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

September 16, 2005

Prepared by staff of the
North Pacific Fishery Management Council
605 W. 4th Avenue, suite 306
Anchorage, AK 99501
(907) 271-2809

[THIS PAGE INTENTIONALLY LEFT BLANK]

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. The Non-AFA Trawl CP sector primarily participates in multi-species fisheries 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 incidental catch, such as searching for cleaner fishing grounds. To provide the sector with a tool to increase economic efficiency when reducing incidental catch and minimizing waste, the Council in October 2002, initiated Amendment 80, an action that would eliminate the race for fish among members of the sector that wanted to join a cooperative.

Amendment 80 would provide specific groundfish allocations to Non-AFA Trawl CP sector and allow the formation of cooperatives. Sector allocations and associated cooperatives would allow participants to focus less on harvest maximization and more on optimizing their harvest. This in turn could allow reduction of incidental catch, improve retention, and improve utilization, while still improving the economic health of the harvesting and processing, all of which address the problem statement for Amendment 80.

Three strawman alternatives are considered to compare the impacts of the proposed program components, 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
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 *Yellowfin 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; no AFA sideboards for yellowfin sole threshold fishery	*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; no AFA sideboards for yellowfin sole threshold fishery
Eligibility for trawl CV sector for general limited access fishery	none	Harvest 1,000 mt from 1995-2004 and with appropriate LLP endorsements	1 landing from 1995-2004 and with appropriate LLP endorsements

	Alternative 1 (Status Quo)	Alternative 2	Alternative 3
Allocation of Prohibited Species	PSC allocated by target fishery and shared among all trawl vessels	Sector allowance based on average historic PSC usage in directed fishery for allocated primary species plus Pacific cod,1998-2002	Sector allowance based on: a) average PSC usage, by fishery, of all trawl in each PSC fishery group for allocated primary species plus Pacific cod, 1995-2003 b) apply sector proportion as determined above c) reduce by 5%
Eligibility for Non-AFA Trawl CP sector	determined by Congress	determined by Congress	determined by Congress
Cooperative endorsement	none	Qualified license holder harvested 150 mt of groundfish with trawl gear on a sector qualified vessel and processed that fish between 1997 and 2002	Qualified license holder harvested 150 mt of groundfish with trawl gear on a sector qualified vessel and processed that fish between 1997 and 2004
Cooperative formation	none	*Threshold:* 15% minimum of eligible licenses and must be comprised of at least two separate entities *Allocation:* based on retained catch history, 1998-2002	*Threshold:* 67% minimum of eligible licenses and must be comprised of at least two separate entities *Allocation:* based on total catch history, 1995-2003
Excessive share limits	none	No limit on consolidation	No single person can hold no more than 50% of the catch history of an allocated species
Sideboards	none	*For sector:* established based on participation in other fisheries, 1998-2002; for GOA halibut PSC based on usage by quarter and area, 1998-2002; only vessels that have GOA wide weekly participation in the flatfish fisheries over the threshold during the qualifying period would be eligible to participate in the GOA *Within sector:* established between cooperative and non-cooperative participants for unallocated species	*For sector:* established based on participation in other fisheries, 1995-2003; for GOA halibut PSC based on the percent of groundfish target catch by quarter and area, 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	10% of allocated species, plus secondary species caught incidentally in directed fisheries, to CDQ multispecies fishery; PSQ proportional to the CDQ allocation	15% of allocated species, plus secondary species caught incidentally in directed fisheries, to CDQ multispecies fishery; PSQ proportional to the CDQ allocation

Regulatory Impact Review

Effects on Harvest Participant and Fishing Practices

Alternative 1: Status Quo/No Action

Maintaining the status quo is expected to result in the continuation of existing fishing practices and patterns. Participants in the Non-AFA Trawl CP sector will likely continue to focus the majority of their fishing effort on several flatfish species, Atka mackerel, AI Pacific Ocean perch and Pacific cod in the BSAI. Some vessels in the sector will also participate in GOA fisheries. Under this alternative, trawl participants will continue to race for fish. Trawl fisheries will continue to be prematurely closed due to constraining halibut PSC allowances. Sector discard rates will likely improve, but overall the retention rates will continue to lag behind the rest of the BSAI sectors. Contributing to the improved retention rates is the impending groundfish retention standard (GRS) action. Amendment 79, if approved by the Secretary of Commerce, would phase in the GRS over a four-year period. Originally approved by the Council in June 2003, the GRS was to begin in 2005 with a starting GRS rate of 65 percent. Over the subsequent four-year period, the GRS would gradually increase, culminating at 85 percent in the fourth year. The action would only require Non-AFA Trawl CP vessels greater than or equal to 125 ft. LOA to comply with the GRS. Non-AFA Trawl CP vessels less than or equal 125 ft. LOA would be exempt from the GRS. To monitor and enforce the GRS, sector vessels greater than or equal to 125' LOA would be required to measure all catch on flow scales and all hauls must be observed. Many of the vessels already have flow scales onboard, but seven vessels need to install the scales. All sixteen vessels greater than 125 ft. LOA would also be required to carry an extra observer. Where feasible, GRS could reduce economic returns from fisheries to members of the sector.

Alternative 2

Under Alternative 2, the allocation percentages to the Non-AFA Trawl CP sector are expected to be sufficient to keep the sector's groundfish catch levels about the same as their historic catch. However, the remaining portion of groundfish reserved for the general limited access fishery would be substantially less than historic harvests and may disadvantage members of other sectors, particularly non-AFA catcher vessels. The remaining amount of groundfish reserved for the general limited access fishery is less than the combined AFA Trawl CP and CV sideboards for each of the species. Between 1995 and 1997, vessels whose catch history was assigned to the AFA Trawl CP and CV sectors participated in the fisheries allocated to the Non-AFA Trawl CP sector in larger numbers.

Under this alternative, the yellowfin sole threshold program could provide the opportunity for the AFA Trawl CP and CV sectors and the Non-AFA Trawl CV sector to expand their harvest of yellowfin sole in periods when BSAI pollock TAC declines relative to yellowfin sole. In that circumstance, 30 percent of the TAC over 125,000 mt would be assigned to the Non-AFA Trawl CP sector. The remaining 70 percent of the TAC would be apportioned to the trawl vessels that are not a part of the Non-AFA Trawl CP sector., Allocating 70 percent of the TAC, above the 125,000 mt level, would provide expanded harvesting opportunities for these sectors.

The PSC allocation to the Non-AFA Trawl CP sector under Alternative 2 would likely be sufficient to harvest their entire allocation of groundfish. However, the remaining halibut PSC for all other trawlers could be insufficient to harvest the allocation of groundfish to the general limited access fishery. Given the historically usage of halibut PSC from 1995 to 1998, there is the potential for the remaining trawl sectors to fall short of the necessary halibut PSC needed to harvest the remaining groundfish, if, for example, the Pacific cod TAC were to increase relative to pollock TAC.

Based on the eligibility requirements under this alternative, there appear to be 27 vessels that qualify for the Non-AFA Trawl CP sector. 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. Under this alternative, 27 LLP licenses are also estimated to qualify for a cooperative endorsement.

Under Alternative 2, 15 percent of the endorsed LLP licenses would be needed to form a cooperative. In addition, at least two unique entities are required for cooperative formation. Since under Alternative 2 there are likely to be 27 endorsed LLP licenses, at least four of these licenses would be needed to form a cooperative. If each of the cooperatives had the minimum required four endorsed LLP licenses, six cooperatives would be formed in the Non-AFA Trawl CP sector. This provision should help to ensure that each vessel is given the opportunity to join a cooperative. Alternatively, the "odd-person-out" may have less of a 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 than Alternative 3 cooperative structure, which allows only a single cooperative to form. Under this action, each participant would have the option to join any of six potential cooperatives, so it is more likely to find a cooperative that would help them meet their objectives. Participants who elect not to join a cooperative would participate outside a cooperative but within the sector's limited access fishery.

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 can own or use. In general, number of vessels in the fishery could be reduced to the minimum number need to harvest the entire allocation. Cost savings associated with a more optimal fleet size is expected to increase the producer surplus generated by the fleet.

Alternative 2 would implement harvest caps on the Non-AFA Trawl CP sector for the species that are not allocated. Sideboard caps would be set using the sector's retained catch of BSAI groundfish species from 1998-2002 in all fisheries relative to the retained catch of all vessels. Sideboards would also be set for GOA halibut PSC based on actual usage relative to the other sectors from 1998-2002. GOA groundfish harvests by the Non-AFA Trawl CP sector would be limited by requiring vessels to have fished a given number of weeks during the qualifying period to participate. Alternatives defining the actual number of weeks required have not been developed, so the impacts cannot be determined.

The Non-AFA Trawl CP sector should have the opportunity to harvest their historic percentages of BSAI groundfish species, given the alternatives selected. These caps do not give the sector the rights to those fish, but instead are limits on their catch. Other sectors could legally harvest portions of the sideboard limits before the Non-AFA Trawl CP sector catches them. Basing the caps on retained catch results in larger caps, in most cases, relative to using total catch.

Future GOA groundfish harvests cannot be predicted, without additional information on the number of participants that will be allowed to fish in the future. The GOA PSC caps, however, should enable the sector to harvest historic levels of groundfish. GOA halibut PSC catches were not assigned to a specific area, since NMFS does not manage PSC by area in the GOA. Finally, the analysts assumed that any catches by the sector under the Rockfish Pilot program would be deducted from the sideboard cap amounts.

Given the Alternative 2 methods of calculating the BSAI sideboard caps, it is expected that the Non-AFA Trawl CP sector could harvest their historic percentages of various fisheries and still provide sufficient protection for other sectors. Insufficient information is available to make that determination for the GOA. However, given that most fisheries in the GOA are closed due to halibut bycatch and not TAC, the halibut PSC caps should provide adequate protection for most species.

Alternative 3

Under Alternative 3, the allocation of groundfish species and PSC species would be insufficient to maintain the Non-AFA Trawl CP sector's historic harvest levels (except maybe yellowfin sole). In addition, large portions of the remaining Amendment 80 species would be directed to the general limited access fishery where it would likely remain unharvested without substantial increases in harvest by participants in the fishery. For example, the combined AFA Trawl CP and CV sideboards for rock sole is 7.11 percent. If the Council selected this allocation option for rock sole, the allocation to the general

limited access fishery would 70.6 percent of the TAC. Assuming the AFA CP and CV sectors harvested rock sole up to their sideboards, the remaining allocation available for the Non-AFA Trawl CV sector would be 63.49 percent. The Non-AFA Trawl CV sector has traditionally not harvested rock sole to anywhere close to that degree. The alternative does includes a provision to rollover any portion of the general limited access fishery allocation that is projected to go unused by a given date. However, the timing of some of the fisheries and lack of PSC that would be necessary to harvest the rollover decrease the benefits relative to a direct allocation as in Alternative 2.

Under this alternative, relative to Alternative 2, the yellowfin sole threshold program would be less likely to provide an opportunity for the AFA Trawl CP and CV sectors and the Non-AFA Trawl CV sector to expand their harvest of yellowfin sole in periods when pollock TAC declines relative to yellowfin sole. The primary reason is the allocation of the ITAC above the threshold would favor the Non-AFA Trawl CP sector and would diminish the yellowfin sole allocation to the general limited access fishery when ITAC exceeded the threshold from 48 percent to 30 percent. Yellowfin sole ITAC above the threshold would be distributed 70 percent to the Non-AFA Trawl CP sector and 30 percent to all other trawlers. Constraining the success of the threshold program, under this alternative, is the lack of halibut PSC. Like Alternative 2, this alternative does not include reallocation of halibut PSC as part of the rollover provisions, so sectors will have to rely on their initial halibut allowance to harvest any groundfish that is rolled over to them.

Although it cannot be determined with any certainty, the PSC allocation percentages under this alternative could result in an allocation to the Non-AFA Trawl CP sector that may be insufficient for harvesting their entire allocation of the target species, if the sector cannot reduce its PSC catch rates substantially from current levels. In contrast, the remaining portion of halibut PSC reserved for all other trawlers should be sufficient to harvest the remaining portion of unallocated groundfish. Alternative 3 also includes a reduction in the calculated PSC apportionments to the Non-AFA Trawl CP sector by an additional 5 percent.

Like Alternative 2, 27 vessels appear to qualify for the Non-AFA Trawl CP sector. 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. However, under this alternative, 29 or 30 LLP licenses are estimated to qualify for a cooperative endorsement.

To form a cooperative under this alternative, 67 percent of the endorsed LLP licenses held by Non-AFA Trawl CP sector participants would be required. If the calculation is based on licenses, and 30 licenses are in the sector, then 21 licenses would be required to meet the 67 percent threshold. Basing the cooperative formation vote on licenses and not vessels would tend to benefit those owners that have stacked multiple licenses on their vessels. Those qualified participants who elect not to join a cooperative would participate outside the cooperative but within the sector (sector limited access fishery).

Consolidation would be limited under Alternative 3. Although numbers of persons over the cap cannot be reported for the Atka mackerel and AI POP fisheries to protect confidential data, no companies are over the cap for yellowfin sole, rock sole, and flathead sole. In general, the changes in the economic impacts of a 50 percent cap versus no cap are small. In either case, the number of vessels in the fishery could be reduced to the minimum number need to harvest the entire allocation.

The sideboard caps under Alternative 3 would be based on the total catch of the Non-AFA Trawl CP sector relative to the total catch of all sectors. Using total catch, as compared to retained catch, tends to reduce the size of the sideboard caps for the Non-AFA Trawl CP sector. Smaller caps will reduce the amount of revenue that the Non-AFA Trawl CP sector can generate. However, they will provide more fish for other sectors to harvest. Whether the other sectors will increase their participation and retention in fisheries other than Pacific cod and select other fisheries is unknown.

Sideboard caps will be set for both GOA groundfish and halibut fisheries. Groundfish sideboard caps will have the greatest impact on species that close due o the TAC being harvested. These species are typically Pacific Ocean Perch, Pelagic shelf rockfish, northern rockfish, and Pacific cod. Other species are typically closed as a result of halibut PSC constraints. Given that this alternative would increase the Non-AFA Trawl CP sector's halibut PSC cap by about 36 mt, they are expected to be better off under this alternative. Other participants in the GOA fisheries would fair better under Alternative 2.

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 Alternative 2 more than Alternative 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. Under Alternative 2, most eligible participants in the Non-AFA Trawl CP sector are likely to join a cooperative, since operations in the limited access fishery are likely to be less efficient (and less profitable)and it will be easier to meet the cooperative formation requirements. However, there is some potential under Alternative 3 that some eligible participants may elect not to join a cooperative.

Effects on the CDQ Program

Alternatives 2 and 3 would increase CDQ percentage allocations for both primary target and incidental catch species. Under Alternative 2, CDQ percentage allocations for each of the primary target species identified in Component 1 and associated secondary species taken incidental in the primary trawl target fisheries would increase to 10 percent. Under Alternative 3, the percentage allocations for target and incidental catch species would increase to 15 percent. The PSQ percentage allocations would increase proportionately under each alternative, as well. Under Alternative 2, the PSQ percentage allocation would increase to 10 percent, and under Alternative 3 it would increase to 15 percent. Currently, the CDQ Program receives 7.5 percent of each groundfish TAC and PSC limit as CDQ and PSQ reserves.These reserves are further allocated among six CDQ managing organizations (CDQ groups). CDQ groups plan and conduct fishing operations for their CDQ allocations, and then receive royalties from the harvest of their CDQ. This revenue is used to provide a means for starting and supporting commercial fisheries business activities in CDQ communities in western Alaska.

CDQ groups have had varied, but increasing, success in harvesting their existing CDQ allocations for primary target species. In the last several years, CDQ groups have harvested the majority of their yellowfin sole, Atka mackerel, and Pacific Ocean perch allocations. They have not been very successful at harvesting their rock sole and flathead sole CDQ allocations. The increased CDQ percentage allocations for primary target species considered under both Alternative 2 and Alternative 3 could allow CDQ groups to receive larger CDQ allocations, if the TACs for these species remained constant or increased. If fully harvested, this could provide additional CDQ royalties to CDQ groups. Harvesting any increased allocations of target species probably would result in increased CDQ fisheries' catch of incidental catch species and prohibited species. The increases to CDQ and PSQ percentage allocations for incidental catch species proposed under Alternatives 2 and 3 are meant to allow the CDQ Program to have adequate CDQ reserves to account for the additional catch of incidental and prohibited species. The actual benefits that each CDQ group would receive from increased primary species allocations cannot be estimated given currently available information. The relatively small size of these quotas, variability in the amount of each primary species harvested in past years, and lack of specific information about CDQ

royalty rates makes it difficult to estimate the future CDQ Program benefits associated with increasing CDQ percentage allocations for primary target species.

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. Some of that product is reprocessed in Asia and sold in the U.S.

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. Market prices for these species will depend on other world flatfish markets. If substitute products are available at similar prices, consumers impacts would be small. The lack of information on these markets precludes quantitative estimates of the impacts on U.S. consumers.

Some quality improvement could occur because of cooperatives, but these vessels already produce high quality products because their catch is processed onboard soon after it is harvested. It is unlikely that this amendment will have substantial impacts on U.S. consumers.

Effects on environmental/non-use benefits

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

Under Alternatives 2 and 3, NOAA Fisheries will make annual, exclusive cooperative allocations for the five allocated species. The proposed action will require eligible Non-AFA Trawl CP vessels under 125 ft length overall to meet the GRS. These measures should have the effect of reducing bycatch and discards, contributing additional non-use benefits that might arise from productive use of the resource. In addition, if Alternative 3 reduces the harvest of the allocated species below the allowed catch, the unharvested fish will remain in the BSAI ecosystem, which is considered a benefit to the environment.

Effects on Management, Monitoring, and Enforcement Costs

In addition to the monitoring challenges documented under other quota programs, Amendment 80 includes additional catch accounting and compliance challenges specific to this type of dedicated access program. To address these challenges, additional requirements will be needed to manage these sector allocations and allow single or multiple cooperatives to function. Proposed monitoring components for all non-AFA trawl CPs while fishing in the BSAI are described below.

1. All vessels would be required to weigh all catch on NMFS-approved scales and provide an observer work station.
2. All hauls would available to be observed by NMFS-certified observers.
3. Vessels would be prohibited from having more than a single belt, chute, or other conveyance device for the mechanized movement of catch between the scale used to weigh total catch and the location where the observer collects species composition samples.
4. Crew would be prohibited from entering any tank located prior to where the observer collects unsorted catch, unless:
    - The flow of fish has been stopped between the tank and the location where the observer collects unsorted catch, and;
    - All catch has been cleared from all locations between the tank and the location where the observer collects unsorted catch, and;

- The observer has been given notice that vessel crew must enter the tank, and;
- The observer is given the opportunity to observe activities of the person(s) in the tank.

5. Unsorted catch would be prohibited from remaining on deck outside of the codend without an observer present.
6. A vessel operator would be required to document the flow of fish within the vessel's factory.
7. Each vessel would be required to provide the opportunity for a pre-cruise meeting.

While all vessels would be subject to these requirements, vessels in this fleet vary widely in size, facilities, layout, and fishing practices. Because of this wide variability, a performance based catch monitoring system may be appropriate for some vessels in the Non-AFA Trawl CP fleet. NMFS is exploring the use of vessel-specific monitoring plans (VMP) to provide vessels flexibility in developing a catch monitoring system that works best for their factory layout and fishing practices. Under this alternative monitoring approach, vessel operators or managers may propose a VMP that would meet, exceed or partially substitute for certain regulations. As envisioned, vessels complying with an approved VMP may not be subject to the all requirements described in this section. However, vessel operators who propose VMPs that do not address performance standards would be subject to the regulations (as proposed and if approved by the Secretary). Additionally, vessel operators who do not comply with an approved VMP would be subject to enforcement action and the default regulations. This approach is conceptual at this time, subject to change, and contains some issues that are not fully resolved.

The costs for the monitoring program include both accounting costs (that are itemized to the extent feasible) and other opportunity costs (that are difficult to quantify). Total costs for scale, sample station, observer requirements, and factory modifications necessary to comply with other proposed requirements for each vessel greater than or equal to 125 ft. range between approximately $64,045 and $365,545. Total costs for these categories for each vessel less than 125 ft. range between $182,225 and $406,725. Other costs associated with these proposed monitoring requirements could include decreased operating efficiencies or additional crew.

In addition to costs borne by the vessels, increases in the number of observer days and their associated increase in the amount of data collected is expected to raise overall annual costs of the 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, approving VMPs and conducting pre-cruise meetings. The Observer Program estimates increased staffing and costs associated with this action to include 3.5 full time equivalent staff positions and approximately $450,000 annually.

NMFS believes that anticipated benefits of a Non-AFA Trawl CP cooperative as currently outlined, including the expectation of reduced effort and capital inputs through a slower paced fishery substantially depend on these proposed monitoring improvements. A multi-species cooperative, with internal transactions and contracts requires reliable catch accounting to create secure agreements. Because Amendment 80 monitoring requirements would include flow scales, observer stations, observation of every haul, and additional requirements described above; some improvements to management catch accounting may also occur. For example, direct measurement of weight on a flow scale is likely to be more reliable than alternative observer measurements based on volumetrics and density.

Effects on Fishing Crew

The existing patterns of crew participation and compensation are likely to remain about the same, at least until Amendment 79 is implemented. The affects of Amendment 79 are not known with certainty. If Amendment 79 increases to costs for some vessels to the point they cannot cover their fixed and variable costs in the long run they will leave the fishery. Employment in the sector would be reduced. Data were not available for the analysts of Amendment 79 to make any projections regarding which vessels may leave the fishery. Therefore, we recognize the fact that Amendment 79 will impose more costs on the vessels in the sector, but we cannot project which vessels, if any, will leave the fishery.

Alternatives 2 and 3 are likely to have some effect on the total number of crew/processing jobs that are available in the sector. An indication of the impacts Amendment 80 cooperative program could have on the Non-AFA Trawl CP sector can be seen from the impacts the AFA had on the pollock catcher/processor sector. Information from the *Report to Congress and the Secretary of Commerce on the Impacts of the American Fisheries Act* completed April 1, 2002, stated that the number of jobs that were lost in the catcher/processor sector was approximately 1,500, given that nine catcher/processors were retired as part of the Act and six of the 20 eligible catcher/processors or 30 percent were not used to fish pollock by their owners because the remaining vessels were able to efficiently harvest the pollock. Given that average crew size of a pollock catcher/processor was approximately 100, that means that approximately 900 of the 1,500 jobs lost were because of the AFA retiring vessels. The remaining 600 jobs lost were due to vessels idled because of they were excess capacity.

Although the Non-AFA Trawl CP vessels and fisheries are very different from the pollock catcher/processor vessels and fishery, the experience learned from the AFA is that some of the Non-AFA Trawl CP vessels could potentially be idled because of the efficiency increases associated with the Amendment 80 cooperative program. In addition, fishing can be expected to slow down as a result of cooperatives. 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 more likely under Alternative 2 than Alternative 3. Crew on vessels that remain in the Non-AFA Trawl CP sector would benefit from consolidation of harvests on fewer vessels under Alternative 2. Crew members paid on a share basis would benefit from increased revenues by their vessel. Employees that are paid on a wage basis would benefit from longer fishing seasons on the vessels and the corresponding number of hours worked.

Effects on Communities

The fishing communities that are expected to benefit from this proposed action are the locations the vessels offload, take on supplies, and the owners and crew live. Twenty-seven catcher processors appear to be eligible for the Non-AFA Trawl CP sector. Of these vessels, nearly all are based in Seattle. Due to the large size and diversity of Seattle's economy, community-level impacts are not expected to differ Alternatives 2 and 3. Significant benefits to other communities that are home to some of the other Non-AFA Trawl CP fleet are not expected. Vessels located in those communities will continue to generate revenue from these 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 in the five primary BSAI fisheries and the sideboard caps proposed for other fisheries.

Effects on Net Benefits to the Nation

Under status quo, producer surplus is expected to remain at current levels until Amendment 79 is implemented. After Amendment 79 is implemented, producer surplus will decline. The amount of the decline is equal to the increased processing and monitoring costs of the vessel. Revenues are assumed to remain constant. However, the potential exists that more inferior products could be produced because of retaining fish that are of a size that are in less demand or of the wrong sex (e.g., rock sole during the roe season). Prices paid by consumers are not expected to increase or decrease because of this action.

Alternative 2

Net benefits to the Nation would likely increase under Alternative 2 relative to Alternative 1. Contributing to the increase in net benefits to the Nation is the increase in producer surplus from Non-AFA Trawl CP sector participants fishing in cooperatives. Participants would be able to slow the pace of fishing and processing, thus potentially reducing expenditures on inputs and increasing output slightly. These participants would also be free to consolidate fishing up to the user cap. With fewer vessels, the harvesting costs should also decline. Some additional benefits would also likely accrue from the

additional 2.5 allocation for the Amendment 80 species to the CDQ program, which would also benefit from a slower paced fishery.

The alternative would require increased monitoring and enforcement costs necessary for meeting the GRS for Non-AFA Trawl CP vessels under 125 ft. LOA. These costs are associated with additional observer coverage, costs associated with vessel modification to better allow the catch to be observed, and slowing processing and harvesting below optimal levels to enable more accurate counts of total groundfish and PSC catches. Some additional benefits to the Nation could arise through reduction in discards, since sector vessels under 125 ft. LOA will have to meet the GRS.

Consumer surplus is not expected to change. The Non-AFA Trawl CP sector will continue to produce mostly frozen round and headed and gutted products primarily. 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.

Alternative 3

Net benefits to the Nation would likely be smaller under Alternative 3 relative to Alternative 2. It is difficult to compare the changes in Net benefits between Alternatives 1 and 3. The amount of fish the Non-AFA Trawl CP sector can legally harvest under Alternative 3 relative to the status quo, is reduced. However, the benefits of cooperatives are expected to increase the overall efficiency of the fleet. The benefit of a cooperative under this alternative will depend on whether a sufficient number of members of the sector are able to reach agreement and whether persons not in the initial cooperative are able to come to terms with the cooperative. If no cooperative forms, sector efficiency would be similar to that of status quo.

An additional unknown under this alternative is how much of the allocation to the general limited access fishery will be harvested by other sectors, and how efficient will they be when harvesting and processing that catch. The allocation to the general limited access fishery under this alternative exceeds the combined AFA Trawl CP and CV sideboards. Without substantial increases in effort by the Non-AFA Trawl Catcher Vessels, large portions of the allocation to the general limited access fishery would go unharvested. If the other sectors do not harvest their portion of the TAC and large amount of quota are rolled over late in the year, it may be of less value to the Non-AFA Trawl CP fleet than if it was available earlier.

Under this alternative, the CDQ Program would be allocated 15 percent of the annual TAC for each of the allocated species. The CDQ program would also receive 15 percent of the TAC for the incidental catch species (with the exception of Pacific cod) taken in the Amendment 80 allocated species. The additional 7.5 percent increase in non-pollock groundfish (except Pacific cod) would likely slow the pace of fishing and processing for participants in the CDQ program, thus potentially reducing expenditures on inputs and increase output slightly. However, the benefits will be reduced if the CDQ program fails to harvest their entire allocation.

Like Alternative 2, this alternative could increase the net benefits to the Nation from the reduction in discards. However, producer surplus will be reduced, from what it could have been due to an increase in vessel monitoring costs.

This alternative is not expected to change consumer surplus. The Non-AFA Trawl CP sector will continue to produce frozen round and headed and gutted products primarily. Improvements in product quality that will increase the amount U.S. consumers are willing to pay versus the market price for products produced from these fish are expected to be small.

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, 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. In addition, 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 overall 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 because 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 include all of the groundfish harvesters in the BSAI and GOA and the processors that take delivery of their catch, plus the CDQ groups and communities. A total of 996 vessels were classified as small entities in 2003 based on the $3.5 million revenue threshold. Seventy-one vessels were classified as large entities that year. All 27 vessels in the Non-AFA Trawl CP sector are considered small entities. The owners of some catcher processors have requested that the small entity definition be updated to use the processor definition. Changing the criteria would reclassify most of the sector as small entities. NMFS is currently reviewing that definition, but until the review is complete, the current definition will continue to be used.

A total of 36 processors in the BSAI and GOA have less than 500 employees. These processors, on average, generated about $0.9 million in revenue from groundfish and had total revenues from all seafood processing of about $5.2 million. The processors with over 500 employees averaged $43.5 million in groundfish revenues and $79.1 from all fish products (NMFS, 2002). The small processors will be protected by imposing sideboard limits. The protections should have a limited impact though, because many of the species are primarily processed at-sea.

All six CDQ groups and the 65 communities associate with those groups are considered 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 increases are expected to be small relative to total annual revenues by these groups. These groups are dominated by pollock, crab, halibut, and Pacific cod, but the royalty increases 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, often referred to as the Head and Gut (H&G) 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 facilitating bycatch reductions, waste minimization, and utilization improvements in the BSAI fisheries.

1.1 Problem Statement

The Council has long recognized the importance of reducing 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 can result in unacceptably high numbers of 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 allow participants to manage discards in the aggregate at the cooperative level. Cooperative management has several potential benefits that could impact compliance with the retention standards and bycatch reduction. Cooperatives typically increase communication among members, which should facilitate the exchange of information concerning fishing patterns and practices that affect bycatch and retention rates. Application of retention standards at the cooperative level ensure that overall retention goals are met and allow groups of individuals to develop private contracts defining the terms under which members with relatively high retention rates can derive a benefit from that practice from members with relatively low retention rates. These contracts effectively establish a system of trading of retention shares among cooperative members. Cooperative management also provides the opportunity for members to increase production efficiency in general, easing the cost burden of complying with the retention standard. Converting the fisheries to cooperative management also advances the Council's general goal of developing rationalization programs for the fisheries that it manages. Cooperative management with exclusive allocations to each cooperative allows each cooperative to slow its fishing refocus its effort toward bycatch reduction, without sacrificing its share of the catch. 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

This action is part of a series of actions that the Council has undertaken motivated by the goal of reducing bycatch and increasing utilization of harvests in the BSAI fisheries. This particular action stems from the realization that bycatch reductions and utilization increases may require changes in fishing practices and patterns that require added expenditures and may be inconsistent with the incentives created by the current limited access management. As such, under the current limited access management the retention requirements may present a challenge for certain participants. This action would fundamentally change the management of the fishery resolving these inconsistent incentives, while also providing participants with a management system that allows for improved efficiency by providing an environment in which revenues can be increased and operating costs can be reduced. Depending on the magnitude of these potential efficiency gains and the costs of bycatch reduction, increases in efficiency could be used to cover the costs of bycatch reduction measures or provide additional benefits to participants. Perhaps most importantly, the proposed management would apply retention standards on an aggregate basis to all activities of a cooperative, allowing participants within the cooperative to coordinate fishing and retention practices across the cooperative to meet the retention requirements.

Since at least 1995, the Non-AFA Trawl CP sector has had the lowest retention rate in the BSAI. In 1995, the sector had an overall retention rate of 59 percent. Spurred by regulatory changes to improve retention, six years later, the retention rate had improved to 74 percent, still well below the retention rate of 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 some cases may have increased production costs to the industry. These bycatch management measures also fail to reconcile inconsistent incentives created by the "race for fish" that arises in a limited access, competitive fishery. In a limited access, competitive fishery, manager's monitor inseason harvests closing the fishery when the TAC is estimated to be fully harvested. A vessel increases its share of the TAC by increasing its rate of harvests relative to others. This management creates an incentive for vessels to avoid taking any steps that reduce the rate of harvests. Bycatch reductions often require actions that reduce (or have the potential to reduce) harvest rates, such as searching for cleaner fishing grounds or making gear and method changes that could reduce not only bycatch rates but also target catch rates. Exclusive cooperative allocations to the Non-AFA Trawl CP sector will allow a participant to take actions that reduce catch rates without jeopardizing its share of the TAC. Cooperatives also facilitate the exchange of fishing information, which could further aid participants in achieving bycatch reduction goals. Independent of potential benefits from facilitating bycatch reduction, cooperative management frequently yields efficiency gains by allowing participants to focus production on maximizing revenues and minimizing costs. Depending on the level of efficiency gains arising with the change to cooperative management and the ingenuity of participants in achieving bycatch reductions and utilization increases, these efficiency gains could either reduce the burden to participants of achieving bycatch reductions or increase net returns to participants.

The proposed action is also consistent with the Council's priority for rationalizing the fisheries it manages. Rationalization programs provide each participant with an exclusive allocation of a portion of the TAC. This exclusive allocation allows a participant to change fishing practices (or production) without jeopardizing its share of the catch. Depending on the circumstances and accompanying management measures, participants can use this added flexibility to increase economic returns, reduce bycatch, increase utilization rates, and/or improvement safety.

1.3 Council Action on IR/IU

The proposed Amendment 80 is the latest in a series of actions dating back to 1994, which specifically addressed the issue of improved retention and improved utilization of groundfish. This section summarizes these actions.

In December 1994, during the process of addressing their comprehensive rationalization program (CRP), the Council debated issues of bycatch and economic loss from discards in target fisheries and unanimously adopted a motion to develop a set of regulatory options for implementing an improved retention/improved utilization (IR/IU) program for BSAI groundfish fisheries. The Council identified the BSAI rock sole and mid-water pollock fisheries as two subject fisheries for initial evaluation and proposed that commercial groundfish trawl fisheries be required to reduce discards by retaining species, which have historically been bycatch.

At its December 1995 meeting, the Council adopted a draft IR/IU problem statement for public review. That statement reads as follows:

> *In managing the fisheries under its jurisdiction, the North Pacific Fishery Management Council is committed to: (1) assuring the long-term health and productivity of fish stocks and other living marine resources of the North Pacific and Bering Sea ecosystem; and (2) reducing bycatch, minimizing waste, and improving utilization of fish resources in order to provide the maximum benefit to present generations of fishermen, associated fishing industry sectors, communities, consumers, and the nation as a whole.*
>
> *The Council's overriding concern is to maintain the health of the marine ecosystem to ensure the long-term conservation and abundance of the groundfish and crab resources. As a response to this concern, a program to promote improved utilization and effective control/reduction of bycatch and discards in the fisheries off Alaska should address the following problems:*
>
> 1. *Bycatch and discard loss of groundfish, crab, herring, salmon, and other non-target species.*
> 2. *Economic loss and waste associated with the discard mortality of target species harvested but not retained for economic reasons.*
> 3. *Inability to provide for a long-term, stable fisheries-based economy due to loss of fishery resources through wasteful fishing practices.*
> 4. *The need to promote improved retention and utilization of fish resources by reducing waste of target groundfish species to achieve long-term sustainable economic benefits to the nation.*

At its September 1996 meeting, the Council adopted Amendment 49.

On January 3, 1998, Amendment 49 to the BSAI Groundfish FMP was implemented (62 FR 63880). The final rule requires 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 final rule establishes a 15 percent minimum processing standard with no limit on product form beginning January 3, 1998 for pollock and Pacific cod and beginning January 1, 2003 for rock sole and yellowfin sole.

Writers of the AFA anticipated that rationalizing the pollock industry could have spillover effects on other sectors, including the Non-AFA Trawl CP sector. Therefore, the AFA mandated harvest sideboards, which limit the catch of non-pollock groundfish by AFA vessels to their historical levels. The AFA also called for measures to protect other processors from spillover effects, and suggested that processing limits

(sideboards) on non-pollock species be applied to AFA processors. In 1999, the Council initiated the analysis of processing sideboards. By 202, the AFA processing sideboards issue evolved to an assessment of potential alternatives to IR/IU for flatfish—the Non-AFA Trawl CP sector was reasonably satisfied that restrictions on harvest of AFA-CPs would keep them out of the head and gut fisheries, but they also realized that IR/IU flatfish requirements could significantly increase the costs of the sector. In April 2002 public testimony provided by Non-AFA Trawl CP sector participants to the Council described that some vessels in that sector would be forced to exit flatfish and other fisheries if a requirement to retain all flatfish species were imposed. These exit decisions were reported to be due to their inability, with existing technology to consistently haul target species, with low proportions of non-target catch, and adapt to the limited space available on some vessels to hold and process mixed species hauls.

Specifically, the Council addressed the concept of relaxing the requirement that 100 percent of IR/IU flatfish be retained. This option, while it could possibly have made IR/IU less onerous to the Non-AFA Trawl CP sector, was deemed not enforceable. Sampling protocols were considered not robust enough to accurately estimate species composition and total catch during any given week on a given vessel or on a given trip.

At its June 2002 meeting, the Council developed a problem statement specifically to address the pending implementation of IR/IU regulations for the flatfish fisheries. This statement read as follows:

> *100 percent retention of rock sole and yellowfin sole (as currently scheduled) results in severe economic losses to certain participants in the fishery, while less than 100 percent retention of only these species is not enforceable.*

In October 2002, the Council approved Amendment 75 to the BSAI Groundfish FMP, delaying implementation of IR/IU flatfish regulations for the BSAI until June 1, 2004. Amendment 75 was only partially approved by the Secretary—the delay of IR/IU flatfish implementation in the BSAI was approved, but the ending date (June 1, 2004) for the delay was not approved. 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 delaying indefinitely the flatfish IR/IU flatfish program.

In October 2002, the Council also initiated four trailing amendments with the expectation that these amendments could augment or replace IR/IU regulations for flatfish. Amendment 72/76 exempts fisheries with less than a 5 percent IR/IU flatfish bycatch rate from IR/IU flatfish regulations. With the indefinite delay of the BSAI IR/IU flatfish program, Amendment 76 no longer had any practical application in the BSAI. Amendment B would have created flatfish bycatch (discard) limits for the flatfish fisheries. This amendment was later rejected by the Council as infeasible following discussions between industry representatives and fishery managers. 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. Unlike the alternative in Amendment 75 that would have required species specific retention rates for yellowfin sole and rock sole to allow for less than 100 percent retention of these species, this action is enforceable because NMFS is measuring total groundfish catch for the vessel for the year and comparing that measurement to the annual product tonnage for that vessel divided by NMFS product recover rates. 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, the schedule for implementation of the program is uncertain. 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 Council initiated this action, its latest IR/IU amendment, in October 2002 to 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 and provide for cooperative management of that allocation.

Initially, this action proposed a prohibited species catch (PSC) cooperative for the Non-AFA Trawl CP sector. In February 2003, the Council broadened the proposed program to establish a multispecies cooperative, intended to facilitate greater retention improvements. In April 2003, the Council expanded the proposed action to include allocations of non-pollock species and PSC to ten sectors operating in the BSAI, as a means to minimize potential impacts on sectors that might arise from the allocation to the Non-AFA Trawl CP sector. The Council also recognized that sector allocations provided might facilitate voluntary efforts within the various sectors to further rationalization fishing in the BSAI. After further consideration, public testimony and preliminary analyses, in October 2004, the Council simplified the proposed action to provide only allocations to the Non-AFA Trawl CP sector and removing altogether any allocation of Pacific cod from this action. The Council's decision to simplify this action is intended to reestablish consistency with the original purpose of facilitating bycatch reductions and retention improvements in the Non-AFA Trawl CP sector. The Council believes that distributional concerns of other participants can be addressed through sideboards and other limitations on participation that are incorporated into this action and a separate action that the Council has initiated to consider revision to Pacific cod allocations.

2 DESCRIPTION OF THE ALTERNATIVES

2.1 Alternatives to facilitate bycatch reductions and improved utilization

Several management measures could be used to facilitate reduced bycatch, waste minimization, and improved utilization of the BSAI yellowfin sole, flathead sole, rock sole, Atka mackerel, and AI POP fisheries for the Non-AFA Trawl CP sector. Typically, several management measures are combined to produce a management alternative. Depending on the mix of management measures, each different alternative management systems has its strengths and weaknesses, making some more appropriate and appealing than others. This section reviews various management measures that could be used to address bycatch and utilization concerns.

Generally, the management measures that address bycatch and utilization concerns can be separated into two categories—input controls and output controls. Input controls that can contribute to bycatch reduction include measures such as gear restrictions and area closures. Input controls typically are designed to limit effort and often reduce production efficiency.

Output controls, on the other hand, limit output quantities, such as the amount of catch. Output controls that can be used to reduce bycatch include bycatch quotas and PSC caps. Output controls can be separated into individual entitlement programs and collective entitlement programs. Catch limits tailored for individual vessels or participants include individual quotas, individual bycatch quotas, and vessel bycatch allowances. Quota that are transferable in general improve the efficiency of a fishery by allowing low cost producers to purchase allocations from high cost producers. Quota that results in both current and future harvest privileges may also create an incentive to protect stocks. Binding individual bycatch quotas provide an incentive to reduce bycatch rates and the total amount of bycatch. Similar to individual fishing quotas, a system of bycatch quota may encourage less efficient participants to exit the fishery, if other participants can more efficiently reduce bycatch.

Other output controls operate at a collective level, such as fleet or sector catch limits and allocations to cooperatives. These types of collective output controls attempt to realize the benefits of organized and coordinated activities. The allocation to a cooperative is similar to the allocation to individuals but may have an added benefit arising from cooperative monitoring and enforcement (Criddle and Macinko, 2000; Holland and Ginter, 2001). Some observers believe that quota-based programs promote health of the fishery resource because participants may have an interest in the long term returns from the fishery. The strength (and even presence) of this incentive depends on both discount rates and the reproductive rate of the stock. Critics, however, question the strength of the incentive and also may be concerned that the incentives for caring for the resource do not extend beyond the target stock to unallocated species or ecosystem considerations.

An often-controversial element of output based management is the allocation process. In many cases, allocation of quota (or distribution of the cap amount among the participants) is based on catch history of a fleet or vessel owners. Critics of these allocations question whether public trust resources should be allocated cost free. Auctions can also be used to allocate quota to capture the value of the resource for the public. Auction revenues could also be used for management purposes or to promote resource conservation and biological sustainability. Auctions may also promote economically efficient use of quota, if the market for trading of quota is slow to develop. Some observers advocate zero revenue auctions to ensure that shares are available for purchase, but without affecting the distribution of benefits under the initial allocation. In a zero revenue auction, shares expire and auctioned over time. Revenues from the auction are distributed to the person that received the initial allocation. Persons receiving the initial allocation may purchase shares in the auction, if they wish to remain in the fishery. Such a system prevents persons that receive an allocation from withholding shares from the market for speculative or market control reasons.

In a previous action, the Council elected to use the groundfish retention standard (GRS) for the limiting discards and improving utilization. Rather than reconsider alternative methods for minimizing bycatch and improving utilization (such as bycatch quotas), the Council has elected to focus on the use of cooperative management of allocations and the GRS by the Non-AFA Trawl CP sector. Allowing cooperative management of the GRS and allocations provides two tools, which used in a coordinated manner, should aid participants in meeting the GRS. By managing and applying the GRS at the cooperative level, retention rates determined on a aggregated basis across participants and fisheries, allowing greater flexibility to participants in making retention decisions. Use of a cooperative structure is also thought to promote information exchange among participants that may not occur under a program of individual allocations of bycatch quota. Allowing cooperative management of allocations is intended to increase overall efficiency in the fisheries, easing the financial burden of compliance with the GRS.

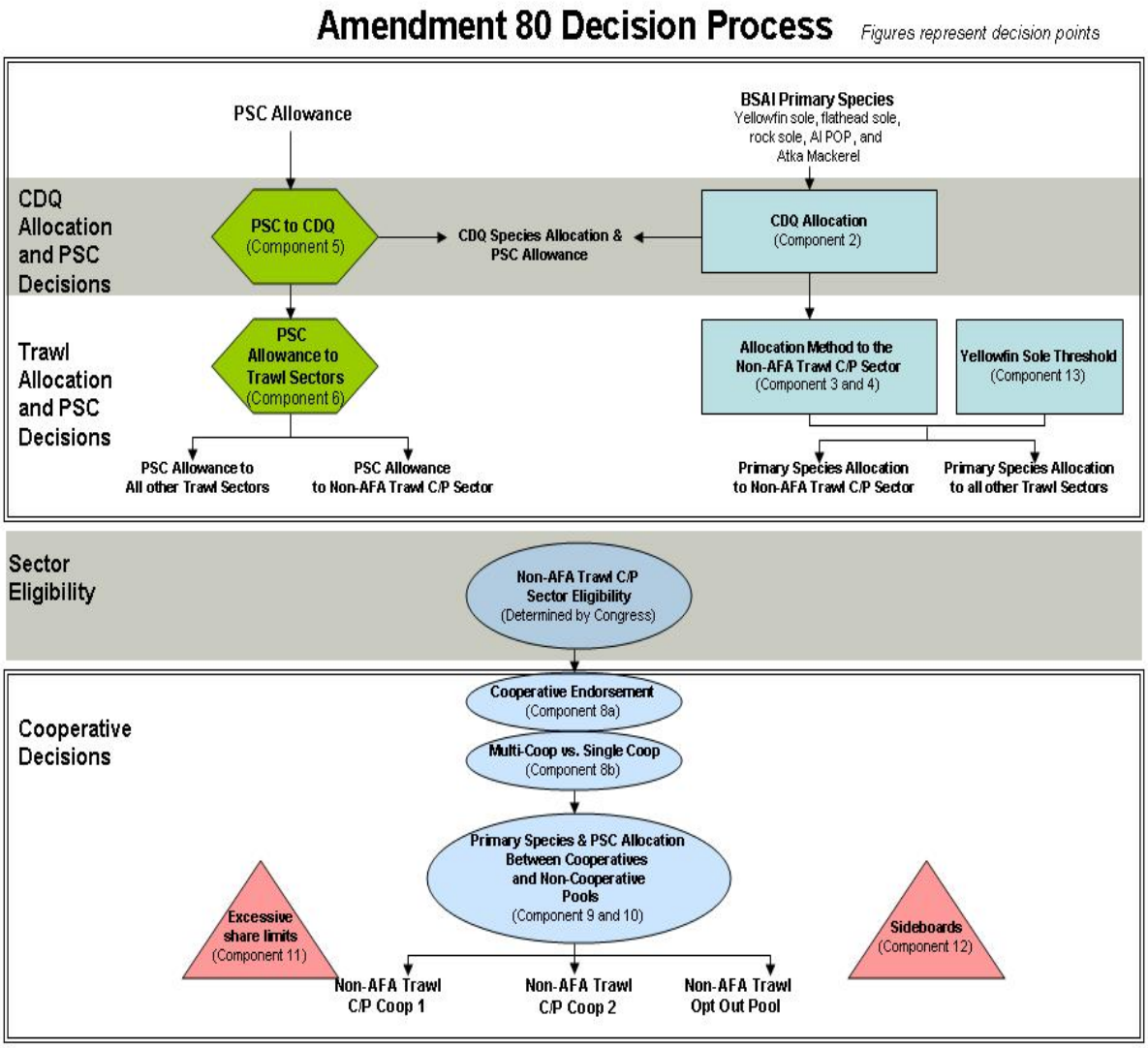
2.2 Amendment 80 Structure

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 the allocation 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 it must be determined 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 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 distribution of 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



2.3 Alternatives Considered

To address the problem statement, the Council has adopted a suite of components and options that would allocate five primary target species in BSAI to the Non-AFA Trawl CP sector and would allow for cooperative formation by sector participants. Although there are a myriad of different ways to combine the many components and options in the proposed action to form an alternative, the Council has selected three strawman alternatives that represent a range of reasonable alternatives to assess the impacts of the proposed action. Each of the strawman alternatives in the analysis address the problem statement by providing an allocation of the traditional primary species to the sector and allow for the sector to form cooperative(s), which are expected to facilitate a reduction in bycatch by the sector as well as mitigate the costs associated with bycatch reduction. The first alternative is status quo (no action). Although the strawman alternatives differ in several respects the primary difference is in the cooperative structures. The second alternative would allow multiple cooperatives to be formed within the sector. The third alternative would authorize the formation of a single cooperative in the sector. The specific differences of these alternatives are described in the sections that follow and are compared in Table 2-1.

Table 2-1 Comparison of the Alternatives

	Alternative 1 (Status Quo)	Alternative 2	Alternative 3
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 *Yellowfin 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; no AFA sideboards for yellowfin sole threshold fishery	*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; no AFA sideboards for yellowfin sole threshold fishery
Allocation of Prohibited Species	PSC allocated by target fishery and shared among all trawl vessels	Sector allowance based on average historic PSC usage in directed fishery for allocated primary species plus Pacific cod,1998-2002	Sector allowance based on: a) average PSC usage, by fishery, of all trawl in each PSC fishery group for allocated primary species plus Pacific cod, 1995-2003 b) apply sector proportion as determined above c) reduce by 5%
Sector Eligibility	determined by Congress	determined by Congress	determined by Congress
Cooperative endorsement	none	Qualified license holder harvested 150 mt of groundfish with trawl gear on a sector qualified vessel and processed that fish between 1997 and 2002	Qualified license holder harvested 150 mt of groundfish with trawl gear on a sector qualified vessel and processed that fish between 1997 and 2004
Cooperative formation	none	*Threshold:* 15% minimum of eligible participants and must be comprised of at least two separate entities *Allocation:* based on retained catch history, 1998-2002	*Threshold:* 67% minimum of eligible participants and must be comprised of at least two separate entities *Allocation:* based on total catch history, 1995-2003
Excessive share limits	none	No limit on consolidation	No single person can hold no more than 50% of the catch history of an allocated species

	Alternative 1 (Status Quo)	Alternative 2	Alternative 3
Sideboards	none	*For sector:* established based on participation in other fisheries, 1998-2002; for GOA halibut PSC based on usage by quarter and area, 1998-2002; only vessels that have GOA wide weekly participation in the flatfish fisheries over the threshold during the qualifying period would be eligible to participate in the GOA *Within sector:* established between cooperative and non-cooperative participants for unallocated species	*For sector:* established based on participation in other fisheries, 1995-2003; for GOA halibut PSC based on the percent of groundfish target catch by quarter and area, 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	10% of allocated species, plus secondary species caught incidentally in directed fisheries, to CDQ multispecies fishery; PSQ proportional to the CDQ allocation	15% of allocated species, plus secondary species caught incidentally in directed fisheries, to CDQ multispecies fishery; PSQ proportional to the CDQ allocation

2.3.1 Alternative 1: No Action

With the exception of Amendment 79, which is yet to be approved by the Secretary of Commerce (SOC), the current management of groundfish and prohibited species catch in the BSAI would remain in effect for this alternative. In general, after deducting 7.5 percent for reserves and 7.5 percent for the CDQ program, the remaining portion of TAC is available to any vessel with a federal license. For Eastern Aleutian District and the Bering Sea subarea Atka mackerel, up to 2 percent of the ITAC may be allocated to jig gear. Currently, only one percent is allocated to the jig gear. For further details on the current management of the species to be allocated under this proposed action, please refer to Section 3.1.1.

Although Amendment 79 to the BSAI Groundfish FMP, the groundfish retention standard (GRS), has not yet been implemented, a final rule should be published before final action on Amendment 80, which is scheduled for December 2005. Currently, there are three potential outcomes. One is the SOC could implement GRS in 2006 at 75 percent. Another is that the SOC approves Amendment 79 at 65 percent starting in 2007. Finally, the SOC could disapprove Amendment 79. Due to the timing of Amendment 80 and Amendment 79, the no action alternative could change after initial review of Amendment 80 in October 2005 but before final review in December 2005. For purposes of the initial review of Amendment 80, the no action alternative will include a GRS phased in a over a four year period for Non-AFA Trawl CP vessels greater than 125 ft length overall starting in 2007 at 65 percent and culminating in 2010 at 85 percent. The decision to use this scenario is based on the Council's recommendation to the SOC at the June 2005 meeting to implemented Amendment 79 in 2007 at 65 percent to allow ample time for Non-AFA Trawl CP sector to complete any retrofits necessary to meet the enforcement and monitoring requirements included in Amendment 79. In addition, the Council felt it was important to allow the sector time to develop a vessel buyback program authorized under the Consolidated Appropriations Act of 2005. Finally, the Council also clarified at the June 2005 meeting that the specific years tied to GRS in the original action are of less importance than starting at the intended 65 percent.

2.3.2 Alternative 2: Multiple Cooperatives

This alternative would 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—referred to as primary target species. Allocation of these species to the sector would 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.[1] Non-AFA Trawl CP sector allocations of the primary target species would 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 species incidentally, would close for the sector.

The unallocated portion of the primary target species quota would be reserved for the Non-H&G trawl fishery, which is composed of AFA Trawl CP sector, AFA Trawl CV sector and Non-AFA Trawl CV sector. Non-AFA trawl catcher vessels wishing to participate in the Non-H&G trawl fishery (the general limited access trawl fishery) must have groundfish catch history of a least 1 landing between 1995 and 2004 and possess the appropriate LLP endorsements. Primary species quota cannot be rolled over between trawl sectors under this alternative.

This alternative includes a quota threshold of 125,000 mt for the yellowfin sole quota. If, in a given year, the quota exceeds this threshold, the excess would 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 trawl fishery would be rolled over to the other sector, if, after a specified date (August 1 or September 1), there is any quota that is projected to remain unused. AFA sideboards do not apply to the yellowfin sole threshold fishery.

The Non-AFA Trawl CP sector would receive its own PSC allowance under this alternative, which would be based on the sector's historical usage of PSC in the directed fisheries for the allocated primary species plus Pacific cod during the years from 1998 to 2002, inclusive.

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 its License Limitation Program permit (LLP), and must own a Non-AFA vessel that caught and processed 150 mt of groundfish with trawl gear between 1997-2002.

Those qualified to be in the Non-AFA Trawl CP sector and participate in a cooperative must also have qualified license. To qualify for a cooperative endorsement, qualified license holders must have caught 150 mt of groundfish with trawl gear on a vessel qualified as a Non-AFA Trawl CP and processed that fish between 1997 to 2002.

To operative as a cooperative, membership must include as least two separate entities and must be composed of at least 15 percent of the qualified licenses with cooperative endorsements. Those participants who do not elect to join a cooperative may either form their own cooperative (with at least 15 percent of qualified licenses with cooperative endorsements) or participate outside the cooperative in the sector's limited access fishery.

Allocation of the primary target species among cooperatives and the sector's limited access fishery would be in proportion to the retained catch of the primary target species of the eligible license holders in each pool, for the years 1998-2002. The PSC allowance would be also be allocated to cooperatives and the sector's limited access fishery based on qualified catch of groundfish of participants.

[1] All allocations are after allocations to the CDQ program and, in the case of Atka mackerel, after any allocation to the jig sector.

Within the Non-AFA Trawl CP sector, consolidation would not be constrained. An eligible participant (either individual or entity) would not be limited as to the percentage of the Non-AFA Trawl CP sector allocation it can use or the amount of licenses and qualified catch that it may hold.

Sideboards for the Non-AFA Trawl CP sector would be established in regulation based on the sector's participation in other fisheries during the same years used to calculate the sector's allocation, (1998 to 2002). Sideboards for those species that close on TAC in the GOA and the BSAI would be established based on retained catch of the Non-AFA Trawl CP sector divided by the retained catch of all sectors from 1998 to 2002. Sideboards would also be established for halibut PSC in the GOA based on actual halibut PSC usage by the Non-AFA Trawl CP sector in each target fishery in the deep and shallow water complexes by quarter and area between 1998 and 2002. Only vessels with LLPs that have Gulf wide weekly participation in the flatfish fisheries over a threshold number of weeks during a qualifying period would be eligible to participate in those fisheries. The sideboards would 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 would be established between cooperative and non-cooperative participants for unallocated species, based on the same years. Sideboards would apply to eligible licenses and associated vessels from which the catch history arose.

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

2.3.3 Alternative 3: Single Cooperative

This alternative would 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--referred to as the primary target species. Allocation of these species to the sector would 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 would be reserved for the Non-H&G trawl fishery, which is made up of the AFA Trawl CP sector, AFA Trawl CV sector, and the Non-AFA Trawl CV sector. In order for Non-AFA trawl catcher vessels to participate in the Non-H&G trawl fishery, they must qualify by harvesting 1,000 mt of groundfish catch history between 1995 and 2004, and the posses the appropriate LLP endorsements (the general limited access fishery). Non-AFA Trawl CP sector allocations of the primary target species would be managed as a soft cap: when the sector harvests all of its allocation of a primary target species, the species would be placed on prohibited species status, and would need to be discarded.

Alternative 3 also includes a rollover provision: any portion of the primary target species in the general limited access fishery projected to remain unharvested would be rolled over to the Non-AFA Trawl CP sector.

This alternative also includes a quota threshold of 100,000 mt for the yellowfin sole quota. If, in a given year, the quota exceeds this threshold, the excess would be allocated in the following manner: 70 percent to the Non-AFA Trawl CP sector and 30 percent to the limited access trawl fishery. Any yellowfin sole above the threshold that is projected by the NOAA Regional Administrator to go unharvested would be rolled over to the other threshold recipients (Non-AFA Trawl CP sector or the general limited access fishery).

The Non-AFA Trawl CP sector would receive its own PSC allowance under this alternative. PSC usage of all trawl vessels in each PSC fishery group for allocated primary species plus Pacific cod, from 1995 to 2002, would be calculated, to which the proportion of the Non-AFA Trawl CP sector's share of the target species quota (as determined in Component 3) would be applied. The sector's PSC allowance for each prohibited species would be 95 percent of the total amount calculated using this formula.

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 must own a vessel that caught and processed 150 mt of groundfish with trawl gear between 1997-2002.

Those qualified to be in the Non-AFA Trawl CP sector and participate in a cooperative must also have qualified license. To qualify for a cooperative endorsement, qualified license holders must have caught 150 mt of groundfish with trawl gear on a vessel qualified as a Non-AFA Trawl CP sector and processed that fish between 1997 to 2004.

To operate as a cooperative, membership must include as least two separate entities and would need to be composed of at least 67 percent of the qualified licenses with cooperative endorsements. Those participants who do not elect to join a cooperative could participate outside the cooperative in the sector's limited access fishery.

Allocation of the primary target species and PSC allowances to the cooperative and sector's limited access fishery would be in proportion to the total catch of the primary target species of the eligible license holders included in each pool, for the years 1995-2003, dropping the three lowest annual catches for the license, by species, during this period.

Consolidation in the Non-AFA Trawl CP sector would be limited by a use cap that applies to each person (using individual and collective rule). No single person may use or hold more than 50 percent of the sector's combined allocation for each allocated 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 would be grandfathered.

Sideboards for the Non-AFA Trawl CP sector would be established in regulation based on the sector's participation in other fisheries during the same years used to calculate the sector's allocation, (1995 to 2003). Sideboards for those species that close on TAC in the GOA and the BSAI would be established based on total catch of the Non-AFA Trawl CP sector divided by the total catch of all sectors from 1995 to 2003. Sideboards would also be established for halibut PSC in the GOA based on the percent of groundfish target catch by the Non-AFA Trawl CP sector in each target species in the deep and shallow water complexes by quarter and area between 1995 and 2003. The sideboards would 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 would be established between cooperative and non-cooperative participants for unallocated species, based on the same years. Sideboards would apply to eligible licenses and associated vessels from which the catch history arose.

The CDQ program would receive an allocation of 15 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 would be issued at the same percentage as the CDQ groundfish allocation.

2.4 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 would be analyzed in the final document.

2.4.1 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 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%

CDQ allocations for secondary groundfish 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:

Suboption 2.1 7.5%

Suboption 2.2 10%

Suboption 2.3 15%

Suboption 2.4 At species specific percentages that reflect historical incidental catch rates in the directed fisheries for the primary species by the Non-AFA Trawl Catcher Processor sector during 1998-2003.

Suboption 2.5 The Council can select percentages for each of the secondary species allocated to the CDQ Program

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 would 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

Legal landing means, for the purpose of initial allocation of QS, fish harvested during the qualifying years specified and landed in compliance with state and federal permitting, landing, and reporting regulations in effect at the time of the landing. Legal landings exclude any test fishing, fishing conducted under an experimental, exploratory, or scientific activity permit or the fishery conducted under the Western Alaska CDQ program.

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

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

The remaining portion of primary species included in this program would be allocated to the BSAI limited access trawl fishery. LLP permits associated with trawl catcher vessels with (retained) catch history of at least (a) 1 landing (b) 150 mt or (c) 1,000 mt from 1995-2004 and with appropriate LLP endorsements may fish in the BSAI limited access trawl fishery. LLP permits associated with trawl

catcher vessels who do not meet this threshold cannot participate in a directed fishery for the five allocated species.

Suboption Target Species Rollover: Any unharvested portion of the Amendment 80 target species in the limited access fishery that is projected to remain unused, 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 1997-2002

Option 4.3 1998-2002

Option 4.4 1998-2004

Option 4.5 1999-2003

Option 4.6 2000-2004

Option 4.7 The Council can select percentages for each of the species allocated to the Non-AFA Trawl CP sector.

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

Component 5 Increase PSQ reserves allocated to the CDQ program (except herring and Chinook salmon) to levels proportional to the CDQ allocation of primary species under Component 2.

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 by the Non-AFA Trawl Catcher Processor sector.

Suboption to 6.1.1: Allocation based on the PSC taken in the Non-AFA Trawl Catcher Processor sector directed fishery for allocated primary species plus Pacific cod.

Suboption 6.1.2 Percentage allocations (estimates for PSC associated with Pacific cod catch would 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 for allocated primary species plus Pacific cod.

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.

Suboption 6.2.6 Phase in PSC reductions 5% per year for Suboptions 6.2.1–6.2.4.

Suboption 6.2.7 Reductions under Suboptions 6.2.1–6.2.4 apply only to vessels that participate in the Non-AFA Trawl CP sector's limited access fishery.

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

2.4.3 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 The BSAI non-pollock groundfish CP buyback legislation establishes the vessels eligible to participate as a catcher processor in the BSAI non-pollock groundfish fisheries. The members of the Non-AFA Trawl Catcher Processor subsector are defined as the owner of each trawl CP:

a.) that is not an AFA Trawl CP

b.) to whom a valid LLP license that is endorsed for BSAI Trawl CP fishing activity has been issued; and

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

This definition establishes the vessels that can participate in the Amendment 80 program.

Component 8 Establishes the licenses that would be authorized for participation in a cooperative and would receive a cooperative endorsement. Component 8 also establishes the number of licenses required 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 receive a cooperative endorsement:

Option 8a.1 Qualified license holders must have caught 150 mt of groundfish with trawl gear on a vessel qualified as a non-AFA trawl CP, and processed that fish between 1997 – 2002.

Option 8a.2 Qualified license holders must have caught 150 mt of groundfish with trawl gear on a vessel qualified as a non-AFA trawl CP, and processed that fish between 1997 – 2003.

Option 8a.3 Qualified license holders must have caught 150 mt of groundfish with trawl gear on a vessel qualified as a non-AFA trawl CP, and processed that fish between 1997 – 2004.

In order to operate as a cooperative, membership must be comprised of at least two separate entities and must be:

Option 8b.1 At least 15 % of the licenses

Option 8b.2 At least 30% of the licenses

Option 8b.3 At least 67% of the licenses

Option 8b.4 At least 100% of the licenses

Option 8b.5 All less one distinct and separate license holder using the 10% threshold rule

Option 8b.6 All less one license

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 would be indicated on the Sector Eligibility Endorsement, which indicates the license holder's membership in the Non-AFA Trawl CP sector. The aggregate histories would 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 Catcher Processor sector is limited such that no single person (using the individual and collective rule) can hold catch history more than a fixed percentage of the overall sector apportionment history. The cap would be applied on a species by species basis (options: 20%, 30%, 50% of the sector's allocation).

Suboption 11.2 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. Sideboards shall apply to eligible licenses and associated vessels from which the catch history arose.

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 would be allocated between cooperative and non-cooperative LLP holders.

Option 12.2 Sideboards for the Non-AFA Trawl CP sector would be established by regulation 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 would be allocated between cooperative and non-cooperative LLP holders.

Sideboard caps for Amendment 80 qualified Non-AFA Trawl CP sector with valid transferable GOA LLP with appropriate area endorsements shall be established for halibut PSC usage in the GOA. Discussion of options shall include but not be limited to:

Option 12.3 Halibut PSC - For each target species in the Deep and Shallow water complexes:

Suboption 12.3.1 Actual halibut PSC usage by the Non-AFA Trawl Catcher Processor sector by quarter, by area, by the years defined in Component 4.

Suboption 12.3.2 GOA halibut PSC by fishery based on the percent of groundfish target catch by the Non-AFA Trawl Catcher Processor sector by quarter, by area, by the years defined in Component 4.

Option 12.4 Only vessels associated with LLPs that have Gulf wide weekly participation in the flatfish fisheries over the threshold during the qualifying period (number of weeks) would be eligible to participate in the GOA.

Option 12.5 Fisheries that close on TAC (POP, PSR, NR and Pacific cod): retained harvests by Gulf area for each of the qualifying years expressed as a percentage of both retained and total catch.

2.4.4 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 would 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 would 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. AFA sideboards do not apply to the YFS threshold fishery.

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.

Suboption 3: Allow rollovers of any portion of the yellowfin sole TAC that is projected by the NOAA Regional Administrator to go unused. The NOAA Regional Administrator would be responsible for determining both the amount and the timing of the rollover.

For yellowfin sole, the threshold would 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

2.4.5 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 would not supersede pollock and Pacific cod IR/IU programs.
- The Groundfish Retention Standards (GRS) (Amendment 79) would be applied to the cooperative as an aggregate on an annual basis and on those vessels who did not join a cooperative as individuals. All vessels in the sector, consistent with NMFS catch monitoring plan, would be 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 did not elect to join a cooperative would 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 would need to have trawl and catcher processor endorsements with general licenses for BSAI and the additional sector eligibility endorsement. Length limits within the license would also be enforced such that any new vessel entering the fishery would not exceed the Maximum Length Overall (MLOA) specified on the license.
- 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 would need to be reported to NOAA Fisheries in order to track who owns the Sector Eligibility Endorsements. The purchaser would 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 would be transferable among cooperative members. Such transfers would not need to be approved by NOAA Fisheries. Any member of the cooperative

would be eligible to use the catch history of any other member regardless of vessel length limitations of the LLP that carries the catch history.

- Annual allocations to the cooperative would be transferable among cooperatives. Inter-cooperative transfers must be approved by NOAA Fisheries.
- Any non-trawl or non-BSAI catches by qualified license holders that are considered part of the Non-AFA Trawl CP sector would 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.
- Catch history used for allocation and eligibility purposes would be legal and documented catch.
- Disposition of groundfish species not allocated to the Non-AFA Trawl CP sector would not change as a result of the cooperative program developed in Amendment 80.
- The cooperative program would 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 would not be explicitly managed within the cooperative program. The cooperative program would not supersede existing regulations regarding these other marine resources.
- PSC limits for the following species would be created and allocated between the Non-AFA Trawl CP cooperative(s) and those sector participants that did not elect 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 would not be established. However, if the Council deems that bycatch is unreasonable, specific regulations to minimize impacts would be considered.
- The cooperative(s) would need to show evidence of binding private contracts and remedies for violations of contractual agreements would need to be provided to NOAA Fisheries. The cooperative would need to demonstrate adequate mechanism for monitoring and reporting prohibited species and groundfish catch. Participants in the cooperative would need to agree to abide by all cooperative rules and requirements.
- Specific requirements for reporting, monitoring and enforcement, and observer protocols would be developed in regulations for participants in the cooperative program and would not be the purview of the cooperative. The Council and the Non-AFA Trawl CP sector would need to specify their goals and objectives for in-season monitoring and program evaluation. Recordkeeping and reporting portions of the program would need to be developed to ensure that goals and objectives of the program are met in a cost effective manner.

- A detailed annual report would be required from each cooperative(s). Fishery managers would review the annual report to determine if the program is functioning as intended under the proposed action. 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). The in-depth studies would identify the accomplishments of the program and indicate whether any changes would be necessary.
- Task staff with evaluating which socioeconomic data can be developed and implemented under the Non-AFA Trawl Catcher Processor Cooperative Program given the current Magnuson-Stevens Act restrictions. The evaluation would consider collecting cost, revenue, ownership, and employment data on a periodic basis to provide the information necessary to study the impacts of the program. It is anticipated that the data collected under this program would be similar to the data collected under the BSAI crab rationalization program. Details of the collection would 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 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 discusses 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 Existing Conditions in the Fishery

This section describes the conditions in the BSAI groundfish fishery under the current management. Because the status quo alternative is continuation of the current management and continuation of that management is unlikely to result in substantial change in the fisheries, the section also provides much of

the status quo baseline that is used to assess the effects of Amendment 80 alternatives under consideration. This section begins with a brief description of the management of the fisheries considered in this action followed by a description of these fisheries. A detailed description of the Non-AFA Trawl CP sector is also provided in this section. Product markets are described and estimated historic first wholesale prices are provided. Finally, a brief description of community and a description of the Western Alaska Community Development Quota program are provided.

3.1.1 Management of the Fisheries

The BSAI management area encompasses the U.S. Exclusive Economic Zone (EEZ) of the eastern Bering Sea and that portion of the North Pacific Ocean adjacent to the Aleutian Islands west of 170º W. longitude. The northern boundary of the Bering Sea is the Bering Strait, defined as a straight line from Cape Prince of Whales to Cape Dezhneva, Russia.

The A season for the trawl fisheries under consideration in this action is from January 20 through April 1; the B season is from April 1 through June 10; and finally, the C season is from June 10 to November 1.

Both the trawl and non-trawl fisheries are prosecuted from a single TAC. The TAC specifications for the primary allocated species and PSC specifications are recommended by the Council at its December meeting. The recommendations are based on Stock Assessment Fishery Evaluation reports prepared by Council BSAI Groundfish Plan Team. The Secretary, after receiving recommendations from the Council, determines up to 2 years of TACs and apportionments. The TAC for each of the allocated species is reduced by 15 percent to form the reserve and CDQ allocations. One-half of the reserve is used for CDQ allocations. The remaining portion of the reserve is used for: a) correction of operational problems is the fishing fleets, to promote full and efficient use of groundfish resources, b) adjustments of species TACs according to the condition of stocks during fishing year, and c) apportionments.

Since 1994, the Atka mackerel quota has been split during the annual specifications into three separate area allocations based on the most recent biomass estimates. The three areas are the Bering Sea/eastern Aleutian Islands (Bering Sea and Area 541), the central Aleutian Islands (area 542), and the western Aleutian Islands (Area 543). In 1999, Area 542 and Area 543 were further split into critical habitat and non-critical habitat area due to Steller sea lion concerns. In addition, up to 2 percent of the Atka mackerel TAC in the eastern Aleutian Islands District/Bering Sea subarea can be allocated to vessels using jig gear in the areas noted above. In 2005, the Council recommended and NMFS approved allocating 1 percent to vessels using jig gear.

A federal groundfish license is required for vessels participating in any federal BSAI groundfish fishery, other than fixed gear sablefish. Those exempt from the license requirement are vessels fishing in State of Alaska waters, vessels less than 32’ LOA, or jig gear vessels less than 60’ LOA using a maximum of 5 jig machines, one line per machine, and a maximum of 15 hooks per line. The LLP limits the number, size, and specific operation of vessels that may be deployed in certain groundfish fisheries under the Council’s jurisdiction. For a person to qualify for an LLP permit, the person must own a vessel that has documented harvests of groundfish during two periods, the general qualification period and the endorsement qualification period. In addition to the area/species endorsements, the LLP license is designated for use on either a catcher/processor or catcher vessels and the vessel’s length category. LLP licenses may be transferred subject to the vessel designations and area/species endorsements.

Table 3-1 shows the number of LLP licenses issued for the BSAI by trawl sector. There are 64 trawl licenses designated as catcher processors that are endorsed for the BSAI area. Twenty of these licenses are currently registered to AFA trawl CP vessels operating in the BSAI. The remaining 44 trawl CP licenses are either currently registered to Non-AFA Trawl CP vessels that currently operate in the BSAI and/or GOA or they are registered to other vessels but are not being used in either area. Of the 44 Non-AFA trawl CP licenses, 22 also have Gulf of Alaska endorsements. There are 152 trawl licenses designated for catcher vessels that are endorsed for BSAI area. One hundred and two of these licenses are

currently registered to AFA Trawl catcher vessels leaving 50 licenses that are registered to Non-AFA Trawl catcher vessels.

Table 3-1 BSAI trawl LLP licenses by trawl sector

Sector	BS only LLP	AI only LLP	BSAI LLP	Total License
AFA Trawl CP	1	0	19	20
Non-AFA Trawl CP	6	1	37	44
Total Trawl CP Licenses	**7**	**1**	**56**	**64**
AFA Trawl CV	59	0	43	102
Non-AFA Trawl CV	44	2	4	50
Total Trawl CV Licenses	**103**	**2**	**47**	**152**

Source: NMFS Groundfish LLP database. Current as of July 13, 2005.

Inseason management credits both directed harvest and incidental harvest against the TAC for groundfish species to ensure they are not over harvested. The directed fishery for any groundfish 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 groundfish species (if the TAC has not been reached) taken in other directed fisheries that are open, up to the maximum retainable amount (MRA). 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 incidental harvest that species.

Pacific halibut, Pacific herring, Pacific salmon and steelhead, king crab, and Tanner crab are prohibited species and should 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. PSC is apportioned between target fishery categories: trawl and non-trawl fisheries. The halibut PSC limit for trawl gear is currently 3,675 mt. For herring, the PSC limit for trawl gear is one percent of the annual eastern Bering Sea herring biomass. The PSC limits for C. bairdi and C. opilio crab are dependent upon the abundance of these species of crab, while the PSC limit for red king crab is dependent upon the number of mature female red king crabs.

All vessels participating in the groundfish fisheries are required to retain all catch of pollock and Pacific cod, when directed fishing for those species is open, regardless of gear type employed and target fishery. When directed fishing for an IR/IU species is prohibited, retention of that species is required only up to any maximum retainable amount in effect for that species. No discarding of whole fish of these species is allowed, either prior to or subsequent to that species being brought on board the vessel except as required in the regulations. At-sea discarding of any processed product from any IR/IU species is also prohibited, unless required by other regulations. The no action alternative also includes the revision of the pollock MRA in the BSAI, which was implemented on June 2004. Under this revision, the enforcement period for pollock harvest in the BSAI was modified from enforcement at anytime during a fishing trip to enforcement at the time of offload.

All IR/IU species caught in the BSAI must be either 1) processed at sea subject to minimum product recovery rates or 2) delivered in their entirety to onshore processing plants for which similar processing requirements are implemented by State regulations.

Although Amendment 79 to the BSAI Groundfish FMP, the groundfish retention standard (GRS), has not yet been implemented, a final rule should be published before final action on Amendment 80, which is scheduled for December 2005. There are three likely scenarios. One is the Secretary of Commerce (SOC)

could implement GRS in 2006 at 75 percent. Another scenario is that the SOC approves Amendment 79 at 65 percent starting in 2007. Finally, the SOC could disapprove Amendment 79. Due to the timing of the two actions, the no action alternative could change after initial review of Amendment 80 in October 2005 but before final review in December 2005. For purposes of the initial review of the proposed action, the no action alternative will include a GRS phased in a over a four year period for Non-AFA Trawl CP vessels greater than 125 ft length overall starting in 2007 at 65 percent and culminating in 2010 at 85 percent. The decision to use this scenario is based on the Council's recommendation to the SOC at the June 2005 meeting to implemented Amendment 79 in 2007 at 65 percent to allow ample time for Non-AFA Trawl CP sector to complete any retrofits necessary to meet the enforcement and monitoring requirements included in Amendment 79. In addition, the Council felt it was important to allow the sector time to develop a vessel buyback program authorized under the Consolidated Appropriations Act of 2005. Finally, the Council also clarified at the June 2005 meeting that the specific years tied to GRS in the original action are of less importance than starting at the intended 65 percent.

3.1.2 Description of BSAI Groundfish Fisheries

3.1.3 Description of Fisheries by Species

In the BSAI, the rock sole, flathead sole, and other flatfish fisheries are almost exclusively prosecuted by catcher processors using bottom trawl gear. Although the fisheries are open to other vessels categories and gear types, very few rock sole, flathead sole, other flatfish are harvested by other types of vessels. Vessels participating in these fisheries generally fish for rock sole during the roe season until the first seasonal halibut bycatch cap is reached. Generally, after the rock sole roe fishery closes, these vessels shifted to several different targets; notably Atka mackerel, yellowfin sole, and Pacific cod. Vessels also can go into the GOA to fish for rex sole.

The directed Atka mackerel fishery is a bottom trawl fishery that occurs off the continental shelf in the Eastern Bering Sea (EBS) and in the passes between the islands of the central and western Aleutians.

Thirty-five species of rockfish (genus *Sebastes* and *Sebatolobus*) occur in the BSAI of which eight are commercially important. In recent years, the only BSAI rockfish species open for directed fisheries has been the Pacific Ocean perch complex with includes Pacific Ocean perch, sharpchin, northern, shortraker, and rougheye rockfish. In the BSAI, directed fisheries for these are mostly conducted by catcher processors using bottom trawl gear and hook and line catcher vessels.

Provide below are detailed descriptions of the primary species that would be allocated under the proposed action. Generally, data are presented for each BSAI groundfish fishery for 1995 through 2003. 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.

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.

3.1.3.1 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.

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. Table 3-2 provides catch of yellowfin sole in the BSAI by gear from 1995 to 2002. Table 3-3 provides annual catch of rock sole by trawl sector from 1995 to 2003.

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

Year	Trawl	Hook and Line	Pot	Total
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

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

Year	Sector	Number of Vessels	Retained tons (mt)	Percent of total
1995	Non-AFA Trawl CPs	30	46,558	60%
	AFA Trawl CPs	19	14,558	19%
	AFA CVs	42	10,159	13%
	All other sectors	55	6,841	9%
	Total	**146**	**78,117**	**100%**
1996	Non-AFA Trawl CPs	28	48,520	61%
	AFA Trawl CPs	19	21,687	27%
	AFA CVs	28	5,906	7%
	All other sectors	39	3,450	4%
	Non AFA Trawl CVs	3	[a]	[a]
	Total	**117**	**79,563**	**100%**

Year	Sector	Number of Vessels	Retained tons (mt)	Percent of total
1997	Non-AFA Trawl CPs	27	90,135	71%
	AFA Trawl CPs	14	17,163	14%
	AFA CVs	27	14,196	11%
	All other sectors	33	5,865	5%
	Non AFA Trawl CVs	3	[a]	[a]
	Total	**104**	**127,359**	**100%**
1998	Non-AFA Trawl CPs	23	53,705	83%
	AFA Trawl CPs	19	10,379	16%
	AFA CVs	27	282	0%
	All other sectors	49	88	0%
	Total	**118**	**64,453**	**100%**
1999	Non-AFA Trawl CPs	23	35,711	84%
	AFA Trawl CPs	16	5,628	13%
	AFA CVs	18	1,209	3%
	All other sectors	25	5	0%
	Total	**82**	**42,552**	**100%**
2000	Non-AFA Trawl CPs	21	42,993	82%
	All other sectors	25	5,583	11%
	AFA Trawl CPs	14	2,334	5%
	AFA CVs	67	1,524	3%
	Total	**127**	**52,435**	**100%**
2001	Non-AFA Trawl CPs	22	43,580	97%
	AFA Trawl CPs	14	1,217	3%
	All other sectors	23	18	0%
	AFA CVs	41	0	0%
	Total	**100**	**44,814**	**100%**
2002	Non-AFA Trawl CPs	22	51,516	97%
	AFA Trawl CPs	15	1,341	3%
	All other sectors	30	10	0%
	AFA CVs	33	0	0%
	Total	**100**	**52,867**	**100%**
2003	Non-AFA Trawl CPs	22	54,306	95%
	AFA Trawl CPs	13	2,988	5%
	All other sectors	40	8	0%
	AFA CVs	59	0	0%
	Total	**134**	**57,303**	**100%**

[a]Data was withheld to protect confidentiality

Source: Data summarized from 1995-2003 NMFS Weekly Production Reports and 1995-2003 ADFG groundfish fish tickets. The 2003 fish ticket data should be considered preliminary.

3.1.3.2 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.

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.

Table 3-4 provides catch of rock sole in the BSAI by gear from 1995 to 2002. Table 3-5 provides rock sole catch by year for the trawl sectors from 1995 to 2003.

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

Year	Trawl	Hook and Line	Pot	Total
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

Table 3-5 Rock sole catch history for the trawl sectors from 1995 to 2003

Year	Sector	Number of Vessels	Retained tons (mt)	Percent of total
1995	Non-AFA Trawl CPs	32	12,564	87%
	AFA Trawl CPs	20	717	5%
	All other sectors	69	607	4%
	AFA CVs	47	487	3%
	Non AFA Trawl CVs	3	[a]	[a]
	Total	**171**	**14,375**	**100%**
1996	Non-AFA Trawl CPs	29	12,438	95%
	AFA Trawl CPs	19	406	3%
	All other sectors	62	110	1%
	AFA CVs	30	82	1%
	Total	**140**	**13,035**	**100%**
1997	Non-AFA Trawl CPs	28	19,421	89%
	AFA CVs	49	1,092	5%
	All other sectors	28	763	4%
	AFA Trawl CPs	19	482	2%
	Non AFA Trawl CVs	4	0	0%
	Total	**128**	**21,758**	**100%**
1998	Non-AFA Trawl CPs	23	9,336	95%
	AFA Trawl CPs	18	476	5%
	AFA CVs	46	8	0%
	All other sectors	20	0	0%
	Total	**107**	**9,820**	**100%**
1999	Non-AFA Trawl CPs	23	9,901	96%
	All other sectors	18	329	3%
	AFA Trawl CPs	15	39	0%
	AFA CVs	35	32	0%
	Total	**91**	**10,300**	**100%**
2000	Non-AFA Trawl CPs	22	10,509	88%
	All other sectors	23	1,260	11%
	AFA Trawl CPs	14	118	1%
	AFA CVs	80	90	1%
	Non AFA Trawl CVs	4	11	0%
	Total	**143**	**11,988**	**100%**
2001	Non-AFA Trawl CPs	22	13,128	99%
	AFA Trawl CPs	16	115	1%
	All other sectors	25	29	0%
	AFA CVs	70	2	0%
	Total	**133**	**13,274**	**100%**

Year	Sector	Number of Vessels	Retained tons (mt)	Percent of total
2002	Non-AFA Trawl CPs	22	16,501	100%
	AFA Trawl CPs	16	26	0%
	AFA CVs	60	7	0%
	Non AFA Trawl CVs	4	4	0%
	Total	**102**	**16,537**	**100%**
2003	Non-AFA Trawl CPs	22	13,382	100%
	Non AFA Trawl CVs	8	23	0%
	AFA CVs	86	10	0%
	All other sectors	28	3	0%
	AFA Trawl CPs	13	3	0%
	Total	**157**	**13,421**	**100%**

[a] Data was withheld to protect confidentiality

Source: Data summarized from 1995-2003 NMFS Weekly Production Reports and 1995-2003 ADFGgroundfish fish tickets. The 2003 fish ticket data should be considered preliminary.

3.1.3.3 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.

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.

Table 3-6 depicts the annual catch of flatfish sole in the BSAI from 1995 to 2002 by gear.

Table 3-7 depicts the annual catch of flathead sole in the BSAI from 1995 to 2002 by trawl sector.

Table 3-6 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

Table 3-7 Flathead sole catch history for the trawl sectors from 1995 to 2003

Year	Sector	Number of vessels	Retained tons (mt)	Percent of total
1995	Non-AFA Trawl CPs	32	6,161	92%
	AFA Trawl CPs	20	241	4%
	AFA CVs	48	218	3%
	All other sectors	70	81	1%
	Non AFA Trawl CVs	3	[a]	[a]
	Total	**173**	**6,700**	**100%**
1996	Non-AFA Trawl CPs	29	8,641	96%
	AFA CVs	40	251	3%
	AFA Trawl CPs	19	57	1%
	All other sectors	37	10	0%
	Non AFA Trawl CVs	6	1	0%
	Total	**131**	**8,959**	**100%**
1997	Non-AFA Trawl CPs	28	10,103	94%
	AFA CVs	50	337	3%
	All other sectors	32	223	2%
	AFA Trawl CPs	19	70	1%
	Non AFA Trawl CVs	2	[a]	[a]
	Total	**131**	**10,733**	**100%**
1998	Non-AFA Trawl CPs	23	15,505	98%
	AFA Trawl CPs	19	247	2%
	All other sectors	59	59	0%
	AFA CVs	59	39	0%
	Non AFA Trawl CVs	6	0	0%
	Total	**166**	**15,850**	**100%**
1999	Non-AFA Trawl CPs	23	11,631	99%
	All other sectors	30	131	1%
	AFA Trawl CPs	15	22	0%
	AFA CVs	64	9	0%
	Total	**132**	**11,794**	**100%**
2000	Non-AFA Trawl CPs	20	12,037	94%
	All other sectors	28	737	6%
	Non AFA Trawl CVs	7	1	0%
	Total	**55**	**12,775**	**100%**
2001	Non-AFA Trawl CPs	22	12,135	100%
	All other sectors	36	30	0%
	AFA Trawl CPs	15	0	0%
	AFA CVs	79	0	0%
	Total	**152**	**12,165**	**100%**
2002	Non-AFA Trawl CPs	22	9,918	100%
	All other sectors	31	15	0%
	AFA Trawl CPs	15	10	0%
	AFA CVs	68	1	0%
	Non AFA Trawl CVs	7	0	0%
	Total	**143**	**9,944**	**100%**

Year	Sector	Number of vessels	Retained tons (mt)	Percent of total
2003	Non-AFA Trawl CPs	22	9,124	100%
	All other sectors	35	30	0%
	AFA CVs	91	9	0%
	Non AFA Trawl CVs	8	1	0%
	Total	**156**	**9,165**	**100%**

[a] Data was withheld to protect confidentiality
Source: Data summarized from 1995-2003 NMFS Weekly Production Reports and 1995-2003 ADFG groundfish fish tickets. The 2003 fish ticket data should be considered preliminary.

3.1.3.4 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. 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.

Table 3-8 provides annual catch of Atka mackerel in the BSAI from 1995 to 2002 by gear. Table 3-9 provides annual catch of Atka mackerel in the BSAI from 1995 to 2003 by trawl sector.

Table 3-8 Catch of Atka mackerel in the BSAI by Gear Type, in mt, 1993-2002

Year	Trawl	Hook and Line	Pot	Total
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

Table 3-9 Atka mackerel catch history for the trawl sectors from 1995 to 2003

Year	Sectors	Number of vessels	Retained tons	Percent of total
1995	Non-AFA Trawl CP	15	52,200	85%
	All other sectors	4	7,440	12%
	AFA Trawl CP	8	1,824	3%
	AFA CV	11	16	0%
	Total	**38**	**61,480**	**100%**
1996	Non-AFA Trawl CP	18	77,627	92%
	All other sectors	20	5,503	7%
	AFA Trawl CP	4	1,392	2%
	AFA CV	18	13	0%
	Total	**60**	**84,535**	**100%**
1997	Non-AFA Trawl CP	11	42,344	79%
	All other sectors	19	7,527	14%
	AFA Trawl CP	4	3,869	7%
	AFA CV	3	[a]	
	Total	**37**	**53,741**	**100%**

Year	Sectors	Number of vessels	Retained tons	Percent of total
1998	Non-AFA Trawl CP	21	39,911	84%
	All other sectors	18	7,380	16%
	AFA CV	26	0	0%
	Total	**65**	**47,292**	**100%**
1999	Non-AFA Trawl CP	19	44,212	99%
	AFA Trawl CP	10	438	1%
	All other sectors	9	1	0%
	AFA CV	12	0	0%
	Total	**50**	**44,652**	**100%**
2000	Non-AFA Trawl CPS	16	36,424	100%
	All other sectors	8	3	0%
	Non AFA Trawl CV	1	[a]	
	Total	**25**	**36,426**	**100%**
2001	Non-AFA Trawl CP	18	45,527	100%
	All other sectors	20	73	0%
	AFA CV	27	16	0%
	Total	**65**	**45,616**	**100%**
2002	Non-AFA Trawl CP	17	31,125	100%
	AFA CV	47	78	0%
	All other sectors	9	2	0%
	Non AFA Trawl CV	2	[a]	
	Total	**75**	**31,205**	**100%**
2003	Non-AFA Trawl CP	17	37,757	100%
	AFA CV	72	86	0%
	AFA Trawl CP	13	3	0%
	All other sectors	22	0	0%
	Non AFA Trawl CV	6	0	0%
	Total	**130**	**37,848**	**100%**

[a] Data was withheld to protect confidentiality
Source: Data summarized from 1995-2003 NMFS Weekly Production Reports and 1995-2003 ADFG groundfish fish tickets. The 2003 fish ticket data should be considered preliminary.

3.1.3.5 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.

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.

Table 3-10 provides annual catch of Atka mackerel in the BSAI from 1995 to 2002 by gear. Table 3-11 provides annual catch of Atka mackerel in the BSAI from 1995 to 2003 by trawl sector.

Table 3-10 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

Table 3-11 Annual catch of AI POP in the BSAI for trawl sectors from 1995 to 2003

Year	Sectors	Number of Vessels	Retained tons	Percent of total
1995	Non-AFA Trawl CPs	14	8,053	98%
	AFA Trawl CPs	17	198	2%
	AFA CVs	10	8	0%
	All other sectors	3	[a]	[a]
	Total	**44**	**8,259**	**100%**
1996	Non-AFA Trawl CPs	14	8,950	99%
	AFA Trawl CPs	14	122	1%
	AFA CVs	14	6	0%
	All other sectors	4	1	0%
	Total	**46**	**9,079**	**100%**
1997	Non-AFA Trawl CPs	10	10,325	100%
	AFA CVs	16	30	0%
	All other sectors	6	13	0%
	AFA Trawl CPs	14	0	0%
	Total	**46**	**10,368**	**100%**
1998	Non-AFA Trawl CPs	12	7,702	100%
	AFA Trawl CPs	7	1	0%
	AFA CVs	13	1	0%
	All other sectors	2	[a]	[a]
	Total	**34**	**7,703**	**100%**
1999	Non-AFA Trawl CPs	12	9,580	100%
	All other sectors	2	[a]	[a]
	Total	**14**	**9,580**	**100%**
2000	Non-AFA Trawl CPs	10	6,996	100%
	All other sectors	1	[a]	[a]
	Non AFA Trawl CVs	1	[a]	[a]
	Total	**12**	**6,996**	**100%**
2001	Non-AFA Trawl CPs	11	6,320	100%
	All other sectors	5	0	0%
	Total	**16**	**6,320**	**100%**
2002	Non-AFA Trawl CPs	11	8,249	100%
	Total	**11**	**8,249**	**100%**
2003	Non-AFA Trawl CPs	10	9,823	96%
	AFA Trawl CPs	2	[a]	[a]
	Total	**12**	**9,823**	**96%**

[a] Data was withheld to protect confidentiality

Source: Data summarized from 1995-2003 NMFS Weekly Production Reports and 1995-2003 ADFG groundfish fish tickets. The 2003 fish ticket data should be considered preliminary.

3.1.3.6 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 3-12 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

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.

3.1.4 Description of the Non-AFA Trawl Catcher Processor Sector

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, 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 and flathead sole 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.

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 3-13). 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 3-13 Fishing Activity in the Non-AFA Trawl CP Sector in 1995-2003, by Size Class

Length Class	1995	1996	1997	1998	1999	2000	2001	2002	2003
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	44.1	40.8
> 125'	284	293	303	234	234	251	241	243	232
Percent of Non-AFA Trawl CP Total Groundfish Catch									
< 125'	6.3	10.5	14.3	13.8	12.8	14.5	8	15.4	14.9
> 125'	93.7	89.5	85.7	86.2	87.2	85.5	92	84.6	85.1
Discards as a Percent of Total Groundfish Catch of Length Class									
< 125'	60.7	55.1	52	46.9	41.2	41	39.9	40.1	42.1
> 125'	39.4	36.3	34.1	27.1	32.1	29.3	27.9	28.7	28.3
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	20.2	20.7
> 125'	87.9	86.5	81.6	79.6	82.2	82.8	86.2	79.8	79.3

Source: NPFMC Sector Profiles Database, 2004.

The following information on employment for the Non-AFA Trawl CP sector is from the *Alaska Groundfish Fisheries Final Programmatic Supplemental Environmental Impact Statement* that was published on June 2004. The average crew size for a Non-AFA Trawl CP vessel is about 34 persons, which is about one-third of the average employment on a surimi catcher processor and less than half of the average crew of a fillet catcher processor. A typical crew might include a captain, a mate, two engineers (one each for the vessel and processing equipment), a cook/housekeeper, two to three crew members dedicated to the deck, a processing foreman and assistant, and about 25 processing workers. On some vessels two or three crew members may split their time between processing and deck work. Any variation in crew size usually is the result of a change in the number of processing workers employed. An annual average of 1,022 FTE positions were generated by this vessel class during the 1992-2001 period, and estimated yearly payments to labor average $55 million.

3.1.5 History of the Non-AFA Trawl CP Sector

The first US-flagged trawl catcher processors were head and gut factory trawlers, and entered the fishery in 1980. [Paul MacGregor 2003, Mary Furuness 2003] These boats focused their effort primarily on Pacific cod, rockfish, sablefish and flatfish. Pollock, while ubiquitous, were not generally targeted because of their relatively low value.

A key development in the history of the factory trawler was the introduction in 1983 and rapid acceptance of high-speed at-sea filleting machinery, such as the Baader 182 and other similar machinery by Toyo

[Wulff 2003]. These machines made at-sea processing of pollock into fillets and subsequent processing into surimi financially feasible [Wulff 2003]. Vessels that were large-enough and met Coast Guard stability and load line requirements to install this machinery, were able to tap into the huge pollock resource in the Bering Sea. Other trawl CPs, typically smaller vessels without loadline certifications, were limited to head and gut processing.

The 1987 Anti-reflagging Act also contributed to the growth of the US flagged trawl CP fleet. The act prohibited vessels that were not originally constructed in the US from being re-flagged as a US vessel. There was, however, a three-year window in which vessels that were already under conversion/construction were allowed to enter [IAI 1994].

The coincidental timing of the introduction of the Baader and the conversions provisions in the Anti-Reflagging Act led to a dramatic increase in the number of U.S. flagged trawl CPs operating in the Alaskan EEZ. In 1986, NMFS reported 12 active U.S. trawl CPs operating in the Alaskan EEZ. However, the number of U.S. trawl CPs doubled in 1987 [IAI, 1994), and by 1990, there were a total of 72 U.S. flagged trawl CPs operating in the Alaskan EEZ [NPFMC 1995]. Although the exact number of Non-AFA Trawl CP vessels was not explicitly tracked at the time, estimates developed in 1995 for the Groundfish and Crab Licence Limitation program [NPFMC, 1995] indicated that there were a total of 23 Non-AFA Trawl CP vessels in 1988—12 of which fished only with trawl gear and 11 of which reported fishing with both trawl and non-trawl gears. The same source indicated that in 1990, a total of 33 vessels were Non-AFA Trawl CP vessels, 17 of which had reported only using trawl gear.

During the early and mid 1990's, the Council process was primarily focused on allocation and rationalization issues. While these issues indirectly affected the Non-AFA Trawl CP sector, other sectors were affected in much more significant ways. However, an add-on to the License Limitation Program in 1995 closed the Eastern Gulf of Alaska (EG) to trawling. While trawling catches in the EG were not large compared to non-trawl catches in the EG or to trawl catches in other areas, the Non-AFA Trawl CP fleet were the primary participants–trawling for high value rockfish species. The closure further limited the opportunities for the Non-AFA Trawl CP sector.

In the early 1990's, there was a marked increase in public awareness and dislike with the problems of incidental catch, prohibited species catch, and discards of both target species and of incidental catch species. In response to the growing perception of unnecessary waste in the fisheries, the Council in 1994, initiated analysis to improve utilization and retention, and to provide better incentives to reduce incidental catches of non-target species. The growing awareness and controversy led to a formulation of a national policy to reduce bycatch, which was included in the reauthorization of the Magnuson Stevens Act in 1996.

The waste reduction initiatives resulted in the Council's 1996 approval of IR/IU for the BSAI (Amendment 49). A similar program was approved for the GOA in 1997 (Amendment 49). The IR/IU measures for pollock and Pacific cod were implemented in 1998 for both the GOA and BSAI. They were initially directed primarily at the surimi and fillet trawl CPs, which over time installed fish-meal plants and otherwise changed their fishing and processing methods to catch fewer unusable fish and to more fully utilize those fish harvested. For the Non-AFA Trawl CP vessel, which are generally too small to be outfitted with fish-meal plants, the IR/IU regulations were more difficult to meet. However, one outcome of the measure 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 consumer.

In approving the IR/IU Amendment, the Council also approved IR/IU for flatfish, but recognized that the Non-AFA Trawl CP sector would be unable to meet the IR/IU standard in the near term, and advised NOAA Fisheries to delay implementation of the flatfish portions of the regulations until 2003. The delay was intended to give the Non-AFA Trawl CP fleet time to alter their fishing methods and gear to avoid unwanted catch and to develop markets for catches of flatfish that are unavoidable and that would otherwise be discarded.

Since 1997, the Non-AFA Trawl CP sector has improved their fishery in terms of retention and utilization. Retention by the Non-AFA Trawl sector has been aided in recent years by unusually large flatfish sizes and a global decline in whitefish supply. In addition, the Non-AFA Trawl CP sector has made significant internal efforts, beginning with the formation of Groundfish Forum–an association of Non-AFA Trawl CP sector owners. During the period following passage of IR/IU, the Non-AFA Trawl CP fleet led by Groundfish Forum has taken steps to reduce their unwanted catch. Since 1997, for example, 100 percent of the vessels in the sector have participated in SeaState, an industry sponsored organization that tracks fishing areas of participants and provides reports of areas of high rates of incidental catches. The sector has also engaged in several experimental fisheries to test new and different gear configurations in order to reduce bycatch. The sector has also tested methods to reduce halibut mortality and broaden markets for fish that had previously gone unprocessed.

This level of cooperation can be considered quite remarkable given that vessels in Non-AFA Trawl CP sector operate in an intensely competitive environment in which the actions of one vessel or one company can have significant negative effects on all of the other vessels and companies in the sector. Because of this highly competitive environment, operators are forced to fish as hard and fast as possible before another company's activities or the activities of the fleet as a whole force a fishery closure.

The primary factor contributing to this environment is the common property nature of the fishery resource itself. At the beginning of the year, NOAA Fisheries set the TACs for each groundfish species as well as limits for prohibited species (PSC limits). When the season begins on January 20, each vessel must race to catch as much fish as possible before the season ends when the TAC or a PSC limit is reached. If an individual vessel or company slows its activity to avoid catches of unwanted fish or areas of high concentrations of PSCs, they will very likely suffer a loss of revenue, particularly if other vessels or companies do not fish conservatively.

While the race-for-fish problem is endemic throughout the North Pacific, for the Non-AFA Trawl CP sector it is only one of many factors that contribute to the aggressive fishing practices of the sector. Other contributing factors are listed below:

- The diversity of products produced by the Non-AFA Trawl CP sector is relatively large and the number of wholesale buyers in the market is quite limited.
- The demand for many of these products is relatively small, and prices are very sensitive to fluctuations in quantity. [NPFMC, 2001]
- Most companies have semi-exclusive agreements with purchasers
- There are relatively few fishing vessels participating in the sector (22 in 2002 and 22 in 2003) and even fewer companies—a total of 12 companies owning or operating the 26 qualified vessels, 16 of which are concentrated in 4 companies.

Other sectors have also been plagued by the common property nature of the fisheries in the North Pacific. This was particularly true of the pollock industry. However, the pollock fishery was rationalized with the approval of the American Fisheries Act in 1998 by the US Congress. The AFA created exclusive pollock allocations to AFA eligible vessels and allowed the formation of cooperatives in both offshore and inshore sectors. Non-AFA vessels that took pollock as incidental catch were prohibited from targeting pollock, and now operate year-round under MRAs for pollock—retained pollock may not exceed 20 percent of other retained groundfish between consecutive offloads.

The AFA has also resulted in an additional burden on the Non-AFA Trawl CP sector. Because of the combination of AFA and IR/IU regulations, the Non-AFA Trawl CP sector are continual struggling to comply with the conflicting pollock regulations. The sector must keep all pollock they catch because of IR/IU, unless their pollock catch exceeds 20 percent of total retained non-pollock groundfish, at which

point they must discard pollock, as long as they do not discard so much as to fall below the 20 percent standard.

By 2002, Non-AFA Trawl CP sector realized that IR/IU flatfish requirements could significantly increase the costs of the sector. In April 2002, public testimony provided by Non-AFA Trawl CP sector to the Council described that some vessels in that sector would be forced to exit flatfish and other fisheries if a requirement to retain flatfish species were imposed. These exit decisions were reported to be due to their inability with existing technology to consistently haul target species with low proportions of non-target catch, and adapt to the limited space available on some vessels to hold and process mixed species hauls.

While retention and utilization of flatfish by all sectors, including the Non-AFA Trawl CP sector improved between 1995 and 2000 the Non-AFA Trawl CP fleet felt that it still did not have the capability (e.g., markets and gears) to remain viable participants once IR/IU was implemented in 2003. The industry proposed that alternatives to full retention of flatfish be examined, and the Council added options to the ongoing analysis of processing limits under the American Fisheries Act.

Based on the experience of the AFA-CPs, the Non-AFA Trawl CP sector has also expressed the general conclusion that their best hope of facilitating the reduction of discards and incidental catch is regulated reductions of discards and some form of dedicated access privileges. The sector has tried to negotiate a voluntary cooperative within the existing fishery regulations, albeit unsuccessfully. For a voluntary cooperative to be successful in providing secure fishing privileges, under existing regulations, it may be necessary for every participant in the sector to participate in the coop. The Non-AFA Trawl CP sector has been unable to gain 100 percent agreement.

3.1.6 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 3-14). 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 3-14 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.

3.1.6.1 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.

Table 3-15 shows the various primary products by weight made from BSAI groundfish during the 1998-2003 period. A large percentage of flatfish are frozen whole, while a small percentage, primarily yellowfin sole, are made into kirimi, a steak-like product. 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. It should be noted that comparing products by weight can be misleading. For example, fillets are typically skinless and boneless product, so a 5-lb yellowfin sole 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.

Table 3-15 Volume of BSAI Groundfish Products by Species and Product Type (1,000 mt), 1998–2003

Species/Product	1998	1999	2000	2001	2002	2003
Flatfish						
Whole fish	31.35	9.64	11.88	7.75	13.10	10.20
Head and gut	37.81	36.44	42.32	35.16	45.84	48.82
Kirimi	6.30	4.21	6.37	6.15	2.86	3.68
Fillets	-	-	-	-	-	.00
Other products	.86	.70	.85	.42	.74	.73
Atka mackerel						
Whole fish	4.87	10.10	2.92	4.81	3.27	7.13
Head and gut	21.90	22.18	22.49	26.66	18.53	20.72
Other products	-	.03	-	.00	.00	.00
Rockfish						
Whole fish	.04	1.73	.17	.46	.71	.74
Head and gut	4.45	5.04	4.30	2.94	4.58	5.77
Other products	.01	.02	.01	2.14	.00	.04

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

[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.

some leaves in a raw form, such as whole frozen fish. How much remain in the U.S. and how much are shipped abroad varies from year to year.

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

A large percentage of the flatfish harvested in the Alaska groundfish fisheries are shipped to Asia. In recent years, China is playing a more prominent role in the reprocessing of groundfish. In particular, a large portion of the flatfish, Atka mackerel, and AI POP harvested in the BSAI area is shipped to China where it is reprocessed into finished products and then exported to final consumer markets in Japan and other Asian countries, U.S., and Europe. Some quantities of the various groundfish species are also exported to Thailand and Vietnam for reprocessing.

The major market for rock sole with roe is Japan. Rock sole with roe is shipped directly to Japan, while the remaining portion is shipped to China for reprocessing before being shipped to Japan. Nearly all of the rock sole without roe, yellowfin sole, and flathead sole is shipped to China for reprocessing before being shipped to Japan. A small portion of the flatfish and rock sole without roe is also shipped directly to Europe or shipped to China for reprocessing before being shipped to Europe.

Atka mackerel in general is sent to Japan or Korea for processing and consumption. Some about of Atka mackerel is sent to China for reprocessing. Finally, nearly all of the AI POP harvested in the BSAI is exported to China where it is reprocessed and then shipped to Japan.

The size of a groundfish product is extremely important in determining the product flow. In general, there are four or five grades of flatfish with each grade having a specific market. Smaller grades of flatfish, (S and M), are shipped directly to Japan where the product is used in lunch boxes. Larger grades, (L, 2L, & 3L), are first shipped to China for reprocessing before being shipped to the U.S. and European markets. Overall, a typical Non-AFA Trawl CP vessel will often produce up to 10 species per trip, with four or five grades per species, with each species and grade having a specific market.

Finally, the international market for the allocated species is directly impacted by Russia harvest of these same species. In general, groundfish harvested in Russia are priced lower than groundfish harvested in BSAI. This often times results in the international market for the species included in this action to be flooded with inexpensive Russian products that in end can reduce returns to the Non-AFA Trawl CP participants.

3.1.7 Community Information

Fisheries influence communities through the economics and social activities generated through participants in the different industry sectors and through supporting industry and business. Some information concerning these impacts can be gleaned from examining the resident of participants in the fisheries. Participation by residence estimates can be generated for the Non-AFA Trawl CP sector. Care should be taken in evaluating the importance of the estimates, as the information available to estimate participation by residence will not fully reflect the distribution of regional and local impacts. For example, a vessel owner may not reside in the community that is used as a registered mailing address. In addition, participants in the Non-AFA Trawl CP sector likely purchase inputs and hire crew from outside of their communities of residence. In addition, impacts of similar magnitudes will have differing importance with the size of the local and regional economy. Small communities could be greatly affected by impacts that are likely to go unnoticed in large cities.

The fishing communities that are expected to benefit from this proposed action are the locations the vessels offload, take on supplies, and the owners and crew live. Twenty-seven catcher processors appear to be eligible for the Non-AFA Trawl CP sector. Of these vessels, nearly all are based out of Seattle or other Washington communities. A few catcher processors are based in Rockland, Maine. Although the BSAI non-pollock groundfish fisheries may be important to the Seattle-based participants in these fisheries, the effects of these fisheries are largely overshadowed by both the large fishing and processing

industry in Seattle and the general Seattle economy as a whole. A brief profile of the Seattle economy is attached as Appendix 1.

3.1.8 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 http://www.fakr.noaa.gov/cdq/default.htm, the Alaska Department of Commerce, Community and Economic Development web site at http://www.dced.state.ak.us/bsc/CDQ/cdqstats.htm, and the Bering Sea Fishermen's Association's web site http://www.cdqdb.org.

3.1.8.1 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 strengthen their local economies by investing in both commercial fisheries and other fisheries-related projects, and to provide residents with education, training, and job opportunities in the fishing industry. 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.

3.1.8.2 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. Historically, economic opportunities have been few, unemployment rates have been chronically high, and these communities (and the region) have been economically depressed.

While the CDQ communities border very productive fishing grounds, they were unable to exploit this proximity as the BSAI groundfish fisheries developed. The full development of the domestic fishing and processing industry in these 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 them. 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 (APICDA), Bristol Bay Economic Development Corporation (BBEDC), Central Bering Sea Fishermen's Association (CBSFA), Coastal Villages Region Fund (CVRF), Norton Sound Economic Development Corporation (NSEDC), and Yukon Delta Fisheries Development Association (YDFDA).

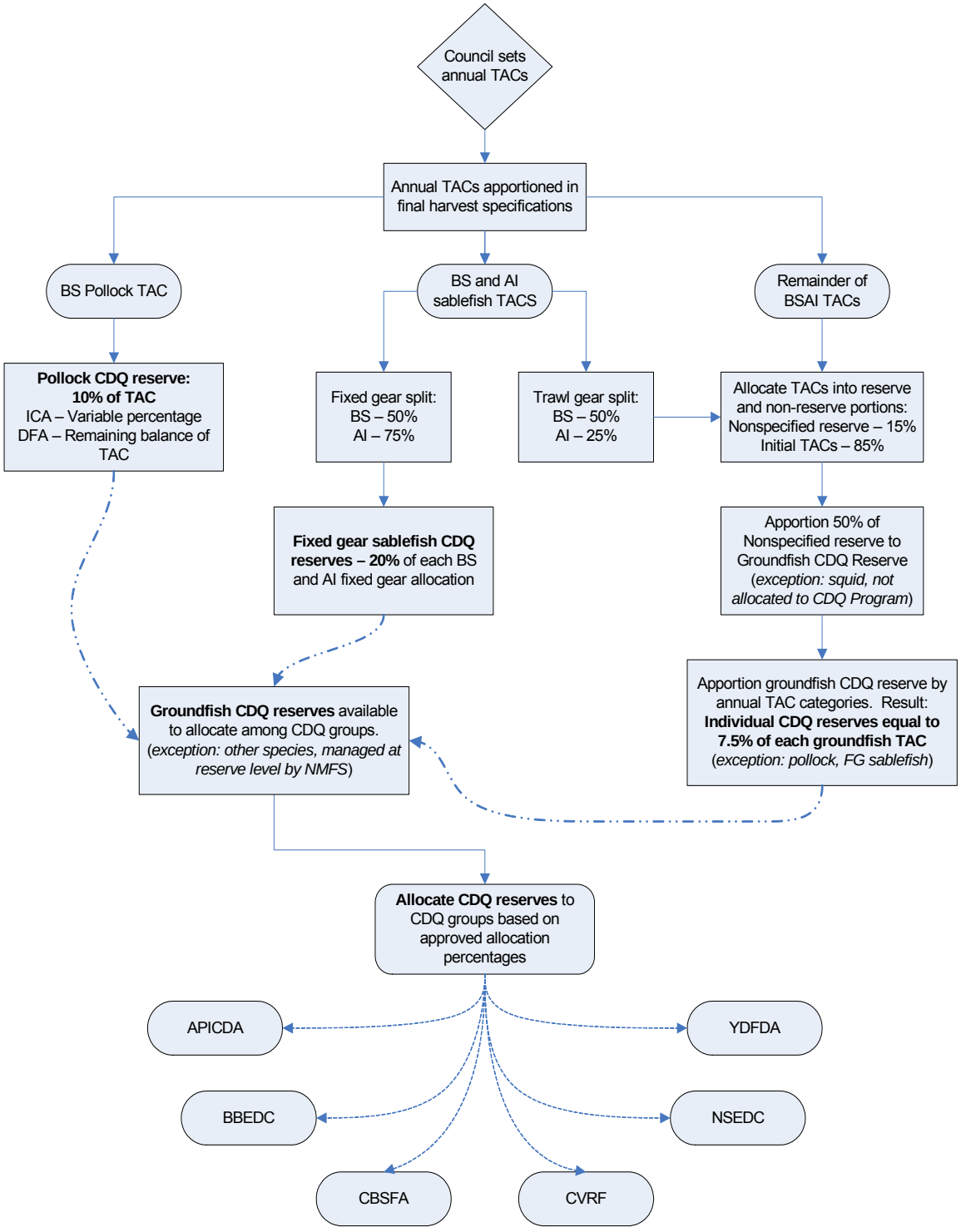
3.1.8.3 CDQ Program Allocations, Harvest, and Value

Since 1992, the CDQ Program has expanded several times and now includes allocations of pollock, halibut, sablefish, crab, all of the remaining groundfish species (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 (as 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 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, depending on management area).

Establishment of the annual groundfish CDQ reserves is an extension of the groundfish harvest 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 groundfish CDQ reserve, which is then apportioned back 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 BS and AI pollock TACs each contribute 10 percent to CDQ reserves, while the fixed gear sablefish TAC contributes 20 percent to a CDQ reserve. A parallel process is used to allocate 7.5 percent of each BSAI prohibited species catch limits to the CDQ Program as prohibited species quota (PSQ). Annual groundfish CDQ and PSQ allocations for 1998 to 2004 are available at the NOAA Fisheries web site cited in the introductory paragraph to Section 3.3.5. Figure 3-1 illustrates the process involved in establishing the annual CDQ reserves. The process establishing PSQ reserves is similar.

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 and approved by the NOAA Fisheries. The percentages can vary by CDQ group, management area, and species. Such percentages are reviewed and amended on a periodic basis. Under the current regulations, all groundfish (except for squid and "other species," as discussed in Section 3.4) and prohibited species caught by vessels fishing for a particular CDQ group accrues against that group's CDQ and PSQ allocations. Besides squid and "other species," none of the groundfish or prohibited species caught in the groundfish CDQ fisheries accrue against the non-CDQ apportionment of TAC or PSC limits. The CDQ groups must manage their catch to stay within each of their annual CDQ allocations, as they are prohibited from exceeding them. This may have a bearing on how successfully or aggressively CDQ groups prosecute some target species.

Figure 3-1 Establishment and distribution of groundfish CDQ reserves.



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. Annual CDQ allocations provide a revenue stream for CDQ groups through various channels, including the direct catch and sale of some species, leasing quota to various harvesting partners, and income from a variety of investments. 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.

One of the most tangible direct benefits of the CDQ Program has been employment opportunities for western Alaska village residents. CDQ groups have had some successes 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 a wide range of fishing vessels, internships with the business partners or government agencies, employment 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. CDQ wages in those same years has ranged from $10.6 million to $11.9 million. CDQ groups continue to explore the means to provide both continuing and additional employment opportunities for local residents.

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 3-16.

Table 3-16 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 3-17.

Table 3-17 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 3-18 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 3-18 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 3-19). 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 3-19 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[2].

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 Not Advanced for Analysis

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.

[2] NOAA Fisheries needs over fishing level (OFL) type authority to close all fishing at the cooperative level if the harvest level approaches OFL. This approach could also be applied to the sideboards for the cooperatives. With NOAA Fisheries having the ability to close a particular fishery if a cooperative were approaching the OFL for a particular species, this would avoid closing the entire fishery to all sectors.

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 amounts of the groundfish TACs and PSC allocated to the CDQ Program. Component 2 contains three options that would allocate between 7.5 percent and 15 percent of the primary target species under consideration in Amendment 80 to the CDQ Program. Additionally, Component 2 contains five suboptions that would specify the percentage amount of incidental catch species (except Pacific cod) that would be allocated to the CDQ Program along with allocations of primary target species.

Component 5 would specify the percentage of PSC limits allocated to the CDQ Program. Given the options under consideration, the PSC allocation percentage could range from 7.5 percent to 15 percent of each of the PSC species currently allocated to the CDQ Program, except for Chinook salmon. Component 2 and Component 5 are similar in that they both provide options for increasing BSAI TAC and PSC allocations to the CDQ Program. Each of these components is discussed in more detail in

Sections 3.4.2.1 and 3.4.2.5.

3.2.2.1 Specific CDQ Allocation Options under Component 2

Component 2. CDQ allocations for each primary target (Component 1) species in the program 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%

CDQ allocations for secondary groundfish 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:

Suboption 2.1 7.5%

Suboption 2.2 10%

Suboption 2.3 15%

Suboption 2.4 At species specific percentages that reflect historical incidental catch rates in the directed fisheries for the primary species by the Non-AFA Trawl Catcher Processor sector during 1998-2003.

Suboption 2.5 The Council can select percentages for each of the incidental catch species allocated to the CDQ Program.

Component 2 provides a range of options associated with modifying the CDQ percentage allocations of the primary target species TACs. This includes three options for the percentage allocations of yellowfin sole, rock sole, flathead sole, Atka mackerel, and AI Pacific Ocean perch that could be made to the CDQ Program: 7.5 percent (the current percentage amount), 10 percent, and 15 percent.

Increasing percentage allocations to the CDQ Program, if corresponding annual CDQ allocations were completely harvested, probably would increase the incidental catch of groundfish and prohibited species in these target fisheries. Thus, along with increases in percentage amounts for primary target species considered under Options 2.2 and 2.3, this component includes 5 suboptions to increase the allocations for ". . .associated secondary species (except Pacific cod) taken incidental to the primary trawl target fisheries. . ." The species discussed under these suboptions will be referred to as incidental catch species.

The annual percentage allocation of each groundfish TAC and prohibited species catch limits to the CDQ Program currently is specified in regulation. Before selecting any of the suboptions to modify the allocation percentages of incidental catch species under Component 2, the Council would have to specifically identify the incidental catch species or species groups that would be included under Suboptions 2.2 through 2.5. Additional information about which incidental catch species are caught with primary species is in Section 3.4.2.6.

3.2.2.2 Historic CDQ Harvest of 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, flathead sole, and yellowfin sole) have not been as completely caught. Past groundfish CDQ catch is detailed in Table 3-20.

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 directed fisheries (such as for yellowfin sole) remained open all or most of the year, which may have meant that CDQ groups' flatfish partners opted not to fish for yellowfin sole CDQ, for which they would have to pay CDQ royalties. In fisheries such as the AI Atka mackerel fisheries, the amount of incidental catch species CDQ available to support the Atka mackerel CDQ directed fishery may have led to CDQ groups and their partner vessels to fish conservatively to avoid the incidental catch of some species. Prohibitions against exceeding both CDQ and PSQ allocations mean that CDQ groups operate cautiously in many fisheries to avoid exceeding their allocations of incidental catch species. CDQ groups may dedicate their allocations of incidental species to more valuable target fisheries such as Pacific cod or pollock. The residual amounts of incidental catch species may be deemed inadequate to account for additional bycatch needs in less valuable CDQ target fisheries, thereby limiting participation in such fisheries.

Further detail about the 2001-2004 CDQ catch of primary target species is portrayed in Table 3-21, which displays the percentage of the allocation that was harvested for each of these primary species. These data illustrate historic CDQ harvest trends for the primary target species considered under Components 1 and 2. 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 the program allocations for such species are 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 Table 3-21or subsequent discussions in this section.

Table 3-20 Groundfish CDQ and PSQ Harvests, 1999-2004.

Species or category	1999	2000	2001	2002	2003	2004
Atka Mackerel, BS/EAI	1,166	1,192	519	320	696	771
Atka Mackerel, CAI	822	1,807	2,467	1,591	2,129	2,248
Atka Mackerel, WAI	601	1,788	1,991	1,341	1,203	1,476
Flathead Sole	724	439	223	464	392	545
Pacific Ocean Perch, EAI	159	167	162	167	249	165
Pacific Ocean Perch, CAI	129	216	152	155	185	170
Pacific Ocean Perch, WAI	317	372	318	355	404	336
Rock Sole	575	401	221	553	641	892
Yellowfin Sole	1,968	219	182	1,972	5,564	6,321
BS Pollock (T)	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 (T)	12,495	13,527	12,363	14,128	14,465	16,009
BS FG Sablefish (T)	18	66	40	150	66	143
AI FG Sablefish (T)	103	120	87	129	103	14
BS Sablefish	14	6	4	27	6	21
AI Sablefish	3	1	0	6	7	0
BS Greenland Turbot (T)	196	244	26	53	48	31
AI Greenland Turbot (T)	37	65	35	46	33	29

Species or category	1999	2000	2001	2002	2003	2004
Arrowtooth Flounder	787	286	139	302	437	432
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
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 rockfish (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 rockfish (BSAI)	n/a	n/a	n/a	n/a	n/a	3
AI Shortraker/Rougheye rockfish	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

Note: (T) – Target fisheries other than those primary target fisheries considered in this analysis.

Source: NOAA Fisheries 2005. All amounts in metric tons, except for crab and salmon (listed in number of animals).

Table 3-21 CDQ target species percent of annual allocation harvested, 2001-2004.

Species	2001	2002	2003	2004	Average percent harvested
Atka Mackerel, EAI/BS	89%	77%	87%	91%	86%
Atka Mackerel, CAI	98%	89%	97%	96%	95%
Atka Mackerel, WAI	95%	91%	80%	95%	90%
Flathead Sole	7%	25%	26%	38%	24%
Pacific Ocean Perch, EAI	74%	64%	95%	72%	76%
Pacific Ocean Perch, CAI	79%	67%	74%	78%	75%
Pacific Ocean Perch, WAI	89%	84%	92%	87%	88%
Rock Sole	4%	14%	19%	29%	17%
Yellowfin Sole	2%	31%	89%	98%	55%

Source: NOAA Fisheries 2005.

Two fishing companies have been associated with harvesting the primary target species considered under this action in recent years. The first, M/V Savage, Inc. (which operates the F/V Seafisher) fishes for APICDA, while the remaining five CDQ groups currently are partnered with U.S. Seafoods, Inc. (which operates the F/V Seafreeze Alaska and F/V Ocean Peace). All three of these vessels are non-AFA trawl

C/Ps. For the most part, the directed fishing for all of the primary species considered under Component 2 is done by these vessels.

Atka Mackerel CDQ Fishery

The CDQ Program receives 7.5 percent of the each AI Atka mackerel TAC. The amount of Atka mackerel CDQ caught between 1999 and 2004 is detailed in Table 3-20. A complete description of the Atka mackerel fishery is in Section 3.1.3.4. The Atka mackerel CDQ fishery is typically prosecuted in conjunction with the non-CDQ Atka mackerel fishery. The fishery is often conducted concurrently with the Pacific Ocean perch 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. Royalties from the harvest of CDQ in such arrangements are distributed among participating CDQ groups, although the terms of such arrangements are unavailable. The fishing companies associated with the harvest of the Atka mackerel CDQ also may have benefited from such business arrangement, but that information also is not available.

In 2004, about 95 percent of the total CDQ allocation of Atka mackerel was harvested. The largest subarea harvest was from the CAI area where 2,246 mt (96 percent) of the allocation was harvested. That same year about 771 mt (91 percent) and about 1,476 mt (95 percent) of the EAI/BS and WAI area allocations were harvested, respectively. Table 3-21 illustrates that the majority of each AI Atka mackerel CDQ allocation was harvested in 2001-2004. 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 Component 2, 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. A complete description of the Pacific Ocean perch fishery is in Section 3.1.3.5. The Pacific Ocean perch CDQ fishery 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 AI Atka mackerel, and usually on the same fishing trips, so the temporal effort is very similar. Quota transfers patterns also are similar in recent years, with multiple CDQ groups transferring their EAI, CAI, and WAI Pacific Ocean perch to a single CDQ group for a collaborative harvest effort. Some groups continued to manage the harvest of their Pacific Ocean perch allocations separately from other CDQ groups.

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 percentage amounts harvested in 2001-2004 are displayed in Table 3-21. 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 Pacific Ocean perch harvesting opportunities, along with associated royalty benefits.

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 of the flathead sole CDQ allocation harvested 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 to the program. 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. A complete description of these fisheries, including historic TAC and catch levels, is in Sections 3.1.3.2 and 3.1.3.3.

Reasons for the low catch rates in the directed fisheries for rock sole and flathead sole CDQ vary. The non-CDQ fisheries for these species are subject to more frequent closures due to reaching either PSC limits for halibut or seasonal apportionments of the annual rock sole or flathead sole TACs. It may be difficult to integrate fishing for CDQ into the non-CDQ operations of the vessels prosecuting these fisheries, or these vessels may choose to move into other target 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. Pacific 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, higher priority CDQ target fisheries.

Yellowfin Sole CDQ Fishery

The CDQ Program receives 7.5 percent of the annual BSAI yellowfin sole TAC. A complete description of the general yellowfin sole fishery, including historic TAC and catch levels, is in Section 3.1.3.1. Until recently, the annual yellowfin sole CDQ fishery was not as fully prosecuted as fisheries such as pollock and Pacific cod. The first year in which essentially all of the CDQ yellowfin sole allocation was harvested was 2003. Table 3-21 shows that 88 percent of the yellowfin sole CDQ allocation was harvested in 2003, increasing to 98 percent of the yellowfin sole CDQ allocation in 2004. In contrast, CDQ groups only harvested about 30 percent of their yellowfin sole allocation 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. As with all groundfish CDQ species, yellowfin sole may be transferred among CDQ groups so that a group can accumulate species they are most interested in harvesting or to pool small amounts of either primary or incidental catch species quota to allow for more efficient harvesting operations. This has begun occurring in recent years with yellowfin sole CDQ. The non-CDQ yellowfin TAC was completely caught in recent years (2002, 2003, and 2004), which may mean that participants in that fishery had additional opportunities to fish for yellowfin sole CDQ.

3.2.2.3 Groundfish CDQ Royalties

CDQ groups establish harvesting contracts, along with 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 negotiated 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 historically have accounted for the largest proportion 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 $53.4 million. Pollock CDQ royalties accounted for $42.8 million of this amount, or 80 percent of total royalties. Harvests of other groundfish, crab, and halibut CDQ yielded the remainder of CDQ royalties. 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 3-22 illustrates the proportions that major species groups contributed to overall CDQ royalties in 2003.

Table 3-22 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	$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 some other species categories.
Source: NOAA Fisheries Service. Compiled from aggregated CDQ royalty information based on audited financial statements submitted by the CDQ groups.

The species in the "other species" category in Table 3-22 includes a range of species. This includes the primary target species under consideration under Component 2, as well as other species such as sablefish and Greenland turbot. The CDQ groups do not report all royalties separately by species, therefore, detailed information about royalties for the primary target species are not available. 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, while other rates appear to be based on a basic dollar amount per unit of target species harvested. Thus, the actual royalties per ton or unit that accrue to CDQ groups for the harvest of each primary target species cannot be calculated with the information currently submitted to NOAA Fisheries.

3.2.2.4 Projected Allocations of Primary Target Species to the CDQ Program

Component 2 has two options to increase the primary target species allocations made 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 primary species TACs. Option 2.1 would retain the current 7.5 percent allocation to the program. An example for how much these CDQ allocations could increase are shown in Table 3-23, using the primary species 2004 TACs as a basis for calculations.

Table 3-23 Projected CDQ allocations (mt) under Options 2.1, 2.2, and 2.3

Species	2004 TAC	Option 2.1: 7.5% Allocation	Option 2.2: 10% Allocation	Option 2.3: 15% Allocation
Atka mackerel, EAI	11,240	843	1,124	1,686
Atka mackerel, CAI	31,100	2,333	3,110	4,665
Atka mackerel, WAI	20,660	1,550	2,066	3,099
Flathead sole	19,000	1,425	1,900	2,850
POP, EAI	1,408	106	141	211
POP, CAI	2,926	219	293	439
POP, WAI	5,187	389	519	778
Rock sole	41,000	3,075	4,100	6,150
Yellowfin sole	86,075	6,456	8,608	12,911
Total all species		16,396	21,861	32,789

Given the historic CDQ harvest rates for primary target species, increasing the percentage amounts of such species allocated to the CDQ program may or may not increase the amount of these species that CDQ groups would catch. Some primary species allocations, such as Atka mackerel, have been well used by CDQ groups, while others, such as rock sole, have not. However, past performance may not be a reliable indicator of future fishing practices, as fishing patterns are not static. Therefore, it is possible that the CDQ groups could increase their harvests of flathead sole or rock sole to a point where larger allocations would be caught. Alternatively, the markets for Atka mackerel, yellowfin 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.

Future performance in the CDQ fisheries for primary target species also may be predicated on whether the CDQ Program standards associated with strict quota accountability are still in effect, and whether CDQ groups have sufficient incidental catch species to prosecute their CDQ target fisheries. This issue is discussed in Section 3.2.2.6.

In general, however, CDQ groups have indicated that they would harvest additional allocations of flatfish species, such as rock sole, if the opportunity arose.

Merely increasing CDQ allocation percentages for these primary target species would not guarantee that CDQ Program would receive greater amount of these species in the future. Were the TAC for any of these primary target species to decrease substantially, the CDQ Program would be allocated an increased percentage of the available TAC limits (were either Option 2.2 or 2.3 selected), but still receive relatively less quota than is available at current TAC levels.

3.2.2.5 Benefits to the CDQ Program of Increased Target Species Allocations

Increasing CDQ allocations, as considered under Option 2.2 and 2.3, could offer opportunities for CDQ groups to increase their participations in the primary target fisheries and realize associated increases in royalties accruing to them for allowing their partners to fish for CDQ. However, based on the proportion of past royalties generated by these species, we anticipate that any increases to CDQ allocations would contribute a relatively small amount of the total CDQ royalties generated per year, if the increased allocations were to be harvested. For example, the majority of the Atka mackerel, Pacific Ocean perch, and yellowfin sole CDQ allocations were caught in 2003. Those species are included in the royalty category "other species" in Table 3-22. CDQ royalties in that category were approximately $768,000 in 2003. If, under Option 2.3, CDQ percentage allocations of target species were increased to 15 percent of TACs, and those allocations were harvested to the degree that they were in 2003, then CDQ royalties could be expected to increase proportionately. Thus, doubling the CDQ percentage allocations for these species potentially could double CDQ royalties to $1.536 million. That amount would represent approximately 3 percent of total CDQ royalties, based on 2003 royalty information.

Although that could be considered a modest increase in royalties, increasing primary target allocations under either Option 2.2 or Option 2.3 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 additional amount of CDQ royalties that could result from increases to CDQ percentage allocations are 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 employment and training opportunities.

For those primary target species that have not been fully harvested in the past (i.e., rock sole), any increases in allocations may not increase revenues, at least in the short term. In the long term, such species may be more fully prosecuted, providing additional royalties and other benefits to CDQ groups. In general, the further development of CDQ fisheries for those primary target species being considered under Amendment 80 has been 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 needed to account for incidental catch needs in both these and other, more valuable, target fisheries such as Pacific cod. Some portion of the primary target species will continue to play an important role in the CDQ Program by being used to account for incidental catch needs in other target fisheries, such as pollock and Pacific cod.

The lack of royalty information and variability in the amount of each species harvested in past years makes it difficult to project the value or benefit that could accrue to CDQ groups should primary species allocations be increased, as considered under either Options 2.2 or 2.3. High demand for a particular species and product form could trigger increased CDQ catch of these species, with corresponding increases in royalty payments. Practically speaking, it is unlikely that the entire amount of each primary species CDQ reserve would be caught, or that those fish that were caught would all yield royalties to CDQ groups. Some amount of the fish caught in primary target fisheries are discarded and yield no benefit to either the vessel owner/operator or to CDQ groups. CDQ group could individually develop their own estimate of the benefits that any increase to primary target species allocations might provide them, particularly on a species by species basis, but such information is not available In lieu of that, the following discussion offers general information about the potential impacts associated with Options 2.2 and 2.3 for each primary target species considered under Amendment 80.

An example of the amount of Atka mackerel that could be allocated to the CDQ Program under Options 2.2. or 2.3 is portrayed in Table 3-23. 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 could benefit from such harvest by the royalties they accrue from their harvesting partner(s) or from royalty pass-throughs from other CDQ groups that harvest Atka mackerel CDQ on behalf of other groups. 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, to some extent, CDQ royalty rates. The supply of Atka mackerel on the market is not expected to change if CDQ Program allocation percentages change. The total amount of Atka mackerel harvested is not expected to vary drastically if it is allocated to either the limited access or CDQ sectors, and both sectors produce equivalent 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 the available royalty data.

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-through 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 of participating in this fishery.

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.

CDQ allocations for Pacific Ocean perch, flathead sole, and rock sole could increase under either Option 2.2 or Option 2.3. Examples of potential allocation increases for these target species are included in Table 3-23. If past trends are any indication, increases in the Pacific Ocean perch allocations could lead to increased catch of this species in the CDQ fisheries. However, even with both increased program allocations and catch rates, Pacific Ocean perch royalties would still contribute a modest amount to overall CDQ royalties, since the TACs and associated CDQ Program allocations for this species are relatively small. Increases to the CDQ allocations for rock sole or flathead sole has the potential to benefit CDQ groups via additional harvesting opportunities for these species, along with associated royalties and other benefits. However, such benefits probably could not be realized until that point in time in which these particular CDQ fisheries are successfully prosecuted to a much greater extent than historically has occurred.

3.2.2.6 Projected Allocations of Incidental Catch Species to the CDQ Program

In addition to potential increases to the primary target species CDQ allocations considered under Options 2.2 and 2.3, Component 2 also contains five suboptions associated with retaining or increasing CDQ percentage amounts for incidental catch species. Such increases could be appropriate in relation to current CDQ catch accounting requirements. CDQ groups are individually accountable for the quotas allocated to them. All groundfish CDQ and the halibut PSQ allocated to individual CDQ groups are managed with hard caps, meaning that a CDQ group is prohibited from exceeding its allocation of a given species. If a CDQ group exceeds the amount available of a particular allocation, then the CDQ group incurs an "overage" and faces potential enforcement action. Completely catching a given CDQ allocation could impact a CDQ group's ability to continue participating in some target fisheries, as additional catch of the species for which a group has no remaining quota may be impossible to avoid. This effectively requires CDQ groups to stand down from prosecuting those target fisheries for which it can't account for additional amounts of incidental catch species.

The incidental catch species associated with the Amendment 80 primary target species include, historically, all BSAI TAC categories. Also, note that there is not necessarily a clear distinction between whether a given species is a target species or incidental catch species. The primary target species considered under this action also are caught incidentally in other CDQ target fisheries such as Pacific cod, pollock, or sablefish. Furthermore, some target species are caught incidentally in other primary target fisheries, where they may be either retained or discarded. For example, Pacific Ocean perch may be caught in the directed fishery for Atka mackerel. Table 3-24 is an example of the typical catch pattern for the incidental catch species that were caught in the 2004 CDQ target fisheries.

Pacific cod specifically is excluded from consideration for increased allocations under these suboptions. A separate FMP action addressing Pacific cod allocations among industry sectors includes options that could increase Pacific cod allocations to the CDQ Program. It also is worth noting that a separate action to amend CDQ reserve management regulations is under development for Council review. One of the elements of that action would be to only allocate primary target species among CDQ groups and for NOAA Fisheries to manage incidental catch species at the CDQ reserve level. This approach already is in place for the "other species" CDQ reserve. The Council recommended this change to "other species" CDQ management due to concerns that the allocation of "other species" to the CDQ Program was inadequate to provide for the incidental catch of these species in the groundfish CDQ fisheries (see 68 FR 69974; December 16, 2003).

Table 3-24 Incidental catch species harvested in the 2004 CDQ fisheries.

Species Category	Target Fishery					
	Atka Mackerel	Rockfish[1]	Flathead sole	Rock sole	Yellowfin sole	Grand Total
Atka Mackerel, EAI	768.877		0.164	0.007		769.05
Atka Mackerel, CAI	2130.05	117.843				2247.89
Atka Mackerel, WAI	1475.594					1475.59
Flathead Sole	0.136		20.239	3.478	215.153	239.01
Pacific Ocean Perch, EAI	165.321					165.32
Pacific Ocean Perch, CAI	150.404	20.005				170.41
Pacific Ocean Perch, WAI	336.488					336.49
Rock Sole	14.374	1.546	7.754	105.509	446.113	575.30
Yellowfin Sole			24.923	77.74	6162.148	6264.81
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
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
Rougheye Rockfish	2.547		0.206			2.75
Shortraker Rockfish	21.652		0.061			21.71

[1]Includes Pacific Ocean perch.
Source: NOAA Fisheries 2005. CDQ catch data by reported target, for non-pelagic trawl gear. All amounts in metric tons.

This table illustrates that some amount of every 2004 BSAI TAC category was caught in the directed CDQ fisheries for primary 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. Incidental catch in the 2001, 2002, and 2003 CDQ fisheries for primary target species show a similar pattern to the 2004 CDQ fisheries. Some amount of every, or almost every, annual TAC category in place for those years was caught in CDQ fisheries for primary target species. There are some

exceptions. Several BS species categories, such as BS sablefish, BS Greenland turbot, and BS northern rockfish, were not caught in the CDQ non-pelagic trawl fisheries in 2003. No amount of BS "other rockfish" was caught in CDQ non-pelagic trawl fisheries in 2002. In general, since the directed fisheries for the primary target species considered under this action are conducted in various regions of both the AI and BS, during various times of the year, at different depths, and with varying fishing tactics, it is likely that these fisheries will catch species comprising each BSAI TAC category at some point in time, even if some species are not caught every year. A key decision point for the Council is which incidental catch species to include in any of the suboptions (except for Suboption 2.1) associated with increased CDQ Program percentage amounts.

Suboptions 2.1, 2.2, and 2.3

Component 2, Suboption 2.1 would retain the current 7.5 percentage amount of incidental catch species TAC to the CDQ Program. Suboption 2.2 would increase the percentage amounts to 10 percent, while Suboption 2.3 would increase the percentage amount to 15 percent. The latter two suboptions are aligned with the percentage amount increases for primary target species considered under Options 2.2 and 2.3.

As the Council has not yet specified which incidental catch species to include under Suboptions 2.2 through 2.5, analysts have selected all incidental catch species in the primary target fisheries from Table 3-24, except the primary target species themselves, Pacific cod (excluded from consideration under this action), and pollock (since incidental catch of pollock accrues towards the pollock ICA). These incidental catch species include Greenland turbot, sablefish, Alaska plaice, arrowtooth flounder, "other flatfish," BS Pacific Ocean perch, northern rockfish, rougheye rockfish, shortraker rockfish, "other rockfish," and "other species." Increased allocations under Suboptions 2.2 and 2.3 for these species are shown in Table 3-25, using 2004 TACS as a basis for calculations. Increases to "other species" program allocations are included in this table, but it should be noted that this species category is no longer allocated among CDQ groups, for the reasons discussed earlier.

Table 3-25 CDQ allocations (mt) for incidental catch species, based on allocation percentages under Component 2: Suboptions 2.1, 2.2, and 2.3.

Species	2004 TAC	Suboption 2.1: 7.5%	Suboption 2.2: 10%	Suboption 2.3: 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

NOAA Fisheries 2005

The increased CDQ allocations portrayed in Table 3-25 are a proportional increase in CDQ allocations for incidental catch species that would accompany increased percentage amounts primary target species. Neither the species categories or amounts shown in this table represent a reliable estimate of the type or amount of these species that would be caught in the CDQ directed fisheries for primary target species. Such fisheries may need more, or less, than the amounts shown in this table in order to provide sufficient amounts of incidental catch species so that such quotas are not exceeded before CDQ groups' target species allocations are fully prosecuted.

Suboption 2.4.

Suboption 2.4 could modify the CDQ allocations for those incidental catch species allocated to the CDQ Program to reflect the actual catch rates of incidental catch species in each of the five primary species target fisheries (Atka mackerel, Pacific Ocean perch, yellowfin sole, rock sole, and flathead sole). CDQ allocation percentages would be removed from the TACs "(a)t species specific percentages that reflect historical incidental catch rates in the directed fisheries for the primary species by the Non-AFA Trawl Catcher Processor sector during 1998-2003."

The current CDQ reserve apportionment process specifies that, with limited exceptions, the CDQ Program receives 7.5 percent of each TAC category as described in Section 3.1.8.3, and Figure 3-1. During the development of the multispecies CDQ Program, the Council recommended that:

> "*7.5 percent of all BSAI groundfish total allowable catch limits not already covered by a CDQ program…be allocated to CDQ communities as defined in the current CDQ program…*"[3]

No distinction was made regarding which species were target species, which species were regarded as incidental catch species, nor the appropriate proportion of incidental catch species that would be necessary to fully account for the catch of incidental catch species in primary target fisheries. CDQ groups have the discretion to determine which species they consider primary species. They also have the flexibility to choose which vessel and gear types to use for the prosecution of primary target fisheries, as well as when and where their fishing activities occur. This offers CDQ groups the means to tailor their fishing activities to maximize the benefits from any given CDQ allocation to the extent afforded by fixed percentage allocations of all species. The current allocation structure does not guarantee that adequate amounts of incidental catch species are made available to account for such species in the CDQ target fisheries. Estimating the appropriate amount of each incidental catch species to allocate to the CDQ Program is a complex exercise that has never been undertaken at a comprehensive level by the Council or NOAA Fisheries, although the State of Alaska has done some bycatch modeling as part of its periodic CDQ allocation recommendation process.

The objective of Suboption 2.4 is to better match the amount of incidental catch allocations made to the CDQ Program to the amount needed to fully harvest the Amendment 80 target species. A better match between target and incidental catch species allocations could reduce the chance that the CDQ groups would reach incidental catch quotas before they had fully harvested their target species allocations. It also could reduce the possibility that excessive amounts of incidental catch species would be allocated to the CDQ Program, thereby making it unavailable to support non-CDQ fisheries. However, the process described in Suboption 2.4 does not yield a fixed percentage allocation of each incidental catch species that could be allocated to the CDQ Program each year.

The following steps would be necessary to use historic catch rates as a basis for determining the amount of each incidental catch species to annually allocate to the CDQ Program.

1. Calculate the average historic catch rates for incidental catch species in each of the primary target fisheries by non-AFA trawl catcher/processors based on their catch from 1998 through 2003. This

[3]NPFMC Newsletter, June 1995.

would be a one-time calculation. A preliminary estimation of such rates is in Table 3-26, including a breakdown of the different AI management areas for both Atka mackerel and Pacific Ocean perch that displays the different catch rates for these areas.

2. Each year, determine the amount of each primary target species to allocate to the CDQ Program based on the applicable percentage allocations for such species (i.e., 7.5 percent, 10 percent, or 15 percent).
3. Multiply the average historic catch rates for each incidental catch species by the annual CDQ Program allocations for each Amendment 80 target species to estimate the metric tons of incidental catch species needed to support these target species.
4. Sum the amount of incidental catch species needed for each Amendment 80 target species to obtain the total amount of each incidental catch species that could be needed to support the CDQ target fisheries.
5. Subtract the total amount of incidental catch species needed to support the CDQ target fisheries for Amendment 80 target species from the TAC for each applicable incidental catch species. These amounts would then be allocated to the CDQ reserves for each incidental catch species.

Table 3-26 1998-2003 incidental catch rates, Amendment 80 target fisheries.

Incidental catch species	Area	Target Fishery								
		Mackerel EAI	Mackerel CAI	Mackerel WAI	POP EAI	POP CAI	POP WAI	Flathead sole	Rock sole	Yellowfin sole
Alaska plaice	BSAI	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	9.00%	2.43%	14.71%
Arrowtooth flounder	BSAI	0.22%	0.47%	0.26%	8.68%	4.33%	1.85%	32.11%	2.22%	2.79%
Atka Mackerel	BSAI	Target	Target	Target	9.88%	11.57%	5.78%	0.11%	0.04%	0.02%
Flathead Sole	BSAI	0.01%	0.00%	0.01%	0.04%	0.00%	0.02%	Target	5.78%	4.99%
Northern Rockfish[1]	BSAI	4.83%	6.41%	12.80%	0.47%	1.71%	1.33%	0.00%	0.00%	0.00%
Other Flatfish	BSAI	0.00%	0.00%	0.02%	0.09%	0.02%	0.12%	10.36%	5.12%	10.09%
Other Rockfish	BSAI	1.35%	0.35%	0.26%	0.63%	0.99%	0.83%	0.40%	0.02%	0.00%
Other Species	BSAI	0.84%	0.69%	1.42%	1.14%	1.15%	0.84%	20.70%	5.82%	5.94%
Pacific Cod	BSAI	4.03%	3.22%	5.90%	2.49%	2.00%	1.11%	27.54%	20.81%	9.96%
Pollock	BSAI	0.17%	0.47%	0.44%	2.77%	7.98%	1.38%	37.70%	31.00%	20.88%
POP	BSAI	3.40%	2.45%	4.98%	Target	Target	Target	0.62%	0.00%	0.01%
Rock Sole	BSAI	0.07%	0.12%	0.12%	0.18%	0.07%	0.02%	21.26%	Target	13.80%
Sablefish	BSAI	0.02%	0.00%	0.00%	0.48%	0.69%	0.03%	0.55%	0.02%	0.00%
Sharpchin/Northern[2]	AI	6.14%	5.64%	14.40%	1.46%	4.08%	4.14%			
Shortraker/Rougheye[3]	AI	0.26%	0.10%	0.10%	4.56%	4.18%	2.04%			
Shortraker/Rougheye[4]	BSAI	0.03%	0.03%	0.11%	7.01%	3.20%	2.33%	0.05%	0.00%	0.00%
Shortraker, rougheye, sharpchin, northern[5]	BS							0.05%	0.01%	0.01%
Squid	BSAI	0.00%	0.01%	0.02%	0.09%	0.03%	0.03%	0.04%	0.00%	0.00%
Turbot	BSAI	0.06%	0.32%	0.06%	6.13%	0.16%	0.03%	3.70%	0.02%	0.07%
Yellowfin sole	BSAI	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	36.40%	17.55%	Target

Notes:

1. BSAI category in 2002-2003.
2. AI category in 1998-2000, AI and BS category in 2001.
3. AI category in 1998-2000.
4. BSAI category beginning in 2001.
5. BS category in 1998-2001.

Source: NOAA Fisheries catch data.

Example of calculating CDQ allocations of incidental catch species

For purposes of illustrating the above steps, we chose two different incidental catch species: arrowtooth flounder and northern rockfish. Next, we calculated the amount of the 2005 TAC that would be allocated to the CDQ Program for each primary target fishery per Option 2.2, which specifies a 10 percent allocation to the CDQ Program.

Then, we estimated the amount of each of the two incidental catch species that would be caught in each of the CDQ fisheries for primary target species, using the catch rates in Table 3-25. These amounts were then summed (by individual species) to yield the total estimated amount of arrowtooth flounder and northern rockfish that could be caught in all these fisheries combined. This aggregate amount is the quantity of incidental catch species that would be subtracted from each 2005 TAC and allocated to the CDQ Program to support the incidental catch of these two species in the Amendment 80 target fisheries.

Based on these estimates, the CDQ Program would be allocated 1,044 mt (8.7 percent) of the 2005 arrowtooth flounder TAC and 533 mt (10.7) percent of the 2005 BSAI northern rockfish TAC to support the incidental catch of these two species in the CDQ target fisheries for the primary species considered in this action. For arrowtooth flounder, the estimated amount is less than the 10 percent allocation of target species made to the CDQ program, while the estimated amount of northern rockfish exceeds the target species percentage allocation. Neither of these amounts include the additional amounts of these incidental catch species that could be caught in other CDQ target fisheries. Table 3-27 displays these calculations.

Table 3-27 Examples of calculated incidental catch CDQ allocations.

Target species	2005 TAC (metric tons)	Component 2 Option 2.2: 10% CDQ allocation	Example 1: Arrowtooth flounder		Example 2: Northern rockfish	
			1998-2003 catch rate	Estimated incidental catch amount	1998-2003 catch rate	Estimated incidental catch amount
Atka Mackerel, EAI	7,500	750	0.22%	2	4.83%	36
Atka Mackerel, CAI	35,500	3,550	0.47%	17	6.41%	227
Atka Mackerel, WAI	20,000	2,000	0.26%	5	12.80%	256
Flathead Sole	19,500	1,950	32.11%	626	0.00%	0
Pacific Ocean Perch, EAI	3,080	308	8.68%	27	0.47%	1
Pacific Ocean Perch, CAI	3,035	304	4.33%	13	1.71%	5
Pacific Ocean Perch, WAI	5,085	509	1.85%	9	1.33%	7
Rock Sole	41,500	4,150	2.22%	92	0.00%	0
Yellowfin Sole	90,686	9,069	2.79%	253	0.00%	0
			total	1,044	total	533

Incidental catch species	2005 TAC	Calculated CDQ allocation	CDQ percent of TAC
Arrowtooth flounder	12,000	1,044	8.70%
Northern rockfish	5,000	533	10.66%

Consequences of Suboption 2.4

This suboption only addresses the incidental catch needs for the Amendment 80 primary target species. It does not include the incidental catch species needs for the remaining CDQ target fisheries for pollock, Pacific cod, sablefish, and halibut (incidental catch species caught by vessels 60 feet LOA or greater that are halibut CDQ fishing accrue toward groundfish CDQ allocations).

The process described above in steps 1-5 would not yield a fixed, known, annual percentage allocation to annually establish the CDQ reserve for each incidental catch species. The percentage allocated to the CDQ Program for each incidental catch species could vary depending on (1) the amount of each target species allocated to the program each year, and (2) the annual TAC for each incidental catch species.

Suboption 2.4 could offer a better approach to allocating incidental catch species if strict quota accountability is maintained for each species allocated to the CDQ Program because it would more closely match incidental catch allocations with target species allocations. This suboption could maximize the potential that CDQ groups could fully harvest each of their target species allocations without risk of incurring quota overages of incidental catch species. It also could mean that the CDQ Program would not receive more of an allocation of incidental catch species than is actually needed to supported CDQ target fisheries, thereby ensuring that some portion of the annual TACs could be "stranded," and therefore unavailable to the non-CDQ fisheries.

Suboption 2.5.

Suboption 2.5 could allow the Council the discretion to select what it considers the appropriate percentage amount for each of the incidental catch species allocated to the CDQ Program. Such amounts could reflect some percentage amount not explicitly presented in Suboptions 2.1 through 2.4, percentage amounts based on the Council's assessment of other information presented in this analysis, public testimony, or other factors.

Other considerations related to suboptions 2.2 through 2.5

The suboptions to increased percentage amounts of incidental catch species to the CDQ Program are all predicated on a continuation of the existing catch accounting requirements for the CDQ fisheries. CDQ groups currently are prohibited from exceeding their annual groundfish CDQ allocations, and catching an entire annual allocation of a given incidental catch species may impact whether a CDQ group may continue to fishing for some other primary species. Past Council action modified the management of two different species, squid and "other species." Squid is no longer allocated to the CDQ Program at all[4] and the "other species" category is allocated to the CDQ Program, but not among the CDQ groups. Catch of "other species" in CDQ fisheries is managed at the program level with directed fishing closures and the use of other management measures, as previously discussed.

A separate action to further modify the management of CDQ reserves is under development for Council consideration. A primary component of that action is determining which species (i.e., primary target species) to allocate among CDQ groups, and whether to adopt alternative management measures to account for the catch of incidental catch species in the CDQ fisheries. Such measures could relax accounting standards and align the CDQ fishery management measures more closely with those used in the non-CDQ fisheries. Were the Council to recommend adopting such changes, the altered CDQ fisheries management structure could essentially render Suboptions 2.2, 2.3, 2.4 and 2.5 moot. Incidental catch species would be managed with soft caps, which means that once the annual CDQ Program allocation for a given incidental catch species were reached, CDQ fishery participants could continue fishing for their primary species, although with additional management restrictions as proscribed by NOAA Fisheries during the course of a fishing year.

[4] In 1999, squid was removed from being a species allocated to the CDQ Program by Amendment 66 to the BSAI FMP. Concern that there would be inadequate squid available to account for the possible catch of squid in the pollock CDQ fishery led the Council and NMFS to remove squid from the CDQ Program.

3.2.2.7 Benefits of Increased Incidental Catch Species Allocations

Increasing CDQ allocation amounts for incidental catch species, as considered under Suboptions 2.2 through 2.5 could increase the benefits accruing to CDQ Program participants as described in Section 3.2.2.5.

An indirect benefit of increasing the allocations of target species and associated incidental catch species to the CDQ Program is that CDQ groups could use such increases to ensure that they successfully prosecute their more valuable target species, such as Pacific cod, pollock, or sablefish. Most, if not all, of the species under consideration for increased allocations under Component 2 are caught in the other CDQ target fisheries. Historically, CDQ groups have prioritized their fisheries effort based on maximizing the royalties they receive from a given species. They apportion incidental catch species among their CDQ target fisheries based on historical and anticipated incidental catch needs. If more valuable target fisheries require most or all of the amounts of certain incidental catch species categories, than other CDQ target fisheries such as rock sole or flathead sole still may not be fully prosecuted for lack of adequate amounts of incidental catch species. In other words, any increased percentage amounts of primary and incidental catch species could be used to support the incidental catch needs of CDQ target fisheries not considered under Component 1. Thus, increasing primary and incidental catch species could indirectly benefit the successful prosecution of other CDQ target fisheries.

3.2.2.8 Potential Costs to the CDQ Groups of Increased Allocation Amounts

Although increasing the allocation amounts of primary and incidental catch 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 primary target species. CDQ groups would have to update their CDPs to reflect any increased allocations that they might receive, as well as any changes to business plans or CDQ projects. 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 of the target species considered under Amendment 80. Additionally, if requirements for reporting, catch monitoring and enforcement, and observer coverage levels change for the primary target species fisheries due to changes brought about by other components of this action, 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.

However, as a whole, we expect that the potential benefits to the CDQ groups brought about by increasing percentage amounts for primary species under either Option 2.2 or Option 2.3 would outweigh the potential costs discussed above. Increased allocations could provide CDQ groups with both direct monetary benefits and other indirect benefits.

3.2.2.9 Impacts of Component 2 on Non-CDQ Industry Components

Both Options 2.2 and 2.3 would increase the CDQ percentage amounts for primary species. Suboptions 2.2 through 2.5 include a range of increases to the percentage amounts of incidental catch species allocated to the CDQ Program. Selection of either option would correspondingly decrease the amount of each applicable BSAI groundfish TAC allocated to the non-CDQ fishery sectors by either 2.5 percent (Option 2.2) or 5 percent (Option 2.3) of annual TACs. These non-CDQ sectors include both the Non-AFA trawl catcher/processor sector directly considered under this action, and a variety of other BSAI fisheries components. Selection of any suboption other than Suboption 2.1 would decrease the amount of annual TACs for incidental catch species available to non-CDQ fisheries by the corresponding amounts that CDQ percentage amounts were increased.

The non-AFA trawl catcher/processor sector would lose access to a portion of each annual TAC for primary target species, with associated foregone revenues. This sector also could be affected by a decrease in incidental catch species allocations if insufficient amounts of incidental catch species led to earlier directed fishing closures for 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 incidental catch 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.

Atka mackerel and Pacific Ocean perch

Because the Atka mackerel TAC has been fully utilized in recent years, increased allocations to the CDQ Program could reduce revenues for the Non-AFA trawl catcher/processor 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 3-9 and Table 3-10. The vessels that have historically harvested Atka mackerel are a subset of the Non-AFA Trawl catcher/processor sector vessels. 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. This also is applicable to the Pacific Ocean perch fishery, which is caught by the same fleet that fishes 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 catcher/processors. 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 H&G trawl fleet, 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 below for yellowfin sole. Effects could include either a direct decrease in revenues as primary species apportionments decrease or those indirect costs associated with inadequate amounts of incidental catch species to fully support fisheries for primary target fisheries.

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 non-CDQ TAC for yellowfin sole has been completely caught. 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 C/P 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's 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.

3.2.2.10 Management Costs

Changes in management costs to NOAA Fisheries as a result of increased percentage amounts to the CDQ groups are not expected to be significant. Increases to CDQ Program percentage amounts 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 percentage amounts were increased as proposed under Options 2.2 or 2.3, or under Suboptions 2.2 through 2.5, we expect that Alaska Region staff would have to contribute additional resources to several aspects of program management, including, but is not limited to: working with the State and CDQ groups to ensure that CDQ groups' CDPs are updated to reflect increased allocations and changes to harvesting or business plans; modifying CDQ catch monitoring software and the CDQ catch reporting; 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. LLP permits associated with trawl catcher vessels with (retained catch history of at least (a) lone landing (b) 150 mt or (c) 1,000 mt from 1995 to 2004 and with appropriate LLP endorsement may fish in the BSAI limited access trawl fishery. LLP permits associated with trawl catcher vessels who do not meet this threshold cannot participate in a directed fishery for the five allocated species.

Suboption Target Species Rollover: Any unharvested portion of the Amendment 80 target species in the limited access fishery that is projected to remain unused 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 1997-2002

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.

In June 2005, the Council defined legal landings as fish harvested during the qualifying years specified and landed in compliance with state and federal permitting, landing, and reporting regulations in effect at the time of the landing. Legal landings exclude any test fishing, fishing conducted under an experimental,

exploratory, or scientific activity permit or the fishery conducted under the Western Alaska CDQ program.

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), 1997-2002 (Option 4.2), 1998-2002 (Option 4.3), 1998-2004 (Option 4.4), 1999-2003 (Option 4.5), and 2000-2004 (Option 4.6). 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 4.7 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 4.7, 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 general limited access fishery for eligible trawl participants (other than Non-AFA Trawl CP participants, which are not allowed to participate in the limited access fishery) operating in the BSAI. Any unallocated portion of Atka mackerel, flathead sole, AI Pacific Ocean perch, rock sole, and yellowfin sole would go to those participants in the general limited access fishery. Of the participants in the general limited access, only the trawl catcher vessel sector has eligibility criteria necessary for participation in the general limited access fishery. In June 2005, the Council narrowed the eligibility criteria to include only the trawl catcher vessels, while at the same time expanded the eligibility options in which to choose from. To participate in the general limited access fishery for these allocated species, a LLP permit associated with the trawl vessel must have catch history (retained) of at least (a) one landing (b) 150 mt or (c) 1,000 mt from 1995 to 2004 and have the appropriate LLP endorsements.

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 to the Non-AFA Trawl CP sector. 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 3-28 shows the percentage of each species that would be allocated to the Non-AFA Trawl CP sector using the three different allocation calculations and six 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. The table does not include an estimated value of the allocation. Determining the value of the allocation amount with any degree of confidence is not possible since prices fluctuate.

Looking at the overall differences in the allocation amounts using average TAC 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 nearly 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.

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.

Table 3-28 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 Sector	Average Annual Total Catch of Sector	Option 3.1(Total/Total)		Option 3.2 (Retained/Retained)		Option 3.3 (Retained/Total)	
			Allocation		Allocation		Allocation	
			(%)	(mt)	(%)	(mt)	(%)	(mt)
Atka Mackerel (53,625 mt)								
1995-2003	45,236	52,391	84.8%	45,473	91.9%	49,315	73.2%	39,263
1997-2002	39,924	44,608	84.6%	45,374	92.5%	49,619	75.7%	40,610
1998-2002	39,440	43,899	87.6%	46,990	96.1%	51,546	78.7%	42,217
1998-2003[a]	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[a]	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	13,701	76.4%	27,911	97.1%	35,488	59.0%	21,561
1997-2002	11,888	15,140	78.6%	28,713	97.4%	35,578	61.7%	22,546
1998-2002	12,245	15,289	80.5%	29,434	97.9%	35,781	64.5%	23,575
1998-2003[a]	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[a]	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	99.0%	10,245	78.3%	8,106
1997-2002	8,195	9,283	92.9%	9,610	99.9%	10,338	82.0%	8,484
1998-2002	7,769	8,828	93.3%	9,651	100.0%	10,347	82.1%	8,493
1998-2003[a]	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[a]	7,847	9,170	91.0%	9,415	98.8%	10,224	77.9%	8,057
Rock Sole (72,719 mt)								
1995-2003	13,020	29,149	65.8%	47,849	94.1%	68,438	29.4%	21,372
1997-2002	13,133	29,616	67.9%	49,402	94.2%	68,477	30.1%	21,906
1998-2002	11,875	27,132	69.9%	50,851	95.9%	69,731	30.6%	22,256
1998-2003[a]	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[a]	13,380	28,463	73.4%	53,351	96.9%	70,480	34.5%	25,079

Years	Average Annual Retained Catch of Sector	Average Annual Total Catch of Sector	Option 3.1(Total/Total)		Option 3.2 (Retained/Retained)		Option 3.3 (Retained/Total)	
			Allocation		Allocation		Allocation	
			(%)	(mt)	(%)	(mt)	(%)	(mt)
Yellowfin Sole (104,379 mt)								
1995-2003	51,892	67,536	67.6%	70,579	78.1%	81,478	52.0%	54,230
1997-2002	52,940	67,782	71.3%	74,460	82.6%	86,233	55.7%	58,156
1998-2002	45,501	59,042	75.9%	79,270	88.5%	92,356	58.5%	61,090
1998-2003[a]	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[a]	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.

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.

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.

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 from 1999 to 2003 were selected because it is thought to be a reasonable estimation of the future TAC in these fisheries. Note that actual allocation amounts will likely vary across time since biomass 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.

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.

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.

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.

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.

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 and estimates of allocation amounts, in metric tons, using the average TAC from 1999 to 2003. The average TAC from 1999 to 2003 were selected because it is thought to be a reasonable estimation of the future TAC in these fisheries. Note that actual allocation amounts will likely vary across time since biomass 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 92 percent for the years 1995-2003 and nearly 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 49,315 mt using 1995-2003 catch history years and 53,542 mt using 2000-2003 catch history years.

Allocations in the flathead sole fishery range from 97 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 35,488 mt for the 1995-2003 period and 35,890 mt for 1999-2003.

In the Pacific Ocean perch fishery, allocations range between 99 percent using the 2000-2003 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 9,415 mt for the 2003-2003 period and 10,347 mt for the 1998-2002 period.

Allocations in the rock sole fishery ranged from 94 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 68,438 mt for the 1995-2003 period and 70,480 mt for the 2000-2003 period.

In the yellowfin sole fishery, allocations ranged from 78 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 81,478 mt for 1995-2003 period and 96,819 mt for the 2000-2003 period.

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 general 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. The average TAC from 1999 to 2003 was selected because it is thought to be a reasonable estimation of the future TAC in these fisheries. Note that actual allocation amounts 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 years 1998-2002. Using average TAC from 1999 to 2003, allocation amounts for Atka mackerel would have ranged between 39,263 mt for 1995-2003 and 42,217 mt for 1998-2003.

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 21,561 mt using years 1995-2003 and 23,775 mt using years 1999-2003.

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.

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 21,372 mt for the 1995-2003 catch history years and 25,079 mt for the 2000-2003 catch history years.

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 54,230 mt for 1995-2003 catch history years and 68,157 mt using the 2000-2003 catch history years.

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)[5]. 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 incidentally harvest that species.

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 to the ability to manage these fisheries so as to not impact other directed fisheries. 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 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 would need to manage several small allocations, which could 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. This means that 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, they 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, cooperatives are thought to manage their 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 the sector limited access fishery. 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

[5] 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.

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 might 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 the sector limited access fishery. For example, applying Option 3.3 in combination with Option 8b.1 (requiring at least 15 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 might 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 did not elect to join a cooperative, management of the allocated species using hard caps for the non-cooperative pool is likely more difficult. Since those participants that choose not to join a cooperative would be in the sector limited access fishery, NOAA Fisheries would be required to manage that fishery. Using hard caps to manage the sector limited access fishery is not inappropriate, but participants in the sector limited access fishery could not control the harvest of another participant in the fishery. The likely effect would be that participants in the sector limited access fishery would race one another to harvest more of the available allocation. Since participants would not have control over the actions of other members of the sector limited access fishery sector individuals could be preempted by each other in hitting a species cap and shutting down fisheries. One solution would be to manage the limited access fishery with soft caps rather than hard caps. As noted below, soft caps allow more flexibility for NOAA Fisheries to allow the participants in the limited access fishery to continue fishing in other fisheries despite a directed fishery closure. This management system more closely reflects the current management structure than a hard cap based system.

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 result 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, then inter-cooperative agreements would be important in dealing with these types of issues.

Like hard caps, soft caps could be managed by NOAA Fisheries. Soft caps managed by NOAA Fisheries, amounts to a separate allocation to each cooperative, 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 its 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 individuals to make business decisions that generate the most profit for their firms 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 costs to NOAA Fisheries.

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 general limited access fishery. Participants in this limited access fishery would 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. The only eligibility requirement is for the Trawl CV sectors. The AFA CP sector is eligible to participate in the general limited access fishery if they have the appropriate LLP license and endorsement. For participants in Trawl CV sector, there are three options under consideration by the Council: a) one landing b) 150 mt or c) 1,000 mt of retained trawl catch history from 1995-2004. In addition, the Trawl CV participant must also have the appropriate LLP license and endorsement.

Table 3-29 shows the number of Trawl CV vessels that would be eligible to participate in the general limited access fishery. Since the component is silent on what groundfish species would be used to determine retained catch, the analysis includes the number of qualified vessels for all groundfish combined and Amendment 80 allocated species combined. In order to provide a usefull analysis given some limitations due confidential data, AFA Trawl CV sector and the Non-AFA Trawl CV sector were combined. Looking first at all groundfish, 139 trawl catcher vessels would qualify for participation in the general limited access fishery if only one landing was required. If eligibility were based on catching more than 150 mt of groundfish, the number of qualified vessels would be 131. Finally, if eligibility were based on catching 1,000 mt or greater, the number of total qualified vessels would be 123. If the qualified catch were one landing of Amendment 80 species, the total number of qualified vessels would be 120. Nineteen vessels would not be eligible for the general limited access fishery if eligibility were based on Amendment 80 species only. At 150 mt of Amendment 80 species, the number of qualified vessels would be 24. Finally, if eligibility were limited to 1000 mt or greater of Amendment 80 species, the number of qualified vessels would be 12.

Table 3-29 Number of qualified trawl catcher vessels that would qualify for the general limited access fishery

Eligibility Options	All Groundfish	Amendment 80
1000 mt +	123	12
150 to 999 mt	8	12
less than 150 mt	8	96
Total	**139**	**120**

Source: Amendment 80 database.

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 constrain 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 3-30). If the Council selects an allocation option that yields 40 percent for the general 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 general limited access fishery could be constrained while targeting yellowfin sole.

Table 3-30 shows the percentage of each species that would be allocated to the general limited access fishery using the three different allocation calculations and six 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 general limited access fishery had those options been adopted and implemented in regulation. The table also includes the results of those calculations, in metric tons. The table does not include an estimated value of the allocation. Determining the value of the allocation amount with any degree of confidence is not possible since prices fluctuate.

Looking at the overall differences in the allocation amounts using average TAC 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 14,369 mt.

Allocations in the flathead sole fishery ranged between 2 percent for Option 3.2 using all catch history combinations except 1995-2003 and 1997-2002 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 14,981 mt.

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 1995-2003, 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.

Table 3-30 Available allocation of Amendment 80 species after allocation to the Non-AFA Trawl CP sector that would be for the general limited access fishery

Years	Option 3.1 (Total/Total)		Option 3.2 (Retained/Retained)		Option 3.3 (Retained/Total)	
	Allocation		Allocation		Allocation	
	(%)	(mt)	(%)	(mt)	(%)	(mt)
Atka Mackerel (53,625 mt)						
1995-2003	15.2%	8,160	8.1%	4,320	26.8%	14,369
1997-2002	15.4%	8,259	7.5%	4,015	24.3%	13,023
1998-2002	12.4%	6,644	3.9%	2,089	21.3%	11,416
1998-2003[a]	11.9%	6,400	3.3%	1,783	22.9%	12,290
1999-2003	9.7%	5,196	0.4%	192	21.7%	11,610
2000-2003[a]	9.7%	5,202	0.2%	93	22.8%	12,210
Flathead Sole (36,542 mt)						
1995-2003	23.6%	8,631	2.9%	1,054	41.0%	14,981
1997-2002	21.4%	7,829	2.6%	964	38.3%	13,996
1998-2002	19.5%	7,108	2.1%	761	35.5%	12,967
1998-2003[a]	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[a]	19.1%	6,986	1.9%	692	35.0%	12,780
AI Pacific Ocean Perch (10,348 mt)						
1995-2003	9.4%	973	1.0%	103	21.7%	2,242
1997-2002	7.1%	738	0.1%	10	18.0%	1,864
1998-2002	6.7%	697	0.0%	1	17.9%	1,855
1998-2003[a]	8.6%	888	0.8%	81	20.5%	2,124
1999-2003	9.1%	938	0.9%	95	21.5%	2,225
2000-2003[a]	9.0%	933	1.2%	124	22.1%	2,291
Rock Sole (72,719 mt)						
1995-2003	34.2%	24,870	5.9%	4,281	70.6%	51,347
1997-2002	32.1%	23,317	5.8%	4,242	69.9%	50,813
1998-2002	30.1%	21,868	4.1%	2,988	69.4%	50,463
1998-2003[a]	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[a]	26.6%	19,368	3.1%	2,239	65.5%	47,640

Years	Option 3.1 (Total/Total)		Option 3.2 (Retained/Retained)		Option 3.3 (Retained/Total)	
	Allocation		Allocation		Allocation	
	(%)	(mt)	(%)	(mt)	(%)	(mt)
Yellowfin Sole (104,379 mt)						
1995-2003	32.4%	33,800	21.9%	22,901	48.0%	50,149
1997-2002	28.7%	29,919	17.4%	18,146	44.3%	46,223
1998-2002	24.1%	25,109	11.5%	12,023	41.5%	43,289
1998-2003[a]	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[a]	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.

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 50,149 mt.

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 general 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 general 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 general 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 and 1997-2002. Allocations of Atka mackerel in metric tons using average TAC from 1999 to 2003 would have ranged between 5,196 mt for the years 1999-2003 and 8,259 mt for the years 1997-2002.

Available allocations in the flathead sole fishery ranged between 19 percent for all of the year combinations except 1995 to 2003 and 1997-2002 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 8,631 mt for the years 1995-2003.

In the Pacific Ocean Perch fishery, available allocations to the general limited access fishery will range from 7 percent using years 1997-2002 and 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.

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 general 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.

In the yellowfin sole fishery, available allocations for the general 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 general limited access fishery would have ranged between 19,893 mt for 2000-2003 catch history years and 33,800 mt using the 1995-2003 catch history years.

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 general limited access fishery when combined would have ranged between zero percent for Pacific Ocean perch and 22 percent for yellowfin sole.

In the Atka mackerel fishery, available allocations ranged between 0.2 percent for the years 2000-2003 and 8 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 4,320 mt for 1995-2003.

Available allocations in the flathead sole fishery ranged between 2 percent for all of the year combinations except 1995-2003, which would be 12 percent. 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 1,054 mt for 1995-2003.

In the Pacific Ocean Perch fishery, available allocations to the general limited access fishery ranged between zero percent using the 1998-2002 years to one percent for all other year combinations except 1995-2003 and 1997-2002. Applying these percents to average TAC from 1999 to 2003, allocation amounts would have ranged from one mt to 124 mt.

Available allocations in the rock sole fishery ranged between 3 percent for all year combinations after 1998 and 6 percent using the years 1995-2003 and 1997-2002. Using average TAC from 1999 to 2003, allocation amounts to the general limited access fishery for rock sole would have ranged between 2,330 mt for the 1999-2003 catch history years and 4,281 mt for the 1995-2003 catch history years.

In the yellowfin sole fishery, available allocations for the general limited access fishery ranged between 7 percent using the 2000-2003 catch history years to 22 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 general limited access fishery would have ranged between 7,560 mt for 2000-2003 catch history years and 22,901 mt using the 1995-2003 catch history years.

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 general 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 general 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 3-31). 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 3-31).

Table 3-31 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
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 3-3, Table 3-5, Table 3-7, Table 3-9, and Table 3-11 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 general 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 general 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.

In another example, the general 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 11,416 mt for 1998-2002 and 14,369 for 1995-2003.

Available allocations in the flathead sole fishery ranged between 35 percent for all of the year combinations except 1995 to 2003 and 1997-2002, which had 41 percent and 38 percent available for the general 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 14,981 mt for 1995-2003.

In the Pacific Ocean Perch fishery, available allocations to the general limited access fishery ranged between 18 percent using the 1997-2002 and 1998-2002 years to 22 percent using years 2000-2003, 1995-2003, and 1999-2003. Applying these percents to average TAC from 1999 to 2003, allocation amounts would have ranged from 1,855 mt to 2,291 mt.

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 general limited access fishery for rock sole would have ranged between 47,640 mt for the 2000-2003 catch history years and 51,347 mt for the 1995-2003 catch history years.

In the yellowfin sole fishery, available allocations for the general 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 general limited access fishery would have ranged between 36,222 mt for 2000-2003 catch history years and 50,149 mt using the 1995-2003 catch history years.

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 at an appropriate date. 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 general 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 3-3). 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.

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. Increase PSQ Reserves allocated to the CDQ Program (except herring and Chinook salmon) to levels proportional to the CDQ allocation of primary species under Component 2.

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) are allocated to the CDQ Program as a PSQ reserve. The PSQ reserve is not allocated by 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 percentage 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 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 primary target species. Thus, the potential range of PSQ allocations to the CDQ Program are from 7.5 percent (Option 2.1, the status quo) to 15 percent of applicable PSC limits.

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 1 percent of stock biomass. That limit is shared by the non-CDQ and the CDQ sectors. Attainment of a herring PSC apportionment triggers 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 3-32 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 primary target fisheries in 2004 is shown in Table 3-33. 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 3-32 PSQ reserves, catch and percentage caught, 2001-2004.

PSQ species	2001			2002			2003			2004			01-04 average
	Reserve	Catch	Percent caught	Reserve	Catch	Percent caught	Reserve	Catch	Percent caught	Reserve	Catch	Percent caught	
Zone 1 RKC	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	326,251	624	0.19%	326,251	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 3-33 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 percentage amounts of primary target species to the CDQ Program. Component 5 would proportionately increase PSQ allocations to the CDQ Program. Thus, PSQ percentage amounts 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 below, based on 2004 PSC catch limits. As with the proposed increases to primary target species allocations, these projected 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. Such increases are displayed in the following table.

Table 3-34 Projected increases in PSQ amounts based on 2004 PSC limits.

Prohibited Species Category	2004 PSC limit	Option 2.1: 7.5% Allocation	Option 2.2: 10% Allocation	Option 2.3: 15% Allocation
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

Table 3-32 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 3.2.2.10.

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, pink, sockeye, and coho salmon.

Salmon PSQ reserves typically have been caught at a higher level than other PSQ reserves (see Table 3-32). 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 catch levels could be 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 inconsistency 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 catch 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 could be required 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 Aleutian Islands target fisheries.

Crab PSQ

Table 3-21 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 primary 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 3-20 in Section 3.2.2.2). 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. Any 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 cap is reached by a CDQ group, trawl vessels fishing for species in which such crab are caught 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 CPUE 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. Halibut catch made with pot gear is exempt from halibut PSC accounting, so pot gear 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 every groundfish fishery, as halibut is caught in each groundfish fishery. 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. This ranges from about 25 percent and 51 percent of the CDQ Program allocations in 2001 and 2003, respectively.

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, using 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 percentage amounts under Component 5 proportional to the amount that CDQ percentage amounts 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 primary target species available for the non-CDQ fisheries, less PSC species would be needed to account for bycatch in non-CDQ 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 primary 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 3.2.2.10.

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

Component 6 identifies three different options for apportioning PSC allowance to the Non-AFA Trawl CP sector. The intent of these options is to allocate to the Non-AFA Trawl CP sector their own portion of the trawl PSC allowance for use in the cooperatives. 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 and directed fishery, so in some fisheries trawl vessels race to harvest as much of the TAC as possible before the PSC allowance to the trawl gear is fully utilized. Once the PSC allowance or TAC is taken, a closure notice for the directed fishery is issued by NOAA Fisheries.

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. Under this option, the Council could use one of three suboptions to determine the sector PSC allocations. Suboption 6.1.1 would allocate a portion of trawl PSC allowance to the Non-AFA Trawl CP sector based on the historical usage of PSC in all fisheries. Suboption 6.1.2 would also allocate a portion of trawl PSC allowance based on the historical usage of PSC, but only for the species allocated under Components 3 and 4 plus Pacific cod. Suboption 6.1.3 would also allocate a portion of the trawl PSC allowance to the Non-AFA Trawl CP sector based on PSC usage in fisheries for allocated species plus Pacific cod, but based on average historic usage of all participants in those fisheries (rather than usage of the Non-AFA Trawl CP sector). To develop these PSC allocations, the historic PSC catch by all trawl vessels in the applicable fisheries would be multiplied by the percentage of the TAC to be allocated to the Non-AFA Trawl CP sector under Components 3 and 4. This method of computing PSC allocations to the sector would avoid potential of rewarding the sector with a relatively high PSC allocation in cases in which its PSC catch rates exceed those of other sectors.

The second option in Component 6 would reduce the PSC allocations to a specific percentage of the estimations calculated under the first option. The suboptions under consideration would allocated 60 percent, 75 percent, 90 percent, 95 percent, or 100 percent (no reduction) of the PSC allocation calculated under Option 6.1. One potential justification for a reduction in PSC allocations is that participants in a cooperative should have greater flexibility to modify fishing practices to reduce PSC catch. The reduction could also be used to avoid rewarding the sector with a high PSC allocation, if the PSC allocation is based on its historic PSC catch and that catch is perceived to be excessive.

The third option would allow the Council to select specific percentages and/or 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, but would be based on consideration of the estimates from the previous options. If the Council bases its decision on the estimates of the previous options, it is possible that no additional analysis would be required. If the Council deviates significantly from the estimates of the previous options, additional analysis may be required. Selecting specific percentages would allow the Council to exercise discretion in determining concerning PSC allocations to the sector considering all available information concerning PSC catch rates of the sector and other sectors. Percentages could be chosen that are both adequate to support PSC needs of the sector and limit the extent to which allocations are excessive in cases in which the Council perceives high PSC catch by the sector in the past.

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 by the Non-AFA Trawl CP sector.
	Suboption 6.1.2	Allocation based on the PSC taken in the Non-AFA Trawl CP sector directed fishery for allocated primary species plus Pacific cod.
	Suboption 6.1.3	Percentage allocations (estimates for PSC associated with Pacific cod catch would 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 for allocated primary species plus Pacific cod.
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.	

While Option 6.1 provides a general method of calculating PSC allocations, two aspects of the calculations are not fully specified. Currently, trawl PSC is apportioned among directed fisheries during the annual TAC setting process. The option does not specify whether the allocations to the Non-AFA Trawl CP sector would be a percentage of the total trawl PSC allocation or percentages of the allocations to the various directed fisheries. For example, the allocation of halibut PSC could be a specific percentage of the total halibut trawl PSC. Alternatively, a percentage of the trawl halibut PSC available for Pacific cod, plus a percentage of the trawl halibut PSC available for rockfish, plus a percentage of the trawl halibut PSC available for pollock/Atka mackerel/other species, plus a percentage of the trawl halibut PSC available for rock sole/other flats/flathead sole, plus a percentage of the trawl halibut PSC available for yellowfin sole. If PSC is allocated as a percentage of the total trawl PSC (rather than on a directed fishery basis), the Non-AFA trawl CP sector PSC allocation would not be affected by the division of PSC among target fisheries in annual TAC setting process. NOAA Fisheries strongly supports allocating the sector a percentage of the total trawl PSC to avoid controversy in the annual TAC setting process. Based on this recommendation, staff estimated PSC allocations to the sector in this analysis as a percentage of the available trawl PSC.

The PSC allocation suboptions are also ambiguous concerning the computation of the percentage of PSC usage by the sector over several years. Two approaches for computing this percentage could be used. The first approach is to determine the average annual percentage of PSC usage by the sector (i.e., dividing the sector's PSC catch in a given year by the PSC catch of all trawl vessels in that year). The average of these annual percentages is the estimated PSC allocation to the sector. The second approach would sum PSC catch by the sector over all of the qualifying years, and then determine a single percentage by dividing that amount by total trawl PSC usage totals of all years combined. For Suboptions 6.1.1 and 6.1.2, PSC allocation results are presented for both methods. In most cases, the results of the approaches are similar. However, when annual catch varies significantly across time, results under the two approaches will vary. Staff has estimated allocations as only a percentage of total usage under Suboption 6.1.3 for this draft of the analysis because of time constraints and the complexity of those computations.

To allow the PSC allocation to fluctuate from year-to-year with stocks, the PSC apportionments should be stated as a percent of available PSC. To estimate percentages, the PSC catch can be divided by either trawl PSC usage or by the trawl PSC allowance. In fisheries and years in which the trawl PSC allowance

is fully utilized, estimated percentages are very similar. However, in fisheries and years when the total trawl PSC allowance was not fully utilized, the choice of denominator results can significant differences in the PSC allocated to the Non-AFA Trawl CP sector. For example, if the red king crab PSC allowance for trawlers was 197,000 animals and the usage was only 50,000 animals, of which the Non-AFA Trawl CP sector used 45,000 animals, the denominator used would have dramatically different results. Using trawl usage as the denominator would result in a PSC allowance of 90 percent, whereas using trawl allowance in the denominator would result in PSC allowance of 23 percent. The analysis that follows provides both the trawl PSC allowances and usage, but estimates PSC allocations to the Non-AFA trawl sector based only on the percent of total usage by the sector.

Since the period to be used to define "historic usage" is not specified in the motion, staff has used the years used for the allocation of the primary species (Component 4) for estimating allocations under this option for consistency. Specifically, the year combinations will be 1995-2003, 1997-2002, 1998-2002, 1998-2004, 1999-2003, and 2000-2004. Note that 2003 data are only available for halibut, and 2004 data are not available for any of the prohibited species.

To address some of the concerns of usage based PSC allocations, the Council has included options that would adjust or reduce the PSC allocation to the Non-AFA Trawl CP sector. Since some of the suboptions allocate PSC based solely on the amount of PSC used by the Non-AFA Trawl CP sector, the sector would benefit from vessels with historically high PSC bycatch rates. This is often a concerned raised when allocating PSC to a sector or group of vessels. Recognizing this issue, the Council has included options (6.1.2) that adjust the allocation based on historic groundfish catch and/or simply lower the PSC allocation a certain percent of the calculated allocation. In addition, Suboption 6.1.3 would allocate PSC based on historical harvest of groundfish multiplied by trawl PSC usage. The Council has also included an option to set PSC allocations as a specified percent of the available PSC to allow further discretion in the consideration of historic PSC catch rates of the sector and overall PSC catch rates in the various directed fisheries (Option 6.3).

Table 3-35 provides annual historic PSC usage for each of the PSC species. The data details PSC usage for the Amendment 80 qualified vessels and all other trawl vessels. The data also details the PSC usage by directed fisheries for the allocated species plus Pacific cod and directed fisheries for all groundfish.

Table 3-35 Annual historic PSC usage by PSC species for Amendment 80 qualified vessels and all other trawl vessels.

	Halibut PSC usage for Amendment 80 species plus Pacific cod (mt)		Halibut PSC usage for all groundfish (mt)	
Year	Amendment 80 qualified vessels	All other trawl vessels	Amendment 80 qualified vessels	All other trawl vessels
1995	1,379	1,667	1,498	2,228
1996	1,787	1,607	1,839	1,912
1997	2,050	1,323	2,081	1,513
1998	1,988	1,040	2,099	1,280
1999	2,549	681	2,725	756
2000	2,433	536	2,587	620
2001	2,657	300	2,772	472
2002	2,678	534	2,760	663
2003	2,355	808	2,438	884

	Herring PSC usage for Amendment 80 species plus Pacific cod (mt)		Herring PSC usage for all groundfish (mt)	
Year	**Amendment 80 qualified vessels**	**All other trawl vessels**	**Amendment 80 qualified vessels**	**All other trawl vessels**
1995	39	21	50	865
1996	244	26	247	1,238
1997	77	81	83	1,099
1998	16	1	17	801
1999	92	1	108	788
2000	27	0	27	485
2001	43	1	45	226
2002	25	0	26	109
	Red king crab PSC usage for Amendment 80 species plus Pacific cod (animals)		**Red king crab usage for all groundfish (animals)**	
Year	**Amendment 80 qualified vessels**	**All other trawl vessels**	**Amendment 80 qualified vessels**	**All other trawl vessels**
1995	23,393	15,753	23,837	21,079
1996	23,153	1,880	23,237	7,725
1997	46,961	3,542	47,162	3,549
1998	24,368	3,158	27,139	14,807
1999	83,517	1,231	83,641	1,231
2000	71,963	4,729	72,045	4,737
2001	61,594	248	61,819	352
2002	101,355	4,934	101,355	4,951
	***C. opilio* crab PSC usage for Amendment 80 species plus Pacific cod (animals)**		***C. opilio* crab usage for all groundfish (animals)**	
Year	**Amendment 80 qualified vessels**	**All other trawl vessels**	**Amendment 80 qualified vessels**	**All other trawl vessels**
1995	2,639,479	1,427,167	3,523,756	1,624,633
1996	2,800,702	497,125	3,100,414	537,702
1997	4,285,699	695,624	4,355,973	917,292
1998	3,622,224	256,370	3,740,693	345,268
1999	1,142,661	139,205	1,207,492	153,209
2000	2,913,455	63,486	2,947,761	67,740
2001	1,782,560	20,168	1,829,327	22,786
2002	1,051,861	54,806	1,082,647	56,513
	Zone 1 *C. bairdi* crab PSC usage for Amendment 80 species plus Pacific cod (animals)		**Zone 1 *C. bairdi* crab usage for all groundfish (animals)**	
Year	**Amendment 80 qualified vessels**	**All other trawl vessels**	**Amendment 80 qualified vessels**	**All other trawl vessels**
1995	423,190	370,110	445,862	449,567
1996	587,519	146,762	616,386	223,860
1997	618,540	173,400	621,113	199,952
1998	441,119	104,974	449,606	114,422
1999	330,380	29,450	330,494	30,052
2000	302,848	27,450	302,848	27,576
2001	306,466	6,932	310,999	7,186
2002	417,376	39,919	418,828	39,931

	Zone 2 *C. bairdi* crab PSC usage for Amendment 80 species plus Pacific cod (animals)		Zone 2 *C. bairdi* crab usage for all groundfish (animals)	
Year	Amendment 80 qualified vessels	All other trawl vessels	Amendment 80 qualified vessels	All other trawl vessels
1995	856,481	340,174	904,486	382,700
1996	661,647	199,542	755,925	212,695
1997	879,006	164,218	898,350	169,311
1998	779,335	47,117	815,385	79,429
1999	439,751	45,414	455,807	45,934
2000	630,389	11,680	646,694	11,902
2001	615,183	6,811	625,243	6,904
2002	581,012	38,828	588,055	39,472

Source: Amendment 80 database
At this time, only data for 2003 was available for halibut.

3.2.5.1 Current Management System

Currently, regulations limit PSC catch of 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 by fishery categories, gear group, and season to create more refined PSC limits. Table 3-36 and Table 3-37 show the PSC limits for each PSC species (except salmon) by gear and fisheries for 2005 and 2006. The purpose of seasonal apportionment is to maximize 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 3-36 2005 and 2006 prohibited species bycatch allowances for the BSAI Trawl

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	.....	.....	.....
Total trawl PSC	3,400	2,012	182,225	4,494,569	906,500	2,747,250

[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)).

Table 3-37 2005 and 2006 prohibited species bycatch allowances for the BSAI Non-Trawl Fisheries

Non-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)	
Pacific cod – Total	775					
January 1 - June 10	320				Zone 1[1]	Zone 2[1]
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[2]	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] 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.

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. Note that at the beginning of the fishing year, the Pacific cod fishery is allocated more halibut PSC allowance than is needed for directed fishing, then throughout the season NOAA Fisheries transfers small amounts of halibut allowance in the Pacific cod fishery to the flatfish fisheries as needed.

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 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 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. The PSC limit 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 Suboption 6.1.1- Historical Usage of PSC in all Groundfish Fisheries

Suboption 6.1.1 would base PSC allocations on total PSC usage in all groundfish fisheries by Amendment 80 eligible vessels. Table 3-38 provides the percent of the PSC allowance that would be apportioned to the Non-AFA Trawl CP sector by year combinations for the individual PSC species. Two allocation percentages for each PSC species are presented, average of the annual percentage and the percent of the total.

In general, the amount of PSC usage by the Non-AFA Trawl CP sector has increased relative to usage by all other trawlers in recent years[6]. As a result, those year combinations with more recent years will yield a higher allowance to the Non-AFA Trawl CP sector. Overall, the percent of halibut PSC allocated to the Non-AFA Trawl CP sector would range between 67 percent and 80 percent using Suboption 6.1.1. This would leave between 20 and 33 percent of the halibut for all other trawlers. For herring, the percent of trawl PSC allowance allocated to the Non-AFA Trawl CP sector would range from 10 to 14 percent. The remaining 86 to 90 percent of herring PSC would remain for all other trawlers. Looking at the amount red king crab apportioned to the Non-AFA Trawl CP sector, the allowance would range from 84 to 96 percent, leaving between 4 to 16 percent for all other trawlers. The amount of *C. opilio* PSC allocated to the Non-Trawl CP sector would range between 85 and 98 percent. The remaining 2 to 15 percent would be for all other trawlers. Allocation of Zone 1 *C. bairdi* would range between 76 and 94 percent, leaving between 6 and 24 percent for all other trawlers. Finally, the allocation of Zone 2 *C. bairdi* would range between 86 and 97 percent for the Non-AFA Trawl CP sector. The remaining 3 to 14 percent would remain for all other trawlers.

PSC allocation calculations using this suboption would likely result in an allocation to the Non-AFA Trawl CP sector that would be sufficient to harvest their entire allocation of the target species. However, depending on the years selected and future catch rates of PSC the remaining halibut PSC for all other trawlers could be insufficient to harvest their allocation of groundfish. Assuming 3,400 mt of halibut allowance for all trawl sectors, the amount of halibut PSC allocated to the Non-AFA Trawl CP sector using percentages from this suboption would range between 2,278 mt and 2,720 mt. Given the historic halibut PSC usage by the Non-AFA Trawl CP sector (Table 3-35), the PSC allocation percentages appear to be sufficient to harvest the Non-AFA Trawl CP sector allocation of groundfish assuming the allocations are based on historic harvest. Subtracting the halibut PSC allocation to the Non-AFA Trawl CP sector, the remaining 680 mt to 1,122 mt of halibut PSC would be left for all other trawlers. Given the historically usage of halibut PSC from 1995 to 1998 (Table 3-35) there is the potential for the remaining trawl vessels to fall short of the necessary halibut PSC needed harvest their entire groundfish allocation if, for example, pollock effort were to decline and Pacific cod effort were to increase.

Table 3-38 Historical Usage of PSC in all Groundfish Fisheries

Year Combinations	Percent of halibut PSC usage using average of annual percents	Percent of halibut PSC usage using average of total
1995-2003	67.52%	66.82%
1997-2002	74.17%	73.91%
1998-2002	77.43%	77.35%
1998-2003	76.75%	76.69%
1999-2003	79.68%	79.64%
2000-2003	80.03%	80.00%
Year Combinations	**Percent of herring PSC usage using average of annual percents**	**Percent of herring PSC usage using average of the total**
1995-2002	10.55%	9.72%
1997-2002	10.37%	8.03%
1998-2002	11.03%	8.46%
1999-2002	13.26%	11.32%
2000-2002	13.67%	10.64%

[6]Increased PSC usage by the Non-AFA Trawl CP sector is, at least in part, due to vessels from the AFA Trawl CP sector leaving the fishery in 1998. These vessels had traditionally participated in the fisheries that are being allocated to the Non-AFA Trawl CP sector. Without their participation, fewer vessels outside the Non-AFA Trawl CP sector are participating in the fisheries. Therefore, vessels outside the sector are catching less of the PSC apportioned to those fisheries.

Year Combinations	Percent of red king crab PSC usage using average of the annual percents	Percent of red king crab PSC usage using average of the total
1995-2002	84.12%	88.28%
1997-2002	90.81%	92.99%
1998-2002	90.37%	92.99%
1999-2002	96.79%	96.59%
2000-2002	96.20%	95.91%
Year Combinations	**Percent of C. opilio crab PSC usage using average of the annual percents**	**Percent of C. opilio crab PSC usage using average of the total**
1995-2002	88.52%	85.40%
1997-2002	92.41%	90.66%
1998-2002	94.37%	94.36%
1999-2002	95.08%	95.92%
2000-2002	97.19%	97.55%
Year Combinations	**Percent of Zone 1 C. bairdi crab PSC usage using average of annual percents**	**Percent of Zone 1 C. bairdi crab PSC usage using average of total**
1995-2002	81.36%	76.19%
1997-2002	87.95%	85.31%
1998-2002	90.41%	89.21%
1999-2002	93.09%	92.86%
2000-2002	93.56%	93.25%
Year Combinations	**Percent of Zone 2 C. bairdi crab PSC usage using average of annual percents**	**Percent of Zone 2 C. bairdi crab PSC usage using average of the total**
1995-2002	88.15%	85.71%
1997-2002	92.82%	91.95%
1998-2002	94.56%	94.46%
1999-2002	95.41%	95.69%
2000-2002	96.94%	96.96%

Source: Amendment 80 database
At this time, only data for 2003 was available for halibut.

3.2.5.3 Suboption 6.1.2- Historical Usage of PSC in the Directed Fisheries for Allocated Species plus Pacific Cod

This suboption is very similar to Suboption 6.1.1. It only differs in the species used to determine the PSC usage. Under Suboption 6.1.1, PSC usage while targeting all groundfish was used to determine PSC usage. Under this suboption, only PSC usage in the five allocated primary species plus Pacific cod was used. For example, the average PSC catch for the Non-AFA Trawl CP sector relative to all trawl sectors in the yellowfin sole, flathead sole, rock sole, Atka mackerel, and AI POP fisheries plus Pacific cod during the 1995 through 2003 will be credited towards the sector's overall PSC usage. The PSC allowance would be allocated to the Non-AFA Trawl CP sector for use while targeting their allocation of the five primary groundfish species and any other non-allocated BSAI groundfish.

Table 3-39 provides the percentage of each PSC allowance that would be apportioned to the Non-AFA Trawl CP sector using the different year combinations. Since this suboption only includes PSC usage for the allocated species, PSC allocation percentages are slightly lower than those in the previous suboption.

Like Suboption 6.1.1, the amount of PSC usage by the Non-AFA Trawl CP sector increases relative to usage by all other trawlers under this suboption in recent years. As a result, those year combinations with more recent years will yield a higher allowance to the Non-AFA Trawl CP sector. Overall, the percent of

halibut PSC allocated to the Non-AFA Trawl CP sector using this suboption would range between 64 and 77 percent, leaving between 23 and 36 percent of the halibut for all other trawlers. For herring, the percent of trawl PSC allowance allocated to the Non-AFA Trawl CP sector would range between 9 and 13 percent. The remaining 87 to 91 percent of herring PSC would be left for utilization by all the other trawlers. Looking at the amount red king crab apportioned to the Non-AFA Trawl CP sector, the allowance would range from 83 to 97 percent, leaving between 3 and 17 percent for all other trawlers. The amount of *C. opilio* PSC allocated to the Non-Trawl CP sector would range between 79 and 95 percent. The remaining 5 to 21 percent of the *C. opilio* PSC would be for all other trawlers. Allocation of Zone 1 *C. bairdi* would range between 75 and 93 percent, leaving between 7 and 25 percent for all other trawlers. Finally, the allocation of Zone 2 *C. bairdi* would range between 82 and 95 percent for the Non-AFA Trawl CP sector. The remaining 5 to 18 percent would be for all other trawlers.

Under this suboption, PSC allocations would likely be sufficient for the Non-AFA Trawl CP sector to harvest their allocation. However, there is the potential for the Non-AFA Trawl CP sector to not have enough PSC allowance to harvest their entire catch of groundfish, which includes some directed fishing for non-allocated species (such as Alaska plaice). In addition, depending on which set of years are used and future PSC catch rates, the remaining halibut PSC allowance may be insufficient for the remaining trawlers to harvest their allocation of groundfish in the future. Assuming 3,400 mt of halibut allowance for all trawl sectors, the amount of halibut PSC allocated to the Non-AFA Trawl CP sector, using percentages from this suboption, would range between 2,176 mt and 2,618 mt. Given the historic halibut PSC usage by the Non-AFA Trawl CP sector (Table 3-35), the PSC allocation percentages appear to be sufficient to harvest the Non-AFA Trawl CP sector's allocation of groundfish, assuming the allocations are based on historic harvest. The remaining 782 mt to 1,224 mt of halibut PSC would be left for all other trawlers. Given the historic usage of halibut PSC from 1995 to 1998 by all other trawlers there is the potential for a portion of the groundfish to remain unharvested because of the lack of halibut PSC.

Table 3-39 Historical Usage of PSC in directed fisheries for allocated species plus Pacific cod

Year Combinations	Percent of halibut PSC usage using average of annual percents	Percent of halibut PSC usage using average of total
1995-2003	64.51%	63.85%
1997-2002	70.85%	70.61%
1998-2002	73.61%	73.53%
1998-2003	73.15%	73.09%
1999-2003	76.02%	75.98%
2000-2003	76.72%	76.71%
Year Combinations	**Percent of herring PSC usage using average of annual percents**	**Percent of herring PSC usage using average of the total**
1995-2002	9.94%	9.07%
1997-2002	9.80%	7.34%
1998-2002	10.46%	7.72%
1999-2002	12.59%	10.34%
2000-2002	13.36%	10.41%
Year Combinations	**Percent of red king crab PSC usage using average of the annual percents**	**Percent of red king crab PSC usage using average of the total**
1995-2002	83.01%	87.49%
1997-2002	89.54%	92.19%
1998-2002	88.93%	92.13%
1999-2002	96.64%	96.46%
2000-2002	96.05%	95.78%

Year Combinations	Percent of C. opilio crab PSC usage using average of the annual percents	Percent of C. opilio crab PSC usage using average of the total
1995-2002	83.42%	79.33%
1997-2002	89.85%	88.47%
1998-2002	91.56%	91.79%
1999-2002	92.29%	93.53%
2000-2002	95.07%	95.69%
Year Combinations	**Percent of Zone 1 C. bairdi crab PSC usage using average of annual percents**	**Percent of Zone 1 C. bairdi crab PSC usage using average of total**
1995-2002	80.16%	74.69%
1997-2002	87.35%	84.71%
1998-2002	89.76%	88.50%
1999-2002	92.65%	92.45%
2000-2002	92.98%	92.71%
Year Combinations	**Percent of Zone 2 C. bairdi crab PSC usage using average of annual percents**	**Percent of Zone 2 C. bairdi crab PSC usage using average of the total**
1995-2002	84.69%	81.99%
1997-2002	90.45%	89.55%
1998-2002	92.07%	91.88%
1999-2002	93.32%	93.65%
2000-2002	95.21%	95.22%

Source: Amendment 80 database
At this time, only data for 2003 was available for halibut.

3.2.5.4 Suboption 6.1.3 - Trawl Usage Adjusted for the Proportion of Amendment 80 Species Allocated Plus Pacific cod

Suboption 6.1.3 would allocate the PSC allowance to the Non-AFA Trawl CP sector based on PSC catch by all trawl vessels in the directed fishery, for each of the allocated species plus Pacific cod, multiplied by the percent of the relevant species allocated to the Non-AFA Trawl CP sector. Calculation of the PSC allocations under this suboption required some disaggregation across fisheries groups. The suboption states that trawl PSC usage should be by each PSC fishery group. However, since some PSC fishery groups are a aggregation of allocated species (such as the rock sole/other flats/flathead sole PSC fishery group) and the allocations from Components 3 and 4 are by single species, trawl PSC usage was disaggregated to by directed fishery for the allocated species and Pacific cod. In addition, to estimate the PSC allocation for the Non-AFA Trawl CP sector, proxy allocations for Pacific cod were estimated using the method and years specified by Components 3 and 4. Recognizing that Pacific cod is apportioned between fixed gear and trawl gear, Pacific cod allocations are estimated (and stated) as a percentage of the trawl sector Pacific cod apportionment, which is used to determine the portion of the Pacific cod PSC that would be allocated to the Non-AFA Trawl CP sector.

Unlike Suboptions 6.1.1 and 6.1.2, Suboption 6.1.3 does not allocate PSC strictly based on PSC usage, but rather as a percent of total trawl usage based on historical harvest of the allocated species. As a result, the effects of anomalies in PSC catch rates that are within the sector (relatively high or low rates) are reduced, since the option has an averaging effect across all vessels in the directed fishery.

An additional effect of this suboption is that incidental catch is valued in determining PSC allocations. So, if the Non-AFA Trawl CP sector has low incidental catch of a species relative to other sectors in the computation of allocations, its allocation of PSC related to that species will be reduced, in comparison to a PSC allocation based strictly on directed fishery catch. Although it is difficult to isolate the effect of incidental catch on the PSC allocation, some general observations can be made. If the Council computes

allocations under Component 3 based on total catch (including discards) under Option 3.1, the halibut PSC allocation to the Non-AFA Trawl CP sector would be less than if the Component 3 allocations are based on only retained catch under 3.2. This effect likely arises from a relatively high amount of discarded incidental catch of rock sole and flathead sole by vessels that are not part of the Non-AFA Trawl CP sector.

Table 3-40 provides the PSC allocation for the individual PSC species by allocation option and catch history years from Components 3 and 4. Like Suboptions 6.1.1 and 6.1.2, the PSC allocations to the Non-AFA Trawl CP sector increase relative to other trawlers under this suboption if more recent years are used for determining the allocations. Overall, the halibut PSC allocation to the Non-AFA Trawl CP sector would range between 36 and 72 percent, with between 28 and 64 percent for the all other trawl vessels. Herring PSC allocation would range between 4 and 9 percent, leaving between 91 and 96 percent for the remaining trawlers. Looking at the amount red king crab apportioned to the Non-AFA Trawl CP sector, the allowance would range from 35 to 88 percent. The remaining 12 to 65 percent would be reserved for all other trawlers. The amount of *C. opilio* PSC allocated to the Non-Trawl CP sector would range between 45 and 88 percent. The remaining 12 to 55 percent would be available for all other trawlers. Allocation of Zone 1 *C. bairdi* would range between 32 and 78 percent, leaving between 22 and 68 percent for all other trawlers. Finally, the allocation of Zone 2 *C. bairdi* would range between 47 percent and 88 percent for the Non-AFA Trawl CP sector. The remaining 12 to 53 percent would be for all other trawlers.

PSC allocation calculations using Option 3.3 (retained catch of the sector divided by total catch of all sectors) could result in an allocation to the Non-AFA Trawl CP sector that is insufficient to harvest their entire allocation of the target species, if the sector cannot reduce its PSC catch rates substantially from current levels. The fisheries most impacted by a reduction in PSC would be those that have high bycatch rates of halibut. For example, the Non-AFA Trawl CP sector usage of Amendment 80 species since 1995 have ranged from a low of 1,379 mt in 1995 to high of 2,678 mt in 2002. Assuming 3,400 mt of halibut allowance for trawl sectors, halibut PSC allocated to the Non-AFA Trawl CP sector using Option 3.3 would range from 1,210 mt to 1,575 mt, far short of their historic usage of halibut PSC since 1996. Low allocations of other PSC species might also affect fisheries under Option 3.3, but not to the same extent as halibut. In contrast, too high of a PSC allocation to the Non-AFA Trawl CP sector could leave too little for the remaining trawlers to harvest their directed fisheries, if current catch rates are maintained. Looking at another example, the halibut usage for all groundfish by trawl vessels other than Non-AFA Trawl CP vessels ranged from a low of 473 mt in 2001 to a high of 2,228 in 1995. If the Council selected Option 3.2 (retained catch of the sector divided by retain catch of all sectors) for the years 2000-2003, the amount of halibut PSC remaining for all other trawl sectors, assuming 3,400 mt allowance, would result in an allocation of 968 mt. This allocation appears sufficient given halibut usage in recent years. However, this allocation could be insufficient if effort were to shift away from pollock and into Pacific cod or yellowfin sole in the future and current PSC catch rates are not reduced. The ability of these other trawlers to reduce PSC catch rates substantially under continuation of current management is uncertain.

Table 3-40 Trawl usage adjusted for the proportion of Amendment 80 species allocated plus Pacific cod

Halibut			
Year	**Total/Total**	**Retain/Retain**	**Retain/Total**
1995-2003	49.51%	59.24%	35.59%
1997-2002	54.03%	63.99%	40.28%
1998-2002	56.92%	67.17%	43.26%
1998-2003	57.38%	67.59%	43.60%
1999-2003	59.27%	69.68%	45.09%
2000-2003	61.04%	71.52%	46.33%

Herring			
Year	**Total/Total**	**Retain/Retain**	**Retain/Total**
1995-2003	7.27%	8.53%	5.44%
1997-2002	6.68%	7.88%	5.04%
1998-2002	5.74%	6.75%	4.37%
1998-2003	5.85%	6.83%	4.53%
1999-2003	7.96%	9.26%	6.22%
2000-2003	7.89%	9.23%	6.14%
Red king crab			
Year	**Total/Total**	**Retain/Retain**	**Retain/Total**
1995-2003	60.78%	80.29%	34.98%
1997-2002	61.94%	81.00%	34.74%
1998-2002	63.54%	82.36%	35.73%
1998-2003	64.48%	83.05%	36.97%
1999-2003	68.42%	87.58%	39.56%
2000-2003	69.87%	87.41%	42.35%
C. opilio			
Year	**Total/Total**	**Retain/Retain**	**Retain/Total**
1995-2003	60.09%	72.21%	44.51%
1997-2002	64.60%	77.16%	48.45%
1998-2002	68.92%	82.24%	51.63%
1998-2003	70.06%	83.06%	53.24%
1999-2003	71.72%	84.44%	55.44%
2000-2003	75.25%	88.09%	58.82%
Zone 1 *C. bairdi*			
Year	**Total/Total**	**Retain/Retain**	**Retain/Total**
1995-2003	53.43%	69.69%	31.94%
1997-2002	58.16%	74.69%	34.87%
1998-2002	61.16%	77.92%	37.06%
1998-2003	62.09%	78.60%	38.30%
1999-2003	61.04%	77.43%	36.80%
2000-2003	62.17%	78.25%	37.10%
Zone 2 *C. bairdi*			
Year	**Total/Total**	**Retain/Retain**	**Retain/Total**
1995-2003	62.76%	75.24%	47.22%
1997-2002	66.69%	79.81%	50.85%
1998-2002	70.17%	83.95%	53.35%
1998-2003	71.15%	84.67%	54.72%
1999-2003	72.77%	86.78%	56.06%
2000-2003	73.69%	87.79%	56.73%

Source: Amendment 80 database
At this time, only data for 2003 was available for halibut.

3.2.5.5 PSC Allocation Reduction

As noted above, 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 be allocated 60 percent, 75 percent, 90 percent, 95 percent, or 100 percent of their historic PSC usage. The language in the option makes it clear that the reduction in the PSC allocation does not go to the other trawl sectors. The intent of the language is to reduce the overall PSC removals from the BSAI.

As an example of the impacts these PSC reductions would have, Table 3-41 shows halibut PSC allocation to the Non-AFA Trawl CP sector using allocation numbers from Suboption 6.1.1 after reductions are made. At 60 percent of the original allocation of halibut PSC, the Non-AFA Trawl CP sector would receive, depending on the catch history years selected, between 41 and 48 percent of the halibut PSC. At 75 percent of the halibut PSC allocation, the sector would be apportioned between 51 and 60 percent. At 90 percent, the allocation would range between 61 and 72 percent. At 95 percent, the allocation would range between 64 and 76 percent. There is some question whether a 5 percent reduction in PSC would result in the sector leaving unharvested groundfish allocation. However, it becomes apparent that as the PSC allocation to the Non-AFA Trawl CP sector is reduced significantly from their historic average usage, the sector will be less likely to harvest their groundfish allocation. At 60 and 75 percent of the original calculation, it is likely that the sector will not have enough PSC to fully harvester their entire allocation of the Amendment 80 species at current TACs and PSC catch rates. Whether the sector can make the substantial PSC catch rate reductions necessary to allow full harvest of the sector's allocations under this suboption cannot be determined.

In June 2005, the Council added two addition suboptions. One suboption would phase in the PSC reduction at 5 percent for every year. Although this would allow some time to adjust to the lower PSC allocation, the long run effect on the Non-AFA Trawl CP sector will likely be similar to the other reduction suboptions. In general, significant reductions from the sector's historical PSC usage could strand a portion of the sector's allocation, if PSC catch rates cannot be reduced substantially from current levels under cooperative fishing. The second suboption would apply the PSC reductions only to those vessels that do not participate in a cooperative. Depending on the PSC reduction percentage selected, this would be a significant incentive for participants in the Non-AFA Trawl CP sector to join a cooperative. However, if the intent of Option 6.2 were to address concerns about using historical usage as a basis for allocating PSC, this suboption might do little to reduce PSC usage.

Table 3-41 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 Combination	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)
1995-2003	40.51%	50.64%	60.77%	64.14%	67.52%
1997-2002	44.50%	55.63%	66.76%	70.47%	74.17%
1998-2002	46.46%	58.07%	69.69%	73.56%	77.43%
1998-2003	46.05%	57.57%	69.08%	72.92%	76.75%
1999-2003	47.81%	59.76%	71.72%	75.70%	79.68%
2000-2003	48.02%	60.02%	72.03%	76.03%	80.03%

Source: Amendment 80 database.

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

Component 7 defines eligibility requirements for the Non-AFA Trawl CP sector. Component 7 limits access to the Non-AFA Trawl CP sector so it is consistent with the qualifying criteria for the sector defined by the BSAI Catcher Processor Capacity Reduction Program (the "Capacity Reduction

Program"). The Capacity Reduction Program was included in the Department of Commerce and Related Agencies Appropriations Act, 2005, which is part of Public Law No. 108-447. The Capacity Reduction Program not only authorizes $75 million to reduce the capacity of the catcher processor fleets operating in the BSAI, but also defines eligibility to participate in the non-pollock groundfish fisheries[7] as a trawl catcher processor.

Based on the recommendation of NOAA General Counsel, the Council has defined the non-AFA Trawl Catcher Processor sector using the specific definition from section 219(a)(7)(A) through (C) of the Capacity Reduction Program. NOAA GC has stated that the Council has no authority to deviate from the eligibility criteria of the Capacity Reduction Program.[8]

Component 7

The BSAI non-pollock groundfish CP buyback legislation establishes the vessels eligible to participate as a catcher processor in the BSAI non-pollock groundfish fisheries. The members of the Non-AFA Trawl Catcher Processor subsector are defined as the owner of each trawl CP:

a). that is not an AFA Trawl CP

b). to whom a valid LLP license that is endorsed for BSAI Trawl CP fishing activity has been issued; and

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

NOAA GC has also advised the Council concerning the application of these eligibility criteria. The memo providing that advice is attached as Appendix 3. The NOAA GC memo states that eligibility for the sector is based on a person meeting all three criteria. A person must own a trawl catcher processor that 1) is not an AFA trawl catcher processor, 2) has assigned to it a valid LLP license that is endorsed for BSAI trawl fishing activity, and 3) meets the catch and processing qualifying criteria. Each of these requirements and their interactions are discussed below. The order of this discussion deviates from that of the statute for clarity.

First (under a), the catcher processor must not be qualified for the directed pollock fishery under the AFA, where AFA qualified includes only vessels qualified under Section 208(e)(1) through (20) of the AFA. Under these terms, a vessel that qualifies for the directed pollock fishery under Section 208(e)(21) of the AFA is not considered AFA trawl catcher processor and could be a non-AFA trawl catcher processor, provided that vessel meets all other non-AFA trawl catcher processor qualifying criteria.

Second (under c), the vessel must have harvested with trawl gear and processed at least 150 metric tons of non-pollock groundfish between January 1, 1997 and December 31, 2002. Relying on the statute's definition, these harvests must be of Bering Sea or Aleutian Islands Atka mackerel, flathead sole, Pacific cod, Pacific Ocean perch, rock sole, turbot, or yellowfin sole.

Third (under b), the vessel must have assigned to it a valid trawl catcher processor LLP license endorsed for the Bering Sea and/or the Aleutian Islands. This third requirement is not time constrained and therefore creates some uncertainty concerning qualification for the sector. Specifically, vessels meeting the "non-AFA" and "catch and processing threshold" requirements will be qualified for the fisheries at those times that the vessel meets the "license assignment" requirement. So, a vessel that qualifies at

[7] The Program defines the non-pollock groundfish fisheries as the Atka mackerel, flathead sole, Pacific cod, Pacific Ocean perch, rock sole, turbot, or yellowfin sole fisheries.

[8] Prior to the implementation of the Capacity Reduction Program, the Council had defined four eligibility options for the Non-AFA Trawl CP sector that had more stringent catch requirements and considered catch in different years from the Capacity Reduction Program. In order to determine the effect of the Capacity Reduction Program on the Council's authority to develop alternatives for Amendment 80, the Council at the December 2004 meeting, asked NOAA GC to provide clarification of this new program at the February 2005 meeting. NOAA GC has provided that advice in a series of memoranda, which are attached to this analysis.

implementation may be disqualified from the fisheries, if its BSAI license is assigned to a different vessel. More problematic, a vessel that meets the "non-AFA" and "catch and processing threshold" may not qualify when the program is implemented because it does not have an assigned license. If at a later time a license is assigned to the vessel, that vessel will be qualified for the sector.

Any vessel that meets the "non-AFA" requirement of a) and the catch and processing requirement of c), will be determined to qualify for the fishery any time that it meets the qualification of b). As a result, it is possible that a vessel's qualification for the fishery could change over time, if a license is either placed on the vessel or removed from the vessel.

Based on the language in the Capacity Reduction Program and the interpretation of this program by NOAA GC, there appear to be an estimated 27 vessels that qualify for the Non-AFA Trawl CP sector. Currently, three vessels appear to meet the "non-AFA" and "catch and processing threshold" requirements, but are not assigned the necessary LLP license for qualification. Two of these vessels have been inactive since 1997. In each case, the license that originated on these vessels has been transferred to another vessel. If the current or future owners of these vessels acquired/assigned a trawl catcher processor LLP license endorsed for the BS or AI to these vessels, then these vessels may be eligible to participate in the sector.

Table 3-42 provides participation patterns for "non-AFA" catcher processors that meet the "catch and processing threshold". As noted in the table, twenty-six trawl catcher processor vessels with trawl catcher processor LLP licenses meet the "catch and processing threshold".[9] 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 meet the "catch and processing threshold" had trawl CP catch history only during the 1995 and 1996 period. Of the 26 vessels meeting the threshold, 19 caught and processed BSAI groundfish every year between 1995 and 2003. Two vessels meeting the threshold did not participate in the BSAI groundfish trawl CP fishery in two or three years throughout the 1995 to 2003 period. Three vessels meeting the threshold did not participate in the BSAI trawl CP groundfish fishery for four or five years. Finally, two vessels meeting the threshold have not participated in the BSAI trawl CP groundfish fishery since 1997.

[9] The database listed 26 vessels rather than 27 because the license that appears to meet the "non-AFA" and "catch and processing threshold" requirement was transferred to another vessel, which already had a LLP license. Since the analysis assumes that the catch history transfers with a LLP license, the database does not show the 27th vessel.

Table 3-42 Participation patterns by year for catcher processors.

Participation Years									Vessels meeting the catch and processing threshold	Vessels not meeting the catch and processing threshold	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**

Source: Amendment 80 database

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

Component 8 defines eligibility for cooperative membership and the formation criteria that must be satisfied for cooperative formation.

In June 2005, the Council revised Component 8 to include a qualification requirement for LLP licenses to participate in the Non-AFA Trawl CP cooperative. Currently three options are being considered for a cooperative endorsement on qualified LLP licenses. Each of the options would endorse only those LLP licenses associated with a qualified vessel that must have caught not less than 150 mt of non-pollock groundfish with trawl gear and processed that fish during a given set of years. The options only differ in the years used for qualification. The first option uses the years 1997 to 2002, the same as those used in the sector qualification. The second option expands the set of years to include 2003, while the third option expands the years to include 2003 and 2004.

Combined with the license qualification portion of this component is the original Component 8, which provides criteria for cooperative formation. In designing a cooperative program, a primary element is the level of participation needed before a cooperative is allowed to form. For the Non-AFA trawl CP cooperative program, the Council has identified six different participation levels ranging from 15 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 licenses that will be authorized for participation in a cooperative and to receive a cooperative endorsement. Component 8 also establishes the number of licenses required before the number of licenses required 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 total year.

In order to receive a cooperative endorsement:

Option 8a.1 Qualified license holders must have caught 150 mt of groundfish with trawl gear on a vessel qualified as a Non-AFA Trawl CP, and processed that fish between 1997-2002.

Option 8a.2 Qualified license holders must have caught 150 mt of groundfish with trawl gear on a vessel qualified as a Non-AFA Trawl CP, and processed that fish between 1997-2003.

Option 8a.2 Qualified license holders must have caught 150 mt of groundfish with trawl gear on a vessel qualified as a Non-AFA Trawl CP, and processed that fish between 1997-2004.

In order to operate as a cooperative, membership must be comprised of a least two separate entities and must be:

Option 8b.1 At least 15 percent of the eligible licenses

Option 8b.2 At least 30 percent of the eligible licenses

Option 8b.3 At least 67 percent of the eligible licenses

Option 8b.4 At least 100 percent of the eligible licenses

Option 8b.5 All less one distinct and separate harvester using the 10 percent threshold rule.

Option 8b.6 All less one eligible license

Component 8a - Cooperative Eligibility

As noted in the Component 7 discussion, with the passing of the Capacity Reduction Program in November 2004, eligibility for the Non-AFA Trawl CP sector must be consistent with the eligibility criteria of that program. The Capacity Reduction Program, however, appears to allow the Council to develop further qualifying criteria within the sector, which could be used to define eligibility to participate in a cooperative (see NOAA GC letter dated February 9, 2005). Recognizing the Capacity Reduction Program does not exclude the Council from adding additional eligibility criteria for participation in the Non-AFA Trawl CP cooperative program, the Council in June 2005 added options defining eligibility for a "cooperative endorsement" that would qualify those licenses for the Non-AFA Trawl CP cooperative program.

The most obvious impact of Component 8a is that it defines specific licenses that would qualify their holders to participate in the sector's cooperative program. Table 3-43 shows the number of LLP licenses with BSAI trawl sector endorsements. In total, there are 64 catcher processor licenses endorsed for the BSAI area. Twenty of these licenses are currently fished on AFA trawl CP vessels operating in the BSAI. The remaining 44 trawl CP licenses could be used on vessels meeting the "catch and processing threshold" necessary to participate in the Non-AFA Trawl CP sector.

Table 3-43 BSAI trawl LLP licenses by trawl sector

Sector	BS only LLP	AI only LLP	BSAI LLP	Total License
AFA Trawl CP	1	0	19	20
Non-AFA Trawl CP	6	1	37	44
Total Trawl CP Licenses	**7**	**1**	**56**	**64**

Source: NMFS Groundfish LLP database. Current as of July 13, 2005.

Since vessel assignments were not required for LLP licenses during the first two years of that program, the exact number of licenses meeting the catch criteria of component 8a cannot be determined with certainty. The number of qualified licenses available for cooperative formation is estimated to range

between 27 and 30 licenses. In most cases, the only LLP license assigned to a vessel meeting the "non-AFA" requirement and the "catch and processing threshold" is the license that originated on the vessel. However, some of these vessels may have carried additional licenses during the period used for determining qualification for a cooperative endorsement.

The number of licenses qualifying for endorsements can be estimated by examining the catch of vessels to which licenses are assigned by assuming that any license assigned to a vessel on a certain date was carried by the vessel during the entire endorsement qualifying period. So, any license assigned to a vessel that has harvested more than the threshold catch amount is assumed to meet the catch qualification. Using this method, the number of LLP licenses that would receive cooperative endorsement is estimated to range from 27 to 30. Under option 8a.1, 27 licenses are estimated to qualify for a cooperative endorsement. Under Options 8a.2 and 8a.3, two or three additional licenses are estimated to qualify for cooperative endorsements, respectively. Additional licenses qualify because some vessels have carried multiple licenses in recent years.

A few factors should be assessed in considering the options for determining license cooperative endorsement qualification. As is discussed more fully in the section below on Component 8b, qualifying multiple licenses for a single vessel could provide the holder of those licenses with additional negotiating leverage in the cooperative formation process. If the formation threshold is at all constraining, the more endorsed licenses that a person holds, the stronger the person's position in negotiations concerning cooperative formation.

Second, applying a cooperative license endorsement requirement could create circumstances that are somewhat inconsistent with the "owner qualification" developed by the Capacity Reduction Program. Whether this inconsistency could rise to the level of invalidating the system of endorsements is uncertain and would depend on the specific circumstances. The following various situations are foreseeable. A person that owns a vessel meeting the "non-AFA" requirement and the "catch and processing requirement" could put a license not endorsed for a cooperative on the vessel. This vessel would then be qualified for the sector, but not for a cooperative. This vessel would be assumed to be permitted to fish the sector limited access fishery, but not the cooperative. Also, if the vessel had previously carried a license that met the qualification for the cooperative endorsement, that original license would qualify for the cooperative (if held by a person meeting the vessel ownership requirement). A person could move a cooperative endorsed license from a vessel meeting the other sector qualifications, and then re-qualify the vessel for the sector with a license that is not endorsed (which could effectively bring additional capacity into the sector limited access fishery). Similar inconsistencies could arise any time a license is moved to or from a vessel meeting the "non-AFA" requirement and the "catch and processing threshold".[10]

An additional inconsistency could arise from crediting the catch history to an endorsed license (rather than to a qualified vessel). Under the Capacity Reduction Program, any vessel that carries any valid catcher processor trawl license endorsed for the Bering Sea or Aleutian Islands that meets the "non-AFA" requirement and the "catch and processing threshold" is qualified to fish in the sector. The owner of a vessel meeting these requirements, however, will have no catch history under this program, unless the specific license used by the vessel is also held by the owner. If all other members of the sector choose to join cooperatives, the owner of the qualified vessel may have no opportunity to fish (since no allocation would be made to the limited access fishery). In addition, another person holding the license used by the qualified vessel would be credited the catch history of the qualified vessel (provided that person qualifies for the program through ownership of another vessel). To some degree, this circumstance appears inconsistent with the intent of the statute, which intends to qualify any person owning a qualifying vessel

[10] An additional complication arises in the distribution of catch history (and consequent annual allocations), if licenses are moved among vessels. Since the current motion associates catch history with a license (not a vessel), it is possible that a license transfer could result in a vessel meeting the Component 7 eligibility criteria having no catch history associated with its license, while the catch history of that vessel would be associated with another license.

to participate in the fisheries. Again, whether this apparent inconsistency would invalidate this cooperative program is uncertain.

A potential solution to these issues is to use vessel ownership for determining eligibility for the cooperative (effectively using the Component 7 eligibility to determine cooperative eligibility). Using different eligibility standards for sector membership and cooperative membership creates a potential inconsistency with the Capacity Reduction Program. Additionally, the Council could rely on vessel eligibility and history for cooperative formation thresholds (Component 8b) and cooperative allocations (Components 9 and 10), respectively. A drawback to vessel-based programs is the difficulty in replacing a qualified vessel. The Capacity Reduction Program, however, creates and resolves this difficulty by using a vessel ownership-basis with provision for vessel replacement as a part of an approved buyback plan.[11]

Component 8b - Cooperative Formation

In order to qualify to participate in a Non-AFA trawl CP cooperative, each member must hold a valid LLP with the proper endorsements and be eligible to participate in the Non-AFA trawl CP sector. Depending on the options selected in Component 8a, between 27 and 30 licenses could qualify for the necessary cooperative endorsement. Under any option, cooperative formation requires at least two unique entities. Under Option 8b.1, a cooperative must be composed of at least 15 percent of the eligible Non-AFA Trawl CP licenses allowing five cooperatives within the sector. Under Option 8b.2, at least 30 percent of eligible licenses are necessary for cooperative formation, allowing up to three cooperatives in the sector. Under Option 8b.3 and 8b.4, 67 percent and 100 percent of eligible licenses are required to form a cooperative, allowing a single cooperative in the sector. To form a cooperative under Option 8b.5, all qualified participants less one distinct and separate license holder using the 10 percent threshold rule must join. Finally, Option 8b.6 would require all licenses less one for cooperative formation. Options 8b.3 to 8b.6 would result in a single cooperative structure. The following analysis describes the dynamics involved with the different participation levels identified by the Council.

Single cooperative structures

Single cooperative structures are those structures that, because of the membership level required for formation exceeds 50 percent of the sector, could accommodate only a single cooperative in the sector. Under a single cooperative structure (8b.3, 4, 5, or 6), license holders qualified to harvest from the Non-AFA Trawl CP allocation would either join the sector's only cooperative or send their vessel and crew to fish in a limited access fishery. It is anticipated that qualified license holders would elect to participate in the limited 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. Many of these participants will 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. Their prospects in the limited access fishery, however, depend on others with substantial catch history choosing not to join a cooperative. Persons with substantial catch histories may choose not to join a cooperative, if the terms offered by cooperative membership do not reward the catch history brought to the cooperative. These persons are likely to believe that they are not fairly rewarded by the terms offered by the cooperative agreement.

The second reason a person may choose not to join a cooperative is the inability to agree to the terms and conditions defined in the cooperative agreement that do not directly impact profits. For example, a participant may not want to be involved in the internal cooperative politics, adhere to the cooperative's reporting requirements or may have other philosophical differences with a majority of the members of the cooperative or simply may not want to be part of a cooperative. However, because profits will ultimately

[11] It should be noted that until a buyback plan is completed, no provision is made for vessel replacement in the sector.

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 agreement depends, in part, on the requirements for cooperative formation. Within a program that allows only a single cooperative, changing the percentage of eligible license holders that must join for cooperative formation will shift power among license holders. For example, if 100 percent of the sector is required for cooperative formation, the majority of the sector could be forced to accept more demands of license holders that hold out from initially joining the cooperative. If the demands by the license holders holding-out from signing the cooperative agreement are 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 compromise 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 licenses holders 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 less popular views) would likely want to require a higher percentage (or even 100 percent) of the sector for cooperative formation. The ability to veto cooperative formation would increase their power to negotiate terms and conditions in the cooperative agreement that they could not otherwise.

As the percentage of qualified license holders that are required to form a cooperative is reduced from 100 percent, the power structure within the sector changes. For example, if 67 percent of the eligible licenses are required to form a cooperative, then depending on the option selected in Component 8a, 18 to 19 qualified licenses would be required to form the cooperative.[12] The membership level where power changes from being in the hands of those that have agreed to the terms of the cooperative and those that not, would occur at 18 or 19 licenses depending on Council action. That membership level is critical because before that number of licenses have joined the cooperative, holders of licenses that have not agreed to the terms of the cooperative wield greater power in the cooperative negotiations. However, after the owner of the eighteenth (or nineteenth) license joins, those that have not joined suddenly have very little leverage in cooperative negotiations. In this case, the participants that have not joined the cooperative may have to agree to the terms negotiated by the other participants of the cooperative or 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, those wishing to establish the cooperative need to offer terms that are satisfactory to induce the minimum number of members required for cooperative formation to join that cooperative. This general principle holds for any of the percentages under consideration, and should result in a cooperative structure that more closely reflects the views of a simple majority (relative to requiring 100 percent membership) as the percentage required for formation declines toward 50 percent. When selecting the minimum percentage required for cooperative formation, the Council should consider the effect of the selected percentage on the relative bargaining power of the majority in comparison to the minority.

Debate within the sector over the appropriate percentage 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[13], one of the most important is the percentage of licenses required to form the cooperative, as discussed above. Now consider individuals within the sector. If we require 18 of 27

[12] If 27 licenses are used to form cooperative, then each 5% reduction in the percentage required to form a cooperative means that one less license is needed for cooperative formation.

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

qualified licenses to form the cooperative, and assume that part way through the negotiation process participants holding 17 qualified licenses have agreed to join and 10 have not, the participants holding the 17 qualified licenses need to come to terms with the demands of one of the remaining sector participants in order to form the cooperative. However, the majority is likely to agree to terms with the person that is most similar to other participants in the cooperative coalition (who is likely a person that would fare about the same under the cooperative or limited access). That person may be able to improve their position within the cooperative by agreeing to join. People favoring terms very different from the majority's or (whose potential in the limited access is substantially greater than their potential under the cooperative's terms) are the least likely to join the cooperative.

Multiple cooperative structures

Under multiple cooperative structures, the membership level required for cooperative formation would be less than 50 percent, allowing more than one cooperative to form within the sector. By allowing multiple cooperatives to form, the bargaining power within the sector changes in the cooperative formation process. The Council has identified two multiple cooperative options. Under both of these options, at least 2 unique entities are required for cooperative formation; so, a holder of multiple licenses could not form a cooperative as the only member. Under Option 8b.1, at least 15 percent of the qualified licenses are required to form a cooperative. Under Option 8b.2, at least 30 percent of the qualified licenses are required to form a cooperative. Given the sector will likely have between 27 to 29 qualified licenses, this equates to 5 qualified licenses per cooperative for 15 percent and 8 qualified licenses for 30 percent. In general, the smaller the number of licenses 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 a cooperative once formed, if they agree to the terms of the cooperative's bylaws. Lower member thresholds for cooperative members increase the opportunity of sector participants (particularly those with less common views or circumstances) to join a cooperative. The holders of the most divergent views can review the terms and conditions of each cooperative agreement, to determine which best meets their needs. Sector participants that do not like the conditions for membership in cooperatives that have formed could attempt to find other members of the sector willing to form a separate cooperative or join the sector limited access fishery. Alternatively, a non-member with some benefit to offer a cooperative could use two competing cooperatives to negotiate more favorable terms and conditions than could be negotiated under a structure that accommodates only a single cooperative.[14] If there were not other members that have yet to join a cooperative, that vessel would need to accept[15] the terms of one of the cooperatives or be forced to fish in the limited access fishery.

[14] In considering the effect of membership threshold levels, it is important to bear in mind that several factors could influence negotiations. The impact of these factors could vary greatly depending on the circumstances in the sector. First, a non-member's history could be attractive to a cooperative whose members have relatively small catch histories. Second, the owner of an efficiency vessel could be attractive to a cooperative whose members have relatively inefficient operations. Third, owners of vessels that are more easily able to operate within the retention standards of Amendment 79 could be attractive to a cooperative. Systems that provide substantial leverage to some participants in the negotiating process (by limiting the number of cooperatives that can form) could limit the value of some of these benefits in negotiations, if efficient in the limited access fishery is substantially less than efficiency in a cooperative fishery. This outcome is particularly problematic, if the limited access would receive a relatively small allocation with only a few participants. In this circumstance, it is possible that the limited access could not be opened, compelling the few participants that are not cooperative members to capitulate to the terms offered by the cooperative, regardless of whether the terms are reasonable. In a single cooperative structure, the non-members would only have a choice between the cooperative and the limited access. In a multiple cooperative system, non-members could join any of the sector's cooperatives or fish in the limited access. The additional cooperative opportunities presented by multiple cooperative systems not only allow additional choice, but provide additional negotiating leverage to the non-members, who can play offers from the cooperatives off each another. This additional leverage would not allow the non-member to demand terms that exceed the benefits to the cooperative of the new member, but would limit the ability of the cooperative to impose terms that under value the benefits of the non-member.

[15] 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

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 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.

In assessing the cooperative threshold, it is also important to consider the interactive effects of the choice of Component 8a options. Under Options 8a.2 and 8a.3, a person that has stacked multiple licenses on a vessel that meets the catch requirements during the endorsement qualifying period would receive cooperative endorsements for each of those licenses. Since thresholds for formation effectively create a minimum license requirement for cooperative formation, options that give additional endorsements to a person would give that person additional negotiating leverage, particularly in the single cooperative structures that apply thresholds that have greater distributional effects. The rationale for this redistribution of leverage is not clear; therefore, it is difficult to assess. One possible rationale is that the stacking of licenses should be encouraged, since it removes capacity from the fishery. The stacking of licenses, however, typically brings a benefit to the license holder by allowing the vessel to enter different fisheries (potentially increasing capacity in those other fisheries). In some circumstances, a person with a Bering Sea license may have stacked an Aleutian Islands license on a vessel to gain entry to that area. Rewarding this stacking with additional leverage in cooperative negotiations is a matter of perspective.

Finally, as the number of cooperatives increase, the complexity of monitoring requirements by NOAA Fisheries also increases. Unlike AFA cooperatives, where only pollock is allocated, Amendment 80 will allocate several species, which must be monitored. Sideboards will also add to management and monitoring burdens. If multiple cooperatives form, multiple accounts will exist for each allocated species and a system of monitoring transfers must be developed. The system of transfers must ensure liability for harvests in excess of allocations. It is likely that staffing needs will increase for NOAA Fisheries if they have full responsibility for monitoring catch on a vessel basis within each cooperative, performing transfers of quota between cooperatives, and notifying enforcement if quotas have been exceeded. Alternatively, Bering Sea pollock cooperatives developed under the AFA have developed an intercooperative agreement under which a large portion of the administrative and monitoring obligations are taken on by the industry with agency oversight. A similar system could be developed for the Non-AFA Trawl CP sector to ameliorate the agency management and monitoring burden, but the multispecies allocations would be more complicated for sector management than Bering Sea pollock allocations. Regardless of whether a portion of the management and monitoring burden may be transferred to participants in the sector, multiple cooperatives would substantially compound agency oversight burdens and costs.

Conclusion

In considering the rules governing cooperative formation, the Council should closely assess the distribution of leverage created by the system. Two particular issues require close consideration. First, the system of qualification must parallel the qualification established by the Capacity Reduction Program. Although a system of license qualification could be acceptable, it is possible that relying on a system of license endorsements to determine cooperative eligibility could be inconsistent with the vessel-basis system of eligibility of the Capacity Reduction Program.

---

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.

Second, the establishment of a member threshold for cooperative formation will have distributive effects within the sector. Single cooperative systems may bring a benefit, if they increase cooperative membership that results in some increase in overall benefits. The single cooperative system, however, could have some pitfalls. Single cooperative systems could result in no cooperative fishing, if the threshold cannot be reached, effectively negating any potential benefit that could arise from this program. A single cooperative system also could provide some sector members with negotiating leverage that is disproportionate to the benefits that they bring to the cooperative. This effect could be particularly problematic in a system that is intended to reward certain characteristics (i.e., improved retention, historic participation, efficient operations). While multiple cooperative systems could address some of these distributional concerns, it is possible that small cooperatives that form under a multiple cooperative system may provide less benefit than a single larger cooperative that is compelled by a single cooperative system.

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 the cooperative(s) and the remainder of the sector. The years used to calculate the relative historic catch of vessels in the sector, either retained or total, are determined in Component 10. The options considered by the Council 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 Catcher Processor participants who elect not to be in a cooperative. LLP license holders not electing to join cooperatives default to the sector's limited access fishery.	
Option 9.1	Catch history is based on total catch
Option 9.2	Catch history is based on total retained catch

The amount of the five species allocated the Non-AFA Trawl CP sector is determined under Components 3 and 4. Component 3 is similar to component 9, in that it defines whether retained or total catch is used to divide the TACs among the Non-AFA Trawl CP sector and the remainder of the fleet. Component 4 defines the years of historic catch that will be used to divide catch between the sectors. Components 9 and 10 determine how the TAC that is allocated to the Non-AFA Trawl CP sector in Components 3 and 4 will be divided among cooperative(s) and those persons (their vessels) that elect not to join the cooperative(s).

Groundfish: Recall from the discussion of Component 3 that the Non-AFA Trawl CP sector tended to receive a larger allocation when retained catch was used as the numerator and denominator. The dynamics of the allocation change when the allocation is within the sector as opposed to dividing the allocation among sectors. The Non-AFA Trawl CP sector tended to fair better when retained catch was used in the calculation because they were the sector that targeted the five allocated species. Because they targeted those species, they retained more of their catch. When the allocation is among members of the Non-AFA Trawl CP sector, a vessel's ability to utilize more of the harvest plays a bigger role. In the Non-AFA Trawl CP sector, the larger vessels appear to be better suited to retain more of their catch. This may be due to larger vessels having more storage space, in addition to other factors.

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' 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' 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 3-44 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 3-44 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%
7	222	87%
27 Non-AFA Trawl CP	165	66%

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

Note: The catch history of the Alaska Voyager was combined with the catch history of one of her sister vessels to generate this table. The Alaska Voyager's catch history shows up in the vessels with an average length of 222' LOA.

PSC: Whether retained or total catch is used to allocate groundfish will impact the PSC allocation PSC will be impacted because of the formula that is used to calculate the allocation. In essence, PSC will be allocated based on the historic PSC catch rates in various groundfish fisheries. So, the more of a groundfish species a vessel is allocated the more PSC they will receive. PSC allocations among members of the sector and the potential impacts will be discussed in more detail under Component 10.

3.2.9 Cooperative Allocation Catch History Years

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 Catcher Processor 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 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

Component 10 defines the catch history years that will be used to determine the division of the Non-AFA Trawl CP allocation among cooperatives and the sector limited access fishery open to vessels whose owners choose not to join a cooperative. The alternatives under consideration by the Council are listed in the text box below.

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 assumptions regarding which vessels would join specific cooperatives and those that would not join a cooperative. 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 agree on the division of the sector's allocation 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 its worst year, or years, of catch data. It is assumed that this applies to each license (vessel) and not the total history associated with all of the licenses (vessels) a person may own. Entities that hold more than one license (vessel) could drop the worst year(s) associated with each license (vessel), as opposed to aggregating the catch history associated with all eligible permits (vessels) 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 an average variation in their historic catch would also benefit. In particular, vessels that move among fisheries, that have no catch of a species in a given year, would be able to drop the year without catch for that species. While this may be viewed as rewarding opportunistic behavior, this movement among fisheries could also reduce pressure on the resource in fisheries that have relatively short seasons.

Figure 3-2 Percent of initial allocation assigned to each vessel using retained catch and dropping 3 years of data, when compared to using all years of data, 1995-03

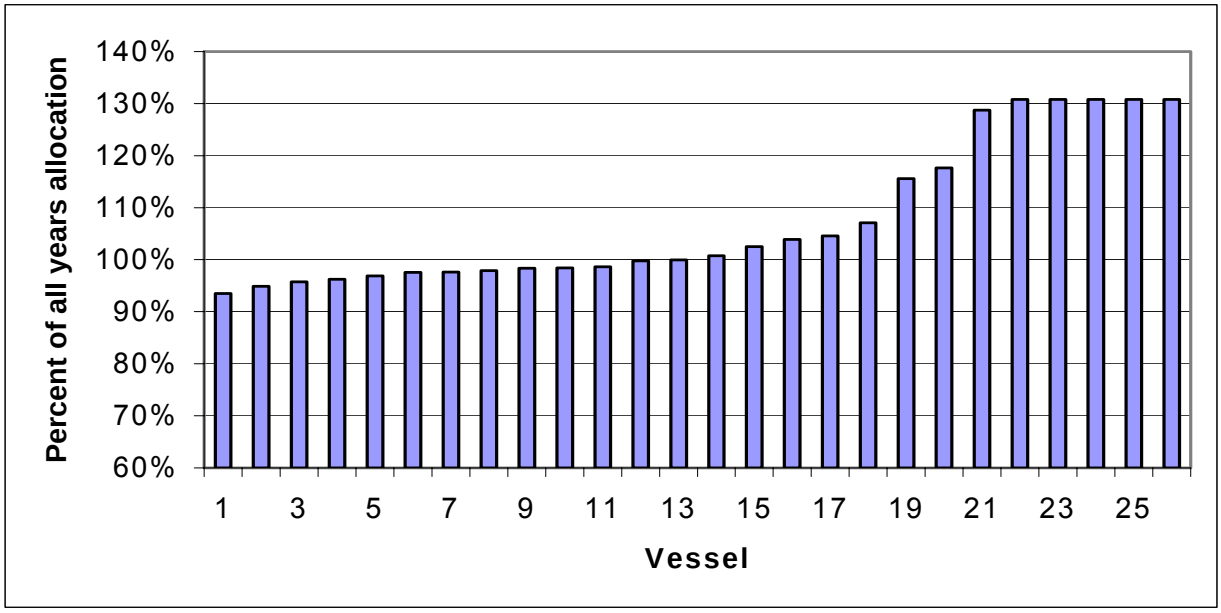


Figure 3 is provided as an example of how the vessel's allocations could vary as a result of dropping years.[16] While all vessels were allowed to drop their three worst years in this example, 13 vessels increased their allocation and 13 vessels had their allocation decrease. This change is a result 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.

Permit holders with consistent annual catch history during 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.

Many participants in the Non-AFA Trawl CP sector view the provisions that allow vessel owners to drop years of catch as an important part of the program. Several issues have been cited as reasons that dropping years of data is important. For example, some members of the sector have testified that the changes in fishing patterns resulting from the Stellar sea lion protection measures had substantial impacts on some vessels in specific years. They indicated that some vessels were placed at a disadvantage as a result of changes in fishing seasons and fishing areas that were part of the Stellar sea lion protection measures. Dropping years of data is anticipated to help reduce the negative impacts on those vessels.

[16] For comparison, allocation are based on percent of total qualified pounds across all species.

Allowing people to drop their worst year(s) of catch history also lessens other hardships that occurred during the qualifying period. Owners that had mechanical trouble, health problems, or other issues that resulted in them having poor fishing years will be able to drop those year(s) of data. Dropping years of data will allow them to increase their allocation to an amount that is closer to their "normal". Other vessel owners that had consistent catch during the time period will have their catch reduced.

The actual allocation to vessels for each of the alternatives cannot be reported because of confidentiality constraints. That information is needed for individual vessels to determine their allocation under each of the alternatives. If all years of catch history during the qualifying period are included in the allocation, then the denominator for each person's allocation is the total catch of all vessels in the sector. Dropping years of data makes it difficult for individuals to determine their allocation because the denominator will change by an amount that cannot be determined by individuals in the fleet.

PSC: The amount of halibut and other PSC species allocated to the sector could also impact the member's ability to harvest the five allocated species, Pacific cod, and any other species they may want to target in the BSAI. All fisheries could be impacted since the sector's PSC allocation is meant to fund all of their directed fishing activities in the BSAI. If the halibut allocated (or otherwise available) to a cooperative is insufficient to enable the cooperative to harvest its directed fishery allocation, fishing must cease with a portion of the cooperative allocation still available for harvest. Within and across cooperatives, members will be able to structure their harvest strategies to minimize the use of PSC. Under the most restrictive alternatives, if historic halibut catch rates are maintained, the sector would not be able to harvest its entire allocation and maintain its historic level of Pacific cod harvests (which is not allocated). Whether the substantial improvements in halibut usage rates necessary to make these harvests is possible within cooperatives cannot be determined. It is likely that new fishing practices (perhaps gear modification) would be needed before halibut savings would be sufficient to allow the entire allocation to be taken and historic levels of Pacific cod harvests to be maintained.

PSC Allocation Calculation: The Council motion provides for the sector allocation of the various PSC species to be divided among vessel owners based on the groundfish allocation to each vessel. The motion, however, does not state whether these allocations should accommodate TAC changes across the various species. Since changes in allocations of directed fishery species could substantially affect catch rates of PSC, this analysis defines a structure for allowing PSC distributions to change with TACs of the allocated groundfish and Pacific cod (which form the basis for those PSC allocations). The overall allocation of PSC to the Non-AFA Trawl CP sector is unaffected by this calculation.

To accommodate TAC changes, a ratio that defines the average PSC usage for the different directed fishery species can be calculated.

Table 3-45 shows the average annual PSC usage, by the Non-AFA Trawl CP sector, for each of the five allocated target species and Pacific cod and the retained catch of those six species. Using these two numbers, a ratio of halibut usage to retained catch of the target species can be generated, which defines the "PSC bycatch rate" for the species. This rate is an estimate of the metric tons of halibut that were caught for each metric ton of the groundfish species that was retained. Using this ratio together with annual allocations of the different species to the sector (except in the case of Pacific cod, which would use the allocation to the trawl catcher processor sector until the sector receives an allocation).

Table 3-45 Historic halibut usage rate by fishery, Non-AFA Trawl CP sector, 1995-2003

Species	Avg. annual halibut PSC usage by Am. 80 vessels (mt)	Avg. annual retained catch for Am. 80 vessels (mt)	Halibut PSC bycatch rate by species
Yellowfin sole	721	51,892	0.014
Rock sole	621	13,020	0.048

Flathead sole	293	10,584	0.028
Atka mackerel	95	45,236	0.002
AI POP	45	8,444	0.005
Pacific cod	433	203,032	0.002

Source: Amendment 80 database

For demonstrative purposes, Table 3-46 reports the 2005 TAC (rather than sector allocation) for the six groundfish species that is available to the Non-AFA Trawl CP sector in 2005. The next column is the result from multiplying the 2005 TAC by the "halibut PSC bycatch rate by species" from

Table 3-45. That column is then used to calculate the percentage of the Non-AFA Trawl CP sector's halibut allotment that would be allocated to the six groundfish fisheries. The results show that 28.58 percent of the Non-AFA Trawl CP halibut allocation would be assigned to yellowfin sole. Table 3-47 shows the same calculations using the 2006 TACs. Because the TACs fluctuate, slightly less halibut is assigned to the yellowfin sole, Atka mackerel, and Pacific cod fisheries in 2006. The halibut allocations increase for the other species.

Table 3-46 Percent of Non-AFA Trawl CP halibut PSC allocation by fishery, based on 2005 TAC

Species	2005 TAC	Halibut PSC by species for 2005 (mt)	Percent of halibut PSC by species for 2005
Yellowfin sole	90,685	1,260	28.58%
Rock sole	41,500	1,979	44.91%
Flathead sole	19,500	540	12.25%
Atka mackerel	63,000	132	3.00%
AI POP	10,710	57	1.29%
Pacific cod	206,000	439	9.97%
Total	431,395	4,408	100.00%

Table 3-47 Percent of Non-AFA Trawl CP halibut PSC allocation by fishery, based on 2006 TAC

Species	2006 TAC	Halibut PSC by Species for 2006 (mt)	Percent of halibut PSC by species for 2006
Yellowfin sole	90,000	1,250	28.27%
Rock sole	42,000	2,003	45.29%
Flathead sole	20,000	554	12.52%
Atka mackerel	63,000	132	2.99%
AI POP	12,600	67	1.52%
Pacific cod	195,000	416	9.40%
Total	422,600	4,422	100.00%

Source: Amendment 80 database from 1995 to 2003

The percentages listed in Table 3-46 or Table 3-47 would then be multiplied by the total amount of halibut assigned to the Non-AFA Trawl CP sector. If we assume that the sector is allocated 75 percent[17] of the trawl halibut PSC and the trawl sector is allocated 3,400 mt of halibut PSC in the BSAI, then multiplying the percentages in Table 3-46 by the Non-AFA Trawl CP sector PSC allocation would yield the amount of halibut assigned to each species. That calculation is shown in Table 3-48.

Table 3-48 Non-AFA Trawl CP halibut PSC allocation by fishery, based on 2005 TAC

Species	Percent of halibut PSC by species for 2005	Halibut PSC allocation the to sector	Halibut PSC by species for 2005 (mt)
Yellowfin sole	28.58%	2,550	729
Rock sole	44.91%	2,550	1,145
Flathead sole	12.25%	2,550	312
Atka mackerel	3.00%	2,550	77
AI POP	1.29%	2,550	33
Pacific cod	9.97%	2,550	254
Total	100.00%	n/a	2,550

Source: Amendment 80 database from 1995 to 2003

The 729 mt of halibut would then be divided by the total amount of yellowfin sole assigned to the sector. The resulting fraction represents the amount of halibut that a vessel will receive for each metric ton of yellowfin sole they are allocated. If we assume they are allocated 77.6 percent of the yellowfin sole TAC (Option 3.1, 1998-2003), because it is an option whose result is in the middle of the range that was calculated.

These halibut allocations would then be divided among the sector participants based on their relative share of the directed fishery species. For example, the 729 mt of halibut available for yellowfin sole would then be divided among individuals based on their respective yellowfin sole allocations. So, a person that receives 10 percent of the sector's yellowfin sole allocation would receive 72.9 metric tons of halibut PSC arising from the yellowfin sole fishery. Performing this allocation for each of the different directed species fisheries, the PSC would be divided among the sector members.

For the distribution of PSC related to Pacific cod, the relative contributions of each eligible sector member to the sector's Pacific cod allocation will need to be derived (using the same method used for determining the allocations other species under Components 3 and 4). These estimated contributions would be applied to the Pacific cod PSC to distribute that among the sector members. So, if a person accounted for 5 percent of the Pacific cod history of the sector (using the same qualifying years and allocation method used for determining allocations of other species) that person would receive 50.8

[17] This percentage does not represent a specific alternative, but is close to the mid-point of the options calculated in Component 6.1.

metric tons of halibut PSC (or 5 percent of the 254 metric tons of halibut PSC allocation arising from the Pacific cod fishery)

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" may hold. 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 hold, thus allowing unlimited consolidation within the sector. The second option would place a limit on the percentage of future TACs a license holder may hold. 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 inter-cooperative leasing. To apply this cap, inter-cooperative transfers would need to be conducted through individuals or entities. All inter-cooperative transfers must be approved by NMFS before the transfer is complete. The intent of this option would prevent persons (individuals or entities) from entering a cooperative with an excessive share of the sector's apportionment. The cap would be set as a fixed percentage of the sector's allocation and would be applied to each species 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, the excessive share component includes a suboption that 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 shares of those fisheries, unless they divest of their initial allocation to a point they fall below the use cap. At that time they may acquire harvest rights until they reach the excessive share cap. Because caps are applied at the individual species level, we assume that grandfather privileges would also be at the individual species level. A person who is over the cap for one species would be allowed to purchase other species until the excessive share cap for that species is reached.

As noted above, the excessive share caps defined in Option 11.2 would prohibit eligible individuals or entities from acquiring an excessive share of the sector's apportionment prior to enter their cooperative. However, the option is silent on caps that would limit the amount of the sector apportionment that could be harvested on a vessel. "Use" caps at the individual vessel level are included in both the crab rationalization and the rockfish pilot programs. 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, in theory, could work together within the cooperative and fish the cooperative's entire apportionment on a single vessel. Reducing the number of vessels would reduce the positions available to harvesting and processing workers. Earlier in this document it was assumed that each vessel employs an average of 35 people for work on the vessel. It can be assumed that each vessel leaving the fishery would reduce employment by about that amount. The actual number of jobs lost will depend on the actual size of the crew on the vessels leaving the fishery and the support staff for those vessels that are no longer employed. Captains and crew still employed in the fishery after consolidation would likely have longer periods of work and would likely realize an increase in compensation. However, consolidation of fishing operations would clearly affect skippers and crew resulting in loss of employment, since fewer vessels would be operating.

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 Catcher Processor sector is limited such that no single person (using the individual and collective rule) can hold catch history more than a fixed percentage of the overall sector apportionment history. The cap will be applied on a species by species basis (options: 20%, 30%, 50% of the sector's allocation)
	Suboption 11.2.1 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.[18] 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 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 27 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. Members of the sector indicate the fleet may be owned by as few as 11 companies.

Another reason for limiting the opportunities of new entrants is that annual allocations to a cooperative may be fully transferable within the cooperative. Any member of the cooperative would 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 the agreed upon compensation from that person. Although allowing transfer of catch history is a valuable tool for fleet consolidation and the economic efficiency that would result, it also limits potential opportunities for new entrants to participate in the fishery through vessel/license ownership.

The Council considered establishing use/vessel caps to help maintain the current fleet distribution and to prevent consolidation of market power[19]. 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. On the other hand, limiting transfers tends to reduce efficiency of the sector. Free transfers within the sector would allow persons to lease quota to other cooperative members that can harvest the fish more efficiently. Any improved efficiency would generate more net benefits to the Nation by increasing producer surplus.

[18] 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.

[19]

Several factors complicate an accurate assessment of caps and whether they are need, given the fluctuating pollock stocks and the impact those fluctuations have on the TAC of allocated species. A lack of verifiable ownership information allows only rough estimates of the caps to be generated. Without these 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. Limited information on first wholesale prices and costs of production, for the allocated species, also limits our ability to estimate impacts on profitability of these at-sea processors. Without knowing the profitability of at-sea processors, it is impossible 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. 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 percentage of the TAC should be established as a cap.

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.[20] 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 and supplemented by information provided by members of the sector. Given that the proposed use caps would be applied at the individual species level, vessel catch history for the allocated species were reported separately to show the number of owners above specific use caps. These percentages were analyzed based on the allocation options at the Non-AFA Trawl CP sector level. Allocations were calculated for both retained and total catch. The analysis of use caps relied on vessel ownership provided in that table. It is important to note that information on ownership has not been verified through official sources and is reported at the company level. Since no information is available concerning the percentage of ownership of any vessel or LLP license by any person, beyond the company level, the analysis credits each owner with full ownership of the entire allocation.

[20] 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.

Table 3-49 shows the number of eligible LLP owners that exceeded the 20, 30, or 50 percent ownership caps. Due to confidential requirements, most of the results from the table cannot be reported.

Table 3-49 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 20 percent catch history		Sum of LLP owners with over 30 percent catch history		Sum of LLP owners with over 50 percent catch history	
Years	Species	Option 9.1	Option 9.2	Option 9.1	Option 9.2	Option 9.1	Option 9.2
1995-2003 (drop lowest 3)	Yellowfin Sole	*	*	*	*	0	0
	Rock Sole	*	*	0	*	0	0
	Flathead Sole	*	*	*	*	0	0
	Atka Mackerel	*	*	*	*	*	*
	AI POP	*	*	*	*	*	*
1997-2003 (drop lowest 2)	Yellowfin Sole	*	*	*	*	0	0
	Rock Sole	*	*	0	*	0	0
	Flathead Sole	*	*	*	*	0	0
	Atka Mackerel	*	*	*	*	*	*
	AI POP	*	*	*	*	*	*
1998-2002 (drop lowest)	Yellowfin Sole	*	*	*	*	0	0
	Rock Sole	*	*	0	*	0	0
	Flathead Sole	*	*	*	*	0	0
	Atka Mackerel	*	*	*	*	*	*
	AI POP	*	*	*	*	*	*
1998-2002	Yellowfin Sole	*	*	*	*	0	0
	Rock Sole	*	*	0	*	0	0
	Flathead Sole	*	*	*	*	0	0
	Atka Mackerel	*	*	*	*	*	*
	AI POP	*	*	*	*	*	*
1998-2003 (drop lowest)	Yellowfin Sole	*	*	*	*	0	0
	Rock Sole	*	*	0	*	0	0
	Flathead Sole	*	*	*	*	0	0
	Atka Mackerel	*	*	*	*	*	*
	AI POP	*	*	*	*	*	*
1999-2003 (drop lowest)	Yellowfin Sole	*	*	*	*	0	0
	Rock Sole	*	*	0	*	0	0
	Flathead Sole	*	*	0	*	0	0
	Atka Mackerel	*	*	*	*	*	*
	AI POP	*	*	*	*	*	*

Source: NMFS WPR Data
* Withheld due to confidentiality requirements.

Information developed for the excessive shares analysis shows that several companies could greatly increase their holdings before they reach the proposed caps. That result is not surprising. The caps are set at levels that would allow, 2, 4, or 5 persons to hold the entire quota allocated to the sector. Given that about 11 companies are currently participating in the sector, at least half of the companies could leave the fishery before the caps are binding on all the remaining participants.

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 to fish their allocation, it may provide them opportunities to increase their participation in GOA groundfish fisheries or BSAI fisheries. Under the old system they may not have had the opportunity to participate in those fisheries at that level because of conflicts with other fishing seasons. The cooperative members' participation in these fisheries would only be limited by the restrictions on their groundfish license and its associated endorsements, the amount of PSC they are allocated, fishing conflicts that cannot be overcome[21] with cooperative. Expanding their participation in the fisheries the Non-AFA Trawl CP sector is not directly allocated would likely result in other fishery participants having less fish available to harvest. Fishermen historically participating 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 harvest 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 catch. Members of the sector are not guaranteed that amount of catch. They must compete against other fishery to catch the fish before the TAC is harvested. 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.

[21] These conflicts could include biological factors such as spawning aggregations at given times of the year, increased values associated with roe, and bycatch interactions.

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. Sideboards shall apply to eligible licenses and associated vessels from which the catch history arose.

Option 12.1 Sideboards for the Non-AFA Trawl Catcher Processor sector would be established by regulation using the same years used to calculate the apportionment of PSC and groundfish between the Non-AFA Trawl Catcher Processor 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 Catcher Processor sector would be established by regulation 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.

Option 12.3 Sideboard caps for Amendment 80 qualified Non-AFA Trawl CP sector with valid transferable GOA LLP with appropriate area endorsements shall be established for halibut PSC usage in the GOA. Discussion of options shall include but not be limited to:

Suboption 12.3.1 Halibut PSC - For each target species in the Deep and Shallow water complexes:

a) Halibut PSC usage by the Non-AFA Trawl Catcher Processor sector by quarter, by area, by the years defined in Component 4.

b) GOA halibut PSC by fishery based on the percent of groundfish target catch by the Non-AFA Trawl Catcher Processor sector by quarter, by area, by the years defined in Component 4.

Suboption 12.3.2 Only vessels associated with LLPs that have Gulf wide weekly participation in the flatfish fisheries over the threshold during the qualifying period (number of weeks) would be eligible to participate in the GOA.

Suboption 12.3.3 Fisheries that close on TAC (POP, PSR, NR and Pacific cod): retained harvests by Gulf area for each of the qualifying years expressed as a percentage of both retained and total catch (similar to tables 3-60 through 3-62 in amendment 80 analysis).

The first two primary options considered each have a suboption. 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. This option is structured, such that sideboards would be selected at a specified level. The level selected would need to fall with in the alternatives considered in Options 1 or 3. Finally, Option 3 is specific to the GOA fisheries. Three alternatives are considered in that Option. The first option would create GOA halibut PSC sideboards based either on historic halibut mortality or the amount of groundfish harvested. The second option would require vessels to have participated in the GOA a given number of weeks during the qualifying period to fish in the future. The third option would set sideboards, for GOA species that have historically closed due to the TAC being harvested, based on relative retained or total catch of those species.

The suboptions included under each of the first two 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 strategy would be necessary because the cooperative members have no control over the harvesting activities of non-cooperative members.

Implementing the suboption would benefit cooperative members, if everyone in the sector does not join a cooperative. The suboption would provide cooperative members more control over their harvest strategy. If the suboption was not implemented and cooperative members would be forced to harvest sideboard amounts in an open access environment. The open access environment would reduce their overall efficiency.

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 probably 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. Owners of vessels may 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 groundfish harvests will not occur.

Over two-thirds[22] 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[23]. 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

[22] 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.

[23] 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.

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. Inshore participation was limited to three vessels in 2004. 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 Offshore component is allowed to harvest up to 10 percent of the quota as incidental catch in other directed fisheries and a directed fishery, if the fishery is opened. The inshore and offshore allocations are available to both fixed and trawl gear vessels. Additional regulations on harvest restrictions may be needed in the Pacific cod fishery, if sufficient concerns exist that the Non-AFA Trawl CP sector will expand their Pacific cod harvests.

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 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[24] (see Table 3-50). 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 3-50 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[25] 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-

[24] 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.

[25] 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".

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 3-51). 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 any other time during the year because of halibut caps. However, the limits did impact the amount of shallow-water flatfish that was harvested, given the amount of that species complex that remained unharvested at the end of the year.

Table 3-51 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 the deep-water flatfish fishery also apply to the shallow-water flatfish fishery. Halibut bycatch limits and the markets for shallow-water flatfish, relative to other species[26] 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 halibut bycatch accounting. 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 3-52 provides a brief summary of the rockfish closures during 2004.

Table 3-52 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 3-52 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.

[26] Pollock and Pacific cod.

The short seasons indicate 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. The rockfish pilot program is also expected to control effort in the rockfish fisheries during July. That program will allocate rockfish to specific vessels. Because of that program, sideboards in the GOA rockfish fishery are unnecessary in July.

Table 3-53, Table 3-54, and Table 3-55 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.

Table 3-53 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	1997-2002	1998-2002	1998-2003	1999-2003	2000-2003
Pollock						
Pollock 610	0.5%	0.4%	0.4%	0.5%	0.6%	0.7%
Pollock Central +	0.9%	0.3%	0.1%	0.2%	0.2%	0.3%
Central Gulf						
Arrowtooth Flounder	47.3%	48.0%	49.1%	51.4%	51.9%	54.7%
Deep Water Flatfish	21.2%	17.1%	15.8%	19.7%	22.4%	32.3%
Shallow Water Flatfish	4.8%	4.0%	4.0%	3.5%	3.4%	3.3%
Flathead Sole	28.9%	26.7%	26.6%	27.3%	27.7%	26.4%
Rex Sole	78.0%	88.8%	90.4%	91.4%	92.4%	93.2%
Pacific Ocean Perch	47.5%	52.7%	47.8%	47.1%	48.7%	51.9%
Shortraker/Rougheye Rockfish	40.0%	33.2%	32.4%	33.0%	33.9%	37.1%
Thornyhead Rockfish	20.7%	16.6%	16.1%	21.7%	23.6%	27.2%
Pelagic Shelf Rockfish	49.8%	49.1%	47.0%	48.9%	49.7%	48.3%
Northern Rockfish	43.4%	34.7%	31.2%	33.4%	34.5%	35.5%
Other Rockfish	87.1%	37.8%	69.8%	73.9%	80.1%	95.6%
Pacific Cod	5.1%	5.5%	13.6%	6.1%	4.9%	6.1%
Sablefish (Trawl)	35.0%	33.6%	34.6%	35.7%	36.5%	41.7%
Western Gulf						
Arrowtooth Flounder	72.2%	69.8%	71.7%	75.9%	77.1%	79.6%
Deep Water Flatfish	25.9%	31.4%	34.9%	41.8%	47.0%	48.8%
Shallow Water Flatfish	47.3%	45.5%	48.6%	48.7%	54.5%	61.5%
Flathead Sole	69.5%	70.9%	73.5%	74.4%	73.6%	74.5%
Rex Sole	90.2%	93.0%	96.6%	97.4%	97.9%	96.0%
Pacific Ocean Perch	93.3%	94.9%	92.6%	89.5%	88.7%	89.5%
Shortraker/Rougheye Rockfish	70.2%	36.2%	36.9%	89.9%	97.6%	99.9%
Thornyhead Rockfish	44.1%	28.5%	36.7%	38.1%	39.8%	41.1%
Pelagic Shelf Rockfish	73.7%	77.1%	87.1%	89.2%	93.9%	97.1%
Northern Rockfish	95.7%	89.0%	88.0%	94.6%	96.0%	98.3%
Other Rockfish	1.1%	23.0%	0.8%	1.1%	1.2%	0.8%
Pacific Cod	2.8%	2.6%	3.1%	3.3%	3.7%	3.9%
Sablefish (Trawl)	69.0%	69.4%	65.6%	65.4%	65.6%	65.7%
Entire Gulf						
Atka Mackerel	87.6%	73.7%	61.2%	71.9%	77.6%	87.3%
Other Species	20.2%	18.7%	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 3-54 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	1997-2002	1998-2002	1998-2003	1999-2003	2000-2003
Pollock						
Pollock 610	0.2%	0.2%	0.3%	0.3%	0.4%	0.4%
Pollock Central Gulf+	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%
Central Gulf						
Arrowtooth Flounder	39.0%	39.5%	43.8%	47.0%	46.6%	49.3%
Deep Water Flatfish	11.9%	5.6%	4.3%	4.8%	4.2%	4.6%
Shallow Water Flatfish	3.1%	2.0%	1.7%	1.6%	1.4%	1.3%
Flathead Sole	24.9%	22.1%	22.3%	23.0%	23.3%	22.4%
Rex Sole	81.2%	89.9%	92.2%	93.2%	94.3%	94.9%
Pacific Ocean Perch	45.7%	46.6%	45.9%	45.3%	47.1%	46.5%
Shortraker/Rougheye Rockfish	31.1%	35.1%	37.2%	36.0%	39.0%	39.3%
Thornyhead Rockfish	21.3%	17.1%	16.7%	22.9%	25.3%	28.8%
Pelagic Shelf Rockfish	49.9%	49.2%	46.9%	50.1%	51.3%	49.3%
Northern Rockfish	39.2%	29.3%	26.2%	28.8%	29.8%	30.1%
Other Rockfish	67.9%	6.2%	27.4%	25.8%	18.5%	14.3%
Pacific Cod	4.5%	5.3%	6.2%	6.2%	5.3%	6.2%
Sablefish	35.4%	38.8%	35.5%	36.2%	37.4%	37.5%
Western Gulf						
Arrowtooth Flounder	73.6%	76.1%	76.5%	74.2%	73.6%	72.9%
Deep Water Flatfish	6.5%	20.0%	24.3%	24.1%	30.7%	40.3%
Shallow Water Flatfish	72.9%	66.0%	67.7%	69.2%	70.8%	74.9%
Flathead Sole	70.9%	66.7%	70.9%	73.0%	72.6%	72.3%
Rex Sole	91.8%	93.7%	97.4%	98.3%	98.9%	96.9%
Pacific Ocean Perch	95.8%	97.5%	95.3%	90.8%	89.7%	90.6%
Shortraker/Rougheye Rockfish	100.0%	54.1%	55.4%	100.0%	100.0%	100.0%
Thornyhead Rockfish	43.5%	38.5%	35.4%	37.0%	39.2%	39.1%
Pelagic Shelf Rockfish	80.9%	91.9%	100.0%	100.0%	100.0%	100.0%
Northern Rockfish	100.0%	96.2%	96.3%	100.0%	100.0%	100.0%
Other Rockfish	1.0%	3.4%	0.1%	0.9%	1.1%	1.2%
Pacific Cod	2.3%	2.3%	2.7%	2.6%	2.9%	2.9%
Sablefish	79.2%	80.2%	72.9%	74.9%	75.2%	73.9%
Entire Gulf						
Atka Mackerel	86.9%	77.3%	63.0%	53.2%	52.8%	57.1%
Other Species	6.3%	2.9%	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 3-55 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	1997-2002	1998-2002	1998-2003	1999-2003	2000-2003
Pollock						
Pollock 610	0.2%	0.2%	0.3%	0.4%	0.5%	0.5%
Pollock Central +	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%
Central Gulf						
Arrowtooth Flounder	11.0%	12.2%	14.0%	15.4%	16.3%	18.2%
Deep Water Flatfish	9.3%	5.5%	3.5%	3.7%	3.1%	3.3%
Shallow Water Flatfish	2.7%	1.8%	1.6%	1.5%	1.3%	1.2%
Flathead Sole	20.8%	19.1%	19.2%	20.0%	20.3%	20.1%
Rex Sole	75.1%	86.1%	88.3%	89.1%	90.1%	90.7%
Pacific Ocean Perch	39.7%	45.0%	41.2%	40.1%	41.9%	44.2%
Shortraker/Rougheye Rockfish	33.1%	28.5%	28.2%	28.7%	30.9%	33.8%
Thornyhead Rockfish	17.8%	14.8%	14.8%	20.1%	22.1%	25.4%
Pelagic Shelf Rockfish	46.3%	46.7%	44.7%	46.5%	47.3%	45.5%
Northern Rockfish	34.3%	25.3%	23.3%	26.0%	27.2%	27.6%
Other Rockfish	22.4%	2.4%	9.7%	8.7%	6.3%	5.6%
Pacific Cod	4.2%	5.0%	13.3%	5.9%	4.6%	5.7%
Sablefish (Trawl)	24.4%	23.0%	23.7%	24.4%	24.5%	26.8%
Western Gulf						
Arrowtooth Flounder	32.5%	32.6%	36.0%	37.8%	39.9%	42.1%
Deep Water Flatfish	3.1%	5.6%	6.2%	5.2%	5.6%	6.9%
Shallow Water Flatfish	29.2%	23.2%	23.0%	25.3%	28.4%	33.0%
Flathead Sole	52.1%	49.8%	51.7%	54.0%	53.7%	55.5%
Rex Sole	87.4%	89.9%	93.1%	94.0%	94.4%	92.6%
Pacific Ocean Perch	80.6%	85.1%	82.5%	74.5%	72.9%	71.7%
Shortraker/Rougheye Rockfish	65.7%	31.8%	32.0%	84.0%	92.0%	100.0%
Thornyhead Rockfish	37.0%	23.2%	29.8%	31.5%	33.3%	34.5%
Pelagic Shelf Rockfish	65.1%	70.9%	80.2%	81.8%	86.1%	90.4%
Northern Rockfish	70.2%	70.7%	71.7%	72.4%	73.7%	71.9%
Other Rockfish	0.5%	1.9%	0.1%	0.5%	0.5%	0.6%
Pacific Cod	2.2%	2.3%	2.9%	2.8%	3.2%	3.2%
Sablefish (Trawl)	41.1%	40.8%	36.2%	35.6%	35.4%	35.6%
Entire Gulf						
Atka Mackerel	70.3%	56.6%	43.8%	46.1%	51.2%	57.1%
Other Species	1.6%	0.6%	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.

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.

Option 12.3 is divided into three alternatives. The first alternative has two parts and focuses on the allocation of GOA trawl halibut PSC. The first part of the alternative would allocate trawl halibut PSC based on actual halibut PSC usage. Halibut usage is calculated by selecting the trawl halibut PSC mortality attributed to the Non-AFA Trawl CP sector vessels that own a transferable groundfish LLP endorsed for the area of the GOA under consideration. This means that only the halibut mortality in the Western Gulf, attributed to the vessels with a LLP endorsement for the Western Gulf, would count. The sum of all the trawl halibut mortality by target fishery, area, and quarter was calculated for the LLP qualified Non-AFA Trawl CP vessels. The amount caught in the shallow-water complex and deep-water complex, by quarter, was then divided by the total catch. The results show the percentage of halibut caught in each quarter by species complex. Those percentages are then multiplied by the percentage of halibut caught by the Non-AFA Trawl CP sector in the shallow-water complex, and the percentage of the total trawl halibut mortality attributed to the sector. The Tables showing the calculations are provided in Appendix 2.

A summary of the results based on halibut usage is provided in Table 3-56 and Table 3-57. Information in Table 3-56 shows the percentage of the GOA PSC trawl halibut allocation that would be available to the Non-AFA Trawl CP sector as a sideboard cap. Table 3-56 shows the Non-AFA Trawl CP sector would have sideboard limits of 31.9 percent to 36.1 percent of the GOA trawl PSC allotment. Those estimates translate into a range of 638 to 723 mt. Since these alternatives are based on historic usage of PSC, it is expected that the alternatives would provide adequate halibut for the Non-AFA Trawl CP sector to fish as they have in the past. The only qualifier to that statement is that 2 vessels did not have transferable LLP licenses. Their halibut was removed from the calculation and slightly reduces the total allocation. Their catch cannot be reported due to data confidentiality rules.

Also note that the data in the summary tables are not broken out by area. Halibut PSC in the GOA is currently managed Gulf-wide. The tables in the Appendix 2 do provide the information that is necessary to calculate PSC sideboards by area. If sideboards were set by area, fluctuations in the TACs could impact the Non-AFA Trawl CPs. For example, if the Western Gulf TACs decline relative to the Central Gulf TACs, the Non-AFA Trawl CPs would be more limited by their PSC in the Central Gulf than they had been in the past, while at the same time they may have excess PSC in the Western Gulf. The PSC that the Non-AFA Trawl CP sector could not use in the Western Gulf could be used by other trawl vessels

in the Central Gulf, since they would not be limited by the area restriction. Given the changes that occur in TACs setting area based PSC sideboards would benefit the GOA trawl vessels that are not bound by sideboards.

The deep-water complex would receive a larger allocation than the shallow-water complex under each of the alternatives. It is assumed that any PSC allocated to the Sector as part of the Rockfish Pilot Program could be deducted from the deep-water complex sideboard, if the Council wished to do so. Another alternative would be to reduce any halibut caught under the Rockfish Pilot Program from their sideboard allocation. However, this option could potentially impact their ability to harvest their rockfish in that program.

Table 3-56 GOA trawl halibut PSC sideboard estimates based on historic halibut usage (%), Option 12.3.1

	Quarter				
	1	2	3	4	Total
Years	Percentage of Trawl Halibut PSC Allotment to Shallow Water Complex				
1995-2003	1.07%	2.09%	1.71%	2.22%	7.08%
1997-2002	0.84%	1.98%	2.05%	2.84%	7.71%
1998-2002	0.74%	2.13%	2.12%	2.80%	7.79%
1998-2004	0.68%	1.87%	2.00%	2.57%	7.12%
1999-2003	0.65%	1.53%	0.69%	2.79%	5.65%
2000-2004	0.50%	1.93%	0.87%	1.79%	5.08%
	Percent of Trawl Halibut PSC Allotment to Deep Water Complex				
1995-2003	3.08%	9.66%	8.51%	4.15%	25.40%
1997-2002	2.93%	9.64%	8.77%	2.86%	24.20%
1998-2002	2.43%	10.60%	9.29%	2.73%	25.05%
1998-2004	2.72%	11.17%	9.08%	3.72%	26.69%
1999-2003	2.60%	12.24%	9.74%	4.10%	28.67%
2000-2004	2.84%	13.41%	10.57%	4.23%	31.06%
	Percent of GOA Trawl Halibut PSC to Non-AFA Trawl CPs				
1995-2003	4.15%	11.75%	10.22%	6.37%	32.48%
1997-2002	3.76%	11.62%	10.82%	5.71%	31.91%
1998-2002	3.17%	12.73%	11.42%	5.53%	32.85%
1998-2004	3.40%	13.04%	11.08%	6.29%	33.81%
1999-2003	3.24%	13.77%	10.42%	6.88%	34.32%
2000-2004	3.34%	15.34%	11.44%	6.02%	36.14%

Source: NPFMC summary of NMFS weekly PSC reports.
Note: Data for 2004 was not included in this report. Alternatives that include 2004 only have data through 2003 in the calculations.

Table 3-57 GOA Trawl Halibut PSC Sideboard estimates (mt), Option 12.3.1

	Quarter				
	1	2	3	4	Total
Years	Trawl Halibut PSC Allotment to Shallow Water, by Quarter (mt)				
1995-2003	21.48	41.70	34.11	44.33	141.62
1997-2002	16.70	39.56	41.06	56.87	154.19
1998-2002	14.79	42.58	42.48	55.98	155.83
1998-2004	13.56	37.40	39.96	51.38	142.30
1999-2003	12.92	30.55	13.77	55.73	112.96
2000-2004	9.92	38.55	17.37	35.83	101.68

	Quarter				
	1	2	3	4	Total
	Percent of Trawl Halibut Allotment to Deep Water by Quarter				
1995-2003	61.53	193.26	170.20	83.00	507.99
1997-2002	58.52	192.87	175.31	57.28	483.98
1998-2002	48.68	211.97	185.86	54.58	501.09
1998-2004	54.45	223.36	181.69	74.37	533.87
1999-2003	51.96	244.87	194.70	81.90	573.44
2000-2004	56.89	268.28	211.39	84.56	621.12
	Percent of total GOA Trawl Halibut to Non-AFA CPs				
1995-2003	83.01	234.97	204.31	127.33	649.62
1997-2002	75.23	232.43	216.37	114.15	638.17
1998-2002	63.47	254.54	228.34	110.57	656.92
1998-2004	68.01	260.76	221.65	125.75	676.17
1999-2003	64.88	275.42	208.47	137.63	686.40
2000-2004	66.81	306.83	228.76	120.40	722.80

Source: NPFMC summary of NMFS weekly PSC reports.
Note: Data for 2004 was not included in this report. Alternatives that include 2004 only have data through 2003 in the calculations. A trawl PSC allotment of 2,000 mt was multiplied by the percentages in Table X1 to generate these amounts.

A concern with using historic PSC catch to allocate PSC in the future is that it can reward people that have high rates of PSC usage relative to their groundfish harvests. Given the nature of the incidental catch of halibut PSC it is difficult to determine if they used more PSC than they needed to harvest the catch. No estimates of the necessary amount of PSC needed are calculated because of the inherent problems associated with making such calculations. However, the next option will base the PSC on groundfish usage and can be used as rough basis of comparison.

The second option bases the PSC sideboard calculation on the relative amount of trawl groundfish catch by Non-AFA Trawl CPs relative to other trawl vessels. Estimates of the halibut PSC sideboard caps are presented in Table 3-58 and Table 3-59. Table 3-58 reports the percentage of the trawl halibut PSC allotment that would be available to the Non-AFA Trawl CP sector under their sideboard cap. Table 3-59 shows how that percentage translates into metric tons by multiplying the percents by 2,000 mt of available halibut PSC.

Sideboards that result from these calculations are considerably smaller than those calculated using halibut PSC catches. The primary reason for the large difference is the midwater pollock fishery. Including the midwater pollock fishery in this calculation greatly increases the amount of groundfish harvested by other sectors, but does not increase the pollock harvest by the Non-AFA Trawl CP fleet. The result is based on the fact that most of the vessels in the Non-AFA Trawl CP fleet are in the off-shore sector and are not allowed to participate in the pollock fishery. The midwater pollock fishery also has very little halibut bycatch. So while pollock harvests inflate the catch of other trawl vessel, the Non-AFA Trawl CP sector's percentage of groundfish harvests is reduced. The resulting halibut sideboards are also reduced, even though the midwater pollock fishery uses very little halibut. If pollock were excluded from the calculations, the difference in the halibut PSC sideboards between Option 12.3.1 and this option would only be about 1 to 4 percent of the total trawl allocation, depending on the option, instead of about 12 to 15 percent. The actual differences are 15.17 percent of the total trawl halibut PSC allotment using the years 1995-2003, 16.39 percent for the years 1997-2002, 16.38 percent for the years 1998-2002, 14.95 percent for the years 1998-2004, 13.20 percent for the years 1999-2003, and 11.96 percent for the years 2000-2004. The reader is again reminded that the options that include the year 2004 only include data through 2003.

Given the impact the pollock fishery has on the calculations shown in Tables Table 3-58 and Table 3-59, it is expected that the sideboard amounts of halibut would not fully fund their historic catch needs. The

Non-AFA Trawl CP fleet would need to alter their fishing strategy in the GOA and would likely harvest less of the TAC than they have historically (some of their GOA sideboards would go unharvested). Their July rockfish harvests are anticipated to be regulated under the Rockfish Pilot Program, so the impacts would be most pronounced on the other fisheries.

Table 3-58 GOA trawl halibut PSC sideboard estimates based on historic groundfish usage (%), Option 12.3.2

	Quarter				
	1	2	3	4	Total
Years	Percentage of Trawl Halibut PSC Allotment to Shallow Water Complex				
1995-2003	0.71%	0.72%	0.62%	0.75%	2.80%
1997-2002	0.55%	0.73%	0.57%	0.82%	2.68%
1998-2002	0.49%	0.79%	0.62%	0.72%	2.63%
1998-2004	0.48%	0.76%	0.65%	0.71%	2.60%
1999-2003	0.45%	0.79%	0.36%	0.74%	2.34%
2000-2004	0.46%	1.04%	0.47%	0.65%	2.63%
	Percent of Trawl Halibut Allotment to Deep Water Complex				
1995-2003	1.38%	4.38%	6.97%	1.78%	14.51%
1997-2002	1.34%	3.89%	6.55%	1.06%	12.84%
1998-2002	1.25%	4.48%	7.08%	1.03%	13.84%
1998-2004	1.26%	5.50%	7.90%	1.59%	16.26%
1999-2003	1.29%	6.45%	9.14%	1.90%	18.79%
2000-2004	1.40%	7.64%	10.38%	2.12%	21.54%
	Percent of total GOA Trawl Halibut to Non-AFA CPs				
1995-2003	2.10%	5.10%	7.59%	2.53%	17.32%
1997-2002	1.89%	4.63%	7.12%	1.89%	15.52%
1998-2002	1.74%	5.27%	7.70%	1.76%	16.46%
1998-2004	1.74%	6.26%	8.55%	2.31%	18.86%
1999-2003	1.75%	7.24%	9.50%	2.64%	21.12%
2000-2004	1.87%	8.69%	10.85%	2.77%	24.18%

Source: NPFMC summary of NMFS weekly PSC reports.
Note: Data for 2004 was not included in this report. Alternatives that include 2004 only have data through 2003 in the calculations.

Table 3-59 GOA trawl halibut PSC sideboard estimates (mt) based on historic groundfish usage, Option 12.3.2

	Quarter				
	1	2	3	4	Total
Years	Percentage of Trawl Halibut PSC Allotment to Shallow Water Complex				
1995-2003	14.29	14.37	12.41	15.01	56.07
1997-2002	10.99	14.68	11.41	16.46	53.54
1998-2002	9.81	15.89	12.41	14.47	52.58
1998-2004	9.61	15.11	13.06	14.26	52.04
1999-2003	9.04	15.77	7.16	14.78	46.76
2000-2004	9.30	20.88	9.48	12.99	52.65
	Percent of Trawl Halibut Allotment to Deep Water Complex				
1995-2003	27.63	87.62	139.47	35.52	290.24
1997-2002	26.82	77.82	130.98	21.26	256.88
1998-2002	24.91	89.53	141.61	20.66	276.72
1998-2004	25.26	110.09	157.99	31.86	325.21
1999-2003	25.89	129.03	182.81	37.99	375.73
2000-2004	28.00	152.87	207.56	42.43	430.86

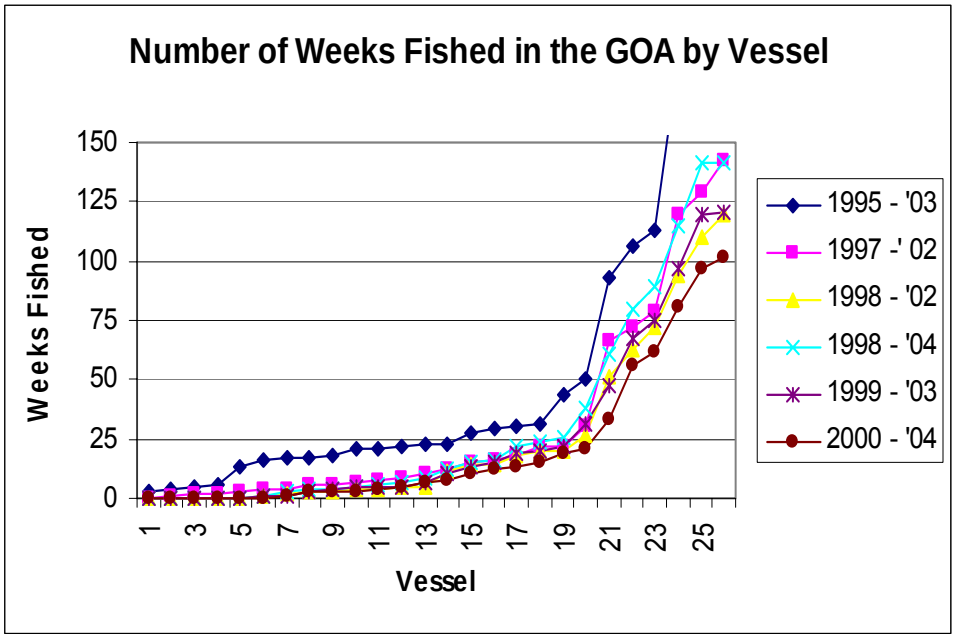
	Quarter				
	1	2	3	4	Total
	Percent of total GOA Trawl Halibut to Non-AFA CPs				
1995-2003	41.92	101.99	151.88	50.53	346.31
1997-2002	37.81	92.50	142.39	37.72	310.42
1998-2002	34.73	105.42	154.03	35.13	329.30
1998-2004	34.87	125.21	171.05	46.12	377.25
1999-2003	34.94	144.81	189.97	52.77	422.49
2000-2004	37.30	173.75	217.03	55.42	483.51

Source: NPFMC summary of NMFS weekly PSC reports.
Note: Data for 2004 was not included in this report. Alternatives that include 2004 only have data through 2003 in the calculations. A trawl PSC allotment of 2,000 mt was multiplied by the percentages in Table X1 to generate these amounts.

Option 12.3.2 would only allow vessels to participate in the GOA fisheries if they had fished a sufficient number of weeks in the GOA during the qualifying period. Vessels that did not meet the criteria would be excluded from the GOA. The result of this action is not to create sideboard limits, but to extinguish the GOA license of the Non-AFA Trawl CP vessels that do not have sufficient history in the GOA.

Figure 3-3 shows the number of weeks that each vessel fished in the GOA during the qualifying years. That figure shows that several vessels fished less than 25 weeks during the proposed qualifying periods. The slope of the participation curve increases dramatically after the 25-week mark. Depending on the alternative about 7 vessels fished more than 25 weeks. Under all of the alternatives 12 vessels fished at least 10 weeks during each the qualifying period, and 15 vessels fished at least 5 weeks during each qualifying period. From 1998 to 2003, 5 vessels had no participation in the GOA.

Figure 3-3 Weeks of Participation in the GOA by vessel for qualifying period.



It is not possible to determine a vessel's economic dependence on GOA fisheries based on the number of weeks fished. Owners use their vessels to meet specific business objectives. These objectives may be to harvest product for specific markets, keep their crew together during slow times of the year, or some other reason. However, the ultimate goal of an owner is to maximize profits.

Businesses that have small profit margins may fish in the GOA during specific times of the year to remain profitable. The reasons individual vessel owners chose to fish a certain pattern cannot be determined

from historic harvest data. Therefore, caution should be used when excluding participants that are active in a fishery.

Removing GOA licenses will also impact the assets of an owner. Licenses that have both a GOA and BSAI endorsement have more value that a license that only has a BSAI endorsement. If licenses are extinguished under this action the owner will not only lose the future value of fish they would have harvested from the GOA, but they will also lose the value of the GOA license. Information is not readily available to determine either of these values. The value of remaining GOA licenses could increase, since the overall supply would be reduced. Participants that remain in the fishery will also benefit from less competition for the available fishery resources.

Option 12.3.3, the last GOA sideboard cap option, applies only to fisheries that have historically closed as a result of the TAC being harvested. Those species are defined as Pacific Ocean Perch, Pelagic Shelf Rockfish, Northern Rockfish, and Pacific cod. The sideboard caps under this option are the same as reported for Option 12.1. The only difference between the two options is that Option 12.1 applies to all species and this option applies only to the four species that have historically closed because their TAC was harvested. Since the remaining fisheries close because the halibut PSC is harvested, there should be little difference between the two options, if halibut sideboard caps are also set. Fisheries will continue to be constrained by halibut bycatch that do not have groundfish sideboards. The fisheries will be conducted as they are currently, with the exception of the species included in the rockfish pilot program. Those species will be managed under that program. Therefore, the Council may elect to exclude the amount of rockfish assigned to that sector from the sideboard caps in this program. Any excess rockfish would be available to the Non-AFA Trawl CPs as a cap, during times of the year the Rockfish Pilot program is not in effect. 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[27], 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.

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 vessel 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.

[27] 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.

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 3-60, Table 3-61, and Table 3-62 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 3-60 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	1997-2002	1998-2002	1998-2003	1999-2003	2000-2003
Bering Sea						
Other Rockfish	27.00%	33.77%	39.19%	33.99%	36.72%	40.09%
Pacific Ocean Perch	28.35%	16.48%	15.27%	14.63%	13.55%	12.18%
Sablefish (Trawl)	27.57%	33.64%	36.66%	29.78%	31.25%	27.95%
Greenland Turbot	19.86%	18.28%	20.32%	20.22%	23.12%	21.56%
Pollock - Incidental Catch	n/a	n/a	n/a	n/a	51.70%	53.73%
Aleutian Islands						
Other Rockfish	38.98%	48.31%	57.52%	54.96%	62.89%	44.30%
Sablefish (Trawl)	5.90%	4.90%	5.14%	4.66%	4.81%	5.16%
Greenland Turbot	12.89%	5.56%	5.08%	6.32%	8.32%	10.04%
Pollock	n/a	n/a	n/a	n/a	25.67%	22.90%
Bering Sea & Aleutian Islands						
Arrowtooth Flounder	22.77%	17.92%	17.36%	19.71%	17.05%	24.21%
Northern Rockfish	76.80%	72.02%	74.71%	79.18%	81.65%	78.12%
Other Flatfish/Alaska Plaice	4.25%	3.17%	3.27%	4.18%	4.94%	9.78%
Other Species & Squid	33.29%	34.91%	36.20%	34.39%	33.91%	35.56%
Pacific Cod (Trawl –CP)	n/a	66.77%	70.66%	72.67%	78.12%	79.61%
Shortraker/Rougheye Rockfish	73.67%	66.35%	66.54%	63.31%	71.74%	55.13%
Bogoslof District						
Pollock (Incidental Catch)	n/a	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 3-61 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 3-61 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	1997-2002	1998-2002	1998-2003	1999-2003	2000-2003
Bering Sea						
Other Rockfish	49.37%	48.30%	52.12%	57.12%	61.28%	63.84%
Pacific Ocean Perch	54.59%	35.42%	38.62%	31.70%	34.58%	32.30%
Sablefish (Trawl)	*	96.79%	96.91%	*	*	*
Greenland Turbot	20.30%	20.16%	21.38%	20.81%	24.68%	23.71%
Pollock – Incidental Catch	n/a	n/a	n/a	n/a	*	*
Aleutian Islands						
Other Rockfish	59.62%	72.46%	80.26%	74.67%	79.87%	46.11%
Sablefish (Trawl)	*	81.32%	84.73%	*	*	*
Greenland Turbot	43.75%	28.59%	24.73%	27.99%	33.60%	36.19%
Pollock	n/a	n/a	n/a	n/a	*	*
Bering Sea & Aleutian Islands						
Arrowtooth Flounder	74.36%	76.08%	77.48%	77.25%	78.12%	77.50%
Northern Rockfish	76.96%	67.94%	67.17%	63.76%	65.12%	57.73%
Other Flatfish	18.46%	44.96%	33.64%	37.14%	44.01%	47.09%
Other Species&Squid	12.55%	14.34%	16.38%	15.88%	16.30%	17.31%
Pacific Cod (Trawl - CP)	*	71.43%	74.41%	*	*	*
Shortraker/Rougheye	36.73%	50.48%	69.38%	66.73%	82.31%	53.67%
Bogoslof District						
Pollock (Incidental Catch)	n/a	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 3-62 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 3-61. Other flatfish and Pacific cod tended to change a relatively small amount, for most year combinations, when compared to Table 3-61.

Table 3-62 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	1997-2002	1998-2002	1998-2003	1999-2003	2000-2003
Bering Sea						
Other Rockfish	21.01%	25.66%	29.74%	26.79%	29.53%	33.34%
Pacific Ocean Perch	22.96%	8.32%	9.16%	8.40%	7.09%	6.61%
Sablefish (Trawl)	24.05%	30.33%	33.39%	26.41%	27.72%	24.71%
Greenland Turbot	15.95%	15.03%	16.64%	16.31%	18.81%	17.18%
Pollock – Incidental Catch	n/a	n/a	n/a	n/a	51.70%	53.73%
Aleutian Islands						
Other Rockfish	21.65%	30.10%	36.09%	32.47%	38.27%	22.69%
Sablefish (Trawl)	5.61%	4.66%	4.87%	4.45%	4.72%	5.11%
Greenland Turbot	11.49%	5.19%	4.68%	5.71%	7.59%	9.14%
Pollock	n/a	n/a	n/a	n/a	25.67%	22.90%

Area and Species	1995-2003	1997-2002	1998-2002	1998-2003	1999-2003	2000-2003
Bering Sea & Aleutian Islands						
Arrowtooth Flounder	6.10%	5.38%	5.53%	6.36%	5.96%	9.05%
Northern Rockfish	9.32%	3.84%	3.97%	3.50%	3.11%	1.92%
Other Flatfish/Alaska Plaice	1.48%	2.19%	1.19%	1.48%	1.67%	3.04%
Other Species&Squid	1.79%	1.73%	2.01%	2.41%	2.61%	3.26%
Pacific Cod (Trawl - CP)	n/a	62.90%	70.30%	72.37%	77.80%	79.58%
Shortraker/Rougheye	44.21%	41.05%	43.28%	39.23%	45.43%	30.92%
Bogoslof District						
Pollock (Incidental Catch)	n/a	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.

3.2.11.2 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 general limited access fishery[28] 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 general 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 general 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 175,000 mt. The component also includes suboptions for rolling over any yellowfin sole that is projected to go unharvested from the general limited access fishery to the Non-AFA Trawl CP sector or from the Non-AFA Trawl CP sector to the general limited access fishery. The purpose of the rollover suboption is to help ensure that the yellowfin sole allocations are more fully utilized.

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 general 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 general 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 52 and 93 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 general limited access fishery would be allocated the remaining yellowfin sole.

The intent of threshold action is to better accommodate major shifts in the yellowfin sole trawl fisheries during a period of high TAC as well as providing harvesting opportunities for some trawl sectors, while

[28] The general 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.

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 general limited access fishery participants.

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 general limited access fishery participants. The option consider by the Council are shown in the text below.

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. AFA sideboards do not apply to the yellowfin sole threshold fishery.

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.

Suboption 3: Allow rollovers of any portion of the yellowfin sole TAC that is projected by the NOAA Regional Administrator to go unused. The NOAA Regional Administrator will be responsible for determine both the amount and the timing of the rolloever.

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

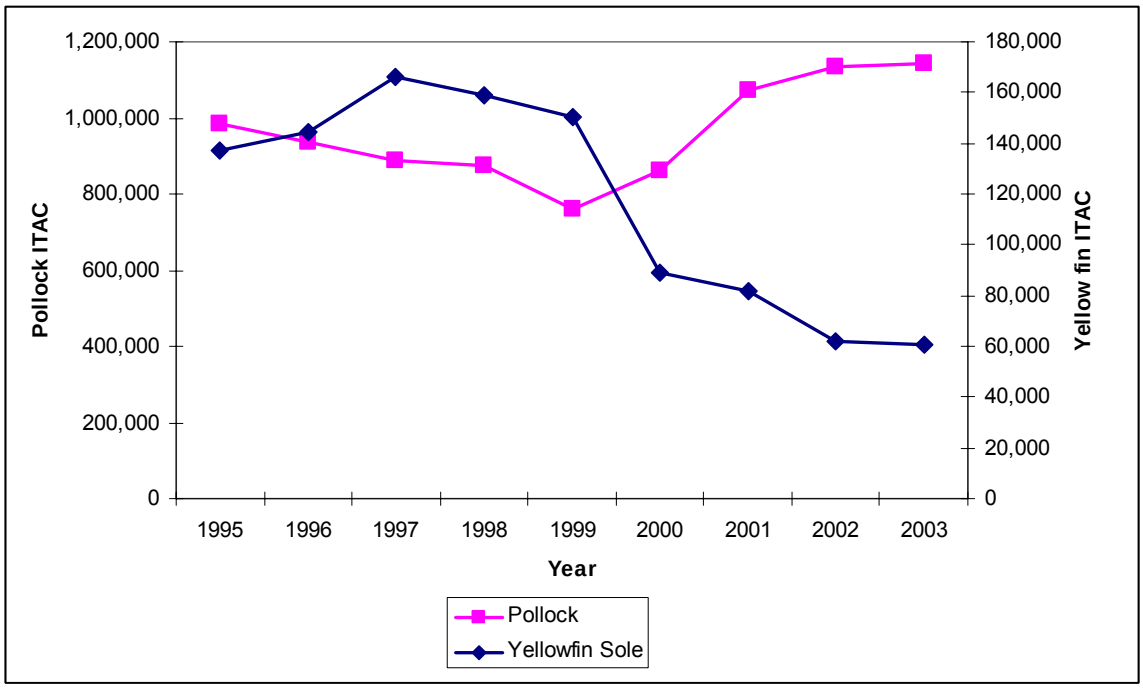
Suboption 3 70% Non-AFA Trawl CP sector and 30% limited access fishery

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 3-4, 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 3-4 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. Table 3-63 and Table 3-64 provide estimated allocation of yellowfin sole to the Non-AFA Trawl CP sector and the general limited access fishery at each of the threshold amounts. 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 (Table 3-28), while the average annual retained catch

of all eligible participants in the general limited access fishery was 13,808 mt or 17 of the total retained harvest (Table 3-30). The average annual retained 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 1997, the remaining portion of yellowfin sole available for the general 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 and 74,206 mt of yellowfin sole. Allocations of yellowfin sole at 80,000 mt threshold to the general limited access fishery would range between 5,794 mt and 38,400 mt.

At a threshold of 100,000, the allocations of yellowfin sole to the Non-AFA Trawl CP sector would range between 52,000 mt and 92,757 mt. Allocations of yellowfin sole to the general limited access fishery would range between 7,243 mt and 48,000 mt.

At a threshold of 125,000, the allocations of yellowfin sole to the Non-AFA Trawl CP sector would range between 65,000 mt and 115,946 mt. Allocations of yellowfin sole to the general limited access fishery would range between 9,054 mt and 60,000 mt.

At a threshold of 150,000, the allocations of yellowfin sole to the Non-AFA Trawl CP sector would range between 78,000 mt and 139,135 mt. Allocations of yellowfin sole to the general limited access fishery would range between 10,865 mt and 72,000 mt.

Finally, at a threshold of 175,000, the allocations of yellowfin sole to the Non-AFA Trawl CP sector would range between 91,000 mt and 162,325 mt. Allocations of yellowfin sole to the general limited access fishery would range between 12,675 mt and 84,000 mt.

Table 3-63 Allocation percentages, amounts, and first wholesale value of yellowfin sole to the Non-AFA Trawl Catch Process sector at each threshold option

	Option 3.1 (Total/Total)		Option 3.2 (Retain/Retain)		Option 3.3 (Retain/Total)	
Years	**Allocation Percent**	**Allocation at threshold (mt)**	**Allocation Percent**	**Allocation at threshold (mt)**	**Allocation Percent**	**Allocation at threshold (mt)**
	80,000 mt threshold					
1995-2003	67.6%	54,080	78.1%	62,480	52.0%	41,600
1997-2002	71.3%	57,040	82.6%	66,080	55.7%	44,560
1998-2002	75.9%	60,755	88.5%	70,785	58.5%	46,822
1998-2003	77.6%	62,046	89.6%	71,702	60.9%	48,681
1999-2003	79.4%	63,491	91.3%	73,003	63.0%	50,416
2000-2003	80.9%	64,753	92.8%	74,206	65.3%	52,238

	Option 3.1 (Total/Total)		Option 3.2 (Retain/Retain)		Option 3.3 (Retain/Total)	
Years	**Allocation Percent**	**Allocation at threshold (mt)**	**Allocation Percent**	**Allocation at threshold (mt)**	**Allocation Percent**	**Allocation at threshold (mt)**
	100,000 mt threshold					
1995-2003	67.6%	67,600	78.1%	78,100	52.0%	52,000
1997-2002	71.3%	71,300	82.6%	82,600	55.7%	55,700
1998-2002	75.9%	75,944	88.5%	88,481	58.5%	58,527
1998-2003	77.6%	77,558	89.6%	89,628	60.9%	60,851
1999-2003	79.4%	79,364	91.3%	91,253	63.0%	63,020
2000-2003	80.9%	80,942	92.8%	92,757	65.3%	65,298
	125,000 mt threshold					
1995-2003	67.6%	84,500	78.1%	97,625	52.0%	65,000
1997-2002	71.3%	89,125	82.6%	103,250	55.7%	69,625
1998-2002	75.9%	94,930	88.5%	110,602	58.5%	73,159
1998-2003	77.6%	96,948	89.6%	112,035	60.9%	76,064
1999-2003	79.4%	99,205	91.3%	114,066	63.0%	78,774
2000-2003	80.9%	101,177	92.8%	115,946	65.3%	81,623
	150,000 mt threshold					
1995-2003	67.6%	101,400	78.1%	117,150	52.0%	78,000
1997-2002	71.3%	106,950	82.6%	123,900	55.7%	83,550
1998-2002	75.9%	113,916	88.5%	132,722	58.5%	87,790
1998-2003	77.6%	116,337	89.6%	134,441	60.9%	91,277
1999-2003	79.4%	119,046	91.3%	136,880	63.0%	94,529
2000-2003	80.9%	121,412	92.8%	139,135	65.3%	97,947

	Option 3.1 (Total/Total)		Option 3.2 (Retain/Retain)		Option 3.3 (Retain/Total)	
Years	**Allocation Percent**	**Allocation at threshold (mt)**	**Allocation Percent**	**Allocation at threshold (mt)**	**Allocation Percent**	**Allocation at threshold (mt)**
	175,000 mt threshold					
1995-2003	67.6%	118,300	78.1%	136,675	52.0%	91,000
1997-2002	71.3%	124,775	82.6%	144,550	55.7%	97,475
1998-2002	75.9%	132,902	88.5%	154,843	58.5%	102,422
1998-2003	77.6%	135,727	89.6%	156,848	60.9%	106,490
1999-2003	79.4%	138,887	91.3%	159,693	63.0%	110,284
2000-2003	80.9%	141,648	92.8%	162,325	65.3%	114,272

[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

Table 3-64 Allocation percentages, amounts, and first wholesale value of yellowfin sole to the general limited access fishery at the each threshold option

	Option 3.1 (Total/Total)		Option 3.2 (Retain/Retain)		Option 3.3 (Retain/Total)	
Years	**Allocation Percent**	**Allocation (mt)**	**Allocation Percent**	**Allocation (mt)**	**Allocation Percent**	**Allocation (mt)**
	80,000 mt threshold					
1995-2003	32.4%	25,920	21.9%	17,520	48.0%	38,400
1997-2002	28.7%	22,960	17.4%	13,920	44.3%	35,440
1998-2002	24.1%	19,245	11.5%	9,215	41.5%	33,178
1998-2003	22.4%	17,954	10.4%	8,298	39.1%	31,319
1999-2003	20.6%	16,509	8.7%	6,997	37.0%	29,584
2000-2003	19.1%	15,247	7.2%	5,794	34.7%	27,762
	100,000 mt threshold					
1995-2003	32.4%	32,400	21.9%	21,900	48.0%	48,000
1997-2002	28.7%	28,700	17.4%	17,400	44.3%	44,300
1998-2002	24.1%	24,056	11.5%	11,519	41.5%	41,473
1998-2003	22.4%	22,442	10.4%	10,372	39.1%	39,149
1999-2003	20.6%	20,636	8.7%	8,747	37.0%	36,980
2000-2003	19.1%	19,058	7.2%	7,243	34.7%	34,702
	125,000 mt threshold					
1995-2003	32.4%	40,500	21.9%	27,375	48.0%	60,000
1997-2002	28.7%	35,875	17.4%	21,750	44.3%	55,375
1998-2002	24.1%	30,070	11.5%	14,398	41.5%	51,841
1998-2003	22.4%	28,052	10.4%	12,965	39.1%	48,936
1999-2003	20.6%	25,795	8.7%	10,934	37.0%	46,226
2000-2003	19.1%	23,823	7.2%	9,054	34.7%	43,377

	Option 3.1 (Total/Total)		Option 3.2 (Retain/Retain)		Option 3.3 (Retain/Total)	
Years	Allocation Percent	Allocation (mt)	Allocation Percent	Allocation (mt)	Allocation Percent	Allocation (mt)
	150,000 mt threshold					
1995-2003	32.4%	48,600	21.9%	32,850	48.0%	72,000
1997-2002	28.7%	43,050	17.4%	26,100	44.3%	66,450
1998-2002	24.1%	36,084	11.5%	17,278	41.5%	62,210
1998-2003	22.4%	33,663	10.4%	15,559	39.1%	58,723
1999-2003	20.6%	30,954	8.7%	13,120	37.0%	55,471
2000-2003	19.1%	28,588	7.2%	10,865	34.7%	52,053
	175,000 mt threshold					
1995-2003	32.4%	56,700	21.9%	38,325	48.0%	84,000
1997-2002	28.7%	50,225	17.4%	30,450	44.3%	77,525
1998-2002	24.1%	42,098	11.5%	20,157	41.5%	72,578
1998-2003	22.4%	39,273	10.4%	18,152	39.1%	68,510
1999-2003	20.6%	36,113	8.7%	15,307	37.0%	64,716
2000-2003	19.1%	33,352	7.2%	12,675	34.7%	60,728

[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

The primary variables in developing a threshold program are the threshold level and the percent of distribution between the two groups. However, affecting the threshold program is the allocation of the yellowfin sole to the Non-AFA Trawl CP sector and the general limited access fishery determined in Component 3. If for example the Council selects Option 3.1, selecting a distribution of 70 percent (Suboption 3) for amounts over the threshold to the Non-AFA Trawl CP sector will result in little change in the distribution between the two groups. Under this scenario, the importance of threshold level is diminished since the allocation below and above the threshold is similar. However, a distribution of 30 percent to the Non-AFA Trawl CP sector will reduce the allocation of yellowfin sole above the threshold by 38 to 51 percent. A distribution of 50 percent will reduce the allocation to the Non-AFA Trawl CP sector above the threshold by 18 to 31 percent. Selecting 30 or 50 percent distribution of yellowfin sole above the threshold increases the level of importance the threshold for the two groups. The lower the threshold, the greater chance the ITAC will exceed the threshold resulting in the overall allocation of yellowfin sole for the two groups different than was determined in Component 3.

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 Component 3 for traditional participants. The allocation of yellowfin sole ITAC above the threshold could also be used to provide some opportunity for future participants in periods of high TAC. For example, at a ITAC of 110,000 mt and a distribution of 50 percent of the yellowfin sole ITAC above a threshold of 80,000 under Option 3.1 would result in a total allocation of yellowfin sole between 69,080 mt and 79,753 mt to the Non-AFA Trawl CP sector and 30,247 mt and 40,920 mt to the general limited access fishery. This distribution of yellowfin sole would allow for opportunities for new entrants in the general limited access fishery. At a 70 percent distribution for the Non-AFA Trawl CP sector, the allocation to the Non-AFA Trawl CP sector would be between 75,080 mt and 85,753 mt, while the allocation to the general limited access fishery would be between 24,247 mt and 34,920 mt. This distribution would still allow opportunities for new entrants in the general limited access fishery, but to a lesser extent.

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 general 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.

The Council in June 2005 removed the AFA sideboard restrictions for threshold distributions. The intent of removing sideboard restrictions for threshold distribution is to allow AFA sectors the potential to expand their harvest of yellowfin sole in periods of diminished availability of pollock. Currently, the AFA Trawl CP sector has a yellowfin sole sideboard limit of 23 percent, while the AFA Trawl CV sector has a limit of 6.47 percent. Combined these two sector have a sideboard limit of 29.47 percent of the yellowfin sole TAC. Depending on the Council's selection of the different options in this component as well as the options selected in Components 3 and 4, there is the potential for the general limited access fishery to get an allocation of yellowfin sole over the 29.47 percent of TAC. Although the AFA sideboards would apply for allocations of yellowfin sole below the thresholds, the portion from the threshold program would not be restricted by AFA sideboards regulations, thus allowing the sectors in the general limited access to harvest their entire allocation.

To limit unutilized yellowfin sole the threshold component includes two rollover options. The purpose of the rollover options 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 option would 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 general 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 general 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.

Suboption 2 presents 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 general limited access fishery as opposed to the later September 1 date because participants would have more time to harvest the reallocated amount. Suboption 3 would allow the NOAA Regional Administrator to determine the rollover amounts and dates. 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 the 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 this 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's rational for selecting the option 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 retainable amount 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 because of implementing Amendment 80, and members of the Non-AFA Trawl CP sector will be required to abide by those regulations. The Council may recommend changes to IR/IU regulations in the future, if they determine such an action is appropriate. However, at the time Amendment 80 was being developed the Council determined that those regulations were functioning properly.

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 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. All vessels in the sector, consistent with NMFS catch monitoring plan, 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. Within the Non-AFA Trawl CP sector, all members of a cooperative may pool their retention rates to meet the standard. Vessels with higher retention rates could help vessels with lower retention rates meet the average retention rates 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 who 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 cooperative members to avoid fines/penalties by accessing their "excess" retention. Having fewer sanctions imposed on the Non-AFA Trawl CP sector may improve the public perception of that fleet 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. 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 retained in the

BSAI rockfish fisheries was 90.8 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 retained was 75.5 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.

Vessels that do not join a cooperative will be required to meet the GRS on their own. They will not be allowed to pool their catch with other members of the sector. Vessels that are traditionally used in fisheries that have historically had lower retention rates will be placed at a disadvantage. The owners of these vessels are assumed to have thrown the fish overboard because it was more profitable than keeping the fish, processing the fish, and selling the fish. Vessels outside of cooperatives may also be limited in their fisheries. Markets play an important role in determining the fisheries a vessel operates. A vessel cannot simply elect to harvest species with high historic retention rates, if they cannot sell the products produced from those fish at a reasonable price. Market information is by vessel is not available to the public. Therefore, it is not possible to predict exactly how the owners of each vessel will respond to the GRS requirements.

This alternative requires all vessels in the sector to meet the requirements of the catch monitoring plan in this amendment. To meet those requirements a vessel must have properly functioning NMFS approved scales to determine total catch. They must also either maintain observer coverage of every haul, for verification that all fish are being weighed, or implement an alternative scale-use verification plan approved by NOAA Fisheries. Preliminary data indicates that 10 of the 27 vessels that would qualify for the sector are less than 125 ft LOA[29]. 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 has 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]

---

[29] Nnote that one license that can applied to a vessel over 125' LOA is currently associated with a vessel less than 125' LOA. That vessel is not participating in the Amendment 80 fisheries and is not a CP according to the LLP files. If that vessel is included the number would increase to 11 vessels. However, because it is not participating in the fishery and is not a CP it is excluded from the list of vessels.

[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.

It is estimated that the annual cost of an additional NOAA Fisheries-certified observer would be approximately $82,000 per vessel.

The costs associated with monitoring the catch of a cooperative and the need for enforceable catch estimates are a source of contention between the fleet and fishery managers. Increasing observer coverage levels can improve the quality of catch estimates, but requires the vessel owner to incur additional costs to pay for the extra coverage. The cost of an additional observer is estimated to be about $82,000 per vessel. The additional observer costs will reduce the profitability of fishing operations, and perhaps make fishing prohibitively expensive for some operations. Given this dilemma, a research model has been developed to estimate the tradeoffs between observer coverage and the precision of bycatch estimates (Jensen et al, 2005). The research is based on the premise that,

> "sampling variances are influenced by the sampling strategy, the fraction of the catch sampled, and the incidence of bycatch. Low frequency bycatches have higher sampling variances and larger confidence intervals for a given number of samples. If the confidence intervals are large, only egregious overages are prosecutable. Assigning bycatch quota to vessel pools could narrow the confidence intervals on estimates of bycatch, increasing enforceability."

Initial results of the model using the BSAI yellowfin sole, pollock and rock sole fisheries are promising. Additional research in this area may lead to the development of catch monitoring system for vessels in cooperatives that would reduce the necessary observer coverage to enforce direct allocations, sideboard caps, and PSC caps at the cooperative level.

Operating under a cooperative structure, the vessel owner has additional options that may help them meet the IR/IU requirements. They include fishing at a slower pace to have better counts of their harvest, or fishing their cooperative allotment on a vessel within their cooperative that already has the required equipment or a NMFS certified catch accounting plan. Whether all of these vessels will be able to catch their allocation on another vessel is not known. Only vessels that join a cooperative will benefit from working together with other vessels. 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. The vessels less than 125' that are unable to develop a strategy to harvest their catch, while meeting these additional catch monitoring requirements, may be forced to sell or lease their allocation. 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 outside of cooperatives 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 fisheries that are not harvested under the cooperative(s) will be the same as under the status quo, with the potential addition of the new sideboard requirements discussed in this document. Management of the current fishery is described in Section 3.1.1 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 in excess of the projected bycatch needs in other fisheries. When a species is closed to directed fishing, vessel operators may only retain that species 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 taking that species as bycatch could be closed.

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 or risk losing their harvest privilege.

GRS standards for participants in the Non-AFA Trawl CP sector (Amendment 79) are applied to vessels greater than 125'. The retention standards apply to all vessels greater than 125 ft LOA regardless of whether they join a cooperative. It is expected that those standards will be easier to meet if the vessel is operating within a cooperative, because vessels can operate in a more rational manner and pool their retention rates with other members of the cooperative. However, if an owner wishes not to join a cooperative they must meet the GRS with each vessel individually. Vessels less than 125 ft LOA are exempt from the GRS requirements. Being exempt from the GRS does not exempt them from any additional costs associated with the monitoring requirements of this program. This may provide some vessel owners sufficient incentive to join a cooperative, since it would allow the owner to sell or lease their allocation if they cannot generate more profits outside the cooperative.

3.2.13.4 License Limitation Program Requirement

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 be assigned a valid BSAI groundfish license, that permits the vessel to fish as a catcher processor using trawl gear in the BSAI, to participate. The license must also be endorsed for a vessel length that is longer than the vessel it is applied to by the owner.

Requiring vessel owners to retain 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 the 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 before they may harvest groundfish species from Federal waters. Because GOA and BSAI licenses that were initially based on the catch history of a vessel cannot be separated, the owner could not sell only the BSAI 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, which 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. Therefore, only the owner of those licenses would be allowed to participate in the Non-AFA

Trawl CP sector. If sideboards were implemented, they would also be attached to the license and the vessel to ensure that additional effort did not move into other fisheries.

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 members of the 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 from the Non-AFA Trawl CP sector, those vessels would be allowed to fish in 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. The increased effort in those areas could result in negative economic impacts on the historic participants.

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 would be 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 into 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 that NOAA Fisheries 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 allocations, sideboard amounts, and PSC amounts associated with the permit.

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.

This component addresses how NOAA Fisheries will account for the harvest of fish made by cooperative members. In general, it 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, through contractual agreements, will determine who is allowed to harvest the allocation NOAA Fisheries makes to the cooperatives. The contracts signed by individual cooperative members specify the penalties individuals are subject to if they exceed their harvest limit. Cooperative members that have their allocation reduced, because 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, members of the cooperative are free to trade or lease the rights to fish within the cooperative without notifying NOAA Fisheries. Members of the cooperative will determine the amounts 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 any harvest limits imposed by the cooperative.

Allowing members of the sector to trade harvest rights among themselves, without the need for NOAA Fisheries approval, would allow them to react quickly 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 Federal enforcement burden. Requiring 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 could require NOAA Fisheries to determine whether vessels operating in the sector have exceeded their allocation. Given that consolidation is expected to occur, we cannot determine the actual number of vessels that would need to be monitored. Each vessel's allocation would be comprised of the five primary species plus any sideboard and PSC species assigned to the sector.

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 non-cooperative fisheries that may occur in the Non-AFA Trawl CP sector, prior to those allocations being exceeded. Monitoring two sets of allocations[30] is expected to be less of a burden in terms of both labor costs and time.

The excessive share analysis in this amendment applies to the total amount each primary species a person brings into a cooperative. Those caps simply require NOAA Fisheries to monitor the total amount of each

[30] The total number of allocations would increase if multiple cooperatives were allowed to form. Additional cooperatives would increase the monitoring burden for NOAA Fisheries.

allocated species a person brings into a cooperative. That does not necessarily mean that they would need to monitor transfers within the cooperative, only transfers between cooperatives.

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 does not appear to be necessary given the objectives of this program.

3.2.13.7 Transfer of Cooperative Allocations Between Cooperatives

Annual allocations to the cooperative will be transferable among cooperatives. Inter-cooperative transfers must be approved by NOAA Fisheries.

Persons may transfer their annual allocation, or a portion of it, to a member of another cooperative. The transfer would require NOAA Fisheries approval, before the transaction could be completed. Transfers between cooperatives will take longer to complete than transfers within cooperatives. The NOAA Fisheries transfer approval will require the parties to the transfer to notify the agency of the transfer. NOAA Fisheries will then need to review their records to ensure that the buyer will not exceed the cap. They will also likely need to get approval from the selling cooperative. NOAA Fisheries will need their approval because they do not track allocation within a cooperative. If they did not require the cooperative approval, a person may sell/lease an allocation that they had no rights to under the cooperative agreement. The time required to complete the transfer will depend on a variety of factors. Those factors include issues like RAM's workload at the time the transfer is being requested, the number of transfers being requested, and the system developed to oversee the transfer process (i.e., electronic vs. paper). Details on the exact transfer process will be worked out prior to implementation of the program, but will probably be similar to the transfer requirements under the IFQ and Crab Rationalization programs.

The economic impacts of this option are similar to those associated with intra-cooperative transfers. Allowing transfers between cooperatives will provide the opportunity for harvest privileges to flow where they have the most value. If a vessel is more efficient, they can pay more for the privilege to harvest fish. Improving the efficiency of the sector will increase the overall producer surplus generated by the fleet. It may also allow persons that do not have sufficient PSC to access the amounts necessary to harvest their groundfish allotment. Allowing PSC transfers could create incentives for people to fish carefully. Some of the options considered in this program would reduce the overall amount of PSC that is available to the Non-AFA Trawl CP sector. If PSC is scarce, persons will be willing to pay an amount up to the net revenue generated from harvesting the groundfish. PSC transfers would also increase the overall benefits that are expected to be generated from the program by allowing more of the groundfish allocations to be harvested, if PSC constrains the harvest of at least one cooperative.

3.2.13.8 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.

3.2.13.9 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. It has been requested that this interpretation be made to exclude catch that was legally reported, but may have been made in violation of some regulation. NOAA Fisheries has informed staff that it would be difficult to enforce that requirement. They would need to define what violations would constitute removal of catch history. Given the degrees of possible violations that have occurred in the past and the gray areas that would need clarification, the process was thought to be too cumbersome to enforce.

Recognizing the complexity of excluding catch that was legally reported, but may have been made in violation, the Council in June 2005, defined legal landing for Amendment 80. Legal landing means, for the purpose of initial allocation of quota share, fish harvested during the qualifying years specified and landed in compliance with state and federal permitting, landing, and reporting regulations in effect at the time of the landing. Legal landings exclude any test fishing, fishing conducted under an experimental, exploratory, or scientific activity permit or the fishery conducted under the Western Alaska CDQ program.

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 ensures that only data used to help manage the historic fisheries will be counted when determining future allocations.

3.2.13.10 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 most directly impact vessels in 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 supersede 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.

3.2.13.11 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 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 the U.S. Fish and Wildlife Service to determine the appropriate action 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 could initiate a separate management action to ensure they are adequately protected.

3.2.13.12 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 each cooperative that may form and to the pool of vessels that elect not to join a cooperative. Independent allocations to the cooperative(s) and non-cooperative vessels will help ensure that one group does not preempt the other. Consider a case where the halibut PSC was allocated to the Non-AFA Trawl CP sector as a whole. If the halibut cap were reached, it would close down both the cooperative(s) and the vessels not in a 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 all of their target species would likely cause them to change their harvest strategies. Changes to their fishing strategy would be made to help ensure they harvest their groundfish allocation before the halibut PSC limit was caught. Accomplishing the new strategy would either involve fishing their directed fishing allocations earlier in the year or catching 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 3.2.4 and 3.2.5 of this document.

If the PSC harvest limits are allocated among the cooperative(s) and the pool of vessels that do not join cooperative, those not in cooperatives would still need to race to catch a larger portion of the available quota. Cooperative members, on the other hand, would be assigned specific amounts of target species and PSC by the cooperative bylaws. The privilege to catch a specific amount of fish ensures that cooperative members have legal recourse, if other members of the cooperative harvest their PSC allotment.

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.

3.2.13.13 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 ensure non-specified species continue to be managed as they are currently. 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. Those species will continue to be monitored to ensure they remain viable. The Council is expected to take additional actions in the future to protect these stocks if they are needed.

Discouraging targeting of these species may become more important under a rationalized fishery. If some of the non-specified species are marketable commodities, fishermen with the available resources 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 have little or no demand for a specific species, there is no incentive for producers to harvest that species.

3.2.13.14 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.

The term "internal rules" in this option may be somewhat misleading. Cooperatives are still allowed to determine the best internal structure for their cooperative. The focus of this option is ensuring that the cooperative implements formal rules that create individual responsibility for actions within the cooperative, and that the bylaws of the cooperative should be drafted in such a way that those requirements are clear to individuals outside of the cooperative. One issue that is specifically requested by the Council is that all cooperative members must agree to abide by the cooperative bylaws. This ensures that if problems occur within the cooperative, the offending party will be subject to penalties by NMFS through the cooperative. Mechanisms for reporting catch and cooperative assigned penalties for breaking cooperative rules must also be defined.

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 NOAA Fisheries would need to increase monitoring of the cooperatives. The increased monitoring would result in higher enforcement costs.

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 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 compared to the benefits derived from cooperative formation.

3.2.13.15 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 3.3.7 of this document. That section focuses on increased observer coverage levels and the necessary catch monitoring equipment/protocols that are needed to enforce this program. Those requirements are included here by reference. A general summary of the requirements proposed by NMFS Enforcement are:

1. All vessels would be required to weigh all catch on NOAA Fisheries-approved scales and provide an observer work station.
2. All hauls would be observed by NOAA Fisheries-certified observers.
3. 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.
4. Each vessel would be required to submit a Vessel-specific Monitoring Plan to NOAA Fisheries for approval. Annual Cooperative Reports

3.2.13.16 Cooperative Annual 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. In addition to the report's labor

and production costs, frequent reports will further reduce the time NOAA Fisheries and Council staff have to devote to other high priority projects.

3.2.13.17 Economic and Socioeconomic Data Collection

Task staff with evaluating which socioeconomic data can be developed and implemented under the Non-AFA Trawl CP Cooperative Program given the current Magnuson-Stevens Act restrictions. The evaluation should consider collecting cost, revenue, ownership, and employment data on a periodic basis to provide the information necessary to study the impacts of the program. It is anticipated that the data collected under this program will be similar to the data collected under the BSAI crab rationalization program. Details of the collection will be developed in the analysis of the alternatives.

THIS SECTION IS STILL BEING DEVELOPED. IT IS HOPED THAT SOME INFORMATION CAN BE PROVIDED AT THE OCTOBER MEETING.

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

This section provides the analysis of status quo and two strawman alternatives. Although the strawman alternatives differ in several respects, the primary difference is in the cooperative structures. The first alternative is status quo (no action). The second alternative is a cooperative alternative that would allow multiple cooperatives to be formed within the sector. The third alternative is a cooperative alternative that would authorize the formation of a single cooperative in the sector. The specific differences of these alternatives are described in Table 3-65 below.

Table 3-65 Comparison of the Alternatives

	Alternative 1 (Status Quo)	Alternative 2	Alternative 3
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 *Yellowfin 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; no AFA sideboards for yellowfin sole threshold fishery	*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; no AFA sideboards for yellowfin sole threshold fishery
Eligibility for trawl CV sector for general limited access fishery	none	1,000 mt from 1995-2004 and with appropriate LLP endorsements	1 landing from 1995-2004 and with appropriate LLP endorsements
Allocation of Prohibited Species	PSC allocated by target fishery and shared among all trawl vessels	Sector allowance based on average historic PSC usage in directed fishery for allocated primary species plus Pacific cod,1998-2002	Sector allowance based on: a) average PSC usage, by fishery, of all trawl in each PSC fishery group for allocated primary species plus Pacific cod, 1995-2003 b) apply sector proportion as determined above c) reduce by 5%
Eligibility for Non-AFA Trawl CP sector	determined by Congress	determined by Congress	determined by Congress
Cooperative endorsement	none	Qualified license holder harvested 150 mt of groundfish with trawl gear on a sector qualified vessel and processed that fish between 1997 and 2002	Qualified license holder harvested 150 mt of groundfish with trawl gear on a sector qualified vessel and processed that fish between 1997 and 2004
Cooperative formation	none	*Threshold:* 15% minimum of eligible licenses and must be comprised of at least two separate entities *Allocation:* based on retained catch history, 1998-2002	*Threshold:* 67% minimum of eligible licenses and must be comprised of at least two separate entities *Allocation:* based on total catch history, 1995-2003
Excessive share limits	none	No limit on consolidation	No single person can hold no more than 50% of the catch history of an allocated species

	Alternative 1 (Status Quo)	Alternative 2	Alternative 3
Sideboards	none	*For sector:* established based on participation in other fisheries, 1998-2002; for GOA halibut PSC based on usage by quarter and area, 1998-2002; only vessels that have GOA wide weekly participation in the flatfish fisheries over the threshold during the qualifying period would be eligible to participate in the GOA *Within sector:* established between cooperative and non-cooperative participants for unallocated species	*For sector:* established based on participation in other fisheries, 1995-2003; for GOA halibut PSC based on the percent of groundfish target catch by quarter and area, 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	10% of allocated species, plus secondary species caught incidentally in directed fisheries, to CDQ multispecies fishery; PSQ proportional to the CDQ allocation	15% of allocated species, plus secondary species caught incidentally in directed fisheries, to CDQ multispecies fishery; PSQ proportional to the CDQ allocation

Assessing the effects of the alternatives involves some degree of conjecture. 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 impacts of the different alternatives.

3.3.2 Effects on the Non-AFA Trawl CP Sector

Patterns and levels of harvester participation in the BSAI groundfish fisheries are likely to vary under the different alternatives.

Alternative 1: Status Quo/No Action

Provided below is a brief description of the current management of the non-pollock groundfish fisheries. For more detail of the BSAI groundfish fisheries addressed under this action, please see the background section of the Regulatory Impact Review (Section 3.1). That section includes a description of the fisheries, description of the Non-AFA Trawl CP sector, the fishery value for the BSAI groundfish fisheries, community information, and background information on the Western Alaska Community Development Quota (CDQ) program. Overall, maintaining status quo is likely to result in the continuation of existing fishing practices and patterns.

Current Management of the Fisheries

The BSAI management area encompasses the U.S. Exclusive Economic Zone (EEZ) of the eastern Bering Sea and that portion of the North Pacific Ocean adjacent to the Aleutian Islands west of 170º W. longitude. The northern boundary of the Bering Sea is the Bering Strait, defined as a straight line from Cape Prince of Whales to Cape Dezhneva, Russia.

The A season for the trawl fisheries under consideration in this action is from January 20 through April 1; the B season is from April 1 through June 10; and finally, the C season is from June 10 to November 1.

Both the trawl and non-trawl fisheries are prosecuted from a single TAC. The TAC specifications for the primary allocated species and PSC specifications are recommended by the Council at its December meeting. The recommendations are based on Stock Assessment Fishery Evaluation reports prepared by Council BSAI Groundfish Plan Team. The Secretary, after receiving recommendations from the Council, determines up to 2 years of TACs and apportionments. The TAC for each of the allocated species is reduced by 15 percent to form the reserve and CDQ allocations. One-half of the reserve is used for CDQ allocations. The remaining portion of the reserve is used for: a) correction of operational problems is the fishing fleets, to promote full and efficient use of groundfish resources, b) adjustments of species TACs according to the condition of stocks during fishing year, and c) apportionments.

Since 1994, the Atka mackerel quota has been split during the annual specifications into three separate area allocations based on the most recent biomass estimates. The three areas are the Bering Sea/eastern Aleutian Islands (Bering Sea and Area 541), the central Aleutian Islands (area 542), and the western Aleutian Islands (Area 543). In 1999, Area 542 and Area 543 were further split into critical habitat and non-critical habitat area due to Steller sea lion concerns. In addition, up to 2 percent of the Atka mackerel TAC in the eastern Aleutian Islands District/Bering Sea subarea can be allocated to vessels using jig gear in the areas noted above. In 2005, the Council recommended and NMFS approved allocating 1 percent to vessels using jig gear.

A federal groundfish license is required for vessels participating in any federal BSAI groundfish fishery, other than fixed gear sablefish. Those exempt from the license requirement are vessels fishing in State of Alaska waters, vessels less than 32’ LOA, or jig gear vessels less than 60’ LOA using a maximum of 5 jig machines, one line per machine, and a maximum of 15 hooks per line. The LLP limits the number, size, and specific operation of vessels that may be deployed in certain groundfish fisheries under the Council’s jurisdiction. For a person to qualify for an LLP permit, the person must own a vessel that has documented harvests of groundfish during two periods, the general qualification period and the endorsement qualification period. In addition to the area/species endorsements, the LLP license is designated for use on either a catcher/processor or catcher vessels and the vessel’s length category. LLP licenses may be transferred subject to the vessel designations and area/species endorsements.

Table 3-66 shows the number of LLP licenses issued for the BSAI by trawl sector. There are 64 trawl licenses designated as catcher processors that are endorsed for the BSAI area. Twenty of these licenses are currently registered to AFA trawl CP vessels operating in the BSAI. The remaining 44 trawl CP licenses are either currently registered to Non-AFA Trawl CP vessels that currently operate in the BSAI and/or GOA or they are registered to other vessels but are not being used in either area. Of the 44 Non-AFA trawl CP licenses, 22 also have Gulf of Alaska endorsements. There are 152 trawl licenses designated for catcher vessels that are endorsed for BSAI area. One hundred and two of these licenses are currently registered to AFA Trawl catcher vessels leaving 50 licenses that are registered to Non-AFA Trawl catcher vessels.

Table 3-66 BSAI trawl LLP licenses by trawl sector

Sector	BS only LLP	AI only LLP	BSAI LLP	Total License
AFA Trawl CP	1	0	19	20
Non-AFA Trawl CP	6	1	37	44
Total Trawl CP Licenses	**7**	**1**	**56**	**64**
AFA Trawl CV	59	0	43	102
Non-AFA Trawl CV	44	2	4	50
Total Trawl CV Licenses	**103**	**2**	**47**	**152**

Source: NMFS Groundfish LLP database. Current as of July 13, 2005.

Inseason management credits both directed harvest and incidental harvest against the TAC for groundfish species to ensure they are not over harvested. The directed fishery for any groundfish 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 groundfish species (if the TAC has not been reached) taken in other directed fisheries that are open, up to the maximum retainable amount (MRA). 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 incidental harvest that species.

Pacific halibut, Pacific herring, Pacific salmon and steelhead, king crab, and Tanner crab are prohibited species and should 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. PSC is apportioned between target fishery categories: trawl and non-trawl fisheries. The halibut PSC limit for trawl gear is currently 3,675 mt. For herring, the PSC limit for trawl gear is one percent of the annual eastern Bering Sea herring biomass. The PSC limits for C. bairdi and C. opilio crab are dependent upon the abundance of these species of crab, while the PSC limit for red king crab is dependent upon the number of mature female red king crabs.

All vessels participating in the groundfish fisheries are required to retain all catch of pollock and Pacific cod, when directed fishing for those species is open, regardless of gear type employed and target fishery. When directed fishing for an IR/IU species is prohibited, retention of that species is required only up to any maximum retainable amount in effect for that species. No discarding of whole fish of these species is allowed, either prior to or subsequent to that species being brought on board the vessel except as required in the regulations. At-sea discarding of any processed product from any IR/IU species is also prohibited, unless required by other regulations. The no action alternative also includes the revision of the pollock MRA in the BSAI, which was implemented on June 2004. Under this revision, the enforcement period for pollock harvest in the BSAI was modified from enforcement at anytime during a fishing trip to enforcement at the time of offload.

All IR/IU species caught in the BSAI must be either 1) processed at sea subject to minimum product recovery rates or 2) delivered in their entirety to onshore processing plants for which similar processing requirements are implemented by State regulations.

Analysis of the status quo assumes the groundfish retention standards (GRS) are implemented. 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 establishes a minimum GRS. Although Amendment 79 has not been approved by the Secretary of Commerce, the amendment, when originally 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 in 2008. On June 16, 2005, NMFS issued a proposed rule to implement Amendment 79 to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area. In the proposed rule, NMFS specifically requested public comment on the intended implementation of the GRS program at 75 percent in 2006. To address the request for public comment on the implementation of the GRS program, the Council at the June 2005 meeting, recommended that Amendment 79 be implemented starting at 65 percent in January 2007 followed by subsequent increases in GRS the following years as originally approved by the Council in June 2003.

Amendment 79 would only the Non-AFA Trawl CP vessels greater than or equal to 125 ft LOA would be required to comply with the GRS. The standard would be applied (and subject to enforcement for violations) 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, the discard rate for the Non-AFA Trawl CP sector is expected to be reduced. Information in Table 3-67 shows the expected increases in the additional 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 3-67 Expected affects to the Non-AFA Trawl CP sector from Amendment 79 and pollock MRA enforcement changes

	2005	2006	2007	2008	2009	2010
GRS (Percentage)	-	-	65	75	80	85
Additional Retained Catch	0	0	1,799	17,722	33,539	52,913
Additional Retained Product	0	0	1,146	11,287	21,361	34,337
Number of GRS Affected Boats	0	0	0.7	6.5	12.3	19.8
Retention Rate of GRS Affected Boats	72.1	72.1	72.5	76.3	80.1	85.0
Retention Rate of HT-CP Fleet	69.9	69.9	70.2	73.4	76.6	80.6

Source: Analysis of BSAI Amendment 79, July 2005

Overall, the preferred alternative would lead to a projected retention rate of 80.6 percent across the entire Non-AFA Trawl CP sector and 85 percent across affected vessels. The gain in retention is the result of lower discards of non-pollock groundfish. Additional costs would be incurred by vessels required to comply with the GRS to allow for monitoring and enforcement of compliance. Seven of the qualified vessels would be required to invest in flow scales at an approximate cost of $75,000 to $300,000 per vessel, while all sixteen vessels would be required to carry an extra observer at a cost of roughly $82,000 per year per vessel.

Alternatives 2 and 3

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 a percent of the annual TAC 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. The remaining portion of the primary target species not allocated will be reserved for the general limited access fishery for all other trawl vessels with catch history during 1995-2004 and having the appropriate LLP endorsements. Trawl catcher vessel participation in the general limited access fishery would be limited to those vessels with catch history during 1995-2004 period and having the appropriate LLP endorsements.

Under 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 general limited access fishery. Trawl catcher vessel participation in the general limited access fishery would be limited to trawl catcher vessels with 1,000 mt of catch history during 1995-2004 period and having the appropriate LLP endorsements.

Allocation of primary species

Table 3-68 shows the allocation of the primary species to the Non-AFA Trawl CP sector and the general limited access fishery under Alternatives 2 and 3.

Table 3-68 Allocations of Amendment 80 species under Alternative 2 and 3

Alternative 2		
Allocated Species	**Non-AFA Trawl CP sector**	**General limited access fishery**
	Allocation percent	Allocation percent
Atka mackerel	96.1%	3.9%
Flathead sole	97.9%	2.1%
AI POP	100%	0.0%
Rock sole	95.9%	4.1%
Yellowfin sole	88.5%	11.5%
Alternative 3		
Allocated Species	**Non-AFA Trawl CP sector**	**General limited access fishery**
	Allocation percent	Allocation percent
Atka mackerel	73.2%	26.8%
Flathead sole	59.0%	41.0%
AI POP	78.3%	21.7%
Rock sole	29.4%	70.6%
Yellowfin sole	52.0%	48.0%

Source: Amendment 80 database.

Under Alternative 2, the allocation percentages to the Non-AFA Trawl CP sector are expected to be sufficient to keep the sector's groundfish catch levels about the same as their historic catch. However, the remaining portion of groundfish reserved for the general limited access fishery would be substantially less than historic harvests and may disadvantage members of other sectors, particularly non-AFA catcher vessels. Under this alternative, the allocation to the general limited access fishery would be less than the combined AFA Trawl CP and CV sideboards for each of the allocated species. Recall that the sideboards are not an allocation. Sideboards limit the total amount of a species a sector that has been "rationalized" may harvest. Persons operating in the general limited access fishery will need to compete against other participants in the AFA sectors to harvest these species. During the years 1995 to 1997, participants in the AFA Trawl CP and CV sectors participated in these fisheries in larger numbers. However, in recent years, the number of vessels participating in these fisheries has declined. 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 the AFA Trawl CP and CV sectors focused more on the pollock fishery. However, if pollock declines, AFA vessels could shift their effort to species allocated under this action, if it is profitable. A second reason is that vessels that historically participated in some of these fisheries were retired as part of the AFA. Given the small allocation to the general limited access fishery, participants will have little or no opportunity to expand their harvest in these fisheries, if the pollock and Pacific cod TAC were to decline.

For Alternative 3, the groundfish allocation percentages to the Non-AFA Trawl CP sector would result in allocation at current TAC that are below their current retained catch of these species. In contrast, the allocation amounts of some species (e.g., flathead sole, AI Pacific Ocean perch, rock sole, and yellowfin sole) to the general limited access fishery under Alternative 3 at current TACs would be far greater than the current catch of participants outside of the Non-AFA Trawl CP sector. In addition, the allocations for

these species in some cases greatly exceed the combined AFA Trawl CP and CV sideboards. Without substantial increases in effort by Non-AFA Catcher Vessels, large portions of the allocation to the general limited access fishery would go unharvested. For example, if the Council selected this allocation option for rock sole, the allocation to the general 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 (7.11 percent), the remaining allocation available for the Non-AFA Trawl CV sector would be 63.49 percent. However, the Non-AFA Trawl CV sector has traditionally harvested very little rock sole. Between 1995 and 2002, the number of Non-AFA Trawl catcher vessels 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.

Since Alternative 3 requires trawl catcher vessels to have 1,000 mt of retained catch history, some trawl catcher vessels would be excluded from the general limited access fishery for these allocated species. Basing eligibility on the species allocated under the proposed action would allow only 12 vessels to participate. If eligibility were based on all groundfish, then 123 vessels would be eligible to participate in the general limited access fishery.

Alternative 3 includes a provision that would allow NOAA Fisheries to rollover any portion of the general limited access fishery allotment 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 aspects of the rollover provision that could 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 general limited access fishery, as shown under this option, it is possible that much of that rock sole TAC will be available for rollover, given historic rock sole usage by vessels in the general limited access. 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 under Amendment 80 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 quickly harvested and it 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. 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 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.

Yellowfin sole threshold

Under both alternatives, when ITAC exceeds a specific threshold, yellowfin sole will be distributed differently than under the primary allocation formula. The threshold for Alternative 2 is 125,000 mt, whereas for Alternative 3 the threshold is 100,000 mt. Under Alternative 2, any portion of the 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 general limited access fishery. At or below the 125,000 mt threshold, the ITAC would be allocated as determined from the primary allocation formula, 88.5 percent to the Non-AFA Trawl CP sector and 11.5 percent to the general limited access fishery. Under Alternative 3, any portion of ITAC exceeding the 100,000 mt threshold would be allocated as the following: 70 percent to the Non-AFA Trawl CP sector and 30 percent to the general limited access fishery. The yellowfin sole ITAC up to the threshold would be allocated as 52 percent to the Non-AFA Trawl CP sector and 48 percent to the general limited access fishery.

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 their biomass levels. During 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 general limited access fishery, providing an increasing opportunity for participants in the general 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 general limited access fishery is 31,898 mt or 21 percent of the ITAC, up from 11.5 percent (or 14,375 mt) at or below the threshold. At an ITAC of 175,000 mt, the total yellowfin sole allocated to the general limited access fishery is 49,398 mt or 28 percent of the ITAC, again up from 11.5 percent at or below the threshold.

The threshold program developed in Alternative 3 does not provide the same level of opportunity for the expansion of harvest by the AFA CV and CP sectors compared to Alternative 2. As noted above, only 30 percent of the yellowfin sole ITAC above the threshold is distributed to the AFA CV and CP sectors. Compared to the allocation of yellowfin sole below the threshold (48 percent), the distribution of yellowfin sole to the AFA CP and CV sectors above the threshold diminishes as yellowfin sole TAC increases.

Under both alternatives, there are no yellowfin sole sideboards for the AFA CP and CV sectors for yellowfin sole distributions associated with the threshold program. This would allow more opportunity for the AFA CP and CV sectors to expand their harvest of yellowfin sole during periods of low pollock TAC.

Constraining the success of threshold program is the lack of halibut PSC allocations associated with the yellowfin sole threshold distribution. Both alternatives do not allow reallocating halibut PSC to accommodate threshold distributions, so both the Non-AFA Trawl CP sector and the AFA CP and CV sectors would have to rely on their initial allowance of halibut PSC. In general, there is a potential that both groups may not have enough halibut PSC to harvest the entire threshold distribution of yellowfin sole.

Both alternatives 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 general limited access fishery to the Non-AFA Trawl CP sector. Although its very unlikely under this alternative, the Regional Administrator could also reallocate any projected unharvested allocation of yellowfin sole from the Non-AFA Trawl CP sector to the general 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. Reducing the success of the rollover option is the absence of halibut PSC. Trawl sectors will have to rely on their initial allocation of halibut PSC to harvest any rollover portions.

CDQ allocation

Under Alternative 2, the CDQ Program would be allocated 10 percent of the annual TAC for each primary target species. The program also would receive 10 percent of the TAC for the incidental catch species (with the exception of Pacific cod) taken in these target species. These allocations would be removed from TACs prior to any allocations that are made to other industry sectors. An increase to 10 percent would allocate an additional 2.5 percent of annual TACs to the CDQ Program. Increasing the percentage allocation of primary target species would provide the CDQ Program access to an additional portion of the BSAI flatfish fishery, which could increase program revenues to the benefit of CDQ communities. Increasing the percentage allocations of incidental catch species would help ensure that CDQ groups did not fully harvest available incidental catch species quotas before they had fully harvested their primary target species. Neither pollock nor squid CDQ percentage allocations would be increased, for reasons explained under Component 2. The CDQ percentage allocations of prohibited species would be increased to 10 percent, which is proportional to the allocations for primary species. Chinook salmon and herring PSQ percentage allocations would not be increased, as described under Component 5.

Alternative 3 would allocate 15 percent of the annual TACs for each primary target species to the CDQ Program, along with 15 percent of the annual TACs for the incidental catch species (except for Pacific cod) caught with primary species. These allocations would be removed from TACs prior to any allocations that are made to other industry sectors. This increase is double the existing CDQ percentage allocations of 7.5 percent. Increasing the percentage allocation of primary target species would provide the CDQ Program access to an additional portion of the fisheries prosecuted by non-AFA trawl catcher/processors. This, in turn, could increase program revenues to the benefit of CDQ communities. Increasing the percentage allocations of incidental catch species would help ensure that CDQ groups did not fully harvest available incidental catch species quotas before they had fully harvested their primary target species. Neither pollock nor squid CDQ percentage allocations would be increased, for reasons explained under Component 2. The CDQ Program percentage allocations of prohibited species would be increased to 15 percent, which is proportional to the percentage chosen for primary species. Chinook salmon and herring PSQ percentage allocations would not be increased, as described under Component 5.

PSC allocation

Under Alternative 2, the PSC allowance to the Non-AFA Trawl CP sector would be based on the historical usage of PSC in all fisheries 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 historical PSC usage in fisheries for allocated species plus Pacific cod, but based on average historic usage of all participants in those fisheries (rather than usage of the Non-AFA Trawl CP sector). To develop these PSC allocations, the historic PSC catch by all trawl vessels in each applicable fishery would be multiplied by the percentage of the TAC in that fishery to be allocated to the Non-AFA Trawl CP sector under Components 3 and 4.

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 history of allocated groundfish of the eligible Non-AFA Trawl CP participants during the 1998 to 2002 period with no drop year option. Under Alternative 3, this allocation would be based on historical total catch of allocated groundfish species of eligible participants during the 1995 to 2003 period and participants can drop their three lowest annual catches by species during this period.

Table 3-69 provides the percent of the PSC allocation under Alternative 2 by individual PSC species. Presented are two allocation percentages for each PSC species, average of the annual percentage, and the percent of the total. The PSC allocation to the Non-AFA Trawl CP sector would likely be sufficient to harvest its entire allocation of the groundfish. Although it cannot be determined with any certainty, the remaining halibut PSC for all other trawlers could be insufficient to harvest the allocation of groundfish to the general limited access fishery, if, for example, pollock effort were to decline and Pacific cod effort were to increase.

Table 3-70 provides the PSC allocation under Alternative 3 by the individual PSC species. Although it cannot be determined with any certainty, the PSC allocation percentages under this alternative could result in an allocation to the Non-AFA Trawl CP sector that may be insufficient for harvesting their entire allocation of the target species, if the sector cannot reduce its PSC catch rates substantially from current levels. In contrast, the remaining portion of halibut PSC reserved for all other trawlers should be sufficient to harvest the remaining portion of unallocated groundfish. Alternative 3 also includes a reduction in the calculated PSC apportionments to the Non-AFA Trawl CP sector by an additional 5 percent.

Table 3-69 PSC allocations based on PSC usage by the Non-AFA Trawl CP sector from 1998 to 2002

PSC Species	Percent of PSC usage using average of annual percents	Percent of PSC usage using average of total
Halibut	77.43%	77.35%
Herring	11.03%	8.46%
Red king crab	90.37%	92.99%
C. opilio	94.37%	94.36%
Zone 1 C. bairdi	90.41%	89.21%
Zone 2 C. bairdi	94.56%	94.46%

Source: Amendment 80 database. At this time, only data for 2003 was available for halibut.

Table 3-70 PSC allocations based on percentages from allocated Amendment 80 species multiplied by the total trawl PSC usage from 1995 to 2002

PSC Species	Percent of PSC usage using average of annual percents
Halibut	35.59%
Herring	5.44%
Red king crab	34.98%
C. opilio	44.51%
Zone 1 C. bairdi	31.94%
Zone 2 C. bairdi	47.22%

Source: Amendment 80 database. At this time, only data for 2003 was available for halibut.

Sector eligibility

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, an estimated 27 vessels appear to qualify for the Non-AFA Trawl CP sector for Alternatives 2 and 3. 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.

Alternatives 2 and 3 also include a qualification requirement for LLP licenses to participate in the Non-AFA Trawl CP cooperative. In each alternative, the endorsement would apply to only those LLP licenses associated with a qualified vessel that caught not less than 150 mt of non-pollock groundfish with trawl gear and processed that fish during a given set of years. For Alternative 2, the qualifying years are 1997 to 2002, while for Alternative 3 the qualifying years are 1997 to 2004. The impact of this qualification requirement is it defines the specific licenses whose holders would qualify to participate in the sector's cooperative program. Under Alternative 2, 27 licenses are estimated to qualify for a cooperative endorsement. Under Alternative 3, two or three additional licenses are estimated to qualify for cooperative endorsements, respectively. Additional licenses qualify for the cooperative endorsement because some vessels carry multiple licenses in recent years. Qualifying multiple licenses for a single vessel could provide the holder of those licenses with additional negotiating leverage in the cooperative formation process. If the formation threshold is at all constraining, the more endorsed licenses that a person holds, the stronger the person's position in negotiations concerning cooperative formation. The Council should not that applying a cooperative license endorsement requirement could create circumstances that are somewhat inconsistent with the "owner qualification" developed by the Capacity Reduction Program.

Cooperative formation

Under Alternative 2, 15 percent of the endorsed LLP licenses would be needed to form a cooperative. In addition, at least two unique entities are required for cooperative formation. Since under Alternative 2

there are likely to be 27 endorsed LLP licenses, at least four of these licenses would be needed to form a cooperative. If each of the cooperatives had the minimum required four endorsed LLP licenses, six cooperatives would be formed in the Non-AFA Trawl CP sector. This alternative does not preclude a cooperative from having more than four endorsed LLP licenses. This provision should help to ensure that each vessel is given the opportunity to join a cooperative. Alternatively, the "odd-person-out" may have less of a 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 than Alternative 3 cooperative structure, which allows only a single cooperative to form. Under this action, each participant would have the option to join any of six potential cooperatives, so it is more likely to find a cooperative that would help them meet their objectives. Participants who elect not to join a cooperative would participate outside a cooperative but within the sector's limited access fishery.

As the number of cooperatives increase, the complexity of monitoring requirements by NOAA Fisheries also increases. Unlike AFA cooperatives, where only pollock is allocated, Amendment 80 will allocate several species, which must be monitored. Sideboards will also add to management and monitoring burdens. If multiple cooperatives form, multiple accounts will exist for each allocated species and a system of monitoring transfers must be developed. The system of transfers must ensure liability for harvests in excess of allocations. If NOAA Fisheries bears full responsibility for monitoring catch on a vessel basis within each cooperative, performing transfers of quota between cooperatives, and notifying enforcement if quotas have been exceeded, it is likely there would be a need for increased agency staffing. Alternatively, Bering Sea pollock cooperatives developed under the AFA have developed an intercooperative agreement under which a large portion of the administrative and monitoring obligations are taken on by the industry with agency oversight. A similar system could be developed for the Non-AFA Trawl CP sector to ameliorate the agency management and monitoring burden, but the multispecies allocations would be more complicated for sector management than Bering Sea pollock allocations. Regardless of whether a portion of the management and monitoring burden may be transferred to participants in the sector, multiple cooperatives would compound agency oversight burdens and costs.

Under Alternative 2, allocation of the primary species and PSC allowances between cooperatives and the sector's limited access fishery is based on the retained catch of the allocated species of the eligible license holders included in each cooperative and in 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 the distribution of the sector's TAC between cooperatives and the sector's limited access fishery.

In contrast, to form a cooperative under Alternative 3 requires 67 percent of the endorsed LLP licenses to form a cooperative. Given there are an estimated 29 eligible licenses endorsed LLP licenses under this alternative, 19 qualified licenses are required to form the cooperative. 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 19 licenses. 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 owner of the nineteenth license 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 the sector limited access fishery 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 compared to Alternative 2.

Excessive shares

Under Alternative 2, consolidation in the Non-AFA Trawl CP sector 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 own or use. Using retained catch and catch history years 1998 to 2002 for each of the allocated species, the estimated number of companies in the sector that would be allocated amounts over 20, 30 and 50 percent of the total sector allocation are shown in **Table 3-71**.

Table 3-71 Use caps analyzed using vessel data on retained catch by owner

Catch History Years	Species	Sum of LLP owners with over 20 percent catch history	Sum of LLP owners with over 30 percent catch history	Sum of LLP owners with over 50 percent catch history
1998-2002	Yellowfin Sole	*	*	0
	Rock Sole	*	*	0
	Flathead Sole	*	*	0
	Atka Mackerel	*	*	*
	AI POP	*	*	*

Source: NMFS WPR Data
* With held due to confidentiality issues.

In the extreme, with no excessive share caps, the sector's entire allocation could be concentrated to the extent necessary to achieve maximum efficiency. This would likely the number of vessels and the number of jobs in the fishery substantially. 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 own more than a fixed percentage of the overall sector apportionment history. The cap will be applied across the total allocation to the sector for the five species that are directly allocated. 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. Since the cap is set at 50 percent of the fishery it can logically only apply to one company. If two companies own exactly 50 percent of the sector allocation there is no more quota to buy[31]. No company is over the cap for yellowfin sole, rock sole, and flathead sole. Any company that wanted to purchase shares of these fisheries, after the initial allocation, would be allowed to do so. The changes in the economic impacts of a 50 percent cap versus no cap are small.

Since the harvest limit exists, the number of vessels in the fishery could be reduced to allow maximize efficiency, including a single vessel to harvest the entire allocation. Cost savings associated with a more optimal fleet size is expected to increase the producer surplus generated by the fleet. Jobs associated with the vessels removed from the fishery could be lost. Total wages earned by processing and harvesting crew on the remaining vessels would increase since they would be spending more time harvesting and processing the additional share of the fish. It is not known if the owners would modify their wage scale to reduce crew shares or change to a system of hourly wages for the remaining employees. Impacts on consumers are expected to be small. The fish produced by these vessels compete in the world seafood market. The competition from other seafood products are expected to limit the market power of companies even if they control a large percentage of the BSAI market for the five allocated species.

[31] It would also require everyone in the sector to join a cooperative or part of the sector's allocation would not be available to purchase.

Sideboards

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. Alternative 2 defines GOA groundfish sideboards based on the number of fished in the GOA during the qualifying period. A sideboard cap would not be set for those vessels. Instead, the number of vessels that could fish in the GOA would be constrained. Sideboards would remain in place until such time as other BSAI and GOA fisheries are rationalized (including Pacific cod sector allocations). 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 in the BSAI. 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.

Impacts of Alternatives 2 and 3 cannot be compared at this time. Additional information is needed on the number of vessels that would qualify under Alternative 2 before that comparison can be made.

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

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)	
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 cannot be estimated, but will be based on the number of vessels qualified to fish in the GOA. Under Alternative 3 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 27 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	Sideboard amounts would not be set for the GOA groundfish fisheries. Instead, the number of vessels that can participate would be limited. Only vessels that fished a given number of weeks during a specific time period would be allowed to continue participating in GOA fisheries. Until that threshold is specified the impacts cannot be analyzed.			0.20%	30,380	61	120
Pollock 620				0.10%	34,404	34	100
Pollock 630				0.10%	18,718	19	
Arrowtooth Flounder				11.00%	25,000	2,750	7,750
Deep Water Flatfish				9.30%	3,340	311	252
Shallow Water Flatfish				2.70%	13,000	351	173
Flathead Sole				20.80%	5,000	1,040	369
Rex Sole				75.10%	7,340	5,512	2,317
Pacific Ocean Perch				39.70%	8,535	3,388	4,179
Rougheye Rockfish				33.10%	557	184	495
Shortracker Rockfish				33.10%	324	107	
Thornyhead Rockfish				17.80%	1,010	180	210
Pelagic Shelf Rockfish				46.30%	3,067	1,420	1,620
Northern Rockfish				34.30%	4,283	1,469	1,156
Other Rockfish				22.40%	300	67	233
Pacific Cod				4.20%	25,086	1,054	2,024
Sablefish				24.40%	1,450	354	524
Arrowtooth Flounder				32.50%	8,000	2,600	4,218
Deep Water Flatfish				3.10%	330	10	9
Shallow Water Flatfish				29.20%	4,500	1,314	143
Flathead Sole				52.10%	2,000	1,042	314
Rex Sole				87.40%	1,680	1,468	572

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)	
Pacific Ocean Perch				80.60%	2,567	2,069	1,456
Rougheye Rockfish				65.70%	188	124	161
Shortracker Rockfish				65.70%	155	102	
Thornyhead Rockfish				37.00%	410	152	116
Pelagic Shelf Rockfish				65.10%	377	245	135
Northern Rockfish				70.20%	808	567	443
Other Rockfish				0.50%	40	0	23
Pacific Cod				2.20%	15,687	345	553
Sablefish				41.10%	508	209	116
Atka Mackerel				70.30%	600	422	178
Other Species				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.

GOA sideboard limits for halibut will impact the fleet's ability to harvest their groundfish sideboard caps. Table 3-74 shows the estimated halibut cap that would available to the Non-AFA Trawl sector in the GOA. These estimates are not broken out by area because halibut is not managed by area.

Table 3-74 GOA Trawl Halibut PSC Sideboard estimates (mt)

	Quarter				
	1	2	3	4	Total
Alternative	**Trawl Halibut PSC Allotment to Shallow Water, by Quarter (mt)**				
Alt 3	21.48	41.70	34.11	44.33	141.62
Alt 2	14.79	42.58	42.48	55.98	155.83
	Percent of Trawl Halibut Allotment to Deep Water by Quarter				
Alt 3	61.53	193.26	170.20	83.00	507.99
Alt 2	48.68	211.97	185.86	54.58	501.09
	Percent of total GOA Trawl Halibut to Non-AFA CPs				
Alt 3	83.01	234.97	204.31	127.33	649.62
Alt 2	63.47	254.54	228.34	110.57	656.92

Source: NPFMC summary of NMFS weekly PSC reports.
Note: Data for 2004 was not included in this report. A trawl PSC allotment of 2,000 mt was assumed.

Because these estimates are based on historic halibut usage it is assumed that either alternative would enable the Non-AFA Trawl CP sector to harvest their groundfish sideboard amounts. The total amount of halibut allocated to the sector is about the same under each alternative. The most variation occurs by quarter. Even that variation is not expected to significantly impact the fleets ability to harvest their groundfish sideboard amounts.

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. GOA halibut PSC sideboard limits will play a role in how much of the fish they can harvest.

3.3.3 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[32]. 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.

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 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 sector must comply with GRS, which also could limit production efficiency. The magnitude of any

[32] 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.

negative effect on production efficiency depends on the profits (or losses) arising from retaining fish that would have been discarded but for the GRS and any lost profits from not harvesting more valuable fish because of lack of hold space because of fish retained because of the GRS. Some Non-AFA Trawl CP sector participants assert that 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 could result in losses. However, changes in technology, fishing techniques, and markets could improve returns from fish retention associated with the GRS

Alternatives 2 and 3: Multiple Cooperatives and Single Cooperative

Under Alternative 2 and 3, the Non-AFA Trawl CP sector any change in production efficiency is likely to arise from sector members joining cooperatives. Efficiency improvements would result primarily from improvements in technical efficiency that arise from fishing in cooperatives. 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 with relatively high costs of accommodating 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 allocations.

Although it is apparent that efficiency will improve from cooperative fishing, the extent of overall gains in production efficiency depends on the extent of cooperative membership and the size of cooperatives, both of which could vary under the two alternatives and over time. In general, more participants in cooperatives should result in more efficient operations. Also, larger cooperatives should be more efficient, as participants are able to coordinate fishing of a larger allocation across more vessels.

Under a multiple cooperative structure (such as Alternative 2), participants would need to reach agreement with fewer members of the sector for cooperative formation. The diversity and divisiveness of relations in the Non-AFA Trawl CP sector suggest that a multiple cooperative structure could simplify cooperative formation by limiting the number of participants that must come to terms for cooperative formation. The process of reaching agreement will be complicated by the need to reach agreement not only management and harvest of the cooperative allocation, but also on cooperative compliance with the GRS. It is possible (at least at the outset) that several cooperatives would form, as participants choose to co-op with other participants with whom agreement is most easily reached. Over time, however, participants may choose to develop more consolidated cooperatives, particularly if relationships develop through intercooperative agreements and the potential for efficiency gains through that consolidation become apparent.

Under a single cooperative structure (such as Alternative 3), the extent of any efficiency gain will depend on whether a sufficient number of members of the sector is able to reach agreement and whether persons not in the initial cooperative are able to come to terms with the cooperative. The potential for reaching agreement will depend on several factors. The diversity of the fleet and the potential for GRS compliance to complicate negotiations could be obstacles to cooperative formation. If no cooperative forms, the sector

efficiency of the sector would be similar to that of status quo. The separate and limiting allocations (including PSC allocations) to the sector could result in the sector suffering a loss relative to the status quo, if a cooperative agreement cannot be reached. If a cooperative does form, at least early in the program, it is likely to be larger than the cooperatives that might form under Alternative 2. The single cooperative structure, however, could leave some sector members outside of the cooperative for several years reducing overall efficiency, particularly if those sector members are diverse from other members and can meet GRS requirements without cooperative fishing. The single cooperative structure also increases the likelihood that negotiating dynamics will impel some portion of the fleet will need to accept terms that are generally less favorable than would otherwise be accepted because cooperative fishing under less favorable terms provides some benefit over fishing in a limited access. Participants in the sector that are able to use the single cooperative formation rules to exert this negotiating leverage would realize the benefit of any such concessions.

3.3.4 Effects on the CDQ Program

Under Alternative 2, CDQ percentage allocations for each of the groundfish species noted in Component 1 and associated secondary species taken incidental in the primary trawl target fisheries would increase to 10 percent, whereas in Alternative 3 the percentage allocations would increase to 15 percent. The PSQ percentage allocations would increase proportionately under each alternative, as well. Under Alternative 2, the PSQ percentage allocation would increase to 10 percent, and under Alternative 3 the PSQ percentage allocation would increase to 15 percent.

During the first few years of the multispecies CDQ Program (which began in late 1998), many of the flatfish CDQ allocations were not entirely 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 have 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 insufficient to account for additional bycatch needs.

Table 3-75 shows the 2001 through 2004 CDQ catch for each of the primary target species. Until recently, the yellowfin sole CDQ fishery was not as completely prosecuted as fisheries such as pollock and Pacific cod. 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 of flathead sole CDQ harvested 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.

Table 3-75 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.

Given that the allocations to the Non-AFA Trawl CP sector, under both Alternative 2 and Alternative 3, would likely result in this sector harvesting its entire allocation, it is possible that additional 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 the fisheries that the cooperative(s) or open access components of the Non-AFA Trawl CP sector participate in 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.

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 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. To calculate future royalty estimates for the increased CDQ percentage allocations considered under Alternatives 2 and 3, 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, retina, and process. Much of this information cannot be obtained from data sources that are currently available.

Practically speaking, it may be unlikely that the entire amount of each CDQ reserve would be caught, or that those fish that were caught would all yield royalties to CDQ groups. Some amounts of the primary target species are caught and discarded in other target fisheries. In addition, some amount of the primary species caught in the CDQ fisheries for primary target species are discarded and yield no benefit to either the vessel owner/operator or to CDQ groups. However, the increased CDQ percentage allocations under both Alternative 2 and Alternative 3 could offer opportunities for the CDQ groups to increase their participation in the Amendment 80 target fisheries. This probably would allow them to realize associated increase in royalties for allowing their partners to access CDQ species. However, we anticipate that any increases in the CDQ percentage allocations 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 vessels' business offices. 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 employment and training opportunities.

The CDQ group receives 7.5 percent of the annual BSAI yellowfin sole TAC. In 2003, some CDQ groups began pooling some of their annual allocations, including CDQ allocations of yellowfin sole and Atka mackerel. This appears to have allowed them to operate more efficiently and better manage the catch of incidental species. The 2003 fishery was the first year that essentially all of the yellowfin sole CDQ reserve was harvested. Table 3-75 shows that close to 98 percent 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 allocations in 2002. Given that relatively large percentages of the TACs were harvested in both the open access and CDQ fisheries, the increased CDQ percentage allocations considered under Alternative 2 and Alternative 3 probably would be harvested, if TACs and market conditions were relatively stable, and if CDQ groups and their partners continue their recent fishing patterns.

The CDQ Program also 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 97 percent of the allocation was harvested. During that same year, about 87 percent and about 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 Atka mackerel TACs were harvested in both the open access and CDQ fisheries, the increased CDQ percentage allocations considered under Alternative 2 and Alternative 3 probably would be harvested, too, for the same reasons stated above.

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 the 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 both Alternative 2 and Alternative 3, the allocation of 10 and 15 percent, respectively, of the Pacific Ocean perch TAC to the CDQ groups could provide them with even more harvesting opportunities.

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 to the program. 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 PSQ 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 both Alternative 2 and Alternative 3, the increased allocations of the flathead sole and rock sole TAC to the CDQ groups could provide the potential for increased harvesting opportunities. However, based on the recent catch rates for flathead sole and rock sole by the CDQ groups and their partners, it is not likely the groups will harvest the entire allocation of

these two species under either Alternatives 2 or 3. Assuming they could harvest their entire allocations of these two species, CDQ groups may still realize only modest increases in royalties in comparison to their overall groundfish royalties.

In addition to potential increases in the primary target CDQ species considered under both Alternative 2 and Alternative 3, these alternatives would increase the CDQ percentage allocations of secondary species (except for Pacific cod) caught incidentally with the primary Amendment 80 target species. Alternative 2 would increase these percentage allocations to 10 percent of each secondary species TACs, while Alternative 3 would increase this to 15 percent. The incidental catch species associated with these target species include most BSAI TAC species. The primary 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, and illustrates the range of species caught across different target fisheries.

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.

Both Alternative 2 and Alternative 3 would increase the percentage of secondary species allocated to the CDQ Program in conjunction with increased allocations of primary target species. These allocation increases are shown in Table 3-77. 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	80	120
AI Other Rockfish	634	63	95
AI Sablefish	775	78	116
Alaska Plaice	10,000	1000	1500
Arrowtooth Flounder	12,000	1200	1800
BS Greenland Turbot	2,700	270	405
BS Other Rockfish	460	46	69
BS Pacific Ocean Perch	1,408	141	211
BS Sablefish	1,450	145	218
Northern Rockfish	5,000	500	750
Other Flatfish	3,000	300	450
Other Species	27,205	2721	4081
Rougheye Rockfish	195	20	29
Shortraker Rockfish	526	53	79

Source: NOAA Fisheries 2004 TACs

Neither the species categories nor amounts shown in this table represent a reliable estimate of the amount of the incidental catch species that could be caught in the CDQ directed fisheries for primary target species in the future. The primary target fisheries may need more, or less, than the amounts shown in this table to fully account for the bycatch of such species in either the 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 proportion as most other species allocated to the program. Estimating the amount of each bycatch species to allocate to the CDQ Program is a complex exercise that, if undertaken, could yield a wider range of necessary CDQ percentage allocations for incidental catch species than considered under either alternative.

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 the complete catch 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.

There are two different salmon-related prohibited catch species categories: chinook and non-chinook. 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 primary target 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 Salmon Savings Area before the primary target 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 4,200 salmon, whereas under Alternative 3 the allocation would be 6,300 salmon. Increasing the Chinook Salmon PSQ percentage allocation is not included in either Alternatives 2 or 3 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 3-32 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. Table 3-32 displays the PSQ reserves associated with the range of PSQ allocation percentage increases considered under Alternatives 2 and 3. The existing percentage allocation, 7.5 percent, is included for reference.

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 PSQ under Alternative 2 is 458 mt, whereas under Alternative 3 the allocation is 686 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.

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

3.3.5 Effects on Consumers

This section examines the effects on consumers of the allocation of the Amendment 80 species to the Non-AFA Trawl CP sector and the development of cooperative program. 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

Under Alternative 2, production of the Non-AFA Trawl CP sector participants is likely to be similar to current production. Quality of products could improve slightly as cooperative allocations will remove pressure to rapidly catch and process fish to maximize catch from the fisheries. Since these vessels already produce high quality products because their catch is processed onboard soon after it is harvested,

any quality improvement is likely to be slight. Improvements will be limited to those in cooperative, but since most (if not all members of the sector are likely to join cooperatives) these improvements should be realized throughout the fleet. Since most participants in the sector are limited in their ability to produce higher processed products, production choice changes are likely to be limited. 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.

The allocation to the general limited access fishery is likely to be produced into frozen head and gut and whole fish as in the current fishery. The destination for most of the product harvested in the general limited access fishery will likely be Asian markets as in the current fishery.

Under Alternative 3, allocations to the Non-AFA Trawl CP sector would be less than current harvests and the allocations under Alternative 2. As a result, the allocation to the general limited access fishery, available to all other participants in the BSAI fisheries would be increased. If the portion of the TACs assigned to the general limited access fishery 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, total harvests from the fishery could decline. The reduced supply would likely not negatively impact U.S. consumers due to large number of substitute products available.

Consumer effects under this alternative will also depend on cooperative membership, which could differ from that under Alternative 2 (see discussion in Cooperative Formation section above). Production from cooperative fishing is expected to be slightly better quality, with possible minor changes in production (to higher valued products) by vessels capable of producing those outputs.

Most, if not all, consumer effects will be on Asian consumers, who purchase most of the production from these fisheries.

3.3.6 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.[33]

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.

[33] This section intends to discuss only the public benefits from the environmental consequences of the alternatives.

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 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.

3.3.7 Effects on Management, Monitoring, and Enforcement

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

Introduction

The authority for monitoring and enforcement requirements in Exclusive Economic Zone (EEZ) 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

[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.

reasonable costs (such as those required to enforce the action) in comparison with the benefits of the action; and 3) requirements for the 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 NMFS 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 these systems foster resource stewardship among the shareholders in the resource, which leads to increased voluntary compliance with conservation measures. Some have even argued 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 to implementing any quota based program, including the alternative currently under consideration by the Council for Amendment 80.

Monitoring objectives for NMFS-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, NMFS believes ***any*** rights-based quota fishery must be developed with sufficient safeguards to meet the following objectives:

NMFS must be able to ensure compliance with regulations governing the fishery. In a rights based fishery, 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 or under-reporting catch. An effective rights-based quota management program must recognize that the incentive to engage in these sorts of activities increases and provide sufficient measures to minimize them.

There must be an authoritative, timely and unambiguous record of quota harvested.

All concerned parties (NMFS, other management agencies, and quota holders) must have access to a single authoritative record which clearly details the amount of quota harvested. To the extent 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 observer sampling procedures and NMFS catch accounting processes 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 information; 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 and highlight the need for increased monitoring. These are described below:

Availability of halibut PSC and other limiting species may limit participants' ability to fully harvest quota.

Components 9 and 10 develop criteria for placing limits on halibut PSC equal to the sector's historic use during the qualifying years, and that halibut PSC will be allocated to participants based on the amount of target species to which they are entitled. If halibut bycatch mortality is higher than the average mortality encountered during the qualifying years, participants will not be able to fully harvest their allocations. Participants will have a strong incentive to reduce or underreport halibut bycatch.

Observer collected data is the best source of information for species discarded at sea.

PSC species are required to be discarded at sea**.** PSC discard information may be collection in two ways: self reported by the vessel operator or by an observer. For the reasons described above, catch composition data collected by an observer onboard a vessel is the best source of information for NMFS' accounting 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.

NMFS would be forced to rely on an expanded determination of catch weight.

In any rights-based fishery, NMFS strives for catch accounting information on a haul-by-haul basis. Haul specific catch accounting can be achieved in two ways. First, observers could sort and weigh the entire haul by species. This method would not be a census, but would be a "whole-haul" approach to catch accounting. Second, a statistically valid approach for estimating catch composition by species and weight using observer sampling data could be developed. This would involve collecting several discrete random or systematic samples from within each haul. Next, the weight of each component of catch would be calculated using a statistical estimator. The resultant estimates would include measures of precision, but would not account for systematic error or bias.

Amendment 80 intends to provide secure allocations for a multiple species fishery where catches generally consist of heterogeneously mixed quota and non-quota species or species groups in the same haul. 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 many north Pacific fisheries (including flatfish fishery) and current catch accounting models depend on expanded observer samples for species composition. This catch accounting model is based on the policy determination that single composition samples from a single haul characterize the composition of the entire haul without error. Furthermore, NMFS has made a policy determination that this sampling model is an acceptable basis for haul-specific catch accounting and this approach is an acceptable proxy for "whole-haul" or "sampling and estimation" based catch accounting described above. NMFS is taking some steps to enhance an observer's ability to collect "representative" samples, but no analytical basis exists for determining how much improvement will result.

Our experience with the MSCDQ program has been that observer sampling has been the source of much of the controversy surrounding issues of quota catch accounting. In most cases, this controversy has been the result of either flagging an individual species-composition sample as having an anomalously high incidence of a given species, or attempting to influence sampling protocol in ways that result in a systematic bias of catch accounting in favor of vessels. Unfortunately, these incidents are not identified systematically but only when industry perceives it would be to their advantage. Because the catch composition sample will never be the same as actual catch composition, the amount of rarely occurring species in each haul will never be correct.

Observers deployed on H&G vessels currently base their calculation of halibut PSC on approximately 300 kilogram basket samples, or less depending on the time and space available to the observer, which are expanded to determine halibut catch for the entire haul. The sampled hauls are then expanded to determine the quantity of halibut for the unsampled hauls on a trip. The Regional office then calculates the halibut catch rate from the sampled hauls for each target species. These rates are then applied to all unobserved vessels to determine total halibut mortality. The degree to which a given quantity of halibut is expanded varies enormously depending on the fraction of observed hauls and the fraction of sampled catch in the observed hauls.

Multispecies nature of the allocation.

This program would allocate at least five main target species: yellowfin sole, rock sole, flathead sole, Atka mackerel, and Aleutian Islands Pacific ocean perch (POP). However, other target species which are unallocated could be more valuable per ton and cooperatives would wish to operate in such a manner as to optimize their allocated species. At some point, the availability of one quota species will limit the full harvest of all other quota species. Ideally, cooperatives would harvest the majority of their allocated species first and, to the extent TAC for unallocated species remains in the restricted access fishery, they will then harvest unallocated target species. However, the desire of a participant to maximize their share of unallocated species in the restricted access fishery may cause them to harvest unallocated species early and fail to reserve sufficient quantities to accommodate the actual bycatch needs of primary species allocations. This could create an incentive to misreport catches of allocated species in restricted access fisheries, which are traditionally managed at the fleet level.

Blending of quota-based species and non-quota based species under this program.

Amendment 80 does not envision the allocations of other groundfish species caught during normal H&G fishing operations. Rather, these species will be managed under current MRA regulations. Under Amendment 80, vessels engaged in directed fishing for allocated species may top off on unallocated species in bycatch status. As the relative values of various groundfish targets change across time, these top-off fisheries could become significant. Depending on the nature of the top-off activity, this aspect of the fishery could increase demands on available halibut PSC. For example, demand for arrowtooth flounder has increased dramatically in the past year as new markets have been developed. If participating vessels were allowed to top-off at the current rate, they would be allowed to harvest an amount of arrowtooth flounder equal to 35 percent of their quota species. Given the high halibut bycatch associated with arrowtooth flounder relative to other allocated species, this would clearly increase the use of halibut PSC and create monitoring program challenges. Halibut PSC allocations, however, could limit the ability of participants to top-off on these unallocated species.

Recent enforcement actions highlight concerns over presorting.

NOAA General Counsel recently prosecuted two separate cases where vessels in the H&G fleet intentionally interfered with observer samples by removing halibut from catch prior to observer sampling, and then discarded the halibut after the observer had completed sampling. In both cases, presorting activities were highly sophisticated and involved numerous crew members. For the reasons described above, Amendment 80 would increase the incentives for misreporting target quota and PSC species or interfering with observer sampling of limiting species. As the potential for these activities increases, minimum monitoring requirements must also increase to ensure NMFS' objectives for quota accounting are met.

Monitoring tools appropriate for Amendment 80

As described in earlier sections, Amendment 80 creates monitoring and catch accounting challenges that are greater than other quota programs. To meet these challenges, additional requirements will be needed to manage these sector allocations. On June 27, 2005, NMFS staff met with representatives of the H&G

fleet to discuss proposed monitoring components for Amendment 80. The proposed monitoring components (for all alternatives except the status quo) described below reflect these discussions.

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 not open to directed fishing are retained in restricted amounts under a MRA. Monitoring challenges could vary widely depending on Council recommendations to the Secretary, or fleet behavior. For example, if one or two eligible vessels choose to operate in the restricted access fishery, these vessels would be allocated a portion of the overall available allocation. These vessels may have incentives to maximize efficiencies and productivity similar to those vessels operating in a coop, or they may have an incentive to continue to race for fish. From a monitoring perspective, management challenges associated with coops and non-coops are very similar under Amendment 80, especially if a set of vessels believe access to a catch amount is secure. **For these reasons, vessels that choose to participate in non-coop fisheries would *also* be subject to increased monitoring standards.** For vessels which target the same species under different management programs, monitoring program complexity would be reduced.

Amendment 80 does not propose to allocate all historically targeted species. Under some alternatives, vessels could target allocated and non-allocated species during the same trip. The monitoring objectives and management structure are different between quota fisheries and non-quota fisheries, but switching monitoring programs could be costly and create significant enforcement challenges. **Consequently, monitoring standards would be in place for all vessels subject to Amendment 80 while fishing in the BSAI.** Because of the similar nature and monitoring challenges associated with MSCDQ fisheries, CDQ regulations would be revised to clarify that all non-AFA trawl catcher/processors would also be subject to these monitoring standards when fishing MSCDQ.

NMFS 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 H&G 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 H&G fleet. In some instances, allocated species may be fished in a restricted access fishery by the same vessels. These increased complexities create the need for a more intricate monitoring program than the AFA, where a single species are managed.

All vessels would be required to weigh all catch on NMFS-approved scales and provide an observer work station.

NMFS-approved scales would be inspected annually and tested daily when in use to ensure they are accurate. Because observer samples would be extrapolated to the entire haul, catch from each haul would be required to be weighed separately on the scale. To facilitate separate weighing, catch from each haul could not be mixed with other hauls. Vessels would also be required to provide an observer work station where an observer can work safely and effectively. 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 NMFS annually.

Sample station space requirements for AFA were implemented for a fishery where the large majority of catch is pollock, and partial hauls are commonly taken. During partial haul sampling, observers collect bycatch from a known portion of a haul. Because AFA bycatch levels are relatively low, less space is required to store observer samples. However, because of the multi-species nature of this fishery, partial haul sampling is rarely an option for observers. Thus, almost all samples taken in these fisheries are basket samples. Minimum basket sample sizes necessitate storage for 10 standard

observer baskets. Depending on the vessel, sample station space requirements could be insufficient to store basket samples. NMFS would only approve observer sample stations that could store 10 observer baskets.

All hauls would available to be observed by NMFS-certified observers.

Typically, this would mean at least two observers per vessel. Each observer would work 12 hour shifts. Vessel fishing practices would be conducted in such manner that each observer could complete the sampling duties outlined in the Observer Program sampling manual (http://www.afsc.noaa.gov/refm/observers/Manual_pages/MANUAL_pdfs/-manual2005.pdf). To the extent that the number of hauls sampled would increase from the status quo, 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.

Additional proposed requirements to facilitate observer sampling of unsorted catch.

The following four items describe proposed requirements necessary to facilitate the collection of unsorted species composition samples:

1. Vessels would be prohibited from having more than a single belt, chute, or other conveyance device for the mechanized movement of catch between the scale used to weigh total catch and the location where the observer collects species composition samples. Many vessels in this fleet currently operate with two separate production lines. Because observer program sampling procedures assume an observer has access to all unsorted catch, dual sample collection points are unacceptable for catch accounting on a haul-by-haul basis. While vessels could continue to operate dual production lines, an observer must have access to all unsorted catch at a single location. Vessels fishing in CDQ and AFA fisheries are also subject to these restrictions. In particular, many vessels in CDQ fisheries have devised creative solutions to comply with this requirement. For this reason, NMFS believes this requirement would not create an undue burden on vessels currently operating with dual lines.
2. Crew would be prohibited from entering any tank located prior to where the observer collects unsorted catch, unless:
   - The flow of fish has been stopped between the tank and the location where the observer collects unsorted catch, and;
   - All catch has been cleared from all locations between the tank and the location where the observer collects unsorted catch, and;
   - The observer has been given notice that vessel crew must enter the tank, and;
   - The observer is given the opportunity to observe activities of the person(s) in the tank.

   H&G representatives are concerned that a total ban on crew entering the fish bin would prevent the flow of fish in rockfish fisheries or cases where mud prevents the natural flow of fish from the bin. These requirements would allow observers to monitor activities within the bin or tank while maintaining sample collection protocols.
3. Unsorted catch would be prohibited from remaining on deck outside of the codend without an observer present. NMFS feels fish that remain in a codend do not present a large opportunity for presorting activities. However, unsorted catch on deck outside of a codend could easily be subject to presorting.
4. A vessel operator would be required to document the flow of fish within the vessel's factory. This description would include all live tanks, any sorting areas, total catch weighing scales, any incline belts, and any other aides or hindrances to the flow of fish. Additionally, the document must describe the procedure for testing of scales used to weigh total catch, where the test weights or equipment used to test the scales are stored, and the personnel responsible for testing the scale.

These descriptions will assist observers in assessing sampling procedures, and identifying potential violations.

Potential alternative monitoring approach

While all vessels would be subject to these requirements, vessels in this fleet vary widely in size, facilities, layout, and fishing practices. Because of this wide variability, a performance based catch monitoring system may be appropriate for some vessels in the H&G fleet. NMFS is exploring the use of performance based standards that would provide vessels flexibility in developing a catch monitoring system that works best for their factory layout and fishing practices. Under this alternative monitoring approach, vessel operators or managers could propose a vessel-specific monitoring plan (VMP) that would meet certain performance standards established in regulation. As envisioned, vessels complying with an approved VMP would not be subject to the requirements (1-4) described in this section. However, vessel operators who propose VMPs that do not address performance standards would be subject to these regulations. Additionally, vessel operators who do not comply with an approved VMP would be subject to enforcement action and the default regulations. **NMFS has identified two concerns associated with this concept:**

First, procedural due process issues under the Fifth Amendment of the U.S. Constitution and the APA exist with the VMP concept as it is currently proposed. The establishment of regulatory performance standards for agency consideration of proposed VMPs may create a protectible property interest under the Fifth Amendment of the U.S. Constitution. As currently proposed, VMPs would be approved by NMFS if applicants satisfy the regulatory performance standards. This structure appears to restrict NMFS' discretion to issue VMPs and to create a non-discretionary, or mandatory, duty on the part of NMFS to approve those VMPs that meet the performance standards. Regulatory programs that limit an agency's discretion in issuing permits have been found to create a legitimate claim of entitlement and therefore a protectible property interest under the Due Process Clause of the Fifth Amendment. If a protectible property interest would be created under the VMP concept, then NMFS would have to provide applicants with an appropriate level of procedural due process and administrative appeal when the agency initially determines whether to approve a proposed VMP and at the time of renewal. Under some circumstances, vessels may be allowed to continue to fish, potentially under a VMP that has been identified by NMFS as insufficient to meet monitoring needs. Additionally, VMPs would be "licenses" under the APA, and, once issued, would be subject to the requirements at 5 U.S.C. 558(c) concerning suspension or revocation and renewal of licenses.

Second, NMFS is concerned the tasks associated with increases to management responsibility will not be achievable with the current resources. Increases in the number of observer days (estimated at 4,900 annually) and increases 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, approving VMPs and conducting pre-cruise meetings. The Observer Program estimates increased staffing and costs associated with this action to include 3.5 full time equivalent staff positions and approximately $450,000 annually.

Summary of VMP concept

Performance standards are useful both to NMFS 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 focusing effort and money into meeting regulatory requirements, vessels could reduce costs and improve operating efficiencies by incorporating a monitoring program tailored to a specific vessel while still meeting NMFS' information and data quality needs. A VMP would consist of diagrams, drawings, descriptions, or other tools to show how the vessel intends to meet the standards described below.

Part I: Standards and descriptions of vessel practices

• Each vessel would 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 where mechanical presorting may occur. The vessel would describe how an observer would be able to collect a sample of unsorted catch in spite of these potential presorting locations. If more than one flow scale will be used, the plan should detail how and when the scales would be used to ensure both lines are not running simultaneously and the observers can sample from a single location during a given haul.

• From a single point (observation point) an observer would 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 would be located adjacent to or within the observer work station. An observer would be able to walk between the work station and the observation point without encountering undue or unusual safety hazards.

• An observer must be able to monitor the entire flow of catch between the point where fish leave the codend and the point where fish have passed the location where the observer collects unsorted catch. An approvable VMP would clearly demonstrate how the standard would be met.

Part II: Standards and descriptions of vessel practices to enhance sampling environment for the observer

Observer sampling challenges associated with H&G vessels in multiple species fisheries are described above. Part II to the VMP describes standards that would enhance the sampling environment and enable an observer to better meet these sampling challenges.

• The vessel operator, or a person designated by the vessel operator, would ensure the elements of the VMP 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 dimensions)

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

NMFS would review proposed VMPs to determine if they meet minimum monitoring standards. Following a vessel inspection by NMFS staff, plans that met the standards described in regulation would be approved. Plans that do not meet standards may require a subsequent inspection. Unless the vessel became out of compliance with a VMP, a VMP that met all of the performance standards would be approved by NMFS for one year. After one year, NMFS would review the VMP with vessel management to ensure the VMP continued to meet the performance standards.

If Amendment 80 is adopted, time would be needed for vessels to develop and NMFS to review and approve VMPs prior to fishing. Since the concept of VMPs 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 VMPs. For example, one vessel may propose to carry additional

observers 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. NMFS would need about 30 business days to inspect the vessel and approve the VMP. This time could be longer if a vessel's VMP is disapproved.

Each vessel would be required to provide the opportunity for a pre-cruise meeting.

Pre-cruise meetings would require vessel operators to notify NMFS 24 hours prior to departure for a fishing trip. Pre-cruise meetings have three primary goals:

1. Establish a professional working relationship early in the observers' interactions with vessel personnel;
2. Clarify prior to embarking on a fishing trip what is expected of each participant according to regulations and the VMP;
3. 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 NMFS staff member, the vessel operator and the observer(s). NMFS 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 could be monitored, in part, with a new performance based monitoring system where every vessel's VMP could be different, observers and vessel personnel would benefit from a mutual understanding of the observers' role in the VMP.

Costs, effects, and benefits of monitoring program

This section summarizes the costs and provides an effects analysis of monitoring components for all H&G vessels that would be subject to Amendment 80. It applies to the alternatives as they were proposed by the Council in June, 2005, regardless of the alternative adopted by the Council. The section below describes some of the known accounting costs, the effects of imposing these costs on the sector, and other potential benefits of this monitoring.

Costs and effects associated with scales, observers, and observers sampling stations under status quo

The monitoring needs for AFA C/Ps resemble those of the H&G fleet operating under any Amendment 80 action alternative. Based on NMFS 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 are not available on other opportunity costs of these requirements, 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.

A notice of availability for Amendment 79 was published in the *Federal Register* on June 2, 2005 (70 FR 32287). Amendment 79 added the following statement to the management goals section of the FMP: *Continue to improve the retention of groundfish where practicable, through establishment of minimum groundfish retention standards.* Amendment 79 was adopted on August 31, 2005. A proposed rule for implementing a groundfish retention standard (GRS) under authority of Amendment 79 was published on June 16, 2005 (70 FR 35054). The Secretary of Commerce (Secretary) currently is reviewing public comments on this rule. Because NMFS has not taken any action subsequent to the proposed rule, it is considered a reasonable and foreseeable future action under NEPA and this analysis must describe the costs of this action as they relate to the status quo.

All vessels would be required to weigh all catch from each haul separately on NMFS-approved scales. 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 NMFS annually. All hauls would be observed by NMFS-certified observers. Regulations specific to equipment for catch weighing and sampling are found at §679.28. Observer requirements are found at §679.50.

Approved flow scales cost approximately $50,000. Equipment to outfit an observer station, including a motion-compensated platform scale to verify the accuracy of the flow scale, cost between $6,000 and $12,000. Installation costs are much more difficult to estimate. Due to space constraints on many C/Ps, 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. 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 H&G vessels may range between $76,000 and $300,000 per vessel (Alan Kinsolving, NMFS, *pers. comm*, April, 2005). Some H&G 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 H&G vessels active in 2004 and their current flow scale and sample station status.

Table 3-80 HT-CPs with Vessel Length, Flow Scale & Observer Sampling Station Status

VESSEL NAME	Length	Flow Scale	Observer Station
GOLDEN FLEECE	104	No	No
ALLIANCE	107	No	No
TREMONT	124	No	No
OCEAN ALASKA	107	Yes	Yes
ENTERPRISE	120	No	Not Certified
DEFENDER	123	Not Approved	Not Certified
VAERDAL	124	Not Approved	Not Certified
REBECCA IRENE	140	No	No
CAPE HORN	158	No	No
ALASKA RANGER	203	No	No
ALASKA WARRIOR	215	No	No
ALASKA SPIRIT	221	No	No
ALASKA VICTORY	227	No	No
ALASKA JURIS	238	No	No
LEGACY	132	Not Approved	Not Certified
CONSTELLATION	150	Not Approved	Not Certified
UNIMAK	185	Not Approved	Not Certified
ARICA	186	Not Approved	Not Certified
AMERICAN NO I	160	Yes	Yes
U.S. INTREPID	185	Not Approved	Yes
OCEAN PEACE	219	Yes	Yes
SEAFISHER	230	Yes	Yes
SEAFREEZE ALASKA	295	Yes	Yes

Affected vessels with approved flow scale and certified observer station 5
Affected vessels with unapproved flow scale but certified observer station 1
Affected vessels with unapproved flow scale and uncertified observer station 6
Affected vessels with no flow scale and uncertified observer station 1
Affected vessels with no flow scale and no observer station 10
Sources: NMFS AKR and NPGOP, 2005.

Each vessel would detail the amount and location of space to accommodate a minimum sample size for an observer to sort and store catch. A minimum 300 kg basket sample requires storage for approximately 10 standard observer sampling baskets. This area would be within the observer sample station. Because requirements described at §679.28 may not accommodate 10 baskets on all vessels, this standard may require additional space. This standard enables observer(s) to more effectively sample for species composition. Due to decreased space for processing equipment, 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.

A vessel operator would be required to provide a document which describes the flow of fish within the vessel's factory. This description would include all live tanks, any sorting areas, total catch weighing scales, any incline belts, and any other aides or hindrances to the flow of fish. Additionally, the document must describe the procedure for testing of scales used to weigh total catch, where the test weights or equipment used to test the scales are stored, and the personnel responsible for testing the scale. These descriptions will assist observers in assessing sampling procedures, and identifying potential violations. There are minimal to no costs associated with this requirement.

Observation of every haul would most likely necessitate the deployment of two observers aboard each vessel. Current regulations require trawl vessels 125 ft. or longer to carry one NMFS-certified observer 100 percent of the time while fishing for groundfish. Therefore, observer coverage on these vessels would 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 NMFS-certified observer is about $355 per deployment day (not including food costs) for each vessel. In 2004, affected vessels 125 ft. or greater averaged about 179 observer days per year. Therefore, a conservative estimate of the cost of an additional observer for vessels 125 ft. or greater would be approximately $63,545 per vessel per year.

H&G vessels less than 125 ft. averaged about 26 fishing weeks per year based on NMFS WPR data. This equates to about 182 fishing days per year. However, this number is likely high because WPRs are submitted on a weekly basis, regardless whether fishing occurred for all seven days. Even though H&G 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 cost approximately $40,115. Since observation of all hauls would be required, an additional observer would cost about $64,610. For vessels less than 125 ft., observer coverage costs would increase by 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. If vessel operators 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 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. NMFS estimates the annual cost of maintenance for scales currently installed on catcher processors has been approximately $1,500 to $2,000. If season lengths increase, costs could increase. Finally, vessel operators may choose to purchase spare parts or a back-up scale depending on the amount of fishing time lost if the scales break down.

Total costs for scale, sample station, and observer requirements for each vessel greater than or equal to 125 ft. range between approximately $64,045 and $365,545. Total costs for scale, sample station, and observer requirements for each vessel less than 125 ft. range between $182,225 and $406,725.

Because of the high costs associated with increased observer coverage requirements, some 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, increases in the number of observer days and their associated increase in the amount of data collected is expected to raise overall annual costs of the 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, approving VMPs and conducting pre-cruise meetings. The Observer Program estimates increased staffing and costs associated with this action to include 3.5 full time equivalent staff positions and approximately $450,000 annually.

Costs and effects associated with scales, observers, and observers sampling stations if the proposed rule to implement a GRS program is approved.

With the exception of space required for storage of 10 baskets, if the proposed GRS program is approved, vessels 125 ft or greater will have small incremental costs because the costs described above will be implemented under monitoring requirements imposed under the GRS program. These include observer, flow scale, and sample station requirements. Costs associated with storage of 10 baskets could vary widely. Vessels less than 125 would not be subject to the proposed GRS program and increased monitoring requirements under Amendment 80 would include the costs described above.

Costs and effect associated with other monitoring requirements

Vessels would be prohibited from having more than a single belt, chute, or other conveyance device for the mechanized movement of catch between the scale used to weigh total catch and the location where the observer collects species composition samples. Many vessels in this fleet currently operate with two separate production lines. Because observer program sampling procedures assume an observer has access to all unsorted catch, dual sample collection points is unacceptable for catch accounting on a haul-by-haul basis. While vessels could continue to operate dual production lines, an observer must have access to all unsorted catch at a single location. Vessels fishing in CDQ and AFA fisheries are also subject to these restrictions. In particular, many vessels in CDQ fisheries have devised creative solutions to comply with this requirement. For this reason, NMFS believes this requirement would not create an undue burden on vessels currently operating with dual lines.

Crew would be prohibited from entering any tank located prior to where the observer collects unsorted catch, unless:

- The flow of fish has been stopped between the tank and the location where the observer collects unsorted catch, and;
- All catch has been cleared from all locations between the tank and the location where the observer collects unsorted catch, and;
- The observer has been given notice that vessel crew must enter the tank, and;
- The observer is given the opportunity to observe activities of the person(s) in the tank.

Unsorted catch would be prohibited from remaining on deck outside of the codend without an observer present. NMFS feels fish that remain in a codend do not present a large opportunity for presorting activities. However, unsorted catch on deck outside of a codend could easily be subject to presorting.

Cost associated with these requirements could require modifications to vessel factories. These costs are included in estimates of costs associated with observer sampling stations and scales. A variety of additional costs could be associated with these requirements. For example, sorting space may be reduced

and processing equipment may be moved to accommodate factory changes, possibly reducing the efficiency of the factory. These costs would vary among vessels, depending on factory configuration. Furthermore, production efficiencies could be reduced for those vessels required to stop belts to allow crew in fish bins. 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 requirements under a race for fish.

Vessel operators or managers could also propose a VMP that would meet certain standards established in regulation. Vessel operators or managers who operate vessels under an approved VMP have a wide range of possibilities to meet performance standards and estimating associated costs is difficult. However, vessels could operate under an approved VMP in lieu of some regulations described above. Under this scenario, vessels would not be subject to many of the costs associated with these regulations.

A vessel operator would be required to document the flow of fish within the vessel's factory. This description would include all live tanks, any sorting areas, total catch weighing scales, any incline belts, and any other aides or hindrances to the flow of fish. Additionally, the document must describe the procedure for testing of scales used to weigh total catch, where the test weights or equipment used to test the scales are stored, and the personnel responsible for testing the scale. These descriptions will assist observers in assessing sampling procedures, and identifying potential violations. Costs associated with this requirement would be minimal.

Costs and effects associated with VMP

NMFS is exploring how the Amendment 80 monitoring program could provide the opportunity for all H&G vessels to operate under a VMP in lieu of certain regulations. A VMP would be proposed to NMFS for describe how it would meet a series of performance based standards which NMFS would need to create an enforceable monitoring program. These standards and the process for obtaining approval of VMPs would be described in regulation.

Performance based monitoring plans are in place for processing plants receiving deliveries of AFA pollock and rationalized crab and function to provide vessels and processors flexibility in adapting their operations to meeting NMFS' monitoring needs. NMFS proposes providing the opportunity for H&G vessels to operate under VMPs 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 VMP, it is impossible to accurately quantify the costs associated with this component of the monitoring plan. However, the table below describes some of the costs vessels may generally incur based on NMFS' monitoring needs.

In general, proposed performance based monitoring standards could:

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 NMFS, 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 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.

Performance Based Standard	Estimated Costs
Each vessel would 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 where mechanical presorting may occur. The vessel would describe how an observer would be able to collect a sample of unsorted catch in spite of these potential presorting locations. If more than one flow scale would be used, the plan should detail how and when the scales would be used to ensure both lines are not running simultaneously and the observers can sample from a single location during a given haul.	Vessels have a wide range of possibilities to meet this standard and it is impossible to estimate the associated costs.
From a single 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 compliance of the VMP, and to help the observer understand 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.
An observer must be able to ensure that deliberate sorting or discarding of catch does not occur between the point where fish leave the codend and the point where fish have passed the location where the observer collects unsorted catch.	Costs associated with this standard could vary widely. Costs are impossible to predict and could include the costs of additional equipment, factory modifications or personnel.

Other effects of the monitoring program

Because Amendment 80 monitoring requirements would include flow scales, observer stations, observation of every haul, and additional requirements described above; some improvements to management catch accounting may occur. For example, direct measurement of weight on a flow scale is likely to be more reliable than observer measurements based on volumetrics and density.

Creation of a program to form one or more H&G cooperative under Amendment 80 is also anticipated to reduce some industry costs associated with the status quo restricted access fishery by potentially removing unnecessary fishing effort, reallocating effort to more efficient use, and reducing some redundant capital investment. Lengthened seasons may result in quality improvements in catch, and seasonal distribution advantages that could improve revenues in the directed flatfish and mackerel fisheries. Whether the allocation of 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[34].

A number of variables may be considered by members of the non-AFA CP sector in deciding whether to join a cooperative. Among these variables are the quality of data 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.[35] Uncertainty in the quality 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 proposed Amendment 80 monitoring program is to increase the amount and resolution of data sufficient for individual quota holders to form a coop.

Under Amendment 80, sector and cooperative allocation of target species intends to improve the non-AFA trawl CP sector's retention and utilization of groundfish. If catch accounting of total groundfish and PSC for the non-AFA trawl CP 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 non-AFA trawl CPs. Inaccurate catch and discard estimates of scarce target resources could impose costs on more than one sector, particularly if a given sector is able to bias estimates through inadequate monitoring. No data exists to suggest how the value of other fisheries 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, 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 increasing the data available to make these decisions would result in long run 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.

---

[34] 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

[35] The role of uncertainty in information is explored in several articles under this website: THE ROLE OF PROPERTY RIGHTS IN RESOURCE MANAGEMENT URL: 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."

Presently, many vessels in the H&G fleet are required to carry 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 sampled. NMFS would no longer need to rely on secondary sources, such as the skipper's estimates or total weekly production figures, as the basis for calculating catch weight for H&G vessels. This would decrease the number of hauls NMFS would need to extrapolate for this fleet.

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 calculations for that vessel are based on bycatch rates derived from other observed hauls and applied to the total catch determination. If NMFS has haul specific information from observer sampling, improved information on actual bycatch amounts would supplant the use of data based on a rate from other observed hauls. The extension of coverage to two observers per vessel would allow every haul to be sampled and could reduce 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).

More frequent catch sampling may increase biological information on non-target species. The value of increased biological data, however, is uncertain. More biological information may or may not translate into "better" management decisions, or more valuable fisheries.

Under the proposed rule for the GRS program, H&G vessels 125 ft or greater would be required to ensure all hauls can be observed. If this provision is promulgated through final rulemaking, the incremental benefits associated with Amendment 80 would be reduced because only vessels less than 125 ft. would increase observer, scale, and sampling station requirements.

Finally, to facilitate composition sampling and catch accounting, each haul's catch would be weighed separately on the NMFS-approved scale. Vessels would no longer be able to mix hauls in a fish bin. This requirement is also contained in the proposed rule for the GRS program. However, some H&G industry members are concerned that prohibiting haul mixing hauls in a restricted access fishery could require vessels to increase the amount of time a full codend remains on deck. They are concerned this could decrease the stability of vessels in rough weather by raising their center of gravity. Currently, the United States Coast Guard is evaluating each vessel's behavior with regards to carrying fish on deck in the current regulatory scenario to determine if the proposed rule for the GRS program or Amendment 80 is likely to affect the stability of these vessels relative to the status quo.

The effects of Amendment 80 on the relative safety of H&G vessels may depend on the approval of the proposed rule for the GRS program. If the proposed rule for the GRS program is approved by the Secretary, vessels greater than or equal to 125 feet would be able to slow their fishing operations under Amendment 80, and vessels may be less likely to carry full codends of fish on deck. Under this scenario, there may be increased safety associated with implementation of Amendment 80. However, if the proposed rule for the GRS program is disapproved, vessels would still have the benefit of being able to conduct operations in a rationalized environment and slow fishing operations to accommodate a prohibition against mixing of hauls. Additionally, vessels with secure allocations could choose when to harvest those allocations. Vessels would be less likely to operate in adverse weather conditions. Under these scenarios, implementation of Amendment 80 may significantly increase overall safety for affected vessels. Additionally, vessels may lease or sell their history to a coop if a vessel incurs high costs associated with complying with this requirement.

3.3.8 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 is continued. Most crewmembers currently work several different fisheries on the same vessel, while some move to other vessels for particular fisheries. Crewmembers are compensated on a share basis, receiving a percentage of the vessel's revenues. More experienced

crewmembers and crewmembers in more demanding positions generally receive larger shares. The existing patterns of participation and compensation are likely to remain about the same, at least until Amendment 79 is implemented. The affects of Amendment 79 are not known with certainty. If Amendment 79 increases to costs for some vessels to the point they cannot cover their fixed and variable costs in the long run they will leave the fishery. Employment in the sector would be reduced. If other vessels are able to harvest catch of those vessels that leave the fisheries, compensation could increase for crewmembers of those vessels.

Alternatives 2 and 3: Multiple Cooperatives and Single Cooperative

Alternatives 2 and 3 are likely to have some impact on employment. Fishing can be expected to slow. In addition, some vessels that have historically participated in the Non-AFA Trawl CP sector may chose 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 GOA fisheries.

An indication of the impacts Amendment 80 cooperative program could have on the Non-AFA Trawl CP sector can be seen from the impacts the AFA had on the pollock catcher/processor sector. Information from the *Report to Congress and the Secretary of Commerce on the Impacts of the American Fisheries Act* completed April 1, 2002, stated that the number of jobs that were lost in the catcher/processor sector was approximately 1,500, given that nine catcher/processors were retired as part of the Act and six of the 20 eligible catcher/processors or 30 percent were not used to fish pollock by their owners because the remaining vessels were able to efficiently harvest the pollock. Given that average crew size of a pollock catcher/processor was approximately 100, that means that approximately 900 of the 1,500 jobs lost were because of the AFA retiring vessels. The remaining 600 jobs lost were due to vessels idled because of they were excess capacity.

Although the Non-AFA Trawl CP vessels and fisheries are very different from the pollock catcher/processor vessels and fishery, the experience learned from the AFA is that some of the Non-AFA Trawl CP vessels could potentially be idled because of the efficiency increases associated with the Amendment 80 cooperative program. Based on information from Sector and Regional Profiles of the North Pacific Groundfish Fisheries-2001, for every Non-AFA Trawl CP vessel idled, approximately 35 crewmembers will likely loss their jobs on that vessel. Total crew compensation could also be impacted because of the cooperative program. Crew that remain in the fisheries could realize more stable employment and an increase in income because wages would be divided among fewer employees in the sector. It is not known if the owners would modify their wage scale to reduce crew shares or change to a system of hourly wages for the remaining employees.

Unfortunately, the experience from the AFA is not a perfect predictor of the impacts to the Non-AFA Trawl CP sector caused by cooperative formation. The vessels in both fisheries are very different from one another. The fisheries are also very different. At best, it can be surmised that some Non-AFA Trawl CP vessels will likely elect to exist the fishery because of the consolidation caused by removing excess capacity from the fleet.

3.3.9 Effects on Net Benefits to the Nation[36]

Alternative 1: Status Quo

If the current management of the fisheries allocated under the proposed action were to continue, net benefits to the Nation are likely to remain close to their current level, until Amendment 79 is implemented. When Amendment 79 is implemented harvesting costs are expected to increase to some extent because vessels will incur additional monitoring costs and potential loss in profits from the requirement to retain catch that was previously discarded for efficiency reasons.

The Non-AFA Trawl CP sector will likely continue to focus their fishing effort on several flatfish species, Atka mackerel, AI POP and Pacific cod in the BSAI. Participants will likely continue to race for fish with some fisheries prematurely closed due to exceeding halibut PSC allowances. Sector discard rates will likely improve, but overall the retention rates will continue to lag behind the rest of the BSAI sectors.

Given the above impacts, producer surplus is expected to remain at the current level until Amendment 79 is implemented. After Amendment 79 is implemented, producer surplus will decline to some extent, as a result of the increased monitoring and operating costs under the retention requirements. Revenues are likely to remain similar to current levels, but could decline if lower valued products are produced as a result of retaining fish that would otherwise be discarded because of economic reasons (e.g., fish of sizes that are in less demand or that are without roe). Consumer prices should not be affected by maintaining current management, and consumer surplus is likely to remain at its current level. Since most production is delivered to Asian markets, little (if any) of the effect on consumers is likely to affect U.S. consumers.

Alternative 2

Net benefits to the Nation would likely increase under Alternative 2 relative to Alternative 1. Contributing to the increase in net benefits to the Nation is the increase in producer surplus from Non-AFA Trawl CP sector participants fishing in cooperatives. Given the favorable groundfish and PSC allocations to the Non-AFA Trawl CP sector and ability to form multiple cooperatives under this alternative, it is likely most sector participants will join a cooperative. These participants would be able to slow the pace of fishing and processing, thus potentially reducing expenditures on inputs and increasing output slightly. These participants would also be free to consolidate fishing up to the user cap. With fewer vessels, the harvesting costs should also decline.

Some additional benefits would also likely accrue from the additional 2.5 allocation for the Amendment 80 species to the CDQ program. The increased CDQ allocation will slow the pace of fishing and processing, thus potentially reducing expenditures on inputs and increase output slightly. If the CDQ program fails to harvest their entire allocation, any amount of allocation left unharvested would tend to reduce the net benefits.

The alternative would also require increased monitoring and enforcement costs necessary for meeting the GRS for Non-AFA Trawl CP vessels under 125 ft. LOA. These costs are associated with additional observer coverage, costs associated with vessel modification to better allow the catch to be observed, and slowing processing and harvesting below optimal levels to enable more accurate counts of total groundfish and PSC catches. Some additional benefits to the Nation could arise through reduction in discards, since sector vessels under 125 ft. LOA will have to meet the GRS.

[36] 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 rigorous 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-effectiveness 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. Unfortunately, the benefits of each of the alternatives in this proposed action can only be determine qualitatively, so the CEA model would likely be ineffective in determining the least cost alternative under this proposed action.

Under this alternative, consumer surplus is not expected to change. The Non-AFA Trawl CP sector will continue to produce mostly frozen round and headed and gutted products primarily. Quality of products could improve slightly as cooperative allocations remove pressure to rapidly catch and process fish to maximize catch from the fisheries. However, since the Non-AFA Trawl CP vessels already produce high quality products and are limited in their ability to produce higher quality products, any quality improvement is likely to be slight. 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.

Alternative 3

Net benefits to the Nation would likely be smaller under Alternative 3 relative to Alternative 2. It is difficult to compare the changes in Net benefits between Alternatives 1 and 3. The amount of fish the Non-AFA Trawl CP sector can legally harvest under Alternative 3 relative to the status quo, is reduced. However, the benefits of cooperatives are expected to increase the overall efficiency of the fleet. The benefit of a cooperative under this alternative will depend on whether a sufficient number of members of the sector are able to reach agreement and whether persons not in the initial cooperative are able to come to terms with the cooperative. If no cooperative forms, sector efficiency would be similar to that of status quo. The separate and limiting allocations (including PSC allocations) to the sector could result in the sector suffering a loss relative to the status quo, if a cooperative agreement cannot be reached. If the cooperative does form, some sector members could remain outside of the cooperative for some time reducing overall efficiency.

An additional unknown under this alternative is how much of the allocation to the general limited access fishery will be harvested by other sectors, and how efficient will they be when harvesting and processing that catch. The allocation to the general limited access fishery under this alternative exceeds the combined AFA Trawl CP and CV sideboards. Without substantial increases in effort by the Non-AFA Trawl Catcher Vessels, large portions of the allocation to the general limited access fishery would go unharvested. If the other sectors do not harvest their portion of the TAC and large amount of quota are rolled over late in the year, it may be of less value to the Non-AFA Trawl CP fleet than if it was available earlier.

Under this alternative, the CDQ Program would be allocated 15 percent of the annual TAC for each of the allocated species. The CDQ program would also receive 15 percent of the TAC for the incidental catch species (with the exception of Pacific cod) taken in the Amendment 80 allocated species. The additional 7.5 percent increase in non-pollock groundfish (except Pacific cod) would likely slow the pace of fishing and processing for participants in the CDQ program, thus potentially reducing expenditures on inputs and increase output slightly. However, the benefits will be reduced if the CDQ program fails to harvest their entire allocation.

Like Alternative 2, this alternative could increase the net benefits to the Nation from the reduction in discards. However, producer surplus will be reduced, from what it could have been due to an increase in vessel monitoring costs. These costs are associated with additional observer coverage, costs associated with vessel modification to better allow the catch to be observed, and slowing processing and harvesting below optimal levels to enable more accurate counts of total groundfish and PSC catches.

This alternative is not expected to change consumer surplus. The Non-AFA Trawl CP sector will continue to produce frozen round and headed and gutted products primarily. Improvements in product quality that will increase the amount U.S. consumers are willing to pay versus the market price for products produced from these fish are expected to be small.

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 264 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 2.4, starting on page 13 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
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 *Yellowfin 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; no AFA sideboards for yellowfin sole threshold fishery	*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; no AFA sideboards for yellowfin sole threshold fishery
Allocation of Prohibited Species	PSC allocated by target fishery and shared among all trawl vessels	Sector allowance based on average historic PSC usage in directed fishery for allocated primary species plus Pacific cod,1998-2002	Sector allowance based on: a) average PSC usage, by fishery, of all trawl in each PSC fishery group for allocated primary species plus Pacific cod, 1995-2003 b) apply sector proportion as determined above c) reduce by 5%
Sector Eligibility	determined by Congress	determined by Congress	determined by Congress
Cooperative endorsement	none	Qualified license holder harvested 150 mt of groundfish with trawl gear on a sector qualified vessel and processed that fish between 1997 and 2002	Qualified license holder harvested 150 mt of groundfish with trawl gear on a sector qualified vessel and processed that fish between 1997 and 2004
Cooperative formation	none	*Threshold:* 15% minimum of eligible participants and must be comprised of at least two separate entities *Allocation:* based on retained catch history, 1998-2002	*Threshold:* 67% minimum of eligible participants and must be comprised of at least two separate entities *Allocation:* based on total catch history, 1995-2003
Excessive share limits	none	No limit on consolidation	No single person can hold no more than 50% of the catch history of an allocated species

	Alternative 1 (Status Quo)	Alternative 2	Alternative 3
Sideboards	none	*For sector:* established based on participation in other fisheries, 1998-2002; for GOA halibut PSC based on usage by quarter and area, 1998-2002; only vessels that have GOA wide weekly participation in the flatfish fisheries over the threshold during the qualifying period would be eligible to participate in the GOA *Within sector:* established between cooperative and non-cooperative participants for unallocated species	*For sector:* established based on participation in other fisheries, 1995-2003; for GOA halibut PSC based on the percent of groundfish target catch by quarter and area, 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	10% of allocated species, plus secondary species caught incidentally in directed fisheries, to CDQ multispecies fishery; PSQ proportional to the CDQ allocation	15% of allocated species, plus secondary species caught incidentally in directed fisheries, to CDQ multispecies fishery; PSQ proportional to the CDQ allocation

4.2.1 Alternative 1: No Action

With the exception of Amendment 79, which is yet to be approved by the Secretary of Commerce (SOC), the current management of groundfish and prohibited species catch in the BSAI would remain in effect for this alternative. In general, after deducting 7.5 percent for reserves and 7.5 percent for the CDQ program, the remaining portion of TAC is available to any vessel with a federal license. For Eastern Aleutian District and the Bering Sea subarea Atka mackerel, up to 2 percent of the ITAC may be allocated to jig gear. Currently, only one percent is allocated to the jig gear. For further details on the current management of the species to be allocated under this proposed action, please refer to Section 3.1.1.

Although Amendment 79 to the BSAI Groundfish FMP, the groundfish retention standard (GRS), has not yet been implemented, a final rule should be published before final action on Amendment 80, which is scheduled for December 2005. Currently, there are three potential outcomes. One is the SOC could implement GRS in 2006 at 75 percent. Another is that the SOC approves Amendment 79 at 65 percent starting in 2007. Finally, the SOC could disapprove Amendment 79. Due to the timing of Amendment 80 and Amendment 79, the no action alternative could change after initial review of Amendment 80 in October 2005 but before final review in December 2005. For purposes of the initial review of Amendment 80, the no action alternative will include a GRS phased in a over a four year period for Non-AFA Trawl CP vessels greater than 125 ft length overall starting in 2007 at 65 percent and culminating in 2010 at 85 percent. The decision to use this scenario is based on the Council's recommendation to the SOC at the June 2005 meeting to implemented Amendment 79 in 2007 at 65 percent to allow ample time for Non-AFA Trawl CP sector to complete any retrofits necessary to meet the enforcement and monitoring requirements included in Amendment 79. In addition, the Council felt it was important to allow the sector time to develop a vessel buyback program authorized under the Consolidated Appropriations Act of 2005. Finally, the Council also clarified at the June 2005 meeting that the specific years tied to GRS in the original action are of less importance than starting at the intended 65 percent.

4.2.2 Alternative 2: Multiple Cooperatives

This alternative would 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—referred to as primary target species. Allocation of these species to the sector would 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.[37] Non-AFA Trawl CP sector allocations of the primary target species would 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 species incidentally, would close for the sector.

The unallocated portion of the primary target species quota would be reserved for the Non-H&G trawl fishery, which is composed of AFA Trawl CP sector, AFA Trawl CV sector and Non-AFA Trawl CV sector. Non-AFA trawl catcher vessels wishing to participate in the Non-H&G trawl fishery (the general limited access trawl fishery) must have groundfish catch history of a least 1 landing between 1995 and 2004 and possess the appropriate LLP endorsements. Primary species quota cannot be rolled over between trawl sectors under this alternative.

This alternative includes a quota threshold of 125,000 mt for the yellowfin sole quota. If, in a given year, the quota exceeds this threshold, the excess would 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 trawl fishery would be rolled over to the other sector, if, after a specified date (August 1 or September 1), there is any quota that is projected to remain unused. AFA sideboards do not apply to the yellowfin sole threshold fishery.

The Non-AFA Trawl CP sector would receive its own PSC allowance under this alternative, which would be based on the sector's historical usage of PSC in the directed fisheries for the allocated primary species plus Pacific cod during the years from 1998 to 2002, inclusive.

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 its License Limitation Program permit (LLP), and must own a Non-AFA vessel that caught and processed 150 mt of groundfish with trawl gear between 1997-2002.

Those qualified to be in the Non-AFA Trawl CP sector and participate in a cooperative must also have qualified license. To qualify for a cooperative endorsement, qualified license holders must have caught 150 mt of groundfish with trawl gear on a vessel qualified as a Non-AFA Trawl CP and processed that fish between 1997 to 2002.

To operative as a cooperative, membership must include as least two separate entities and must be composed of at least 15 percent of the qualified licenses with cooperative endorsements. Those participants who do not elect to join a cooperative may either form their own cooperative (with at least 15 percent of qualified licenses with cooperative endorsements) or participate outside the cooperative in the sector's limited access fishery.

Allocation of the primary target species among cooperatives and the sector's limited access fishery would be in proportion to the retained catch of the primary target species of the eligible license holders in each pool, for the years 1998-2002. The PSC allowance would be also be allocated to cooperatives and the sector's limited access fishery based on qualified catch of groundfish of participants.

[37] All allocations are after allocations to the CDQ program and, in the case of Atka mackerel, after any allocation to the jig sector.

Within the Non-AFA Trawl CP sector, consolidation would not be constrained. An eligible participant (either individual or entity) would not be limited as to the percentage of the Non-AFA Trawl CP sector allocation it can use or the amount of licenses and qualified catch that it may hold.

Sideboards for the Non-AFA Trawl CP sector would be established in regulation based on the sector's participation in other fisheries during the same years used to calculate the sector's allocation, (1998 to 2002). Sideboards for those species that close on TAC in the GOA and the BSAI would be established based on retained catch of the Non-AFA Trawl CP sector divided by the retained catch of all sectors from 1998 to 2002. Sideboards would also be established for halibut PSC in the GOA based on actual halibut PSC usage by the Non-AFA Trawl CP sector in each target fishery in the deep and shallow water complexes by quarter and area between 1998 and 2002. Only vessels with LLPs that have Gulf wide weekly participation in the flatfish fisheries over a threshold number of weeks during a qualifying period would be eligible to participate in those fisheries. The sideboards would 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 would be established between cooperative and non-cooperative participants for unallocated species, based on the same years. Sideboards would apply to eligible licenses and associated vessels from which the catch history arose.

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

4.2.3 Alternative 3: Single Cooperative

This alternative would 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--referred to as the primary target species. Allocation of these species to the sector would 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 would be reserved for the Non-H&G trawl fishery, which is made up of the AFA Trawl CP sector, AFA Trawl CV sector, and the Non-AFA Trawl CV sector. In order for Non-AFA trawl catcher vessels to participate in the Non-H&G trawl fishery, they must qualify by harvesting 1,000 mt of groundfish catch history between 1995 and 2004, and the posses the appropriate LLP endorsements (the general limited access fishery). Non-AFA Trawl CP sector allocations of the primary target species would be managed as a soft cap: when the sector harvests all of its allocation of a primary target species, the species would be placed on prohibited species status, and would need to be discarded.

Alternative 3 also includes a rollover provision: any portion of the primary target species in the general limited access fishery projected to remain unharvested would be rolled over to the Non-AFA Trawl CP sector.

This alternative also includes a quota threshold of 100,000 mt for the yellowfin sole quota. If, in a given year, the quota exceeds this threshold, the excess would be allocated in the following manner: 70 percent to the Non-AFA Trawl CP sector and 30 percent to the limited access trawl fishery. Any yellowfin sole above the threshold that is projected by the NOAA Regional Administrator to go unharvested would be rolled over to the other threshold recipients (Non-AFA Trawl CP sector or the general limited access fishery).

The Non-AFA Trawl CP sector would receive its own PSC allowance under this alternative. PSC usage of all trawl vessels in each PSC fishery group for allocated primary species plus Pacific cod, from 1995 to 2002, would be calculated, to which the proportion of the Non-AFA Trawl CP sector's share of the target species quota (as determined in Component 3) would be applied. The sector's PSC allowance for each prohibited species would be 95 percent of the total amount calculated using this formula.

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 must own a vessel that caught and processed 150 mt of groundfish with trawl gear between 1997-2002.

Those qualified to be in the Non-AFA Trawl CP sector and participate in a cooperative must also have qualified license. To qualify for a cooperative endorsement, qualified license holders must have caught 150 mt of groundfish with trawl gear on a vessel qualified as a Non-AFA Trawl CP sector and processed that fish between 1997 to 2004.

To operate as a cooperative, membership must include as least two separate entities and would need to be composed of at least 67 percent of the qualified licenses with cooperative endorsements. Those participants who do not elect to join a cooperative could participate outside the cooperative in the sector's limited access fishery.

Allocation of the primary target species and PSC allowances to the cooperative and sector's limited access fishery would be in proportion to the total catch of the primary target species of the eligible license holders included in each pool, for the years 1995-2003, dropping the three lowest annual catches for the license, by species, during this period.

Consolidation in the Non-AFA Trawl CP sector would be limited by a use cap that applies to each person (using individual and collective rule). No single person may use or hold more than 50 percent of the sector's combined allocation for each allocated 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 would be grandfathered.

Sideboards for the Non-AFA Trawl CP sector would be established in regulation based on the sector's participation in other fisheries during the same years used to calculate the sector's allocation, (1995 to 2003). Sideboards for those species that close on TAC in the GOA and the BSAI would be established based on total catch of the Non-AFA Trawl CP sector divided by the total catch of all sectors from 1995 to 2003. Sideboards would also be established for halibut PSC in the GOA based on the percent of groundfish target catch by the Non-AFA Trawl CP sector in each target species in the deep and shallow water complexes by quarter and area between 1995 and 2003. The sideboards would 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 would be established between cooperative and non-cooperative participants for unallocated species, based on the same years. Sideboards would apply to eligible licenses and associated vessels from which the catch history arose.

The CDQ program would receive an allocation of 15 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 would 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 3.1.3.

Table 4-3 Projected Biomass and Catch Specifications of Primary Target Species, in mt.

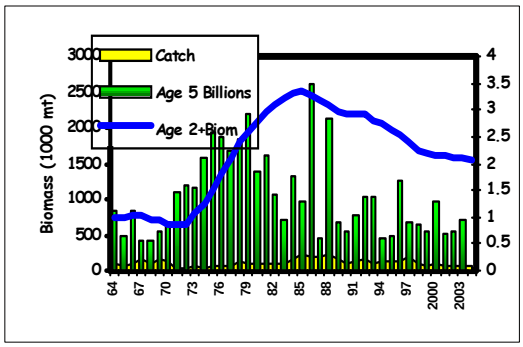
	2004					2005	
	Projected Biomass	Overfishing Level	Acceptable Biological Catch	Total Allowable Catch	Actual Catch	Projected Biomass	Total Allowable Catch
Yellowfin sole	1,560,000[1]	135,000	114,000	86,075	69,021	1,560,000	90,686
Northern rock sole	1,160,000[1]	166,000	139,000	41,000	47,734	1,380,000	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)

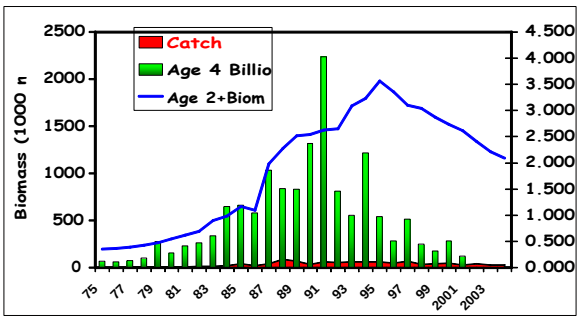
The predominant species that are caught incidentally in the yellowfin sole fishery include pollock, rock sole, Pacific cod, general groundfish, flathead sole, arrowtooth flounder (Wildebuer and Nichol 2004).

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).

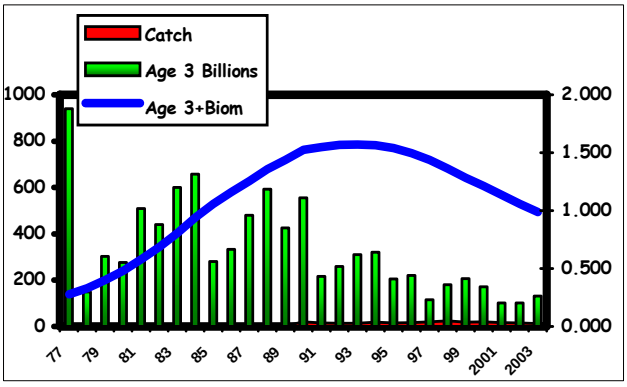
Flathead sole

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 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



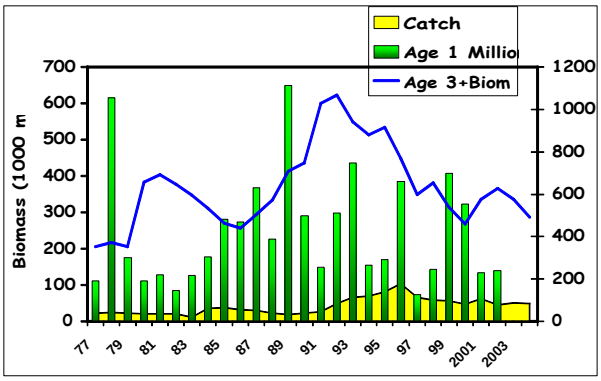
The overall discard rate for flathead sole in 2003 was approximately 28 percent of the catch (3,866 mt). In addition to the directed flatfish fisheries, flathead sole is also caught in the Pacific cod fishery and the pelagic trawl pollock fishery (Spencer, Walters, and Wildebuer 2004).

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

Figure 4-4 Atka Mackerel Abundance and Recruitment Trends

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 **Error! Reference source not found.**.

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).

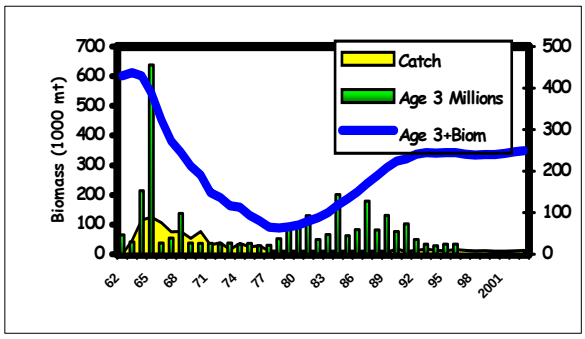
Aleutian Islands Pacific Ocean perch

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).

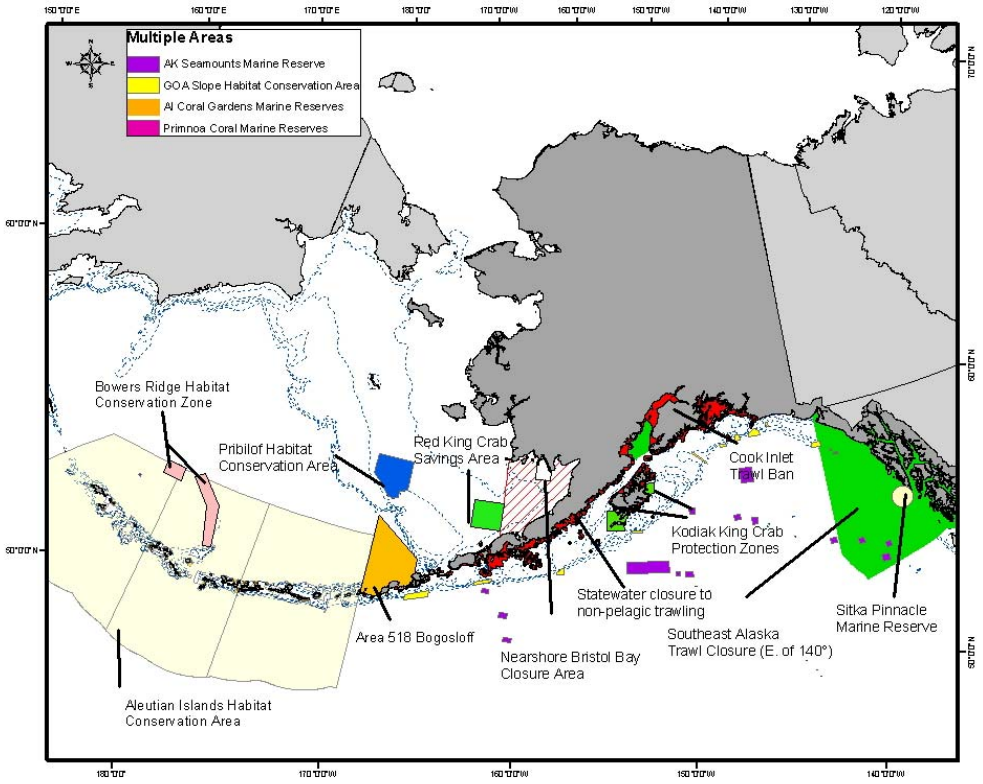
Crab

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.

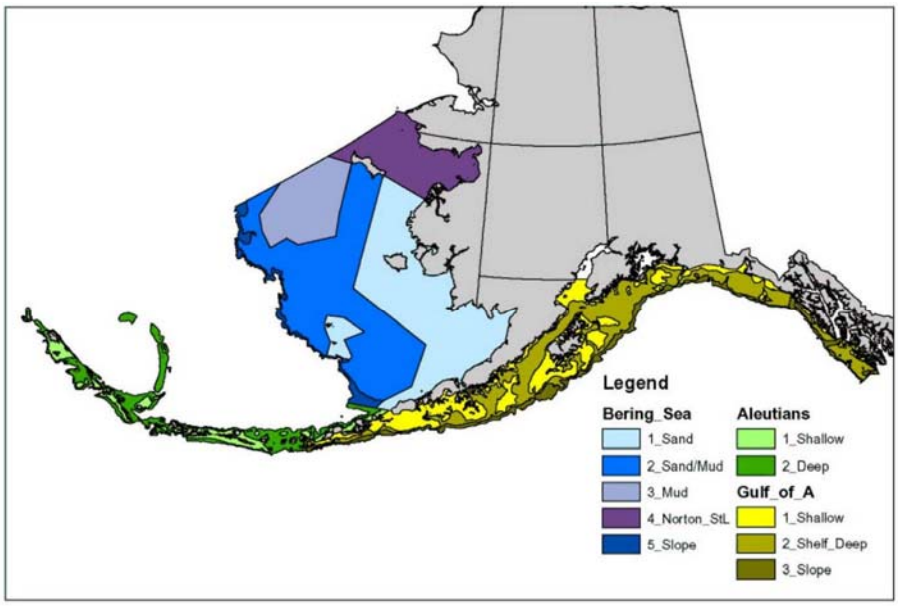
4.3.6 Benthic Habitat and Essential Fish Habitat

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 3.1.3

Effects on Harvest Participant and Fishing Practices

Alternative 1: Status Quo/No Action

Maintaining the status quo is expected to result in the continuation of existing fishing practices and patterns. Participants in the Non-AFA Trawl CP sector will likely continue to focus the majority of their fishing effort on several flatfish species, Atka mackerel, AI Pacific Ocean perch and Pacific cod in the BSAI. Some vessels in the sector will also participate in GOA fisheries. Under this alternative, trawl participants will continue to race for fish. Trawl fisheries will continue to be prematurely closed due to constraining halibut PSC allowances. Sector discard rates will likely improve, but overall the retention rates will continue to lag behind the rest of the BSAI sectors. Contributing to the improved retention rates is the impending groundfish retention standard (GRS) action. Amendment 79, if approved by the Secretary of Commerce, would phase in the GRS over a four-year period. Originally approved by the Council in June 2003, the GRS was to begin in 2005 with a starting GRS rate of 65 percent. Over the subsequent four-year period, the GRS would gradually increase, culminating at 85 percent in the fourth year. The action would only require Non-AFA Trawl CP vessels greater than or equal to 125 ft. LOA to comply with the GRS. Non-AFA Trawl CP vessels less than or equal 125 ft. LOA would be exempt from the GRS. To monitor and enforce the GRS, sector vessels greater than or equal to 125' LOA would be required to measure all catch on flow scales and all hauls must be observed. Many of the vessels already have flow scales onboard, but seven vessels need to install the scales. All sixteen vessels greater than 125 ft. LOA would also be required to carry an extra observer. Where feasible, GRS could reduce economic returns from fisheries to members of the sector.

Alternative 2

Under Alternative 2, the allocation percentages to the Non-AFA Trawl CP sector are expected to be sufficient to keep the sector's groundfish catch levels about the same as their historic catch. However, the remaining portion of groundfish reserved for the general limited access fishery would be substantially less than historic harvests and may disadvantage members of other sectors, particularly non-AFA catcher vessels. The remaining amount of groundfish reserved for the general limited access fishery is less than the combined AFA Trawl CP and CV sideboards for each of the species. Between 1995 and 1997, vessels whose catch history was assigned to the AFA Trawl CP and CV sectors participated in the fisheries allocated to the Non-AFA Trawl CP sector in larger numbers.

Under this alternative, the yellowfin sole threshold program could provide the opportunity for the AFA Trawl CP and CV sectors and the Non-AFA Trawl CV sector to expand their harvest of yellowfin sole in periods when BSAI pollock TAC declines relative to yellowfin sole. In that circumstance, 30 percent of the TAC over 125,000 mt would be assigned to the Non-AFA Trawl CP sector. The remaining 70 percent of the TAC would be apportioned to the trawl vessels that are not a part of the Non-AFA Trawl CP sector. Allocating 70 percent of the TAC, above the 125,000 mt level, would provide expanded harvesting opportunities for these sectors.

The PSC allocation to the Non-AFA Trawl CP sector under Alternative 2 would likely be sufficient to harvest their entire allocation of groundfish. However, the remaining halibut PSC for all other trawlers could be insufficient to harvest the allocation of groundfish to the general limited access fishery. Given the historically usage of halibut PSC from 1995 to 1998, there is the potential for the remaining trawl sectors to fall short of the necessary halibut PSC needed to harvest the remaining groundfish, if, for example, the Pacific cod TAC were to increase relative to pollock TAC.

Based on the eligibility requirements under this alternative, there appear to be 27 vessels that qualify for the Non-AFA Trawl CP sector. 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. Under this alternative, 27 LLP licenses are also estimated to qualify for a cooperative endorsement.

Under Alternative 2, 15 percent of the endorsed LLP licenses would be needed to form a cooperative. In addition, at least two unique entities are required for cooperative formation. Since under Alternative 2 there are likely to be 27 endorsed LLP licenses, at least four of these licenses would be needed to form a cooperative. If each of the cooperatives had the minimum required four endorsed LLP licenses, six cooperatives would be formed in the Non-AFA Trawl CP sector. This provision should help to ensure that each vessel is given the opportunity to join a cooperative. Alternatively, the "odd-person-out" may have less of a 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 than Alternative 3 cooperative structure, which allows only a single cooperative to form. Under this action, each participant would have the option to join any of six potential cooperatives, so it is more likely to find a cooperative that would help them meet their objectives. Participants who elect not to join a cooperative would participate outside a cooperative but within the sector's limited access fishery.

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 can own or use. In general, number of vessels in the fishery could be reduced to the minimum number need to harvest the entire allocation. Cost savings associated with a more optimal fleet size is expected to increase the producer surplus generated by the fleet.

Alternative 2 would implement harvest caps on the Non-AFA Trawl CP sector for the species that are not allocated. Sideboard caps would be set using the sector's retained catch of BSAI groundfish species from 1998-2002 in all fisheries relative to the retained catch of all vessels. Sideboards would also be set for GOA halibut PSC based on actual usage relative to the other sectors from 1998-2002. GOA groundfish harvests by the Non-AFA Trawl CP sector would be limited by requiring vessels to have fished a given number of weeks during the qualifying period to participate. Alternatives defining the actual number of weeks required have not been developed, so the impacts cannot be determined.

The Non-AFA Trawl CP sector should have the opportunity to harvest their historic percentages of BSAI groundfish species, given the alternatives selected. These caps do not give the sector the rights to those fish, but instead are limits on their catch. Other sectors could legally harvest portions of the sideboard limits before the Non-AFA Trawl CP sector catches them. Basing the caps on retained catch results in larger caps, in most cases, relative to using total catch.

Future GOA groundfish harvests cannot be predicted, without additional information on the number of participants that will be allowed to fish in the future. The GOA PSC caps, however, should enable the sector to harvest historic levels of groundfish. GOA halibut PSC catches were not assigned to a specific area, since NMFS does not manage PSC by area in the GOA. Finally, the analysts assumed that any catches by the sector under the Rockfish Pilot program would be deducted from the sideboard cap amounts.

Given the Alternative 2 methods of calculating the BSAI sideboard caps, it is expected that the Non-AFA Trawl CP sector could harvest their historic percentages of various fisheries and still provide sufficient protection for other sectors. Insufficient information is available to make that determination for the GOA. However, given that most fisheries in the GOA are closed due to halibut bycatch and not TAC, the halibut PSC caps should provide adequate protection for most species.

Alternative 3

Under Alternative 3, the allocation of groundfish species and PSC species would be insufficient to maintain the Non-AFA Trawl CP sector's historic harvest levels (except maybe yellowfin sole). In addition, large portions of the remaining Amendment 80 species would be directed to the general limited access fishery where it would likely remain unharvested without substantial increases in harvest by participants in the fishery. For example, the combined AFA Trawl CP and CV sideboards for rock sole is 7.11 percent. If the Council selected this allocation option for rock sole, the allocation to the general

limited access fishery would 70.6 percent of the TAC. Assuming the AFA CP and CV sectors harvested rock sole up to their sideboards, the remaining allocation available for the Non-AFA Trawl CV sector would be 63.49 percent. The Non-AFA Trawl CV sector has traditionally not harvested rock sole to anywhere close to that degree. The alternative does includes a provision to rollover any portion of the general limited access fishery allocation that is projected to go unused by a given date. However, the timing of some of the fisheries and lack of PSC that would be necessary to harvest the rollover decrease the benefits relative to a direct allocation as in Alternative 2.

Under this alternative, relative to Alternative 2, the yellowfin sole threshold program would be less likely to provide an opportunity for the AFA Trawl CP and CV sectors and the Non-AFA Trawl CV sector to expand their harvest of yellowfin sole in periods when pollock TAC declines relative to yellowfin sole. The primary reason is the allocation of the ITAC above the threshold would favor the Non-AFA Trawl CP sector and would diminish the yellowfin sole allocation to the general limited access fishery when ITAC exceeded the threshold from 48 percent to 30 percent. Yellowfin sole ITAC above the threshold would be distributed 70 percent to the Non-AFA Trawl CP sector and 30 percent to all other trawlers. Constraining the success of the threshold program, under this alternative, is the lack of halibut PSC. Like Alternative 2, this alternative does not include reallocation of halibut PSC as part of the rollover provisions, so sectors will have to rely on their initial halibut allowance to harvest any groundfish that is rolled over to them.

Although it cannot be determined with any certainty, the PSC allocation percentages under this alternative could result in an allocation to the Non-AFA Trawl CP sector that may be insufficient for harvesting their entire allocation of the target species, if the sector cannot reduce its PSC catch rates substantially from current levels. In contrast, the remaining portion of halibut PSC reserved for all other trawlers should be sufficient to harvest the remaining portion of unallocated groundfish. Alternative 3 also includes a reduction in the calculated PSC apportionments to the Non-AFA Trawl CP sector by an additional 5 percent.

Like Alternative 2, 27 vessels appear to qualify for the Non-AFA Trawl CP sector. 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. However, under this alternative, 29 or 30 LLP licenses are estimated to qualify for a cooperative endorsement.

To form a cooperative under this alternative, 67 percent of the endorsed LLP licenses held by Non-AFA Trawl CP sector participants would be required. If the calculation is based on licenses, and 30 licenses are in the sector, then 21 licenses would be required to meet the 67 percent threshold. Basing the cooperative formation vote on licenses and not vessels would tend to benefit those owners that have stacked multiple licenses on their vessels. Those qualified participants who elect not to join a cooperative would participate outside the cooperative but within the sector (sector limited access fishery).

Consolidation would be limited under Alternative 3. Although numbers of persons over the cap cannot be reported for the Atka mackerel and AI POP fisheries to protect confidential data, no companies are over the cap for yellowfin sole, rock sole, and flathead sole. In general, the changes in the economic impacts of a 50 percent cap versus no cap are small. In either case, the number of vessels in the fishery could be reduced to the minimum number need to harvest the entire allocation.

The sideboard caps under Alternative 3 would be based on the total catch of the Non-AFA Trawl CP sector relative to the total catch of all sectors. Using total catch, as compared to retained catch, tends to reduce the size of the sideboard caps for the Non-AFA Trawl CP sector. Smaller caps will reduce the amount of revenue that the Non-AFA Trawl CP sector can generate. However, they will provide more fish for other sectors to harvest. Whether the other sectors will increase their participation and retention in fisheries other than Pacific cod and select other fisheries is unknown.

Sideboard caps will be set for both GOA groundfish and halibut fisheries. Groundfish sideboard caps will have the greatest impact on species that close due o the TAC being harvested. These species are typically Pacific Ocean Perch, Pelagic shelf rockfish, northern rockfish, and Pacific cod. Other species are typically closed as a result of halibut PSC constraints. Given that this alternative would increase the Non-AFA Trawl CP sector's halibut PSC cap by about 36 mt, they are expected to be better off under this alternative. Other participants in the GOA fisheries would fair better under Alternative 2.

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 Alternative 2 more than Alternative 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. Under Alternative 2, most eligible participants in the Non-AFA Trawl CP sector are likely to join a cooperative, since operations in the limited access fishery are likely to be less efficient (and less profitable)and it will be easier to meet the cooperative formation requirements. However, there is some potential under Alternative 3 that some eligible participants may elect not to join a cooperative.

Effects on the CDQ Program

Alternatives 2 and 3 would increase CDQ percentage allocations for both primary target and incidental catch species. Under Alternative 2, CDQ percentage allocations for each of the primary target species identified in Component 1 and associated secondary species taken incidental in the primary trawl target fisheries would increase to 10 percent. Under Alternative 3, the percentage allocations for target and incidental catch species would increase to 15 percent. The PSQ percentage allocations would increase proportionately under each alternative, as well. Under Alternative 2, the PSQ percentage allocation would increase to 10 percent, and under Alternative 3 it would increase to 15 percent. Currently, the CDQ Program receives 7.5 percent of each groundfish TAC and PSC limit as CDQ and PSQ reserves. These reserves are further allocated among six CDQ managing organizations (CDQ groups). CDQ groups plan and conduct fishing operations for their CDQ allocations, and then receive royalties from the harvest of their CDQ. This revenue is used to provide a means for starting and supporting commercial fisheries business activities in CDQ communities in western Alaska.

CDQ groups have had varied, but increasing, success in harvesting their existing CDQ allocations for primary target species. In the last several years, CDQ groups have harvested the majority of their yellowfin sole, Atka mackerel, and Pacific Ocean perch allocations. They have not been very successful at harvesting their rock sole and flathead sole CDQ allocations. The increased CDQ percentage allocations for primary target species considered under both Alternative 2 and Alternative 3 could allow CDQ groups to receive larger CDQ allocations, if the TACs for these species remained constant or increased. If fully harvested, this could provide additional CDQ royalties to CDQ groups. Harvesting any increased allocations of target species probably would result in increased CDQ fisheries' catch of incidental catch species and prohibited species. The increases to CDQ and PSQ percentage allocations for incidental catch species proposed under Alternatives 2 and 3 are meant to allow the CDQ Program to have adequate CDQ reserves to account for the additional catch of incidental and prohibited species. The actual benefits that each CDQ group would receive from increased primary species allocations cannot be estimated given currently available information. The relatively small size of these quotas, variability in the amount of each primary species harvested in past years, and lack of specific information about CDQ

royalty rates makes it difficult to estimate the future CDQ Program benefits associated with increasing CDQ percentage allocations for primary target species.

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. Some of that product is reprocessed in Asia and sold in the U.S.

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. Market prices for these species will depend on other world flatfish markets. If substitute products are available at similar prices, consumers impacts would be small. The lack of information on these markets precludes quantitative estimates of the impacts on U.S. consumers.

Some quality improvement could occur because of cooperatives, but these vessels already produce high quality products because their catch is processed onboard soon after it is harvested. It is unlikely that this amendment will have substantial impacts on U.S. consumers.

Effects on environmental/non-use benefits

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

Under Alternatives 2 and 3, NOAA Fisheries will make annual, exclusive cooperative allocations for the five allocated species. The proposed action will require eligible Non-AFA Trawl CP vessels under 125 ft length overall to meet the GRS. These measures should have the effect of reducing bycatch and discards, contributing additional non-use benefits that might arise from productive use of the resource. In addition, if Alternative 3 reduces the harvest of the allocated species below the allowed catch, the unharvested fish will remain in the BSAI ecosystem, which is considered a benefit to the environment.

Effects on Management, Monitoring, and Enforcement Costs

In addition to the monitoring challenges documented under other quota programs, Amendment 80 includes additional catch accounting and compliance challenges specific to this type of dedicated access program. To address these challenges, additional requirements will be needed to manage these sector allocations and allow single or multiple cooperatives to function. Proposed monitoring components for all non-AFA trawl CPs while fishing in the BSAI are described below.

1. All vessels would be required to weigh all catch on NMFS-approved scales and provide an observer work station.
2. All hauls would available to be observed by NMFS-certified observers.
3. Vessels would be prohibited from having more than a single belt, chute, or other conveyance device for the mechanized movement of catch between the scale used to weigh total catch and the location where the observer collects species composition samples.
4. Crew would be prohibited from entering any tank located prior to where the observer collects unsorted catch, unless:
    - The flow of fish has been stopped between the tank and the location where the observer collects unsorted catch, and;
    - All catch has been cleared from all locations between the tank and the location where the observer collects unsorted catch, and;

- The observer has been given notice that vessel crew must enter the tank, and;
- The observer is given the opportunity to observe activities of the person(s) in the tank.

5. Unsorted catch would be prohibited from remaining on deck outside of the codend without an observer present.
6. A vessel operator would be required to document the flow of fish within the vessel's factory.
7. Each vessel would be required to provide the opportunity for a pre-cruise meeting.

While all vessels would be subject to these requirements, vessels in this fleet vary widely in size, facilities, layout, and fishing practices. Because of this wide variability, a performance based catch monitoring system may be appropriate for some vessels in the Non-AFA Trawl CP fleet. NMFS is exploring the use of vessel-specific monitoring plans (VMP) to provide vessels flexibility in developing a catch monitoring system that works best for their factory layout and fishing practices. Under this alternative monitoring approach, vessel operators or managers may propose a VMP that would meet, exceed or partially substitute for certain regulations. As envisioned, vessels complying with an approved VMP may not be subject to the all requirements described in this section. However, vessel operators who propose VMPs that do not address performance standards would be subject to the regulations (as proposed and if approved by the Secretary). Additionally, vessel operators who do not comply with an approved VMP would be subject to enforcement action and the default regulations. This approach is conceptual at this time, subject to change, and contains some issues that are not fully resolved.

The costs for the monitoring program include both accounting costs (that are itemized to the extent feasible) and other opportunity costs (that are difficult to quantify). Total costs for scale, sample station, observer requirements, and factory modifications necessary to comply with other proposed requirements for each vessel greater than or equal to 125 ft. range between approximately $64,045 and $365,545. Total costs for these categories for each vessel less than 125 ft. range between $182,225 and $406,725. Other costs associated with these proposed monitoring requirements could include decreased operating efficiencies or additional crew.

In addition to costs borne by the vessels, increases in the number of observer days and their associated increase in the amount of data collected is expected to raise overall annual costs of the 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, approving VMPs and conducting pre-cruise meetings. The Observer Program estimates increased staffing and costs associated with this action to include 3.5 full time equivalent staff positions and approximately $450,000 annually.

NMFS believes that anticipated benefits of a Non-AFA Trawl CP cooperative as currently outlined, including the expectation of reduced effort and capital inputs through a slower paced fishery substantially depend on these proposed monitoring improvements. A multi-species cooperative, with internal transactions and contracts requires reliable catch accounting to create secure agreements. Because Amendment 80 monitoring requirements would include flow scales, observer stations, observation of every haul, and additional requirements described above; some improvements to management catch accounting may also occur. For example, direct measurement of weight on a flow scale is likely to be more reliable than alternative observer measurements based on volumetrics and density.

Effects on Fishing Crew

The existing patterns of crew participation and compensation are likely to remain about the same, at least until Amendment 79 is implemented. The affects of Amendment 79 are not known with certainty. If Amendment 79 increases to costs for some vessels to the point they cannot cover their fixed and variable costs in the long run they will leave the fishery. Employment in the sector would be reduced. Data were not available for the analysts of Amendment 79 to make any projections regarding which vessels may leave the fishery. Therefore, we recognize the fact that Amendment 79 will impose more costs on the vessels in the sector, but we cannot project which vessels, if any, will leave the fishery.

Alternatives 2 and 3 are likely to have some effect on the total number of crew/processing jobs that are available in the sector. An indication of the impacts Amendment 80 cooperative program could have on the Non-AFA Trawl CP sector can be seen from the impacts the AFA had on the pollock catcher/processor sector. Information from the *Report to Congress and the Secretary of Commerce on the Impacts of the American Fisheries Act* completed April 1, 2002, stated that the number of jobs that were lost in the catcher/processor sector was approximately 1,500, given that nine catcher/processors were retired as part of the Act and six of the 20 eligible catcher/processors or 30 percent were not used to fish pollock by their owners because the remaining vessels were able to efficiently harvest the pollock. Given that average crew size of a pollock catcher/processor was approximately 100, that means that approximately 900 of the 1,500 jobs lost were because of the AFA retiring vessels. The remaining 600 jobs lost were due to vessels idled because of they were excess capacity.

Although the Non-AFA Trawl CP vessels and fisheries are very different from the pollock catcher/processor vessels and fishery, the experience learned from the AFA is that some of the Non-AFA Trawl CP vessels could potentially be idled because of the efficiency increases associated with the Amendment 80 cooperative program. In addition, fishing can be expected to slow down as a result of cooperatives. 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 more likely under Alternative 2 than Alternative 3. Crew on vessels that remain in the Non-AFA Trawl CP sector would benefit from consolidation of harvests on fewer vessels under Alternative 2. Crew members paid on a share basis would benefit from increased revenues by their vessel. Employees that are paid on a wage basis would benefit from longer fishing seasons on the vessels and the corresponding number of hours worked.

Effects on Communities

The fishing communities that are expected to benefit from this proposed action are the locations the vessels offload, take on supplies, and the owners and crew live. Twenty-seven catcher processors appear to be eligible for the Non-AFA Trawl CP sector. Of these vessels, nearly all are based in Seattle. Due to the large size and diversity of Seattle's economy, community-level impacts are not expected to differ Alternatives 2 and 3. Significant benefits to other communities that are home to some of the other Non-AFA Trawl CP fleet are not expected. Vessels located in those communities will continue to generate revenue from these 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 in the five primary BSAI fisheries and the sideboard caps proposed for other fisheries.

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.

Included in the Department of Commerce and Related Agencies Appropriations Act, 2005, were several statutory provisions for the BSAI non-pollock groundfish and the BSAI Catcher Processor Capacity Reduction Program. The Capacity Reduction Program not only authorizes $75 million to reduce the capacity of the catcher processor fleets operating in the BSAI, but also defines eligibility to participate in the non-pollock groundfish fisheries[38] as a trawl catcher processor. 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 and Aleutian Islands endorsements, 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. The program also provides $31 million to the Non-AFA Trawl CP sector for capacity reduction of the fleet. After notice to the Council, the Non-AFA Trawl CP sector must submit to Secretary a capacity reduction plan that would remove excess harvest capacity from the non-pollock fishery. For participants that decide to remove their vessels from the fleet, all fishery permits and endorsements issued for that vessel will be extinguished including those in the GOA. Although the impacts of the capacity reduction aspect of this program on the Non-AFA Trawl CP sector is not know with any certainty at this time, some vessels in the sector maybe good candidates for the program. Some of the 27 vessels that are likely to qualify for the Non-AFA Trawl CP sector are reported by some members of the fleet as having a difficult time accommodating the added costs associated with the required enforcement and monitoring demands necessary for Amendment 79 and the proposed action. One unknown is the impact GOA LLP and catch history. If vessel owners are not compensated for their GOA LLP and catch history, it is unlikely many of the 27 vessels will be retired.

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.

[38] The Program defines the non-pollock groundfish fisheries as the Atka mackerel, flathead sole, Pacific cod, Pacific Ocean perch, rock sole, turbot, or yellowfin sole fisheries.

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 FMP Amendment 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 REGULATORY FLEXIBILITY ACT ANALYSES

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 (FRFA). 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 (SBA). 'Small business' or 'small business concern' includes any firm that is independently owned and operated and not dominant in its field of operation. The SBA has further defined a "small business concern" as one "organized for profit, with a place of business located in the 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 business if it employs 100 or fewer persons on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide.

Companies that own catcher processors act as both fish harvesters and seafood processors. NOAA Fisheries has indicated that these companies should be classified as small or large entities based on the harvester definition. However, this definition is currently being disputed, and NOAA Fisheries is currently reviewing their catcher processor definition. Some members of the fishing industry argue that they should be classified based on the processor definition. Catcher processor owners have stated that they must meet specific requirements that apply to processors that result in additional costs to their businesses. Changing the definition would reclassify many catcher processor companies from large to

small entities. They would then benefit from Small Business Administration programs available to companies classified as small entities. However, until NOAA Fisheries completes their review of this issue and provides additional guidance, catcher processors will continue to be classified as small or large entities based on the current harvester definition.

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 presented in section 1.1 of this document. It provides the Council's rational for proposing the alternatives being considered. A primary reason cited by the Council 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 provide a structure for them to meet the requirements of IR/IU without facing unnecessary hardships. Cooperative formation typically requires NMFS to allocate specific amounts of the TAC to a group of vessels or permit holders that may participate in the cooperative. Members of the cooperative then determine how much of the allocation each participant may harvest. This amendment is designed to allocate portions of the BSAI TAC of five species to the Non-AFA Trawl CP sector. Members of that sector have traditionally been the predominant harvesters of those species.

Various formulas were considered by the Council for allocating the five species among the Non-AFA Trawl CP sector and the remaining sectors. Those formulas are discussed in Section 3.2.3. Allocations within the sector are also addressed. Sections 3.2.8 and 3.2.9 describe how the TAC that is allocated to the sector would be divided among the qualified vessels. Species that are not allocated to the Non-AFA Trawl CP sector would be managed under harvest caps set for the cooperative(s) and vessels that elect to not participate in the cooperative(s). Alternatives for implementing harvest caps, for species that are not directly allocated to the sector, are described in Section 3.2.11.

Limitations on the Non-AFA Trawl CP sector's harvest of species not allocated to them are described in Section 3.2.11. These "sideboard" limits are designed to constrain the Non-AFA Trawl CP sector's harvests to historical levels[39]. If the sideboards function properly, they should maintain the historic balance between the various GOA and BSAI fleets and the Non-AFA Trawl CP sector fleets. Without sideboards, it is possible that members of the Non-AFA Trawl CP sector could disrupt the fishing patterns of other companies that harvest fish from the BSAI or GOA. Many of these companies would be small entities.

The reason a cooperative based program is being considered is to provide the opportunity for cooperative members to focus on reducing their bycatch rather than competing to harvest more fish. This is considered an important step towards helping the Non-AFA Trawl CP sector meet the IRIU flatfish retention requirements. 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 the amount of each species they can harvest enables harvesters to determine the most efficient harvesting strategy while reducing discards. These strategies may include fishing areas/times with lower incidental catch rates, taking the time to retain more of the fish that are caught, and removing less efficient vessels from the fleet.

[39] Sideboard constraints are being considered because cooperatives will allow the Non-AFA Trawl CP fleet to change their fishing operations to take advantages fishing at different times of the year or consolidating the harvest of the directly allocated species on fewer vessels. The "extra" vessels would then be available to increase effort in other fisheries.

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. Increased allocations to the CDQ program will reduce the amount of fish that is available to other small (and large) entities that fish in the BSAI.

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 EEZ Bering Sea/Aleutian Islands and Gulf of Alaska groundfish fisheries are 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 BSAI and GOA groundfish fisheries that may be harvested with trawl gear are considered directly regulated. The CDQ groups and communities they represent are also considered directly regulated by this action. All participants in the GOA and BSAI are directly regulated because of the impacts of sideboard limits in the GOA and BSAI and the BSAI CDQ allocations.

Harvesters: Table 5-1 reports the number of vessels that generated more than $3.5 million in ex-vessel groundfish revenue annually for the years 1998 through 2003; Table 5-2 reports the same information for vessels that generated less than $3.5 million. The information in those tables shows that in 2003 a total of 966 vessels generated less than $3.5 million in ex-vessel revenue and 71 generated more than $3.5 million. In percentage terms, more than 93 percent of the vessel that fish for groundfish would be considered small entities. However, because the threshold is based on company earnings from all fisheries and not each individual vessel's groundfish harvest, these tables like over estimate the number of small entities. The lack of ownership data precludes the calculation of exact numbers of small and large entities at the company level.

Table 5-1 Number of vessels that caught or caught and processed more than $3.5 million ex-vessel value or product value of groundfish by area, vessel type and gear, 1998-2003.

	Gulf of Alaska		Bering Sea and Aleutian Islands			All Alaska		
	Catcher Prcoessors	Total	Catcher Vessels	Catcher Processors	Total	Catcher Vessels	Catcher Processors	Total
1998								
All gear	26	26	0	58	58	0	58	58
Hook and line	7	7	0	14	14	0	14	14
Pot	0	0	0	1	1	0	1	1
Trawl	19	19	0	44	44	0	44	44
1999								
All gear	29	29	1	57	58	1	57	58
Hook and line	13	13	0	22	22	0	22	22
Pot	1	1	0	3	3	0	3	3
Trawl	15	15	1	36	37	1	36	37
2000								

	Gulf of Alaska		Bering Sea and Aleutian Islands			All Alaska		
	Catcher Prcoessors	Total	Catcher Vessels	Catcher Processors	Total	Catcher Vessels	Catcher Processors	Total
1998								
All gear	28	28	4	58	62	4	58	62
Hook and line	13	13	0	26	26	0	26	26
Pot	0	0	0	2	2	0	2	2
Trawl	15	15	4	34	38	4	34	38
2001								
All gear	19	19	6	47	53	6	47	53
Hook and line	5	5	0	14	14	0	14	14
Trawl	14	14	6	33	39	6	33	39
2002								
All gear	23	23	10	54	64	10	54	64
Hook and line	10	10	0	18	18	0	18	18
Trawl	13	13	10	36	46	10	36	46
2003								
All gear	34	34	6	65	71	6	65	71
Hook and line	16	16	0	28	28	0	28	28
Pot	0	0	5	0	5	5	0	5
Trawl	18	18	6	37	43	6	37	43

Note:Includes only vessels that fished part of federal TACs.
Source: Table 26.1 of the 2004 Economic SAFE, NMFS Alaska Fisheries Science Center, Seattle, WA.
Data: CFEC fish tickets, weekly processor reports, NMFS permits, Commercial Operator's Annual Report (COAR), ADFG intent-to-operate listings. National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 5-2. Number of vessels that caught or caught and processed less than $3.5 million ex-vessel value or product value of groundfish by area, vessel type and gear, 1998-2003.

	Gulf of Alaska			Bering Sea and Aleutian Islands			All Alaska		
	Catcher Vessels	Catcher Prcoessors	Total	Catcher Vessels	Catcher Processors	Total	Catcher Vessels	Catcher Processors	Total
1998									
All gear	973	21	994	243	41	284	1,052	41	1,093
Hook and line	708	15	723	75	29	104	726	29	755
Pot	188	1	189	70	7	77	231	7	238
Trawl	170	5	175	115	7	122	207	7	214
1999									
All gear	980	29	1,009	271	31	302	1,087	34	1,121
Hook and line	699	17	716	67	19	86	720	22	742
Pot	231	10	241	88	11	99	281	11	292
Trawl	159	3	162	123	4	127	203	4	207
2000									
All gear	987	16	1,003	269	30	299	1,134	32	1,166
Hook and line	716	8	724	79	17	96	746	18	764
Pot	252	5	257	88	10	98	302	11	313
Trawl	125	3	128	108	5	113	199	6	205
2001									
All gear	852	21	873	279	43	322	1,012	44	1,056
Hook and line	650	15	665	92	31	123	681	31	712
Pot	154	4	158	74	7	81	212	9	221
Trawl	119	4	123	117	6	123	195	7	202
2002									
All gear	781	20	801	247	32	279	909	33	942
Hook and line	619	13	632	78	24	102	633	24	657
Pot	127	4	131	59	5	64	169	6	175
Trawl	107	3	110	114	3	117	182	3	185

	Gulf of Alaska			Bering Sea and Aleutian Islands			All Alaska		
	Catcher Vessels	Catcher Prcoessors	Total	Catcher Vessels	Catcher Processors	Total	Catcher Vessels	Catcher Processors	Total
2003									
All gear	803	13	816	262	18	280	945	21	966
Hook and line	655	9	664	73	12	85	678	14	692
Pot	137	1	138	83	3	86	197	3	200
Trawl	93	3	96	116	3	119	163	4	167

Note:Includes only vessels that fished part of federal TACs.
Source: Table 26.2 of the 2004 Economic SAFE, NMFS Alaska Fisheries Science Center, Seattle, WA.
Data Source: CFEC fish tickets, weekly processor reports, NMFS permits, Commercial Operator's Annual Report (COAR), ADFG intent-to-operate listings. National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 5-3 and Table 5-4 report the average ex-vessel groundfish revenue of the vessels that generated more and less than $3.5 million, respectively. The trawl vessels in the large entity category generated an average of about $15 million in 2003. This number is inflated by the large catcher processors in the pollock fishery. The Non-AFA Trawl CP vessels traditionally generate less revenue that the pollock CPs. Even though they generate less revenue, all 27 the vessels in the Non-AFA Trawl CP sector are also considered to be large entities based on the $3.5 million threshold applied to all vessels owned by an entity.

Table 5-3 Average revenue of vessels that caught or caught and processed more than $3.5million ex-vessel value or product value of groundfish by area, vessel type and gear, 1998-2003. ($ millions)

	Gulf of Alaska		Bering Sea and Aleutian Islands			All Alaska		
	Catcher Prcoessors	Total	Catcher Vessels	Catcher Processors	Total	Catcher Vessels	Catcher Processors	Total
1998								
All gear	6.41	6.41		8.64	8.64		8.64	8.64
Hook and line	4.46	4.46		4.51	4.51		4.51	4.51
Trawl	7.12	7.12		9.95	9.95		9.95	9.95
1999								
All gear	5.53	5.53		10.09	10.00		10.09	10.00
Hook and line	4.69	4.69		4.70	4.70		4.70	4.70
Trawl	6.36	6.36		13.23	13.00		13.23	13.00
2000								
All gear	6.57	6.57	4.66	10.72	10.33	4.66	10.72	10.33
Hook and line	4.82	4.82		5.09	5.09		5.09	5.09
Trawl	8.09	8.09	4.66	14.87	13.80	4.66	14.87	13.80
2001								
All gear	7.54	7.54	4.99	13.02	12.11	4.99	13.02	12.11
Hook and line	4.97	4.97		4.66	4.66		4.66	4.66
Trawl	8.45	8.45	4.99	16.57	14.78	4.99	16.57	14.78
2002								
All gear	6.96	6.96	4.91	12.76	11.54	4.91	12.76	11.54
Hook and line	4.28	4.28		4.25	4.25		4.25	4.25
Trawl	9.03	9.03	4.91	17.02	14.39	4.91	17.02	14.39
2003								
All gear	6.47	6.47	4.43	11.02	11.01	4.43	11.62	11.01
Hook and line	4.50	4.50		4.54	4.54		4.54	4.54
Pot			4.62		4.62	4.62		4.62
Trawl	8.21	8.21	4.43	16.98	15.23	4.43	16.98	15.23

Notes:Includes only vessels that fished part of federal TACs. Categories with fewer than four vessels are not reported. Averages are obtained by adding the total revenues, across all areas and gear types, of all the vessels in the category,and dividing that sum by the number of vessels in the category. Source: Table 26.3 of the 2004 Economic SAFE, NMFS Alaska Fisheries Science Center, Seattle, WA. Data Source: CFEC fish tickets, weekly processor reports, NMFS permits, commercial operator's annual report (COAR), ADFG intent-to-operate listings. National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 5-4 Average revenue of vessels that caught or caught and processed less than $3.5 million ex-vessel value or product value of groundfish by area, vessel type and gear, 1998-2003. ($ millions)

	Gulf of Alaska			Bering Sea and Aleutian Islands			All Alaska		
	Catcher Vessels	Catcher Prcoessors	Total	Catcher Vessels	Catcher Processors	Total	Catcher Vessels	Catcher Processors	Total
1998									
All gear	.15	1.77	.18	.44	1.63	.61	.16	1.63	.22
Hook and line	.08	1.59	.11	.18	1.57	.57	.08	1.57	.13
Pot	.11		.12	.24	.84	.29	.15	.84	.17
Trawl	.52	2.40	.57	.77	2.58	.88	.54	2.58	.61
1999									
All gear	.20	1.44	.23	.58	1.51	.68	.21	1.38	.25
Hook and line	.09	1.48	.12	.18	1.79	.53	.09	1.55	.13
Pot	.17	1.23	.21	.16	1.16	.27	.16	1.16	.20
Trawl	.77		.79	1.10	1.59	1.12	.79	1.59	.80
2000									
All gear	.16	1.33	.18	.67	1.34	.74	.24	1.34	.27
Hook and line	.11	1.24	.12	.23	1.60	.47	.10	1.53	.14
Pot	.16	1.03	.18	.16	.48	.19	.17	.62	.18
Trawl	.57		.61	1.40	1.72	1.41	.92	1.83	.95
2001									
All gear	.14	1.76	.18	.58	1.76	.74	.23	1.77	.30
Hook and line	.10	1.82	.14	.17	1.91	.61	.09	1.91	.17
Pot	.12	1.73	.16	.13	.86	.19	.12	1.17	.16
Trawl	.48	1.80	.52	1.18	1.93	1.22	.83	1.95	.87
2002									
All gear	.15	1.70	.18	.65	1.81	.78	.24	1.76	.30
Hook and line	.10	1.89	.14	.19	1.96	.61	.10	1.96	.17
Pot	.15	.38	.16	.18	.62	.22	.14	.52	.15
Trawl	.45		.51	1.18		1.22	.83		.86
2003									
All gear	.17	1.53	.19	.65	1.74	.72	.26	1.65	.29
Hook and line	.12	1.55	.14	.23	2.17	.50	.12	1.91	.15
Pot	.16		.16	.28		.30	.19		.20
Trawl	.57		.61	1.19		1.19	.93	1.45	.95

Notes:Includes only vessels that fished part of federal TACs. Categories with fewer than four vessels are not reported. Averages are obtained by adding the total revenues, across all areas and gear types, of all the vessels in the category, and dividing that sum by the number of vessels in the category.
Source: Table 26.4 of the 2004 Economic SAFE, NMFS Alaska Fisheries Science Center, Seattle, WA.
Data Source: CFEC fish tickets, weekly processor reports, NMFS permits, commercial operator's annual report (COAR), ADFG intent-to-operate listings. National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

The catalyst for this action was to provide a structure that would allow the Non-AFA Trawl CPs to form cooperatives. The Non-AFA Trawl CP sector vessels are the primary participants in the BSAI yellowfin sole, BSAI Atka mackerel, BSAI rock sole, BSAI flathead sole, and AI Pacific ocean perch 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 Catcher Processor 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 1 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.

Based on the projections provided in Section 3.1.2.3 and 3.1.2.4, it appears that a total of 27 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 27 vessels had annual receipts that averaged over $3.5 million in first wholesale revenue from 1995-2002[40]. According to current NMFS direction 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 also considered large entities.

Shorebased Processors:

A total of 36 processors in the BSAI and GOA have less than 500 employees. These processors, on average, generated about $0.9 million in revenue from groundfish and had total revenues from all seafood processing of about $5.2 million. The processors with over 500 employees averaged $43.5 million in groundfish revenues and $79.1 from all fish products (NMFS, 2002)

CDQ Groups and Communities:

Two alternatives addressed in this analysis could increase 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.

Aleutian Pribilof Island Community Development Association (APICDA): The communities that are part of the APICDA are Akutan, Atka, False Pass, and Nelson Lagoon.

Bristol Bay Economic Development Corporation (BBEDC): The communities that are part of the BBEDC are 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.

Central Bering Sea Fisherman's Association (CBSFA): Saint Paul is the only community in the CBSFA.

Coastal Villages Region Fund (CVRF): The communities that are part of the CVRF are 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.

Norton Sound Economic Development Corporation (NSEDC): The communities that are part of the NSEDC are Brevig Mission, Diomede/Ignalik, Elim, Gambell, Golovin, Koyuk, Nome, Savoonga, Shaktoolik, Saint Michael, Stebbins, Teller, Unakleet, Wales, and White Mountain.

Yukon Delta Fisheries Development Association (YDFSA): The communities that are part of the NSEDC are 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.

[40] 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 NMFS Alaska Fisheries Science Center. Those prices were then multiplied by the species and product forms in the NMFS Weekly Production Report data, by Elaine Denniford on the NPFMC staff, to generate these revenue estimates.

5.5 Recordkeeping and reporting requirements

This action is not projected to have an adverse impact on the reporting requirements of small entities participating in the BSAI and GOA groundfish fisheries. CDQ groups will continue to be required to report information to the Federal and State governments (see Section 3.2.2). The change in allocations may slightly increase reporting costs, but the costs are expected to be less than the benefits derived from selling or harvesting the allocation.

Implementing this program would require the cooperatives that are formed to supply annual reports on their activities (see Section 3.2.13.16). The annual reports will require cooperative members (all large entities) to increase the amount of time spent fulfilling their reporting requirements. The first year of the program is expected to require the most time. After a good working template is developed for the annual report, members will only need to update the information. Updating the reports is anticipated to be less time consuming than creating the first reports. Reporting requirements will apply to any company that is a member of the cooperative, and it is the responsibility of the collective cooperative membership to ensure that the reports are 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.

The regulations proposed in this amendment are not expected to impact the recordkeeping and reporting requirements for any other entities in the fishery. They must continue reporting information that is currently required.

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 would receive their current allocation of the BSAI TAC. Other small entities impacted by this action would continue to compete for their portion of groundfish, crab, halibut, and PSQ species. No impacts on small entities are anticipated.

The Non-AFA Trawl CP sector 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 Catcher Processors 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.

The sideboard limits proposed for the Non-AFA Trawl CP fleet will impact the amount of each species, outside of the five they are directly allocated, they are allowed to harvest. Restrictive sideboard limits will tend to protect small and large harvesting and processing entities in the GOA and BSAI that are outside of the Non-AFA Trawl CP sector. That protection will come at the expense of the large entities in the Non-AFA Trawl CP sector. The sideboard limits are discussed in detail in Section 3.2.11.

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 3.2.4). The royalty increases under the 10 and 15 percent options would increase the overall royalties received by the CDQ groups. Given that over $53.4 million in CDQ royalties were generated in 2003, the overall royalty increase is expected to be relatively small. The increase in royalties that accrue to the CDQ groups would come at the expense of the open access fleet. About 170 of the fixed gear participants in these BSAI fisheries are considered to be small entities and several participants (an unknown number that is less than 107) using trawl gear are also considered small entities.

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 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 benefit them. The cost of that increase would be borne by the vessels that traditionally harvest the allocated species. An analysis of this issue can be found in Section 3.2.2.

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

NMFS, 2002. Environmental Assessment/Initial Regulatory Flexibility Analysis for the Total Allowable Catch Specifications for the Year 2003. NMFS Alaska Region. September 2002.

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[41], 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 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

[41] Allocations are made to the cooperatives and the cooperatives are then allowed to divide the allocation among its members based upon a predefined agreement.

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. See Appendix 1 for a detail community profile of the Seattle area. 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.

Landon S. Jensen, Joe Koebbe, and Keith R. Criddle**.** 2005. **"**Pooled and Individual Bycatch Quotas: Exploring tradeoffs between observer coverage levels, bycatch frequency, pool size, and the precision of bycatch estimates". Alaska Sea Grant under grant NA86RG0050.

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.

8 CONSULTATION AND PREPARERS

8.1 List of Persons and Agencies Consulted

NPFMC:	Chris Oliver David Witherell
NOAA Fisheries, Alaska Region, Sustainable Fisheries Division:	Mary Furuness Jeff Hartman Alan Kinsolving Sue Salveson Andy Smoker
Fisheries Enforcement Division:	Ken Hansen Jeff Passer
NOAA General Counsel, Alaska Region:	Lauren Smoker
Groundfish Forum:	Ed Luttrell Susan Robinson Lori Swanson
United States Seafoods:	David Wood

8.2 List of Preparers

NPFMC:	Jon McCracken, project lead Mark Fina Elaine Dinneford Diana Evans
Brannan Consulting.:	Darrell Brannan
NOAA Fisheries:	Jason Anderson Sally Bibb Obren Davis Jennifer Watson

APPENDIX 1 Socioeconomic Profile of Seattle

According to the U.S. Census, the population of Seattle was 3,554,760 in 2000. This represents an increase of nearly 1 million people since the previous census in 1990.

Locational issues are discussed with respect to the Seattle area and Alaska fisheries. The first part of the discussion is divided into three components: the institution of the Port of Seattle, the "traditional" community of Ballard, and the planning area construct of the Ballard Interbay Northend Manufacturing Industrial Center (BINMIC). Each component provides a different perspective on the Seattle social/socioeconomic ties to the fishery.

The Port of Seattle

Martin Associates (2000) provides an overall assessment of the economic impact of fishing activity based at Port of Seattle facilities. They conclude that such activity generates $400 million in wages (direct, indirect, and induced), $315 million in business revenues, $42 million in local purchases, and $48 million in state and local taxes. There is no way to desegregate the Alaskan distant water fleet from this overall impact, so the utility of the information for the present purposes is limited. They do provide estimates for the annual expenditures in Seattle of the various fishing vessels homeported there, and as might be expected, those for the larger vessels, such as participate in the Alaskan groundfish fisheries, are the highest in terms of expenditures per vessel – $250,000 for catcher trawlers, $900,000 for factory trawlers, and $1.7 million for motherships. Crabbers are in the $180,000 range. Most of the vessels in these classes homeported in Seattle probably participate in the Alaskan groundfish fisheries but also participate in other fisheries. There are also many vessels in the Seattle distant water fleet that do not participate in the Alaskan groundfish fisheries. The Port itself does not have information on moorage fees received, either in total or for segments of the fleet.

The Port of Seattle is separate from the Municipality of Seattle and is an economically self-supporting entity. Besides its direct revenues, it receives 1 percent of the property tax collected in King County, but with a cap on funding not to exceed $33 million a year. In turn, all port revenues are charged a 12.4 percent tax, which is split between the City of Seattle and the State of Washington (in lieu of property tax). The Port's charge is the development of infrastructure that will support local and regional economic activities, especially in cases where the rate of return on investment in that infrastructure may be too low (although still positive) for the private investor. Such development contributes to the overall economy of the region through synergistic and multiplier effects.

Ballard

When looked at on a neighborhood basis, one of more obvious foci of the distant water fishery in the greater Seattle area is the community of Ballard. Today the term "Ballard" represents a loosely defined geographical neighborhood of northwest Seattle. There is no geographically standard area for which various types of comparable information exists. Nonetheless, the area does have a geographical identity in peoples' minds and, together with Magnolia and Queen Anne, has its own yellow pages telephone directory (published by the Ballard and Magnolia Chambers of Commerce). The following brief section is based predominately on information from the Ballard Chamber of Commerce (1998), Reinartz (1988a, 1988b, 1988c, 1988d), Hennig and Tripp (1988), and McRae (1988).

Fishermen's Terminal on Salmon Bay is recognized as the home of the Pacific fishing fleet and has been characterized as the West Coast's "premier home port." Fishermen's Terminal (Salmon Bay Terminal) in turn has often been identified with Ballard, which was formerly a separate city (incorporated 1890) before annexation by Seattle in 1907. Until the construction of the Chittenden Locks and the Lake Washington Ship Canal, opened in 1917, Salmon Bay Terminal was confined to relatively small vessels but was the focus of a developing fishing fleet. Once the area was platted and incorporated, it quickly attracted settlers and industries desiring or dependent upon access to Puget Sound. The timber industry was the first to

develop, due to the need to clear land as well as the value of the timber that was available. By the end of the 1890s, Ballard was a well-established community with the world's largest shingle manufacturing industry, as well as boat building and fishing industries. By 1900 Ballard was the largest area of concentrated employment north of San Francisco.

Ballard effectively blocked the expansion of Seattle to the north, and court decisions had given Seattle control over Ballard's freshwater supply, with the result that Ballard became part of Seattle in 1907. At that time the community had 17 shingle mills, 3 banks, 3 saw mills, 3 iron foundries, 3 shipyards, and approximately 300 wholesale and retail establishments. The Scandinavian identity of Ballard developed at or somewhat before this time. In 1910, first- and second-generation Scandinavian-Americans accounted for 34 percent of Ballard's population, and almost half of Ballard's population was foreign-born. Currently, less than 12 percent of the population is of Scandinavian descent, but the cultural association remains pervasive.

Ballard's economy continued to develop and diversify, but it remained fundamentally dependent on natural resources, and especially timber and fishing. In 1930 the *Seattle Weekly News* reported that 200 of the 300 schooners of the North Pacific halibut fleet were homeported in Ballard, demonstrating not only the centrality of Ballard but the long-term importance of distant water fisheries to Seattle fishermen. In 1936, the Port of Seattle built a new wharf at the Salmon Bay terminal, and in 1937 a large net and gear warehouse was scheduled for construction there. Over the years, Seattle-based vessels were central to the evolution of a number of North Pacific fisheries.

Thus in some ways Ballard is considered a "fishing community within" Seattle. While this has historically been the case, when examined specifically with respect to the BSAI crab fishery, the area cannot cleanly be considered a "village within a city." While there is a concentration of multigenerational fishing families within the area, the "industrialization" of the Alaska fisheries has tended to disperse the ties and relationships. While support service businesses remain localized to a degree (as discussed in another section below), there does not appear to be a continuity of residential location that is applicable to the Alaska crab fishery. This is due to the many changes within the cluster of individual species fisheries that make up the overall Alaska crab fishery, and others in which these fishermen may participate. In summary, this "community within the community" issue is not straightforward due to the complex nature of historical ties, continuity of fishing support sector location through time, changes in the technology and methods of fishing, and industrialization of the fishery. Clearly, Seattle represents a different pattern of colocation of residence and industry with respect to the BSAI crab fishery than that seen in the relevant Alaska communities.

The Ballard Interbay Northend Manufacturing Industrial Center

One of the fundamental purposes for the establishment of the BINMIC Planning Committee was the recognition that this area provided a configuration of goods and services that supported the historical, industrial, and maritime character of the region. At the same time, developmental regional dynamics are promoting changes within the BINMIC area that may threaten the continued vitality of its maritime orientation. Among other objectives, the BINMIC final plan states:

> The fishing and maritime industry depends upon the BINMIC as its primary Seattle home port. To maintain and preserve this vital sector of our economy, scarce waterfront industrial land shall be preserved for water-dependent industrial uses and adequate uplands parcels shall be provided to sufficiently accommodate marine-related services and industries (BINMIC Planning Committee 1998:6).

Previous documents produced for the NPFMC (e.g., NPFMC 2002; IAI 1998) have discussed the BINMIC area, and some of this information is abstracted below. It is now becoming dated, however, as the BINMIC planning document has remained in the form in which it was "finalized" and the City of

Seattle does not collect time series measures for the BINMIC area comparable to those, for example, collected for the Port of Seattle.

As previously noted, Ballard, in northwest Seattle, is commonly identified as the center of Seattle's fishing community. This may be true in a historical residential sense, but commercial fishing-related suppliers and offices are spread along both sides of Salmon Bay-Lake Washington Ship Canal, around Lake Union, along 15th Avenue West through Queen Anne, and then along the shores of Elliot Bay on both sides of Pier 91. Not surprisingly, this is also the rough outline of the formal boundaries of BINMIC, which is bordered by the Ballard, Fremont, Queen Anne, Magnolia, and Interbay neighborhoods. It is defined so as to exclude most residential areas, but to include manufacturing, wholesale trade, and transportation-related businesses. It includes rail transportation, ocean and freshwater freight facilities, fishing and tug terminals, moorage for commercial and recreational boats, warehouses, manufacturing and retail uses, and various port facilities (Terminal 86, Piers 90 and 91).

The BINMIC "Economic Analysis" document (Economic Consulting Services 1997) uses much of the same information as was reviewed above, in combination with an economic characterization of the BINMIC area, to establish that certain economic activities are especially important for that area. One of these activities is commercial fishing, although again the specific extent of connections to the BSAI crab fishery in particular are difficult to establish.

The BINMIC area is relatively small, but contributes disproportionately to the city and regional economy. Again, those characteristics are part of what determined its borders. The BINMIC resident population is only 1,120 (1990 census), but there are 1,048 businesses in the area and 16,093 employees. The great majority of business firms are small, 85 percent have fewer than 26 employees, but accounted for only 30 percent of total BINMIC employment. Self-employed individuals (i.e., fishermen) are probably not included in these numbers.

An important indicator of the importance of commercial fishing and other maritime activities is the availability of commercial moorage. As of 1994, more than 50 percent of all commercial moorage available in Puget Sound was located in Seattle, and of that, more than 50 percent was in the BINMIC area (representing 30 percent of all commercial moorage in the Puget Sound area). Thus, the BINMIC area is clearly important in terms of being an area where vessels (especially larger commercial vessels) are concentrated. The Port of Seattle has concluded that only the ports of Olympia and Tacoma at present provide a significant source of moorage in Puget Sound outside of Seattle. Port Angeles may build additional capacity at some point in the future. Olympia's facility was rebuilt in 1988. Some older moorage constructed of timber piling prior to 1950 is nearing the end of its useful life and will need to be replaced. On the other hand, it is expected that much of the private old timber moorage will not be replaced, so that overall moorage capacity will decline. In the Seattle area, there has also been a dynamic whereby commercial moorage had been converted to recreational moorage. Within the BINMIC area, recreational moorage within the UI Shoreline is prohibited altogether, because of the importance of commercial activity and the danger of interference from recreational moorage. The Port has concluded that it is unlikely that any new private commercial moorage will be developed (because of cost and regulatory regime) and is examining their options (Port of Seattle 1994). As previously mentioned, the Port is pursuing a program of repairing its facilities where economically feasible (when it can be fairly well assured of a steady tenant).

The BINMIC area is fairly well "built out." The BINMIC area contains 971 acres, divided into 806 parcels with an average size of 1.043 acres, but a median size of 0.207 acres. Thus there are many small parcels. Public entities of one sort or another own 574.8 acres (59 percent). The Port of Seattle is the largest landowner with 166 acres, while the city has 109 acres. Private land holders own 396 acres, of which only 19.45 acres were classified as vacant – 19.27 acres in 81 parcels as vacant industrial land and 0.18 acres in 2 parcels as vacant commercial land. An additional 200.76 acres were classified as "underutilized," meaning that it had few buildings or other improvements on it. This classification does

not mean that the land may not be in use in a fruitful way (for instance, storage of gear or other use that is not capital intensive).

Economic Consulting Services (1997, Appendix C) lists 85 companies that have a processing presence in Washington State. Of these, over half (47) are located in Seattle, with many in the surrounding communities (Bellevue, Kirkland, Redmond). Of these 47, at least 18 are located within the BINMIC area, and the rest are located very near the boundaries of the BINMIC. Some examples of fairly large fishing entities that are located within the BINMIC (as well as elsewhere) are Trident Seafoods, Icicle Seafoods, Ocean Beauty Seafoods, Peter Pan, Alaska Fresh Seafood, and NorQuest Seafoods. All demonstrate some degree of integration of various fishing industry enterprises.

The BINMIC area of Seattle displays the following characteristics, which indicate its important economic roles:

- significant component of, and plays a vital role in, the greater Seattle economy;
- integrated into local, regional, national, and multinational markets;
- key port for trade with Alaskan and the West Coast, Pacific, and Alaska fishing industries and the Alaskan fishery is especially significant;
- Salmon Bay, Ship Canal, and Ballard function as a small port of its own but also support fishing and a wide range of other maritime activities - including recreation and tourist vessels and activities; and
- an area of concentration of businesses, corporations, organizations, institutions, and agencies that participate in, regulate, supply, service, administer, and finance the fishing industry.

Importance of Fisheries and Seafood Industry

Chase and Pascall (1996) focus on the importance of Alaska as a market for Seattle region (Puget Sound) produced goods and services. They do so by identifying particular industrial sectors that generate the bulk of these economic impacts, but they do not locate these industrial sectors in terms of particular geographic locations within the region. In their discussion of the fisheries sector, Chase and Pascall indicate that only a fraction of the regional economy is based on fishing and seafood processing industries, but that these industry sectors are concentrated in several communities and rely heavily on North Pacific (Alaskan) resources. The communities that they single out are Bellingham, Anacortes, and the Ballard neighborhood of Seattle. They say that Seattle is the major base for vessels for various fisheries – groundfish (catcher vessels, catcher processors, motherships), halibut, crab, salmon, and others. There are numerous secondary processing plants in the region, and about 60 percent of the seafood harvested and shipped south for processing moves through the Port of Tacoma (Chase and Pascall 1996:23).

The relative value of Alaskan shellfish (crab, shrimp, etc.) for the Seattle fleet varies from year to year, but in 1994 was about 25 percent of the ex-vessel value of the Alaska/North Pacific commercial fishing harvest (Chase and Pascall 1996:26), which represented about 75 percent by harvest value, and 92 percent by weight, of all fish harvested by the Puget Sound fishing fleet (Chase and Pascall 1996:23 – citing ADF&G, NPFMC, NMFS). Since that time, crab harvests have declined considerably, however, so this percentage would now be smaller.

Other relatively recent work (Martin O'Connell Associates 1994) indicates the wide range of activities that the Port of Seattle supports and the web of support services that commercial fishing helps support, but it provides no measure of the contribution of the BSAI crab fishery to this support. Fishing activities are included in this study only to the extent that they are reflected in activities at Fishermen's Terminal. This would generally reflect Bering Sea and Gulf of Alaska catcher vessel activity but would also include a great number of other smaller vessels moored at Fishermen's Terminal. On the other hand, it would also include some Alaskan groundfish activity of similarly sized and somewhat larger vessels, and some factory trawlers. It would not include the activities of larger Alaskan groundfish vessels such as catcher processor, mothership, and secondary processing activities. By their estimation, fishing activity at

Fishermen's Terminal in 1993 generated 4,007 direct jobs (the majority of them crew positions), earning an average of $48,690 per direct job (total $195 million). Also, an additional 2,765 induced and indirect jobs were created. Fishing businesses also expended $145 million on local purchases of goods and services (Martin O'Connell Associates 1994:45-49). Again, this does not indicate the contribution of the BSAI crab fishery so much as it establishes that the local fishing/processing economy is densely developed.

Natural Resource Consultants (NRC) has compiled quite comprehensive accounts of commercial fishing activity by the Seattle and Washington state fleets (NRC 1986, 1999). They provide a brief historical narrative on the development of the various fisheries and then a more detailed summary of the status of fish stocks and historical harvest information. In 1986, the estimated ex-vessel value of the grand total of all seafood taken from local waters by Washington's local fleet was about $93 million (NRC 1986:18,19). Distant water fisheries, primarily in the Gulf of Alaska and the Bering Sea, yielded an estimated grand total of $290 million by 1,371 vessels with an aggregate crew of 6,088 (NRC 1986:28,33). The joint venture fleet accounted for about $80 million (ex-vessel) of this, with about 81 vessels and 405 crew, with an additional 11 catcher processors accounting for another $25 million (ex-vessel) and about 330 jobs. In terms of weight or volume, 92 percent of the seafood harvested by Washington fishermen came from Alaskan waters, and only 7 percent from local waters. In terms of ex-vessel value, the Alaskan harvest was worth $283 million and local harvest $110 million (and other harvest $8 million). None of these general statements had changed to any appreciable degree by 1998/99, and Alaskan distant waters fisheries still provided 95 percent of the harvest for the Washington state fishing fleet (NRC 1999).

Most of the Alaskan catch was processed to some extent in Alaska by processing entities based in Seattle (i.e., either by mobile facilities or onshore facilities owned by Seattle-based entities). NRC states that there were about 130 seafood processing/wholesaling and 33 wholesale/cold storage companies in Washington in 1985, operating 250 primary processing and wholesale plants in Washington and 120 shore based or at sea in Alaska. Washington processing employment was 4,000 seasonally and in Alaska was 8,000, with half coming from Washington (NRC 1986:35-39). A similar NRC study in 1988 found that Washington fishermen harvested about 80 percent (ex-vessel value) of their catch in distant waters, with 98 percent of that coming from Alaskan waters. About 72 Washington state vessels participated in the joint venture trawl fishery, directly employing about 360 people. There were also 43 catcher processors employing about 2,200 people, and 26 shore-based trawlers, employing about 130 people.

Turning to relatively more recent data, Chase and Pascall (1996) focus on the importance of Alaska as a market for Seattle region (Puget Sound) produced goods and services. They do so by identifying particular industrial sectors that generate the bulk of these economic impacts, but they do not locate these industrial sectors in terms of particular geographic locations within the region. In their discussion of the fisheries sector, Chase and Pascall indicate that only a fraction of the regional economy is based on fishing and seafood processing industries, but that these industry sectors are concentrated in several communities and rely heavily on North Pacific (Alaskan) resources. The communities that they single out are Bellingham, Anacortes, and the Ballard neighborhood of Seattle. They say that Seattle is the major base for vessels for various fisheries – groundfish (catcher vessels, catcher processors, motherships), halibut, crab, salmon, and others. There are numerous secondary processing plants in the region, and about 60 percent of the seafood harvested and shipped south for processing moves through the Port of Tacoma (Chase and Pascall 1996:23).

The relative value of Alaskan shellfish (crab, shrimp, etc.) for the Seattle fleet varies from year to year, but in 1994 was about 25 percent of the ex-vessel value of the Alaska/North Pacific commercial fishing harvest (Chase and Pascall 1996:26), which represented about 75 percent by harvest value, and 92 percent by weight, of all fish harvested by the Puget Sound fishing fleet (Chase and Pascall 1996:23 – citing ADF&G, NPFMC, NMFS). Since that time, crab harvests have declined considerably, however, so this percentage would now be smaller.

Other relatively recent work (Martin O'Connell Associates 1994) indicates the wide range of activities that the Port of Seattle supports and the web of support services that commercial fishing helps support, but it provides no measure of the contribution of the BSAI crab fishery to this support. Fishing activities are included in this study only to the extent that they are reflected in activities at Fishermen's Terminal. This would generally reflect Bering Sea and Gulf of Alaska catcher vessel activity but would also include a great number of other smaller vessels moored at Fishermen's Terminal. On the other hand, it would also include some Alaskan groundfish activity of similarly sized and somewhat larger vessels, and some factory trawlers. It would not include the activities of larger Alaskan groundfish vessels such as catcher processor, mothership, and secondary processing activities. By their estimation, fishing activity at Fishermen's Terminal in 1993 generated 4,007 direct jobs (the majority of them crew positions), earning an average of $48,690 per direct job (total $195 million). Also, an additional 2,765 induced and indirect jobs were created. Fishing businesses also expended $145 million on local purchases of goods and services (Martin O'Connell Associates 1994:45-49). Again, this does not indicate the contribution of the BSAI crab fishery so much as it establishes that the local fishing/processing economy is densely developed. Also, if the estimates or models of vessel expenditures developed for operations using Fishermen's Terminal can be extrapolated to other vessels based in Seattle, an estimate of the contribution of the BSAI crab fishery may be possible.

A summary profile of the Puget Sound maritime industry, which includes commercial fishing, is included in Economic Development Council of Seattle and King County 1995 (Appendix A:39-49). Pertinent information has been abstracted here. The list of included businesses is quite long and is a good indicator of how far indirect benefits can spread:

> . . . cargo shipping, tugs and barges, commercial fishing and supply; ship and boat building; cruise ships; vessel design and repair; fueling; moorage; the fabrication and sale of marine gear such as electronics; refrigeration, hydraulics, and propulsion equipment; the operation of marinas, dry docks and boat yards; services provided by customs and insurance brokers and shipping agents; and maritime professional services including admittedly law, marine surveying and naval architecture (Appendix A:39).

It was estimated that in 1992 there were 30,000 jobs in the maritime sector within the four-county region, including 10,000 in commercial fishing, 7,000 in fish processing, 5,000 in marine recreation, and 3,900 in boat building and repair. Average wages were estimated at $24,000 for fish processors, $32,000 for ship and boat building and repair, and $50,000 to $80,000 for commercial fishing. The sector is one noted for providing entry-level positions for those with limited education and job skills, so that they can learn a high-wage job. Each job in this sector creates or supports one to two other jobs in the regional economy, and each dollar of sector output generates about one additional dollar in output from the rest of the economy.

Seattle offers the maritime sector, and the distant water fleet in particular, a "critical mass" of businesses that allows vessel owners and other buyers a competitive choice of goods and services. The same is true to a lesser extent of other regional ports, such as Tacoma. Efficient land transportation systems are also critical, and Seattle has good rail and truck linkages (and the Port of Seattle is working to improve them).

Although the maritime sector is an important one for the region, some of its components are currently experiencing some difficult times. Other regional communities (Anacortes, Bellingham, Port Townsend) as well as locations in Alaska (closer to the distant fishing waters) are working to develop port facilities to lure vessels so that they may gain the economic benefits of the associated support and supply business. Common sorts of projects are the improvement of shoreside access, building additional moorage, or work and storage capacity.

NRC revised some of their earlier work and added additional analysis focused specifically on the contributions of inshore Washington state (but also Alaska) processing plants to the Washington State economy (NRC 1991/92, 1997). The Washington inshore seafood processing industry purchased $859.5

million of raw material in 1991, $720.1 million from Alaska, and $139.4 million from Washington waters. Salmon accounted for 46 percent of the total value of these purchases, shellfish for 20 percent, groundfish for 19 percent, halibut for 11 percent, and other species for much less. The total finished product from all this raw material was worth $2.1 billion ($1.8 billion from the Alaskan raw material). Salmon accounted for $780 million of the final product's value, shellfish for $563 million, and groundfish for $482 million. "... inshore processors operating in Alaska and Washington account for more than 50 percent of the value of U.S. seafood exports" (NRC nd:4). For 1996, the total purchased was comparable at $877.2 million – 41 percent salmon, 20 percent shellfish, groundfish 15 percent, halibut 9 percent, herring 7 percent, and other species much less. The total finished product totaled $2.17 billion, $1.9 billion from Alaskan material. Salmon accounted for 35 percent, shellfish for 28 percent, and groundfish for 18 percent. Thus Alaskan shellfish is at least as important in terms of value of product as is groundfish for 1991-1996.

Expenditure patterns for Washington (and Washington-owned Alaskan) inshore plants were modeled in these NRC documents. Inshore plants expenditures average 46 percent for their raw materials (fish and shellfish), 16 percent for wages and benefits, 9 percent for processing materials, and 7 percent for tendering and other transportation costs. About 55 percent of these expenditures were made in Washington, 43 percent in Alaska, and 2 percent from other states. This is stated to include fish and shellfish purchased in Alaska from fishermen who homeport in Washington (NRC nd:9), and economic benefits were produced from these expenditures in direct proportion to their magnitude.

The estimated total economic output from primary and secondary processing activities for all seafood to the Washington state economy in 1991 was calculated to be $1.865 billion. This was the result of three main factors (in order of their significance in terms of contributions to economic benefits):

- A substantial portion of expenditures for raw material (fish) in Alaska is made to fishermen whose home ports are in Washington.
- The majority of administrative and sales functions of processing companies are carried out in Washington.
- A major portion of support industries (equipment and packaging manufacturing) is located in Washington.

In 1996 the Washington inshore seafood industry generated 32,837 full-time equivalent jobs (21,308 in Washington and 11,529 in Alaska) and $791 million of earnings impacts ($532 million in Washington and $259 million in Alaska). In terms of economic output, it contributed $1.9 billion to the Washington state economy and $1.2 billion to the Alaska state economy (NRC 1997). As noted earlier, these data underscore the interrelatedness of the economies of Alaska and Washington and, as has been seen through the sector profiles and the ties to particular communities, the ties between Seattle and specific Alaska communities. Companies based in Washington depend on Alaska fisheries for the great bulk of the raw materials processed in Washington, and residents of both states harvest Bering Sea resources. Also, as noted earlier, the corporate offices and sales outlets of the processing companies are located in Washington, as are most of the suppliers and support services for the industry.

APPENDIX 2 GOA Halibut PSC Sideboard Calculations

Table A1: Gulf Halibut Usage and Sideboard Estimates for Non-AFA Trawl CPs, 1995-2003

Halibut Category	Target Fishery	Quarter 1	2	3	4	Total
Western Gulf						
Deep Water	Arrowtooth Flounder	4.9	272.4	181.8	129.3	588.5
	Rex Sole	152.4	52.2	33.9	13.1	251.5
	Rockfish	0.1	1.7	149.1	21.1	172.1
Deep Water Trawl Total		157.4	326.3	364.8	163.5	1,012.1
Shallow Water	Atka Mackerel			7.3		7.3
	Bottom Pollock	-	3.0			3.0
	Flathead Sole	47.8	36.7	23.3	15.1	122.9
	Other			0.6		0.6
	Pacific Cod	65.2	0.9	15.1	34.4	115.6
	Shallow Water Flatfish	4.1	39.6	5.1	7.0	55.8
Shallow Water Trawl Total		117.2	80.1	51.4	56.5	305.1
Western Gulf Total		274.6	406.4	416.2	220.1	1,317.2
Central Gulf and West Yakutat						
Deep Water	Arrowtooth Flounder	1.9	145.7	408.2	332.0	887.8
	Deep Water Flatfish			16.1	52.3	68.4
	Rex Sole	405.4	1,304.0	164.6	188.7	2,062.8
	Rockfish	2.3	3.5	615.0	28.5	649.3
	Sablefish		1.7			1.7
Deep Water Trawl Total		409.7	1,455.0	1,203.8	601.5	3,670.0
Shallow Water	Atka Mackerel				1.2	1.2
	Bottom Pollock	0.1	0.1			0.2
	Flathead Sole	27.3	48.7	51.3	7.7	135.1
	Other	3.3	0.1			3.4
	Pacific Cod	36.2	189.6	165.0	332.4	723.3
	Shallow Water Flatfish	13.9	65.7	46.7	10.7	137.0
	Unknown		0.1			0.1
Shallow Water Trawl Total		80.8	304.3	263.0	352.1	1,000.2
Central Gulf and West Yakutat Total		489.5	1,759.3	1,458.8	953.5	4,661.1
GOA Shallow Water Total		198.0	384.4	314.4	408.6	1,305.3
GOA Deep Water Total		567.1	1,781.3	1,568.7	765.0	4,682.1
GOA Total		765.1	2,165.6	1,883.1	1,173.6	5,987.4
Sideboard Calculations						
Percent of Halibut Caught (Shallow Water)		15%	29%	24%	31%	100%
Percent of Halibut Caught (Deep Water)		12%	38%	34%	16%	100%
Percent of Shallow Water Complex Halibut Used by Non-AFA Trawl CPs in GOA						21.80%
Percent of Deep Water Complex Halibut Used by Non-AFA Trawl CPs in GOA						78.20%
Percent of GOA Halibut PSC Caught by Non-AFA Trawl CP vessels						32.48%
Sideboard Percent for Shallow Water		1.074%	2.085%	1.706%	2.217%	7.081%
Sideboard Percent for Deep Water		3.077%	9.663%	8.510%	4.150%	25.400%
Sideboard (mt) -Shallow Water Complex		21.48	41.70	34.11	44.33	141.62
Sideboard (mt) -Deep Water Complex		61.53	193.26	170.20	83.00	507.99

Source: NPFMC summary of NMFS weekly PSC reports.

Note: A trawl PSC allotment of 2,000 mt was multiplied by the percentages in this report to generate allocation amounts

Table A2: Gulf Halibut Usage by Non-AFA Trawl CPs, 1997-2002

Halibut Category	Target Fishery	Quarter 1	2	3	4	Total
Western Gulf						
Deep Water	Arrowtooth Flounder	4.9	158.8	151.9	126.5	442.2
	Rex Sole	137.5	39.9	22.6	13.0	213.0
	Rockfish	0.1	1.7	118.0	0.2	120.1
Deep Water Trawl Total		142.5	200.4	292.6	139.7	775.2
Shallow Water	Bottom Pollock	-				-
	Flathead Sole	23.5	22.7	21.0	5.1	72.3
	Pacific Cod	40.0	0.3	0.2	34.4	74.9
	Shallow Water Flatfish	3.6	2.5		0.0	6.2
Shallow Water Trawl Total		67.1	25.5	21.2	39.6	153.4
Western Gulf Total		209.6	225.9	313.8	179.3	928.6
Central Gulf and West Yakutat						
Deep Water	Arrowtooth Flounder	1.9	79.8	277.1	82.7	441.5
	Deep Water Flatfish			11.1	42.6	53.7
	Rex Sole	216.4	909.0	48.9	87.1	1,261.3
	Rockfish	0.8	2.6	453.5	1.8	458.3
Deep Water Trawl Total		219.1	991.3	790.6	214.2	2,215.2
Shallow Water	Bottom Pollock		0.1			0.1
	Flathead Sole	18.8	16.1	24.8	3.7	63.3
	Pacific Cod	8.9	185.4	161.0	299.1	654.4
	Shallow Water Flatfish	8.4	17.2	46.7	9.1	81.4
	Unknown		0.1			0.1
Shallow Water Trawl Total		36.1	218.9	232.5	311.8	799.3
Central Gulf and West Yakutat Total		254.2	1,210.2	1,022.9	526.0	3,013.3
GOA Shallow Water Total		103.2	244.4	253.7	351.4	952.7
GOA Deep Water Total		361.6	1,191.7	1,083.2	353.9	2,990.4
GOA Total		464.8	1,436.1	1,336.9	705.3	3,943.1
Sideboard Calculations						
Percent of Halibut Caught (Shallow Water)		11%	26%	27%	37%	100%
Percent of Halibut Caught (Deep Water)		12%	40%	36%	12%	100%
Percent of Shallow Water Complex Halibut Used by Non-AFA Trawl CPs in GOA						24.16%
Percent of Deep Water Complex Halibut Used by Non-AFA Trawl CPs in GOA						75.84%
Percent of GOA Halibut PSC Caught by Non-AFA Trawl CP vessels						31.91%
Sideboard Percent for Shallow Water		0.835%	1.978%	2.053%	2.843%	7.709%
Sideboard Percent for Deep Water		2.926%	9.643%	8.765%	2.864%	24.199%
Sideboard (mt) -Shallow Water Complex		16.70	39.56	41.06	56.87	154.19
Sideboard (mt) -Deep Water Complex		58.52	192.87	175.31	57.28	483.98

Source: NPFMC summary of NMFS weekly PSC reports.

Note: A trawl PSC allotment of 2,000 mt was multiplied by the percentages in this report to generate allocation amounts

Table A3: Gulf Halibut Usage by Non-AFA Trawl CPs, 1998-2002

Halibut Category	Target Fishery	Quarter 1	2	3	4	Total
Western Gulf						
Deep Water	Arrowtooth Flounder	4.9	158.8	151.9	126.5	442.2
	Rex Sole	77.0	33.0	22.6	13.0	145.6
	Rockfish	0.1	1.7	61.8	0.2	63.8
Deep Water Trawl Total		82.0	193.4	236.3	139.7	651.5
Shallow Water	Bottom Pollock	-				-
	Flathead Sole	14.1	18.8	21.0	5.1	58.9
	Pacific Cod	39.6		0.2	34.4	74.2
	Shallow Water Flatfish	2.0	0.8		0.0	2.9
Shallow Water Trawl Total		55.6	19.6	21.2	39.6	136.0
Western Gulf Total		137.6	213.0	257.5	179.3	787.5
Central Gulf and West Yakutat						
Deep Water	Arrowtooth Flounder	1.9	79.8	274.7	78.7	435.1
	Deep Water Flatfish			8.8	17.9	26.7
	Rex Sole	165.4	812.5	38.8	43.3	1,060.0
	Rockfish		0.1	393.4		393.5
Deep Water Trawl Total		167.3	892.3	715.7	139.9	1,915.3
Shallow Water	Bottom Pollock		0.1			0.1
	Flathead Sole	12.7	5.0	2.4	3.2	23.2
	Pacific Cod	6.8	185.4	161.0	235.5	588.7
	Shallow Water Flatfish	0.6	7.9	33.0	8.6	50.2
	Unknown		0.1			0.1
Shallow Water Trawl Total		20.2	198.5	196.4	247.2	662.2
Central Gulf and West Yakutat Total		186.5	1,090.8	912.1	387.1	2,576.5
GOA Shallow Water Total		75.8	218.1	217.6	286.8	798.2
GOA Deep Water Total		249.3	1,085.8	952.1	279.6	2,566.8
GOA Total		325.1	1,303.9	1,169.6	566.4	3,365.0
Sideboard Calculations						
Percent of Halibut Caught (Shallow Water)		9%	27%	27%	36%	100%
Percent of Halibut Caught (Deep Water)		10%	42%	37%	11%	100%
Percent of Shallow Water Complex Halibut Used by Non-AFA Trawl CPs in GOA						23.72%
Percent of Deep Water Complex Halibut Used by Non-AFA Trawl CPs in GOA						76.28%
Percent of GOA Halibut PSC Caught by Non-AFA Trawl CP vessels						32.85%
Sideboard Percent for Shallow Water		0.740%	2.129%	2.124%	2.799%	7.791%
Sideboard Percent for Deep Water		2.434%	10.598%	9.293%	2.729%	25.055%
Sideboard (mt) -Shallow Water Complex		14.79	42.58	42.48	55.98	155.83
Sideboard (mt) -Deep Water Complex		48.68	211.97	185.86	54.58	501.09

Source: NPFMC summary of NMFS weekly PSC reports.

Note: A trawl PSC allotment of 2,000 mt was multiplied by the percentages in this report to generate allocation amounts

Table A4: Gulf Halibut Usage by Non-AFA Trawl CPs, 1998-2004

Halibut Category	Target Fishery	Quarter 1	2	3	4	Total
Western Gulf						
Deep Water	Arrowtooth Flounder	4.9	272.4	178.6	127.2	583.1
	Rex Sole	81.4	45.3	33.9	13.1	173.6
	Rockfish	0.1	1.7	74.2	20.0	96.0
Deep Water Trawl Total		86.5	319.4	286.6	160.2	852.7
Shallow Water	Bottom Pollock	-				-
	Flathead Sole	15.6	29.9	21.0	12.8	79.3
	Other			0.6		0.6
	Pacific Cod	39.6	0.6	15.1	34.4	89.6
	Shallow Water Flatfish	2.0	0.8	5.1	0.0	8.0
Shallow Water Trawl Total		57.2	31.3	41.7	47.2	177.5
Western Gulf Total		143.6	350.7	328.4	207.4	1,030.1
Central Gulf and West Yakutat						
Deep Water	Arrowtooth Flounder	1.9	145.7	296.8	236.9	681.4
	Deep Water Flatfish			8.8	17.9	26.7
	Rex Sole	247.1	911.2	67.1	43.3	1,268.7
	Rockfish		0.1	460.4		460.5
Deep Water Trawl Total		249.1	1,057.1	833.0	298.1	2,437.3
Shallow Water	Bottom Pollock		0.1			0.1
	Flathead Sole	12.8	5.5	6.5	3.2	28.0
	Other	3.3	0.1			3.4
	Pacific Cod	6.8	185.4	165.0	257.7	614.9
	Shallow Water Flatfish	3.5	7.9	33.0	8.6	53.0
	Unknown		0.1			0.1
Shallow Water Trawl Total		26.4	199.1	204.5	269.4	699.4
Central Gulf and West Yakutat Total		274.5	1,256.2	1,037.5	567.5	3,135.7
GOA Shallow Water Total		83.6	230.5	246.3	316.6	876.9
GOA Deep Water Total		335.5	1,376.4	1,119.6	458.3	3,289.9
GOA Total		419.1	1,606.9	1,365.9	774.9	4,166.8
Sideboard Calculations						
Percent of Halibut Caught (Shallow Water)		10%	26%	28%	36%	100%
Percent of Halibut Caught (Deep Water)		10%	42%	34%	14%	100%
Percent of Shallow Water Complex Halibut Used by Non-AFA Trawl CPs in GOA						21.04%
Percent of Deep Water Complex Halibut Used by Non-AFA Trawl CPs in GOA						78.96%
Percent of GOA Halibut PSC Caught by Non-AFA Trawl CP vessels						33.81%
Sideboard Percent for Shallow Water		0.678%	1.870%	1.998%	2.569%	7.115%
Sideboard Percent for Deep Water		2.722%	11.168%	9.084%	3.719%	26.694%
Sideboard (mt) -Shallow Water Complex		13.56	37.40	39.96	51.38	142.30
Sideboard (mt) -Deep Water Complex		54.45	223.36	181.69	74.37	533.87

Source: NPFMC summary of NMFS weekly PSC reports.

Note: Data for 2004 was not included in this report. Alternatives that include 2004 only have data through 2003 in the calculations. A trawl PSC allotment of 2,000 mt was multiplied by the percentages in this table to generate PSC amounts.

Table A5: Gulf Halibut Usage by Non-AFA Trawl CPs, 1999-2003

Halibut Category	Target Fishery	Quarter 1	2	3	4	Total
Western Gulf						
Deep Water	Arrowtooth Flounder	4.9	272.4	156.7	124.4	558.5
	Rex Sole	59.9	41.6	23.9	13.1	138.5
	Rockfish		1.7	70.0	20.0	91.7
Deep Water Trawl Total		64.8	315.7	250.6	157.5	788.6
Shallow Water	Flathead Sole	7.3	16.4	21.0	12.8	57.4
	Other			0.6		0.6
	Pacific Cod	37.4	0.6	15.1	34.4	87.5
	Shallow Water Flatfish		0.8	5.1		6.0
Shallow Water Trawl Total		44.7	17.8	41.7	47.2	151.4
Western Gulf Total		109.6	333.5	292.3	204.6	940.0
Central Gulf and West Yakutat						
Deep Water	Arrowtooth Flounder	1.9	145.7	276.5	210.8	635.0
	Deep Water Flatfish				17.9	17.9
	Rex Sole	200.7	799.1	57.2	35.5	1,092.5
	Rockfish		0.1	418.2		418.3
Deep Water Trawl Total		202.7	945.0	751.9	264.2	2,163.7
Shallow Water	Bottom Pollock		0.1			0.1
	Flathead Sole	8.8	5.0	4.7	3.2	21.6
	Other	3.3	0.1			3.4
	Pacific Cod	6.8	133.6	4.6	228.0	373.1
	Shallow Water Flatfish	2.8	0.7	19.8	8.6	31.9
	Unknown		0.1			0.1
Shallow Water Trawl Total		21.8	139.5	29.1	239.8	430.2
Central Gulf and West Yakutat Total		223.4	1,084.5	781.0	504.0	2,592.8
GOA Shallow Water Total		66.5	157.3	70.9	286.9	581.6
GOA Deep Water Total		267.5	1,260.7	1,002.4	421.7	2,952.3
GOA Total		334.0	1,418.0	1,073.3	708.6	3,533.9
Sideboard Calculations						
Percent of Halibut Caught (Shallow Water)		11%	27%	12%	49%	100%
Percent of Halibut Caught (Deep Water)		9%	43%	34%	14%	100%
Percent of Shallow Water Complex Halibut Used by Non-AFA Trawl CPs in GOA						16.46%
Percent of Deep Water Complex Halibut Used by Non-AFA Trawl CPs in GOA						83.54%
Percent of GOA Halibut PSC Caught by Non-AFA Trawl CP vessels						34.32%
Sideboard Percent for Shallow Water		0.646%	1.528%	0.688%	2.786%	5.648%
Sideboard Percent for Deep Water		2.598%	12.244%	9.735%	4.095%	28.672%
Sideboard (mt) -Shallow Water Complex		12.92	30.55	13.77	55.73	112.96
Sideboard (mt) -Deep Water Complex		51.96	244.87	194.70	81.90	573.44

Source: NPFMC summary of NMFS weekly PSC reports.

Note: A trawl PSC allotment of 2,000 mt was multiplied by the percentages in this report to generate allocation amounts

Table A6: Gulf Halibut Usage by Non-AFA Trawl CPs, 2000-2004

Halibut Category	Target Fishery	Quarter 1	2	3	4	Total
Western Gulf						
Deep Water	Arrowtooth Flounder	4.9	266.1	147.5	96.3	514.9
	Rex Sole	45.9	39.6	16.6	11.8	113.9
	Rockfish		1.7	63.6	20.0	85.3
Deep Water Trawl Total		50.8	307.4	227.8	128.1	714.1
Shallow Water	Flathead Sole	7.3	16.4	21.0	12.8	57.4
	Other			0.6		0.6
	Pacific Cod	15.3	0.6	15.1	34.4	65.4
	Shallow Water Flatfish		0.8	5.1		6.0
Shallow Water Trawl Total		22.6	17.8	41.7	47.2	129.3
Western Gulf Total		73.4	325.2	269.5	175.2	843.4
Central Gulf and West Yakutat						
Deep Water	Arrowtooth Flounder	1.9	144.4	276.5	164.1	586.9
	Deep Water Flatfish				17.9	17.9
	Rex Sole	179.3	642.6	48.5	35.0	905.4
	Rockfish		0.1	309.7		309.8
Deep Water Trawl Total		181.3	787.1	634.6	216.9	1,820.0
Shallow Water	Bottom Pollock		0.1			0.1
	Flathead Sole	8.8	5.0	4.7	3.2	21.6
	Other	3.3	0.1			3.4
	Pacific Cod	2.9	133.6	4.6	88.1	229.3
	Shallow Water Flatfish	2.8	0.7	19.8	7.7	31.1
	Unknown		0.1			0.1
Shallow Water Trawl Total		17.9	139.5	29.1	99.0	285.5
Central Gulf and West Yakutat Total		199.1	926.6	663.8	316.0	2,105.5
GOA Shallow Water Total		40.5	157.3	70.9	146.2	414.9
GOA Deep Water Total		232.1	1,094.5	862.4	345.0	2,534.0
GOA Total		272.6	1,251.8	933.3	491.2	2,948.9
Sideboard Calculations						
Percent of Halibut Caught (Shallow Water)		10%	38%	17%	35%	100%
Percent of Halibut Caught (Deep Water)		9%	43%	34%	14%	100%
Percent of Shallow Water Complex Halibut Used by Non-AFA Trawl CPs in GOA						14.07%
Percent of Deep Water Complex Halibut Used by Non-AFA Trawl CPs in GOA						85.93%
Percent of GOA Halibut PSC Caught by Non-AFA Trawl CP vessels						36.14%
Sideboard Percent for Shallow Water		0.496%	1.928%	0.869%	1.792%	5.084%
Sideboard Percent for Deep Water		2.844%	13.414%	10.569%	4.228%	31.056%
Sideboard (mt) -Shallow Water Complex		9.92	38.55	17.37	35.83	101.68
Sideboard (mt) -Deep Water Complex		56.89	268.28	211.39	84.56	621.12

Source: NPFMC summary of NMFS weekly PSC reports.

Note: Data for 2004 was not included in this report. Alternatives that include 2004 only have data through 2003 in the calculations. A trawl PSC allotment of 2,000 mt was multiplied by the percentages in this table to generate PSC amounts.

Table A7: Gulf Groudnfish Usage and Sideboard Estimates for Non-AFA Trawl CPs, 1995-2003

Halibut Category	Target Fishery	Quarter 1	2	3	4	Total
Western Gulf						
Deep Water	Arrowtooth Flounder	333.0	11,796.9	10,549.0	3,987.1	26,666.0
	Rex Sole	6,377.5	2,590.8	1,690.0	410.6	11,068.9
	Rockfish	2.6	63.7	14,291.0	917.5	15,274.7
Deep Water Trawl Total		6,713.1	14,451.4	26,530.0	5,315.2	53,009.7
Shallow Water	Atka Mackerel			1,243.6		1,243.6
	Bottom Pollock	12.8	26.9			39.7
	Flathead Sole	2,339.7	1,598.1	790.8	550.8	5,279.3
	Other			56.2		56.2
	Pacific Cod	4,031.0	59.0	462.3	835.5	5,387.8
	Shallow Water Flatfish	253.6	788.2	104.2	250.6	1,396.4
Shallow Water Trawl Total		6,637.1	2,472.1	2,657.0	1,636.9	13,403.1
Western Gulf Total		13,350.2	16,923.5	29,187.0	6,952.1	66,412.8
Central Gulf and West Yakutat						
Deep Water	Arrowtooth Flounder	88.8	7,307.8	15,743.9	11,664.7	34,805.1
	Deep Water Flatfish			574.6	1,134.8	1,709.4
	Rex Sole	12,171.0	38,741.5	8,216.5	4,630.7	63,759.6
	Rockfish	163.2	127.2	45,514.1	1,851.3	47,655.8
	Sablefish		48.5			48.5
Deep Water Trawl Total		12,423.0	46,225.0	70,049.0	19,281.4	147,978.4
Shallow Water	Atka Mackerel				448.6	448.6
	Bottom Pollock	22.1	21.8			43.9
	Flathead Sole	792.0	950.4	1,577.5	284.3	3,604.2
	Other	329.2	56.2			385.4
	Pacific Cod	1,666.4	5,082.9	3,383.4	7,689.8	17,822.4
	Shallow Water Flatfish	447.0	1,364.0	978.0	332.2	3,121.1
	Unknown		1.9			1.9
Shallow Water Trawl Total		3,256.6	7,477.1	5,938.9	8,754.8	25,427.3
Central Gulf and West Yakutat Total		15,574.5	53,702.1	75,106.4	28,036.2	172,419.1
GOA Shallow Water Total		9,893.7	9,949.2	8,595.9	10,391.6	38,830.4
GOA Deep Water Total		19,136.1	60,676.3	96,579.0	24,596.6	200,988.0
GOA Total		29,029.8	70,625.6	105,174.8	34,988.3	239,818.5
Sideboard Calculations						
Percent of Groundfish Caught (Shallow Water)		25%	26%	22%	27%	100%
Percent of Groundfish Caught (Deep Water)		10%	30%	48%	12%	100%
Percent of Shallow Water Complex Species Caught by Non-AFA Trawl CPs in GOA						16.19%
Percent of Deep Water Complex Species Caught by Non-AFA Trawl CPs in GOA						83.81%
Percent of GOA Groundfish Species Caught by Non-AFA Trawl CP vessels						17.32%
Sideboard Percent for Shallow Water		0.714%	0.718%	0.621%	0.750%	2.804%
Sideboard Percent for Deep Water		1.382%	4.381%	6.973%	1.776%	14.512%
Sideboard (mt) -Shallow Water Complex		14.29	14.37	12.41	15.01	56.07
Sideboard (mt) -Deep Water Complex		27.63	87.62	139.47	35.52	290.24

Source: NPFMC summary of NMFS weekly PSC reports.

Note: A trawl PSC allotment of 2,000 mt was multiplied by the percentages in this report to generate allocation amounts

Table A8: Gulf Groudnfish Usage and Sideboard Estimates for Non-AFA Trawl CPs, 1997-2002

Halibut Category	Target Fishery	Quarter				
		1	2	3	4	Total
Western Gulf						
Deep Water	Arrowtooth Flounder	333.0	6,081.0	8,174.4	3,769.7	18,358.0
	Rex Sole	5,346.7	2,079.1	1,045.7	406.7	8,878.3
	Rockfish	2.6	63.7	9,402.1	7.0	9,475.4
Deep Water Trawl Total		5,682.3	8,223.7	18,622.3	4,183.4	36,711.7
Shallow Water	Bottom Pollock	12.2				12.2
	Flathead Sole	1,438.2	1,028.4	713.8	213.4	3,393.8
	Pacific Cod	2,065.0	13.9	7.0	835.5	2,921.3
	Shallow Water Flatfish	239.0	132.2		14.8	385.9
Shallow Water Trawl Total		3,754.4	1,174.5	720.8	1,063.7	6,713.3
Western Gulf Total		9,436.7	9,398.2	19,343.1	5,247.0	43,425.0
Central Gulf and West Yakutat						
Deep Water	Arrowtooth Flounder	88.8	3,945.0	10,543.2	2,266.5	16,843.5
	Deep Water Flatfish			344.0	779.5	1,123.4
	Rex Sole	6,784.6	24,413.4	1,889.8	2,675.6	35,763.5
	Rockfish	83.4	93.7	30,327.2	116.3	30,620.6
Deep Water Trawl Total		6,956.8	28,452.2	43,104.1	5,837.9	84,350.9
Shallow Water	Bottom Pollock		21.8			21.8
	Flathead Sole	460.3	414.0	540.5	126.5	1,541.3
	Pacific Cod	729.5	5,046.6	3,139.9	6,376.9	15,292.9
	Shallow Water Flatfish	233.9	259.1	978.0	188.5	1,659.5
	Unknown		1.9			1.9
Shallow Water Trawl Total		1,423.7	5,743.4	4,658.4	6,691.9	18,517.3
Central Gulf and West Yakutat Total		8,275.4	34,195.5	47,497.4	12,529.8	102,498.0
GOA Shallow Water Total		5,178.0	6,917.8	5,379.1	7,755.6	25,230.6
GOA Deep Water Total		12,639.1	36,675.9	61,726.4	10,021.2	121,062.6
GOA Total		17,817.1	43,593.7	67,105.5	17,776.8	146,293.2
Sideboard Calculations						
Percent of Groundfish Caught (Shallow Water		21%	27%	21%	31%	100%
Percent of Groundfish Caught (Deep Water)		10%	30%	51%	8%	100%
Percent of Shallow Water Complex Species Caught by Non-AFA Trawl CPs in GOA						17.25%
Percent of Deep Water Complex Species Caught by Non-AFA Trawl CPs in GOA						82.75%
Percent of GOA Groundfish Species Caught by Non-AFA Trawl CP vessels						15.52%
Sideboard Percent for Shallow Water		0.549%	0.734%	0.571%	0.823%	2.677%
Sideboard Percent for Deep Water		1.341%	3.891%	6.549%	1.063%	12.844%
Sideboard (mt) -Shallow Water Complex		0.15	14.68	11.41	16.46	53.54
Sideboard (mt) -Deep Water Complex		26.82	77.82	130.98	21.26	256.88

Source: NPFMC summary of NMFS weekly PSC reports.

Note: A trawl PSC allotment of 2,000 mt was multiplied by the percentages in this report to generate allocation amounts

Table A9: Gulf Groudnfish Usage and Sideboard Estimates for Non-AFA Trawl CPs, 1998-2002

Halibut Category	Target Fishery	Quarter 1	2	3	4	Total
Western Gulf						
Deep Water	Arrowtooth Flounder	333.0	6,081.0	8,174.4	3,769.7	18,358.0
	Rex Sole	3,652.6	1,787.9	1,045.7	406.7	6,893.0
	Rockfish	2.6	63.7	7,540.7	7.0	7,613.9
Deep Water Trawl Total		3,988.2	7,932.5	16,760.8	4,183.4	32,864.9
Shallow Water	Bottom Pollock	12.2				12.2
	Flathead Sole	971.5	688.8	713.8	213.4	2,587.5
	Pacific Cod	1,977.7		7.0	835.5	2,820.1
	Shallow Water Flatfish	46.5	9.3		14.8	70.6
Shallow Water Trawl Total		3,008.0	698.1	720.8	1,063.7	5,490.5
Western Gulf Total		6,996.2	8,630.6	17,481.6	5,247.0	38,355.4
Central Gulf and West Yakutat						
Deep Water	Arrowtooth Flounder	88.8	3,945.0	10,232.1	1,940.9	16,206.8
	Deep Water Flatfish			208.1	172.8	381.0
	Rex Sole	5,396.7	22,163.2	1,583.0	1,559.3	30,702.2
	Rockfish		6.2	25,068.8		25,075.0
Deep Water Trawl Total		5,485.5	26,114.4	37,092.0	3,673.0	72,364.9
Shallow Water	Bottom Pollock		21.8			21.8
	Flathead Sole	275.4	222.0	80.3	117.5	695.3
	Pacific Cod	433.3	5,046.6	3,139.9	4,145.4	12,765.2
	Shallow Water Flatfish	15.0	51.5	779.1	175.9	1,021.4
	Unknown		1.9			1.9
Shallow Water Trawl Total		723.8	5,343.7	3,999.3	4,438.8	14,505.5
Central Gulf and West Yakutat Total		6,104.1	31,458.0	41,091.3	8,111.8	86,765.3
GOA Shallow Water Total		3,731.8	6,041.7	4,720.1	5,502.5	19,996.0
GOA Deep Water Total		9,473.6	34,046.9	53,852.9	7,856.4	105,229.8
GOA Total		13,205.4	40,088.6	58,572.9	13,358.9	125,225.8
Sideboard Calculations						
Percent of Groundfish Caught (Shallow Water		19%	30%	24%	28%	100%
Percent of Groundfish Caught (Deep Water)		9%	32%	51%	7%	100%
Percent of Shallow Water Complex Species Caught by Non-AFA Trawl CPs in GOA						15.97%
Percent of Deep Water Complex Species Caught by Non-AFA Trawl CPs in GOA						84.03%
Percent of GOA Groundfish Species Caught by Non-AFA Trawl CP vessels						16.46%
Sideboard Percent for Shallow Water		0.491%	0.794%	0.621%	0.723%	2.629%
Sideboard Percent for Deep Water		1.246%	4.477%	7.081%	1.033%	13.836%
Sideboard (mt) -Shallow Water Complex		0.15	15.89	12.41	14.47	52.58
Sideboard (mt) -Deep Water Complex		24.91	89.53	141.61	20.66	276.72

Source: NPFMC summary of NMFS weekly PSC reports.

Note: A trawl PSC allotment of 2,000 mt was multiplied by the percentages in this report to generate allocation amounts

Table A10: Gulf Groudnfish Usage and Sideboard Estimates for Non-AFA Trawl CPs, 1998-2004

Halibut Category	Target Fishery	Quarter 1	2	3	4	Total
Western Gulf						
Deep Water	Arrowtooth Flounder	333.0	11,796.9	10,406.6	3,771.8	26,308.4
	Rex Sole	4,014.0	2,299.6	1,690.0	410.6	8,414.2
	Rockfish	2.6	63.7	10,037.9	615.7	10,719.9
Deep Water Trawl Total		4,349.6	14,160.2	22,134.5	4,798.1	45,442.4
Shallow Water	Bottom Pollock	12.2				12.2
	Flathead Sole	1,012.2	1,174.3	713.8	360.0	3,260.3
	Other			56.2		56.2
	Pacific Cod	1,977.7	45.1	462.3	835.5	3,320.5
	Shallow Water Flatfish	46.5	9.3	104.2	14.8	174.8
Shallow Water Trawl Total		3,048.6	1,228.7	1,336.5	1,210.2	6,824.1
Western Gulf Total		7,398.2	15,388.9	23,471.0	6,008.4	52,266.5
Central Gulf and West Yakutat						
Deep Water	Arrowtooth Flounder	88.8	7,307.8	11,339.6	7,500.0	26,236.2
	Deep Water Flatfish			208.1	172.8	381.0
	Rex Sole	6,685.6	27,003.1	4,231.9	1,559.3	39,479.9
	Rockfish		6.2	31,655.1		31,661.3
Deep Water Trawl Total		6,774.3	34,317.1	47,434.7	9,232.2	97,758.3
Shallow Water	Bottom Pollock		21.8			21.8
	Flathead Sole	289.0	246.8	260.1	117.5	913.5
	Other	329.2	56.2			385.4
	Pacific Cod	433.3	5,046.6	3,374.5	4,775.5	13,629.9
	Shallow Water Flatfish	130.0	52.3	779.1	175.9	1,137.3
	Unknown		1.9			1.9
Shallow Water Trawl Total		1,181.5	5,425.6	4,413.7	5,068.9	16,089.7
Central Gulf and West Yakutat Total		7,850.7	39,742.7	51,848.4	14,301.0	113,742.8
GOA Shallow Water Total		4,230.1	6,654.3	5,750.2	6,279.1	22,913.7
GOA Deep Water Total		11,123.9	48,477.3	69,569.2	14,030.3	143,200.7
GOA Total		15,354.0	55,131.6	75,319.4	20,309.4	166,114.4
Sideboard Calculations						
Percent of Groundfish Caught (Shallow Water		18%	29%	25%	27%	100%
Percent of Groundfish Caught (Deep Water)		8%	34%	49%	10%	100%
Percent of Shallow Water Complex Species Caught by Non-AFA Trawl CPs in GOA						13.79%
Percent of Deep Water Complex Species Caught by Non-AFA Trawl CPs in GOA						86.21%
Percent of GOA Groundfish Species Caught by Non-AFA Trawl CP vessels						18.86%
Sideboard Percent for Shallow Water		0.480%	0.756%	0.653%	0.713%	2.602%
Sideboard Percent for Deep Water		1.263%	5.505%	7.900%	1.593%	16.261%
Sideboard (mt) -Shallow Water Complex		0.15	15.11	13.06	14.26	52.04
Sideboard (mt) -Deep Water Complex		25.26	110.09	157.99	31.86	325.21

Source: NPFMC summary of NMFS weekly PSC reports.

Note: Data for 2004 was not included in this report. Alternatives that include 2004 only have data through 2003 in the calculations. A trawl PSC allotment of 2,000 mt was multiplied by the percentages in this table to generate PSC amounts.

Table A11: Gulf Groudnfish Usage and Sideboard Estimates for Non-AFA Trawl CPs, 1999-2003

Halibut Category	Target Fishery	Quarter 1	2	3	4	Total
Western Gulf						
Deep Water	Arrowtooth Flounder	333.0	11,796.9	9,719.1	3,646.8	25,495.8
	Rex Sole	3,113.9	2,008.5	1,420.9	410.6	6,953.9
	Rockfish		63.7	9,024.5	615.7	9,703.9
Deep Water Trawl Total		3,446.9	13,869.0	20,164.6	4,673.1	42,153.6
Shallow Water	Flathead Sole	231.2	755.1	713.8	360.0	2,060.1
	Other			56.2		56.2
	Pacific Cod	1,827.7	45.1	462.3	835.5	3,170.5
	Shallow Water Flatfish		9.3	104.2		113.4
Shallow Water Trawl Total		2,058.9	809.5	1,336.5	1,195.4	5,400.3
Western Gulf Total		5,505.7	14,678.5	21,501.1	5,868.5	47,553.9
Central Gulf and West Yakutat						
Deep Water	Arrowtooth Flounder	88.8	7,307.8	10,727.2	6,924.5	25,048.3
	Deep Water Flatfish				172.8	172.8
	Rex Sole	5,413.2	23,411.6	3,950.6	1,359.8	34,135.2
	Rockfish		6.2	28,337.8		28,343.9
Deep Water Trawl Total		5,502.0	30,725.6	43,015.6	8,457.1	87,700.3
Shallow Water	Bottom Pollock		21.8			21.8
	Flathead Sole	188.7	231.4	218.7	117.5	756.4
	Other	329.2	56.2			385.4
	Pacific Cod	433.3	4,317.8	259.9	3,618.3	8,629.3
	Shallow Water Flatfish	115.0	13.3	659.9	175.9	964.1
	Unknown		1.9			1.9
Shallow Water Trawl Total		1,066.2	4,642.4	1,138.4	3,911.8	10,758.7
Central Gulf and West Yakutat Total		6,463.1	35,367.9	44,154.1	12,368.9	98,354.0
GOA Shallow Water Total		3,125.0	5,451.9	2,474.9	5,107.2	16,159.0
GOA Deep Water Total		8,948.9	44,594.6	63,180.2	13,130.2	129,853.9
GOA Total		12,073.9	50,046.5	65,655.1	18,237.4	146,012.9
Sideboard Calculations						
Percent of Groundfish Caught (Shallow Water		19%	34%	15%	32%	100%
Percent of Groundfish Caught (Deep Water)		7%	34%	49%	10%	100%
Percent of Shallow Water Complex Species Caught by Non-AFA Trawl CPs in GOA						11.07%
Percent of Deep Water Complex Species Caught by Non-AFA Trawl CPs in GOA						88.93%
Percent of GOA Groundfish Species Caught by Non-AFA Trawl CP vessels						21.12%
Sideboard Percent for Shallow Water		0.452%	0.789%	0.358%	0.739%	2.338%
Sideboard Percent for Deep Water		1.295%	6.452%	9.141%	1.900%	18.786%
Sideboard (mt) -Shallow Water Complex		0.15	15.77	7.16	14.78	46.76
Sideboard (mt) -Deep Water Complex		25.89	129.03	182.81	37.99	375.73

Source: NPFMC summary of NMFS weekly PSC reports.

Note: A trawl PSC allotment of 2,000 mt was multiplied by the percentages in this report to generate allocation amounts

Table A12: Gulf Groudnfish Usage and Sideboard Estimates for Non-AFA Trawl CPs, 2000-2004

Halibut Category	Target Fishery	Quarter				
		1	2	3	4	Total
Western Gulf						
Deep Water	Arrowtooth Flounder	333.0	11,592.3	9,241.0	2,480.3	23,646.6
	Rex Sole	2,575.9	1,867.3	814.3	367.1	5,624.6
	Rockfish		63.7	7,050.2	615.7	7,729.5
Deep Water Trawl Total		2,908.9	13,523.2	17,105.5	3,463.1	37,000.6
Shallow Water	Flathead Sole	231.2	755.1	713.8	360.0	2,060.1
	Other			56.2		56.2
	Pacific Cod	1,385.7	45.1	462.3	835.5	2,728.6
	Shallow Water Flatfish		9.3	104.2		113.4
Shallow Water Trawl Total		1,616.9	809.5	1,336.5	1,195.4	4,958.3
Western Gulf Total		4,525.8	14,332.7	18,442.0	4,658.5	41,958.9
Central Gulf and West Yakutat						
Deep Water	Arrowtooth Flounder	88.8	7,291.3	10,727.2	6,099.8	24,207.1
	Deep Water Flatfish				172.8	172.8
	Rex Sole	4,313.7	19,096.6	3,699.5	1,342.5	28,452.3
	Rockfish		6.2	22,662.8		22,669.0
Deep Water Trawl Total		4,402.5	26,394.1	37,089.6	7,615.1	75,501.3
Shallow Water	Bottom Pollock		21.8			21.8
	Flathead Sole	188.7	231.4	218.7	117.5	756.4
	Other	329.2	56.2			385.4
	Pacific Cod	178.4	4,317.8	259.9	1,951.7	6,707.7
	Shallow Water Flatfish	115.0	13.3	659.9	127.3	915.5
	Unknown		1.9			1.9
Shallow Water Trawl Total		811.3	4,642.4	1,138.4	2,196.5	8,788.6
Central Gulf and West Yakutat Total		5,213.7	31,036.4	38,228.0	9,811.6	84,289.9
GOA Shallow Water Total		2,428.2	5,451.9	2,474.9	3,391.9	13,746.9
GOA Deep Water Total		7,311.4	39,917.2	54,195.1	11,078.2	112,501.9
GOA Total		9,739.6	45,369.1	56,670.0	14,470.1	126,248.8
Sideboard Calculations						
Percent of Groundfish Caught (Shallow Water		18%	40%	18%	25%	100%
Percent of Groundfish Caught (Deep Water)		6%	35%	48%	10%	100%
Percent of Shallow Water Complex Species Caught by Non-AFA Trawl CPs in GOA						10.89%
Percent of Deep Water Complex Species Caught by Non-AFA Trawl CPs in GOA						89.11%
Percent of GOA Groundfish Species Caught by Non-AFA Trawl CP vessels						24.18%
Sideboard Percent for Shallow Water		0.465%	1.044%	0.474%	0.650%	2.632%
Sideboard Percent for Deep Water		1.400%	7.644%	10.378%	2.121%	21.543%
Sideboard (mt) -Shallow Water Complex		0.15	20.88	9.48	12.99	52.65
Sideboard (mt) -Deep Water Complex		28.00	152.87	207.56	42.43	430.86

Source: NPFMC summary of NMFS weekly PSC reports.

Note: Data for 2004 was not included in this report. Alternatives that include 2004 only have data through 2003 in the calculations. A trawl PSC allotment of 2,000 mt was multiplied by the percentages in this table to generate PSC amounts.

Section 219 of the FY 2005 Appropriations Act: BSAI Catcher Processor Capacity Reduction Program and Correspondence with NOAA General Counsel

---

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.

(i) CONFORMING AMENDMENT- Section 214 of the Department of Commerce and Related Agencies Appropriations Act, 2004 (title II of division B of Public Law 108-199; 118 Stat. 75) is amended by striking `that--' and all that follows, and inserting `under the capacity reduction program authorized in section 219 of the Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act, 2005.'.

SEC. 220. None of the funds appropriated in this Act or any other Act may be used to disqualify any community which was a participant in the Bering Sea Community Development Quota program on January 1, 2004, from continuing to receive quota allocations under that program.

SEC. 221. In addition to amounts made available under section 214 of the Department of Commerce and Related Agencies Appropriations Act, 2004 (title II of division B of Public Law 108-199; 118 Stat. 75), of the funding provided in this Act under the heading `NATIONAL

OCEANIC AND ATMOSPHERIC ADMINISTRATION, OPERATIONS, RESEARCH, AND FACILITIES', $250,000, to remain available until expended, for the Federal Credit Reform Act cost of a reduction loan under sections 1111 and 1112 of the Merchant Marine Act, 1936 (46 U.S.C. App. 1279f and 1279g), not to exceed an additional $25,000,000 in principal, for the capacity reduction program authorized in section 219.

This title may be cited as the `Department of Commerce and Related Agencies Appropriations Act, 2005'.

North Pacific Fishery Management Council

Stephanie Madsen, Chair
Chris Oliver, Executive Director

Telephone: (907) 271-2809

605 W 4th Avenue, Suite 306
Anchorage, AK 99501-2252

Fax: (907) 271-2817

Visit our website: www.fakr.noaa.gov/npfmc

December 29, 2004

Ms. Lisa Lindeman
NOAA General Counsel
P.O. Box 21109
Juneau, AK 99801

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

percentage, as long as the formula is explicit and in regulation. While this does not resolve the concern with the inability to make discretionary changes to the fee percentage based on changing management needs, it is necessary to understand the options for adjusting the fee percentage. Legal guidance is requested to confirm this assumption.

Rockfish Pilot Program

Authority to implement the alternatives. The rationalization alternatives under this program are unique, and the ability of the Council to adopt and the Secretary to implement these alternatives could be questioned. The alternatives are:

1) Cooperative alternative with a closed class of processors. Under this alternative, harvesters would be permitted to form cooperatives. Cooperatives would receive an allocation based on the history of their members in the harvester qualifying years. Cooperatives would be required to land their harvests with eligible processors. Processors that processed in excess of a threshold amount of rockfish during the years defined by the statute would be eligible.
2) Cooperative alternative with processor associations. Under this alternative, each harvester would be eligible to join a cooperative in association with the processor to which it delivered the most pounds in the processor qualifying years defined by the statute. Cooperatives would receive an allocation based on the history of their members in the harvester qualifying years defined in the statute. The specific terms of the cooperative agreement would be subject to negotiation and must be approved by the processor. Although not specified in the description of the alternative, the agreement is likely to create an obligation for the cooperative to deliver a specific portion of landings to the associated processor. Harvester that do not join a cooperative would be permitted to fish in a limited access fishery that would receive an allocation based on the collective histories of non-members of cooperatives.

Membership of processor affiliates in cooperatives. Under all of the alternatives, some processor affiliates are likely to receive harvest shares (or could acquire harvest shares after implementation). The Council is likely to ask for guidance on whether processor affiliates would be permitted to join cooperatives. If so, the scope of cooperative activities that processor affiliates can engage in should be specifically defined.

Penalties for non-members of cooperatives. As defined some of the provisions in the alternatives would reduce allocations to the limited access fishery that are fished by non-members of cooperatives. Some industry members have questioned whether such a reduction is legal (with or without Congressional authority). It is possible that the allocation to the limited access fishery may not be large enough to support a directed fishery. Whether the reduction in the allocation would be the cause of not opening the limited access fishery is uncertain.

Qualifying years for determining allocations. The legislation directing the Secretary to develop the pilot program specifies years of history to recognize for harvesters and for processors. To what extent may the Council recognize different years under its program. The Council could choose either to recognize additional years not specified in the legislation or not recognize some of the years that are specified in the legislation. Does the Council have different latitude with respect to harvesters than for processors?

BSAI Pacific cod allocation

A question that has once again arisen is that of the disposition of the catch history of the 'AFA 9'; i.e., those nine specific vessels which were explicitly addressed in the American Fisheries Act, and whether the non-pollock catch history of those vessels can be counted in determining catch history for the overall AFA catcher/processor sector. Could you please reaffirm or clarify any previous legal opinions in this regard, as it will potentially be a consideration in the Council's development of the BSAI Pacific cod sector allocations?

In summary Lisa, I realize there are a number of significant legal issues raised in this letter. The Council would appreciate your office's response in as timely a manner as is practicable.

Sincerely,

Chris Oliver
Executive Director

CC: Dr. James Balsiger
Ms. Susan Salveson
Dr. Bill Karp

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

[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?

---

[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

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]

---

[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

---

[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

---

[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.

[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]

---

[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

September 8, 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 Concerning the BSAI Non-Pollock Groundfish Fisheries

This memorandum responds to the remaining questions[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").[2] This memorandum also responds to the Council's request for NOAA GC to consider the viability and legal implications of Component 8 for Amendment 80 in light of the Act's sector eligibility requirements. We have previously provided responses to Questions 1, 4.b, and 6.

Council Question 2: Sections 219(a)(6) and (a)(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 BSAI 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. Please clarify:

[1]These questions are 2, 3, 4.a, 5, and 7.

[2]The Council's letter (Attachment 1) and the Act (Attachment 2) are provided with this memorandum.

a. Whether only holders of 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 fishery as defined by the Act, in their respective sectors.

NOAA GC response: Sections 219(a)(6) and (a)(9) of the Act set forth the qualification criteria for the longline and pot catcher processor subsectors, respectively. Section 219(a)(6) defines the longline catcher processor subsector as "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." Section 219(a)(9) defines the pot catcher processor subsector as "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."

Many of the terms used in the Act's definitions for the longline and pot catcher processor subsectors are not defined by Act. However, these terms have technical meanings found in NOAA Fisheries Service regulations. Under the rules of statutory interpretation, when a statutory term is undefined, that term is given its ordinary and popularly understood meaning unless the term has acquired technical meaning or unless a definite meaning is apparent or indicated by the context of the words.[3] In such a case, and "in the absence of legislative intent to the contrary, or other overriding evidence of a different meaning, technical terms or terms of art used in a statute are presumed to have their technical meaning."[4]

With several specified exceptions, current regulations[5] require that each vessel within the BSAI must have an LLP license on board at all times it is engaged in directed fishing activities for license limitation groundfish. 50 CFR 679.4(k)(1)(I). LLP licenses can have two types of vessel designations, either a catcher processor vessel designation or a catcher vessel designation (50 CFR 679.4(k)(3)(ii)) and there are three types of gear designations for LLP licenses: (1) trawl, (2) non-trawl, and (3) trawl/non-trawl (50 CFR 679.4(k)(3)(iv)). LLP licenses for the BSAI can have a Bering Sea and/or an Aleutian Islands area endorsements (50 CFR 679.4(k)(4)). Finally, regulations at 679.4(k)(9) address Pacific cod endorsements for LLP licenses and require an LLP license holder to have a Pacific cod endorsement on his or her LLP license in order to conduct

---

[3]Sutherland Stat. Construction § 47:27 (6th Ed. 2000).

[4]Sutherland Stat. Construction § 47:29 (6th Ed. 2000). "Technical words and phrases, and other words and phrases that have acquired a peculiar and appropriate meaning in the law, shall be construed according to their peculiar and appropriate meanings." *Id. See also, McDermott Intern., Inc. v. Wilander*, 111 S.Ct. 807, 810-11 (1991) (In absence of contrary indication, court assumes that when statute uses terms of art, Congress intended it to have its established meaning at the time of statute's passage); *Huffman v. Caterpillar Tractor Co.*, 908 F.2d 1470, 1476 (10th Cir. 1990) (technical terms or terms of art used in statute are presumed to have their technical meaning).

[5]These regulations were also the regulations in existence when the Act was signed into law.

directed fishing for Pacific cod with hook and line or pot gear in the BSAI. Pacific cod endorsements include designations for either catcher vessels or catcher processor vessels, and for hook and line gear or pot gear (50 CFR 679.4(k)(9)(ii)). Regulations at 679.4(k)(6) address the issuance of LLP licenses that are transferrable as well as the issuance of LLP licenses that are non-transferrable and that expire with final agency action on an application for an LLP license (*i.e.* interim LLP licenses). These regulations set forth the technical meanings of these terms that were in existence at the time of passage of the Act.

The statutory language used in the Act's longline and pot catcher processor subsector definitions closely follows the language used in various regulatory requirements for LLP licenses. The Act's definitions for both subsectors include provisions concerning the status of LLP licenses (interim versus noninterim), LLP area endorsements ("endorsed for Bering Sea or Aleutian Islands") and LLP vessel designations ("catcher processor fishing activity"). The statutory definitions also include a Pacific cod endorsement requirement with certain vessel and gear designations ("C/P, Pcod, and hook and line gear" or "C/P, Pcod, and pot gear"). Neither subsector definition includes a reference to general LLP gear designations (trawl, non-trawl, or trawl/non-trawl). However, this omission does not appear to create an inconsistency or ambiguity because hook and line gear and pot gear are both gear types included in the regulatory definition of "non-trawl" gear at 50 CFR 679.4(k)(3)(iv)(F)(*1*), which states that non-trawl gear means "any legal gear, other than trawl, used to harvest license limitation groundfish." Hook and line gear and pot gear are authorized, legal gear types in the BSAI groundfish fisheries.

Given the nearly identical usage of the LLP regulatory requirements in the Act's definitions of the longline and pot catcher processor subsectors, the lack of other provisions within the Act that contradict or override the application of the technical meaning, and the absence of legislative intent to the contrary within the legislative history, it is reasonable to apply the technical meaning found in NOAA Fisheries Service regulations to the terms used in the Act's definitions for these subsectors.

It is also clear from the statutory language used in sections 219(a)(6) and (a)(9) that an LLP license must meet <u>all</u> of the specified criteria, including the specific provisions for a catcher processor Pacific cod endorsement, in order for the holder of that LLP license to be a member of either the longline or pot catcher processor subsectors. Congress' use of the word "and" in the definitions ties the qualification criteria within each definition together and requires that all of the criteria must be satisfied in order to be eligible.[6]

---

[6]Sutherland Stat. Construction § 21:14 (6th Ed. 2000). *See also, Ortiz v. Secretary of Defense*, 41 F.3d 738, 742 (D.C. Cir. 1994) (requiring that two types of remedies joined by conjunction "and" must both be exhausted before consideration of an application); *Laubach v. Arrow Service Bureau, Inc.*, 987 F.Supp. 625, 630 (N.D. Ill. 1997) (use of conjunction "and" linking words together signifies that all three elements of offense are required to be met).

Additionally, there is no statutory language in sections 219(a)(6) or (a)(9), or elsewhere in the Act, that would authorize the Council or NOAA Fisheries Service to amend the subsector qualification criteria established by Congress. Congress did not provide the Council or NOAA Fisheries Service with any ability to make adjustments to the specific statutory criteria addressing eligibility in any of the subsectors. As explained earlier,[7] under the rules of statutory 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.

Given the above discussion, only those holders of LLP licenses that meet all of the criteria for the longline catcher processor subsector as defined by the Act, including the specific provisions for a catcher processor Pacific cod endorsement, are members of the longline catcher processor subsector. Additionally, only those holders of LLP licenses that meet all of the criteria for the pot catcher processor subsector as defined by the Act, including the specific provisions for a catcher processor Pacific cod endorsement, are members of the pot catcher processor subsector. Under section 219(g)(1), members of the longline and pot catcher processor subsectors are eligible to participate in the Capacity Reduction Program or the catcher processor sector of the BSAI non-pollock groundfish fishery. Conversely, holders of LLP licenses that do not meet all of the criteria for either the longline or the pot catcher processor subsectors are not members of these subsectors, and are therefore precluded from participating in the Capacity Reduction Program or the catcher processor sector of the BSAI non-pollock groundfish fishery as members of the longline or pot catcher processor subsectors.

b. Whether holders of 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).

NOAA GC response: It is evident from the language used in the Act that it is solely focused on catcher processors and the catcher processor sector for purposes of participation in the Capacity Reduction Program and the BSAI non-pollock groundfish fishery. In the case of the non-pollock groundfish fishery, the Act only addresses who can participate in the *catcher processor sector* of that fishery.[8] Section 219(g)(1)(A) provides that only members of one of the four defined catcher processor subsectors may participate in the catcher processor sector of the BSAI non-pollock groundfish fishery. Stated in the negative, any person that does not qualify for one of the four

[7] *See* Memorandum dated February 9, 2005, to Chris Oliver, Executive Director, North Pacific Fishery Management Council, from Lisa Lindeman, Alaska Regional Counsel, and Lauren Smoker, GCAK, and NOAA GC's response to Question 4.b.

[8] It is important to distinguish the phrase "participation in the catcher processor sector of the BSAI non-pollock groundfish fishery," as used in the Act at section 219(g)(1)(A), versus the broader phrase "participation in the BSAI groundfish fishery," which is used in many of the Council's questions to NOAA GC.

catcher processor subsectors is prohibited from participating in the catcher processor sector of the BSAI non-pollock groundfish fishery.

The language in section 219(g)(1)(A) leaves at least two situations unaddressed. First, the Act does not address, and therefore does not prohibit, persons that do not meet the qualification criteria for one of the catcher processor subsectors from continuing to participate in the catcher processor sector for fisheries not included in the Act's definition of the "non-pollock groundfish fishery," such as arrowtooth flounder.[9] Second, the Act does not address, and therefore does not prohibit, persons that do not meet the qualification criteria for one of the catcher processor subsectors from participating in the non-pollock groundfish fishery through a sector other than the catcher processor sector, such as the catcher vessel sector. Although the Act does not prohibit the holders of LLP licenses that do not qualify for either the longline catcher processor subsector or the pot catcher processor subsector from participating as catcher vessels in the catcher vessel sector of the BSAI non-pollock groundfish fishery, the factual circumstances for each LLP would have to be examined under the current regulatory structure in order to determine whether the holder of an LLP could participate in the non-pollock groundfish fishery as a catcher vessel in the catcher vessel sector.

Council Question 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?

NOAA GC response: Council staff provided NOAA GC with additional information concerning this question. According to Council staff, Question 3 relates to who is authorized to enter what vessel into each of the four catcher processor subsectors defined by the Act and how LLP requirements factor into this interpretation. The statutory language used in the Act to describe the eligibility criteria for the four catcher processor subsectors varies depending on the specific subsector and each subsector must be examined individually. However, before examining the specific provisions of each catcher processor subsector, three statements of general applicability can be made about all of the catcher processor subsectors.

First, the Act authorizes persons that meet the subsector criteria to participate in the Capacity Reduction Program or the catcher processor sector of the BSAI non-pollock groundfish fishery.

[9]As explained in more detail in NOAA GC responses to Questions 5 and 7.a, the Act only applies to the following BSAI fisheries: Atka mackerel, flathead sole, Pacific cod, Pacific Ocean perch, rock sole, turbot, and yellowfin sole.

This interpretation is supported by several provisions of the Act. The statutory language for each catcher processor subsector definition applies to the owners of vessels and/or the holders of LLP licenses, who, by virtue of their ownership or possession of a particular vessel or LLP license, are qualified for membership in one of the catcher processor subsectors. Additionally, several sections of the Act regarding the Capacity Reduction Program, such as entering into binding reduction contracts at section 219(d)(1), the development of capacity reduction plans at section 219(e)(1), and the casting of votes in a referendum for approval at section 219(e)(3)(A), clearly apply to activities that are undertaken by persons and not vessels or licenses.

Second, each catcher processor subsector definition has two qualification components, one component that establishes whether the owner of a vessel and/or the holder of an LLP license is the person that will qualify for membership in a catcher processor subsector, and one component that establishes the vessel and/or the LLP license criteria that must be satisfied in order to qualify the person for membership in a catcher processor subsector.

Third, given the plain language of section 219, both qualification components within each subsector definition must be met for a person to become a member of a catcher processor subsector and both qualification components must continue to be met for that person to remain a member of that catcher processor subsector. Beginning on December 8, 2004, the date the Act was signed into law, the Act requires that any person participating in the catcher processor sector of the BSAI non-pollock groundfish fishery or the Capacity Reduction Program be a member of the AFA trawl, the non-AFA trawl, the longline, or the pot catcher processor subsector. This means that all participants must satisfy all of the statutory criteria specified for a catcher processor subsector at the time of participation in either the catcher processor sector of the BSAI non-pollock groundfish fishery or the Capacity Reduction Program. Merely having satisfied the subsector criteria on December 8, 2004, is not sufficient to qualify a participant, if that person no longer meets the qualifying criteria, because the qualification criteria must continue to be met for a person to remain a member of the catcher processor subsector.

The intent of the Act is to provide a vessel buyback program for the BSAI non-pollock fishery that is to be financed through a capacity reduction loan. 150 CONG. REC. S11744 (daily ed. November 20, 2004) (statement of Sen. Murray). Sections 219(e)(1) and (e)(2)(D) provide for the development of capacity reduction plans by members of the catcher processor subsectors subsequent to passage of the Act. According to section 219(e)(2)(D), capacity reduction plans are to be designed to "result in the maximum sustained reduction in fishing capacity at the least cost and in the minimum amount of time." If participation in the Capacity Reduction Program was governed by ownership on a specific past date, the capacity reduction intent of the Act could be undermined because, at the time a capacity reduction plan may be developed, the eligible participants may no longer be the owners of the capacity the Act seeks to reduce. The intent of the Act is preserved if participants in the catcher processor sector of the BSAI non-pollock groundfish fishery or the Capacity Reduction Program are those persons who currently own or hold the capacity and therefore have the ability to remove that capacity from the fishery.

The following paragraphs examine the Council's questions in light of the specific provisions of each catcher processor subsector.

AFA trawl catcher processor subsector: Persons who are eligible to participate in the Capacity Reduction Program or the catcher processor sector of the BSAI non-pollock fishery through this catcher processor subsector are those persons who own one or more of the twenty vessels specifically named in section 208(e)(1) through (20) of the AFA (16 U.S.C. 1851 note) at the time of participation in the sector or the Capacity Reduction Program. The qualification criteria for this subsector does not include any requirements concerning LLP licenses, so LLP licenses and the various LLP license endorsements and designations do not factor into eligibility determinations for this catcher processor subsector.

Non-AFA trawl catcher processor subsector: Persons who are eligible to participate in the Capacity Reduction Program or the catcher processor sector of the BSAI non-pollock fishery through this catcher processor subsector are those persons who, at the time of participation in the sector or the Capacity Reduction Program, own a trawl catcher processor that meets the statutory criteria at sections 219(a)(7)(A) and (C), and who has been issued a valid LLP license is endorsed for Bering Sea or Aleutian Islands trawl catcher processor fishing activity for the trawl catcher processor that meets the criteria in sections 219(a)(7)(A) and (C). The criteria for trawl catcher processors at sections 219(a)(7)(A) and (C) will qualify a finite number of vessels for this catcher processor subsector. As with the other subsectors, it is not imperative that all of the criteria for membership in the non-AFA trawl catcher processor subsector were met on December 8, 2004, only that all of the criteria are satisfied at the time of participation in either the Capacity Reduction Program or the catcher processor sector of the BSAI non-pollock groundfish fishery.

Longline catcher processor subsector: Persons who are eligible to participate in the Capacity Reduction Program or the catcher processor sector of the BSAI non-pollock fishery through this catcher processor subsector are those persons who, at the time of participation in the sector or the Capacity Reduction Program, hold LLP licenses that possess the required status, endorsements, and designations set forth in section 219(a)(6). The qualification criteria for this subsector do not include any criteria concerning the eligibility of specific vessels, or criteria requiring that minimum amounts of non-pollock groundfish be harvested and processed during a specified time period by either a vessel or an LLP holder. Therefore, these kinds of criteria do not factor into eligibility determinations for this catcher processor subsector.

Pot catcher processor subsector: Persons who are eligible to participate in the Capacity Reduction Program or the catcher processor sector of the BSAI non-pollock fishery through this catcher processor subsector are those persons who, at the time of participation in the sector or the Capacity Reduction Program, hold LLP licenses that possess the required status, endorsements, and designations set forth in section 219(a)(9). The qualification criteria for this subsector do not include any criteria concerning the eligibility of specific vessels, or criteria requiring that minimum amounts of non-pollock groundfish be harvested and processed during a specified time

period by either a vessel or an LLP holder. Therefore, these kinds of criteria do not factor into eligibility determinations for this catcher processor subsector.

Council Question 4: 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 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, which should be considered for meeting the harvest tonnage requirement – the catch history associated with the vessel or the catch history associated with the LLP?

NOAA GC response: For purposes of participation in the Capacity Reduction Program and the catcher processor sector of the BSAI non-pollock groundfish fishery, section 219(a)(7) of the Act states:

> (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.

In responding to this question, one rule of statutory construction that serves as an aid for interpreting conventional language usage is the doctrine of the last antecedent:

> Referential and qualifying words and phrases, where no contrary intention appears, refer solely to the last antecedent. The last antecedent is 'the last word, phrase, or clause that can be made an antecedent without impairing the meaning of the sentence.' Thus a proviso usually is construed to apply to the provision or clause immediately preceding it.[10]

[10]Sutherland Stat. Construction § 47:33 (6th Ed. 2000). *See also*, *Wilshire Westwood Asso. v. Atlantic Richfield Corp.*, 881 F.2d 801, 804 (9th Cir. 1989) (doctrine of last antecedent states that qualifying words, phrases, and clauses must be applied to the words or phrases immediately preceding them and are not to be construed as extending to and including others more remote); *Huffman v. Commissioner of Internal Revenue*, 978 F.2d 1139, 1145 (9th Cir. 1992) (doctrine of last antecedent teaches that where one phrase of a statue modifies another, the modifying phrase applies only to the phrase immediately preceding it).

However, the rules of statutory construction also provide that when the application of the doctrine of the last antecedent would create an absurd result, the doctrine must yield to the most logical meaning of a statute that emerges from its plain language.[11]

Given the language of section 219(a)(7), the phrase "trawl catcher processor" emerges as the last antecedent preceding the qualifying phrases in subsections (A) through (C). Subsections (A) through (C) are provisos or qualifying phrases that are distinct requirements for eligibility. Each requirement in (A) through (C) qualifies the introductory language in section 219(a)(7). The phrase immediately preceding the provisos in subsections (A) through (C) is "trawl catcher processor," thereby making the phrase "trawl catcher processor" the last antecedent.

Application of the doctrine of the last antecedent to subsection (A) is logical given the plain language of the statute. Subsection (A) is a vessel-oriented requirement, qualifying the kinds of trawl catcher processor vessels that are eligible for the non-AFA trawl catcher processor subsector by requiring that they not be a particular kind of trawl catcher processor vessel. Both the last antecedent and subsection (A) are vessel oriented phrases, creating a comparable match between the last antecedent and subsection (A).

Application of the doctrine of the last antecedent to subsection (C) also appears logical given the plain language of the statute. It is reasonable to apply the catch requirements of subsection (C) to the trawl catcher processor vessel because the Secretary of Commerce is capable of determining which trawl catcher processors have harvested and processed the requisite amount of non-pollock groundfish during the qualifying period. A consistency exists between subsection (C) and a vessel-oriented last antecedent. Additionally, although reference to an LLP license is made in subsection (B), subsection (C) is not a dependent clause of subsection (B) and the introductory language of section 219(a)(7) does not contain any reference to LLP license. Applying the criterion of subsection (C) to an LLP license would not be consistent with the plain language of section 219(a)(7). Here, both the plain language of the statute and the doctrine of the last antecedent support the interpretation that subsection 219(a)(7)(C) modifies the phrase "trawl catcher processor" and therefore it is the trawl catcher processor vessel that must have been used to harvest with trawl gear and process at least 150 metric tons of non-pollock groundfish between 1997 and 2002.

It is not appropriate to apply the doctrine of the last antecedent for subsection (B) because the plain language of subsection (B) clearly applies to persons. Congress' use of the word "whom" in subsection (B) indicates reference to a person, such as a vessel owner, and not a thing, such as

[11] *Demko v. U.S.*, 216 F.3d 1049, 1052-53 (Fed. Cir. 2000) (last antecedent doctrine should not apply in this case because its application would create absurd result); *Northwest Forest Resource Council v. Glickman*, 82 F.3d 825, 833 (9th Cir. 1996) (doctrine of the last antecedent is not rigid and must yield to most logical meaning of a statute that emerges from its plain language).

a vessel.[12] Additionally, qualified persons are issued LLP licenses under the LLP.[13] Therefore, it is logical to interpret subsection (B) as modifying the phrase "owner of a trawl catcher processor."

Council Question 5: Section 219(a)(8) does not include certain species (e.g., arrowtooth flounder) in the 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 the eligibility requirements for participation in the "non-pollock groundfish fisheries" as defined by the Act, be permitted to participate in those non-pollock target fisheries not specifically within the non-pollock groundfish fishery as defined in the Act?

NOAA GC response: Section 219(a)(8) of the Act 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." As Council staff note, the Act's definition of "non-pollock groundfish fishery" does not include all of the BSAI non-pollock groundfish species for which a total allowable catch is established by the Council and the Secretary.[14] Section 219(g)(1)(A) of the Act restricts participation in the "non-pollock groundfish fishery" as follows: "Only a member of a catcher processor subsector may participate in — (A) the catcher processor sector of the BSAI non-pollock groundfish fishery."

As explained in NOAA GC response to Question 2.b, the Act is solely focused on catcher processors and the catcher processor sector for purposes of participation in the Capacity Reduction Program and the BSAI non-pollock groundfish fishery. In the case of the non-pollock groundfish fishery, the Act specifically addresses who can participate in the *catcher processor sector* of that fishery (only members of one of the four defined catcher processor subsectors may participate in the catcher processor sector of the BSAI non-pollock groundfish fishery), but does

---

[12]The relative pronouns who, which, and that introduce clauses (adjectival clauses) that modify the nouns that are the antecedents of these pronouns. MARTHA KOLLN, LANGUAGE AND COMPOSITION: A HANDBOOK AND RHETORIC 189 (Macmillian Publishing Co. 1984). "Whom" is the objective case of "who and "who" is defined by Webster's as "what or which person or persons." Webster's II New Riverside University Dictionary.

[13]While each vessel within the BSAI must have an LLP groundfish license on board at all times it is engaged in fishing activities defined at 50 CFR 679.2 as directed fishing for license limitation groundfish, the LLP is issued by NOAA Fisheries Service to a qualified ***person*** and authorizes the license holder to deploy a vessel to conduct directed fishing for license limitation groundfish only in accordance with the specific area and species endorsements, the vessel and gear designations, and the MLOA specified on the license. 50 CFR 679.4(k)(1)(i).

[14]Specifically, the Act's definition of "non-pollock groundfish fishery" excludes: pollock, sablefish, arrowtooth flounder, other flatfish, Alaska plaice, northern rockfish, shortraker rockfish, rougheye rockfish, other rockfish, squid, and "other species."

not include participation criteria for any other sector of that fishery. Therefore, the Act's restrictions on participation in the catcher processor sector of the "non-pollock groundfish fishery" do not extend to BSAI groundfish species that are not included in the Act's definition of "non-pollock groundfish fishery" and do not extend to other sectors of the BSAI non-pollock groundfish fishery. Therefore, persons that do not meet the qualification criteria for one of the Act's catcher processor subsectors may be able to participate in the catcher processor sector for those BSAI groundfish fisheries not included within the Act's definition of "non-pollock groundfish fishery," such as the arrowtooth flounder fishery. Additionally, entities that do not meet the qualification criteria for one of the Act's catcher processor subsectors may be able to participate in the BSAI non-pollock groundfish fishery through their qualification into a sector other than the catcher processor sector, such as the catcher vessel sector. Participation by persons in sectors other than the catcher processor sector for the "non-pollock groundfish fishery" or in any sector for target fisheries that are not specifically part of the "non-pollock groundfish fishery" is governed by other applicable statutory and regulatory provisions.

Council Question 7: General questions concern the LLP aspects of the legislation. 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 into 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 NOAA Fisheries Service? Should ongoing analyses (such as those associated with Amendment 80 and with the Pacific cod allocations in the BSAI) incorporate the assumed license reductions effected by the legislation? Since the issuance of the Council's December 29, 2004 letter, Council staff provided further elaboration on this last question, asking whether the status quo alternative in our analyses consider only those boats or people or licenses that meet the criteria since the Act defined each sector as boats or people or licenses that meet certain criteria?

Council Question 7.a: 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?

NOAA GC response: If changes to the endorsements or designations on existing LLP licenses are necessary as a result of the Act, notice and comment rulemaking likely will be required and the holders of amended LLP licenses must be afforded due process before those changes are effective.

As discussed in NOAA GC's response to Question 5, the Act only applies to the BSAI non-pollock groundfish fishery, defined by the Act as Atka mackerel, flathead sole, Pacific cod, Pacific Ocean perch, rock sole, turbot, and yellowfin sole. The Council is currently developing

BSAI FMP Amendment 80, which incorporates the Act's requirements for membership in the non-AFA trawl catcher processor subsector for the Atka mackerel, flathead sole, Aleutian Islands Pacific Ocean perch, rock sole, and yellowfin sole fisheries. Additionally, the Council is currently developing an amendment that would make allocations of BSAI Pacific cod to 10 sectors, including the four catcher processor subsectors defined in the Act. This amendment also incorporates the Act's catcher processor subsector definitions.

Between these two Council actions, qualification for membership in the four catcher processor subsectors defined by the Act will be addressed for the Pacific cod fishery and qualification in the non-AFA trawl catcher processor subsector will be addressed for those BSAI non-pollock groundfish fisheries included in Amendment 80. However, these two actions do not completely cover all aspects of the Act. For example, both the longline and pot catcher processor subsector definitions require Pacific cod catcher processor endorsements. Accordingly, only those persons who hold an LLP license with a Pacific cod catcher processor endorsement are able to participate in the longline or pot catcher processor subsector for all of the non-pollock groundfish fisheries. Conversely, the holder of a non-trawl LLP license that has a general catcher processor vessel designation endorsement but not a Pacific cod catcher processor endorsement does not qualify for either the longline or pot catcher processor subsector for any of the BSAI non-pollock groundfish fisheries. Additionally, neither of the Council actions include the turbot or the Bering Sea Pacific Ocean perch fisheries.

Given the above, NOAA Fisheries Service and/or Council staff should examine those aspects of the Act that are not covered by either Amendment 80 or the Pacific cod sector allocation amendment and determine whether an additional amendment is needed.

Council Question 7.b: Is an FMP amendment, or regulatory amendment, required to bring our plans in conformance with the legislation?

NOAA GC response: As explained in the NOAA GC response to Question 7.a, the Council is already developing amendments that will address many of the provisions of the Act. An amendment may be necessary for those aspects of the Act that are not addressed by these Council actions.

Council Question 7.c: If an FMP or regulatory amendment is required, 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 NOAA Fisheries Service?

NOAA GC response: Congress explicitly defined membership criteria for the four identified catcher processor subsectors and limited participation in the Capacity Reduction Program and the catcher processor sector of the BSAI non-pollock groundfish fishery to members of those

subsectors. Congress did not provide the Council or NOAA Fisheries Service with any latitude to modify that criteria. If an amendment is necessary for those aspects of the Act that are not addressed by Amendment 80 or the Pacific cod sector allocation amendment, certain analytical requirements that typically apply to Council and NOAA Fisheries Service actions would not apply because the Council and NOAA Fisheries Service would be performing a ministerial act in implementing the sector eligibility criteria and would not be free to exercise any discretion in implementing those criteria. Should the Council or NOAA Fisheries Service include any discretionary provisions in an action to implement the non-discretionary provisions of the Act, then the requirements of the MSA, NEPA, and other applicable law would apply for those non-discretionary provisions.

Council Question 7.d: Should ongoing analyses (such as those associated with Amendment 80 and with the Pacific cod allocations in the BSAI) incorporate the assumed license reductions effected by the legislation? In other words, should the status quo alternative in our analyses consider only those boats or people or licenses that meet the criteria since the Act defined each sector as boats or people or licenses that meet certain criteria?

NOAA GC response: The status quo alternative in Council and NOAA Fisheries Service analyses should not incorporate the Act's eligibility requirements for the catcher processor subsectors. If the analyses for Amendment 80 and the Pacific cod sector allocations incorporated the catcher processor subsector qualification requirements of the Act into the no action/status quo alternative, important information regarding the impacts of the Act on current participants would not be included. It is possible that the Act's membership requirements for the catcher processor sector of the BSAI non-pollock groundfish fisheries will have no practical effect on current participants and that all those currently participating in the catcher processor sector of these fisheries are identical to those persons who are eligible to participate under the provisions of the Act. However, if this is not the case, then the impacts on current participants who are no longer eligible for participation in the catcher processor sector of the BSAI non-pollock groundfish fisheries would not be available. Defining the no action/status quo alternative as those persons currently participating and including an alternative that incorporates the Act's participation requirements would present all necessary information for the decisionmakers and the public.

NOAA GC response to questions raised by the Council at the June 2005 meeting concerning Component 8a and whether it is a viable component given the non-AFA trawl catcher processor sector eligibility provisions of the Act.

The Council's June 2005 motion explains that the license authorization part of Component 8 (Component 8a) establishes the LLP licenses that will be authorized for participation in a cooperative and that will receive a cooperative endorsement. Based on discussions with Council staff, the intent of options 8a.1, 8a.2, and 8a.3 appears to be that for each owner that is eligible for the non-AFA trawl catcher processor subsector under Component 7, that owner will receive a

cooperative endorsement on each LLP license associated with the vessel if that LLP license was associated with the vessel when the vessel was used to catch not less than 150 mt of non-pollock groundfish with trawl gear and process that fish between three different sets of qualifying years, one set of years for each option. The intent of option 8a.1 appears to be that cooperative endorsements would be issued to those LLP licenses that were associated with a vessel when that vessel qualified for subsector participation under Component 7. The intent of options 8a.2 and 8a.3 appears to be to expand the number of LLP licenses that could receive a cooperative endorsement beyond those LLP licenses that were associated with a vessel when that vessel qualified for subsector participation under Component 7. The Council has asked whether options 8a.2 and 8a.3 impermissibly expand the statutory eligibility criteria for the non-AFA trawl catcher processor subsector.

As explained in NOAA GC's response to Question 3, the statutory criteria for the non-AFA trawl catcher processor subsector limit the number of vessels that qualify for the subsector due to the non-pollock groundfish harvesting and processing requirement in section 219(a)(7)(C). As a result, only those vessels that were used to harvest and process the requisite amount of non-pollock groundfish during the qualifying years will be eligible for the non-AFA trawl catcher processor subsector regardless of the number of LLP licenses currently used on the vessel. Additionally, the Act does not limit eligible members of the non-AFA trawl catcher processor subsector to only one LLP license. The statutory language at section 219(a)(7)(B) refers to the owner of a trawl catcher processor "to whom ***a*** valid LLP license" (emphasis added) with the proper endorsements has been issued. The language of the Act clearly requires that an eligible owner hold at least one LLP license for the qualifying vessel. However, the Act does not include any language that requires that LLP license to have been generated by the history of the vessel that satisfies the criterion at section 219(a)(7)(C). Finally, the Act does not include any language that addresses the formation of cooperatives within the non-AFA trawl catcher processor subsector. The provisions of the Act go solely to subsector eligibility and are silent with regards to the formation of cooperatives within any of the subsectors.

Given the above, there appears to be room under the Act for the Council to consider options concerning eligibility for cooperative endorsements that would qualify more than one LLP license held by persons eligible for the non-AFA trawl catcher processor subsector. However, any option ultimately adopted by the Council must ensure that no person eligible for the non-AFA trawl catcher processor subsector under the Act is excluded from the sector by the Council's choices for cooperative membership criteria. Additionally, the Act states at section 219(g)(2)(A) that the Council should take actions that "promote stability of [the BSAI non-pollock groundfish] fisheries consistent with the goals of this section and the purposes and policies of the Magnuson-Stevens Fishery Conservation and Management Act." According to the floor statements of Senator Murray, the goals of section 219 appear to be to provide a vessel buyback program for the BSAI non-pollock fishery that is to be financed through a capacity reduction loan[15] and to reduce excess harvesting capacity in the catcher processor sector of the

[15] 150 CONG. REC. S11744 (daily ed. November 20, 2004) (statement of Sen. Murray).

BSAI non-pollock groundfish fisheries which will contribute to the future rationalization and long term stability of these fisheries.[16]

The language of section 219(g)(2)(A) is permissive ("should") rather than mandatory ("must") and even Senator Murray in her floor statement says that section 219 should not be interpreted as requiring the Council to rationalize the BSAI non-pollock groundfish fisheries. 150 CONG. REC. S11744 (daily ed. November 20, 2004) (statement of Sen. Murray). Nonetheless, the Council should consider whether the options under consideration for Component 8a promote stability in the non-AFA trawl catcher processor subsector. If the Council ultimately adopts an option that does not promote stability in the non-AFA trawl catcher processor subsector, the Council should provide a rationale as to why the option is reasonable under the Act, the Magnuson-Stevens Act, and other applicable law.

cc: Jane Chalmers
Sam Rauch
Adam Issenberg

Attachments

[16] 150 CONG. REC. S11747 (daily ed. November 20, 2004) (statement of Sen. Murray).