of the Merchant Marine Act, 1936 (46 U.S.C. App. 1279f and 1279g).

(2) RELATIONSHIP TO MERCHANT MARINE ACT, 1936.—The fishing capacity reduction program authorized by paragraph (1) shall be a program for the purposes of subsection (e) of section 1111 of the Merchant Marine Act, 1936 (46 U.S.C. App. 1279f), except, notwithstanding subsection (b)(4) of such section, the capacity reduction loan authorized by paragraph (1) may have a maturity not to exceed 30 years.

(c) AVAILABILITY OF CAPACITY REDUCTION FUNDS TO CATCHER PROCESSOR SUBSECTORS.—

(1) IN GENERAL.—The Secretary shall make available the amounts of the capacity reduction loan authorized by subsection (b)(1) to each catcher processor subsector as described in this subsection.

(2) INITIAL AVAILABILITY OF FUNDS.—The Secretary shall make available the amounts of the capacity reduction loan authorized by subsection (b)(1) as follows:

(A) Not more than $36,000,000 for the longline catcher processor subsector.

(B) Not more than $6,000,000 for the AFA trawl catcher processor subsector.

(C) Not more than $31,000,000 for the non-AFA trawl catcher processor subsector.

(D) Not more than $2,000,000 for the pot catcher processor subsector.

(3) OTHER AVAILABILITY OF FUNDS.—After January 1, 2009, the Secretary may make available for fishing capacity reduction to one or more of the catcher processor subsectors any amounts of the capacity reduction loan authorized by subsection (b)(1) that have not been expended by that date.

(d) BINDING REDUCTION CONTRACTS.—

(1) REQUIREMENT FOR CONTRACTS.—The Secretary may not provide funds to a person under the fishing capacity reduction program authorized by subsection (b) if such person does not enter into a binding reduction contract between the United States and such person, the performance of which may only be subject to the approval of an appropriate capacity reduction plan under subsection (e).

(2) REQUIREMENT TO REVOKE LICENSES.—The Secretary shall revoke all Federal fishery licenses, fishery permits, and area and species endorsements issued for a vessel, or any vessel named on an LLP license purchased through the fishing capacity reduction program authorized by subsection (b).

(e) DEVELOPMENT, APPROVAL, AND NOTIFICATION OF CAPACITY REDUCTION PLANS.—

(1) DEVELOPMENT.—Each catcher processor subsector may, after notice to the Council, submit to the Secretary a capacity reduction plan for the appropriate subsector to promote sustainable fisheries management through the removal of excess harvesting capacity from the non-pollock groundfish fishery.

(2) APPROVAL BY THE SECRETARY.—The Secretary is authorized to approve a capacity reduction plan submitted under paragraph (1) if such plan—

(A) is consistent with the requirements of section 312(b) of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1861a(b)) except—

(i) the requirement that a Council or Governor of a State request such a program set out in paragraph (1) of such subsection; and

(ii) the requirements of paragraph (4) of such subsection;

(B) contains provisions for a fee system that provides for full and timely repayment of the capacity reduction loan by a catcher processor subsector and that may provide for the assessment of such fees based on methods other than ex-vessel value of fish harvested;

(C) does not require a bidding or auction process;

(D) will result in the maximum sustained reduction in fishing capacity at the least cost and in the minimum amount of time; and

(E) permits vessels in the catcher processor subsector to be upgraded to achieve efficiencies in fishing operations provided that such upgrades do not result in the vessel exceeding the applicable length, tonnage, or horsepower limitations set out in Federal law or regulation.

(3) APPROVAL BY REFERENDUM.—

(A) IN GENERAL.—Following approval by the Secretary under paragraph (2), the Secretary shall conduct a referendum for approval of a capacity reduction plan for the appropriate catcher processor subsector. The capacity reduction plan and fee system shall be approved if the referendum votes which are cast in favor of the proposed system by the appropriate catcher processor subsector are—

(i) 100 percent of the members of the AFA trawl catcher processor subsector; or

(ii) not less than 2/3 of the members of—

(I) the longline catcher processor subsector;

(II) the non-AFA trawl catcher processor subsector; or

(III) the pot catcher processor subsector.

(B) NOTIFICATION PRIOR TO REFERENDUM.—Prior to conducting a referendum under subparagraph (A) for a capacity reduction plan, the Secretary shall—

(i) identify, to the extent practicable, and notify the catcher processor subsector that will be affected by such plan; and

(ii) make available to such subsector information about any industry fee system contained in such plan, a description of the schedule, procedures, and eligibility requirements for the referendum, the proposed program, the estimated capacity reduction, the amount and duration, and any other terms and conditions of the fee system proposed in such plan.

(4) IMPLEMENTATION.—

(A) NOTICE OF IMPLEMENTATION.—Not later than 90 days after a capacity reduction plan is approved by a referendum under paragraph (3), the Secretary shall publish a notice in the Federal Register that includes the exact terms and conditions under which the Secretary shall implement the fishing capacity reduction program authorized by subsection (b).

(B) INAPPLICABILITY OF IMPLEMENTATION PROVISION OF MAGNUSON.—Section 312(e) of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1861a(e)) shall not apply to a capacity reduction plan approved under this subsection.

(5) AUTHORITY TO COLLECT FEES.—The Secretary is authorized to collect fees to fund a fishing capacity reduction program and to repay debt obligations incurred pursuant to a plan approved under paragraph (3)(A).

(f) ACTION BY OTHER ENTITIES.—Upon the request of the Secretary, the Secretary of the Department in which the National Vessel Documentation Center operates or the Secretary of the Department in which the Maritime Administration operates, as appropriate, shall, with respect to any vessel or any vessel named on an LLP license purchased through the fishing capacity reduction program authorized by subsection (b)—

(1)(A) permanently revoke any fishery endorsement issued to the vessel under section 12108 of title 46, United States Code;

(B) refuse to grant the approval required under section 9(c)(2) of the Shipping Act, 1916 (46 U.S.C. App. 808(c)(2)) for the placement of the vessel under foreign registry or the operation of the vessel under the authority of a foreign country; and

(C) require that the vessel operate under United States flag and remain under Federal documentation; or

(2) require that the vessel be scrapped as a reduction vessel under section 600.1011(c) of title 50, Code of Federal Regulations.

(g) NON-POLLOCK GROUNDFISH FISHERY.—

(1) PARTICIPATION IN THE FISHERY.—Only a member of a catcher processor subsector may participate in—

(A) the catcher processor sector of the BSAI non-pollock groundfish fishery; or

(B) the fishing capacity reduction program authorized by subsection (b).

(2) PLANS FOR THE FISHERY.—It is the sense of Congress that—

(A) the Council should continue on its path toward rationalization of the BSAI non-pollock groundfish fisheries, complete its ongoing work with respect to developing management plans for the BSAI non-pollock groundfish fisheries in a timely manner, and take actions that promote stability of these fisheries consistent with the goals of this section and the purposes and policies of the Magnuson-Stevens Fishery Conservation and Management Act; and

(B) such plans should not penalize members of any catcher processor subsector for achieving capacity reduction under this Act or any other provision of law.

(h) REPORTS.—

(1) REQUIREMENT.—The Secretary shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Resources of the House of Representatives 5 reports on the fishing capacity reduction program authorized by subsection (b).

(2) CONTENT.—Each report shall contain the following:

(A) A description of the fishing capacity reduction program carried out under the authority in subsection (b).

(B) An evaluation of the cost and cost-effectiveness of such program.

(C) An evaluation of the effectiveness of such program in achieving the objective set out in section 312(b) of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1861a(b)).

(3) SCHEDULE.—

(A) INITIAL REPORT.—The Secretary shall submit the first report under paragraph (1) not later than 90 days after the date that the first referendum referred to in subsection (e)(3) is held.

(B) SUBSEQUENT REPORTS.—During each of the 4 years after the year in which the report is submitted under subparagraph (A), the Secretary shall submit to Congress an annual report as described in this subsection.

North Pacific Fishery Management Council

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December 29, 2004

Ms. Lisa Lindeman
NOAA General Counsel
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Dear Lisa:

Based on discussions at our recent December Council meeting, there are several issues for which we are seeking legal guidance. Some of these will benefit from such guidance at or before our February 2005 meeting, including the BSAI non-pollock groundfish fisheries (and recent legislation in that regard), and the GOA rockfish pilot program. These issues are summarized below:

BSAI Non-Pollock Groundfish Fisheries

In Section 219 of the FY 2005 Appropriations Act is a BSAI Catcher Processor Capacity Reduction Program. The program authorizes $75 million to reduce the capacity of the catcher processor fleets operating in the BSAI. The program also limits access to the non-pollock groundfish fisheries defined by the Act as the Atka mackerel, flathead sole, Pacific cod, Pacific Ocean perch, rock sole, turbot, or yellowfin sole fisheries in the BSAI. The Council at the December 2004 meeting, asked NOAA GC to provide clarification at the February 2005 meeting of this new program to help interpret the effects on existing management regulations, and those currently under consideration by the Council. Listed below are some of the specific issues of the program that need further clarification.

1. Section 219 (1) of the Act defines AFA Trawl Catcher Processor subsector as owners of each catcher processor listed in paragraphs (1) through (20) of Section 208(e) of the AFA (16 U.S.C. 1851 note). However, Section 208(e) paragraph (21) of the AFA includes certain vessels in the BSAI pollock fisheries that have harvested more than 2,000 metric tons of the pollock in the 1997 directed pollock fishery. Given that the Capacity Reduction Program definition of AFA includes only paragraphs (1) through (20) of Section 208(e) and not paragraph (21), NOAA GC should clarify

    a. Whether those vessels that qualify for the BSAI pollock fisheries under paragraph (21) of Section 208(e) are precluded from participating in the Capacity Reduction Program and the non-pollock groundfish fishery as AFA vessels.
    b. Whether those vessels that qualify for the BSAI pollock fisheries under paragraph (21) of Section 208(e) would qualify as Non-AFA Trawl Catcher Processor subsector (provided that they meet the harvest requirements defined by the Act for that sector).

2. Section 219 (6) and (9) define the Longline Catcher Processor subsector and the Pot Catcher Processor subsector, respectively, for purposes of the Capacity Reduction Program and participation in the non-pollock groundfish fisheries. In general, to qualify a participant must have an LLP license that is non-interim and transferable (or that is interim and subsequently becomes non-interim and transferable) and that is endorsed for Bering Sea or Aleutian Islands fixed gear catcher processor fishing activity, with a Pacific cod endorsement. NOAA GC should clarify:

   a. Whether only LLPs that carry all of these endorsements (including the Pacific cod endorsement) would be eligible to participate in the Capacity Reduction Program or the non-pollock groundfish fisheries as defined by the Act, in their respective sectors.
   b. Whether LLPs that carry BS and/or AI, catcher processor, fixed gear endorsements are eligible to participate in the non-pollock groundfish fisheries as defined by the Act as catcher vessels (if they are precluded from participating in those fisheries as catcher processors).

3. Section 219 generally defines each sector as being composed of the person who owns a vessel or holds a license or both. Given this wording, the Act is unclear concerning eligibility to participate in the buyback or the non-pollock fisheries.

   a. Does the act authorize entry to the fishery by:
      i. Specific persons ?
      ii. Specific vessels ?
      iii. Holders of specific licenses?

4. Section 219(7) defines the Non-AFA Trawl Catcher Processor subsector as the owner of each trawl catcher processor that is not an AFA trawl catcher processor that holds a valid LLP license with Bering Sea or Aleutian Islands endorsement and has harvested with trawl gear and processed not less than a total of 150 metric tons of non-pollock groundfish during the period January 1, 1997 through December 31, 2002.

   a. In determining qualification for the sector, should the catch history associated with the vessel or the LLP be considered for meeting the harvest tonnage requirement? G
   b. Given that the Council is currently developing a cooperative program for the non-AFA trawl catcher processors along with allocations for the non-pollock groundfish fisheries in Amendment 80, can the Council adopt a more stringent eligibility requirement for participation in non-AFA trawl catcher processor cooperatives than the eligibility requirement set out in the Act?

5. Section 219 does not include certain species (e.g., arrowtooth flounder) in its definition of the non-pollock groundfish fisheries.

   a. Since some potential target species are not included in the definition of the non-pollock groundfish fisheries, will vessels that hold an LLP, but that do not meet eligibility requirements for participation in the "non-pollock groundfish fisheries" under the statute, be permitted to enter the non-pollock target fisheries not specifically identified in the statute?

6. Relative to further development of Amendment 80 (allocations of flatfish species and cooperative development for the H&G catcher/processor sector), if the Council continues its current course and does not include allocations of those species to AFA sectors, would that in any way compromise those sectors' eligibility for the legislated non-pollock buyback program?

7 An additional, general question concerns the LLP aspects of the legislation; i.e., to the extent that certain aspects of the legislation change the existing LLP eligibility requirements (for purposes of the buyback and/or future fishing privileges), how and when do such changes get implemented? Is an FMP amendment, or regulatory amendment, required to bring our plans in conformance with the legislation? If so, is such an action subject to existing MSA, NEPA, and other requirements, given that the legislation is quite specific in these areas, and does not appear to offer latitude to the Council or NMFS? Should ongoing analyses (such as those associated with Amendment 80 and with Pacific cod allocations in the BSAI) incorporate the assumed license reductions effected by the legislation?

Observer Program Issues

1. Research Plan authority: NOAA GC has made a preliminary determination that the Research Plan authority provided in the MSA (Section 313) to assess a fee for observer coverage cannot be applied to only a subset of vessels in the fisheries for which the Council and NMFS have the authority to establish a fee program. Therefore, according to this determination, any new program for selective fisheries (Alternatives 2 - 6 in the current observer analysis) under the Council's jurisdiction is likely to require statutory authorization unless it is determined that different fees can be assessed against different fisheries/sectors. A need was identified at the December Council meeting to have a formal opinion developed on this issue, in order to have a definitive understanding of whether statutory changes are associated with implementing the alternatives to restructure the funding and deployment mechanism of the NPGOP.

2. Frameworking: While it is expected that the Council and NMFS can set an initial fee percentage that is likely to be sufficient to maintain current coverage levels, some mechanism must be established through which the fee percentage can be adjusted to account for changing management programs and coverage needs, as well as changing coverage costs and ex-vessel prices. The original Research Plan created a framework process under which fee percentages could be adjusted on an annual basis (subject to a 2% cap in statute) in response to changing coverage needs. However, recent (informal) legal guidance on frameworking suggests that an open framework of this sort may no longer be acceptable under the requirements of the Administrative Procedure Act, should the framework mechanism provide NMFS and the Council with the ability to make discretionary changes to the fee percentage. Such discretionary changes may need to undergo the process of notice and comment rulemaking. Additional legal guidance is necessary to determine if any options exist for discretionary fee adjustments that do not involve notice and comment rulemaking.

In addition, the IFQ cost recovery program provides a mechanism by which the IFQ fee is adjusted on an annual basis according to a formula specified in regulation (meaning, no discretionary changes to the fee are possible). Because this formula is explicit and adhered to rigidly each year, NMFS may adjust the IFQ fee percentage on an annual basis through a Federal Register notice without the need for formal notice and comment rulemaking. A general assumption of the current observer analysis is that the Council and NMFS could potentially use the IFQ cost recovery approach to provide annual adjustments to the observer fee