

SECRETARIAL REVIEW

**REGULATORY IMPACT REVIEW,
FINAL ENVIRONMENTAL ASSESSMENT, AND
INITIAL REGULATORY FLEXIBILITY ANALYSIS**

For proposed Amendment **88** to the
Gulf of Alaska Fishery Management Plan

CENTRAL GULF OF ALASKA ROCKFISH PROGRAM

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Executive Summary

In 2003, the U.S. Congress directed the Secretary of Commerce to establish, in consultation with the North Pacific Fishery Management Council (the Council), a pilot program (the Pilot Program) for management of the Pacific ocean perch, northern rockfish, and pelagic shelf rockfish¹ fisheries (the target rockfish fisheries) in the Central Gulf of Alaska (CGOA). Following this directive, in 2005, the Council adopted a share-based management program, under which the total allowable catch (TAC) of rockfish primary species (Pacific ocean perch, northern rockfish, and pelagic shelf rockfish) is apportioned as exclusive shares to cooperatives, based on the catch history of the members of those cooperatives. Although originally subject to a sunset after 2 years, the 2007 reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act extended the term of the program to 5 years. Under this extension, the Pilot Program is scheduled to sunset after the 2011 season. In the absence of Council action, management of the rockfish fisheries would revert to the License Limitation Program (LLP). This action considers alternatives to allowing the rockfish fisheries to return to LLP management, in order to maintain the benefits derived under the Pilot Program.

Problem Statement

The intent of this action is to retain the conservation, management, safety, and economic gains created by the Rockfish Pilot Program to the extent practicable, while also considering the goals and limitations of the Magnuson-Stevens Fisheries Conservation and Management Act Limited Access Privilege Program (LAPP) provisions.

The existing CGOA Rockfish Pilot Program (RPP) will sunset after 2011. Consequently, if the management, economic, safety, and conservation gains enjoyed under the RPP are to be continued, the Council must act to create a long term CGOA rockfish LAPP. For both the onshore and offshore sectors, the RPP has improved safety at sea, controlled capacity of the fleets, improved NMFS' ability to conserve and manage the species in the program, increased vessel accountability, reduced sea floor contact, allowed full retention of allocated species and reduced halibut bycatch. In addition, the rockfish fishery dependent community in the CGOA and the shorebased processing sector have benefited from stabilization of the work force, more shoreside deliveries of rockfish, additional non-rockfish deliveries with the RPP halibut savings, and increased rockfish quality and diversity of rockfish products. Moreover, the CGOA fishermen, and the shorebased processing sector have benefited from the removal of processing conflicts with GOA salmon production. The Council needs to resolve identified issues in the management and viability of the entry level fishery.

The portion of the catcher processor sector currently participating in the rockfish cooperatives has also benefitted from the RPP. These benefits include greater spatial and temporal flexibility in prosecuting the fishery, which result in lower bycatch, a more rational distribution of effort, and more stable markets. Certain provisions of the current RPP act as disincentives to some CP operators from joining the cooperative sector and achieving these benefits. These disincentives should be eliminated to the extent practicable in the new RPP.

¹ Light dusky rockfish, yellowtail rockfish, and widow rockfish comprise "pelagic shelf rockfish."

Alternatives

To address its problem statement, the Council has adopted analysis alternatives for three different sectors (i.e., entry level, catcher vessels, and catcher processors). These alternatives for the Central Gulf of Alaska Rockfish Program (the Rockfish Program) are generally derived from a common set of elements and options, with sector specific elements and options that reflect operational differences. The specific elements and options that define the alternatives follow the description of the alternatives (including the no action alternative) below.

For the **entry level sector**, three alternatives have been defined. The first is the no action alternative, under which management would revert to the LLP and any holder of an LLP license (or person exempt from LLP license requirements) could enter a vessel in the rockfish fisheries. The second alternative is the current entry level management structure under the Pilot Program. Under this alternative, catcher vessel license holders that do not qualify for participation in the catcher vessel program can participate in a derby fishery for 5% of the rockfish primary species TAC. This entry level TAC is divided equally, with half available to trawl gear participants and half available to longline participants. The third entry level alternative would provide for only an entry level longline fishery.

Three alternatives are defined for the **catcher processor sector**. The first is the no action alternative, under which the rockfish fisheries would revert to LLP management. The second alternative would create a cooperative program, which allocates to the trawl catcher processor sector, rockfish primary species and secondary species (historically harvested in conjunction with primary species), and halibut prohibited species catch (PSC) based on the harvest history of sector members. Eligible sector participants could then access exclusive allocations, through cooperative membership. The third alternative is the Pilot Program structure, which is similar to the cooperative alternative, but also allows eligible catcher processors to enter a limited access fishery, instead of joining a cooperative.

Four alternatives are defined for the **catcher vessel sector**. The first is the no action alternative, under which the rockfish fisheries would revert to LLP management. The second alternative would establish a cooperative program for the catcher vessel sector under which eligible catcher vessels could participate in the fisheries only by joining a cooperative, which would receive an allocation of rockfish primary and secondary species, and halibut PSC based on historic catches. The third alternative would divide harvest share allocations of rockfish primary and secondary species, as well as halibut PSC allowances, between historical catcher vessel participants and historical processing participants, with allocations within each sector based relative to historical participation within that sector. Under the fourth alternative, a harvester must join a cooperative in association with a processor. The harvester has full discretion in choosing a cooperative both initially and annually, thereafter, and may change cooperatives (and accompanying processor associations) without penalty or forfeiture of harvest quota.

At its June 2010 meeting, the Council adopted as its **entry level fishery preferred alternative**, the third alternative, which establishes an entry level fishery for the longline sector only. As its **catcher processor preferred alternative**, the Council adopted the second alternative, which establishes a cooperative structure for the rockfish fisheries. As its **catcher vessel preferred alternative**, the Council adopted the fourth alternative, which establishes a cooperative program with annual, severable processor associations.

Analysis of the Alternatives

No action alternative

Under the no action alternative, the CGOA rockfish fisheries would revert to LLP management. Reversion to LLP management would likely result in fishing practices and patterns similar to those seen prior to the Pilot Program. In that fishery, trawl vessels raced for rockfish when the trawl season opened in July. Typically, Pacific ocean perch was caught first, followed by northern rockfish and pelagic shelf rockfish.

Product quality and production efficiency would likely suffer, should the rockfish fisheries return to a race for fish. Catcher processors must process rockfish rapidly, to maintain quality and accommodate additional catch. Prior to the Pilot Program, catcher processors in the rockfish fisheries produced mostly whole and “headed and gutted” products (i.e., relatively low value-added products). These vessels would likely continue to process catch in a similar manner under the no action alternative. Although catcher processors process their catch quickly relative to catcher vessels, the quality of their products could suffer, to some extent, as participants race to maximize their catch rates. Diminishing quality dissipates a portion of the resource rents that would otherwise be available.

Production efficiency of catcher vessels under the no action alternative would also be limited by the short duration, race for fish that will likely reemerge. Maximizing catch amounts in each tow and filling holds to capacity can damage rockfish, owing to their being difficult to handle. The no action alternative would also likely extend trip lengths, to increase catch per trip, which can further result in a decline in the quality of rockfish deliveries. Returns to catcher vessels under this alternative would likely be limited, both by the quality of their landings and the compressed time period within which those landings must be made. Most processors would likely process deliveries quickly, to keep pace with the landings. These conditions could dampen competition for landings among the participating processors to some extent. Quality would likely suffer, because of the rapid rate of harvest and processing, and technical efficiency would also be lost, as crews scale up for a short period of time to accommodate the rapid pace of landings during the compressed season.

Consumers are likely to be supplied with products from the rockfish fisheries similar to those supplied prior to the Pilot Program. Catcher processors are likely to produce relatively higher quality, but low “value-added,” frozen headed and gutted and whole fish. Production from catcher vessel catch is likely to suffer from poor handling.

Crew participation and compensation would likely revert to receiving a specific percent of the vessel’s adjusted revenues, as it was before implementation of the Pilot Program. During that time, most crewmembers worked in several different fisheries, often on the same vessel that they worked on during the rockfish season, while some moved to other vessels for particular fisheries.

For shore-based processing crew, the no action alternative would result in similar processing practices seen before implementation of the Pilot Program. During that period, most of the processing took place in Kodiak and was undertaken by resident crews. Crews were employed processing rockfish for a relatively short period of time. When rockfish was processed, relatively large crews were necessary to maintain a flow of fish through the plants. Because the rockfish fisheries coincided with the pink salmon fishery, some plants employed substantially larger crews that were juggled between lines to process landings from both fisheries.

Catcher processor sector - cooperative only – CP-2 (preferred alternative)

Under this alternative, eligible catcher processors could either join a cooperative or not participate in the CGOA rockfish fisheries. Within each cooperative, it is anticipated that each member would receive revenues based on the allocation that they bring to the cooperative, with participants that fish shares of others receiving compensation for their fishing expenses. Persons eligible for the program that receive relatively small allocations could either choose to join a cooperative to allow other members of the cooperative to fish their allocations or choose to opt out of the program for the year, forgoing the opportunity to fish (and revenue from) CGOA rockfish. Other members of the sector could decide to consolidate their rockfish allocations to realize efficiencies in the rockfish fisheries and other fisheries. Whether some or all of these vessels would choose to remain out of a cooperative cannot be predicted, and depends on their opportunities in other fisheries.

Allocations of rockfish secondary species should not constrain harvests of rockfish primary species, unless the rates of incidental catch of secondary species in the rockfish fisheries change substantially. Cooperatives should prove useful for addressing any constraints arising from the secondary species allocations, given that cooperatives would allow for the redistribution of secondary species allocations among cooperative members. One factor some sector participants have sighted as creating an incentive for not joining cooperatives under the Pilot Program is the shortraker rockfish allocation. Included in the proposed action is an option to increase the allocation of shortraker rockfish to cooperatives from 30.03% to 50% or to manage shortraker rockfish and rougheye rockfish under a combined maximum retainable amount (MRA) of 2% for catcher processors fishing in a cooperative. It is possible that one of these suggested changes could eliminate any perceived constraint these species allocations have on the harvest of the primary species.

Processing by catcher processors under this alternative is likely to remain similar to the Pilot Program pattern. Most vessels in the sector are equipped for producing a few simple products (frozen whole and headed and gutted fish). Because of size limitations, it is unlikely that any of these vessels will change plant configurations to process higher-valued, more highly processed products. Although catcher processors product mix may not change under this alternative when compared to the no action alternative, it is possible that some improvement in quality may be made by some participants. Generally, catcher processors produce a relatively high quality product, so the ability to make quality improvements may 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 primary efficiency gains in the catcher processor sector under this alternative will result from improvements in technical efficiency. Allocative efficiency gains are unlikely to occur, since vessels participating in this sector are equipped to produce only whole and headed and gutted products and are unlikely to reconfigure for 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 may be able to reduce expenditures on inputs to some degree (e.g., scaling down crew size) and increasing recovery rates (e.g., less loss due to diminished quality). Additional technical efficiencies could arise because of the cooperative structure of the alternative. In a cooperative, participants will be free to consolidate fishing, up to the 60% harvest cap. Consolidating catch on fewer vessels in the fishery could also reduce aggregate harvest costs.

Specific sideboard provisions include limits on West Yakutat pelagic shelf rockfish, Pacific ocean perch, as well as Western Gulf of Alaska (WGOA) pelagic shelf rockfish, Pacific ocean perch, and northern rockfish. There would also be a limit on halibut PSC, to constrain harvest from fisheries that are typically halibut constrained. For qualified participants that choose to opt out of the Rockfish Program, they would

be prevented from participating in any directed fishery that the license holder did not participate in during the first week of July in at least two of seven qualifying periods.

Complicating the Rockfish Program sideboards for the catcher processor sector are Amendment 80 sideboards. Implemented in 2008, the Amendment 80 program includes sideboards for pollock, Pacific cod, Pacific ocean perch, northern rockfish, pelagic shelf rockfish, and halibut PSC for the same catcher processor fleet that would likely be limited by sideboards in the Rockfish Program. Amendment 80 GOA sideboards appear less restrictive, relative to the Rockfish Program sideboards, but Rockfish Program sideboards would apply only for the month of July, while the Amendment 80 sideboards apply all year. Given that both Rockfish Program sideboards and Amendment 80 sideboards are based on historical retained catch by the sector, it is likely that both sideboards are constraining of fishing effort in a similar fashion. Given that Rockfish Program and Amendment 80 sideboard limits would likely curtail the same catcher processor fleet from encroaching on other fisheries, it is likely that having both sets of sideboards would only duplicate management costs and increase the complexity of the sideboard fisheries, albeit at relatively insignificant levels, with no added benefit.

Catcher processor sector - cooperative or limited access – CP-3

This alternative differs from the cooperative-only alternative, only in that eligible catcher processors may choose to participate in a limited access fishery (instead of a cooperative). The catcher processor limited access fishery will be managed in a manner similar to the Pilot Program limited access fishery. Under the Pilot Program, several vessels have registered for the limited access fishery, with only a few vessels participating. As a result, no race for fish has developed. Instead, participants have coordinated catch allowing each to harvest an agreed share. Since most of the limited access vessels are members of a common cooperative in the Bering Sea, it is possible that some vessels registered for the CGOA limited access fishery that do not participate, have chosen to register for the limited access to benefit their Bering Sea cooperative associates (rather than see their allocations redistributed among the rockfish cooperatives). As a result of these arrangements, the limited access fishery has functioned more like a cooperative than a limited access fishery. Limited access registered vessels, however, cannot begin harvests prior to the early July opening and, under sideboards, cannot fish in other fisheries in early July, until a large portion of the rockfish harvests are made. These limitations are intended to prevent encroachment of vessels in those other fisheries.

Processing by catcher processors under this alternative is likely to be the same as under the previous alternative, where catcher processors will continue to produce a relatively high quality, but lower value-added product, so the ability to make quality improvements may be limited. Catcher processors would be likely to realize similar gains in production efficiency, as under the cooperative-only alternative, with possible differences arising from the ability to participate in the limited access fishery. Catcher processors may receive a benefit under this alternative, if the MRA management in the limited access fishery removes a harvest constraint that would have affected vessels fishing in a cooperative. To date in the Pilot Program, no constraint appears to have arisen. Alternatively, periodic losses in efficiency could result under this alternative, if a race for fish develops in the limited access fishery.

Catcher vessel sector - harvester only cooperative – CV-2

Under this alternative, eligible harvesters would receive exclusive allocations that can be accessed through cooperatives. These cooperatives will have the flexibility to make deliveries to any processor, which should ensure that harvester delivery preferences are recognized. It is possible that a harvester might make concessions to a processor in choosing delivery dates, but these concessions are likely to be compensated. Cooperatives will have the flexibility of delivering to multiple processors, allowing the

opportunity to choose fishing timing. Despite this flexibility, it is likely that established relationships will have an important influence on harvester delivery choices and cooperative membership (at least at the outset of the program). Over time, changes in delivery patterns may change, as harvesters perceive better opportunities with other processors.

The structure of the market for landings would likely be competitive under this alternative, increasing the incentive for processors to aggressively pursue product improvements to attract additional landings. This competition should resolve delivery terms, including the timing of landings to accommodate processing schedules. This timing of landings could be critical to processors meeting some market demands, particularly if a fresh market were to develop.

Under this alternative, the ability to coordinate harvest activity and remove vessels from the fleet without loss of harvest share, together with a relative improvement in bargaining strength arising from no processor protection on processor entry should result in substantial improvements in harvest sector efficiency over the no action alternative. Fishing will be slowed, as cooperatives receive exclusive allocations and PSC allowances. Technical efficiency in processing should improve as processors are better able to schedule crews to process landings. Allocative efficiency should also increase, as processors improve product quality and produce higher value-added product forms that cannot be produced under the no action alternative. However, processors may experience little improvement in their overall efficiency under this alternative, because of their relatively weak negotiating position in the market for landings.² Instead, cooperatives (and their catcher vessel fleets) should receive most of the benefits of these improvements through ex-vessel price negotiations. Notwithstanding the relatively strong position fishermen may have under this alternative, processors should obtain normal profits from their processing, and in some cases may be able to use relationships in other fisheries to leverage their negotiating position.

All of the catcher vessel alternatives include an option for an individual use cap of between 3% and 5% of the catcher vessel shares. Under the various qualifying year options and proposed caps, a maximum of 14 license holders could be constrained by the individual use cap at the initial allocation. Given that between 42 and 50 license holders would be allocated rockfish primary species depending on the qualifying years, between one-quarter and more than one-half of those license holders could leave the fishery before all owners reach the 3% cap. Another option considered in all of the catcher vessel alternatives would establish a cooperative use cap of 30% of the catcher vessel harvest share pool. The provision will prevent harvesters from forming cooperatives beyond the cap of the threshold, which may prevent consolidation within cooperatives that could be detrimental to marginal processors in the fishery.

A vessel use cap of between 4% and 10% is also being considered for the catcher vessel alternatives. As many as 12 vessels in the catcher vessel sector have historically harvested more than 4% of the sector's total catch in a given year. Few vessels have historically exceeded the proposed 8 % cap and in only one year did any vessels exceed the 10% cap. Finally, a processing cap of 20%, 25%, 30%, or 33% is being considered for the catcher vessel alternatives. A processing cap would ensure that no processor purchases over the specific share of the landings in the fishery. Overall, processing caps would reduce production efficiency to the extent that competition for landings is decreased. Harvesters, in the short run at least, could receive a lower price for landings, to the extent that competition is constrained. This reduction in competition could, in turn, reduce the incentive for processors to improve products and enhance marketing efforts to maintain their competitiveness in product markets. Processors could derive a benefit

² Although an option could require all landings to be made in Kodiak, since that community is home to several processors, it is unlikely that the limitation of landings to Kodiak would affect the degree of competition in the rockfish fisheries.

from this provision to the extent that ex-vessel price reductions occur, but those benefits will not necessarily accrue to historical processors.

The Council motion contains an option to add a port delivery requirement for allocations of the rockfish primary and secondary species to the catcher vessel sector. The port delivery requirement is intended to protect the community of Kodiak from changes in the location of shore-based processing activities that could occur in the Rockfish Program. If adopted, this option would ensure that Kodiak exclusively controls the processing base for the rockfish fisheries and that Kodiak processors and the community continue to benefit from the rockfish fisheries, at some cost to competing Alaska communities and fishermen.

As would be applied to catcher processors, a general sideboard would limit catcher vessel participants, in the aggregate, to their historical harvests in other fisheries during the month of July. Given that National Marine Fisheries Service (NMFS) would likely close the WGOA and West Yakutat rockfish fisheries and the deep-water complex to directed fishing for the catcher vessel sector, due to insufficient catch history, prohibiting eligible catcher vessel license holders from directed fishing in these fisheries would likely reduce management costs, observer costs to the sector, and simplify sideboard regulations for the Rockfish Program.

Catcher vessel sector – allocation of harvester shares to processors – CV-3

Under this alternative, eligible **processors** would receive allocations of harvest shares from the catcher vessel harvest share pool. Allocations of rockfish primary species would be divided between eligible harvesters and eligible processors, with eligible processors receiving 10%, 20%, or 30% of the sector's pool of all allocated species, based on processing in the fisheries during the qualifying period. In general the processors receiving these allocations will receive the resource rents associated with that allocation.

Catcher vessel efficiency gains under this alternative are likely to be different, with resource rents divided between catcher vessels and processors, based on the division of the harvest share allocation between these sectors (i.e., 90/10, 80/20, or 70/30). The returns to participants in the catcher vessel sector may vary slightly depending on the approach taken by holders of processor allocations in using their harvester shares. These different methods are likely to result in a similar distribution of resource rents, but may result in slightly different distributions of normal profits and operation levels of independent harvesters. If a processor elects to harvest its allocation on its own (or an affiliated vessel), the processor would receive resources rents and normal profits from the harvest, annually.³ If a processor elects to sell its allocation (i.e., long term share), the processor would receive the presumed resource rents (discounted to their present value equivalent) embodied in the allocation, at the time of the sale. The purchaser would assume the risk associated with the allocation and gain any normal profits (or losses) from the harvest of the shares over the long term. If a processor enters an arm's length lease for its annual allocation, it would receive the annual rents embodied in the allocation at the time of each lease, with the lessee assuming all risks of profits or losses from harvest of the annual allotments. Lastly, a processor may use its shares as part of a broader negotiation with a cooperative (or vessels in a cooperative) to establish a relationship that extends to all (or a large segment of) the landings of the cooperative.

Under this alternative, processors that receive an allocation of harvest shares are likely to realize substantially greater benefits from the rockfish fisheries, than under the other catcher vessel alternatives. This benefit would be derived from the share allocation, as opposed to operational efficiencies, as this alternative is likely to result in similar operational efficiencies as other cooperative alternatives.

³ These profits might be captured only after sale of finished products by the processors.

Processors will have several choices for using their shares, including selling their long term shares, leasing annual allocations, and (in some cases) harvesting annual allocations on affiliated vessels. In most cases, it is likely that these processors will use their allocations. While each of these would be expected to bring the share holder the resource rent arising from the shares, it is likely that most processors holding harvest shares will negotiate the harvest of their allocations with cooperatives, to gain additional landings and coordinate processing activity in the rockfish fisheries.

In addition to the many different caps included in the catcher vessel alternatives, this alternative would include an additional limit on processor holdings of harvest shares. Under one option, the general harvest share limits could be applied to all holdings, effectively constraining harvest share holdings. It is possible under this option that all processors initially allocated harvest shares could exceed the cap. A grandfather provision could allow these processors to maintain holdings on the allocation. A second option would establish a 10% use cap on processor holdings. If processors receive only 10% of the harvest share pool in the initial allocation, it would be possible for a single processor to acquire all of those shares, if the use cap is set at 10%. With the exception of a limit on processor holding of harvest shares, the effects of excessive share limits and sideboards noted in CV-2 would also apply to this alternative.

The specific effects of the processor allocations will also depend, in part, on the rules governing their use and transfer. A holder of quota shares, originally allocated to a processor, would be permitted to divide those quota shares on transfer. In addition, three options defining persons eligible to acquire shares have been proposed. The first option would qualify processors that meet a minimum processing threshold in the rockfish fisheries to acquire these shares. The second option would allow processors receiving an initial allocation of shares to acquire additional shares. In general, opportunities for processor acquisition of shares are likely to be few. The third option would allow any qualified license holder to acquire shares initially allocated to a processor. Unless a processor is exiting the rockfish fisheries, it is unlikely that a processor would wish to sell its shares to a possible processing competitor (or harvester). It is also likely that, if a processor were to exit, it would attempt to sell its entire operation, including any shares. This type of a transfer is unlikely to change the processing market, except when a plant is bought by a competitor who is consolidating processing. Depending on the excessive share cap, processors may not be permitted to consolidate in this manner.

Catcher vessel sector – cooperative with severable processor association (no forfeiture) – CV-4 (preferred alternative)

Under this alternative, a cooperative would be required to annually associate with a processor to access its allocation. A harvester will have full discretion to choose a cooperative, initially, and may freely move among cooperatives, annually, thereafter. In addition, cooperatives are free to associate with any processor in the community in any year without forfeiture or penalty. The terms of the cooperative agreement, and consequently, the cooperative/processor association are subject to negotiation between the cooperative members and the processor. Given the flexibility of the harvesters to move among cooperatives, and of cooperatives to change associations, it is likely that any limitation established under the terms of an association (e.g., delivery requirements) will be fully voluntary, and harvesters will receive compensation for any concessions. Long term relationships and relationships in other fisheries are likely to be important factors that affect cooperative and processor association choices.

While some cooperatives may use the processor association to establish delivery relationships, it is possible that some cooperatives may minimally comply with the regulatory requirement, by establishing a relationship on paper, but maintaining no operating relationship. With unlimited choice in processor associations, such an arrangement is plausible. In this case, the cooperative would be free to deliver to any processor and negotiate delivery arrangements independent of the processor association requirement.

It is expected that processors will pursue markets and production opportunities, to establish and maintain annual associations and to attract deliveries. Historical relationships will likely influence the formation of cooperative/processor associations, but these relationships are likely to be tested, if a processor fails to compete in product markets (or fails to match others' ex-vessel prices).

As noted above, there is an option for an individual use cap of between 3% and 5% of the catcher vessel shares that would be exceeded by approximately 14 license holders at the initial allocation. Another option would establish a cooperative use cap of 30% of the catcher vessel harvest share pool, which would prevent consolidation within cooperatives. A vessel use cap of between 4% and 10% is also being considered. As many as 12 vessels in the catcher vessel sector have historically harvested more than 4% of the sector's total catch in a given year. Few vessels have historically exceeded the proposed 8% cap, and in only one year, did any vessels exceed the 10% cap. Finally, a processing cap of 20%, 25%, 30%, or 33% is also being considered. As noted above, this cap could reduce competition for landings. In the short run, this could reduce ex-vessel price and the incentive for processors to experiment with new product forms and enhance marketing efforts. Some processors could derive a benefit from this provision to the extent of any ex-vessel price reductions, but those benefits will not necessarily accrue to historical processors.

Overall, the ability to coordinate harvest activity, together with a relative improvement in bargaining strength arising from no direct processor allocation, should result in substantial improvements in harvest sector efficiency over the no action alternative.

The effects of excessive share limits and sideboards noted in CV-2 and CV-3 would also apply to this alternative.

Entry level trawl/longline fisheries – EL-2

Under this alternative, 5% of TAC for each of the rockfish primary species is set aside for the entry level fisheries. This set-aside is divided equally between the trawl and longline sectors. With longline vessels taking less than 1% of the TAC of any rockfish species historically, it is unlikely that the longline allocation will constrain that fleet. To reduce the potential for the longline allocation to go unharvested, any remaining TAC becomes available for harvest by entry level trawl vessels, late in the year.

The trawl allocation would be available for harvest by all applicants for the entry level program. Despite the large number of persons eligible for the fishery, the trawl fishery could draw few applicants, as the allocation is relatively small and few potential participants have experience in the fishery. Given the potential for relatively small allocations to the fishery (approximately 350 tons of Pacific ocean perch), the ability of NMFS to effectively manage the trawl portion of the entry level fishery to prevent TAC overages could be limited, especially if a substantial number of applicants for the entry level trawl fishery are receive. If several vessels enter the fishery, it is likely that managers would have to close the fishery or use short openings of 24 hours or less.⁴ Management of the small allocation to trawl vessels in the entry level fishery is likely to be problematic under this alternative.

⁴ No similar problem exists for the longline sector under this alternative, as that fleet has shown limited capacity to quickly harvest the allocations. This slower rate of harvest allows managers the opportunity to close the fishery in a timely manner to avoid TAC overages.

Entry level longline only fishery – EL-3 (preferred alternative)

Under this alternative, only the longline sector would receive an entry level allocation of the rockfish primary species. The starting entry level set-aside under this alternative would be between 1 metric ton and 10 metric tons of Pacific ocean perch, between 1 metric ton and 10 metric tons of northern rockfish, and between 10 metric tons and 30 metric tons of pelagic shelf rockfish.

Limiting the entry level fishery to non-trawl gear would, obviously, eliminate the potential for trawl effort to result in the TAC being exceeded in this fishery. Reducing the set-aside for the non-trawl CGOA rockfish could also reduce unharvested CGOA rockfish TAC. Historically, non-trawl vessels have very minimal participation in the CGOA target rockfish fisheries. However, allocations of less than 5 metric tons for Pacific ocean perch and/or northern rockfish could be very difficult to manage, so NMFS would likely close entry level fisheries with such limited allocations. To avoid closures in the entry level program prior to the season opening, the Council would have to select Pacific ocean perch and northern rockfish allocations greater than or equal to 5 metric tons for each species.

Included in this alternative is the ability to expand the entry level longline allocation, as harvests increase. If the entry level longline participants harvest 90% or more of their allocation of a rockfish species in a year, the set-aside would be increased by the amount of the initial allocation of the species. Allocation increases would be capped at a maximum of between 1% and 5% of Pacific ocean perch TAC, between 2% and 5% of northern rockfish TAC, and between 2.5% and 5% of pelagic shelf rockfish TAC. Overall, the use of a relatively small starting longline allocation (more in line with historical catches), and a mechanism for increasing the allocations with growth in the sector, could help prevent unharvested portions of the TAC, which would occur, if the allocation to the longline sector was disproportionate to their catches.

Processing under the preferred alternatives

Under the preferred alternative, eligible catcher processors could either join a cooperative or not participate in the CGOA rockfish fisheries. Within each cooperative, it is anticipated that each member would receive revenues based on the allocation that the person brings to the cooperative, with participants that fish shares of others receiving compensation for their fishing expenses. Persons eligible for the program that receive relatively small allocations could either choose to join a cooperative to allow other members of the cooperative to fish their allocations or choose to opt out of the program for the year, forgoing the opportunity to fish CGOA rockfish (and the “potential” associated revenues). Other members of the sector could decide to consolidate their rockfish allocations to realize efficiencies in the rockfish fisheries and other fisheries. Whether some or all of these vessels would choose to remain out of a cooperative cannot be predicted, and depends on their opportunities in other fisheries.

Allocations of rockfish secondary species should not constrain harvests of rockfish primary species, unless the rates of incidental catch of secondary species in the rockfish fisheries change substantially. Cooperatives should prove useful for addressing any constraints arising from the secondary species allocations, given that cooperatives would allow for the redistribution of secondary species allocations among cooperative members. The more liberal 40% allocation of shortraker rockfish under the preferred alternative should eliminate any perceived constraint this species allocation has had on the harvest of the primary species under the Pilot Program. Cooperatives may be able to manage the PSC allowances of their members, to effect the most efficient utilization of this binding constraint. Unlike an allocation, which authorizes the removal of a given amount of fish, the PSC “allowance” requires avoidance of removal, to the extent practicable, and sets the maximum PSC that will be permitted.

Processing by catcher processors under this alternative is likely to remain similar to the current (Pilot Program) pattern. Most vessels in the sector are equipped for producing a few simple products (frozen whole and headed and gutted fish). Because of size limitations, it is unlikely that any of these vessels will change plant configurations to process higher-valued, more processed products. Although catcher processors' product mix may not change under this alternative when compared to the no action alternative, it is possible that some improvement in quality may be made by some participants. Any gains 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 primary production efficiency gains in the catcher processor sector under the preferred alternative are the same as those described under the catcher processor cooperative (CP-2) above. The production efficiency gains in the catcher vessel sector under the preferred alternative are the same as those described in the harvester only cooperative alternative (CV-2) above. In addition, the Kodiak landing requirement ensures that Kodiak processors and that community's support industry will continue to benefit from the rockfish fisheries, at the expense of other Alaska communities. The establishment of an entry level longline fishery should provide longline vessels with a reasonable opportunity to develop target fisheries for all three of the rockfish primary species. The provision for increase of these allocations should ensure that longline vessels are not constrained by the allocation for the foreseeable future.

Effects on Net Benefits to the Nation

The net benefit to the Nation arising out of the change in management may accrue from several sources. First, production efficiencies in harvesting and processing could occur as a direct result of management changes. These production changes may affect the benefits realized by U.S. consumers, through changes in product quality, availability, variety, and price. This change is likely to be relatively small, unless U.S. markets for rockfish products expand from their current levels (e.g., development of a "fresh fish" domestic market). Additional product recovery, in combination with lower operating costs, attributable to a slower paced, more efficiently prosecuted fishery, should result in gains in U.S. produce surpluses. Further, the changes in conduct of the fisheries and management could result in desirable changes in the biological and ecological environment, which yield a broad spectrum of benefits to the Nation.

No action alternative

If the no action alternative is selected, net benefits to the Nation are likely to be similar to those levels seen prior to the implementation of the Pilot Program in 2007. For catcher processors, quality of the whole and "headed and gutted" production during that period was relatively high. Few consumer benefits from this production would be realized in the United States, as most fish is sold into foreign markets.

For the shore-based sector, quality of landings and value of processed products may suffer decreased production efficiency. Consumer benefits of these harvests would be diminished by the further reduction in quality and product value that a return to managed open access could engender. Most of this production is sold into foreign markets. Costs of monitoring and management are relatively low, as catch is monitored at the fleet level. Non-use benefits to the public could decrease to some unknown extent, due to waste, bycatch, and PSC mortality.

Catcher processor cooperative alternatives

Net benefits to the Nation will be affected by a few different factors under the catcher processor sector cooperative alternatives. Production efficiency should increase slightly, as some participants realize moderate improvements in quality of production. Few, if any, benefits of production improvements will

be realized by U.S. consumers, as this fleet is likely to continue to serve international markets. Costs of management, monitoring, and enforcement will increase to administer and oversee the cooperative allocations. Some additional benefits to the Nation could arise through reduction in bycatch, since the program requires full retention of several groundfish species. Since discard rates of these species are relatively low in the current rockfish fisheries, these benefits are likely not substantial. Improvements could be attained in terms of PSC mortality, as cooperative management of the “fixed” PSC allowance may improve avoidance, thus maximizing target catch within the PSC constraint.

The Pilot Program provides a foundation for examining potential net benefits to the Nation from these Rockfish Program alternatives. First, both catcher processors fishing in cooperatives and in the limited access fishery have reduced their halibut PSC mortality rates. To a small degree, the halibut PSC savings from the catcher processors has enabled the GOA flatfish fishery to remain open during a fifth season, which normally would have been closed due to shortfalls in available halibut PSC. The degree to which the Nation would benefit from halibut PSC savings in the proposed action, depends on the options selected. Options that maintain the incentive to conserve halibut PSC, while ensuring that some of the halibut “allowance” remains unavailable in the later season fisheries, would increase net benefits to the Nation. Generally, the Pilot Program has provided catcher processors with the ability to time fishing to avoid conflicts with activities in other fisheries, for most catcher processors providing synergies between the Amendment 80 fisheries and the CGOA rockfish fisheries. These benefits should persist under either of the program alternatives.

Catcher vessel cooperative alternatives

A few different factors will affect net benefits to the Nation under the catcher vessel cooperatives alternatives. Slowing the race for fish and extending the season should lead to substantial increases in production efficiency, as participants in both sectors improve quality and produce higher value-added products. Some production benefit could flow to foreign-owned processing entities, but since increases in processor net benefits under this alternative are relatively minor, almost all of the gain in production efficiency should be realized by U.S. entities and citizens. Production improvements could lead to benefits for U.S. consumers, but those gains will be minor, unless the fishery increases production for domestic markets. Again, depending on changes in domestic markets, greater production may occur domestically, if fewer primary products are shipped abroad for reprocessing. Increased administration and oversight, necessary for cooperative allocations, and an extended season will result in an increase in costs of management, monitoring, and enforcement. Participants may also require additional observer coverage.

The Pilot Program for catcher vessels has also demonstrated a number of benefits to the Nation that would likely be present under the proposed action. First, similar to the catcher processors, catcher vessels fishing in cooperatives have also reduced their halibut PSC mortality rates, allowing those halibut PSC apportionments to be made available to support a longer GOA flatfish fishery. These halibut PSC reductions have arisen through the use of pelagic gear and semi-pelagic gear, which has reduced the amount of bottom contact by trawlers in the fishery. If options are selected that maintain the incentives to reduce halibut PSC, the halibut mortality savings and reduced bottom contact will likely result in comparable benefits to Nation. Targeting behavior has also provided benefits under the Pilot Program. Specifically, by targeting allocated Pacific cod and sablefish on separate trips, catcher vessels have improved quality of landings and reduced costs associated travel and with keeping those species separated from rockfish. Rockfish product improvements may also arise under the program alternatives. Two processors increased production of fresh fillets under the Pilot Program. Although these changes brought little change in prices under the Pilot Program, they demonstrated the potential for production changes that could be beneficial, if markets can be developed. A further benefit demonstrated by the Pilot Program is the redistribution of rockfish landings over a substantially period. The redistribution has allowed

processors to avoid conflicts with other fisheries, most importantly salmon fisheries that peak during the month of July. This rescheduling has decreased the time vessels must wait in queue to offload their catch and allowed processors to provide more consistent employment for their crews. Finally, elimination of the race for fish under the Pilot Program has improved safety at sea, by reducing the incentive for rockfish fisheries participants to take risks to maintain their share of the rockfish fisheries. These benefits arising under the Pilot Program should continue to be realized under the program alternatives, as described.

Preferred alternative

The net benefits to the Nation arising from the preferred alternative may accrue from several sources. First, production efficiencies in harvesting and processing could occur as a direct result of management changes. These production changes may affect the benefits realized by U.S. consumers, through changes in product quality, availability, variety, and price. This change is likely to be relatively small, unless U.S. markets for rockfish products expand from their current levels. Further, the changes in conduct of the fisheries and management could result in desirable changes in the biological and ecological environment, which yield benefits to the Nation through ecosystem productivity changes.

Net benefits to the Nation arising from management of the catcher processor sector will be affected by a few different factors. Production efficiency should increase slightly, as some participants realize moderate improvements in quality of production. Few, if any, benefits of production improvements will be realized by U.S. consumers, as this fleet is likely to continue to serve international markets. Costs of management, monitoring, and enforcement will increase to administer and oversee the cooperative allocations. Some additional benefits to the Nation could arise through reduction in bycatch and PSC mortality, since the program requires full retention of several species and continues to mandate avoidance of prohibited species. Since discard rates of groundfish species are relatively low in the current rockfish fisheries, these benefits are likely not substantial.

Likewise, a few factors will affect net benefits to the Nation arising from management of the catcher vessel sector. Slowing the race for fish and extending the season should lead to substantial increases in production efficiency, as participants in both sectors improve quality and higher value products are produced. Some production benefit could flow to foreign-owned processing entities, but since increases in processor net benefits under this alternative are relatively minor, almost all of the gain in production efficiency should be realized by U.S. entities and citizens. Production improvements could lead to benefits for U.S. consumers, but those gains will be minor unless the rockfish fisheries increase production for domestic markets. Again, depending on changes in domestic markets, greater production may occur domestically, if fewer primary products are shipped abroad for reprocessing. Increased administration and oversight necessary for cooperative allocations and an extended season will result in an increase in costs of management, monitoring, and enforcement.

1 Introduction

In 2003, the U.S. Congress directed the Secretary of Commerce to establish, in consultation with the North Pacific Fishery Management Council (the Council), a pilot program (the Pilot Program) for management of the Pacific ocean perch, northern rockfish, and pelagic shelf rockfish⁵ fisheries (the target rockfish fisheries) in the Central Gulf of Alaska. Following this directive, in 2005, the Council adopted a share-based management program under which the total allowable catch of rockfish primary species (Pacific ocean perch, northern rockfish, and pelagic shelf rockfish) is apportioned as exclusive shares to cooperatives, based on the catch history of the members of each cooperative. Although originally subject to a sunset after 2 years, the 2007 reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act (the MSA) extended the term of the program to 5 years. Under this extension, the program is scheduled to sunset after the 2011 season. In the absence of Council action, management of the fisheries would revert to the License Limitation Program.

Management actions for these rockfish fisheries must comply with applicable federal laws and regulations. Although several laws and regulations guide this action, the principle laws and regulations that govern this action are the MSA, the National Environmental Policy Act, the Regulatory Flexibility Act, and Executive Order 12866.

This document contains a Regulatory Impact Review, a Regulatory Flexibility Analysis, and an Environmental Assessment of the alternatives for the program management of the Central Gulf of Alaska target rockfish fisheries. Section 2 contains the Regulatory Impact Review, including the problem statement, a brief background, and a detailed description of the alternatives; the existing conditions in the fisheries, analyses of the economic and socioeconomic effects of the alternatives, elements, and options; Section 3 contains the Environmental Assessment; Section 4 contains a brief discussion of the MSA National Standards and a fishery impact statement; and Section 5 contains the Regulatory Flexibility Analysis;

2 Regulatory Impact Review

This chapter provides an economic analysis of the action, addressing the requirements of Presidential Executive Order 12866 (E.O. 12866), which requires a cost and benefit analysis of federal regulatory actions. This impact review begins with the purpose and need statement for the proposed Central Gulf of Alaska Rockfish Program (Rockfish Program), which is followed by a description of the program alternatives. The status quo is described in a background section, after which the alternatives are analyzed. The impact review concludes with a description of the preferred alternative and a summary of its impacts, which draws heavily on (and references applicable sections of) the preceding analysis of alternatives.

The requirements of E.O. 12866 (58 FR 51735; October 4, 1993) 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

⁵ Light dusky rockfish, yellowtail rockfish, and widow rockfish comprise “pelagic shelf rockfish.”

nonetheless essential to consider. Further, in choosing among alternatives regulatory approaches agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health, and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.

E.O. 12866 further 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:

- 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, local or tribal governments or communities;
- Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- Raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in this Executive Order.

2.1 Problem Statement

The North Pacific Fishery Management Council (the Council) developed the following problem statement defining its purpose for development of alternatives for this action:

The intent of this action is to retain the conservation, management, safety, and economic gains created by the Rockfish Pilot Program to the extent practicable, while also considering the goals and limitations of the Magnuson-Stevens Fisheries Conservation and Management Act Limited Access Privilege Program (LAPP) provisions.

The existing CGOA Rockfish Pilot Program (RPP) will sunset after 2011. Consequently, if the management, economic, safety, and conservation gains enjoyed under the RPP are to be continued, the Council must act to create a long term CGOA rockfish LAPP. For both the onshore and offshore sectors, the RPP has improved safety at sea, controlled capacity of the fleets, improved NMFS’ ability to conserve and manage the species in the program, increased vessel accountability, reduced sea floor contact, allowed full retention of allocated species and reduced halibut bycatch. In addition, the rockfish fishery dependent community in the CGOA and the shorebased processing sector have benefited from stabilization of the work force, more shoreside deliveries of rockfish, additional non-rockfish deliveries with the RPP halibut savings, and increased rockfish quality and diversity of rockfish products. Moreover, the CGOA fishermen, and the shorebased processing sector have benefited from the removal of processing conflicts with GOA salmon production. The Council needs to resolve identified issues in the management and viability of the entry level fishery.

The portion of the catcher processor sector currently participating in the rockfish cooperatives has also benefitted from the RPP. These benefits include greater spatial and temporal flexibility in prosecuting the fishery, which result in lower bycatch, a more rational distribution of effort, and more stable markets. Certain provisions of the current RPP act as disincentives to some CP operators from joining the cooperative sector and achieving these benefits. These disincentives should be eliminated to the extent practicable in the new RPP.

2.2 Description of the Alternatives

To address its problem statement, the Council adopted analysis alternatives for three different sectors (i.e., entry level, catcher vessels, and catcher processors). These program alternatives are derived from a common set of elements and options with differences that reflect the different operations of the sectors. The specific elements and options that define the alternatives follow the description of the alternatives (including the no action alternative) below.

For the **entry-level sector**, three alternatives have been defined. The first is the no action alternative, where management would revert to the License Limitation Program (LLP), and under which any holder of an LLP license could enter a vessel in the rockfish fisheries. The second alternative is the current entry level management structure under the existing CGOA Rockfish Pilot Program (Pilot Program). Under this alternative, catcher vessel license holders that do not qualify for participation in the catcher vessel program can participate in a derby fishery. Five percent of the rockfish primary species total allowable catch (TAC) will be reserved for this fishery. This entry level TAC is divided equally, with half available to trawl gear participants and half available to longline participants. The third entry level alternative would provide for only an entry level longline fishery.

Three alternatives are defined for the **catcher processor sector**. The first is the no action alternative, under which the rockfish fisheries would revert to LLP management. The second alternative is a cooperative structure, which allocates to the trawl catcher processor sector rockfish primary species and secondary species (historically harvested in conjunction with primary species) and an allowance for halibut prohibited species catch (PSC) based on the harvest history of sector members. Eligible sector participants could then access exclusive allocations through cooperative membership. The third alternative also provides exclusive allocations to cooperatives, but allows sector participants to annually choose whether to fish in a cooperative or a limited access fishery.

Four alternatives are defined for the **catcher vessel sector**. The first is the no action alternative, under which the rockfish fisheries would revert to LLP management. The second alternative would establish a cooperative program for the catcher vessel sector, under which eligible catcher vessels could participate in the fisheries only by joining a cooperative, which would receive an allocation of rockfish primary and secondary species, as well as providing a halibut PSC allowance, based on historical catches. The third alternative would divide harvest share allocations of rockfish primary and secondary species, and the halibut PSC allowance, between historical catcher vessel participants and historical processing participants, with allocations within each sector based upon relative historical participation within that sector. Under the fourth alternative, a harvester must join a cooperative in association with a processor. The harvester has full discretion in choosing a cooperative, both initially and annually thereafter, and may change cooperatives (and accompanying processor associations) without forfeiture of harvest quota.

At its June 2010 meeting, the Council adopted as its **entry level fishery preferred alternative**, the third alternative, which establishes an entry level fishery for the longline sector only. As its **catcher processor preferred alternative**, the Council adopted the second alternative, which establishes a cooperative structure for the rockfish fisheries. As its **catcher vessel preferred alternative**, the Council adopted the fourth alternative, which establishes a cooperative program with annual, severable processor associations. A description and analysis of these preferred alternatives (and the elements by which they are defined) is provided in section 2.5 below.

2.2.1 The no action alternative

Under the no action alternative, Central Gulf of Alaska (CGOA) rockfish fisheries would revert to LLP management, which was used prior to the implementation of the Pilot Program in 2007. The fisheries would open to longline participants on January 1, and the trawl gear season would open in early July. Directed fishing allocations would be set to accommodate incidental catch of the rockfish species in other fisheries during the remainder of the year. Harvests would be monitored in-season and each of the target rockfish fisheries would be closed when managers estimate that the directed fishing allowance for that fishery has been harvested. After closure of the directed fishery, Pacific ocean perch, northern rockfish, and pelagic shelf rockfish would be subject to maximum retainable amounts (MRAs) in other target fisheries, limiting the retention of these rockfish relative to target species. Trawl participants of both operation types would be subject to an aggregate limit on the amount of halibut PSC (all of which must be discarded as PSC) that can be caught in all deep-water fisheries. Incidental catch species would be managed with an MRA limiting their retention to a percentage of retained harvest of species open to directed fishing.

2.2.2 Program alternatives

The different program alternatives substantially overlap with one another. The summaries that follow reference each other to avoid repetition.

Entry level alternatives

Entry level alternative 2 - Entry level trawl/longline (non-trawl) fisheries (the Pilot Program structure)

Under this alternative, 5% of each of the rockfish primary species is set aside for the entry level fisheries. This set-aside is divided between the trawl and longline sectors, such that each receives an equal allocation of the aggregated TACs of rockfish primary species available to the entry level fisheries. Because of operational differences, the trawl sector would receive its portion of the aggregate TACs first from the entry level TAC of Pacific ocean perch. If the entry level Pacific ocean perch TAC is less than the aggregate rockfish allocation to the entry level trawl sector, the trawl sector would receive proportional shares of the entry level northern rockfish and pelagic shelf rockfish TACs, such that the aggregate entry level TAC is divided equally between the two gear types.

The entry level fisheries would be open exclusively to LLP license holders that are not eligible for the cooperative program. The entry level fisheries would be prosecuted as competitive limited access fisheries. The entry level longline fishery would open on January 1 each year. The entry level trawl fishery would be scheduled to open on May 1. Under one option, if halibut PSC allowances are unavailable on that date, the opening would be delayed until the next release of halibut PSC. Under a second option, if a sufficient halibut PSC allowance is not available at the time of the scheduled opening, the opening would occur and halibut usage would be deducted against the following quarter's halibut PSC allowance. Under an option, the entry level longline sector would be exempt from vessel monitoring system (VMS) requirements, while participating in the target rockfish fisheries. An option could require that all deliveries from the entry level longline fishery be made to a shore-based processor in the Kodiak Borough.

Since historical harvests suggest that the longline sector may be unable to fully harvest its groundfish allocation, trawl participants are permitted to harvest any residual longline allocation after September 1. This would be accomplished by allowing both sectors to fish off the combined remaining TACs beginning on September 1.

Vessels fishing the entry level longline allocation in federal waters must have an LLP license (unless exempt from LLP license requirements) and must have registered for the entry level fishery. Longline vessels that fish exclusively in parallel waters and do not have an LLP or a federal fisheries permit do not need to register for the program.

Entry level alternative 3 - Entry level longline (non-trawl) only fishery (preferred alternative)

Under this alternative, only the longline sector would receive an entry level allocation of the rockfish species.⁶ The starting entry level set-aside under this alternative would be between 1 metric ton and 10 metric tons of Pacific ocean perch, between 1 metric ton and 10 metric tons of northern rockfish, and between 10 metric tons and 30 metric tons of pelagic shelf rockfish. If the entry level longline participants harvest 90% or more of their allocation of a rockfish species in a year, the set-aside would be increased in the following year by the amount of the initial allocation of the species. Allocation increases would be capped at a maximum of between 1% and 5% of Pacific ocean perch TAC, between 2% and 5% of northern rockfish TAC, and between 2.5% and 5% of pelagic shelf rockfish TAC.

Prosecution of the entry level fishery will be supported by the general allowance of halibut PSC to the rockfish longline sector. Catch of all other species would be governed by existing rules, to control incidental groundfish catch (i.e., MRAs and bycatch status management). Any longline vessel exempt from CGOA LLP requirements or any holder of a CGOA longline LLP license may enter a longline vessel in the entry level fishery. In addition, catch of longline vessels fishing in parallel waters would be counted against the entry level TAC. The entry level fishery would be prosecuted as a competitive, limited access fishery, opening on January 1 each year. An option could require that all deliveries from the entry level longline fishery be made to a shore-based processor in the Kodiak Borough. Under an option, the entry level longline sector would be exempt from VMS requirements, while participating in the target rockfish fisheries.

Catcher processor sector alternatives

Catcher processor alternative 2 - Catcher processor cooperative only (preferred alternative)

Under the catcher processor cooperative only alternative, allocations would be made to the trawl catcher processor sector for rockfish primary species and certain secondary species based on the historical harvest of sector members. These allocations are divided among cooperatives, based on the individual catch histories of each cooperative member. A license holder's fishing history would be the history of the vessel that led to the license and the history of any vessel that fished using the license. Any license holder with a targeted catch of rockfish in the qualifying period would be eligible for the program.

Two set-asides of rockfish primary species would be made prior to the allocations to the sectors under the new program. The first of these set-asides would allocate a portion of the TAC for each rockfish primary species to entry level fisheries. The second set-aside would be an incidental catch allowance (ICA) to support incidental catch of the rockfish by participants in other directed fisheries. This set-aside will be based on the incidental catch needs of other fisheries, which are estimated using rockfish incidental catch

⁶ Vessels that fished in the entry level trawl fishery under the Pilot Program would not be permitted to fish in an entry level fishery. Instead, some of those vessels may qualify for allocations in the main Rockfish Program, depending on the qualifying option selected.

rates from those fisheries in recent years. After removal of the two set-asides, the remainder of the rockfish primary species TAC would be allocated to the catcher processor sector and the catcher vessel sector participating in the program. Three qualifying periods are under consideration, including periods of years between 1996 and 2006. Allocations of the rockfish primary species to each sector would be based on retained catch (excluding landings processed into meal) of qualified vessels in the sector, during the directed fishing season, using each vessel's catch history during the qualifying years. A vessel could drop different years for each species for determining the allocation to maximize the allocation attributable to that vessel. For catcher processors, Weekly Production Report data will be used to determine eligibility and calculate allocations.

The sector would also be allocated two rockfish secondary species—thornyhead rockfish and sablefish—based on catch of those species by the sector while targeting rockfish during the qualifying years. The allocations of these species would be a percentage of the TAC, based on the average annual percentage of retained catch of rockfish secondary species harvested by the sector in the CGOA rockfish fisheries relative to total retained catch of that secondary species by all gear types during the qualifying years. In addition, a provision would allocate the sector 58.87% of the CGOA rougheye rockfish TAC, which is the portion of the TAC harvested by the sector in the 1996 through 2002 qualifying period. These rockfish secondary species allocations would be subdivided in proportion to the CGOA rockfish history of participants in cooperatives and the limited access fishery.

Three options are under consideration for managing shortraker rockfish in the catcher processor sector. Two of these options would manage shortraker rockfish as an allocated rockfish secondary species, with allocations of either 30.03% or 50% of the species CGOA TAC. The third option would combine management of shortraker rockfish and rougheye rockfish, managing those species using an MRA of 2%. Pacific cod would be managed using a revised MRA of 4%. All other non-allocated species would be managed using the current MRA levels. All harvests of allocated species would be the basis for purposes of determining permitted MRA retention. Under options, MRAs would be enforced on either a trip-by-trip basis or instantaneously.

Two options are under consideration for halibut PSC mortality⁷ allowances in the program. Under the first, halibut PSC mortality would be apportioned to the sector under the program, based on halibut PSC mortality during the qualifying period. Under the second option, the apportionment of halibut mortality would be based 50% on halibut PSC “usage” in the qualifying period and 50% on halibut PSC “usage” in the first 3 years of the Pilot Program. The total apportionment to the program would be based on total mortality of both the catcher vessel and catcher processor sectors, combined, in the target rockfish fisheries during the qualifying period, calculated by dividing the estimated total halibut PSC mortality during that period, by the number of years in the period. This overall apportionment would be divided between the sectors, based on each sector's relative share of rockfish primary species history under the program (i.e., total qualified rockfish metric tons). To increase the incentive for halibut PSC reductions, between 10% and 100% of any cooperative's allowance of halibut PSC that has not been utilized by November 15 or after the declaration to terminate fishing, will be added to the last seasonal apportionment for trawl gear during the current fishing year.

To participate in the rockfish fisheries under this alternative, an eligible license holder must be a member of a cooperative. Cooperative agreements under this alternative would have a term of 1 year and must include a fishing plan for the harvest of the cooperative's allocation. Cooperatives are intended only to conduct and coordinate fishing of their members' allocations and are not intended to be formed under the

⁷ Halibut PSC “mortality rates” reflect the best estimate of the proportion of Pacific halibut taken incidentally in the CGOA rockfish fisheries that do not survive capture and release.

Fishermen's Collective Marketing Act. The cooperative agreement must have a monitoring program and may adopt fishing practice codes of conduct. Cooperative members would be jointly and severally liable for the harvest of the cooperative's allocation. The cooperative would be required to file its agreement with the National Marine Fisheries Service (NMFS) Restricted Access Management Division, to receive an annual allocation. Eligible catcher processors that do not file cooperative agreements with NMFS in a timely manner will be considered to have opted out of the program for that year, forgoing the opportunity to fish CGOA rockfish. Catch history of vessels that opt out of the program would be reallocated within the catcher processor sector, based on histories of participants that elect to remain in the rockfish fisheries.

An LLP license holder that is eligible for the program would be permitted to transfer the license. The transfer would include any privilege to participate in the program that is associated with or arises from holding the license. The interest in the program that is derived from the license would not be severable from the license, or divisible. In addition, cooperatives that meet a minimum two LLP license threshold would be permitted to engage in the transfer of annual allocations. Catcher processors could also transfer annual allocations to catcher vessel cooperatives, but could not acquire annual allocations from catcher vessel cooperatives. Any transfers of annual allocations would be temporary transfers of a single year's allocation, with the history reverting to the LLP license from which it came.

An option could be selected, under which no person would be permitted to hold or use in excess of 20%, 30%, or 40% of the catcher processor quota pool. This cap would be applied to limit the amount of shares that an individual could 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. In addition, no catcher processor could harvest in excess of 60% of the catcher processor pool.⁸ Persons or vessels with catch history in excess of these limits could be grandfathered at their historical levels, if the Council recommends and the Secretary of Commerce approves such a provision.

The rockfish season for cooperatives would open on May 1, and extend until November 15. All catch of allocated species must be retained and fishing must be stopped by all cooperative members when any allocation is fully harvested or PSC allowance is fully utilized.

Included in the program are options to establish sideboards. Sideboards limit encroachment of participants in the Rockfish Program into other fisheries. Since the CGOA rockfish fisheries are prosecuted in July, sideboards are generally intended to limit program participants to their historical harvests in other fisheries during July. Generally, in GOA fisheries that are historically constrained by TAC, eligible participants from each sector would be limited to their historical catch, in the aggregate.

An option for consideration is the removal of sideboard limits for West Yakutat and Western Gulf of Alaska (WGOA) rockfish primary species (Pacific ocean perch, northern rockfish, and pelagic shelf rockfish) given that much of this same catcher processor fleet is already limited by sideboards from Amendment 80.

Sideboards for GOA fisheries that are historically constrained by halibut PSC would limit eligible participants in each sector to their historical halibut PSC mortality allowance in the month of July, in the aggregate. Since halibut in the GOA is managed Gulf-wide for the deep-water complex and the shallow-water complex, two options would establish separate halibut PSC sideboards (one for the deep-water

⁸ History transferred to catcher vessel cooperatives would remain subject to the catcher processor caps and would not be subject to catcher vessel or shoreside processor caps.

complex and the other for the shallow-water complex).⁹ These July halibut sideboards would be administered by ending fishing in “halibut limited” fisheries in a complex by sector members eligible for the Rockfish Program, when the sector’s halibut PSC limit is reached in that complex. An option would remove the July halibut PSC sideboards given that much of this catcher processor fleet is also limited by Amendment 80 sideboards. The Council has also included an option for consideration that would limit all catcher processors to the deep-water complex fisheries halibut PSC allowance for the month of July.

Additionally, each catcher processor cooperative participant would be required to abide by a stand-down in all the GOA non-pollock groundfish fisheries. The stand-down would start on the July opening of the rockfish fisheries and end on the earlier of 2 weeks or on the harvest of 90% of the participant’s cooperative allocation, if the harvest of the allocation began on the traditional July opening. The 2-week stand-down would allow participants to begin at a time other than early July, provided they abide by that 2-week stand-down. In lieu of the stand-down in the GOA groundfish fisheries (other than the CGOA rockfish fisheries), a cooperative may (subject to NMFS approval) manage a sideboard of its catch in the GOA groundfish fisheries. Under this approach, a cooperative would be limited in the aggregate to the historical catch of rockfish primary species, if target catch constrains the fishery.

Eligible catcher processors that do not join a cooperative (i.e., choose to opt out of the program for a year) would be subject to a 2-week stand-down in any of the GOA fisheries in which they have less than 2 years of participation during the first week of July in the qualifying years.

Options are included that would remove these stand-downs for all of the sideboarded vessels, as most vessels in the rockfish fisheries are already subject to sideboards under Amendment 80.

The duration of all Rockfish Program permits are 10 years. These permits shall be renewed before their expiration, unless the permit has been revoked, limited, or modified. An option could be adopted to limit the duration of the Rockfish Program to 10 years after implementation.

The program will also include a cost recovery program to cover the costs of administering the program. The fee, not to exceed 3% of the ex-vessel value, will be charged on all landings.

A program review would be conducted 5 years after implementation. Additional reviews will be conducted every 7 years, thereafter. This review would assess the progress of the program in achieving the goals identified in the purpose and need statement and the Magnuson-Stevens Fishery Conservation and Management Act (MSA).

Catcher processor alternative 3 – Cooperative or limited access (the Pilot Program structure)

This alternative is largely the same as the catcher processor cooperative only alternative, except that catcher processors that choose not to join a cooperative are permitted to fish in a limited access fishery (or opt out of the rockfish fisheries for the season). Eligible catcher processors wishing to fish in the limited access fishery would need to apply for that fishery in a timely manner. The allocation of rockfish primary species, and apportionment of a halibut PSC allowance to the limited access fishery, would be based on the rockfish histories of LLP licenses registered for participation in the fishery. Under an option, the limited access fishery would be supported (and limited by) the third season trawl deep-water halibut PSC

⁹ The deep-water complex includes sablefish, rockfish, deep-water flatfish, rex sole, and arrowtooth flounder. The shallow-water complex includes flathead sole, shallow-water flatfish, pollock, and Pacific cod.

allotment that is generally available to all trawl vessels. The allocations that would have been made based on the histories of LLP licenses that are not registered to fish (either in a cooperative or the limited access), would be allocated to cooperatives and the limited access fishery based on the histories of participants in those fisheries.

As under the Pilot Program structure, the limited access portion of the catcher processor CGOA rockfish fisheries would open in the beginning of July, and would close when managers estimate that its participants have fully harvested the rockfish primary species allocations in that fishery. All groundfish species, except for the rockfish primary species, would be managed with MRAs. MRAs would be enforced on a trip-by-trip basis or, alternatively, on an instantaneous basis. The rockfish secondary species would be managed under the following reduced MRAs, intended to maintain sector catch levels below the sector's allocated amount:

- Pacific cod – 4%
- Sablefish – 3%
- Shortraker/roughey rockfish – 2%
- Thornyhead rockfish – 4%

Since the limited access fishery changes may allow opportunities for participants to expand into other fisheries, sideboard measures could be applied under this alternative. Participants that choose to fish in the limited access fishery and who account for less than 5% of the allocated catcher processor history of Pacific ocean perch, would be subject to no sideboard or stand-down, beyond the aggregate sector sideboards. Limited access fishery participants that account for 5% or more of the sector's Pacific ocean perch would be required to stand down in the GOA, until 90% of the limited access Pacific ocean perch is harvested.

The sideboards for those that join a cooperative or opt out of the rockfish fisheries under this alternative are the same as those described under the allocation of the catcher processor cooperative only structure.

Rules limiting use and holdings of shares by individuals and cooperatives, share duration and renewal provisions, program review, and cost recovery are the same as under the preceding alternative.

Catcher vessel sector alternatives

Catcher vessel alternative 2 - Harvester only cooperative

This catcher vessel alternative establishes a cooperative program for sector members. The distinguishing characteristic of the alternative is that historical processors receive no direct protection of their interests.

Under this alternative, the catcher vessel sector would receive a sector allocation of rockfish primary and secondary species (except shortraker rockfish and roughey rockfish), and halibut PSC allowance, based on catcher vessel histories, using the same methodology as described under the catcher processor alternatives. The catcher vessel sector, however, would also receive an allocation of Pacific cod, based on the average annual percentage of total CGOA retained catch of Pacific cod taken by the sector during the CGOA rockfish fisheries. The catcher vessel sector would fish shortraker rockfish and roughey rockfish under an MRA of 2%. If the sector's harvest of shortraker rockfish reaches 9.72% of the CGOA TAC, it would go on PSC status for the sector, under which any retention is prohibited. Cooperative allocations of rockfish primary and secondary species (except shortraker rockfish and roughey rockfish), and halibut PSC allowance would be based on the collective rockfish primary species histories of members, during

the qualifying years, based on the method described under the catcher processor alternatives. All or a portion of any allowance of halibut PSC that has not been utilized by November 15 or after declaration to stop fishing by a cooperative will be added to the last seasonal apportionment for trawl gear during the current fishing year, as described under the catcher processor alternatives. Under an option, Pacific cod and sablefish could be managed under a modified MRA that has yet to be defined.

Holders of permanent catcher vessel trawl LLP licenses with directed catch of rockfish primary species in the qualifying years would be eligible for the cooperative program. Allocations of rockfish primary species to these licenses would be based on their catches during the qualifying period. In addition, under an option, a permanent license assigned to a vessel that previously used an interim license for targeted rockfish catch in the qualifying period would qualify for the program, provided the permanent license was assigned to the vessel prior to December 31, 2003, and has been continuously assigned to that vessel through final action. The allocation to these licenses would be the catch of the vessel using the interim license and later assigned permanent license. Three qualifying periods are under consideration, including periods of years between 1996 and 2006. Qualifying years may differ from the catcher processor sector qualifying years. Qualified catch is based on fish tickets and includes all landings (excluding meal) of rockfish primary species during the directed fisheries.

An option could also be applied to include in the cooperative program otherwise ineligible LLP licenses that participated in the Pilot Program entry level fishery. Eligibility would be extended to LLP licenses that were registered for the entry level fishery in either (1) 2007, 2008, or 2009; or (2) in two of the three seasons from 2007 to 2009, inclusive. To qualify, a license would also be required to have been used for at least one landing from the entry level fishery in one of those years. Options defining the allocations to these catcher vessel LLP licenses would be based on (1) the average allocation of the lowest one-third or one-quarter of catcher vessel LLP licenses that participated in the Pilot Program in either 2007 or 2008; (2) the actual catch history of the vessel in 2007, 2008, or 2009; or (3) the average allocation of all qualified catcher vessel LLP licenses. Alternatively, the allocation to these eligible entry level licenses could be set at between 1.5% and 5% of the total allocation in the program. The allocation would then be divided between the eligible licenses, either equally or in proportion to the number of years in which the licenses were used in the rockfish fisheries to make a delivery to an entry level processor from 2007 to 2009, inclusive. An option would allow licenses eligible for the program to opt out of the program (which would exempt the license from sideboard limitations).

To participate in these fisheries, an eligible license holder must be a member of a cooperative.¹⁰ Eligible LLP license holders that do not file cooperative agreements with NMFS in a timely manner would not be permitted to fish CGOA rockfish. Histories of LLP licenses not participating would be reallocated within the catcher vessel sector, based on histories of participants that elect to remain in the rockfish fisheries.

A cooperative would be required to file its agreement with NMFS to receive an annual allocation. Cooperative agreements would have a term of 1 year, and must include a fishing plan for the harvest of the cooperative's allocation. Cooperatives are intended only to conduct and coordinate fishing of their members' allocations and are not intended to be formed under the Fishermen's Collective Marketing Act. The cooperative's members would be jointly and severally liable for the harvest of the cooperative's allocation. A cooperative could include fishing practice codes of conduct in its membership agreement. Processor affiliated license holders would be permitted to join cooperatives, but would not be permitted to

¹⁰ The option for a limited access fishery is excluded, as that option appears unnecessary in a fishery with flexible cooperative formation. In addition, a provision that requires a cooperative to accept membership of any LLP license holder eligible for the cooperative subject to the same terms and conditions as governing other members seems unnecessary given the level of flexibility in cooperative formation.

engage in price negotiations, except as permitted by antitrust laws. Cooperatives would be permitted to engage in the transfer of annual allocations. Catcher vessel cooperatives would be permitted to acquire annual allocations from catcher processor cooperatives, but could not transfer annual allocations to catcher processor cooperatives. Any transfers would be temporary, for a single year's annual allocation, with the history remaining with the LLP license of origin. Future annual allocations would be based on the cooperative membership of the LLP holder.

To protect community interests, an option could be adopted to require all landings to be made to a shore-based processor in the City of Kodiak.

A vessel use cap would limit any catcher vessel from catching more than 4% to 10% of the target allocations to the sector. An option could be selected to grandfather vessels that historically exceeded that limit. No catcher vessel cooperative would be permitted to hold or use in excess of 30% of the catcher vessel sector's allocation, while no person would be permitted to hold or use in excess of between 3% and 5% of the catcher vessel sector's allocation. This cap would be applied to limit the amount of shares that a person could 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. Persons receiving an allocation in excess of the cap would be grandfathered at the level of the allocation.¹¹

Processing caps could be adopted to prohibit any processor from processing in excess of between 10% and 33% of the rockfish primary species allocated to the catcher vessel sector and in excess of between 10% and 33% of the sablefish allocated to the catcher vessel sector. An option could be selected to grandfather any processor that historically processed in excess of the processing cap.

Sideboards would limit the participation of eligible catcher vessels in other fisheries. As would be applied to catcher processors, a general sideboard would limit catcher vessel participants, in the aggregate, to their historic harvests in other fisheries in the month of July, the month during which the rockfish fisheries have been prosecuted, historically. To accomplish this end, in GOA fisheries that are historically constrained by TAC, eligible participants from each sector would be limited to their historical catch in the month of July, in the aggregate. Alternatively, an option would prohibit catcher vessels from directed fishing for West Yakutat and WGOA rockfish primary species.

Sideboards for GOA fisheries that are historically constrained by halibut PSC would limit eligible participants in each sector to their historical halibut mortality in the month of July, in the aggregate. The sideboards would establish two separate halibut PSC limits (one for the deep-water complex and the other for the shallow-water complex).¹² Alternatively, an option would limit all catcher vessels to the shallow-water complex fishery's halibut PSC allowance (except for rockfish target fisheries in West Yakutat, and WGOA) for the month of July.

A set of options are included in the alternative that would either (a) prohibit or (b) allow qualified catcher vessels entry to the Bering Sea and Aleutian Islands (BSAI) directed fisheries for yellowfin sole, "other" flatfish, or Pacific ocean perch in the month of July. In addition, two options are also included in the alternative that would limit qualified catcher vessels in the month of July to their historical average total catch in the BSAI Pacific cod fishery, in the aggregate. Alternatively, they would be permitted to participate, unrestricted, during the month of July. Catcher vessel participants in the American Fisheries

¹¹ "Grandfathered-status" holdings would be revoked on transfer of the allocation to a new holder, unless that new holder complies with the cap.

¹² The deep-water complex includes sablefish, rockfish, deep-water flatfish, rex sole, and arrowtooth flounder. The shallow-water complex includes flathead sole, shallow-water flatfish, pollock, and Pacific cod.

Act (AFA) that are not exempt from GOA sideboards under the AFA would be exempt from any sideboards under this program.

Program review, cost recovery, and share and program duration options are as described for the catcher processor sector. Two options could be used to define observer coverage requirements at shore plants. Under the first, an observer would be required to be on duty whenever program deliveries are made, with no observer allowed to work more than 12 hours per day. Under the second option, observer coverage requirements would be the same as required for shoreside processors in other groundfish fisheries.¹³ In addition, fishing days and observer coverage under the Rockfish Program will be separate from, and will not count towards meeting, a vessel's overall groundfish observer coverage requirement.

Catcher vessel alternative 3 – Allocation of harvest shares to processors

This catcher vessel alternative establishes a cooperative program for sector members. The distinguishing characteristic of the alternative is an allocation of harvest shares to historical and dependent processors in the fisheries, intended to protect the interests of those processors.

Under this alternative, the catcher vessel sector allocations of rockfish primary and secondary species, and halibut PSC allowances, would be the same as described under the previous catcher vessel alternative. In addition, rules governing unallocated species (including options to establish MRAs for some secondary species) would apply to this alternative. Allocations of rockfish primary species under this alternative would be divided between eligible license holders (i.e., harvesters) and eligible processors, with processors receiving 10%, 20%, or 30% of the sector's pool, depending on the option selected for making that allocation.

Allocations of the harvester portion of the sector's pool would be made under the rules described in the previous alternative. Options for including persons who fished with interim licenses and persons who participated in the entry level fishery could be applied.

To make the processor allocations, the fixed percentage of the harvest share pool (i.e., exclusive harvest share allocations) would be allocated among eligible processing sector participants, based on processing in the fisheries during a specified time period (based either on relative total processing history or average annual processing history). Annual allocations for processors will be subject to the same allocation and harvest rules governing catcher vessel allocations. Included in the allocation would be rockfish primary species and secondary species, as well as halibut PSC allowances, with the latter two based on aggregate allocations of rockfish primary species. If a share holder fails to apply for an annual allocation, that allocation will be redistributed on a pro rata basis to all share holders in the sector (including holders of shares initially allocated to harvesters and holders of shares initially allocated to processors).

An option could be adopted to specifically qualify processors that participated in the entry level fishery under the Pilot Program. Two options could be used for defining specific allocations to entry level processors. Under the first, an entry level processor's allocation would be based on its processing during the entry level qualifying period, relative to all other qualified processors' histories (including other entry level processors). Under the second option, entry level processors collectively would receive the same share of the processor pool of harvest shares as is allocated to entry level harvesters under the harvest

¹³ Shoreside and floating processors that process in excess of 1,000 metric tons of groundfish in a calendar month are required to maintain 100 percent coverage to observe landings. Shoreside and floating processors that process less than 1,000 metric tons and more than 500 metric tons of groundfish in a calendar month are required to maintain 30 percent observer coverage (50 CFR 679.50).

sector allocation rules. This portion of the processor harvest share pool would be divided among eligible entry level processors, based on their histories during the entry level processing qualifying period.

To participate in the fisheries, an eligible license holder or holder of shares originally issued to a processor must be a member of a cooperative. Eligible LLP license holders and share holders that do not file cooperative agreements with NMFS in a timely manner would not be permitted to fish CGOA rockfish. Allocations of LLP licenses and share holders not participating would be reallocated within the catcher vessel sector, based on share holdings of participants in the rockfish fisheries. Cooperative rules, including rules governing transfers and participation of affiliates of processors, would be the same as those described in the previous alternative. To protect community interests, the Council has included for consideration an option that would require all deliveries to be made to shore-based processors in the City of Kodiak.

Harvest shares allocated to processors would count toward, and be subject to, the same holding and use cap applicable to other harvest shares. In addition, no person could hold or use in excess of 20% to 25% of the harvest shares allocated to processors. An option to grandfather initial recipients is included in this alternative.

Shares initially allocated to processors would be divisible. There are currently three options for who may receive these shares by transfer. The first option would allow these shares to be transferred to processors, at the plant level, who were initially issued these harvest shares. The second option would allow these shares to be transferred to processors who have processed at least 100 metric tons to 250 metric tons of rockfish delivered by catcher vessels within any 2-year period during the Rockfish Program. Included in this option are two suboptions that would further narrow processor eligibility to either shore-based processors in the City of Kodiak or shore-based processing facilities. Finally, the third option would allow these harvest shares to be transferred to a holder of a Rockfish Program qualified catcher vessel LLP.

Rules limiting use and holdings of shares by vessels, individuals, and cooperatives; processing caps; sideboard limitations; share duration and renewal provisions; program review; and cost recovery are the same as under the preceding alternative.

Catcher vessel alternative 4 - Severable harvester/processor association – no forfeiture (preferred alternative)

As under the other catcher vessel alternatives, eligible catcher vessel licenses will receive allocations based on qualified harvest histories. To access the allocation, a license holder must join a cooperative in association with a processor based in the City of Kodiak. The harvester has full discretion in choosing a cooperative, both initially and annually thereafter, and may change cooperatives (and accompanying processor associations) annually, without forfeiture. An option could be applied that would require a cooperative to accept any eligible license holder as a member, subject to the same terms and conditions applicable to other members.¹⁴ As with the preceding alternatives, no explicit processor delivery requirement would be established by the program; a requirement that all deliveries be made to shore-based plants in the City of Kodiak is being considered; and no limit on processor entry would be included in the program.

¹⁴ The Council should note that, at this time, staff has included this option only in this alternative. This alternative is the only one that imposes any limitation on cooperative formation choices for catcher vessels, which is, arguably, the rationale for the inclusion of this provision (see sections 9.4 and 11 of the following elements and options).

Under this alternative, the catcher vessel sector would receive allocations of CGOA rockfish primary and secondary species, and halibut PSC allowances, using the same methodology as described under the harvester only cooperative alternative, with no allocation to Pilot Program entry level participants. Eligibility for the program and long term and annual allocations of these species would be made to sector members and cooperatives, respectively, as described under the harvester only cooperative alternative.

Rules limiting use and holdings of shares by vessels, individuals, and cooperatives; shore-based processing limitations; sideboard limitations; share duration and renewal provisions; program review; and cost recovery are the same as under the preceding alternative.

Elements and options defining the program alternatives

The Council has identified the following elements and options to define its alternatives:

Entry-Level Fishery Alternatives (EL)

1. No action (revert back to LLP management)
2. Trawl/longline fisheries (the Pilot Program structure)
3. Longline only fishery

Catcher Processor Alternatives (CP)

1. No action (revert back to LLP management)
2. Catcher processor cooperative only
3. Cooperative or limited access (the Pilot Program structure)

Catcher Vessel Alternatives (CV)

1. No action (revert back to LLP management)
2. Harvester only cooperative
3. Harvester cooperatives with allocation of harvest shares to processors
4. Severable harvester/processor association – no forfeiture

The above alternatives are defined by the following elements and options.

1 ICA Set-Aside

Prior to allocation of catch history to the sectors, NMFS shall set aside an Incidental Catch Allocation (ICA) of Pacific ocean perch, northern rockfish, and pelagic shelf rockfish to meet the incidental catch needs of fisheries not included in the cooperative program. (EL – all)

2 Entry-level Set-Aside (EL – all)

A percentage of CGOA Pacific ocean perch, northern rockfish, and pelagic shelf rockfish for catcher vessels not eligible to participate in the program.

2.1 Trawl and longline (non-trawl) entry level fisheries (EL – 2)

The annual set-aside will be 5% of each of these rockfish primary species.

Set-asides shall be apportioned at 50% for trawl gear and 50% for longline gear.

The trawl sector's allocation by weight (based on the aggregate TAC for Pacific ocean perch, northern rockfish, and pelagic shelf rockfish) shall first be Pacific ocean perch.

Unharvested allocations to either sector shall be available to both sectors at the end of the third quarter.

The entry level fishery will be managed as a limited access fishery.

Start dates for the entry level fishery should be January 1, for longline gear, and approximately May 1, for trawl gear.

2.1.2 Halibut PSC Limit Allowances

Prosecution of the entry level fishery will be supported by general allowance of halibut PSC to the gear type and the general allocations of rockfish secondary species.

Trawl halibut PSC options

Option 1: If sufficient halibut PSC is not available at the start of the trawl gear fishery (May 1), the start date will be on the next release of halibut PSC.

Option 2: If sufficient halibut PSC is not available at the start of the trawl gear fishery (May 1), halibut PSC usage will be deducted against the following quarter's halibut PSC allowance.

Vessels that can participate in the entry level fishery are those vessels that did not qualify for the CGOA rockfish cooperative program. Before the beginning of each fishing year, an application must be filed with NMFS by the interested vessel that includes a statement from a processor, confirming an available market.

Option: Entry level longline sector targeting rockfish is exempt from VMS requirements (Pacific cod VMS requirements continue to apply).

2.2 Longline (non-trawl) only entry level fishery (EL-3)

The annual set-aside will be:

1 mt – 10 mt of the Pacific ocean perch TAC

1 mt – 10 mt of the northern rockfish TAC

10 mt – 30 mt of the pelagic shelf rockfish TAC.

If the entry-level fishery has retained harvests of 90% or more of their allocation of a rockfish species, the set-aside would increase by the amount of the initial allocation, the following year:

1 mt – 10 mt Pacific ocean perch

1 mt – 10 mt northern rockfish

10 mt – 30 mt pelagic shelf rockfish

This increase would be capped at a maximum of:

Pacific ocean perch

a. 1%

b. 3%

c. 5%

Northern Rockfish

a. 2%

b. 3%

c. 5%

Pelagic Shelf Rockfish

a. 2.5%

b. 3%

c. 5%

The entry level fishery will be managed as a limited access fishery.

Start date for the entry level fishery should be January 1.

Prosecution of the entry level fishery will be supported by the general allowance of halibut PSC to the gear type and the general allocations of rockfish secondary species.

Any longline vessel or gear type exempt from CGOA LLP requirements or any holder of a CGOA longline LLP license may enter a vessel in the entry level fishery.

Option: Entry level longline sector targeting rockfish is exempt from VMS requirements (Pacific cod VMS requirements continue to apply).

3 Program eligibility (CP – all and CV – all)

The eligibility for entry into the cooperative program is one targeted landing of Pacific ocean perch, northern rockfish, or pelagic shelf rockfish caught in the CGOA during the qualifying period, using a CGOA trawl LLP license.

Option: In addition, the following participants would be eligible to enter the program:

Those persons whose vessel had one targeted landing of Pacific ocean perch, northern rockfish, or pelagic shelf rockfish caught in the CGOA during the qualifying period, with interim trawl CGOA license that was later determined to be an invalid trawl CGOA endorsement, but who acquired a valid CGOA trawl license prior to December 31, 2003. Such endorsement must have been continuously assigned to the vessel with the target landing since acquired, until the date of final Council action.

4 Qualified catch (CP – all and CV – all)

- 4.1 Basis for the allocation to the LLP license holder is the catch history of the vessel on which the LLP license is based, and shall be determined 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 allocation of harvest shares to the LLP shall be based on the aggregate catch histories of (1) the vessel on which the 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.)

Option: For licenses qualified based on catch of a vessel using an interim license, the basis for the allocation will be the catch history of such vessel, notwithstanding the invalidity of the interim CGOA trawl LLP endorsement under which the vessel operated during the qualifying period. History allocated under this provision shall be assigned to the LLP license.

- 4.2 Catch history will be the history during the following qualifying period (dates inclusive):

- 1) 1996–2002 (drop 2 years)
- 2) 1998–2006 (drop 2 or 4 years)
- 3) 2000–2006 (drop 2 years)
- 4)

- 4.3 Qualified rockfish primary species history is allocated based on retained catch (excluding meal) during the rockfish target fisheries. Different years may be used (or dropped) for determining the history of each of the three rockfish primary species.

The CP catch history will be based on Weekly Production Report data.

CV catch history will be based on fish tickets.

Note: Only legal landings will be considered in determining catch history.

- 4.4 Entry level trawl qualification/allocation for the main program:

- 1) Vessels / LLP licenses that do not qualify for cooperative quota for the CGOA rockfish cooperative program.
- 2) The trawl LLP license holder must have registered for the entry level fishery in 2007, 2008, and 2009.

Option: The trawl LLP license holder must have registered for the entry level fishery in 2 of 3 years, 2007, 2008, 2009.

- 3) The trawl LLP license holder must have made a landing of fish in the entry level fishery with trawl gear in 2007, 2008, or 2009.

Option: A vessel that qualifies for the entry level allocation under this section may elect to opt out of the Rockfish Program.

- 4.5 The qualified entry level trawl LLP license holder would receive an allocation of quota share (QS) for the rockfish primary species equivalent to the:

- 1) Average of the lowest one-quarter to one-third of the qualified CV LLP license holders that actively fished in the Pilot Program in either 2007 or 2008.
- 2) Actual catch history of the vessel/LLP in 2007 or 2008 or 2009 (information would be withheld, due to confidentiality restrictions, unless the vessel(s) agrees to have the data released to the public).
- 3) Average of all qualified CV LLPs.

Option: The qualified entry level trawl LLP license holders, in aggregate, would receive an allocation of QS for the rockfish primary species in an amount between 1.5% and 5% (the set-aside for the entry level trawl fishery and full entry level fishery under the Pilot Program), to be determined by the Council. Within that allocation, each of the qualified entry level LLP license holders would receive:

- a) an allocation of QS for the rockfish primary species in proportion to the number of years they made a delivery to an entry level processor from 2007 to 2009; or
- b) an equal allocation.

Note: secondary allocations and halibut PSC allowances are calculated the same as the other qualified LLP licenses.

Allocations of QS for qualified entry level trawl LLP license holders would be established as a set-aside, prior to allocations to the other CV sector licenses or CP sector.

5 Sector definitions (CP – all and CV – all)

Trawl catcher vessel – A trawl catcher vessel that has a CV or CP LLP license, but does not process its catch on board.

Trawl catcher processor – A trawl catcher-processor is a trawl vessel that has a CP LLP license and that processes its catch on board.

6 Rationalized areas (CP – all and CV – all)

History is allocated for the CGOA only (NMFS statistical areas 620 and 630).

7 Sector allocations (CP – all and CV – all)

7.1 Rockfish primary species

Catch history is determined by the sector's qualified catch in pounds as a proportion of the total qualified catch in pounds.

Sector allocations of rockfish primary species are based on individual qualified vessel histories applying any applicable drop year provision at the vessel level.

Full retention of the rockfish primary species is required

7.2 Rockfish secondary species

Rockfish secondary species history is allocated based on retained catch of the species while targeting rockfish, over retained catch in all fisheries.

- 7.2.1 Except as provided below, history will be allocated to each sector for the following rockfish secondary species:

sablefish,
shortraker rockfish,
rougheye rockfish,
thornyhead rockfish, and
Pacific cod.

7.2.3 Except as otherwise provided below, rockfish secondary species allocations will be based on: The sector's average annual percentage of retained catch of the secondary species by the rockfish target fisheries during the qualifying period. For each qualifying year calculate the sector's retained catch of the species in the target rockfish fisheries divided by the retained catch of all CGOA fisheries. Sum these percentages and divided by the number of qualifying years. The calculated average annual percentage is multiplied by the rockfish secondary species TAC for that fishery year and allocated to each sector in the cooperative program.

7.2.4 Exceptions:

Shortraker rockfish and rougheye rockfish

For shortraker rockfish and rougheye rockfish:

For the CP sector:

A shortraker rockfish allocation of the TAC will be:

Option 1a: 30.03%

Option 1b: 50%

To be managed as a hard cap, and a rougheye rockfish allocation of 58.87% of the TAC, to be managed as a hard cap.

Option 2: shortraker rockfish and rougheye rockfish will be managed with a combined MRA of 2%.

For the CV sector, shortraker rockfish and rougheye rockfish will be managed with a combined MRA of 2%. If harvest of shortraker rockfish by the CV sector reaches 9.72% of the shortraker rockfish TAC, then shortraker rockfish will go on PSC status for that sector.

Sablefish and Pacific cod

For the catcher processor sector, Pacific cod history will be managed by MRA of 4%.

Option 1: No directed fishing for rockfish secondary species Pacific cod and sablefish

Option 2: Manage Pacific cod and sablefish under a modified MRA.

Rockfish secondary species allocations may be fished independently of the primary species allocations.

Option: No directed fishing for rockfish secondary species Pacific cod and sablefish.

Full retention of all allocated species is required.

Participants must retain all allocated rockfish secondary species and stop fishing when cap is reached.

Option 1: MRAs in the CP sector will be enforced on a trip-by-trip basis.

Option 2: MRAs in the CP sector will be enforced on an instantaneous basis.

7.3 Prohibited species (halibut mortality)

Option 1: Allowance to the rockfish cooperative program will be based on historical average PSC usage, calculated by dividing the total number of metric tons of halibut PSC mortality in the CGOA rockfish target fisheries during the qualifying years, by the number of years.

Option 2: Allowance to the rockfish cooperative program will be based on the historical average PSC usage, calculated as:

- 1) 50% of the total number of metric tons of halibut PSC mortality in the CGOA rockfish target fisheries during the qualifying years, divided by the number of qualifying years; plus

- 2) 50% of the total number of metric tons of halibut PSC mortality in the first 3 years of the rockfish Pilot Program, divided by three (i.e., the number of years).

The halibut PSC allowance will be divided between sectors based on the relative amount of rockfish primary species allocated to each sector (e.g., the sector's share of total qualified catch).

Option for supplementing the last seasonal halibut apportionment for trawl gear

10%, 25%, 50%, 75%, or 100% of any allowance of halibut PSC that has not been utilized by November 15 or after the declaration to terminate fishing will be added to the last seasonal apportionment for trawl gear, during the current fishing year. The remaining portion of any allowance will remain unavailable for use.

8 Allocation from sector to vessel (CP – all and CV – all)

Within each sector, history will be assigned to LLP holders with CGOA endorsement that qualify for a sector under the "sector allocations" above. The allocations will be to the current owner of the LLP of the vessel which earned the history.

Rockfish primary species

Each LLP holder will receive an allocation of catch history equivalent to the license's proportion of the total of the sector qualifying catch history.

Rockfish secondary species

Each LLP holder will receive an allocation of allocated rockfish secondary species equal to the license's proportion of the sector's rockfish primary species catch history.

PSC (halibut mortality)

Each LLP holder will receive an allowance of halibut mortality equivalent to the license's proportion of the sector's rockfish primary species catch history.

Allocations and allowances are revocable privileges

The allocations under this program:

- 1) may be revoked, limited, or modified at any time;
- 2) shall not confer any right of compensation to the holder, if it is revoked, limited, or modified; and
- 3) shall not create or be construed to create any right, title, or interest in or to any fish before the fish is harvested by the holder.

Halibut PSC in the CP sector shall be divided between the cooperative(s) and limited access fisheries according to the history of the participating vessels.

Domestic processing

All fish harvested with an allocation from this program must undergo primary processing in the United States.

Regionalization – Apply to catcher vessel sector only:

All CV cooperative quota must be landed in the City of Kodiak at a shore-based processing facility.

Option: Entry-level longline landings must be landed at a shore-based processing facility in the Kodiak Island Borough.

9 Catcher vessel/shore-based processor provisions (CV – all)

9.1 Processor eligibility (CV-3)

An eligible processor is a processing facility that has purchased:

Option 1 - 250 mt of aggregate Pacific ocean perch, northern rockfish, and pelagic shelf rockfish harvest per year, for 4 years, from 1996 to 2000 (inclusive).

Option 2 - 250 mt of aggregate Pacific ocean perch, northern rockfish, and pelagic shelf rockfish per year, for 4 years, from 2000 to 2006 (inclusive).

Suboption: (entry level fishery processor): 250 mt of aggregate Pacific ocean perch, northern rockfish, and pelagic shelf rockfish for 2 years from 2007 to 2009 (inclusive).

Processor qualifying years

Each eligible shore-based processor is allocated processor catch history based on individual processor histories of CGOA rockfish primary species for the years (inclusive) (Option: based on individual annual average processing history):

Option 1 - 1996 through 2000 (drop 1 year)

Option 2 - 2000 through 2006 (drop 2 year)

Suboption 1: (entry level processors): 2007 through 2009 (drop 1 year)

Suboption 2: (entry level processors) Eligible entry level processors will be allocated rockfish primary and secondary species, and halibut PSC allowance from the processor pool of harvest shares that are derived from those trawl LLP licenses that received allocations/allowances based on participation in the entry level trawl fishery into the main program.

9.2 Option A - Harvester only cooperative (CV-2)

Allocation of the rockfish primary and secondary species, and halibut PSC allowance to the CV sector shall be to harvesters (i.e., 100/0).

A holder of catcher vessel harvest history must join a cooperative to coordinate the harvest of allocations. (Cooperatives are subject to general cooperative rules below.) Membership agreements will specify that processor affiliated cooperative members cannot participate in price setting negotiations, except as permitted by general antitrust law.

Cooperatives are intended only to conduct and coordinate harvest activities of the members and are not Fishermen's Collective Marketing Act (FCMA) cooperatives.

Cooperatives may engage in inter-cooperative transfers of annual allocations with other cooperatives.

Membership agreements will specify that processor affiliated cooperative members cannot participate in price setting negotiations, except as permitted by general antitrust law.

9.3 Option B - Harvester cooperatives with processor allocation of harvest shares (CV – 3)

Allocation of the rockfish primary and secondary species, and halibut PSC allowances, to the CV sector shall be apportioned between harvesters (CV only) and shore-based processors:

Option 1: 90/10

Option 2: 80/20

Option 3: 70/30

Eligible processors will be allocated rockfish primary and secondary species, and halibut PSC allowances, from the processor pool of harvest shares in proportion to its qualifying processing history. Annual allocations will be of the same species and subject to the same allocation and harvest rules governing catcher vessel allocations.

A holder of catcher vessel harvest history or processor histories may join a cooperative to coordinate the harvest of allocations. (Cooperatives are subject to general cooperative rules below.) Membership agreements will specify that processor affiliated cooperative members cannot participate in price setting negotiations, except as permitted by general antitrust law.

Cooperatives are intended only to conduct and coordinate harvest activities of the members and are not FCMA cooperatives.

Cooperatives may engage in inter-cooperative transfers of annual allocations with other cooperatives.

Membership agreements will specify that processor affiliated cooperative members cannot participate in price setting negotiations, except as permitted by general antitrust law.

9.4 Option C - Harvester cooperatives with severable processor associations and no forfeiture (CV-4)

Harvesters must join a cooperative to participate in the target rockfish fisheries.

The shore-based Kodiak processor must have a federal processor permit and an approved Catch Monitoring and Control Plan (CMCP).

10 Catcher processor cooperatives

More than one cooperative may form within the sector.

Allocations may be transferred between cooperatives of at least two LLPs.

Participants have a choice of participating in:

Option 1: a cooperative or opt out of the Rockfish Program,

Option 2: a cooperative, a limited access fishery, or opt out of the Rockfish Program

Under the LLP/open access fishery option, the LLP's historical share will be fished in a competitive fishery open to rockfish qualified vessels who are not members of a cooperative. The rockfish secondary species would be managed under the following reduced MRAs, intended to maintain catch levels below the allocated amount: Pacific cod - 4%, sablefish - 3%, shortraker/rougheye rockfish - 2%, and thornyhead rockfish - 4%. All other groundfish species would be managed with MRAs at their current levels.

11 General cooperative provisions – apply to both sectors

Duration of cooperative agreements is 1 year.

The cooperative membership agreement (and an ancillary agreement with an associated processor, if applicable) will be filed with the NMFS Restricted Access Management (RAM) Division. The cooperative membership agreement must contain a fishing plan for the harvest of all cooperative fish.

Cooperative members shall internally allocate and manage the cooperative's allocation per the cooperative agreement.

Subject to any harvesting caps that may be adopted, allocated history may be transferred and consolidated within the cooperative.

The cooperative agreement must have a monitoring program. Cooperative members are jointly and severally responsible for cooperative vessels harvesting in the aggregate no more than their cooperative's allocation of rockfish primary species and secondary species, and PSC mortality allowance, as may be adjusted by inter-cooperative transfers.

A cooperative may adopt and enforce fishing practice codes of conduct as part of their membership agreement.

Cooperatives will report annually to the Council, as per AFA.

Cooperatives will be required to notify RAM Division, which LLP holders are in a cooperative, by March 1 of the fishing year.

12 Sector Transfer provisions

CP annual allocations may be transferred to CV cooperatives. CV annual allocations may not be transferred to CP cooperatives.

All transfers of annual allocations would be temporary, and history would revert to the original LLP at the beginning of the next year.

A person holding an LLP that is eligible for this program may transfer that LLP. That transfer will effectively transfer all history associated with the LLP and any privilege to participate in this program that might be derived from the LLP.

Permit post-delivery transfers of cooperative quota (annual allocations to cooperatives).

There would be no limits on the number or magnitude of post-delivery transfers. All post-delivery transfers must be completed by December 31.

No cooperative vessel shall be permitted to begin a fishing trip, unless the cooperative holds unused cooperative quota.

Harvest shares held by processors will be divisible for transfer.

Harvest shares held by processors may be transferred to:

Option 1: Those processors, at the plant level, who were initially issued harvest shares

Option 2: Those processors who have processed at least 100 metric tons to 250 metric tons of rockfish, delivered by catcher vessels, within any 2-year period during the new program

Suboption 1: a shore-based processing facility in the City of Kodiak

Suboption 2: to a shoreside processing facility

Option 3: a holder of a CGOA Rockfish Program eligible CV LLP

Note: More than one option may be chosen.

13 Cooperative Harvest Use Caps

CV cooperatives

No person may hold or use more than 3% to 5% of the CV QS (including any shares allocated to processors), using the individual and collective rule (Option: with grandfather provision).

Control of harvest shares by a CV cooperative shall be capped at 30% of aggregate Pacific ocean perch, northern rockfish and pelagic shelf rockfish for the CV sector.

No CV may catch more than 4% to 10% of the target CV allocation in the aggregate
(Option: with grandfather provision).

No person may hold or use more than 20% to 25% of the QS initially allocated to processors, using the individual and collective rule (Option: with grandfather provision).

CP cooperatives

No person may hold or use more than 20%, 30%, or 40% of the CP historical shares, using the individual and collective rule

(Option: with grandfather provision).

Control of harvest share by a CP shall be capped at 60% of aggregate Pacific ocean perch, northern rockfish, and pelagic shelf rockfish for the CP sector.

Option: Eligible CPs will be grandfathered at the current level.

Shoreside processor use caps

Shoreside processors shall be capped at the entity level.

No processor shall process more than 10%, 20%, 25%, 30%, or 33% of aggregate Pacific ocean perch, northern rockfish, and pelagic shelf rockfish for the CV sector.

No processor shall process more than 10%, 20%, 25%, 30%, or 33% of the sablefish allocated to the CV sector.

Option: Eligible processors will be grandfathered for the processing cap, based on total processed catch during the qualifying years.

[Note: The Council requested staff to examine methods of adjusting the cap and grandfathered amounts, in the event that a grandfathered processor is not available for processing, and the cap creates a potential barrier to complete harvest of the rockfish fisheries.]

The average annual received catch over the qualifying years used to allocate CV QS will be used as a base (or index) for applying the aggregate caps.

14 Harvesting provisions

The cooperative season start date is May 1, and closing date is November 15. Any limited access fishery will open in early July, as under the previous LLP management.

All non-allocated species will be managed by MRA, as in the current regime. This includes arrowtooth flounder, deep-water flatfish, shallow-water flatfish, flathead sole, rex sole, pollock, "other species," Atka mackerel, and "other rockfish." Basis species for purposes of determining MRAs will be:

All allocated species

Full retention of all allocated species is required.

15 Program review

A formal detailed review of the program shall be undertaken 5 years after implementation. The review shall assess:

- 1) the progress of the program in achieving the goals identified in the purpose and need statement and the MSA, and
- 2) whether management, data collection and analysis, and enforcement needs are adequately met. Additional reviews will be conducted every 7 years, thereafter, coinciding with the fishery management plan policy review.

16 Duration

Share duration

The duration of all CGOA rockfish LAPP program permits are 10 years. These permits shall be renewed before their expiration, unless the permit has been revoked, limited, or modified.

Option: Program duration

Absent Council review and recommendation to extend, the CGOA rockfish LAPP program expires 10 years after implementation.

17 Cost recovery

A fee, not to exceed 3% of ex-vessel value, will be charged on all program landings to cover the costs of administration of the program.

18 Sideboards

18.1 Catcher vessel options

West Yakutat and WGOA rockfish primary species

Option 1: For fisheries that close on TAC in the GOA, the qualified vessels in the trawl catcher vessel sector would be limited, in aggregate, in the month of July to the historic average catch of those vessels based on the retained catch as a percentage of the retained catch in the rockfish fisheries in the month of July, during the qualification years. Fisheries that this sideboard provision would apply to include West Yakutat rockfish and WGOA rockfish.

Option 2: For catcher vessels, prohibit directed fishing for West Yakutat and WGOA rockfish primary species.

Suboption: Exempt a vessel that participated in the West Yakutat rockfish fishery for 2006 through 2008 and participated in the entry level pilot fishery, at least 1 year. These vessels will be side-boarded at their catch history for 2006 through 2008.

Halibut PSC

Option 1: For flatfish fisheries in the GOA that close because of halibut PSC, the qualified vessels in the trawl catcher vessel sector would be limited, in the aggregate, in the month of July to the historical average halibut PSC mortality, taken by those vessels in the target flatfish fisheries in the month of July, by deep-water and shallow-water complex target fisheries, as a Gulf-wide cap.

Option 2: For the month of July, limit all CVs to the shallow-water complex fisheries (except for rockfish target fisheries in CGOA, West Yakutat, and WGOA).

IFQ halibut and sablefish are exempt from sideboard provisions

Bering Sea and Aleutian Island Sideboard Provisions

Yellowfin sole, other flatfish, and Pacific ocean perch fisheries

Option 1: The qualifying vessels in the trawl catcher vessel sector may not participate in the directed yellowfin sole, other flatfish (flathead, etc.), or Pacific ocean perch fisheries in the BSAI in the month of July.

Option 2: The qualifying vessels in the trawl catcher vessel sector may participate in the limited access yellowfin sole, other flatfish, or Pacific ocean perch fisheries in the BSAI in the month of July.

Pacific cod fishery

Option 1: Qualifying vessels in the trawl catcher vessel sector may fish in the BSAI Pacific cod fishery in the month of July and would be limited, in aggregate, to the historical average catch of those vessels in the BSAI Pacific cod fishery, based on the retained catch as a percentage of retained catch in the catcher vessel trawl fishery in July, during the qualifying years.

Option 2: The qualifying vessels in the trawl CV sector may participate in the BSAI Pacific cod fishery in the month of July, without any sideboard limit.

AFA non-GOA exempt CVs qualified under this program are subject to the restraints of AFA sideboards and their cooperative agreements, and not subject to additional sideboards under this program.

18.2 Catcher processor options

West Yakutat and WGOA rockfish primary species

Option 1: For fisheries that close on TAC in the GOA, the qualified vessels in the trawl catcher processor sector would be limited, in aggregate, in the month of July, to the historical average catch of those vessels, based on the retained catch as a percentage of the retained catch in the fisheries in the month of July, during the qualification years. Fisheries that this sideboard provision would apply to are the West Yakutat and WGOA rockfish primary species fisheries.

Option 2: For catcher processors, no sideboard limits will apply to the West Yakutat and WGOA rockfish primary species fisheries (rockfish eligible catcher processors that are also Amendment 80 participants would continue to be limited by Amendment 80 sideboards).

Non-Amendment 80 catcher processors will be prohibited from West Yakutat and WGOA rockfish species fisheries for the month of July.

Halibut PSC

Option 1: For flatfish fisheries in the GOA that close because of halibut PSC, the qualified vessels in the trawl catcher processor sector would be limited, in the aggregate, in the month of July, to the historical average halibut PSC mortality taken by those vessels in the target groundfish fisheries in the month of July, by deep-water and shallow-water complex targets, as a Gulf-wide cap.

Option 2: For catcher processors, no July GOA halibut PSC mortality sideboard limit (rockfish eligible catcher processors that are also Amendment 80 participants would continue to be limited by Amendment 80 sideboards).

Suboption: Limit all CPs to the deep-water complex fisheries in the CGOA for the month of July.

Note: IFQ halibut and sablefish are exempt from sideboard provisions

Stand-down for vessels that opt out of the rockfish fisheries

Option 1: CP vessels may decide to opt out of the CGOA cooperative program on an annual basis. These CP vessels may not target Pacific ocean perch, northern rockfish, or pelagic shelf rockfish in the CGOA, in the years they choose to opt out. They may retain these species up to the MRA amount in other fisheries. They will be sideboarded at the sector level in the GOA, as described in the general provisions.

The history of CP vessels which opt out will remain with the sector.

CPs that opt out of the rockfish cooperative program will be prohibited, for 2 weeks following the start of the traditional July rockfish fisheries, from entering other GOA fisheries in which they have not previously participated. Participation shall be defined as having been in the target fishery during the first week of July in at least two of the qualifying years. For purposes of qualifying under this provision, history from area 650 (Southeast Outside) will be considered the same as history from area 640 (West Yakutat). The following week ending dates will be used for determining participation in a target fishery:

1996 – July 6
1997 – July 5
1998 – July 4
1999 – July 10
2000 – July 15
2001 – July 7
2002 – July 6
2003 – July 5
2004 – July 10
2005 – July 9
2006 – July 8

Opting out is an annual decision. CP vessels which choose to opt out must so notify NMFS. The decision to opt out should not, in any way, alter the status of their catch history for future rationalization programs.

Option 2: No stand-down for vessels that opt out of the rockfish fisheries.

Stand-down for vessels that join cooperatives

Option 1: For the CP sector, the cooperative program fishery participants must either:

- (1) start fishing in the target rockfish fisheries at the same time as the opening of the CGOA rockfish limited access fisheries (in July) and harvest 90% of their CGOA rockfish allocation prior to entering any other GOA non-pollock groundfish fishery; or (2) stand down for 2 weeks from the opening of the CGOA rockfish limited access fishery, prior to participating in any other GOA non-pollock groundfish fishery.

A vessel which has met either stand-down requirement can then move into the GOA open access fisheries, subject to the sector level limitations in the GOA in the general sideboard provisions.

To the extent permitted by the motion, history may be leased between vessels. Each member of a cooperative that transfers its history to another CP or CV must still refrain from operating in any other GOA groundfish fishery, until the earlier of:

- 1) 90% of all of the CGOA rockfish allocation on the stacked vessel is harvested in the CGOA, provided fishing of the allocation began on or after the opening of the limited access fishery;
- 2) 2 weeks from the opening of the limited access fishery, prior to participating in any other GOA groundfish fishery.

Members of a cooperative will be subject to all limitations and restrictions described in the general sideboard provisions and CP specific sideboard provisions, except that cooperative members shall not be subject to any stand-down in the GOA groundfish fisheries, if all vessels in the cooperative maintain adequate monitoring plans during all fishing for CGOA rockfish sideboard fisheries.

In addition to the other limitations and restrictions described above, each cooperative will be limited in the aggregate:

- 1) for fisheries that close on TAC in the GOA in the month of July, to the historical average total catch of the cooperative members in the month of July during the qualification years. Fisheries that this sideboard provision would apply to include West Yakutat rockfish and WGOA rockfish, and
- 2) for flatfish fisheries in the GOA that close because of halibut PSC in the month of July, to the historical average halibut PSC mortality taken by cooperative members in the target flatfish fisheries in the month of July, by deep-water and shallow-water complex fisheries.

Option 2: No stand-down (or alternative cooperative limit) for vessels that join cooperatives in the rockfish fisheries.

Stand-down for vessels that join the limited access fishery

Option 1: The limited access fishery starts at the same time as the traditional rockfish target fisheries (early July). For vessels that account for less than 5% of the allocated CP history in the Pacific ocean perch fishery that participate in the limited access rockfish fishery, there are no additional intra-sector sideboards. For vessels that account for greater than or equal to 5% of the allocated CP history in the Pacific ocean perch fishery that participate in the limited access rockfish fishery and GOA stand-downs are in place until 90% of the limited access Pacific ocean perch quota is achieved.

Option 2: No stand-down for any vessels that join the limited access rockfish fishery.

19 **Observer Coverage**

Shoreside observer coverage

Shoreside processor observer coverage requirements for all Rockfish Program deliveries will be:

Option 1: An observer will be on duty whenever program deliveries are made. No observer will be allowed to work more than 12 hours per day.

Option 2: Same observer coverage requirement for shoreside processors as in other groundfish fisheries.

Option 3: Employ a CMCP specialist to oversee deliveries.

Catcher vessel observer coverage

Fishing days and observer coverage under the Rockfish Program will be separate from, and not count towards, meeting a vessel's overall groundfish observer coverage requirement.

2.2.3 Alternatives considered, but not advanced for analysis

The Council developed the alternatives from a list of elements and options, beginning with the elements of the Pilot Program, and proposed changes of stakeholders, the public, and the Council's Advisory Panel. The Council used an iterative process for defining alternatives, deliberating the specific provisions, after receiving staff discussion papers and public testimony, over the course of several meetings. The Council considered a variety of elements and factors (including those factors and considerations required by the MSA when developing a LAPP). The discussion that follows summarizes alternatives considered by the Council, but not advanced for analysis.

The Pilot Program qualifies each eligible catcher vessel license for a single cooperative, which must associate with the processor to which the catcher vessel delivered the most pounds in a specified qualifying period. In developing this action, the Council considered that structure, as well as other structures, that qualify catcher vessels for specific cooperatives and establish penalties or forfeitures payable on changing cooperatives (and processor associations). These associations could be used to protect processor and community interests, by recognizing historical relationships in the rockfish fisheries. The Council considered incorporating these structures (or similar structures) into its alternatives. The NOAA General Counsel opinion advised that the Pilot Program, with its requirement that harvesters deliver their catch to the same processors to whom they historically delivered (harvester-processor linkages), was developed under statutory authority, which, by its terms, expire December 31, 2011. The opinion advised that if the Council chose to develop a new Rockfish Program, it would need to develop the program under the general authority of the MSA. It clearly reiterated NOAA's longstanding 1993 opinion that the MSA does not authorize processor quotas (except under special authority for the Bering Sea crab fisheries). The GC opinion further advised that, under the MSA, the Council or Secretary could limit the number of processing sites if they provide adequate justification in the record of a conservation and management objective for limiting the number of sites to which deliveries can be made and consider the other criteria in section 303A. Because the special authority for the Pilot Program, including harvester-processor linkages, will expire at the end of 2011, the Council developed the Rockfish Program under section 303A of the MSA, which lays out the requirements for LAPPs. Therefore, the Council elected to consider other structures to protect community and processor interests under the new program. These structures include regional landing requirements, allocations of harvest shares to processors, annual cooperative/processor associations (which may be changed, without penalty or forfeiture), and caps on the amount of landings that may be processed by any single processor.

The Council considered including in the program a system of regional fishery associations and community allocations (as authorized under the MSA). Regional fishery associations are voluntary associations of the holders of quota, designated for use in a region, that meet criteria established by the Council. These associations are generally intended to protect regional interests and fishery dependence, including the interests of shore-based businesses. Community allocations could be made to support community interests that might otherwise be neglected by the transition in management. The Council elected to consider other provisions that recognize and support historical regional and community dependence on the rockfish fisheries (including community landing requirements).

The MSA requires the Council to consider, if appropriate, an auction system or other program to collect royalties for the initial (or any subsequent distribution of) allocations. After consideration, the Council elected to omit any provision for the auction of shares (or other collection of royalties) from this program. Under the alternatives, allocations are based on historical rockfish fisheries dependence, as represented by qualified harvesting (and processing) histories. Participants in the rockfish fisheries also participate in a variety of limited access fisheries in which harvesters must race for catch and processors must compete and race for landings.

2.3 Existing Conditions in the Rockfish Fisheries

This section describes the existing conditions in the CGOA rockfish fisheries. Descriptions of the fisheries under the LLP (under which the fisheries were managed prior to the Pilot Program) and the Pilot Program are included. The section begins with a brief description of these two management structures, followed by a description of the stocks, biology, and environmental conditions. Participation patterns in harvesting and processing in the fisheries are described, including a discussion of the relationship between those two sectors and a brief summary of the other fisheries that CGOA rockfish participants also participate in. Ex-vessel pricing practices are described and estimated historical prices are provided. Product markets are described and estimated historical first wholesale prices are provided. Sideboards...A brief description of community and social conditions are provided as background for the socioeconomic analysis.

2.3.1 Management of the Rockfish Fisheries

License Limit Program Management (pre-Pilot Program)

Until 2007, when NMFS implemented the Pilot Program, the CGOA rockfish fisheries were managed under the LLP. Under the LLP, the fisheries opened on January 1 for non-trawl gear participants. The opening for trawl gear was near July 1, but varied year-to-year. The trawl opening was generally timed to coincide with the availability of the quarterly halibut PSC allowance. The rockfish fisheries were also timed to accommodate the sablefish longline survey that occurs later in the summer. The goal was to complete the rockfish fisheries, which take some sablefish, early enough to allow the redistribution of sablefish stocks, to avoid possible survey bias. The opening was also scheduled to accommodate in-season management, so that managers had adequate catch and effort information to make *Federal Register* closure announcements, if needed, avoiding the Fourth of July holiday weekend. The opening typically coincided with the openings of the Aleutian Islands Pacific ocean perch and Bering Sea flathead sole fisheries, to distribute effort among the fisheries.

Both the trawl and non-trawl fisheries were prosecuted from a single TAC, with the harvest from the trawl fishery limited to the remaining available TAC, after the non-trawl fleet had prosecuted the fishery from its opening on January 1. Since the non-trawl fleet has little catch in the fisheries historically, the trawl fleet harvested most of the TAC. Table 2-1 summarizes openings for trawl gear and closings for all gear types in the CGOA directed rockfish fisheries by species from 1996 to 2006 (inclusive).

Table 2-1 Season openings (trawl only) and closings (all gear) of the Central Gulf of Alaska directed rockfish fisheries by species 1996 through 2006.

Year	Opening for Species	Opening Date	Closures			Reason
			Pacific Ocean Perch	Northern Rockfish	Pelagic Shelf Rockfish	
1996	All	July 1	July 11	July 20	August 7	TAC (POP, Nor)/HAL(PSR)
1996 reopen	PSR	October 1	---	---	December 2	HAL
1997	All	July 1	July 7	July 10	July 15	TAC
1998	All	July 1	July 6	July 14	July 19	TAC
1998 reopen	POP	July 12	July 14	---	---	TAC
1999	All	July 4	July 11	July 19	---	TAC (POP, Nor)
1999 reopen	POP, Nor	August 6	August 8	August 10	September 3	TAC (POP, Nor)/HAL (PSR)
2000	All	July 4	July 15	July 26	July 26	TAC (POP, Nor)/HAL (PSR)
2001	All	July 1	July 12	July 23	July 23	TAC (POP, Nor)/HAL (PSR)
2001 reopen	Nor, PSR	October 1	n/a	October 21	October 21	HAL
2002	All	June 30	July 8	July 21	July 21	TAC
2003	All	June 29	July 8	July 29	July 31	TAC
2004	All	July 4	July 12	July 25	July 25	TAC (POP)/HAL (Nor, PSR)
2005	All	July 5	July 14	July 24	July 24	TAC (POP)/HAL (Nor, PSR)
2005 reopen	PSR	September 1	---	---	September 4	HAL
2005 reopen	PSR	September 8	---	---	September 10	HAL
2006	All	July 1	July 6	January 21	July 21	TAC
2006 reopen	PSR	October 2	---	---	October 8	HAL

TAC – total allowable catch reached

HAL – Deepwater seasonal halibut prohibited species catch limit reached

Nor – Northern rockfish

POP – Pacific ocean perch

PSR – Pelagic shelf rockfish

Source: NOAA fisheries status reports, information bulletins, and groundfish closure summaries

The closings show the general progression of effort in the rockfish fisheries under the LLP. Most participants targeted Pacific ocean perch first, until the TAC of that species was fully harvested. Pacific ocean perch are a larger biomass and typically are easier to target than the other two fisheries. The season for Pacific ocean perch during this period usually lasted between 1 and 2 weeks. Once the Pacific ocean perch fishery closed, vessels usually moved on to northern rockfish or pelagic shelf rockfish directed fisheries, although some vessels moved on to other fisheries in and outside of the CGOA. The directed fisheries for northern rockfish and pelagic shelf rockfish typically lasted less than one month, closing before the end of July. Managers exercised some caution in managing the fisheries, occasionally closing the fisheries to ensure that the TAC was not exceeded. When sufficient TAC remained available, managers reopened the fisheries later to allow participants to complete the harvest.

Typically, harvests of the rockfish TACs resulted in closure of the fisheries, although at times halibut PSC in the deep-water complex closed the fisheries. In 2001, 2004, and 2005 halibut PSC closed both the northern rockfish and pelagic shelf rockfish fisheries in July. While in 2001, the fisheries reopened on October 1, when the fifth season halibut allowance came available, in 2004 and 2005, the fisheries never reopened after their closure in late July.

Until 1998, the federally managed rockfish fisheries in the CGOA included nearshore pelagic shelf rockfish (i.e., black rockfish and blue rockfish), which are prosecuted primarily in state waters. These species were targeted primarily with non-trawl gear. In 1997, non-trawl effort in the nearshore pelagic shelf rockfish fishery closed that fishery on June 7, prior to the trawl openings. In 1998, the State of Alaska took over management of the nearshore pelagic shelf rockfish fisheries. Those fisheries are currently prosecuted exclusively in state waters.

In March 2007, the Council took final action to remove dark rockfish from both the GOA fishery management plan (FMP) (pelagic shelf rockfish complex) and BSAI FMP (other rockfish complex). Removing the species from the federal FMPs served to turn full management authority of the stock over

to the State of Alaska in both regions. The effective date of these FMP amendments was January 30, 2009.

Pilot Program

Under the Pilot Program, the allocation of the rockfish primary species¹⁵ is divided between the catcher vessel sector and the catcher processor sector, based on historical catches of the participants in these respective sectors. In addition, each sector is allocated the important incidental catch species (i.e., sablefish, Pacific cod, shortraker rockfish, roughey rockfish, and shortspine thornyhead rockfish)¹⁶ based on the historical harvests of the sector. Exceptions are that Pacific cod is not allocated to catcher processor cooperatives, and shortraker rockfish and roughey rockfish are not allocated to catcher vessel cooperatives, but are instead managed under MRAs. These species are not allocated in the different cases, because the sector has limited catches of the species, which could lead to allocations inadequate to support catch of rockfish primary species, but MRAs are set low, relative to their historical levels, to discourage harvests in excess of historical catch amounts. Each sector is also apportioned halibut PSC, based on historic halibut mortality in the target rockfish fisheries.

Under the Pilot Program, participants in each sector can either fish as part of a cooperative or in a competitive, limited access fishery. Each cooperative receives allocations of rockfish primary and secondary species, and an allowance of halibut PSC, from the sector's allocations, based on the rockfish primary species catch histories of its members. The limited access fishery receives an allocation of rockfish primary species, based on the rockfish primary species catch histories of sector members that choose not to join a cooperative. Rockfish secondary species catch is limited by an MRA, which is reduced from the historical level to maintain total catch at a level comparable to a corresponding cooperative allocation and to reduce the economic incentive to fish in the limited access fishery.

Cooperatives manage and coordinate fishing of their allocations. Rockfish primary and secondary species are subject to a full retention requirement to prevent discards. All allocations to a cooperative are constraining, so a cooperative must manage and monitor members' catch of rockfish primary species, allocated rockfish secondary species, and halibut PSC allowances to ensure that it is able to fully harvest (but not exceed) its allocations and PSC allowance. To protect processors, each catcher vessel in the program is eligible for membership in a single cooperative, which must form an association with the processor to which it historically delivered the most rockfish. These cooperative/processor associations are intended to ensure that a cooperative lands a substantial portion of its catch with its members' historical processor. The exact terms of the association are subject to negotiation and are confidential to the parties, but since the cooperative agreement requires the approval of the associated processor, it is likely that these agreements contain terms defining cooperative landing requirements.

The fishing season for cooperatives under the Pilot Program is extended substantially, opening May 1 and closing on November 15. Separate catcher vessel sector and catcher processor sector limited access fisheries open for all rockfish primary species on July 1, and close for each rockfish primary species when the respective sector's participants are estimated to have fully harvested the allocation of the species, or reached the sector's seasonal groundfish PSC limit. If PSC limits the fishery, the fishery may be reopened when the next seasonal PSC apportionment is available.

¹⁵ For purposes of this analysis, the rockfish fisheries refer exclusively to the Pacific ocean perch, northern rockfish, and pelagic shelf rockfish fisheries in federal waters, as currently defined. Black, blue, and dark rockfish, which were formerly part of the pelagic shelf rockfish aggregation and are currently harvested primarily by longline vessels in State waters, are not included in this program and are not the focus of this analysis.

¹⁶ These species are collectively referred to as rockfish secondary species.

2.3.2 Stocks, Biology, and Environmental Conditions

Current harvests of all species, by vessels participating in the rockfish fisheries, are below overfishing levels. In addition, impacts on the benthic habitat and essential fish habitat are minimal and temporary. The rockfish fisheries have no adverse effects on endangered species, marine mammals, seabirds, or forage fish. A complete discussion of the environmental impacts of the rockfish fisheries is provided in the Environmental Assessment in Section 3 of this RIR/EA/FRFA.

2.3.3 The Harvest Sector

This section begins with a summary of harvests from the rockfish fisheries under the LLP, which is followed by a summary of harvests under the Pilot Program.

LLP Management

Under the LLP, the CGOA rockfish fisheries were prosecuted almost exclusively with trawl gear. Generally, participation in the fisheries required an LLP license, with the requisite gear, area, and operating mode (catcher vessel or catcher processor) endorsements and designations. In addition, the LLP limits the length of a vessel that may use a license, based on length of the qualifying vessel. Table 2-2 shows the number of LLP licenses issued for the CGOA by gear, operation, and maximum length overall (MLOA) permitted by the license. The table shows that under LLP management, a substantial number of vessels are eligible to participate in the CGOA rockfish fisheries. NMFS Restricted Access Management (RAM) Division issued 27 trawl-endorsed catcher processor licenses and 176 trawl-endorsed catcher vessel licenses, endorsed for operation in the CGOA. RAM Division has also issued in excess of 900 non-trawl (or longline) endorsed licenses for the CGOA.

The Council recently took two actions to remove inactive licenses from fisheries. In the first action, the Council removed trawl endorsements from areas in which the license did not meet a minimum threshold landing requirement in the 2000 through 2006 period. This action has yet to be implemented, but is estimated to result in 21 catcher processor licenses retaining CGOA endorsements and 97 catcher vessel licenses retaining CGOA endorsements. Only 32 of the remaining catcher vessel licenses will have an MLOA of less than 60 feet, while 64 will have an MLOA of 60 feet or greater, but less than 125 feet. Just 1 will have an MLOA of 125 feet or greater.

The second action created a system of Pacific cod endorsements for longline vessels. Although that portion of the action does not affect the qualification of any license for use in the rockfish fisheries, the action also created an exemption to LLP license requirements for all jig gear vessels (provided those vessels use a limited amount of gear). This action effectively opens the rockfish fisheries to any person who uses jig gear.

Table 2-2. LLP licenses endorsed for the Central Gulf of Alaska by gear, maximum length overall, and vessel type.

Gear	Maximum length overall	Vessel type		Total
		Catcher processor	Catcher vessel	
Trawl	Under 60 feet	0	67	67
	60 feet or greater and less than 125	10	93	103
	125 feet or greater	17	16	33
	subtotal	27	176	203
Non-Trawl	Under 60 feet	5	702	707
	60 feet or greater and less than 125	24	178*	202
	125 feet or greater	20*	3	23
	subtotal	49	883	932
All gear (unique licenses)	Under 60 feet	5	712	717
	60 feet or greater and less than 125	31	154	185
	125 feet or greater	32	16	48
	subtotal	68	882	950

Although a substantial number of longline vessels are eligible to participate in the CGOA rockfish fisheries, few longline vessels participate in the fisheries. For example, two or fewer vessels showed landings of each rockfish species prior to 2001, while no non-trawl catcher vessels had landings of Pacific ocean perch prior to 2002. Historically, very little Pacific ocean perch or northern rockfish have been caught by longline vessels (Table 2-3). Pelagic shelf rockfish catches with longline gear, while substantially less than trawl, have fluctuated, reaching a high of approximately 30 metric tons in 2004. In the last 5 years, catches have averaged slightly less than 20 metric tons. Because the longline sector has very limited participation in the CGOA rockfish fisheries, much of the discussion in this section pertains only to trawl catcher vessels and trawl catcher processors.

Most eligible trawl vessels do not participate in the CGOA rockfish fisheries, as the fisheries appear to be at full capacity. Table 2-4 shows vessel participation and harvests in metric tons, by sector, during the open seasons from 1996 through 2006, by vessels with at least one targeted landing of rockfish during that time period.¹⁷ The table shows catch for trawl catcher processors and trawl catcher vessels. **Table 2-5**, the companion table, shows the portion of the annual harvest by the different sectors.

¹⁷ During the LLP management, the open season for trawl gear began in early July and ended when either the TAC was fully harvested or when the deep-water halibut allocation was taken. The non-trawl season opened on January 1 and closed at the same time as the trawl season closure. Landing data for catcher vessels is from Alaska Department of Fish and Game fish tickets. Landing data for catcher processors is from federal [Catch Accounting and Blend](#) data.

Table 2-3. Longline gear retained harvests of rockfish primary species in the Central Gulf of Alaska (2000 through 2008).

Year	Pacific ocean perch		Northern rockfish		Pelagic shelf ** rockfish	
	Retained harvests (in metric tons)	Number of vessels	Retained harvests (in metric tons)	Number of vessels	Retained harvests (in metric tons)	Number of vessels
2000					4.1	91
2001	*	1			7.5	107
2002					10.9	83
2003			*	1	5.9	45
2004			*	1	30.0	92
2005					14.4	85
2006			*	2	8.5	80
2007			*	2	23.4	99
2008					14.4	105
Total	*	*	0.2***	6	119.2	132

Source: Alaska Fisheries Information Network Comprehensive fish tickets

* Withheld for confidentiality.

** Excludes estimated dark rockfish prior to 2008.

*** Includes amounts from confidential cells above and under Pacific ocean perch.

Retained harvests of the three rockfish primary species have varied somewhat over the years. Pacific ocean perch harvests, in general, increased from a low of almost 3,800 metric tons in 1996, to a high of over 8,000 metric tons in 2001 (**Figure 2-1**). In the years since 1999, harvest of Pacific ocean perch was more than double that of the other two species, during the years shown. Northern rockfish harvests follow no apparent pattern and have ranged from slightly more than 2,000 metric tons in 1997, to almost 4,700 metric tons in 2003 (**Figure 2-2**). Harvests of pelagic shelf rockfish rose from slightly more than 1,300 metric tons in 1996, to over 3,400 metric tons in 1999 (**Figure 2-3**).

The tables show relatively consistent participation across sectors. Trawl catcher vessel participation in the rockfish fisheries ranged from 19 vessels to 33 vessels. In 1996 and 1997, there were fewer catcher vessels participating in the rockfish fisheries in comparison to the next several years. However, in 2005 and 2006, the number of catcher vessel participants declined to 1996 and 1997 levels. The portion of the three rockfish primary species harvested by trawl catcher vessels generally rose through 2003, but then declined in the years leading up to the Pilot Program. Overall, the harvests of the three rockfish primary species by trawl catcher vessels ranged from 51% of the pelagic shelf rockfish, to 57% of the northern rockfish. Although about 30 trawl catcher vessels participated in the different CGOA rockfish fisheries each year between 1996 and the end of 2006, the specific vessels that participated varied year to year. From 1996 through 2006, 55 different trawl catcher vessels participated in the Pacific ocean perch and northern rockfish fisheries, while 53 vessels participated in the pelagic shelf rockfish fishery.

Fewer trawl catcher processors participated in the rockfish fisheries than trawl catcher vessels during the 1996 through 2006 period. A high of 15 trawl catcher processors participated in 1997, while 2000, 2003, and 2006 had the fewest trawl catcher processors, at five. Since non-trawl vessels have shown minimal participation, the trawl catcher processors generally competed only with trawl catcher vessels in the rockfish fisheries. Harvests of all three rockfish primary species fluctuated over the 1996 through 2006 period, following no discernable pattern. Harvests of Pacific ocean perch have ranged from approximately 1,385 metric tons in 1996, to approximately 4,276 metric tons in 2001. Trawl catcher processors harvested between 32% (in 2003) and 61% (in 1998) of the Pacific ocean perch fishery. As with trawl catcher vessels, a variety of trawl catcher processors participated in the CGOA rockfish fisheries during the 1996 through 2006 period. So, although the annual participation by trawl catcher processors in the different fisheries ranged from 4 vessels to 14 vessels, the total number of vessels that have participated in a fishery during the 1996 through 2006 period was 20.

Table 2-4. Estimated retained catch and participation of trawl vessels in the Central Gulf of Alaska directed rockfish fisheries (1996 through 2006).

Retained catch

Year	Species	Catcher Processors		Catcher Vessels		Total	
		Number of vessels	Catch (metric tons)	Number of vessels	Catch (metric tons)	Number of vessels	Catch (metric tons)
1996	Pacific ocean perch	6	1,385.4	27	2,214.0	33	3,599.4
	Northern rockfish	8	1,968.3	26	890.8	34	2,859.1
	Pelagic shelf rockfish	8	1,230.9	25	341.1	33	1,572.0
	Total	10	4,584.6	28	3,445.9	38	8,030.5
1997	Pacific ocean perch	14	3,551.0	26	2,321.2	40	5,872.2
	Northern rockfish	14	1,467.5	19	759.0	33	2,226.5
	Pelagic shelf rockfish	14	1,606.2	24	217.7	38	1,823.8
	Total	15	6,624.7	26	3,297.9	41	9,922.5
1998	Pacific ocean perch	8	3,983.1	31	2,592.1	39	6,575.2
	Northern rockfish	7	895.9	31	1,886.6	38	2,782.5
	Pelagic shelf rockfish	8	1,777.5	31	677.8	39	2,455.3
	Total	8	6,656.6	32	5,156.5	40	11,813.0
1999	Pacific ocean perch	11	4,101.8	31	2,523.5	42	6,625.3
	Northern rockfish	10	1,772.5	32	1,986.5	42	3,759.0
	Pelagic shelf rockfish	11	2,070.4	32	1,367.9	43	3,438.3
	Total	11	7,944.7	32	5,877.9	43	13,822.6
2000	Pacific ocean perch	5	3,097.1	31	4,374.8	36	7,471.9
	Northern rockfish	4	480.2	31	1,896.6	35	2,376.8
	Pelagic shelf rockfish	5	553.3	31	2,306.0	36	2,859.3
	Total	5	4,130.5	31	8,577.5	36	12,708.0
2001	Pacific ocean perch	7	4,276.4	33	3,946.8	40	8,223.2
	Northern rockfish	7	819.5	31	1,401.0	38	2,220.5
	Pelagic shelf rockfish	7	901.5	33	1,308.6	40	2,210.2
	Total	7	5,997.4	33	6,656.4	40	12,653.9
2002	Pacific ocean perch	6	2,896.0	33	4,483.3	39	7,379.3
	Northern rockfish	6	611.2	30	2,254.6	36	2,865.8
	Pelagic shelf rockfish	6	1,206.9	33	1,314.1	39	2,521.0
	Total	6	4,714.1	33	8,051.9	39	12,766.0
2003	Pacific ocean perch	4	2,351.0	31	5,114.0	35	7,465.0
	Northern rockfish	4	1,670.6	29	3,096.9	33	4,767.5
	Pelagic shelf rockfish	5	958.2	31	1,517.3	36	2,475.4
	Total	5	4,979.9	32	9,728.1	37	14,708.0
2004	Pacific ocean perch	5	2,949.0	32	4,978.9	37	7,927.9
	Northern rockfish	7	1,213.7	27	2,241.5	34	3,455.2
	Pelagic shelf rockfish	7	759.5	31	1,328.3	38	2,087.8
	Total	7	4,922.2	32	8,548.7	39	13,470.9
2005	Pacific ocean perch	5	3,294.0	26	4,423.0	31	7,717.0
	Northern rockfish	6	1,901.3	25	1,843.1	31	3,744.3
	Pelagic shelf rockfish	6	706.2	26	1,179.7	32	1,885.9
	Total	6	5,901.4	26	7,445.8	32	13,347.2
2006	Pacific ocean perch	5	2,069.7	25	4,148.4	30	6,218.0
	Northern rockfish	5	3,214.7	23	1,739.2	28	4,953.9
	Pelagic shelf rockfish	4	802.9	25	951.8	29	1,754.7
	Total	5	6,087.3	25	6,389.4	30	12,926.7
All years (totals)	Pacific ocean perch	19	33,954.5	55	41,119.8	74	75,074.3
	Northern rockfish	19	16,015.4	55	19,995.8	74	36,011.2
	Pelagic shelf rockfish	19	12,573.5	53	12,510.4	72	25,083.9
	Total	20	62,543.4	55	73,625.8	75	136,169.2

Source: Catcher processor data from Weekly Production Reports and catcher vessel data from Alaska Department of Fish and Game fish tickets

Table 2-5. Percent of retained catch and participation of trawl vessels in the Central Gulf of Alaska directed rockfish fisheries (1996 through 2006).

Year	Species	Catcher Processors		Catcher Vessels	
		Number of vessels	Percent of total	Number of vessels	Percent of total
1996	Pacific ocean perch	6	38.5	27	61.5
	Northern rockfish	8	68.8	26	31.2
	Pelagic shelf rockfish	8	78.3	25	21.7
1997	Pacific ocean perch	14	60.5	26	39.5
	Northern rockfish	14	65.9	19	34.1
	Pelagic shelf rockfish	14	88.1	24	11.9
1998	Pacific ocean perch	8	60.6	31	39.4
	Northern rockfish	7	32.2	31	67.8
	Pelagic shelf rockfish	8	72.4	31	27.6
1999	Pacific ocean perch	11	61.9	31	38.1
	Northern rockfish	10	47.2	32	52.8
	Pelagic shelf rockfish	11	19.4	32	80.6
2000	Pacific ocean perch	5	41.4	31	58.6
	Northern rockfish	4	20.2	31	79.8
	Pelagic shelf rockfish	5	19.4	31	80.6
2001	Pacific ocean perch	7	52.0	33	48.0
	Northern rockfish	7	36.9	31	63.1
	Pelagic shelf rockfish	7	40.8	33	59.2
2002	Pacific ocean perch	6	39.2	33	60.8
	Northern rockfish	6	21.3	30	78.7
	Pelagic shelf rockfish	6	47.9	33	52.1
2003	Pacific ocean perch	4	31.5	31	68.5
	Northern rockfish	4	35.0	29	65.0
	Pelagic shelf rockfish	5	38.7	31	61.3
2004	Pacific ocean perch	5	37.2	32	62.8
	Northern rockfish	7	35.1	27	64.9
	Pelagic shelf rockfish	7	36.4	31	63.6
2005	Pacific ocean perch	5	42.7	26	57.3
	Northern rockfish	6	50.8	25	49.2
	Pelagic shelf rockfish	6	37.4	26	62.6
2006	Pacific ocean perch	5	33.3	25	66.7
	Northern rockfish	5	64.9	23	35.1
	Pelagic shelf rockfish	4	45.8	25	54.2
All years (totals)	Pacific ocean perch	19	46.1	55	53.9
	Northern rockfish	19	42.6	55	57.4
	Pelagic shelf rockfish	19	50.1	53	49.9

Figure 2-1. Retained catch of Pacific ocean perch for trawl catcher processors and catcher vessels in the Central Gulf of Alaska (1996 through 2006).

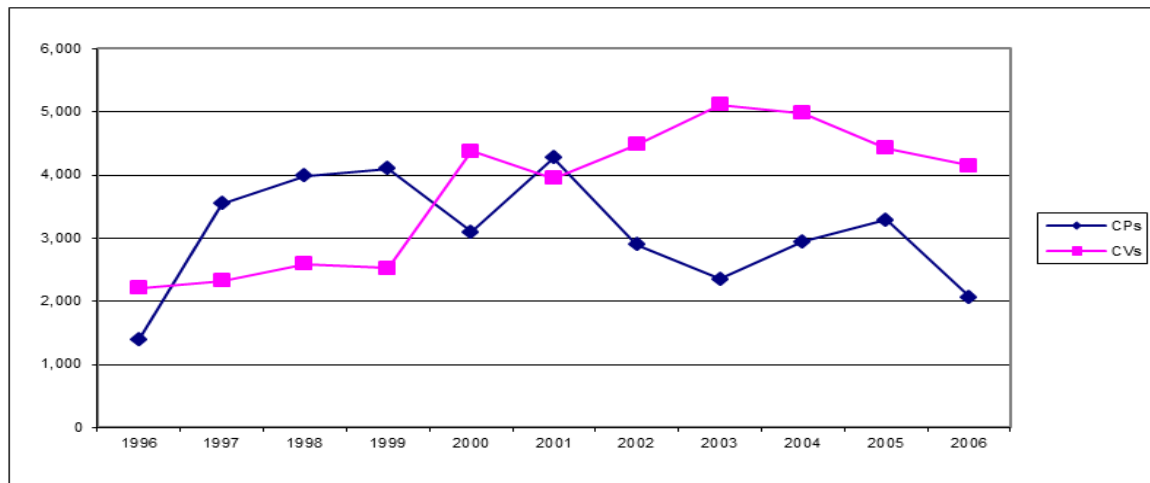


Figure 2-2. Retained catch of northern rockfish for trawl catcher processors and catcher vessels in the Central Gulf of Alaska (1996 through 2006).

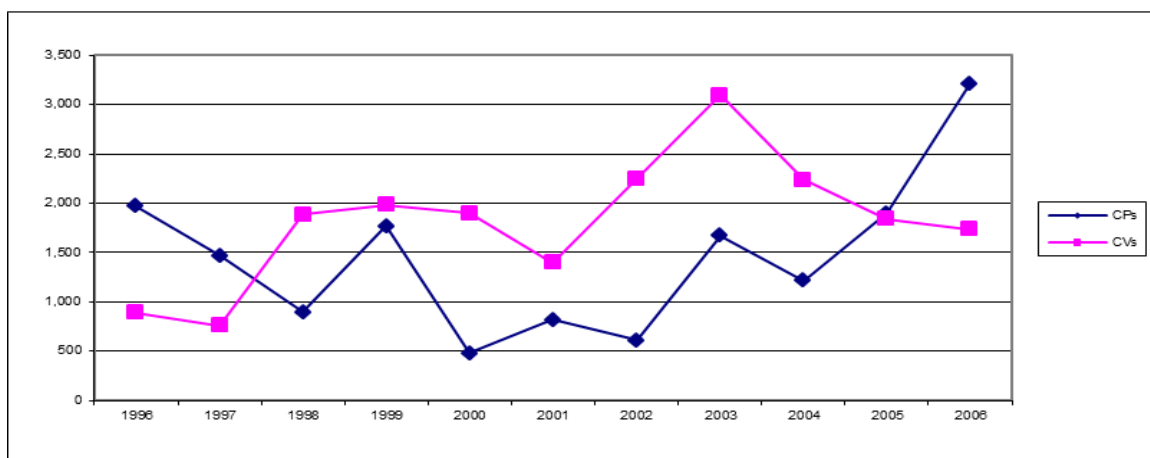


Figure 2-3. Retained catch of pelagic shelf rockfish for trawl catcher processors and catcher vessels in the Central Gulf of Alaska (1996 through 2006).

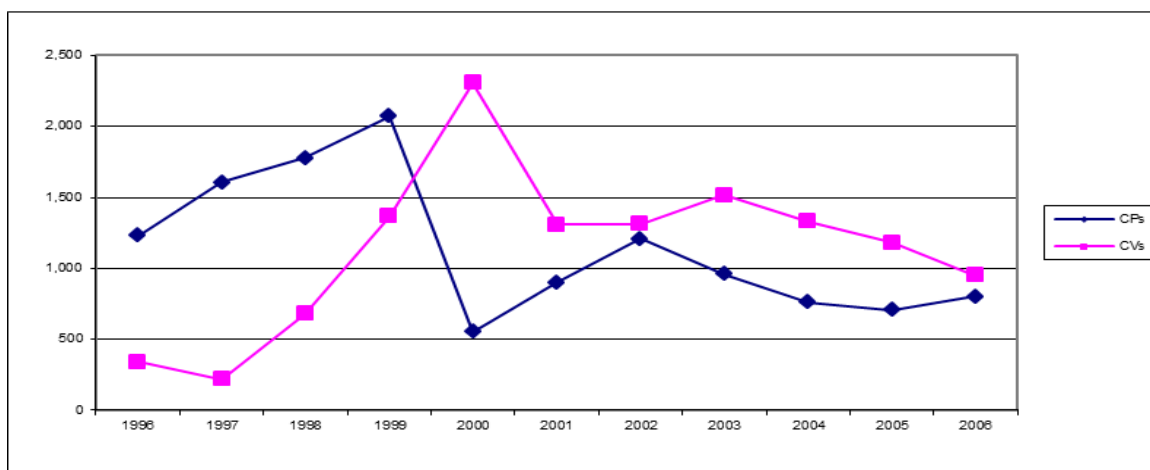


Table 2-6 shows the retained catch of rockfish secondary species, by sector, that targeted CGOA rockfish from 1996 through 2006, and Table 2-7 shows the percent of retained catch of rockfish secondary species, by sector.¹⁸ Catcher vessels harvested greater amounts of Pacific cod and sablefish, while catcher processors harvested more thornyhead rockfish, shortraker rockfish, and roughey rockfish. For the catcher vessels, Pacific cod harvests increased to a peak of over 1,400 metric tons in 2003, followed by a decline to less than 300 metric tons in 2006. Sablefish harvest ranged from approximately 200 metric tons, to 500 metric tons, during the 1996 through 2006 period. Annual harvest of shortraker rockfish, roughey rockfish, and thornyhead rockfish fell well below 100 metric tons during the 1996 through 2006 period. For trawl catcher processors, shortraker/roughey rockfish harvests tended to range between slightly greater than 60 metric tons, to slightly less than 500 metric tons, during the 1996 through 2006 period. Thornyhead rockfish harvest tended to be around 100 metric tons during the 1996 through 2006 period, with the exception of 2003, when harvests peaked at over 300 metric tons. Sablefish harvests ranged between 200 metric tons to 300 metric tons throughout the 1996 through 2006 period. Harvest of Pacific cod by the trawl catcher processor sector was almost always below 150 metric tons during the 1996 through 2006 period.

¹⁸ The vessel counts in this table show the number of different vessels that have participated in the fishery over the specified period. Because other tables in the analysis of alternatives track “participants” with transfers of histories from vessels, the number of vessels and participants over the same time period may differ.

Table 2-6. Estimated retained catch of rockfish secondary species and participation of trawl vessels in the Central Gulf of Alaska directed rockfish fisheries (1996 through 2006).

Year	Species	Catcher Processors		Catcher Vessels		Total	
		Number of vessels	Catch (metric tons)	Number of vessels	Catch (metric tons)	Number of vessels	Catch (metric tons)
1996	Pacific cod**	1	*	1	*	2	*
	Shortraker/rougheye rockfish	10	371.5	20	*	30	*
	Thornyhead rockfish	10	72.6	27	50.8	37	123.4
	Sablefish	10	322.3	28	489.7	38	812.0
1997	Pacific cod**	12	57.1	24	110.8	36	167.9
	Shortraker/rougheye rockfish	15	327.4	18	13.0	33	340.4
	Thornyhead rockfish	15	86.2	22	32.2	37	118.4
	Sablefish	15	301.3	27	239.2	42	540.6
1998	Pacific cod**	7	122.2	33	431.3	40	553.5
	Shortraker/rougheye rockfish	7	466.9	25	39.6	32	506.5
	Thornyhead rockfish	6	94.0	30	87.0	36	181.0
	Sablefish	7	356.7	33	282.2	40	638.9
1999	Pacific cod**	11	275.6	32	703.2	43	978.8
	Shortraker/rougheye rockfish	10	223.8	20	19.2	30	243.0
	Thornyhead rockfish	11	81.1	31	28.5	42	109.6
	Sablefish	11	299.3	31	332.2	42	631.5
2000	Pacific cod**	5	57.8	31	1,038.9	36	1,096.7
	Shortraker/rougheye rockfish	5	398.8	22	45.6	27	444.4
	Thornyhead rockfish	5	106.3	28	65.2	33	171.6
	Sablefish	5	218.3	31	468.2	36	686.4
2001	Pacific cod**	7	44.9	33	903.0	40	947.9
	Shortraker/rougheye rockfish	7	429.1	23	56.1	30	485.2
	Thornyhead rockfish	7	102.7	27	36.1	34	138.9
	Sablefish	7	204.7	33	352.3	40	557.0
2002	Pacific cod**	6	56.4	33	1,211.5	39	1,267.9
	Shortraker/rougheye rockfish	6	356.6	33	22.5	39	379.1
	Thornyhead rockfish	6	98.3	29	33.9	35	132.3
	Sablefish	6	221.5	33	364.5	39	586.0
2003	Pacific cod**	4	144.2	32	1,471.8	36	1,616.0
	Shortraker/rougheye rockfish	5	332.8	19	28.9	24	361.7
	Thornyhead rockfish	5	300.5	29	60.3	34	360.8
	Sablefish	5	269.8	32	539.9	37	809.7
2004	Pacific cod**	6	102.5	32	1,330.5	38	1,433.0
	Shortraker/rougheye rockfish	7	163.2	24	37.6	31	200.8
	Thornyhead rockfish	7	151.9	28	23.2	35	175.1
	Sablefish	7	259.6	32	525.9	39	785.5
2005	Pacific cod**	5	84.5	26	796.1	31	880.6
	Shortraker/rougheye rockfish	6	141.6	19	20.0	25	161.6
	Thornyhead rockfish	6	118.6	24	26.4	30	144.9
	Sablefish	6	236.6	26	440.6	32	677.2
2006	Pacific cod**	5	94.4	25	270.5	30	364.9
	Shortraker/rougheye rockfish	5	60.8	21	35.6	26	96.4
	Thornyhead rockfish	5	75.3	24	35.8	29	111.1
	Sablefish	5	164.7	25	374.5	30	539.2
All years (totals)	Pacific cod**	18	1,043.0	53	8,270.4	71	9,313.4
	Shortraker/rougheye rockfish	20	3,272.4	53	383.2	73	3,655.6
	Thornyhead rockfish	20	1,287.7	55	479.4	75	1,767.1
	Sablefish	20	2,854.8	56	4,409.2	76	7,264.0

Source: Catcher processor data from Weekly Production Reports and catcher vessel data from ADF&G fish tickets

* Withheld for confidentiality

** Pacific cod fishery placed on PSC status on May 5 due to TAC

Table 2-7. Percent of retained catch of rockfish secondary species and participation of trawl vessels in the Central Gulf of Alaska directed rockfish fisheries (1996 through 2006).

Year	Species	Catcher Processors		Catcher Vessels	
		Number of vessels	Percent of total	Number of vessels	Percent of total
1996	Pacific cod**	1	*	1	*
	Shortraker/rougheye rockfish	10	*	20	*
	Thornyhead rockfish	10	58.9	27	41.1
	Sablefish	10	39.7	28	60.3
1997	Pacific cod**	12	34.0	24	66.0
	Shortraker/rougheye rockfish	15	96.2	18	3.8
	Thornyhead rockfish	15	72.8	22	27.2
	Sablefish	15	55.7	27	44.3
1998	Pacific cod**	7	22.1	33	77.9
	Shortraker/rougheye rockfish	7	92.2	25	7.8
	Thornyhead rockfish	6	51.9	30	48.1
	Sablefish	7	55.8	33	44.2
1999	Pacific cod**	11	28.2	32	71.8
	Shortraker/rougheye rockfish	10	92.1	20	7.9
	Thornyhead rockfish	11	74.0	31	26.0
	Sablefish	11	47.4	31	52.6
2000	Pacific cod**	5	5.3	31	94.7
	Shortraker/rougheye rockfish	5	89.7	22	10.3
	Thornyhead rockfish	5	62.0	28	38.0
	Sablefish	5	31.8	31	68.2
2001	Pacific cod**	7	4.7	33	95.3
	Shortraker/rougheye rockfish	7	88.4	23	11.6
	Thornyhead rockfish	7	74.0	27	26.0
	Sablefish	7	36.7	33	63.3
2002	Pacific cod**	6	4.4	33	95.6
	Shortraker/rougheye rockfish	6	94.1	33	5.9
	Thornyhead rockfish	6	74.4	29	25.6
	Sablefish	6	37.8	33	62.2
2003	Pacific cod**	4	8.9	32	91.1
	Shortraker/rougheye rockfish	5	92.0	19	8.0
	Thornyhead rockfish	5	83.3	29	16.7
	Sablefish	5	33.3	32	66.7
2004	Pacific cod**	6	7.2	32	92.8
	Shortraker/rougheye rockfish	7	81.3	24	18.7
	Thornyhead rockfish	7	86.8	28	13.2
	Sablefish	7	33.0	32	67.0
2005	Pacific cod**	5	9.6	26	90.4
	Shortraker/rougheye rockfish	6	87.6	19	12.4
	Thornyhead rockfish	6	81.8	24	18.2
	Sablefish	6	34.9	26	65.1
2006	Pacific cod**	5	25.9	25	74.1
	Shortraker/rougheye rockfish	5	63.1	21	36.9
	Thornyhead rockfish	5	67.8	24	32.2
	Sablefish	5	30.5	25	69.5
All years (totals)	Pacific cod**	18	11.2	53	88.8
	Shortraker/rougheye rockfish	20	89.5	53	10.5
	Thornyhead rockfish	20	72.9	55	27.1
	Sablefish	20	39.3	56	60.7

Source: Catcher processor data from Weekly Production Reports. Catcher vessel data from ADF&G fish tickets.

* Withheld for confidentiality

** Pacific cod fishery placed on PSC status on May 5 due to TAC

Table 2-8 shows the retained catch of the rockfish secondary species by vessels targeting CGOA rockfish during the qualifying periods: 1996 through 2002, 1998 through 2006, and 2000 through 2006. The table shows the current retainable percentage used for computing MRAs for incidental catch (as defined by 50 CFR 679.20(e) and Table 10) and the MRA based on the catch of rockfish primary species during the qualifying periods. The retainable percentage is used to determine the maximum amount of an incidental catch species that can be retained by a vessel, as a percentage of the CGOA rockfish primary species. Since some retainable percentages have changed over time, the retainable percentages presented in the table should be used only for comparison of historical retention, with allowable retention amounts prior to implementation of the Pilot Program.

As the table shows, CGOA rockfish was the majority of retained catch for vessels targeting rockfish during each of the qualifying periods. Trawl catcher vessels had significant retention of both Pacific cod and sablefish, while catcher processors also had significant retention of sablefish, but significantly less Pacific cod. Trawl catcher processors also retained larger quantities of shortraker/rougheye rockfish and thornyhead rockfish compared to trawl catcher vessels. Looking specifically at trawl catcher processors, sablefish retained harvests ranged from 5.5% of rockfish primary species for 1998 through 2006 and 2000 through 2006 qualifying periods to 6.2% for qualifying period 1996 through 2002. Pacific cod retention by trawl catcher vessels ranged from 8.5% during the 2000 through 2006 qualifying period, to 10.7% during the 1996 through 2002 qualifying period. Trawl catcher processors had slightly less harvest of sablefish, relative to their harvest of rockfish primary species, during each of the qualifying periods in comparison to the current retainable percentage. Harvests of all other species (including Pacific cod) during each of the qualifying periods are substantially less than the retainable percentage. These figures suggest that in most instances, the retainable percentage limited only harvests of sablefish by vessels targeting rockfish, during each of the qualifying periods. Trawl catcher processors also harvested large amounts of shortraker/rougheye rockfish incidentally to their rockfish primary species harvests. Harvest of shortraker/rougheye rockfish by trawl catcher processors ranged from a low of 2.3% during the 2000 through 2006 period, to 6.3% during the 1996 through 2002 period.

Table 2-8. Retained catch and limited access retainable percentages for vessels targeting Central Gulf of Alaska rockfish for three qualifying periods.

Qualifying Years	Sector	Target rockfish catch (metric tons)	Pacific cod				Shortraker/rougheye			
			Catch (metric tons)	Percent of target rockfish	Retainable percentage	Maximum retainable amount	Catch (metric tons)	Percent of target rockfish	Retainable percentage	Maximum retainable amount
1996-2002	CV	41063.9	4401.4	10.7	20.0	8212.8	261.3	0.6	15.0	6159.6
	CP	40653.0	617.5	1.5	20.0	8130.6	2573.9	6.3	15.0	6098.0
	Total	81717.0	5018.8	6.1	20.0	16343.4	2835.2	3.5	15.0	12257.5
1998-2006	CV	66882.1	8157.0	10.0	20.0	13376.4	305.1	0.4	15.0	10032.3
	CP	51334.7	982.3	1.2	20.0	10266.9	2573.6	3.1	15.0	7700.2
	Total	118216.7	9139.3	11.2	20.0	23643.3	2878.7	3.5	15.0	17732.5
2000-2006	CV	55847.7	7022.4	8.6	20.0	11169.5	246.3	0.3	15.0	8377.2
	CP	36733.4	584.6	0.7	20.0	7346.7	1882.9	2.3	15.0	5510.0
	Total	92581.1	7607.0	9.3	20.0	18516.2	2129.2	2.6	15.0	13887.2

Qualifying Years	Sector	Thornyhead				Sablefish			
		Catch (metric tons)	Percent of target rockfish	Retainable percentage	Maximum retainable amount	Catch (metric tons)	Percent of target rockfish	Retainable percentage	Maximum retainable amount
1996-2002	CV	333.7	0.8	15.0	6159.6	2528.3	6.2	7.0	2874.5
	CP	641.4	1.6	15.0	6098.0	1924.1	4.7	7.0	2845.7
	Total	975.1	1.2	15.0	12257.5	4452.4	5.4	7.0	5720.2
1998-2006	CV	396.4	0.6	15.0	10032.3	3680.3	5.5	7.0	4681.7
	CP	1128.8	2.2	15.0	7700.2	2231.2	4.3	7.0	3593.4
	Total	1525.2	1.3	15.0	17732.5	5911.5	5.0	7.0	8275.2
2000-2006	CV	280.9	0.5	15.0	8377.2	3065.9	5.5	7.0	3909.3
	CP	953.7	2.6	15.0	5510.0	1575.1	4.3	7.0	2571.3
	Total	1234.6	1.3	15.0	13887.2	4641.0	5.0	7.0	6480.7

Source: CP data from Weekly Production Reports and CV data from Alaska Department of Fish and Game fish tickets

CP = catcher processor

CV = catcher vessel

In addition to groundfish species, participants in the rockfish fisheries also incurred halibut PSC during the 1996 through 2006 period. Table 2-9 shows the estimated annual PSC and mortality of halibut in the CGOA rockfish fisheries, by trawl sector. Halibut mortality of both sectors exceeded 20 pounds per

metric ton of rockfish primary species catch in all years leading up to program implementation, with the highest mortality exceeding 68 pounds per metric tons of rockfish primary species catch in the catcher vessel sector in 2001. The highest mortality for the trawl catcher processor sector was 55 pounds per metric ton of rockfish primary species catch in 1997.

Table 2-9. Halibut PSC mortality of trawl vessels in the Central Gulf of Alaska directed rockfish fisheries (1996 through 2006).

Year	Catcher processors			Catcher vessels		
	Halibut PSC mortality (pounds)	Catch of primary rockfish (tons)	Pounds of halibut PSC mortality per ton of primary rockfish retained catch	Halibut PSC mortality (pounds)	Catch of primary rockfish (tons)	Pounds of halibut PSC mortality per ton of primary rockfish retained catch
1996	117,064.3	4,456.4	26.3	204,983.7	3,445.9	59.5
1997	328,198.8	5,899.6	55.6	109,215.9	3,297.9	33.1
1998	322,643.2	6,680.7	48.3	191,447.5	5,156.5	37.1
1999	372,511.3	8,532.4	43.7	274,097.9	5,877.8	46.6
2000	105,732.6	4,591.2	23.0	300,861.8	8,577.5	35.1
2001	243,916.9	6,301.8	38.7	454,742.8	6,656.4	68.3
2002	244,909.0	4,782.1	51.2	209,657.5	8,051.9	26.0
2003	144,423.1	4,148.7	34.8	340,960.7	9,728.1	35.0
2004	107,653.0	4,977.7	21.6	474,015.4	8,548.7	55.4
2005	150,053.0	5,506.0	27.3	306,010.6	7,445.8	41.1
2006	127,343.3	5,558.0	22.9	165,482.1	6,839.4	24.2

Source: Catcher processor data from Catch Accounting/Blend and catcher vessel data from Alaska Department of Fish and Game fish tickets

Since the rockfish fisheries are prosecuted only in July, vessels that participated in the rockfish fisheries also participated in several other fisheries in the GOA and the BSAI.¹⁹ Table 2-10 shows the estimated ex-vessel gross revenues of catcher vessels eligible for the Rockfish Program, from 1996 through 2006. The table shows that these vessels have substantial participation in several other fisheries, primarily pollock and Pacific cod. Comparing this table to Table 2-29 and Table 2-30, one can see that revenues from the CGOA rockfish fisheries (including revenues from rockfish secondary species harvested in the rockfish fisheries) are a minor part of the revenues of catcher vessels eligible for the CGOA rockfish fisheries (i.e., less than 10% of total ex-vessel gross revenues).

¹⁹ In addition, many of the vessels that have participated in the rockfish fisheries have also participated in other fisheries, both in and out of the CGOA, in the month of July. This section provides background on the overall activity of vessels that targeted CGOA groundfish during the 1996 through 2006 period. Additional information on the participation of these vessels in other fisheries in the month of July, during the 2007 and 2008 period, is contained in Section 2.3.4.

Table 2-10. Ex-vessel gross revenues of catcher vessels eligible for the CGOA Rockfish Program (using 1996 through 2002 qualifying years).

Year	Pollock		Pacific cod		Rockfish		Flatfish and other groundfish	
	Number of vessels	Ex-vessel gross revenues (\$1,000)	Number of vessels	Ex-vessel gross revenues (\$1,000)	Number of vessels	Ex-vessel gross revenues (\$1,000)	Number of vessels	Ex-vessel gross revenues (\$1,000)
1996	47	14,069	51	7,527	45	655	46	6,045
1997	50	17,140	50	9,900	46	678	50	5,487
1998	52	14,657	52	6,842	46	897	51	3,063
1999	50	20,147	47	13,149	48	1,117	49	2,677
2000	48	28,660	48	10,208	42	1,356	48	4,678
2001	49	23,618	49	9,886	45	758	48	3,303
2002	45	24,078	46	7,690	42	936	45	3,423
2003	45	20,949	45	15,225	40	1,310	45	3,815
2004	44	23,316	44	10,553	43	1,111	44	3,398
2005	41	32,756	42	8,595	40	1,669	41	4,695
2006	40	29,620	41	10,811	38	2,499	38	7,240

	Halibut		Crab and other species		All species	
	Number of vessels	Ex-vessel gross revenues (\$1,000)	Number of vessels	Ex-vessel gross revenues (\$1,000)	Number of vessels	Ex-vessel gross revenues (\$1,000)
1996	15	1,873	22	787	226	30,958
1997	16	2,348	32	1,164	244	36,717
1998	38	1,465	42	1,442	281	28,366
1999	25	2,447	40	1,714	259	41,252
2000	30	2,599	37	1,062	253	48,562
2001	30	1,799	43	695	264	40,060
2002	27	2,648	42	920	247	39,696
2003	25	3,279	40	1,304	240	45,882
2004	24	3,193	41	1,228	240	42,799
2005	24	2,623	39	581	227	50,920
2006	19	3,558	35	368	211	54,096

Source: Alaska Department of Fish and Game fish tickets

Table 2-11 shows total product weights and estimated gross revenues for the catcher processor sector during the 1996 through 2006 period. Note that the rockfish production included in Table 2-11 also includes rockfish from the CGOA. Comparing this table with Table 2-33 and Table 2-34 shows that revenues from production from the CGOA rockfish fisheries (including production from rockfish secondary species) are a relatively small portion (i.e., slightly less than 5%) of the annual revenues of eligible catcher processors. Products and gross revenues from those fisheries are not included in Table 2-11.

Table 2-11. Total product weights and first wholesale gross revenues of CGOA rockfish eligible catcher processors in groundfish fisheries (using 1996 through 2002 qualifying years).

Year	Pollock			Pacific cod			Rockfish		
	Number of vessels	Pounds of product (\$1,000s)	First wholesale revenues (\$1,000s)	Number of vessels	Pounds of product (\$1,000s)	First wholesale revenues (\$1,000s)	Number of vessels	Pounds of product (\$1,000s)	First wholesale revenues (\$1,000s)
1996	10	6,393	5,556	16	10,449	7,831	16	15,880	12,295
1997	12	3,587	3,837	16	12,385	7,245	16	15,035	11,418
1998	13	14,390	9,708	13	18,000	16,033	13	10,251	4,961
1999	12	6,320	1,835	12	13,161	15,465	11	15,441	7,408
2000	12	7,877	5,228	12	16,068	19,036	11	9,871	6,690
2001	12	8,574	5,056	12	17,184	18,789	12	9,569	4,671
2002	12	8,173	4,947	12	19,228	18,530	11	11,181	7,218
2003	12	8,013	5,258	12	20,093	21,617	12	11,666	8,579
2004	12	8,842	5,354	12	23,313	24,888	12	10,660	8,633
2005	12	7,959	5,662	12	17,189	21,995	12	10,743	12,349
2006	12	5,574	3,989	12	15,478	25,870	11	11,064	14,289

Source: Weekly Production Reports

Pilot Program

Under the Pilot Program, catcher vessel participation in the rockfish fisheries has remained similar to participation levels under pre-Pilot Program limited access management (see Table 2-12).²⁰ Harvests of catcher vessel cooperatives exceeded the catcher vessel cooperative allocations for all three rockfish primary species, but without overages, because of transfers of quota from the catcher processor cooperatives. Through similar transfers from catcher processor cooperatives, the catcher vessel cooperatives harvested substantially more than their sector's allocations of sablefish in 2007 and 2008. The cooperatives harvested less than half of their collective allocations of thornyhead rockfish and Pacific cod in 2007, but in 2008, the cooperatives harvested nearly their entire Pacific cod allocation.²¹

²⁰ Vessels are not permitted to discard allocated species under the program, so all catch figures are total catch. In three instances vessels are reported to have made small amounts of discards. In these cases, the discards were counted against allocated quota and are included in total catch amounts in this document. Persons making these discards were issued warnings by NOAA Enforcement. NOTE: Strictly speaking, halibut PSC is not an allocation, but rather an "allowance" and, like all prohibited species catch, must be immediately discarded, inflicting the least harm possible, no matter the condition of the animal.

²¹ Although three catcher vessels in 2007 and two catcher vessels in 2008 did not join a cooperative, NMFS did not open the fishery in those years due to insufficient TAC apportionment necessary to support a competitive race for fish amongst rockfish limited access vessels. The relatively small allocations to these vessels may explain the failure of these vessels to join cooperatives, as they might view the costs associated with negotiation and any risk of liability of the cooperative as exceeding the potential benefit that might be derived from their allocation.

Table 2-12. Total catch and allocation of allocated species by catcher vessel cooperatives (2007 and 2008).

Year	Species	Number of vessels	Catch (in metric tons)	Allocations (in metric tons)		Percent of allocation harvested	
				excluding transfers	including transfers	excluding transfers	including transfers
2007	Pacific Ocean Perch	25	4,414.3	3,394.8	4,206.8	122.1	98.5
	Northern Rockfish	25	2,001.1	1,940.3	2,352.3	103.1	85.1
	Pelagic Shelf Rockfish	24	1,577.0	1,380.3	1,877.3	114.2	84.0
	Pacific Cod	25	271.9	587.1	NA	46.3	47.2
	Sablefish	24	453.8	386.3	458.3	117.5	99.0
	Thornyhead	24	46.2	106.1	160.1	43.5	28.9
	Rockfish						
2008	Pacific Ocean Perch	26	4,503.6	3,735.0	4,589.5	120.6	98.1
	Northern Rockfish	25	1,347.8	1,335.0	1,522.1	101.0	88.6
	Pelagic Shelf Rockfish	24	1595.3	1,512.0	2,080.9	105.5	76.7
	Pacific Cod	25	568.0	590.0	NA	96.3	NA
	Sablefish	26	396.1	345.0	398.9	114.8	99.3
	Thornyhead	26	59.8	93.0	135.9	64.3	44.0
	Rockfish						

Source: Catch Accounting Data and Cooperative Reports

Note: No overages occurred because of transfer of cooperative quota from catcher processor cooperatives

Discards of allocated species are not permitted

In addition to allocated species, catcher vessels in the Pilot Program are governed by a program-specific 2% MRA for aggregate catch of shortraker rockfish and roughey rockfish (see Table 2-13). Catcher vessel cooperatives caught substantially less shortraker rockfish and roughey rockfish than is permitted by the MRA.

Table 2-13. Total catch of Pilot Program MRA species by catcher vessel cooperatives (2007 and 2008).

Year	Species	Number of vessels	Catch including discards (in metric tons)	Maximum retainable amount (as a percentage of primary species catch)	Maximum retainable amount in metric tons (given primary catch)
2007	Roughey Rockfish	24	9.9	2	154.4
	Shortraker Rockfish	19	9.4	(in aggregate)*	
2008	Roughey Rockfish	21	15.3	2	148.9
	Shortraker Rockfish	22	31.9	(in aggregate)*	

Source: Catch Accounting Data and Cooperative Reports.

* Maximum retainable percentage limits aggregate retention of shortraker rockfish and rough rockfish

Catcher processor participation declined in the first year of the program, but then increased in 2008 (see Table 2-14).²² Only four catcher processors participated in the rockfish fisheries in the first year of the program, with three of those vessels participating in the limited access. In the second year of the program, six vessels participated in the rockfish fisheries, with four of those vessels participating in the limited access fishery. Although two cooperatives formed in the catcher processor sector, one cooperative entered

²² Note that no data shown in Table 2-14 are confidential, as certain cooperative fishing is reported in the annual report of the cooperative.

a single vessel into the fishery in 2007 and two vessels in 2008, while the other transferred its entire quota to other cooperatives in both sectors for both 2007 and 2008. The single active cooperative harvested almost all of its Pacific ocean perch allocation in 2007 and 2008, but did not harvest a substantial percentage of its northern rockfish and pelagic shelf rockfish allocations. This cooperative, however, received relatively small allocations of these two species, in comparison to its Pacific ocean perch allocation. This cooperative also harvested most of its sablefish allocation in 2007 and 2008, and more than its annual allocation of shortraker rockfish during both years (without overage). Avoidance of an overage was possible through transfers from the other (inactive) catcher processor cooperative. It caught very little of its rougheye rockfish allocation, and slightly less than a third of its allocation of thornyhead rockfish.

In 2007, three of the four vessels registered for the catcher processor limited access fishery participated in that fishery, while in 2008, four of the seven vessels registered for the fishery were active. The catcher processor limited access fishery harvested most of its Pacific ocean perch and northern rockfish allocations, in 2007 and 2008, but left a substantial amount of pelagic shelf rockfish unharvested in 2007, while harvesting most of its 2008 allocation.

Table 2-14. Total catch and allocation of allocated species by catcher processor cooperatives and limited access (2007 and 2008).

Year	Fishery	Species	Number of vessels	Catch (in metric tons)	Allocation excluding transfers (in metric tons)	Percentage of allocation harvested
2007	Cooperative*	Pacific Ocean Perch	1	1,666.9	1,700	98
		Northern Rockfish	1	153.1	284	54
		Pelagic Shelf Rockfish	1	113.1	141	80
		Sablefish	1	78.2	87	90
		Shortraker Rockfish	1	43.5	34	126**
		Rougheye Rockfish	1	11.3	117	10
		Thornyhead Rockfish	1	23.1	74	31
	Limited Access	Pacific Ocean Perch	3	943.4	1,008	94
		Northern Rockfish	3	584.5	675	87
		Pelagic Shelf Rockfish	3	535.4	1,065	50
2008	Cooperative*	Pacific Ocean Perch	2	1,621.5	1,671	97
		Northern Rockfish	2	145.7	168	87
		Pelagic Shelf Rockfish	2	69.2	147	47
		Sablefish	2	66.7	70	96
		Shortraker Rockfish	2	28.7	28	103**
		Rougheye Rockfish	2	6.9	145	5
		Thornyhead Rockfish	2	12.5	58	22
	Limited Access	Pacific Ocean Perch	4	1,305.7	1,386	94
		Northern Rockfish	3	469.7	514	91
		Pelagic Shelf Rockfish	3	1,115.7	1,194	93

Source: Catch Accounting Data and Cooperative Reports.

Note: Excludes allocation of catcher processor cooperative that did not fish.

*Data are not confidential because of disclosure in cooperative reports.

** No overage occurred because of transfer of cooperative quota.

Catcher processor cooperative participants are subject to a 4% MRA for Pacific cod (see Table 2-15). This MRA is set lower than the 20% MRA applicable to most fisheries (including the rockfish fisheries prior to the Pilot Program) to maintain catch of the sector at its historical level. Participants in the catcher processor limited access fishery are subject to MRAs for shortraker rockfish and rougheye rockfish (in the aggregate), Pacific cod, sablefish, and thornyhead rockfish. These MRA percentages are reduced to maintain harvests below their historical amounts and to create an economic disincentive for participation in the limited access fishery. Catch of Pacific cod by the catcher processor sector (including both cooperative and limited access participants) was slightly less than the amount permitted by the MRA.

Catch of shortraker rockfish and rougheye rockfish was slightly more than half of the amount permitted under the MRA for 2007, while nearly the entire MRA permitted was caught in 2008. The same was true of sablefish catch in 2008, with nearly all the permitted amount being harvested, while thornyhead rockfish catch was less than half of the amount permitted.

Table 2-15. Catch of species subject to MRAs by the catcher processor sector (2007 and 2008).

Year	Fishery	Species	Number of vessels	Catch including discards (in metric tons)	Maximum retainable amount (as a percentage of primary species catch)	Maximum retainable amount in metric tons (given primary catch)
2007	Limited Access and Cooperative	Pacific Cod	3	72.7	4	77.3
	Limited Access only	Shortraker/Rougheye	3	32.1	2	41.3
		Sablefish	2	*	3	61.9
		Thornyhead Rockfish	2	*	4	82.5
2008	Limited Access and Cooperative	Pacific Cod	5	71.6	4	73.5
	Limited Access only	Shortraker/Rougheye	3	54.9	2	57.8
		Sablefish	6	89.5	3	86.7
		Thornyhead Rockfish	6	42.6	4	115.6

Source: Catch Accounting Data and Cooperative Reports.

* Withheld for confidentiality.

Since cooperative participants in the program are limited exclusively by their allocations, participants were able to pattern their fishing to increase the benefit derived from their allocations. As a result, in a few instances, catcher vessels took trips targeting Pacific cod or sablefish (see Table 2-16). By limiting their catch of rockfish in these trips, harvesters were able to reduce costs of traveling to the different grounds, and increase quality of catch, by limiting the extent of mixing of Pacific cod and sablefish with rockfish, the spines of which can damage more fragile fish. Over 75% of the Pacific cod and over 50% of the sablefish were caught during non-rockfish target trips. During these non-rockfish target trips, few rockfish primary species were harvested.²³ Although targeting of sablefish and Pacific cod in this manner may be viewed by some as contrary to the concept of the “rockfish fisheries,” harvests of these species have remained at, or below, their historical catch levels in the rockfish fisheries.

²³ Some rockfish primary species are harvested during these trips that are non-rockfish targets, because MRAs for shortraker rockfish and rougheye rockfish may use only catch of rockfish primary species as the basis for determining the MRA poundage.

Table 2-16. Catcher vessel trips and catch by trip target (2007 and 2008).

Target	Vessels with at least one trip in the target		Total trips in the target		Species caught in the target	Catch (in metric tons)		Percent of total catch of the species	
	2007	2008	2007	2008		2007	2008	2007	2008
Pacific cod	10	12	11	13	Pacific Ocean Perch	5.2	13.2	0.1	0.3
					Northern Rockfish	0.9	2.2	0.0	0.2
					Pelagic Shelf Rockfish	0.4	13.5	0.0	0.8
					Pacific Cod	207.1	429.9	74.7	75.7
					Sablefish	30.5	53.6	6.6	13.5
Rockfish	25	26	130	112	Pacific Ocean Perch	4,145.3	4,477.5	99.5	99.4
					Northern Rockfish	2,000.1	1,343.7	100.0	99.7
					Pelagic Shelf Rockfish	1,577.0	1,578.1	99.9	98.9
					Pacific Cod	54.5	137.3	19.6	24.2
					Sablefish	205.7	128.2	44.2	32.4
Sablefish	14	13	16	17	Pacific Ocean Perch	16.1	12.9	0.4	0.3
					Northern Rockfish	0.0	1.8	0.0	0.1
					Pelagic Shelf Rockfish	0.9	3.6	0.1	0.2
					Pacific Cod	15.7	0.7	5.7	0.1
					Sablefish	229.1	214.3	49.2	54.1

Source: NMFS Catch Accounting Data.

Under the Pilot Program, the catch of cooperatives is not only limited by rockfish primary and secondary species allocations, but also by allowances of halibut PSC (see Table 2-17). Since halibut allowances under the program are based on historical halibut PSC in the rockfish fisheries, these allowances provide a reasonable benchmark for assessing changes in halibut PSC mortality. In the years leading up to the Pilot Program, vessels in the rockfish fisheries averaged in excess of 20 pounds of halibut PSC mortality for each ton of rockfish primary species. In the first 2 years of the program, vessels fishing in cooperatives and the limited access fishery under the program, cut halibut PSC mortality rates substantially. Vessels in the catcher processor limited access fishery reduced their halibut PSC to approximately 13 pounds of halibut per ton of rockfish primary species catch in 2007, while in 2008 the halibut PSC mortality rate was 17 pounds per ton of rockfish primary species catch (see Table 2-9 for historical catch rates).²⁴ For the catcher processor cooperative, the single vessel fishing in 2007 reduced its halibut PSC mortality to less than 9 pounds of halibut per metric ton of rockfish primary species catch, while the two participating vessels in 2008 had a halibut PSC mortality of 10.5%. The catcher vessel sector reduced its halibut PSC mortality to slightly more than 4 pounds of halibut per ton of rockfish primary species catch in 2007, while the halibut PSC mortality in 2008 for this sector was roughly 8 pounds per metric ton of rockfish primary species.²⁵

This reduction in halibut PSC mortality (particularly in the catcher vessel sector) likely arises from several factors. First, vessels have exclusive groundfish allocations, allowing them to move from areas of high halibut PSC, without risking loss of target catch in the rockfish fisheries. Second, exclusive allocations also increase the incentive for participants to communicate with each other concerning catch rates, improving information concerning areas of high halibut PSC incidence in the fleet and preventing repeated high halibut PSC mortality among vessels exploring fishing grounds. Third, several vessels have begun employing new pelagic gear that limits bottom contact and halibut PSC. These gear changes are apparent when comparing the percentage of catch using pelagic trawl gear and non-pelagic gear in the first 2 years of the program, with catch by those gear types in the preceding years (see Table 2-18). In the second year of the program, over 40% of rockfish primary species catch was made with pelagic trawl, in

²⁴ In assessing the change in catch rate in the catcher processor limited access fishery, it should be borne in mind that (although not fishing as a cooperative) the vessels fishing in that fishery did not compete for the allocations of pelagic shelf rockfish, reducing the pressure to race for fish.

²⁵ These calculations include all halibut mortality of vessels fishing under the Pilot Program, including mortality in trips targeting Pacific cod and sablefish.

comparison to less than 25% in 2006, and 6% or less in the preceding years. In the second year of the program, nearly 85% of the catcher vessel fleet used pelagic gear for some of its catch, in comparison to slightly more than half of that fleet in 2006, and less than 20% in the preceding years. While this increase is substantial, only one vessel in the catcher vessel fleet used pelagic gear exclusively. In the catcher processor sector, two of the four active vessels used pelagic gear in the first year of the program, in comparison to no pelagic trawl gear used prior to implementation of the program. Catch data by gear type cannot be revealed for the catcher processor sector, because of confidentiality protections.

Participants in the program report that a primary motivation for these changes in gear types is constraining halibut PSC allowances, which, if exceeded, could jeopardize cooperative catches. The incentive for halibut PSC mortality reductions is increased by the reapportionment of saved halibut PSC mortality to other fisheries late in the year, allowing the trawl sector as a whole (including vessels that did not qualify for the Pilot Program) to benefit from these halibut mortality reductions. In the 3 years of the program, the reapportionment of halibut PSC from the Pilot Program to the GOA trawl fisheries allowed the trawl GOA groundfish fisheries to remain open until December 31. In the 5 years previous to implementation of the Pilot Program, the trawl GOA groundfish fisheries were closed to directed fishing prior to the end of the season, so as not to exceed the halibut PSC limit (see [Figure 2-4](#)). Participants report that they were able to make additional harvests of flatfish as a result of these rollovers.

Table 2-17. Halibut PSC mortality of vessels in the Pilot Program (2007 and 2008).

Year	Fishery	Vessels	Halibut PSC mortality (pounds)**	Catch of primary rockfish (tons)	Pounds of halibut PSC mortality per ton of primary rockfish catch	Allocation including transfer of halibut PSC mortality (pounds)	Unused allocation (pounds)
2007	Catcher processor limited access	3	26,312.8	2,063.3	12.8	NA	NA
	Catcher processor cooperative*	1	16,623.3	1,933.1	8.6	77,760.7	61,137.3
	Catcher vessel cooperative	25	32,710.1	7,746.0	4.2	309,816.8	277,106.7
	Total	29	75,646.3	11,742.4	6.4	387,577***	338,244+
2008	Catcher processor limited access	4	47,624.4	2,892.1	16.5	NA	NA
	Catcher processor cooperative*	2	19,332.0	1,836.4	10.5	44,092.0	24,760.0
	Catcher vessel cooperative	23	60,622.0	7,446.7	8.1	331,906.9	271,284.9
	Total	29	127,578.4	12,175.2	10.5	375,998.9***	296,044.9+

Source: NMFS Catch Accounting Data

*Data are not confidential because of disclosure in cooperative reports.

** Includes all halibut mortality under the primary program (i.e., excludes entry level fishery).

*** Includes allocation to catcher processor cooperative that did not fish. No allocation is made to the limited access fishery.

+ Includes all allocations and only catches by vessels subject to those allocations.

Table 2-18. Catch by gear by sector in the Central Gulf of Alaska rockfish fisheries (2003 through 2008).

Year	Catcher processors		Catcher vessels					
	Non-pelagic trawl	Pelagic trawl	Non-pelagic trawl			Pelagic trawl		
	Number of vessels	Number of vessels	Number of vessels	Catch of primary rockfish species (in metric tons)	Percentage of catch of primary rockfish species	Number of vessels	Catch of primary rockfish species (in metric tons)	Percentage of catch of primary rockfish species
2003	5	0	31	9,396.6	99.0	1	95.6	1.0
2004	6	0	28	7,875.0	100.0	0	0.0	0.0
2005	6	0	24	6,702.4	94.0	4	429.2	6.0
2006	4	0	23	5,153.2	76.4	13	1,590.0	23.6
2007	4	2	24	4,813.0	62.1	19	2,933.0	37.9
2008	6	1	26	4,230.2	56.8	22	3,216.5	43.2

Source: NMFS Catch Accounting.

Figure 2.4 Season duration of the trawl Central Gulf of Alaska groundfish fisheries from October 1 to December 31, 2000 through 2009.*

Year	October					November				December			
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
2000													
2001													
2002													
2003													
2004													
2005													
2006													
2007													
2008													
2009													

Source: NOAA Fisheries status reports and groundfish closure summaries

* Gaps are approximate closure periods.

Catch of groundfish late in the year has fluctuated, both before and after implementation of the Pilot Program. Table 2-19 shows season length, vessel count, total catch, and halibut PSC, by target, for trawl vessels during the October 1 through December 31 period from 2000 through 2009. As seen in the table, in the 2 years preceding the program, no harvest of groundfish occurred, as all fisheries were closed because no halibut PSC allowance was available. In earlier years, during halibut PSC-constrained, relatively short seasons, halibut PSC was primarily used in the shallow-water flatfish, Pacific cod, and arrowtooth flounder fisheries. Smaller amounts of halibut PSC were caught in the rex sole and flathead sole fisheries. In the years since the Pilot Program began, seasons have extended substantially, with halibut PSC primarily caught in the shallow-water flatfish fishery, while a smaller amount of halibut PSC has been caught in the Pacific cod and arrowtooth flounder fisheries. Based on estimated halibut PSC usage in the different target fisheries and aggregate species ex-vessel price estimates, the late season rollover of PSC allowance can be estimated to have generated between \$1.4 million and \$2.8 million in ex-vessel gross revenues. The reapportionment of halibut PSC allowance (128 metric tons in 2007, 135 metric tons in 2008, and 139 metric tons in 2009) has clearly supported additional fishing activity, but the benefit derived from the rollover depends on target preferences and opportunities, which have varied year-to-year, as well as the impact of this additional halibut mortality on other fisheries (e.g., target halibut fisheries) and stock productivity.

Table 2-19. Vessel count, total catch, and halibut PSC by target for trawl vessels in the Central and Western GOA during the fifth season (October 1–December 31) from 2000 through 2009.

Species Complex	Target		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Shallow-water	Shallow-water flatfish	Vessel Count	16	9	26	2	0	0	7	7	7	24
		Target catch	1,711	183	3,518	*	0	0	1,776	3,204	5,773	5,970
		Halibut PSC	82	9	213	*	0	0	210	208	238	138
	Pacific cod	Vessel Count	1	53	9	3	0	0	3	6	9	6
		Target catch	*	10,166	170	*	0	0	*	710	2,170	392
		Halibut PSC	*	437	6	*	0	0	*	15	56	7
	Flathead sole	Vessel Count	2	4	2	2	0	0	1	0	2	5
		Target catch	*	194	*	*	0	0	0	0	*	1,320
		Halibut PSC	*	4	*	*	0	0	0	0	*	13
Deep-water	Rex sole	Vessel Count	4	1	2	1	0	0	1	1	0	3
		Target catch	1,353	*	*	*	0	0	*	*	0	*
		Halibut PSC	38	*	*	*	0	0	*	*	0	*
	Arrowtooth-flounder	Vessel Count	2	1	8	13	0	0	7	6	8	8
		Target catch	*	*	2,702	6,700	0	0	2,095	1,808	2,025	1,098
		Halibut PSC	*	*	70	186	0	0	122	38	45	12
	Deep-water flatfish	Vessel Count	2	0	0	0	0	0	0	0	0	0
		Target catch	*	0	0	0	0	0	0	0	0	0
		Halibut PSC	*	0	0	0	0	0	0	0	0	0
	Rockfish	Vessel Count	0	0	0	1	0	0	3	7	5	4
		Target catch	0	0	0	*	0	0	*	973	1,392	458
		Halibut PSC	0	0	0	*	0	0	*	9	23	1
Days open during 5 th season**			92	20	16	14	0	0	7	82	82	92

Source: Target catch was from Blend data/Catch Accounting, while halibut PSC was from NMFS PSC data.

* Withheld for confidentiality

** All closures during the 5th season were to prevent exceeding halibut PSC limit.

Catch of shortraker rockfish and roughey rockfish under the Pilot Program

In its motion defining the Pilot Program, the Council specifically requested staff examine catch of shortraker rockfish and roughey rockfish under the program's allocations. During development of the Pilot Program, the Council was in the process of separating management of the two species in the GOA to allow for more precise TAC management. In 2005, NMFS managed the two species under separate TACs for the first time. Prior to that year, the species were managed under a single TAC. Although TACs of the two species are separated, in most fisheries they remain subject to an "aggregate rockfish" MRA that limits retained catch to 5% or 15% of catch of species for which directed fishing is permitted. Under this rule, "aggregate rockfish" catch includes catch of all *Sebastes* and *Sebastalobus*, excluding black rockfish, blue rockfish, and dark rockfish. In part, to avoid possible overharvest of shortraker rockfish and

roughey rockfish, the Council elected to use more precise and limiting management in the Pilot Program. Catcher processor cooperatives are limited by a constraining allocation of these two species, with no discards permitted.²⁶ Catcher processors in the limited access fishery, and all catcher vessels, are limited by a 2% MRA applicable to shortraker rockfish and roughey rockfish in the aggregate. This more species-specific reduced MRA is intended to limit any potential incentive to “top off” on these two species.

Allowable catches of shortraker rockfish and roughey rockfish by a catcher processor in the program differs with the catcher processor’s choice of whether to enter a cooperative or fish in the limited access fishery (see Table 2-20 and Table 2-21). Generally, catcher processors are permitted to retain more shortraker rockfish and roughey rockfish, if they join cooperatives. So, maximum retained catch by the sector would be permitted, if all catcher processors chose to join cooperatives. Yet, since discards are permitted by participants in the limited access fishery, it is possible that total removals (i.e., mortality) of shortraker rockfish and roughey rockfish could be greater if all catcher processors chose to join the limited access fishery, rather than fish in cooperatives, if participants in the limited access fishery have substantial discards. In addition, since the MRA applies to aggregate catches of shortraker rockfish and roughey rockfish, it is possible that catches of shortraker rockfish (the species of greater biological concern) could be greater in the limited access fishery.

Catcher vessels in the program are subject to an aggregate MRA that limits only retained catch and does not discern the distribution of catch by species. To ensure that catch is constrained, the Council included a provision in the program that would require shortraker rockfish to be put on PSC status for catcher vessels in the program, in the event that their catch exceeds 9.72% of the CGOA TAC for the species.

Table 2-20. Maximum permitted catches and actual catch of shortraker rockfish and roughey rockfish in 2007.

		Catcher processor	Catcher vessels	Total
Maximum permitted catches under various co-op membership scenarios	Maximum sector shortraker allocation	106*	NA	
	Maximum section roughey allocation	360*	NA	
	Maximum sector catch of MRA shortraker and roughey – aggregate	192**	204	
	Maximum retained catch of shortraker and roughey			669
Maximum permitted catches under first year co-op memberships	Maximum sector shortraker by cooperatives	60		
	Maximum section roughey by cooperatives	203		
	Maximum MRA catch of shortraker and roughey – aggregate	41	204	
	Maximum retained catch of shortraker and roughey			508
Catches in the first year	Total catch of shortraker by cooperatives	44	9	
	Total catch of roughey by cooperatives	11	10	
	Total catch of shortraker and roughey by limited access	32		
	Total catch of shortraker and roughey			106

Sources: NMFS Catch Accounting data and cooperative reports

Notes: MRA amounts assume that allocations of primary species are harvested in their entirety. MRAs limit only retained catch, so maximum catch under an MRA excludes potential discards. Total catch amounts include discards and retained catch.

* Maximum allocation to cooperatives, if all catcher processors join a cooperative.

** Maximum possible MRA catch, if all catcher processors join the limited access fishery.

²⁶ The allocations of shortraker rockfish and roughey rockfish to the catcher processor sector are based on specific percentages of the TAC, selected by the Council, determined after considering historic catches by catcher processors in the rockfish fisheries (i.e., 30.03% of the Central Gulf shortraker TAC and 58.87 percent of the Central Gulf roughey TAC). Each catcher processor cooperative receives a percentage of each of those allocations equal to its percentage of the sector’s rockfish primary species quota shares.

Table 2-21. Maximum permitted catches and actual catch of shortraker rockfish and rougheye rockfish in 2008.

		Catcher processor	Catcher vessels	Total
Maximum permitted catches under various co-op membership scenarios	Maximum sector shortraker allocation	95.0*	NA	
	Maximum section rougheye allocation	491.0*	NA	
	Maximum sector catch of MRA shortraker and rougheye – aggregate	192**	133	
	Maximum retained catch of shortraker and rougheye	124**		719
Maximum permitted catches under first year co-op memberships	Allocation of shortraker by cooperatives	48		
	Allocation of rougheye by cooperatives	251		
	Maximum MRA catch of shortraker and rougheye – aggregate	58	133	
	Maximum retained catch of shortraker and rougheye			489
Catches in the first year	Total catch of shortraker by cooperatives	29	32	
	Total catch of rougheye by cooperatives	7	15	
	Total catch of shortraker and rougheye by limited access	54		
	Total catch of shortraker and rougheye			106

Source: NMFS Catch Accounting data

Notes: MRA amounts assume that allocations of rockfish primary species are harvested in their entirety. MRAs limit only retained catch, so maximum catch under an MRA excludes potential discards. Total catch amounts include discards and retained catch.

* Maximum allocation to cooperatives, if all catcher processors join a cooperative.

** Maximum possible MRA catch, if all catcher processors join the limited access fishery.

In the first year of the program, catcher processors participated in both cooperatives and the limited access fishery. The choice of some catcher processors to participate in the limited access fishery reduced the permitted retained catch of the two species by over 150 metric tons. Yet, some catcher processors are reported to have been reluctant to join cooperatives, because of the potential that the constraining shortraker rockfish and rougheye rockfish allocations would limit their ability to harvest rockfish primary species. Notwithstanding this fear, during the first year of the program, total catch of shortraker rockfish and rougheye rockfish in the limited access fishery were approximately 10 metric tons less than the amount that could be retained under the MRA and were substantially less than would have been permitted, had these catcher processors elected to participate in cooperatives. Catcher vessels in the program harvested less than 10% of the maximum amount permitted by the applicable MRA.

Catches of both species under the program's system of allocations and MRAs were less than historical catches in the rockfish fisheries (see Table 2-22). In addition, catches in the first 2 years of the Pilot Program were a relatively smaller portion of the TAC, although the distribution of that catch between the two sectors has varied across years (please see Section 3.4.4 for further details on the shortraker rockfish and rougheye rockfish fisheries during the first 2 years of the Pilot Program).

Table 2-22. Total allowable catches and total catches of shortraker rockfish and rougheye rockfish in the Central Gulf of Alaska rockfish fisheries (2005 through 2008).

Year	Species	Total allowable catch	Catcher processor sector		Catcher vessel sector		Total	
			Catch (in metric tons)	Percent of the total allowable catch	Catch (in metric tons)	Percent of the total allowable catch	Catch (in metric tons)	Percent of the total allowable catch
2005	Shortraker rockfish	324	127	39	19	6	146	45
	Rougheye rockfish	557	48	9	9	2	57	10
2006	Shortraker rockfish	353	145	41	14	4	159	45
	Rougheye rockfish	608	5	1	30	5	35	6
2007	Shortraker rockfish	353	63	18	4	1	67	19
	Rougheye rockfish	611	19	3	6	1	25	4
2008	Shortraker rockfish	315	57	18	32	10	89	28
	Rougheye rockfish	834	33	4	15	2	49	6

Source: NMFS Catch Accounting

Also, total catches of shortraker rockfish and rougheye rockfish in all fisheries, relative to their TACs, do not indicate that they are overharvested (see Table 2-23).

Table 2-23. Catches and total allowable catches of shortraker rockfish and rougheye rockfish in all Central Gulf of Alaska fisheries (2005 through 2008).

Year	Shortraker rockfish			Rougheye rockfish		
	Catch (in metric tons)	Total allowable catch (in metric tons)	Percent of total allowable catch harvested	Catch (in metric tons)	Total allowable catch (in metric tons)	Percent of total allowable catch harvested
2005	223	324	68.8	122	557	21.9
2006	303	353	85.8	134	608	22.0
2007	158	353	44.8	178	611	29.1
2008	244	315	77.5	190	834	22.8

Source: NMFS Catch reports (2005-2008).

Note: Prior to 2005, shortraker rockfish and rougheye rockfish were managed using an aggregate total allowable catch.

2.3.4 Captains and Crew in the Rockfish Fisheries

LLP Management

Under LLP management, trawl catcher vessels in the CGOA rockfish fisheries were typically operated by a captain and two to four crewmembers. Since the fisheries had a very short duration, rockfish captains and crew often worked on the same vessel in other fisheries throughout the year. A limited number of crew, however, worked on other vessels in other fisheries, including longline fisheries for crab or halibut. Captains and crew were typically compensated using a share system, under which they received a portion of the revenues generated by the vessel during the season. Crew shares were typically on the order of 5% to 10% of gross ex-vessel revenues, after fuel, food, observer coverage, freight and cargo insurance, fiber (in the case of catcher processors), and trip specific expenses are deducted. Captain's shares are typically one and one-half times the average crew share. Both captain and crew earn relatively larger shares on vessels with fewer crew members. Total crew shares (including the captain's share) are on the order of 30% to 40% of gross revenues, depending on circumstances and deductions in determining the revenue basis on which shares are calculated.

In addition to fishing crews of similar size to those found on trawl catcher vessels, trawl catcher processors employ processing crews. The sizes of processing crews varied with the size of the vessel. The largest vessels had crews in excess of 50 during the LLP years. Small vessels carried crews of fewer than 30 persons. Some deck crew also worked in the processing plant. As with catcher vessels, catcher processor crews worked in several other fisheries, in addition to the rockfish fisheries, as the CGOA rockfish fisheries were of relatively short duration. Most crews remained with the vessel on which they fished CGOA rockfish throughout the remainder of the year. Rockfish catcher processor crews were compensated based on vessel revenues. During LLP management years, deck crew on processing vessels earned a share of between 1.5% to 3%, while the captains earned between 5% and 10%. Processing crew earned between 0.5% and 2%, while the factory foreman earned approximately 1.5% to 3%. Some crewmembers (such as cooks) may have been paid a daily wage (or receive a daily minimum) in some instances. Shares likely differed with the expenses that were deducted in determining the revenue basis on which shares were calculated. In some cases, long term crews could have been provided additional benefits, such as health insurance. Total crew shares on catcher processors differed from those on catcher vessels, as they were based on processed product revenues, and were on the order of 25% to 35% of the basis revenues.

Pilot Program

Little information is available concerning the effects of the Pilot Program on captains and crew. The unchanged distribution of catch across vessels suggests that captain and crew fishing activities have changed little in the first 2 years of the program. This consistency in distribution also suggests that leasing of quota and royalties may, at least thus far, have little effect on crew in the fisheries. The leasing of catcher processor quota to catcher vessel cooperatives likely had a distributive effect on revenues between

crews in the different sectors, with some royalty removed prior to payment of crews. On the catcher processor side, the vessels that made these transfers may have been deployed elsewhere, mitigating the effect of the transfer on their crewmembers, although this is uncertain. On the catcher vessel side, these transfers likely had the predictable effect of increasing the total payments to crew harvesting the additional allocation, but at a decreased share basis from fishing quota owned by the vessel. Although only anecdotal information is available concerning payments to captains and crew, no vessel owners or crew have reported changes in crew payment structures or crew share percentages; however, royalties are believed to be charged on leases of annual allocations. Since more licenses received allocations in the rockfish fisheries than have historically participated on an annual basis, leasing has not reduced fleet size in either sector. In addition, vessels in the program participate in several other fisheries, with CGOA rockfish occupying only a brief portion of their annual fishing. Consequently, any consolidation under the program is unlikely to result in the removal of vessels from all fisheries, but only redirect efforts within the seasons and fisheries. In turn, any effect on crews is likely to be modest.

Crews also are affected by the slowing of fishing under the program. With secure allocations, vessels have slowed the rate of fishing, no longer needing to race for a share of the TAC. Although this may mean more time on the fishing grounds for crews, they likely benefit from less rigorous fishing practices, less risk taking, etc.

2.3.5 The Processing Sector

LLP Management

Since relatively few processors participate in the CGOA rockfish fisheries, confidentiality constraints limit information that may be conveyed concerning the distribution of processing in the fisheries. In the years prior to implementation of the program, few processors that did not qualify for the program participated in the rockfish fisheries (see Table 2-24). Since only qualified processors are permitted to receive deliveries under the Pilot Program, only the five qualified processors participated in the rockfish fisheries in the first 2 years of the Pilot Program.²⁷

Table 2-24. Number of plants receiving deliveries in the Central Gulf of Alaska rockfish fisheries (2003 through 2008).

Year	Number of plants receiving deliveries	
	Qualified	Unqualified
2003	4	2
2004	5	1
2005	5	1
2006	5	1
2007	5	NA
2008	5	NA

Source: NMFS Catch Accounting data (2003-2008).

Table 2-25 shows processing of all species, by qualifying processors, from 1996 through 2006. The data in the table are from the State of Alaska Commercial Operators Annual Reports. Since these data are not reported on a management area basis, all of the production numbers could include amounts from management areas other than the CGOA.

²⁷ Only processors that received in excess of 250 metric tons of aggregate Pacific ocean perch, northern rockfish, and pelagic shelf rockfish deliveries per year, for 4 years, from 1996 to 2000, are eligible to participate in the main Rockfish Program.

Table 2-25. Production and first wholesale revenues by species of qualifying processors using 1996 through 2006 years.

Year	Targeted Rockfish			Other Groundfish			Halibut		
	Number of processors	Pounds of product	First wholesale revenue (\$)	Number of processor	Pounds of product	First wholesale revenue (\$)	Number of processors	Pounds of product	First wholesale revenue (\$)
1996	4	1,700,241	863,330	6	71,950,988	87,644,756	6	6,771,955	20,094,340
1997	6	2,408,299	2,008,478	6	53,550,907	65,337,375	5	10,224,289	26,378,322
1998	7	3,773,336	4,269,394	7	64,849,412	74,660,290	6	9,316,268	16,898,045
1999	6	10,862,045	2,215,397	6	84,006,927	78,338,039	5	8,134,356	21,789,759
2000	6	3,886,889	3,100,420	7	51,148,430	75,186,758	7	6,836,103	19,727,110
2001	7	3,539,946	3,244,904	7	50,871,084	66,263,352	6	8,523,077	20,885,344
2002	6	4,302,314	4,445,649	6	41,074,756	56,230,290	6	7,004,323	19,958,656
2003	7	4,574,609	5,240,801	7	46,737,904	51,820,653	6	7,259,541	25,553,812
2004	6	6,481,804	4,439,186	7	62,347,292	63,250,298	5	7,396,292	26,466,414
2005	6	6,814,587	5,402,990	7	70,684,431	80,650,689	6	7,004,527	27,239,873
2006	6	9,174,570	9,719,876	8	80,391,817	85,964,384	7	4,897,508	22,498,157

Year	Shellfish			Salmon			Other		
	Number of processors	Pounds of product	First wholesale revenue (\$)	Number of processor	Pounds of product	First wholesale revenue (\$)	Number of processors	Pounds of product	First wholesale revenue (\$)
1996	3	1,145,705	4,786,565	4	32,690,236	58,973,677	6	5,223,250	10,541,078
1997	6	958,404	4,226,391	6	19,859,540	33,518,066	6	7,112,010	11,838,073
1998	5	1,072,652	3,013,736	7	42,018,056	56,789,788	6	5,193,809	9,699,837
1999	5	975,841	5,963,100	7	42,795,885	63,243,458	6	3,400,676	8,185,042
2000	4	1,798,524	8,435,297	6	36,673,437	52,748,610	7	3,443,608	9,089,733
2001	6	1,346,522	7,837,302	5	47,375,151	52,624,620	7	4,354,348	8,812,336
2002	6	1,815,535	9,513,549	5	34,202,181	38,677,646	6	3,403,835	7,944,447
2003	6	1,371,552	8,467,019	6	44,997,724	59,808,976	7	5,992,945	12,363,680
2004	6	1,476,743	9,278,190	7	55,985,180	69,343,424	7	8,767,877	14,363,921
2005	7	2,636,198	10,592,961	7	67,847,482	84,929,134	7	8,302,303	12,108,817
2006	8	3,284,323	10,787,916	6	61,646,649	79,878,969	8	5,622,241	11,231,797

Source: Commercial Operators Annual Report data

The table shows that rockfish production is a relatively small portion of the production by qualified processing plants. The first wholesale gross revenues for rockfish show that qualifying processors receive substantially less for directed rockfish products than for other species, explaining, at least in part, the tendency to target Pacific cod and sablefish when fishing in the Pilot Program.

Pilot Program

Under the Pilot Program, each eligible harvester is permitted to join a single cooperative, in association with the processor to which the harvester delivered the most pounds of the three rockfish primary species, in aggregate, during the years 1996 through 2000, dropping one year chosen by the processor, which would be dropped for all harvester deliveries to that processor. Harvesters with no deliveries to a qualified processor would be permitted to join a cooperative in association with any one of the qualified processors. By requiring cooperative/processor associations for cooperative formation, but not prescribing the terms of that association, the program rules provide processors with leverage to define the terms of that association. Although not explicitly provided for in the program rules, it is contemplated that some delivery commitments would be provided for in the agreement defining that association.

In the first 2 years of the program, the distribution of cooperative landings suggests that cooperative/processor associations had a great influence on delivery patterns (see Table 2-26). Whether this influence arose from obligations in cooperative agreements or other bases (such as long-term relationships) is not known. Despite the strong relationship between deliveries of a cooperative and its associated processor, almost one-fifth of deliveries of rockfish primary species catch were made to a

processor other than the cooperative's associated processor. Some portion of these deliveries is known to have been made to the processor associated with the catcher processor cooperative that transferred its allocation to catcher vessel cooperatives, who distributed that transfer among several catcher vessel cooperatives (including its associated cooperative). Yet, the tonnage of deliveries to processors other than a cooperative's associated processor exceeds the tonnage of the transfer to the catcher vessel sector by catcher processor cooperatives and transfers among catcher vessel cooperatives, perhaps suggesting that shore-based processors allowed their associated cooperatives some latitude to make deliveries to other processors.

Table 2-26. Deliveries of allocated species by catcher vessel cooperatives (2007 and 2008).

Year	Species	Deliveries to associated processors		Deliveries to processors other than the associated processors			
		Number of deliveries	Landings (in metric tons)	Number of deliveries	Number of processors receiving deliveries	Number of cooperatives making deliveries	Landings (in metric tons)
2007	Pacific Ocean Perch	92	3,531.1	15	3	3	1048.5*
	Northern Rockfish	83	1,856.3	13	1	3	
	Pelagic Shelf Rockfish	93	1,310.1	13	1	3	
	Pacific Cod	88	276.7	11	2	3	**
	Sablefish	58	423.6	10	2	3	**
	Shortraker Rockfish	30	8.6	2	1	2	**
	Rougheye Rockfish	39	8.8	6	2	2	**
2008	Thornyhead Rockfish	45	45.1	7	2	2	**
	Pacific Ocean Perch	90	3,933.9	15	2	3	996.4*
	Northern Rockfish	77	1,190.4	13	2	3	
	Pelagic Shelf Rockfish	84	1,308.9	14	2	3	
	Pacific Cod	87	582.2	16	2	3	**
	Sablefish	66	347.2	12	2	3	**
	Shortraker Rockfish	37	13.2	6	2	3	**
	Rougheye Rockfish	40	12.2	7	2	3	**
	Thornyhead Rockfish	56	51.2	11	2	3	**

Source: Catch accounting data and cooperative reports

Note: Each of the five eligible processors received deliveries from its associated cooperative.

Deliveries are not unique across species.

Week ending dates are used to determine delivery counts.

* Includes all rockfish primary species

** Withheld for confidentiality

2.3.6 Ex-vessel Pricing and Harvester/Processor Relationships

LLP Management

Under LLP management, ex-vessel prices were negotiated informally by the rockfish fleet in the preseason. Fishermen often contact processors in the preseason to inquire about pricing for the season. In addition, the fleet that delivered to a processor often met with the processor to discuss delivery scheduling among fleet members. A processor typically offered a common price to all of its fleet members. Fisherman often communicated with each other concerning processor price offers, but most perceived that little negotiating leverage existed. Usually the fishermen remained with their primary processor throughout the season. Harvesters typically delivered on a rotation, with fishing trips of less than 72 hours, to maintain product quality. Fishermen typically did not receive payment for low quality fish that could not be marketed, except as meal. At times, fishermen moved to another processor for a delivery midseason. These movements were typically made to avoid loss of quality, because of a long wait to offload, and at times were facilitated by the processors.

Occasionally, post season bonuses were paid by processors in response to good market prices for products or in response to prices of competing processors. Processors in the rockfish fisheries were reported to maintain relatively stable fleets, with most fishermen delivering to their rockfish processor throughout the year in other fisheries as well. When fishermen did move between processors, they typically moved all of their deliveries, not just rockfish deliveries.

Rockfish secondary species (particularly Pacific cod and sablefish) were an important part of pricing in the rockfish fisheries. Fishermen typically inquired about the price of these species in the preseason. Prices of Pacific cod were typically based on the directed season price from earlier in the year, with a possible downward adjustment for the absence of milt and roe and the lower quality observed in the summer months. Sablefish prices were based on prices in the individual fishing quota (IFQ) fishery, with some downward adjustment for lower quality in the trawl fishery.

Fishermen typically separated Pacific cod and sablefish from rockfish and stored them in iced totes. Pacific cod were usually bled. Sablefish were usually bled and sometimes were headed and gutted. Both species brought a substantially higher price than the rockfish primary species, so fishermen gave extra attention to their care. Shortraker rockfish, roughey rockfish, and thornyhead rockfish also brought a premium price, but were caught in substantially lower quantities than Pacific cod and sablefish.

Table 2-27 shows the landings, gross ex-vessel revenues, and average ex-vessel price from 1996 through 2006 in the CGOA rockfish fisheries for vessels that had a rockfish landing in the directed rockfish season for that year.

Table 2-27. Landings, ex-vessel revenues, and average ex-vessel prices by catcher vessels that had a rockfish landing in the directed Central Gulf of Alaska rockfish fisheries for that year (1996 through 2006).

Year	Pacific ocean perch			Northern rockfish			Pelagic shelf rockfish		
	Pounds landed	Ex-vessel gross revenues (\$)	Average ex-vessel price (\$/lb)	Pounds landed	Ex-vessel gross revenues (\$)	Average ex-vessel price (\$/lb)	Pounds landed	Ex-vessel gross revenues (\$)	Average ex-vessel price (\$/lb)
1996	4,881,002	254,165	0.052	1,963,834	92,300	0.047	752,032	41,362	0.055
1997	5,117,299	260,410	0.051	1,673,321	88,686	0.053	479,846	24,599	0.051
1998	5,714,437	371,506	0.065	4,159,221	236,512	0.057	1,494,307	83,750	0.056
1999	5,563,317	425,259	0.076	4,379,444	294,588	0.067	3,015,512	203,621	0.068
2000	9,644,730	647,566	0.067	4,181,252	243,073	0.058	5,083,907	304,494	0.060
2001	8,701,024	413,355	0.048	3,088,720	144,943	0.047	2,885,042	143,925	0.050
2002	9,883,807	473,912	0.048	4,970,464	240,395	0.048	2,897,029	151,850	0.052
2003	11,274,234	628,468	0.056	6,827,373	368,945	0.054	3,344,935	177,002	0.053
2004	10,976,457	633,843	0.058	4,941,583	279,240	0.057	2,928,348	175,265	0.060
2005	9,750,971	978,408	0.100	4,063,192	399,627	0.098	2,600,739	262,549	0.101
2006	9,145,460	1,421,049	0.155	3,834,231	573,047	0.149	2,098,432	312,718	0.149

Source: Catcher vessel data from Alaska Department of Fish and Game fish tickets

As the table shows, trawl ex-vessel prices ranged from roughly 5 cents per pound, to over 15 cents per pound, during this period. Prices were at their highest in 2005 and 2006. No particular relationship appeared to exist across species, as the prices varied relative to each other across the years.

Table 2-28 shows landings, ex-vessel gross revenues, and average ex-vessel price for rockfish secondary species harvested by trawl catcher vessels that had a rockfish landing in the directed CGOA rockfish fisheries for that year, from 1996 through 2006.

Table 2-28. Landings, ex-vessel revenues, and average ex-vessel prices for catch of rockfish secondary species by catcher vessels that had a rockfish landing in the directed Central Gulf of Alaska rockfish fisheries for that year (1996 through 2006).

Year	Pacific cod			Sablefish			Shortraker/rougheye			Thornyhead		
	Pounds landed	Ex-vessel gross revenues (\$)	Average ex-vessel price (\$/lb)	Pounds landed	Ex-vessel gross revenues (\$)	Average ex-vessel price (\$/lb)	Pounds landed	Ex-vessel gross revenues (\$)	Average ex-vessel price (\$/lb)	Pounds landed	Ex-vessel gross revenues (\$)	Average ex-vessel price (\$/lb)
1996	5,840	987	0.17	1,079,583	1,855,572	1.72	143,630	14,900	0.10	111,888	96,656	0.86
1997	244,225	44,898	0.18	527,435	941,110	1.78	28,728	4,113	0.14	70,959	36,131	0.51
1998	950,947	137,652	0.14	622,190	677,683	1.09	87,127	10,344	0.12	191,835	66,724	0.35
1999	1,550,248	436,938	0.28	732,283	1,090,268	1.49	42,528	3,425	0.08	62,792	27,221	0.43
2000	2,290,283	711,477	0.31	1,032,160	1,570,170	1.52	101,426	17,442	0.17	143,956	44,651	0.31
2001	1,990,787	532,608	0.27	776,770	1,058,725	1.36	123,758	11,471	0.09	79,681	28,330	0.36
2002	2,670,933	563,163	0.21	803,475	1,123,793	1.40	49,573	4,770	0.10	74,778	16,441	0.22
2003	3,244,817	948,894	0.29	1,190,246	1,830,446	1.54	63,956	10,127	0.16	132,889	42,987	0.32
2004	2,933,285	739,688	0.25	1,159,395	1,537,609	1.33	82,829	8,582	0.10	51,130	15,281	0.30
2005	1,755,174	479,242	0.27	971,438	1,380,528	1.42	44,048	12,818	0.29	58,159	17,595	0.30
2006	596,365	215,568	0.36	825,644	1,400,923	1.70	78,329	16,976	0.22	78,870	26,545	0.34

Source: Catcher vessel data from Alaska Department of Fish and Game fish tickets

Table 2-28 shows vessels in the rockfish fisheries historically received substantially higher prices for landings of rockfish secondary species, than targeted rockfish. Revenues in the fisheries from catch of sablefish exceeded revenues from all rockfish primary species combined. Revenues in the fisheries from Pacific cod exceeded revenues from northern rockfish and pelagic rockfish combined. Catcher vessels had substantially less revenue from catch of non-target rockfish, although the average ex-vessel price for thornyhead rockfish exceeded the ex-vessel price for Pacific cod.

Limited information from this period is available concerning vertical integration in the rockfish fisheries. In addition, confidentiality limitations prevent any specific description of the few vertically integrated processors operating in the rockfish fisheries during this period. Because of these limitations, a qualitative discussion of the impacts of vertical integration is provided in the analysis of alternatives. Vertical integration likely had minor effects on the LLP managed fisheries. Vertically integrated processors likely had a slight advantage arising from certain deliveries from their own vessels, and through added information concerning fishing costs, operations, and markets. This information likely provided only a minimal negotiating advantage in the LLP managed fisheries, because of the concentrated season.

Pilot Program

In the first 2 years of the program, prices of rockfish primary species increased very slightly (see Table 2-29 and Table 2-30). Northern rockfish and pelagic shelf rockfish prices increased during 2008, while Pacific ocean perch remained stable. Pacific cod and sablefish prices both continued their upward trend. Available price information for Pacific cod and sablefish, however, include substantial landings from other target fisheries, so price increases for these species should not be attributed to the change in management to the Pilot Program.

Table 2-29. Landings, ex-vessel revenues, and average ex-vessel price for primary species allocated in the Pilot Program (2003 through 2008).

Species	Year	Landings (metric tons)	Ex-vessel revenue (\$)	Average ex-vessel price (\$/lb)
Pacific Ocean Perch	2003	3,467	452,856	0.059
	2004	3,822	504,100	0.060
	2005	4,458	992,138	0.101
	2006	4,560	1,565,561	0.156
	2007	5,095	1,838,308	0.164
	2008	4,864	1,722,904	0.161
	Total	26,266	7,075,868	0.12
Northern Rockfish	2003	2,372	303,345	0.058
	2004	1,431	193,007	0.061
	2005	1,860	408,745	0.100
	2006	1,739	578,442	0.151
	2007	2,202	754,367	0.155
	2008	1,414	561,635	0.180
	Total	11,017	2,799,541	0.12
Pelagic Shelf Rockfish	2003	681	81,518	0.054
	2004	1,032	142,226	0.062
	2005	1,113	253,382	0.103
	2006	967	320,619	0.150
	2007	1,610	555,860	0.157
	2008	1,221	491,891	0.183
	Total	6,624	1,845,496	0.13

Source: Commercial Operators Annual Report data

* Withheld for confidentiality

Note: Landings include catch from outside the CGOA rockfish season

Table 2-30. Landings, ex-vessel revenues, and average ex-vessel price for rockfish secondary species allocated in the Pilot Program (2003 through 2008).

Species	Year	Landings (metric tons)	Ex-vessel revenue (\$)	Average ex-vessel price (\$/lb)
Pacific Cod	2003	10,287	6,841,770	0.302
	2004	10,413	5,925,269	0.258
	2005	8,338	5,169,178	0.281
	2006	6,001	4,969,460	0.376
	2007	9,232	9,787,392	0.481
	2008	11,231	12,826,641	0.518
	Total	55,501	45,519,710	0.37
Sablefish	2003	265	1,459,604	2.499
	2004	405	2,172,641	2.432
	2005	352	1,895,982	2.441
	2006	378	2,602,253	3.119
	2007	322	1,926,553	2.712
	2008	253	1,746,452	3.133
	Total	1,976	11,803,485	2.71
Shortraker	2003	66	23,652	0.164
	2004	16	9,728	0.277
	2005	23	17,040	0.337
	2006	71	33,789	0.217
	2007	*	*	*
	2008	*	*	*
	Total	311	146,790	0.21
Rougheye	2003	58	17,337	0.135
	2004	20	6,220	0.144
	2005	28	11,664	0.190
	2006	60	30,615	0.233
	2007	50	26,397	0.239
	2008	*	*	*
	Total	*	*	*
Thornyhead	2003	48	62,510	0.587
	2004	33	32,866	0.456
	2005	33	30,090	0.418
	2006	32	32,487	0.458
	2007	32	41,224	0.581
	2008	38	52,136	0.629
	Total	216	251,312	0.53

Source: Commercial Operators Annual Report data

* Withheld for confidentiality

Note: Landings include catch from outside the CGOA rockfish season

2.3.7 Product Markets

Several different products are made from rockfish in the rockfish fisheries. Production differs somewhat across the two sectors (inshore and offshore). To provide a better understanding of these differences, the information in this section is separated by sector.

Table 2-31 shows production quantities, gross first wholesale revenues, and average prices from 2003 through 2008, from Commercial Operators Annual Reports. These data are aggregated across all management areas, not allowing the separation of products from the CGOA directed rockfish fisheries.

Table 2-31. Production of rockfish primary species by shore-based processors participating in the Pilot Program (2003 through 2008).

Species	Year	Average ex-vessel price (\$/lb)	Fillet				Headed and gutted				Whole			
			Number of plants	Pounds of product	First wholesale revenues (\$)	Average First wholesale price (\$/lb)	Number of plants	Pounds of product	First wholesale revenues (\$)	Average First wholesale price (\$/lb)	Number of plants	Pounds of product	First wholesale revenues (\$)	Average First wholesale price (\$/lb)
Pacific Ocean Perch	2003	0.059	4	1,219,301	2,100,621	1.723	1	*	*	*	5	79,656	27,509	0.345
	2004	0.060	4	578,400	1,056,615	1.827	4	1,073,522	506,117	0.471	6	1,384,308	479,170	0.346
	2005	0.101	3	310,843	595,379	1.915	4	1,837,395	1,274,507	0.694	3	1,680,760	930,851	0.554
	2006	0.156	3	167,035	336,392	2.014	6	2,994,570	3,487,625	1.165	6	2,562,583	1,920,230	0.749
	2007	0.164	5	608,835	1,313,727	2.160	8	2,388,448	1,746,082	0.731	2	*	*	*
Northern Rockfish	2003	0.058	4	488,540	677,447	1.387	1	*	*	*	4	111,955	41,830	0.374
	2004	0.061	4	187,545	355,764	1.897	3	215,249	105,707	0.491	5	777,321	287,913	0.370
	2005	0.100	3	77,174	101,501	1.315	4	517,926	363,096	0.701	3	911,870	517,007	0.567
	2006	0.151	5	126,624	482,468	3.810	5	1,170,715	1,188,492	1.015	4	888,319	589,720	0.664
	2007	0.155	6	156,894	362,976	2.310	5	1,392,006	982,448	0.706	1	*	*	*
Pelagic Shelf Rockfish	2003	0.054	3	338,662	639,828	1.889	2	*	*	*	5	99,918	43,523	0.436
	2004	0.062	4	237,332	416,309	1.754	2	*	*	*	8	589,008	211m468	0.359
	2005	0.103	4	266,168	567,563	2.132	3	209,441	121,584	0.581	6	192,968	138,738	0.719
	2006	0.150	4	275,923	953,419	3.455	3	283,794	281,419	0.992	4	578,110	383,807	0.664
	2007	0.157	6	143,389	323,553	2.260	1	*	*	*	4	1,000,644	1,649,313	1.648
	2008	0.183	1	*	*	*	5	469,088	578,908	1.234	5	424,269	215,932	0.509

Source: Commercial Operators Annual Report data

*Withheld for confidentiality

The data show that most production of rockfish is of a low “value-added” form, namely, whole fish and headed and gutted fish. These products generate substantially less revenue than higher value-added products, such as, for example, fillets. Accepting that whole and headed and gutted products have substantially higher recovery rates, the economic return per pound of raw fish from fillet production is substantially higher than for whole and headed and gutted products.²⁸ Production and first wholesale product prices of rockfish products, by processors that participate in the Pilot Program, have fluctuated over the years leading up to implementation of the Pilot Program. A few considerations should be kept in mind when reviewing this table. First, combining whole and headed and gutted products conceals price differences in those products, which may be as small as a few cents, or as large as \$0.50 per pound of finished product, depending on the transaction. As a result, any price increase may be a change in production (with prices increasing as production is shifted from whole fish to headed and gutted products). In addition, the difference in 2006 prices, from prices in other years, suggests that data from that year should be questioned and may be unreliable.

Prices appear to have risen in the years leading up to the implementation of the program. Aside from the 2006 prices, prices of rockfish primary species appear to be rising steadily. No particular pattern appears to exist between identified product types over the years. In the first year of the program, no surimi was produced from rockfish by the participating processors. In addition, two of the participating processors produced some fresh fillets. Although these practices suggest that some processors were attempting to generate additional revenues through higher value-added products, the extent of this activity cannot be revealed, because of confidentiality protections. Overall, processing under the Pilot Program seems to favor a continuing trend of increasing value of production from the rockfish fisheries.

Table 2-32 shows production of rockfish secondary species products by rockfish qualified processors. As with catcher vessels in the rockfish fisheries, inshore processors that receive directed rockfish also generate substantial revenues from rockfish secondary species, most importantly Pacific cod and sablefish.

²⁸ Recovery rates are generally approximately 25 percent for fillets, 20 percent for surimi, and 55 percent for headed and gutted products.

Table 2-32. Production, first wholesale revenues, and average product prices of rockfish secondary species by inshore processors that received targeted rockfish from the Central Gulf of Alaska (2003 through 2008).

Species	Year	Number of plants	Pounds of product	First wholesale revenues (\$)	Average price (\$/lb)
Pacific Cod	2003	7	15,366,330	22,566,807	1.4686
	2004	7	18,219,487	24,400,043	1.3392
	2005	7	14,344,719	24,512,043	1.7088
	2006	7	13,775,224	29,247,757	2.1232
	2007	7	16,573,094	37,758,571	2.2783
	2008	5	10,810,930	27,213,056	2.5172
Rougheye	2003	5	58,402	64,308	1.1011
	2004	6	23,191	23,667	1.0205
	2005	5	52,912	52,924	1.0002
	2006	6	90,937	127,097	1.3976
	2007	5	39,265	42,169	1.0740
	2008	3	*	*	*
Sablefish	2003	7	2,317,032	9,742,646	4.2048
	2004	7	2,519,482	9,448,189	3.7501
	2005	6	1,946,761	7,743,714	3.9777
	2006	7	2,063,992	9,317,536	4.5143
	2007	7	2,709,999	12,644,539	4.6659
	2008	4	1,290,333	7,388,058	5.7257
Shortraker	2003	4	44,026	82,844	1.8817
	2004	4	14,213	19,073	1.3419
	2005	5	36,302	41,487	1.1428
	2006	5	85,599	147,642	1.7248
	2007	3	*	*	*
	2008	2	*	*	*
Thornyhead	2003	7	91,105	105,606	1.1592
	2004	7	81,456	111,039	1.3632
	2005	7	59,500	89,431	1.5030
	2006	7	67,141	182,642	2.7203
	2007	7	79,201	130,372	1.6461
	2008	5	50,787	121,772	2.3977

Source: Commercial Operators Annual Report data

*Withheld for confidentiality

Table 2-33 shows product, product revenues, and average produce prices for the catcher processor sector in the CGOA rockfish fisheries. The table shows that, for all species, most production is eastern cut headed and gutted products. Although prices of the species vary relative to one another, in most years Pacific ocean perch brought the highest prices, while pelagic shelf rockfish sold for higher prices than northern rockfish. Prices also varied year to year, with prices at their highest in the 2 years leading up to the implementation of the Pilot Program, followed by a slight decline in prices after implementation of the Pilot Program. No specific processing information concerning whole or headed & gutted production could be released, because few vessels processed that product.

Table 2-33. Rockfish primary species products, product weights, product revenues, and average product prices of the catcher processor sector in the Central Gulf of Alaska rockfish fisheries (2003 through 2008).

Species	Year	Eastern Cut				Western Cut				Whole and Head & Gut			
		Number of vessels	Product weight (mt)	Product revenue (\$)	Average product price (\$)	Number of vessels	Product weight (mt)	Product revenue (\$)	Average product price (\$)	Number of vessels	Product weight (mt)	Product revenue (\$)	Average product price (\$)
Pacific Ocean Perch	2003	7	1,188	1,543,740	0.5893								
	2004	6	1,501	2,449,018	0.7402								
	2005	8	1,743	4,365,343	1.1362								
	2006	6	1,727	4,750,761	1.2478								
	2007	5	1,423	2,685,598	0.8561								

	2008	7	1,487	3,230,495	0.9857								
Northern Rockfish	2003	5	821	560,965	0.3098					1	*	*	*
	2004	6	579	678,608	0.5317					1	*	*	*
	2005	6	951	1,847,454	0.8815								
	2006	5	1,035	2,400,770	1.0523								
	2007	3	434	736,719	0.7707								
	2008	5	360	545,987	0.6888								
Pelagic Shelf Rockfish	2003	6	454	432,705	0.4327								
	2004	7	383	519,340	0.6152								
	2005	6	287	643,243	1.0153								
	2006	4	401	981,009	1.1084								
	2007	4	425	751,589	0.8019								
	2008	6	658	1,340,366	0.9237								

Source: Weekly Production Reports

*Withheld for confidentiality

The production from rockfish secondary species is important to rockfish catcher processor participants. Table 2-34 provides production weight, product revenues, and average product prices for rockfish secondary species. As the table shows, catcher processors generate substantial revenues from sablefish, greater than from northern rockfish and pelagic shelf rockfish combined in years shown. Shortraker/rougheye rockfish revenues also exceed those from pelagic shelf rockfish during the years shown. In addition, prices for each of the allocated secondary species exceed those of all of the CGOA rockfish primary species. Although not shown in the table, most production of secondary species is headed and gutted fish.

Table 2-34. Production of rockfish secondary species by catcher processors in the Pilot Program (2003 through 2008).

Species	Year	Vessels	Product weight (mt)	Product revenues (\$)	Average product price (\$)
Pacific Cod	2003	4	69	171,679	1.1310
	2004	6	48	122,285	1.1515
	2005	5	40	104,357	1.1925
	2006	5	44	165,599	1.6921
	2007	3	34	135,388	1.7982
	2008	5	29	119,924	1.8722
Sablefish	2003	5	175	1,365,677	3.5355
	2004	7	165	1,240,550	3.4159
	2005	6	151	1,255,576	3.7804
	2006	5	106	950,834	4.0816
	2007	3	80	755,592	4.2892
	2008	6	78	884,437	5.1607
Shortraker/ Rougheye	2003	5	186	526,318	1.2836
	2004	7	86	298,767	1.5704
	2005	6	77	291,218	1.7155
	2006	5	32	121,916	1.7116
	2007	3	33	82,902	1.1532
	2008	6	31	119,566	1.7499
Thornyhead	2003	5	300	966,374	1.4606
	2004	7	84	410,504	2.2167
	2005	6	119	404,064	1.5458
	2006	5	75	30,953	1.8132
	2007	3	46	181,839	1.8007
	2008	6	50	172,421	1.5733

Source: Weekly Production Reports

2.3.8 Pilot Program Sideboards

There are a suite of GOA sideboard limits for catcher processors and catcher vessels operating in the Pilot Program. There are two broad categories of sideboards – those that establish catch limits, and those that prohibit directed fishing. Catch limits are divided into limits on harvest in other GOA rockfish fisheries and limits on the amount of halibut PSC mortality that can be incurred in GOA fisheries. The rockfish sideboard limits are in effect only during the month of July. The sideboards are designed to restrict fishing during the historical season for that fishery, but allow eligible rockfish harvesters to participate in

fisheries before and after the historical rockfish season. Sideboards apply in state waters in the “parallel” fishery.

General sideboard provisions

Catcher processors and catcher vessel sectors have sideboard limits for West Yakutat pelagic shelf rockfish and Pacific ocean perch; and WGOA pelagic shelf rockfish, Pacific ocean perch, and northern rockfish. The sideboard limits are based on each sector’s historical catch of rockfish primary species in GOA fisheries during July. The calculation of GOA rockfish sideboard limits is based on the sector’s retained catch, as a percentage of total retained catch in a fishery, from July 1 to July 31, in each year from 1996 through 2002. There are separate sideboard ratios for each rockfish sideboard fishery and for each sector. Sideboard limits for the catcher vessel sector are applied at the sector level. For the catcher processor sector, sideboard limits are applied at the rockfish cooperative level. Each catcher processor rockfish cooperative is assigned a sideboard limit, as a percent of the general sideboard ratio for each fishery for the CP sector. The general sideboard ratio for each fishery is presented in Table 2-35, along with the 2009 sideboard limit. Table 2-36 provides a summary of the sideboard activity for the catcher processors from 2007 to 2009 for WGOA and West Yakutat rockfish primary species. There is no sideboard activity to report for the catcher vessel sector, given that NMFS has routinely closed these sideboard fisheries to directed fishing, due to insufficient sideboarded species amounts.

Table 2-35. 2009 Pilot Program harvest limits by sector for West Yakutat and Western GOA rockfish primary species.

Management Area	Fishery	C/P sector (% of TAC)	CV sector (% of TAC)	2009 TAC (mt)	2009 C/P limit (mt)	2009 CV limit (mt)
West Yakutat	Pelagic shelf rockfish	72.4	1.7	247	179	4
	Pacific ocean perch	76	2.9	1,105	840	32
Western GOA	Pelagic shelf rockfish	63.3	0	986	624	0
	Pacific ocean perch	61.1	0	3,704	2,263	0
	Northern rockfish	78.9	0	2,047	1,615	0

Table 2-36. Catcher processor sideboard activity for West Yakutat and Western GOA rockfish primary species.

Management Area	Fishery	2007			2008			2009		
		Number of vessels	Catch (mt)	Percent of sideboard limit	Number of vessels	Catch (mt)	Percent of sideboard limit	Number of vessels	Catch (mt)	Percent of sideboard limit
West Yakutat	Pelagic shelf rockfish	1	*	*	1	*	*	1	*	*
	Pacific ocean perch	1	*	*	1	*	*	1	*	*
Western GOA	Pelagic shelf rockfish	4	489	53%	7	290	46%	8	531	103%
	Pacific ocean perch	4	2,579	99%	7	2,044	91%	8	1,801	79%
	Northern rockfish	4	996	88%	6	1,178	70%	8	1,438	89%

*Withheld for confidentiality

Source: NMFS Catch Accounting Data

Sectors are also limited in their catch by a second sideboard limit that is intended to constrain harvest from fisheries that are typically closed because of insufficient halibut PSC (Table 2-37). Sideboard limits are established for the catcher vessel and catcher processor sectors, separately. NMFS administers the

halibut PSC sideboard on the deep-water complex and on the shallow-water complex.²⁹ The sideboards are set for Gulf-wide halibut PCS usage, as halibut is currently managed on a Gulf-wide basis. If, in July, eligible vessels have caught the sideboard halibut PSC amount within a complex, they would be precluded from participating in specific halibut PSC sideboarded fisheries in the complex for the remainder of July. Table 2-38 provides a summary of the halibut PSC sideboard activity for both catcher processors and catcher vessels, from 2007 through 2009, for shallow-water and deep-water complex fisheries.

Table 2-37. 2008 and 2009 Pilot Program halibut mortality sideboard limits by sector.

Sector	Shallow-water complex halibut PSC sideboard percentage	Deep-water complex halibut PSC sideboard percentage	Annual halibut mortality limit (mt)	Annual shallow-water complex halibut PSC sideboard limit (mt)	Annual deep-water complex halibut PSC sideboard limit (mt)
Catcher processor	0.54	3.99	2,000	11	80
Catcher vessel	6.32	1.08	2,000	126	22

Table 2-38. Catcher processor and catcher vessel halibut PSC sideboard activity for shallow-water and deep-water complex fisheries.

Sector	Halibut PSC fishery	2007			2008			2009		
		Number of vessels	Catch (mt)	Percent of sideboard limit	Number of vessels	Catch (mt)	Percent of sideboard limit	Number of vessels	Catch (mt)	Percent of sideboard limit
Catcher processors	Shallow-water complex	0	0	n/a*	0	0	n/a*	0	0	n/a*
	Deep-water complex	5	21.45	26.82%	10	30.24	37.80%	11	26.28	32.85%
Catcher vessels	Shallow-water complex	9	32.06	25.44%	11	45.84	36.38%	4	9.19	7.29%
	Deep-water complex	0	0	n/a*	0	0	n/a*	0	0	n/a*

Source: NMFS Catch Accounting Data

*Closed to directed fishing due to insufficient sideboard limit

Sideboard provisions for catcher processor cooperatives

In addition to the general sideboard limits noted above, all vessels in a rockfish cooperative must maintain an adequate monitoring plan while participating in the CGOA rockfish fisheries or any directed sideboard fishery, to be exempt from GOA groundfish prohibitions. If cooperative participants fail to maintain a monitoring plan, then cooperative participants would be prohibited from participating in GOA directed groundfish fisheries (IFQ sablefish fishery and CGOA rockfish fisheries) from July 1 through July 14 or until 90% of the cooperative's rockfish quota has been harvested.

Sideboard provisions for catcher processors limited access fishery

In addition to the general sideboard provisions noted above, participants that elect to fish in the limited access fishery that have in excess of 5% of the sector's qualified catch of CGOA Pacific ocean perch are subject to additional limits from July 1, until 90% of the CGOA Pacific ocean perch that is allocated to the limited access fishery for the catcher processor sector has been harvested. During that time period, catcher processors that are in the limited access fishery may not participate in GOA groundfish fisheries, except for halibut and sablefish IFQ, assuming that they qualify for that program.

²⁹ The deep-water complex includes sablefish, rockfish, deep-water flatfish, rex sole, and arrowtooth flounder. The shallow-water complex includes flathead sole, shallow-water flatfish, pollock, and Pacific cod.

Sideboard provisions for catcher processors opt-out

In addition to the general sideboard limits noted above, qualified participants that choose to opt out of the Pilot Program would be prevented from participating in any directed fishery that the license holder did not participate in during the first week of July, in at least 2 of the 7 qualifying years. These seven qualifying periods are:

- June 30, 1996, through July 6, 1996;
- June 29, 1997, through July 5, 1997;
- June 28, 1998, through July 4, 1998;
- July 4, 1999, through July 10, 1999;
- July 8, 2000, through July 15, 2000;
- July 1, 2001, through July 7, 2001; and
- June 30, 2002, through July 6, 2002.

Participation in area 650 (Southeast Outside) during the qualifying period will count toward area 640 (West Yakutat) qualification. This provision is intended to prevent participants with multiple licenses and substantial history from opting out of the program with one license and entering other fisheries in which the license holder has no history.

Sideboard provisions for catcher vessels

In addition to the general sideboard provisions noted above, any qualified catcher vessel may not participate in directed fishing in the BSAI (and adjacent state waters) during the month of July for Alaska plaice, arrowtooth flounder, flathead sole, “other” flatfish, Pacific ocean perch, rock sole, or yellowfin sole.

Summary of sideboard provisions

Table 2-39 summarizes the Pilot Program sideboard limits for each sector. Management of sideboard limits are similar to other sideboard programs in that once the sideboard limits are reached, directed fishing is closed.

Table 2-39. Summary of Pilot Program sideboard limits in each sector.

July Catch Limit	CV Sector	C/P Cooperatives	C/P Limited Access	C/P "Opt-out"
Catch limits: WGOA Pacific ocean perch, pelagic shelf, and northern rockfish	A collective CV limit for each species in each region Fisheries closed due to low sideboard limit	Cooperative specific limit for each species in each region	A collective limit for all non-cooperative C/Ps for each species in each region	
West Yakutat Pacific ocean perch, pelagic shelf, and northern rockfish				
BSAI Pacific cod	CV Sector limit	N/A	N/A	N/A
Halibut PSC mortality limits: GOA (1) Shallow-water limit, & (2) Deep-water limit	(1) shallow-water flatfish closed in the GOA when limit reached (2) deep-water flatfish closed due to low PSC sideboard limit	(1) shallow-water flatfish closed in GOA when PSC limit reached (2) deep-water flatfish closed due to low PSC sideboard limit	(1) shallow-water flatfish closed in GOA when PSC limit reached (2) deep-water flatfish closed due to low PSC sideboard limit	
Prohibited fishing: BSAI groundfish (except pollock and IFQ sablefish)	July 1–July 31 prohibited directed fishing for most flatfish and rockfish	N/A	From July 1 to until C/Ps harvest 90% of the CGOA Pacific ocean perch	N/A
GOA groundfish (except pollock and IFQ sablefish)	N/A	N/A ** (Assuming monitoring requirements met)	(Only for C/Ps with more than 5% of the total C/P Pacific ocean perch history)	July 1–July 14 — unless past activity

2.3.9 Community and Social Conditions

Historically, Kodiak has been the base for operations in the shore-based sector of the CGOA rockfish fisheries. Almost all processing in these fisheries took place in the City of Kodiak, leading up to implementation of the Pilot Program. Kodiak is a large community by Alaska standards and is the seventh largest community in Alaska, in terms of population.³⁰ Accompanying this size is a relatively diversified economy, compared to other fishing communities in the southwestern part of the state. In terms of direct employment in the fisheries being the overriding factor in residency decisions, the population of Kodiak could be viewed as less directly tied to the fishing economy than, for example, is the case for Unalaska, Akutan, or King Cove. Much of the economic diversity seen in Kodiak, however, links back to commercial fisheries, in one way or another, with commercial fishing underpinning much of the apparent diversity, generating secondary and indirect employment, and otherwise driving a wide range of related activities. For example, there is a considerable U.S. Coast Guard presence in the community. While not a directed fisheries activity, a base of this size would not likely exist in Kodiak, if it were not driven by commercial fishing-related demands.

³⁰ The six largest communities in Alaska, in order, are Anchorage, Fairbanks, Juneau, Sitka, Ketchikan, and Kenai. There are two different basic types of local governance in these communities: Anchorage, Juneau, and Sitka are unified Home Rule Municipalities (i.e., unified city/boroughs), while Fairbanks, Ketchikan, and Kenai, like Kodiak, are Home Rule Cities (Kodiak Chamber of Commerce 2004).

Table 2-40 lists detailed information on total volume and value of fish landings for Kodiak for 2006, by species or species group. Clearly, the value of landings in Kodiak are dominated by salmon (30%), and Pacific cod (19%), pollock (13%), and halibut (12%), which together accounted for 75% of the total value of all species landed. Sablefish accounted for about 8% of the total, while all species of crab combined accounted for a little over 6% of the total, and flatfish accounted for about 4% of the total. The remaining species or species complexes, including rockfish, accounted for more than 2% of the total, but, as shown, several groundfish species were relatively high-volume species locally, but accounted for a relatively small proportion of the total value landed, due to relatively low prices per pound.

Table 2-40. Volume and value of fish landed at Port of Kodiak, by species, 2006.

Species	Volume Landed (pounds) ¹	% of Total Volume	Ex-vessel Value (dollars)	% of Total Value
salmon, Chinook	210,592	0.06%	\$197,956	0.19%
salmon, sockeye	8,146,700	2.14%	\$6,843,228	6.44%
salmon, coho	4,338,634	1.14%	\$2,863,498	2.70%
salmon, pink	117,392,708	30.82%	\$18,782,833	17.69%
salmon, chum	9,102,850	2.39%	\$3,003,941	2.83%
halibut, Pacific ²	3,454,834	0.91%	\$13,085,725	12.32%
herring, Pacific	5,624,729	1.48%	\$618,720	0.58%
cod, Pacific (gray)	50,039,197	13.14%	\$20,516,071	19.32%
pollock, walleye	101,523,425	26.65%	\$14,213,280	13.39%
arrowtooth flounder	30,710,932	8.06%	\$2,149,765	2.02%
black rockfish	214,151	0.06%	\$85,660	0.08%
octopus	209,709	0.06%	\$132,117	0.12%
perch, Pacific ocean	10,496,787	2.76%	\$1,679,486	1.58%
squid	3,375,890	0.89%	\$236,312	0.22%
sablefish (black cod)	2,467,618	0.65%	\$8,834,073	8.32%
skates	3,099,190	0.81%	\$688,156	0.65%
rockfish ³	6,878,056	1.81%	\$1,124,548	1.06%
flatfish ⁴	20,421,644	5.36%	\$4,281,385	4.03%
crab ⁵	3,215,170	0.84%	\$6,851,290	6.45%
Total	380,922,816	100.00%	\$106,188,044	100.00%

¹ Represents pounds of product landed at the Port of Kodiak, including harvests from outside of the Kodiak management area (from Fish Ticket data).

² Halibut pounds from NMFS website: <http://www.alaskafisheries.noaa.gov/ram/ifqreports.htm> and includes all landings in Kodiak, regardless of where fish were harvested.

³ Includes greenstripe, northern, thornyhead, yelloweye, quillback, tiger, rosethorn, rougheye, shortraker, redbanded, dusky, yellowtail, sharpchin, harlequin, and blackgill rockfish.

⁴ Includes Dover sole, rex sole, butter sole, English sole, starry flounder, petrale sole, sand sole, Alaska plaice, and Greenland turbot.

⁵ Includes Dungeness, red king, bairdi, and opilio crab.

Source: Adapted from Kodiak Chamber of Commerce, 2004 (from Alaska Department of Fish and Game).

The Kodiak fleet is primarily composed of multigear and multispecies boats. Vessels in this fleet usually have a handshake agreement with a shore processor for the delivery of fish. The vessel is said to “work for” the shore plant and, sometimes, the plant operators refer to “their boats,” meaning those with which working relationships exist. These vessels deliver to that plant on a regular basis. The size and composition of processor fleets vary, depending on the plant’s capacity and product mix, as noted in the processor discussion below. Most of the boats that deliver to Kodiak processors are multipurpose vessels that can change fisheries to meet the current market and fishing circumstances. For example, some vessels will switch between crab, halibut, and Pacific cod, or crab, halibut, and pollock. The size of a processor’s

fleet depends on what season it is and what they are targeting at the time. It is not uncommon, however, for a plant to have a fleet of 8 to 16 boats fishing groundfish and crab. Among plants that run pollock, there is a bimodal distribution of trawl fishing power. The larger plants typically have 8 to 10 trawlers working with them, whereas the smaller plants typically have 4 or fewer trawlers in their pollock fleet. Most plants also have 6 to 10 longline vessels in their fleet. Most of the longline boats are pot boats fishing for Pacific cod and/or Tanner crab (when openings occur). There is a small fleet that fishes for Dungeness crab, as well.

Some information concerning the impacts of fisheries on the community can be gleaned from examining the residency of participants in the fisheries. Participation by residence estimates can be generated for each of the primary participating sectors, catcher vessels, catcher processors, and processors. In each case, care should be taken in evaluating the importance of the estimates, as the information available to estimate participation by residency 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 all sectors 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 communities.

Participants in the CGOA rockfish fisheries are from several different communities. Commercial Fisheries Entry Commission vessel license files were used to estimate the participation by residency. Table 2-41 below shows catcher vessel landings by residency, during the years 1996 through 2006. The table shows that Kodiak residents dominate the catcher vessel sector in the rockfish fisheries.

As one of the largest ports in Alaska, vessels home ported in Kodiak participate in many of the state's largest fisheries. Nearly 550 fishing permit holders and over 190 owners of federally permitted vessels reportedly resided in Kodiak, as of 2008. In excess of 98,000 metric tons of groundfish were delivered into Kodiak in 2008. Of these groundfish landings, targeted CGOA rockfish catch typically averaged approximately 6,600 metric tons on an annual basis, from 1996 through 2006. Similarly, fewer than 50 of the over 450 Kodiak-based catcher vessels participated in the CGOA rockfish fisheries. In general, one may conclude that the CGOA rockfish fisheries are of relatively modest importance to the Kodiak-based fleet.

Table 2-41. Central Gulf of Alaska rockfish landings of catcher vessels by place of residence (1996 through 2006).

Year	Community	Pacific ocean perch		Northern rockfish		Pelagic shelf rockfish	
		Number of participants	Catch (mt)	Number of participants	Catch (mt)	Number of participants	Catch (mt)
1996	Kodiak	12	797.3	12	244.9	12	118.0
	Other Alaska						
	Washington	7	566.6	7	310.2	8	77.7
	Other State	9	859.6	8	336.8	8	146.8
1997	Kodiak	12	941.0	7	303.6	10	75.0
	Other Alaska						
	Washington	7	622.1	5	69.3	6	34.6
	Other State	8	761.0	7	386.1	8	108.1
1998	Kodiak	10	998.8**	10	605.7**	10	226.2**
	Other Alaska	1	*	1	*	1	*
	Washington	10	744.0	10	418.2	10	154.5
	Other State	10	849.3	10	862.7	10	297.1
1999	Kodiak	11	910.6**	11	795.9**	12	464.0**
	Other Alaska	1	*	1	*	1	*
	Washington	9	781.6	10	488.9	10	364.0
	Other State	10	831.2	10	701.7	10	539.9
2000	Kodiak	13	2110.2**	13	697.4**	13	996.4**
	Other Alaska	1	*	1	*	1	*
	Washington	7	885.7	7	369.9	7	524.2
	Other State	10	1,378.9	10	829.4	10	785.4
2001	Kodiak	12	1404.3**	12	588**	12	403.1**
	Other Alaska	1	*	1	*	1	*
	Washington	7	529.6	6	161.2	7	231.9
	Other State	13	2,012.9	12	651.8	14	673.6
2002	Kodiak	13	2057.3**	12	964.6**	13	558**
	Other Alaska	1	*	1	*	1	*
	Washington	7	710.6	6	245.5	7	240.9
	Other State	12	1,715.3	11	1,044.5	12	515.1
2003	Kodiak	13	2435**	11	1035.5**	11	581.3**
	Other Alaska	1	*	1	*	1	*
	Washington	6	719.3	5	438.9	6	252.6
	Other State	12	1,960.1	12	1,622.5	13	683.4
2004	Kodiak	12	2241.3**	10	876.1**	12	636.5**
	Other Alaska	1	*	1	*	1	*
	Washington	8	1,168.5	6	329.0	8	153.3
	Other State	11	1,569.0	10	1,036.4	10	538.5
2005	Kodiak	9	1987.5**	9	675.3**	9	459.1**
	Other Alaska	1	*	1	*	1	*
	Washington	7	1,000.7	6	400.3	7	312.4
	Other State	9	1,434.8	9	767.5	9	408.2
2006	Kodiak	10	1,578.8	8	522.7	10	207.3
	Other Alaska						
	Washington	7	1,088.9	7	599.6	7	304.3
	Other State	8	1,480.7	8	616.9	12	440.4

Table 2-42 shows total landings by Kodiak-based vessels, from 1995 through 2008. Table 2-43 shows total ex-vessel gross revenues of Kodiak-based vessels, from 1995 through 2008. Comparing the total catch and ex-vessel revenues with catch and revenue from the rockfish fisheries, it is apparent that rockfish harvests are a relatively small portion of the total fishing activity in Kodiak. Notwithstanding this apparently small contribution to overall catch of Kodiak catcher vessels, some participants report that the rockfish fisheries are important to their operations. These participants suggest that the supplemental income from the rockfish fisheries is important to their overall returns. As such, the rockfish fisheries could also be of some importance to the trawl catcher vessel contribution to the Kodiak economy, to the extent that it is important to the operations of these Kodiak groundfish vessels.

Table 2-42. Landings by Kodiak vessel owners (in metric tons) (1995 through 2008).

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Groundfish (fixed gear)	14,907	15,348	16,521	15,033	17,785	14,173	10,293	12,045	12,273	15,307	14,648	16,007	14,571	
Groundfish (Trawl)	58,778	59,685	55,673	53,626	49,592	46,912	45,056	44,130	44,886	47,407	45,847	45,082	43,717	
Halibut and Sablefish	4,070	4,667	5,984	5,906	6,164	6,036	6,038	5,711	5,587	5,571	5,260	4,972	4,844	1,027
Herring	4,626	5,519	6,521	5,919	4,337	3,628	3,820	4,121	3,619	4,285	5,409	5,330	4,524	8,640
Crab and Other Shellfish	5,353	5,625	9,228	17,160	13,770	3,410	3,059	3,111	3,029	2,717	3,097	2,920	3,177	5,984
Salmon	37,395	10,259	11,626	23,087	17,666	14,285	22,232	19,180	16,192	20,568	25,464	26,458	22,513	10,771
Total	125,129	101,104	105,552	120,731	109,314	88,445	90,497	88,298	85,586	95,854	99,726	100,770	93,346	26,422

Table 2-43. Ex-vessel gross revenue of Kodiak vessels (in \$1,000) (1995 through 2008).

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Groundfish (fixed gear)	7,475	6,751	7,872	6,739	11,774	11,101	6,282	6,465	8,078	9,339	10,108	14,410	15,988	
Groundfish (Trawl)	14,519	13,790	14,992	10,208	13,929	13,182	11,189	10,421	11,100	11,202	13,449	14,024	14,142	
Halibut and Sablefish	17,794	21,912	27,861	16,859	27,443	32,264	26,113	27,369	33,766	33,470	31,974	38,196	41,268	6,403
Herring	5,139	6,599	2,127	2,129	2,144	1,192	1,503	1,329	1,152	1,563	2,166	1,056	1,526	3,566
Crab and Other Shellfish	29,137	23,736	24,953	29,868	41,366	19,400	17,239	19,866	20,075	18,333	18,552	12,240	18,279	31,651
Salmon	24,281	12,873	9,385	14,953	16,848	11,560	10,528	6,350	7,790	9,458	11,817	15,009	15,041	12,022
Total	98,346	85,661	87,191	80,756	113,504	88,699	72,854	71,801	81,960	83,365	88,066	94,936	106,244	53,641

Source: Fish ticket data

Table 2-44 shows first wholesale gross revenues of Kodiak processors, by species, from 1995 to 2008. Revenues from CGOA rockfish species are less than 5% of the annual first wholesale revenues of Kodiak processors. Additional revenues are realized through the processing of rockfish secondary species harvested in the rockfish fisheries, which add substantially to the aggregate gross revenues from the rockfish fisheries. Processing of catch from the CGOA rockfish fisheries is estimated to be a relatively small portion of processing in Kodiak (less than 15% of total first wholesale revenues, when secondary species revenues are included). The fisheries do, nonetheless, contribute to the overall stability of processing in the community. Prior to implementation of the Pilot Program in 2007, the role of the rockfish fisheries was relatively minor, as the fisheries were prosecuted for a very short time in the first week or two of July. The timing of the rockfish fisheries tended to conflict with the pink salmon fishery. Most of the rockfish processors also participated in the salmon fisheries and struggled to meet processing demands arising from the rockfish fisheries and salmon fisheries. These conflicting seasons were challenging for processors that wished to compete in both fisheries, as they attempted to simultaneously maintain space and crews for both fisheries.

Table 2-44. First wholesale gross revenues of Kodiak processors by species (in dollars, 1995 through 2008)

Species	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Halibut and Sablefish	22,534,581	28,599,072	38,441,173	23,860,232	28,866,143	27,739,523	28,616,318	27,446,192	36,668,853	38,866,827	40,032,729	36,359,124	53,206,713	50,856,898
Herring							1,853,842	1,404,470	1,949,958	4,280,851	3,896,177	1,824,505	2,011,010	3,189,873
King and Tanner Crab	4,319,361	3,247,326	1,821,944	1,547,476	4,561,219	7,494,551	6,807,231	8,127,264	7,017,851	7,933,187	8,903,039	9,517,672	8,106,729	12,162,422
Other	15,445,273	23,507,376	17,990,934	10,497,012	7,559,822	11,861,139	6,203,485	9,040,910	8,689,755	7,695,883	12,739,790	17,369,994	24,967,802	31,162,869
Pollock and Pacific Cod	57,676,104	74,447,330	52,606,288	62,626,309	73,412,002	65,668,095	61,323,482	48,575,665	45,590,668	62,930,625	73,463,569	72,674,768	75,212,858	87,415,130
Salmon	96,396,201	58,620,206	49,208,829	70,522,442	61,990,607	60,272,913	60,539,810	34,569,861	43,148,424	43,771,152	57,308,997	60,445,594	70,109,452	58,239,415
Targeted Rockfish	28,963	962,729	2,008,478	4,053,122	2,215,397	3,100,475	3,245,692	4,445,649	5,241,932	4,460,907	5,407,450	9,720,564	6,708,945	4,233,388
Total	197,274,975	188,163,413	162,745,675	173,292,574	176,699,585	176,217,861	168,589,860	133,610,011	148,307,441	169,939,432	201,391,752	207,912,221	240,323,507	247,259,995

Source: COAR data

* Withheld for confidentiality

Kodiak's shore plants have played a significant role in the history of the community, influencing its economic and demographic patterns over the years. Even among the eight major contemporary processing plants there is a considerable amount of diversity in the size, volume, and species processed. It is this diversification that best characterizes Kodiak's ability to weather the ebbs and flows of an industry dependent upon changes in the viability of the resource being harvested, the market itself, and past and future regulatory shifts. Locally based processors vary in product output and specialization, ranging from large quantity canning of salmon, processed at several different locations within Kodiak, to

fresh and fresh-frozen products, as well as niche markets servicing the sports-fishing, fish meal, industrial oils, and by-products sectors.

While the presence of local processing has been a constant in the community, individual operations have substantially different histories and have undergone a variety of changes in recent years. For example, among the large plants processing groundfish and salmon in the community, the facility now operated by Trident Seafoods centers around a converted World War II “Liberty Ship” that was reportedly brought to the community by previous owners (Alaska Packers) in the wake of the devastating 1964 earthquake, to become the first plant up and running after that disaster. (This facility apparently later operated under the names All Alaskan and Tyson Seafoods, before being acquired by its present owner.) Ocean Beauty, on the other hand, operates in a facility originally built in 1911, which was the oldest and largest seafood production facility in Kodiak, when it was purchased in the 1960s. In 1967, B&B Fisheries opened its doors, which became Western Alaska Fisheries in the early 1970s, and is still in existence today. Ownership type also varies widely. For example, International Seafoods of Alaska is a wholly owned subsidiary of True World Group, Inc., which is in turn owned by the Unification Church. In contrast, Alaska Fresh Seafoods, a smaller plant, has been in operation since 1978, and is owned, in part, by Kodiak and other Alaska fishermen.

All plants experience busy and slow periods during the year, but these peaks and valleys differ, at least slightly, for each processor, based upon the dependence of the processor to the fishery or the relationship between the fleet and the processor. This seasonal pattern has also changed with changes in the fisheries. For example, interviews with processing plant personnel conducted in 2004 indicated how the role of halibut has changed, in terms of local processing, since the implementation of the halibut IFQ management program, with three-quarters or more of all halibut going to market as a fresh product, as opposed to perhaps one-quarter before IFQs. This has not only changed the role of halibut in individual operations, it has also resulted in a different pattern of landings, with the economics of the fresh market favoring road-connected ports over Kodiak for at least some harvest areas. More recently, BSAI crab rationalization has shifted the periods when BSAI crab is run at the local processors.

With regard to the workforce among Kodiak processors, the large majority of plant workers in Kodiak are drawn from the local labor pool. While some workers still come to the community specifically for processing work opportunities, in the past 20 years, the importation of short-term workers by the processing companies themselves has become less and less common. As of 2008, among all major Kodiak plants, only Trident reports bringing workers into the community on a six-month contract basis and providing them bunkhouse quarters, similar to the pattern seen in the years before the development of a large local workforce. In the not-too-distant past, Ocean Beauty and Western Alaska Fisheries both utilized bunkhouse facilities during peak seasons, but neither continues to do so. (Alaska Pacific Seafoods has retained a small bunkhouse, but this is used only as transitional housing for workers new to the community; International Seafoods of Alaska has a bunkhouse, but rents out spaces to workers as a more-or-less traditional landlord, rather than providing living quarters as part of a room-and-board living arrangement; Western Alaska Fisheries will rent housing on a temporary basis for transient student workers during peak seasons, but otherwise does not provide housing for its workers.) This high reliance on the processing workers from a local labor pool differentiates Kodiak from other major processing communities in the southwestern part of the state, such as Unalaska, Akutan, King Cove, and Sand Point. Major processors in each of these communities still retain a relatively transient labor force approach to staffing processing plants. In January 2005, however, in a departure from the local pattern, Western Alaska Fisheries did hire seasonal workers from outside the community for the early peak Pacific cod season, but did not offer housing as part of the employment agreement. This ended up causing considerable concern in the community, as, according to local newspaper accounts, about 80 people hired through Alaska Job Service in Anchorage arrived in the community prior to the start of the season,

without having made housing arrangements (despite knowing that they needed to do so) and without sufficient resources to care for themselves prior to earning their first processing paycheck. This, in turn, proved to be a challenge for local service providers, as the unprepared workers utilized local shelters for immediate food and housing needs. While this may have been an isolated incident, it illustrates the continually changing nature of attempting to meet peak processing demands over time.

Since the Pilot Program establishes a cooperative system, with strong cooperative associations with historical processors and a limited access fishery that requires deliveries to processors meeting historical processing qualifications, deliveries in the main program have continued to be made to Kodiak processors. In addition, only Kodiak processors have participated in the entry level fishery, by providing markets for entry level catcher vessels. As a result, all deliveries in the fishery have continued to be made to Kodiak under the Pilot Program. So, the community effects arising from implementation of the program have arisen from the changes in the Kodiak based activity.

Under the program, landings from the rockfish fisheries are distributed over a substantially longer period of time than under the previous limited access management. This redistribution not only allows greater stability in landings from the CGOA rockfish fisheries (limiting queuing by vessels), but has also allowed processors to coordinate rockfish landings with landings from other fisheries. Reducing these conflicts may benefit processing workers by limiting times they are without work, but may cost those workers some overtime pay. The slower pace of the rockfish fisheries and the redistribution of landings may also benefit the community by having vessels and crews in Kodiak for longer periods of time during the year. Vessels making deliveries have less pressure to return quickly to the grounds to obtain a share of the available catch in the fisheries, so some likely remain in town for longer periods, during which the crew use local services. The extent of this effect on the use of local services is not known.

In addition to benefits from the redistribution of landings over time, the community benefited from additional landings that were received as a result of the transfer of catcher processor quota to the catcher vessel sector. This increased both vessel activity based in Kodiak and deliveries to Kodiak shore plants.

For more details on the community of Kodiak, a complete community profile of the community is provided in Appendix A.

2.4 Analysis of the Alternatives

This section analyzes each of the alternatives, comparing the alternatives to each other and to the baseline condition in the rockfish fisheries. 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 alternatives under consideration. While the experience under the Pilot Program sheds some light on potential individual responses, the differences between the alternatives under consideration here and the Pilot Program are substantial and should not be disregarded. In addition, unpredictable factors, such as conditions in different fisheries and of the different stocks, as well as condition of the overall economy, could influence the responses of participants under the alternatives.

To examine the impacts of the alternatives, the analysis begins by looking at the apportionments of rockfish primary species and secondary species, and halibut PSC allowances to the different sectors. Several allocation options are under consideration, which directly affect the recipients of those allocations. The analysis of allocations includes an analysis of the proposed individual, vessel, cooperative, and processor caps. That section is followed by an analysis of the effects of the entry level

fishery, which is prosecuted separately, and analyzed separately from the main Rockfish Program to simplify and provide a more coherent analysis. Following these sections, the analysis considers the practices and participation in fishing 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.

2.4.1 Allocations

Under the no action alternative, no allocations are made to or within the defined sectors (i.e., catcher vessels and catcher processors). Under the Rockfish Program alternatives, the Council has adopted for analysis a variety of elements and options for defining allocations under the program. These include provisions defining allocations to sectors, general eligibility and qualified catch histories for license holders, general eligibility and qualifying processing histories for processors, and eligibility and allocations for harvesting and processing participants in the entry level trawl fishery of the Pilot Program.³¹ In all cases, the allocations and allowances would include rockfish primary species (Pacific ocean perch, northern rockfish, and pelagic shelf rockfish), rockfish secondary species (which may include shortraker rockfish, roughey rockfish, thornyhead rockfish, Pacific cod, and sablefish), and halibut PSC. This section analyzes the proposed allocations, and PSC allowances, and the distributions of TACs between and within the sectors that would arise under those proposed actions.

In addition to the Rockfish Program apportionments, the Council's alternatives include an Incidental Catch Allowance (ICA) that would be available to support incidental catch of rockfish in other directed fisheries and allocations to entry level fisheries. Those allocations are made prior to the allocation to the program and are discussed first in this section.

Incidental Catch Allowance

To ensure that other fisheries are not affected by the Rockfish Program, an ICA will be implemented to support rockfish incidental catch in other groundfish fisheries. In other directed groundfish fisheries, harvest of CGOA rockfish is limited by MRA (50 CFR 679.20(e) and Table 10 to Part 679). The ICA would be set, based on historical incidental harvest of CGOA rockfish in other directed fisheries in recent years. NMFS will likely set the ICA liberally (i.e., relatively high) to ensure that incidental catch of CGOA rockfish does not result in a closure of other directed fisheries. Doing so would be consistent with existing fishing practices, since CGOA rockfish incidental catch has not historically resulted in closures of other directed groundfish fisheries.

Table 2-45 shows the annual incidental catch of Pacific ocean perch, pelagic shelf rockfish, and northern rockfish in the CGOA by trawl gear in the non-rockfish target directed groundfish fisheries.³² Catch of all three rockfish primary species have fluctuated greatly during this time period. For example, the lowest incidental catch of pelagic shelf rockfish was in 2003, when only 41 metric tons were harvested, while in

³¹ LLP licenses do not have catch directly attributed; therefore, it is necessary to review the vessels that held a particular license at the time of the landing. LLP Transfer reviews were created to help track vessel association timelines for each LLP license and to determine which vessel was historically employed by the owner of the license during a requested fishing time. Once the LLP Transfer review was established, the landings were then attributed to the appropriate license, based on the vessel upon which the LLP was present at the time of the landing. The LLP endorsements of Central Gulf and Trawl were used in the CGOA rockfish document with landings assigned, as appropriate. In order to avoid duplication, any vessel with multiple licenses in a given timeframe had the landings divided by the number of qualified licenses. Landings prior to 1/1/2000, the beginning of the LLP program, were credited to the original vessel.

³² Since non-trawl catch of rockfish is very limited, incidental catch of rockfish by trawl gear in directed fisheries for other groundfish is believed to be adequate for determining the ICA.

2007, 225 metric tons were caught incidentally. With implementation of the Pilot Program in 2007, NMFS set aside an ICA for the three rockfish primary species. Table 2-45 shows the rockfish ICAs for 2007, 2008, and 2009. As seen from the table, on many occasions, incidental catch exceeded the ICAs. In 2009, the incidental catch of Pacific ocean perch was 407 metric tons, far exceeding the 200 metric ton ICA. In this case, the trawl catcher processor sector targeting rex sole accounted for 90% of the incidental catch of CGOA Pacific ocean perch. Combined with the directed catch of CGOA Pacific ocean perch, the total catch for this CGOA species is expected to exceed the allowable biological catch. Taking into account the variability of incidental catch and the increased ability of rockfish and Amendment 80 qualified catcher processors to top off, NMFS will likely increase the ICAs for some of the rockfish species in the Rockfish Program. These increased allowances should be adequate to support incidental catch of rockfish in directed fisheries for other groundfish. Using these ICAs, the agency would manage harvest of CGOA rockfish in other groundfish fisheries using MRAs. If catch rates indicated that an allocation was not adequate to support incidental catch through the year, NMFS would employ its usual management measure of putting a species on prohibited species status to deter incidental catch and prevent bycatch from resulting in a premature closure of other directed fisheries.

Table 2-45 Incidental catch and ICAs of Pacific ocean perch, pelagic shelf rockfish, and northern rockfish in CGOA trawl non-rockfish directed groundfish fisheries (2003 through 2009).

Species	2003 Incidental catch	2004 Incidental catch	2005 Incidental catch	2006 Incidental catch	2007		2008		2009		Average
					Incidental catch	ICA	Incidental catch	ICA	Incidental catch	ICA	
Pacific ocean perch	568	192	205	363	168	330	243	200	407	200	382
Pelagic shelf rockfish	41	42	44	171	225	100	86	100	76	100	126
Northern rockfish	53	116	33	201	208	120	178	100	51	100	152

Source: NMFS Catch Accounting data

Entry level allocation

Under the proposed action, there are three entry level fishery alternatives. The first is the no action alternative, under which management would revert to the LLP, which would allow any holder of an LLP license to enter a vessel in the rockfish fisheries. The second alternative is the current entry level management structure under the Pilot Program. This entry level TAC is divided equally, with half available to trawl gear participants and half available to longline participants. The third entry level alternative would provide for only an entry level longline fishery, with a TAC that fluctuates based on recent catches from that fishery.

2 Entry-level Set-Aside (EL – all)

A percentage of CGOA Pacific ocean perch, northern rockfish, and pelagic shelf rockfish for catcher vessels not eligible to participate in the program.

2.1 Trawl and longline (non-trawl) entry level fisheries (EL – 2)

The annual set-aside will be 5% of each of these rockfish primary species.

Set-asides shall be apportioned at 50% for trawl gear and 50% for longline gear.

The trawl sector's allocation by weight (based on the aggregate TAC for Pacific ocean perch, northern rockfish, and pelagic shelf rockfish) shall first be Pacific ocean perch.

Unharvested allocations to either sector shall be available to both sectors at the end of the third quarter.

The entry level fishery will be managed as a limited access fishery.

Start dates for the entry level fishery should be January 1, for longline gear, and approximately May 1, for trawl gear.

2.1.2 Halibut PSC Limit Allowances

Prosecution of the entry level fishery will be supported by general allowance of halibut PSC to the gear type and the general allocations of rockfish secondary species.

Trawl halibut PSC options

Option 1: If sufficient halibut PSC is not available at the start of the trawl gear fishery (May 1), the start date will be on the next release of halibut PSC.

Option 2: If sufficient halibut PSC is not available at the start of the trawl gear fishery (May 1), halibut PSC usage will be deducted against the following quarter's halibut PSC allowance.

Vessels that can participate in the entry level fishery are those vessels that did not qualify for the CGOA rockfish cooperative program. Before the beginning of each fishing year, an application must be filed with NMFS by the interested vessel that includes a statement from a processor, confirming an available market.

Option: Entry level longline sector targeting rockfish is exempt from VMS requirements (Pacific cod VMS requirements continue to apply).

2.2 Longline (non-trawl) only entry level fishery (EL-3)

The annual set-aside will be;

1 mt – 10 mt of the Pacific ocean perch TAC

1 mt – 10 mt of the northern rockfish TAC

10 mt – 30 mt of the pelagic shelf rockfish TAC.

If the entry-level fishery has retained harvests of 90% or more of their allocation of a rockfish species, the set-aside would increase by the amount of the initial allocation, the following year:

1 mt – 10 mt Pacific ocean perch

1 mt – 10 mt northern rockfish

10 mt – 30 mt pelagic shelf rockfish

This increase would be capped at a maximum of:

Pacific ocean perch

d. 1%

e. 3%

f. 5%

Northern rockfish

d. 2%

e. 3%

f. 5%

Pelagic shelf rockfish

a. 2.5%

b. 3%

c. 5%

The entry level fishery will be managed as a limited access fishery.

Start date for the entry level fishery should be January 1.

Prosecution of the entry level fishery will be supported by the general allowance of halibut PSC to the gear type and the general allocations of rockfish secondary species.

Any longline vessel or gear type exempt from CGOA LLP requirements or any holder of a CGOA longline LLP license may enter a vessel in the entry level fishery.

Option: Entry level longline sector targeting rockfish is exempt from VMS requirements (Pacific cod VMS requirements continue to apply).

Entry level trawl/longline fisheries – EL-2

Under entry level alternative 2, 5% of each of the rockfish primary species TAC is set aside for the entry level fisheries (approximately 700 metric tons at the current TACs). This set-aside is divided between the trawl and longline sectors, such that each receives an equal allocation of the aggregated TACs of rockfish primary species available to the entry level fisheries. Because of operational differences, the trawl sector would receive its portion of the aggregate TACs first from the entry level TAC of Pacific ocean perch. If the entry level Pacific ocean perch TAC is less than the total allocation to the trawl sector, the sector receives proportional shares of the entry level northern rockfish and pelagic shelf rockfish TACs, such that aggregate entry level TAC is divided equally between the two gear types.

The trawl allocation would be available for harvest by all applicants for the entry level program. Although the number of participants in this sector cannot be predicted, 203 LLP licenses are endorsed to use trawl gear in the CGOA. After removing the 43 to 53 qualified licenses, the number of potential licenses eligible to participate in the entry level fishery ranges from 150 to 160. Despite the large number of persons eligible for the entry level fishery, the trawl fishery could draw few applicants, as the allocation is relatively small and few potential participants have experience in this fishery.

The trawl fishery is scheduled to open on May 1. There are two options that address insufficient halibut PSC allowance amounts available on the opening of the entry level trawl fishery. Under the first option, if halibut PSC allowances are unavailable on the opening, the opening would be delayed until the next release of halibut PSC. Under the second option, if sufficient halibut PSC allowances are not available, the fishery would open with halibut PSC mortality being deducted from the following quarter's halibut PSC allowance. This second provision might provide participants in the entry level fishery with an opportunity to move fishing to earlier in the spring (as is intended by the May 1 opening), should halibut be unavailable at that time. This early opening might help entry level participants maintain operations in non-rockfish fisheries, which they may have participated in, and have been dependent upon, prior to the program. The need for allowing this continued participation in other fisheries should be considered, if the entry level trawl fishery is maintained. Specifically, the Council should consider that entry level participants do receive a benefit from the fishery. Modifying the timing of this harvest to ensure their participation in other fisheries may impose a burden on the remaining participants in those other fisheries.

Given the potential for relatively small allocations to the fishery (approximately 350 tons of Pacific ocean perch), the ability of NMFS to effectively manage the trawl portion of the entry level fishery could be limited, if a substantial number of applicants for the entry level trawl fishery are received. For example, in the first year of the Pilot Program, only two trawl vessels participated in the entry level trawl fishery. Even with only two participants, the relatively small allocation to the fishery posed a management challenge. Since trawl vessels can harvest on the order of 100 metric tons in a day, timing a closure to avoid overharvests is very difficult. If several vessels enter the fishery, it is likely that managers would have to close the fishery or use short openings of 24 hours or less. **Management of the small allocation to trawl vessels in the entry level fishery is likely to be problematic under this alternative. If the Council wishes to proceed with an alternative for an entry level trawl fishery, alternative management approaches might be beneficial and provide greater entry opportunities.**

The longline allocation would be available for harvest by any longline vessel eligible to target CGOA rockfish (because of its assigned license or an exemption from the license requirement) that applies for the fishery. Any catches with longline gear (including incidental catches and catches from state waters when the federal fishery is open) would be counted against the entry level allocation (as has happened for the Pilot Program's entry level fishery). The allocation to the sector would remain at 2.5% of the total rockfish primary species, which would be the remainder of the allocation of total entry level allocation (i.e., 5% of each species) after the allocation to the entry level trawl fishery. By prioritizing the Pacific ocean perch allocation to the trawl fishery, the program should allocate more pelagic shelf rockfish and northern rockfish to the longline fishery. Those species are believed to be easier to target with longline gear than Pacific ocean perch.

Historically, non-trawl vessels have very minimal participation in the CGOA target rockfish fisheries. Despite the CGOA rockfish fisheries opening on January 1, the longline harvests never exceeded 30 metric tons of all rockfish primary species combined, during the 1996 through 2008 period. During each of the first 3 years of the Pilot Program, a single vessel registered for the entry level longline fishery. This vessel only had harvests from the entry level allocation in 2007. In the 2009 fishery, the allocations to the entry level fishery were 120 metric tons of Pacific ocean perch, 115 metric tons of northern rockfish, and 157 metric tons of pelagic shelf rockfish. These allocations greatly exceed historical harvests made with longline gear. To avoid leaving this allocation unharvested, any TAC remaining is available for harvest by entry level trawl fishery participants after the third quarter (beginning on October 1). Under the Pilot Program, the effectiveness of this provision has been inconsistent, as in some years, the entry level trawl vessels have elected not to target rockfish after the third quarter. Consequently, it is possible that continuing this management of the rockfish fisheries could leave a substantial portion of the allocation to the entry level longline fishery (possibly in excess of 350 metric tons) unharvested.

Longline only fishery – EL-3

Under Alternative 3, only the longline sector would receive an entry level allocation of the rockfish primary species. The starting entry level set-aside under this alternative would be between 1 metric ton and 10 metric tons of Pacific ocean perch, between 1 metric ton and 10 metric tons of northern rockfish, and between 10 metric tons and 30 metric tons of pelagic shelf rockfish.

Limiting the entry level fishery to longline vessels would resolve complications associated with the entry level trawl fishery. As noted in Alternative 2, the relatively small allocation to a trawl limited access fishery could be difficult to manage. Not including trawl participants in the entry level fishery eliminates the potential for that trawl effort to result in the TAC being exceeded. Reducing the initial set-aside for longline CGOA rockfish could also reduce unharvested CGOA rockfish TAC, as that sector has demonstrated little ability to harvest CGOA rockfish, to date. Allowing the set-aside to increase with increases in catch by the longline sector would also allow for entry (and growth in the sector) as is contemplated by the set-aside, while limiting the potential for a large share of the TAC to be unharvested, should the longline sector continue to harvest only small amounts of rockfish.

While the range of proposed set-asides for each of the rockfish primary species under this alternative (particularly when compared to Alternative 2) are reflective of the historical catches of the longline participants, **allocations of less than 5 metric tons for Pacific ocean perch and northern rockfish could be very difficult to manage. Consequently, if the Council wishes to support an entry level fishery for these species, it should make allocations of 5 metric tons or more. Otherwise, NMFS is unlikely to be able to open the fisheries.**

This alternative also includes provision for the increase of the entry level longline allocation as harvests increase. As defined in the option, if the entry level longline participants harvest 90% or more of their allocation of a rockfish species in a year, the set-aside of that species would be increased by the amount of its initial allocation. Allocation increases would be capped at a maximum of between 1% and 5% of Pacific ocean perch TAC (or between 100 metric tons and 500 metric tons of Pacific ocean perch, at current TAC levels), between 2% and 5% of northern rockfish TAC (or between approximately 50 metric tons and 115 metric tons of northern rockfish, at current TAC levels), and between 2.5% and 5% of pelagic shelf rockfish TAC (or between approximately 70 metric tons and 160 metric tons of pelagic shelf rockfish, at current TAC levels). The use of a relatively small starting longline allocation (more reflective of historical catches) and a mechanism for increasing the allocations with growth in the sector could help prevent unharvested portions of the TAC, which would occur if the allocation to the longline sector was disproportionately high compared to demand. Selecting an appropriate cap for growth of the entry level longline fishery requires a balancing of the interests of participants in the primary Rockfish Program, with the desire to allow for expansion of the entry level fishery.

The Council should consider that a relatively small initial allocation would establish a relatively small incremental increase in the allocation to the sector. A small initial allocation, paired with a relatively large cap, would allow opportunity for expansion of the sector, but that growth would be contained by the magnitude of the increase. As a consequence, growth to the cap could only occur over a period of several years. Whether this system of small increases with a relatively large cap should be considered a functional measure depends on whether the Council believes that the longline sector has potential for fast growth (which would outpace the growth in the allocation) and whether the Council believes that containing the rate of growth might be appropriate. Recent effort in the sector suggests that the sector has limited capacity for growth, in the absence of a substantial change in effort or catching power.

The entry level fishery would be prosecuted as a competitive limited access fishery, opening on January 1 each year. Although the limited access fishery will be managed similarly to other competitive fisheries in the GOA, a race for fish that dissipates rents is not likely (at least initially). Prosecution of the entry level fishery under this alternative will be supported by the general allowance of halibut PSC to longline gear. Catch of all other species would be governed by existing rules to control bycatch (i.e., MRAs, and bycatch status management). Unlike Alternative 2, participants in this longline only entry level fishery would not need to register for the fishery. This may improve entry into these fisheries by removing an application deadline that prevents unanticipated mid-season entry. Any vessel or gear type exempt from CGOA LLP requirements or any holder of a CGOA longline LLP license may enter a vessel in the fishery. In addition, all harvests of allocated species (including catches in the state parallel fishery) would accrue to the entry level TAC.

Program allocations

Rockfish primary species allocations to the trawl and longline sectors would be based on the aggregate allocations to its sector members. These allocations within a sector are based on retained catch (excluding landings processed into meal) of vessels using an eligible license in the sector during the qualifying years. Different years could be used for each species by, each license, for determining the allocation to maximize the allocation attributable to that license. There are four different year combinations:

- 1996 through 2002 with each license dropping its 2 lowest years,
- 1998 through 2006 with each license dropping its 2 lowest years,
- 1998 through 2006 with each license dropping its 4 lowest years, and
- 2000 through 2006 with each license dropping its 2 lowest years.

Permanent LLP licenses used by a vessel to make a targeted landing of CGOA rockfish during the applicable qualifying period are eligible for the program. All in-season rockfish harvests made using an eligible LLP license would be counted toward that license's allocation. Under an option, a permanent license that was not used in the rockfish fisheries could be eligible for the program, if the vessel to which that permanent license is assigned had targeted rockfish landings using an interim license that was later withdrawn, provided the permanent license has been continuously assigned to the vessel since December 31, 2003. The history of the rockfish targeting vessel would then be assigned to the permanent license, eligible under this provision.

3 Program eligibility (CP – all and CV – all)

The eligibility for entry into the cooperative program is one targeted landing of Pacific ocean perch, northern rockfish, or pelagic shelf rockfish caught in the CGOA during the qualifying period, using a CGOA trawl LLP license.

Option: In addition, the following participants would be eligible to enter the program:

those persons whose vessel had one targeted landing of Pacific ocean perch, northern rockfish, or pelagic shelf rockfish caught in the CGOA during the qualifying period, with interim trawl CGOA license that was later determined to be an invalid trawl CGOA endorsement, but who acquired a valid CGOA trawl license prior to December 31, 2003. Such endorsement must have been continuously assigned to the vessel with the target landing since acquired, until the date of final Council action.

4 Qualified catch (CP – all and CV – all)

4.1 Basis for the allocation to the LLP license holder is the catch history of the vessel on which the LLP license is based, and shall be determined 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 allocation of harvest shares to the LLP shall be based on the aggregate catch histories of (1) the vessel on which the 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.)

Option: For licenses qualified based on catch of a vessel using an interim license, the basis for the allocation will be the catch history of such vessel, notwithstanding the invalidity of the interim CGOA trawl LLP endorsement under which the vessel operated during the qualifying period. History allocated under this provision shall be assigned to the LLP license.

4.2 Catch history will be the history during the following qualifying periods (dates inclusive):

- 1) 1996–2002 (drop 2 years)
- 2) 1998–2006 (drop 2 or 4 years)
- 3) 2000–2006 (drop 2 years)

4.3 Qualified rockfish primary species history is allocated based on retained catch (excluding meal) during the rockfish target fisheries. Different years may be used (or dropped) for determining the history of each of the three rockfish primary species.

The CP catch history will be based on Weekly Production Report data.

CV catch history will be based on fish tickets.

Note: Only legal landings will be considered in determining catch history.

4.4 Entry level trawl qualification/allocation for the main program:

- 1) Vessels / LLPs that do not qualify for cooperative quota for the CGOA rockfish cooperative program.
- 2) The trawl LLP must have registered for the entry level fishery in 2007, 2008, and 2009.
Option: The trawl LLP must have registered for the entry level fishery in 2 of 3 years, 2007, 2008, or 2009.
- 3) The trawl LLP must have made a landing of fish in the entry level fishery with trawl gear in 2007, 2008, or 2009.

Option: A vessel that qualifies for the entry level allocation under this section may elect to opt out of the Rockfish Program.

- 4.5 The qualified entry level trawl LLP license holder would receive an allocation of QS for the rockfish primary species equivalent to the:
- 1) Average of the lowest one-quarter to one-third of the qualified CV LLP license holders that actively fished in the Pilot Program in either 2007 or 2008.
 - 2) Actual catch history of the vessel/LLP in 2007 or 2008 or 2009 (information would be withheld, due to confidentiality restrictions, unless the vessel(s) agrees to have the data released to the public).
 - 3) Average of all qualified CV LLP licenses.

Option: The qualified entry level trawl LLP license holders, in aggregate, would receive an allocation of QS for the rockfish primary species in an amount between 1.5% and 5% (the set-aside for the entry level trawl fishery and full entry level fishery under the Pilot Program), to be determined by the Council. Within that allocation, each of the qualified entry level LLP license holders would receive:

- a) an allocation of QS for the rockfish primary species in proportion to the number of years they made a delivery to an entry level processor from 2007 to 2009; or
- b) an equal allocation.

Note: secondary allocations and halibut PSC allowances are calculated the same as the other qualified LLP licenses.

Allocations of QS for qualified entry level trawl LLP license holders would be established as a set-aside, prior to allocations to the other CV sector licenses or CP sector.

5 Sector definitions (CP – all and CV – all)

Trawl catcher vessel – A trawl catcher vessel that has a CV or CP LLP license, but does not process its catch on board.

Trawl catcher processor - A trawl catcher processor is a trawl vessel that has a CP LLP license and that processes its catch on board.

6 Rationalized areas (CP – all and CV – all)

History is allocated for the CGOA only (NMFS statistical areas 620 and 630).

7 Sector allocations (CP – all and CV – all)

7.1 Rockfish primary species

Catch history is determined by the sector's qualified catch in pounds as a proportion of the total qualified catch in pounds.

Sector allocations of rockfish primary species are based on individual qualified vessel histories applying any applicable drop year provision at the vessel level.

Full retention of the rockfish primary species is required

7.2 Rockfish secondary species

Rockfish secondary species history is allocated based on retained catch of the species while targeting rockfish, over retained catch in all fisheries.

7.2.1 Except as provided below, history will be allocated to each sector for the following rockfish secondary species:

- sablefish,
- shortraker rockfish,
- rougheye rockfish,
- thornyhead rockfish, and
- Pacific cod.

7.2.3 Except as otherwise provided below, rockfish secondary species allocations will be based on: The sector's average annual percentage of retained catch of the secondary species by the rockfish target fisheries during the qualifying period. For each qualifying year calculate the sector's retained catch of the species in the target rockfish fisheries divided by the retained catch of all CGOA fisheries. Sum these percentages and divided by the number of qualifying years. The calculated average annual percentage is multiplied by the secondary species TAC for that fishery year and allocated to each sector in the cooperative program.

7.2.5 Exceptions:

Shortraker rockfish and rougheye rockfish

For shortraker rockfish and rougheye rockfish:

For the CP sector:

A shortraker rockfish allocation of the TAC will be:

Option 1a: 30.03%

Option 1b: 50%

To be managed as a hard cap, and a rougheye rockfish allocation of 58.87% of the TAC, to be managed as a hard cap.

Option 2: shortraker rockfish and rougheye rockfish will be managed with a combined MRA of 2%.

For the CV sector, shortraker rockfish and rougheye rockfish will be managed with a combined MRA of 2%. If harvest of shortraker rockfish by the CV sector reaches 9.72% of the shortraker rockfish TAC, then shortraker rockfish will go on PSC status for that sector.

Sablefish and Pacific cod

For the catcher processor sector, Pacific cod history will be managed by MRA of 4%.

Option 1: No directed fishing for rockfish secondary species Pacific cod and sablefish

Option 2: Manage Pacific cod and sablefish under a modified MRA.

Rockfish secondary species allocations may be fished independently of the primary species allocations.

Option: No directed fishing for rockfish secondary species Pacific cod and sablefish.

Full retention of all allocated species is required.

Participants must retain all allocated rockfish secondary species and stop fishing when cap is reached.

Option 1: MRAs in the CP sector will be enforced on a trip-by-trip basis.

Option 2: MRAs in the CP sector will be enforced on an instantaneous basis.

7.3 Prohibited species (halibut mortality)

Option 1: Allowance to the rockfish cooperative program will be based on historical average PSC usage, calculated by dividing the total number of metric tons of halibut PSC mortality in the CGOA rockfish target fisheries during the qualifying years, by the number of years.

Option 2: Allowance to the rockfish cooperative program will be based on the historical average PSC usage, calculated as:

- 1) 50% of the total number of metric tons of halibut PSC mortality in the CGOA rockfish target fisheries during the qualifying years, divided by the number of qualifying years, plus
- 2) 50% of the total number of metric tons of halibut PSC mortality in the first 3 years of the Pilot Program, divided by three (i.e., the number of years).

The halibut PSC allowance will be divided between sectors based on the relative amount of rockfish primary species allocated to each sector (e.g., the sector's share of total qualified catch).

Option for supplementing the last seasonal halibut apportionment for trawl gear

10%, 25%, 50%, 75%, or 100% of any allowance of halibut PSC that has not been utilized by November 15 or after the declaration to terminate fishing will be added to the last seasonal apportionment for trawl gear, during the current fishing year. The remaining portion of any allowance will remain unavailable for use.

Rockfish primary species allocations

Table 2-46 shows the allocations to the trawl catcher processor sector and the trawl catcher vessel sector for the 4 different qualification year combinations. Overall, more recent qualifying year combinations result in higher allocations for the trawl catcher vessel sector. For example, the estimated allocation to the trawl catcher vessel sector for Pacific ocean perch using 1996 through 2002 is 50%, while the estimated allocation using 2000 through 2006 is 60%. This change in the distribution between the sectors may be explained, in part, by the number of catcher processors participating in the rockfish fisheries in recent years. Since 2000, no more than 11 catcher processors have participated in the rockfish fisheries in any year.

Using the 1996 through 2002 (drop 2) qualifying years, the trawl catcher vessel sector would be allocated 62% of the northern rockfish fishery, 50% of the Pacific ocean perch fishery, and 45% of the pelagic shelf rockfish (in each case, after any allocation to the entry level fishery and the ICA). Applying these allocation percentages to the 2009 TAC yields an allocation of 1,365 metric tons for northern rockfish, 4,008 metric tons for Pacific ocean perch, and 1,496 metric tons for pelagic shelf rockfish. The trawl catcher processor sector would be allocated the remainder, 38% of the northern rockfish fishery, 50% of the Pacific ocean perch fishery, and 55% of the pelagic shelf rockfish fishery. Again, applying these percentages to the 2009 TAC for these rockfish species yields an allocation of 843 metric tons for northern rockfish, 4,038 metric tons for Pacific ocean perch, and 1,808 metric tons for pelagic shelf rockfish.

The qualifying year options 1998 through 2006 (drop 2), and 1998 through 2006 (drop 4), resulted in allocations that are almost identical to one another. As seen in Table 2-46, the difference in the allocations was roughly 1% or less, depending on the species. Looking specifically at 1998 through 2006 (drop 2), the trawl catch vessel sector would be allocated 62% of the northern rockfish fishery, 57% of the Pacific ocean perch fishery, and 56% of the pelagic shelf rockfish fishery. For the trawl catcher processors, the allocations would be 39% for northern rockfish, 43% for Pacific ocean perch, and 45% for pelagic shelf rockfish. Applying the 2009 TAC to these allocations, the catcher vessels would be allocated 1,357 metric tons of northern rockfish, 4,557 metric tons of Pacific ocean perch, and 1,834 metric tons of pelagic shelf

rockfish. Catcher processors would be allocated 851 metric tons of northern rockfish, 3,489 metric tons of Pacific ocean perch, and 1,470 metric tons of pelagic shelf rockfish.

Under the 2000 through 2006 (drop 2) qualifying year option, the trawl catcher vessel sector would be allocated 60% of the northern rockfish fishery, 60% of the Pacific ocean perch fishery, and 62% of the pelagic shelf rockfish fishery. Catcher processors would be allocated approximately 40% of the northern rockfish fishery, 40% of the Pacific ocean perch fishery, and 38% of the pelagic shelf rockfish fishery.

Table 2-46. Sector participation, qualified landings, allocation percent, and estimated allocation based on 2009 TAC of Central Gulf of Alaska rockfish.

Qualifying year	Species	Sector	License count	Total qualifying landings (mt)	Allocation percent	Allocation using 2009 TAC* (mt)
1996-2002 (drop 2)	All	CP	14	34,113	49.3	6,689
		CV	49	36,256	50.7	6,869
	Northern rockfish	CP	13	6,040	38.2	843
		CV	48	9,771	61.8	1,365
	Pacific ocean perch	CP	13	19,686	50.2	4,038
		CV	49	19,544	49.8	4,008
	Pelagic shelf rockfish	CP	14	8,387	54.7	1,808
		CV	48	6,941	45.3	1,496
1998-2006 (drop 2)	All	CP	14	44,325	42.9	5,810
		CV	53	60,329	57.1	7,748
	Northern rockfish	CP	14	10,193	38.5	851
		CV	52	16,263	61.5	1,357
	Pacific ocean perch	CP	14	25,358	43.4	3,489
		CV	53	33,113	56.6	4,557
	Pelagic shelf rockfish	CP	14	8,774	44.5	1,470
		CV	52	10,953	55.5	1,834
1998-2006 (drop 4)	All	CP	14	37,540	42.2	5,718
		CV	53	52,310	57.8	7,840
	Northern rockfish	CP	14	9,290	39.3	868
		CV	52	14,335	60.7	1,340
	Pacific ocean perch	CP	14	20,563	42.0	3,383
		CV	53	33,113	56.6	4,663
	Pelagic shelf rockfish	CP	14	8,774	44.5	1,466
		CV	52	9,637	55.6	1,838
2000-2006 (drop 2)	All	CP	12	31,885	39.9	5,412
		CV	44	47,714	60.1	8,146
	Northern rockfish	CP	12	8,369	40.3	890
		CV	43	12,387	59.7	1,318
	Pacific ocean perch	CP	11	18,145	40.5	3,260
		CV	43	26,637	59.5	4,786
	Pelagic shelf rockfish	CP	12	5,370	38.2	1,262
		CV	44	8,691	61.8	2,042

Source: Alaska Department of Fish and Game for CV data and Weekly Production Reports for CP data

* Note that a 100 mt ICA was deducted for northern rockfish and pelagic shelf rockfish TAC, while 200 mt ICA was deducted from Pacific ocean perch TAC.

After a sector's allocation is determined, allocations would be made to eligible LLP license holders within the sector. Table 2-47 shows the numbers of eligible LLP licenses in the trawl catcher vessel and trawl catcher processor sectors in the different rockfish fisheries, as well as simple statistics concerning the allocations between sector members, including allocations based on the 2009 TACs.

Table 2-47. Mean, median, and four largest allocations by Central Gulf of Alaska rockfish species.

Qualifying Year	Species	Sector	License count	Mean allocation (%)	Median allocation (%)	Average of four largest allocations (%)	Allocation using 2009 CQ (mt)		
							Mean	Median	Average of four largest allocations
1996-2002 (drop 2)	Northern rockfish	CP	13	7.7	6.0	14.8	65	51	125
		CV	48	2.1	1.4	7.2	28	20	98
	Pacific ocean perch	CP	13	7.7	7.8	15.0	311	316	604
		CV	49	2.0	1.6	4.5	82	64	180
	Pelagic shelf rockfish	CP	14	7.1	4.0	17.7	129	72	320
		CV	48	2.1	1.7	6.6	31	25	98
1998-2002 (drop 2)	Northern rockfish	CP	14	7.1	1.1	18.2	61	9	155
		CV	52	1.9	1.5	7.6	26	20	103
	Pacific ocean perch	CP	14	7.1	3.1	18.8	249	107	656
		CV	53	1.9	1.7	4.9	86	76	222
	Pelagic shelf rockfish	CP	14	7.1	3.7	18.7	105	55	275
		CV	52	1.9	1.5	6.7	35	28	123
1998-2002 (drop 4)	Northern rockfish	CP	14	7.1	1.2	17.6	62	11	153
		CV	52	1.9	1.7	7.0	26	22	93
	Pacific ocean perch	CP	14	7.1	3.8	17.8	242	128	604
		CV	53	1.9	1.8	4.6	88	82	216
	Pelagic shelf rockfish	CP	14	7.1	4.2	18.0	105	62	263
		CV	52	1.9	1.6	6.2	35	30	114
2000-2006 (drop 2)	Northern rockfish	CP	12	8.3	5.8	18.9	74	52	168
		CV	43	2.3	2.2	7.8	31	29	103
	Pacific ocean perch	CP	11	9.1	4.9	19.9	296	159	649
		CV	43	2.3	2.1	4.9	111	102	234
	Pelagic shelf rockfish	CP	12	8.3	3.8	19.7	105	49	248
		CV	44	2.3	1.9	6.6	46	39	136

Source: Alaska Department of Fish and Game for CV data and Weekly Production Reports for CP data

* Note: Assumes no processor allocation of harvest shares

The distribution of catcher processor and catcher vessel allocations in the different rockfish fisheries for the qualifying year combinations are shown in Figure 2-4 through Figure 2-6. Allocations are aggregated into groups of four, to maintain confidentiality, with vessel groupings made in descending order from the largest estimated allocation to the smallest allocation. The last and smallest grouping contains between four and seven estimated allocations, since four or more independent entities must be included, under confidentiality rules. The estimated allocation shown for each group of four vessels (or four or more for the smallest group) is the average allocation to members of that group. Allocations are shown as shares of the total allocation to the respective sector. Each legend shows the total number of vessels that would receive an allocation in each fishery. Because allocations are averages, it is possible, particularly in the groupings with the largest allocation, that the largest allocation to a single vessel is significantly different from the average of those four vessels.

Comparing the distributions of catcher processor allocations using the different qualifying year options, the most obvious difference is the increase in the size of the highest four allocations, as more recent qualifying years are used. The four largest allocations using the 1996 through 2002 option, average between 15% and 17% of the total allocation (depending on the species). The four largest allocations using the 1998 through 2006 year combination, average slightly less than 20% of the total allocation (depending on the species), while the four largest allocations using 2000 through 2006, average approximately 20% of the total allocation. Looking at the smallest allocations, using the 1996 through 2002 option, approximately five participants in the sector would receive allocations that average approximately 2% of the sector's northern rockfish and Pacific ocean perch, while approximately six participants in the sector would receive allocations that also average 2% of the sector's pelagic shelf

rockfish. Under the 1998 through 2006 options, five participants would receive allocations that average less than 1% for each of the rockfish species. Finally, using 2000 through 2006, four participants would receive allocations averaging less than 1%.

Figure 2-4. Allocations of Central Gulf of Alaska Pacific ocean perch to catcher processors and catcher vessels by qualifying years.

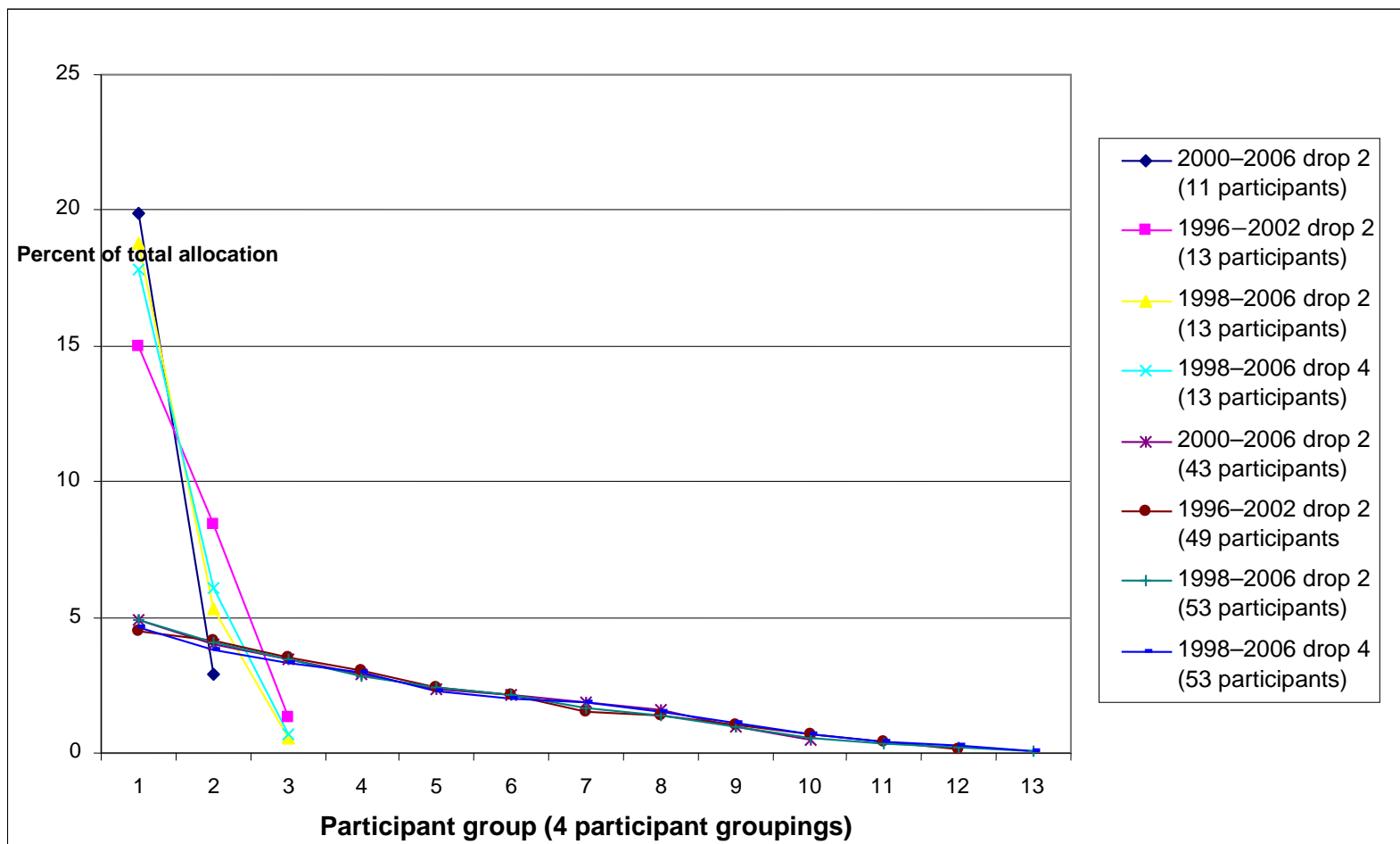


Figure 2-5. Allocations of Central Gulf of Alaska northern rockfish to catcher processors and catcher vessels by qualifying years.

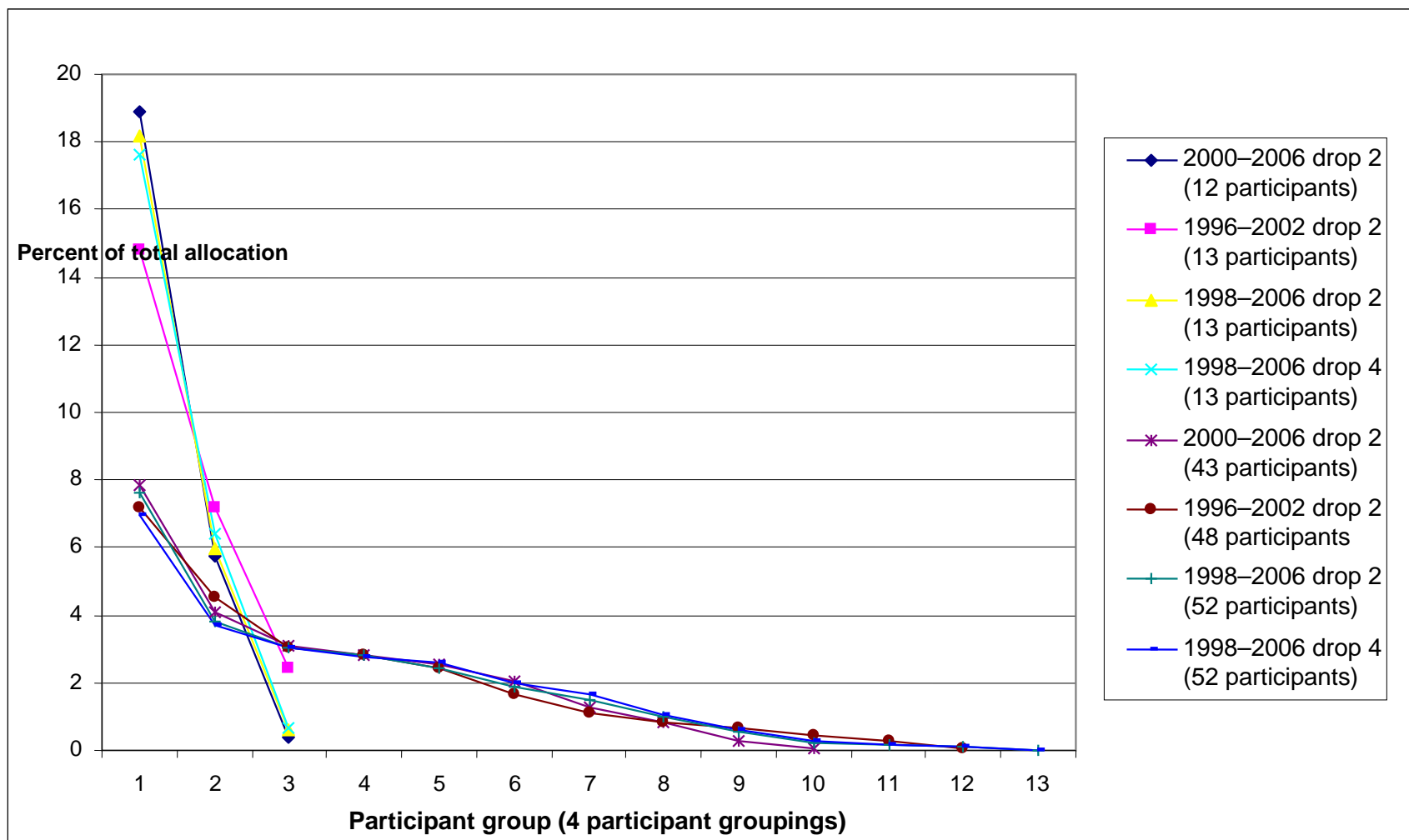
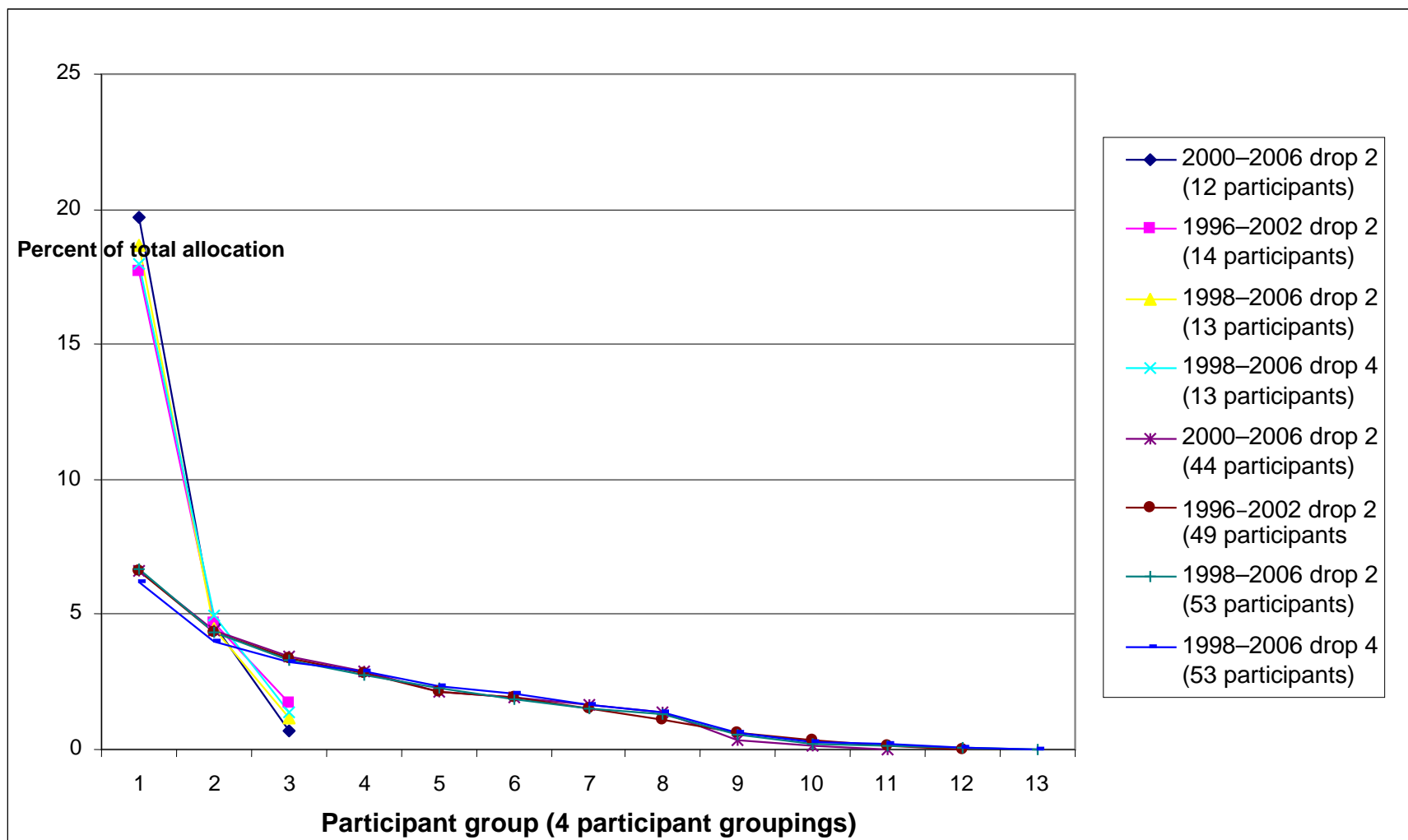


Figure 2-6. Allocations of Central Gulf of Alaska pelagic shelf rockfish to catcher processors and catcher vessels by qualifying years.



Unlike the allocation distribution of the catcher processors, allocations to catcher vessels are nearly identical across the different qualifying years and are more evenly distributed across participants. The allocation distributions of the four different qualifying year combinations maintain a fairly consistent pattern. The four largest allocations for northern rockfish average between 7% and 8% for each of the different year combinations, slightly less than 5% for Pacific ocean perch, and between 6% and 7% for pelagic shelf rockfish. Looking at the smallest allocations, between four participants and seven participants would receive average allocations of each rockfish species well below 1%, under each of the four different year combinations.

The motion also includes an “interim license option” that would qualify a permanent license for the program, provided that any such license was assigned to a vessel by December 31, 2003, and that the vessel fished in the rockfish fisheries with an interim license during the qualifying period. Using these criteria, three catcher vessel licenses and no catcher processor licenses appear to qualify for the provision, based on the earliest qualifying period (1996 through 2002). This estimate is based on the number of vessels that have targeted rockfish in the qualifying period that did not receive a CGOA endorsed LLP license, but have since assigned one to the vessel. One of the two vessels with interim license history participated in all 7 qualifying years; another participated in 6 of the 7 years, while the last participated in only one of the qualifying years. All three licenses also are estimated to qualify based on the 1998 through 2006 qualifying year options, with one vessel having participation in 7 years, another having participation in 4 years, and the last vessel participating in one qualifying year. Under the 2000 through 2006 qualifying year option, two vessels are estimated to qualify. One vessel participated in 5 of these years, while the other participated in 2 years. Since only three vessels appear to qualify for the provision, no information concerning catch amounts of these vessels can be released, at this time.

In administering this provision, the Council should consider whether its objective is simply to include these licenses in the program, or to qualify catch history of vessels that fished with interim licenses that were later replaced with permanent licenses. In some cases (particularly, if the Council selects recent qualifying years), it is possible that a license will qualify for the program after being assigned to a vessel with considerable catch history using an interim license. **If the Council would like to use the provision to allow these license holders to receive credit for vessels that established histories using an interim license, the provision would need to be revised to allow the history of a vessel that fished with an interim license to be credited to a permanent license that qualifies for the program.**

In considering this action, the Council should consider the effects of the action on allocations of both rockfish primary species and other species under the program. The allocation of rockfish primary species to the program is made after first deducting an ICA to support rockfish catch in other fisheries and an entry level set-aside to support that fishery. The creation of eligibility for additional licenses by this action would not affect those allocations. The portion of the rockfish TAC remaining after these deductions, would then be divided between the two sectors that participate in the Rockfish Program (i.e., the catcher vessel sector and the catcher processor sector). It then would be further divided, among cooperatives and the limited access fisheries. These sector cooperative and limited access allocations of the different rockfish primary species are all proportional allocations based on the respective rockfish primary species quota share holdings of participants in the sectors, cooperatives, and limited access fisheries. Consequently, the qualification of additional licenses and catch history for the program would have the effect of redistributing a portion of the rockfish primary species allocations under the program to the sector, cooperative, or limited access fishery of the newly qualified participants. So, the effect of new qualification on the rockfish primary species allocations would be to dilute the allocations to participants qualified under the general qualification provision based on the proportion of newly qualified history, but that redistribution would be in proportion to the qualified catches of these vessels.

Similarly, allocations of rockfish secondary species would be proportionally redistributed, but only within the sector (as neither sector's allocation would be affected). The overall apportionment of halibut PSC to the program would be unaffected, but the distribution of that apportionment between the sectors and within the sector would be affected slightly by the additional rockfish primary species qualifying history. In all cases, the effect is likely to be minor, as it will be distributed across all participants in the sector.

Sector allocations of rockfish secondary species

In addition to the rockfish allocations, allocations would be made to the catcher processors sector and catcher vessel sector for secondary species that are typically harvested when harvesting rockfish. The allocations of rockfish secondary species would be based on catch of the secondary species while targeting rockfish. Specifically, the allocation would be a portion of the TAC equal to the average annual percentage of the total retained catch of the rockfish secondary species, made by the sector. In other words, a sector would be allocated the average of its annual retained catch from the rockfish fisheries, divided by the annual total retained catch from the CGOA during the qualifying years. The annual allocation to the sector would be this percentage, multiplied by the annual TAC for that secondary species.

Table 2-48. Rockfish secondary species allocation by sector.

Qualifying Year	Species	Sector	Retained catch (mt)	Average percent	Allocation using 2009 CQ (mt)***
1996-2002	Pacific cod	CP	617	0.2	55
		CV	4,379	2.0	478
	Sablefish	CP	1,924	4.5	226
		CV	2,514	5.9	295
	Shortraker/rougheye	CP	2,574	44.5	511
		CV	261	4.4	50
1998-2006	Pacific cod	CP	641	17.1	147
		CV	322	8.2	70
	Pacific cod	CP	982	0.4	85
		CV	8,112	3.3	770
	Rougheye rockfish*	CP	2,391	37.3	311
		CV	285	7.0	58
	Sablefish	CP	2,231	4.0	199
		CV	3,659	6.4	323
	Shortraker rockfish*	CP	2,554	43.9	138
		CV	271	5.0	16
2000-2006	Thornyhead rockfish**	CP	1,129	23.6	203
		CV	385	7.8	67
	Pacific cod	CP	585	0.3	78
		CV	6,978	3.8	901
	Rougheye rockfish*	CP	1,700	34.7	289
		CV	226	7.8	65
	Sablefish	CP	1,575	3.5	176
		CV	3,050	6.8	341
	Shortraker rockfish*	CP	1,863	43.2	136
		CV	212	5.3	17
	Thornyhead rockfish**	CP	954	26.5	228
		CV	280	7.8	67

Source: Alaska Department of Fish and Game fish tickets for CV data and Weekly Production Reports for CP data

* Prior to 2005, shortraker and rougheye rockfish were managed in the Central Gulf under an aggregate TAC. As a result, in years prior to 2005 aggregate shortraker and rougheye catch were used in the catch calculation.

** Prior to 1998, thornyhead rockfish were managed Gulf-wide so 1996 and 1997 catch were omitted from this calculation.

***Assumes all qualified participants join a cooperative.

Catcher processors' allocations of Pacific cod are relatively small, ranging from a low of 0.2% using 1996 through 2002, to a high of 0.4% using 1998 through 2006, while allocations to the catcher vessels would be substantially larger, ranging from 2.0% using 1996 through 2002, to 3.8% using 2000 through 2006. Given the historically low harvest of Pacific cod by catcher processors in the rockfish fisheries, the Council when developing the Pilot Program, chose to manage the Pacific cod for the catcher processors under a revised MRA of 4% — a level substantially lower than the 20% Pacific cod MRA under the LLP. This lower MRA is intended to allow for reasonable Pacific cod retention by catcher processors, without constraining their harvests of rockfish primary species allocations. The Council motion would extend this management for the catcher processor sector under all program alternatives. Catcher vessel allocations of Pacific cod based on historical harvests are substantially higher and are unlikely to constrain rockfish harvests of that fleet; therefore, no MRA option was considered for the catcher vessel sector.

Sablefish allocations to the catcher vessel sector range from 5.9% using 1996 through 2002, to 6.8% using 2000 through 2006. For the catcher processor sector, allocations of sablefish would range from a low of 3.5% using 2000 through 2006, to a high of 4.5% using 1996 through 2002. Under all of the options, the catcher processor sector would receive a larger allocation of thornyhead rockfish, compared to the catcher vessel sector. The estimated catcher processor allocations range from a low of 17.1% using 1996 through 2002, to a high of 26.5% using 2000 through 2006. For catcher vessel sector, the allocations range from a low of 7.8% using 1998 through 2006, to a high of 8.2% using 1996 through 2002.

Alternative Pacific cod and sablefish management

Currently in the Pilot Program, the catcher vessel sector receives allocations of Pacific cod and sablefish; the catcher processor sector receives an allocation of sablefish, while its Pacific cod catch is managed under a reduced MRA of 4%. The sector allocations of Pacific cod and sablefish are based on the average annual percentage of total CGOA retained catch in the rockfish fisheries during the qualifying years.

At the June 2009 Council meeting, the Council adopted for consideration, the two options that would modify management of Pacific cod and sablefish catches in the program. Under the first, no directed fishing of these species would be permitted. In other words, no fishing trips could have sablefish or Pacific cod as the predominant retained species. Under the second, both species would be managed under a modified MRA. The specific MRA level is not indicated in the option.

A prohibition on directed fishing is likely to decrease the value of any sablefish and Pacific cod harvested from the rockfish fisheries. One of the benefits of exclusive allocations is that participants are able to pattern their fishing to receive the greatest benefit from these allocations. As a result, several times in the first 2 years of the program, catcher vessels took trips targeting Pacific cod and sablefish (see Table 2-49). By limiting their catch of rockfish in these trips, harvesters (particularly catcher vessels) were able to increase quality of catch and both reduce costs of traveling to the different grounds and sorting needed to limit the extent of mixing of Pacific cod and sablefish with rockfish, the spines of which can damage more fragile fish. Over 75% of the Pacific cod and over 50% of the sablefish of the catcher vessel sector were caught during catcher vessel non-rockfish target trips. During these trips, few rockfish were harvested.³³ Although the catch of sablefish and Pacific cod in this manner may be viewed by some as inconsistent with the concept of the “rockfish fisheries,” harvests of these species have remained at, or below, their historic levels in the rockfish fisheries. In addition, these practices bring additional value to catch. It is unclear whether any benefit to the rockfish sector could come from a prohibition on targeting Pacific cod and sablefish, in the absence of other changes, as prohibition of targeting would likely decrease quality of landings and drive up sorting and operating costs. Clearly, sablefish fishermen and Pacific cod fishermen would benefit from such a prohibition on covert targeting by rockfish operators.

Table 2-49. Catcher vessel trips and catch by trip target (2007 and 2008).

Target	Vessels with at least one trip in the target		Total trips in the target		Species caught in the target	Catch (in metric tons)		Percent of total catch of the species	
	2007	2008	2007	2008		2007	2008	2007	2008
Pacific cod	10	12	11	13	Pacific ocean perch	5.2	13.2	0.1	0.3
					Northern rockfish	0.9	2.2	0.0	0.2
					Pelagic Shelf Rockfish	0.4	13.5	0.0	0.8
					Pacific Cod	207.1	429.9	74.7	75.7
					Sablefish	30.5	53.6	6.6	13.5
Rockfish	25	26	130	112	Pacific ocean perch	4,145.3	4,477.5	99.5	99.4
					Northern rockfish	2,000.1	1,343.7	100.0	99.7
					Pelagic Shelf Rockfish	1,577.0	1,578.1	99.9	98.9
					Pacific Cod	54.5	137.3	19.6	24.2
					Sablefish	205.7	128.2	44.2	32.4
Sablefish	14	13	16	17	Pacific ocean perch	16.1	12.9	0.4	0.3
					Northern rockfish	0.0	1.8	0.0	0.1
					Pelagic Shelf Rockfish	0.9	3.6	0.1	0.2
					Pacific Cod	15.7	0.7	5.7	0.1
					Sablefish	229.1	214.3	49.2	54.1

Source: NMFS Catch Accounting Data.

³³ Some rockfish primary species are harvested during these trips that are non-rockfish targets, as MRAs for shortraker and rougheye rockfish use only catch of rockfish primary species as the basis for determining the MRA poundage.

In addition to a possible prohibition on targeting Pacific cod and sablefish by vessels fishing Rockfish Program allocations, the Council included an option to manage these secondary species under a modified MRA (which, in addition to affecting the manner and amount of harvests, would also operate as an effective prohibition on targeting). Under MRA management, rockfish vessels exceeding the MRA at any point in a trip would be required to discard catches above the MRA. While MRA would prohibit targeting of these species and limit their retention, MRA management may have some undesirable effects. MRAs can contribute to discards. As currently applied in the GOA, an MRA is applied instantaneously, requiring the discard of any catch that exceeds the prescribed level at any time. So, a vessel that catches an unexpected amount of an MRA species early in a trip may be forced to discard it, even if the catch would be retainable at a later time in the trip. For valuable species, an MRA may induce a vessel to catch up to the maximum amount, knowing that overharvest of the MRA may be discarded without risk of penalty. These added discards are avoided under species allocations, since all catch counts against the allocation.³⁴

MRAs can also contribute to excessive harvest of a species. Since an MRA limits only retention, requiring vessels to discard above the retainable amount, they do not limit harvest of a species. For species of value that are fully utilized, establishing an MRA in a fishery prosecuted with exclusive allocations and an extended season could increase harvests relative to MRA harvests in a limited access race for fish. Persons able to harvest the MRA in conjunction with exclusive allocations may be under less time pressure to harvest the MRA species than persons fishing in a limited access race for fish, where harvest of the basis species could be constrained.

In the rockfish fisheries, discards of Pacific cod and sablefish under an MRA would most likely arise from vessels “topping off” on those species, as catches suggest that these species are avoidable when vessels target rockfish. Rockfish participants have historically relied on catches of these species to supplement (i.e., subsidize) their revenues in the fisheries. Under an MRA, they are likely to continue targeting these species for the added revenues, discarding as necessary to comply with the MRA limitations. Topping off was common in the fisheries prior to the Pilot Program and the dependence on sablefish and Pacific cod was the basis for the allocations of these species under the program.

As written, the option to use MRA management for Pacific cod and sablefish does not include a modified MRA level. Under the LLP, the MRA for Pacific cod was 20% in the rockfish fisheries, while the MRA for sablefish was 7%. The catcher processor sector and the catcher vessel limited access fishery operate under a reduced MRA of 4% for Pacific cod and both sectors’ limited access fisheries operate under a reduced MRA of 3% for sablefish. Table 2-50 provides catch rates of Pacific cod and sablefish, relative to the rockfish primary species allocations for the catcher vessel and catcher processor sectors in the first 2 years of the Pilot Program. These rates show catches of Pacific cod and sablefish relative to the cooperative rockfish allocations; or the effective retention rates of Pacific cod and sablefish relative to rockfish allocations, which would be considered basis species under an MRA.³⁵ In the catcher vessel sector, Pacific cod catches have been substantially below the historical MRA of 20% and are below

³⁴ In addition, it should be noted that the sablefish MRA applicable to trawl fisheries was originally established, and intended, to allow for limited catches of sablefish by the trawl fleet (rather than only permit retention of unavoidable incidental catch). NMFS discontinued the trawl directed sablefish fishery for fear that it may be unable to effectively limit trawl catches of sablefish to the sablefish TAC. Consequently, NMFS elected to allow trawl retention of sablefish under an MRA that allows for limited retention of sablefish, based on catches in other directed fisheries. With binding allocations of sablefish under the Pilot Program, the trawl participants have been able to make **directed** trips for sablefish with much reduced risk overage.

³⁵ Catch and allocation amounts for the catcher processor sector do not include catch or allocation amounts from the limited access fishery.

Pacific cod catch rates observed in the qualifying years, which averaged between 8.6% and 10.7% of rockfish catch. Sablefish catch rates under the program also appear to be slightly lower than qualifying year rates, which averaged between 5.5% and 6.2% of rockfish catches (see Table 2-51).

Table 2-50. Cooperative catch and catch rate of Pacific cod and sablefish relative to rockfish primary species allocations in the CGOA rockfish fisheries (2007 and 2008).

Year	Sector	Species	Catch* (in metric tons)	Allocation of primary rockfish**	Catch rate of secondary species relative to rockfish allocations including transfers
2007	Catcher vessel	Pacific Cod	271.9	8,436.4	3.2
		Sablefish	453.8		5.4
	Catcher processor	Sablefish	78.2	2,125.0	3.7
2008	Catcher vessel	Pacific Cod	568.0	8,192.5	6.9
		Sablefish	396.1		4.8
	Catcher processor	Sablefish	66.7	1,986.0	3.4

Source: NMFS Catch Accounting data

*Catch and allocation amounts for the catcher processors sector does not include catch or allocation amounts from the limited access fishery.

** Allocations for the catcher vessels include transfers, while allocations for catcher processors exclude transfers.

Table 2-51. Retained catch and current retainable percentages for vessels targeting Central Gulf of Alaska rockfish for three qualifying periods.

Qualifying Years	Sector	Target rockfish catch (metric tons)	Pacific cod				Shortraker/rougheye			
			Catch (metric tons)	Percent of target rockfish	Retainable percentage	Maximum retainable amount	Catch (metric tons)	Percent of target rockfish	Retainable percentage	Maximum retainable amount
1996- 2002	CV	41,063.9	4,401.4	10.7	20.0	8,212.8	261.3	0.6	15.0	6,159.6
	CP	40,653.0	617.5	1.5	20.0	8,130.6	2,573.9	6.3	15.0	6,098.0
	Total	81,717.0	5,018.8	6.1	20.0	16,343.4	2,835.2	3.5	15.0	12,257.5
1998- 2006	CV	66,882.1	8,157.0	10.0	20.0	13,376.4	305.1	0.4	15.0	10,032.3
	CP	51,334.7	982.3	1.2	20.0	10,266.9	2,573.6	3.1	15.0	7,700.2
	Total	118,216.7	9,139.3	11.2	20.0	23,643.3	2,878.7	3.5	15.0	17,732.5
2000- 2006	CV	55,847.7	7,022.4	8.6	20.0	11,169.5	246.3	0.3	15.0	8,377.2
	CP	36,733.4	584.6	0.7	20.0	7,346.7	1,882.9	2.3	15.0	5,510.0
	Total	92,581.1	7,607.0	9.3	20.0	18,516.2	2,129.2	2.6	15.0	13,887.2

Qualifying Years	Sector	Thornyhead				Sablefish			
		Catch (metric tons)	Percent of target rockfish	Retainable percentage	Maximum retainable amount	Catch (metric tons)	Percent of target rockfish	Retainable percentage	Maximum retainable amount
1996- 2002	CV	333.7	0.8	15.0	6,159.6	2,528.3	6.2	7.0	2,874.5
	CP	641.4	1.6	15.0	6,098.0	1,924.1	4.7	7.0	2,845.7
	Total	975.1	1.2	15.0	12,257.5	4,452.4	5.4	7.0	5,720.2
1998- 2006	CV	396.4	0.6	15.0	10,032.3	3,680.3	5.5	7.0	4,681.7
	CP	1,128.8	2.2	15.0	7,700.2	2,231.2	4.3	7.0	3,593.4
	Total	1,525.2	1.3	15.0	17,732.5	5,911.5	5.0	7.0	8,275.2
2000- 2006	CV	280.9	0.5	15.0	8,377.2	3,065.9	5.5	7.0	3,909.3
	CP	953.7	2.6	15.0	5,510.0	1,575.1	4.3	7.0	2,571.3
	Total	1,234.6	1.36	15.0	13,887.2	4,641.0	5.0	7.0	6,480.7

Source: CP data from Weekly Production Reports and CV data from Alaska Department of Fish and Game fish tickets

If the Council elects to use a modified MRA, it should consider several factors, beginning with its purpose for reverting to MRA management. A reduced MRA may be used to prevent targeting. The extent to which Pilot Program participants have used allocations to target Pacific cod and sablefish (rather than to support incidental catches) suggests that those species could be avoided, if the Council adopts management measures to create an incentive for avoidance. This reduced MRA may provide a minor benefit to other fisheries that harvest Pacific cod and sablefish, shifting catches from the rockfish fisheries to other target fisheries, but could impose costs on participants in the rockfish fisheries, who have a reliance on Pacific cod and sablefish catches to support their rockfish operations. Given the high value of

Pacific cod and sablefish (relative to rockfish), a substantial reduction in permitted retention of Pacific cod and sablefish would have a notable effect on the economics of the rockfish fisheries.

Under the Pilot Program, discards of allocated species are prohibited (unless such species go on “prohibited-status”). Consequently, no discards of Pacific cod or sablefish by catcher vessels or sablefish by catcher processors are permitted. Under MRA management, discards of these species would be required, if the MRA is exceeded. This discard requirement applies at all times to catcher vessels (and possibly catcher processors), so a vessel could be required to discard Pacific cod or sablefish if a tow early in a trip yields a disproportionate amount of those species, regardless of whether the vessel has substantial basis species catches later in the trip.³⁶ The potential of an MRA to contribute to discards, together with the increase in sorting costs to prevent mixing of Pacific cod and sablefish with rockfish in the hold, suggests that changing to MRA management or a prohibition on targeting, may not be the most effective way to constrain harvests of Pacific cod and sablefish by the rockfish fisheries.

Sector allocations of shortraker rockfish and rougheye rockfish

Three options are under consideration for managing shortraker rockfish in the catcher processor sector. Two of these options would manage shortraker rockfish as an allocated rockfish secondary species, with allocations of either 30.03% or 50% of TAC. The third option would combine shortraker rockfish and rougheye rockfish, managing these species using an MRA percentage of 2%. Catcher vessel sector participants are subject to a 2% MRA applicable to aggregate retention of shortraker rockfish and rougheye rockfish. In addition, if the sector’s harvest of shortraker rockfish reaches 9.72% of the TAC, that species would go on PSC status for the sector, under which any retention is prohibited.

Estimation of allocations of shortraker rockfish and rougheye rockfish under the options requires some interpretation, as historical management of these species affects the information. Prior to 2005, shortraker rockfish and rougheye rockfish were managed based on an aggregate TAC, with relatively limited distinction of catch by species. So, for qualifying years prior to 2005, history is credited to both species based on aggregate catches of the two species. Consequently, the 1996 through 2002 qualifying year option allocations are the same for both species, while the 1998 through 2006, and 2000 through 2006 qualifying year options distinguish allocations of the two species based on catch differentials for the two in 2005 and 2006. Allocations for the catcher vessels are relatively small compared to the catcher processor sector, ranging from 4.4% of both species using 1996 through 2002 qualifying years, to a high of 7.8% for rougheye rockfish and 5.3% of shortraker rockfish, using 2000 through 2006 qualifying years. For catcher processors, allocations ranged from a 34.7% for rougheye rockfish and 43.2% for shortraker rockfish, using 2000 through 2006 qualifying years, to a high of 44.5% based on aggregated catches in the 1996 through 2002 qualifying years.

Several factors should be considered in assessing the various allocation options. Both the process followed by the Council in the development of Pilot Program allocations and the performance of the rockfish fisheries under those allocations shed light on these factors. During development of the Pilot Program, the Council first considered allocation of shortraker rockfish and rougheye rockfish, based solely on aggregate catches of the two species during the qualifying period. Each sector would then receive an allocation for each species by applying its share of the historical aggregate catch of the two species to each of the two species TACs. Based on that calculation, the catcher processor sector would

³⁶ If the Council elects to develop MRA management of these species, it could consider a provision that would apply an MRA only at the end of a trip (or week), in the case of catcher processors. Such an approach might be more suitable to an allocated fishery, in which the availability of basis catches to support MRA retention is more certain than in a limited access derby.

receive approximately 60% of each TAC, while the catcher vessel sector would have received approximately 6% of each TAC. Although the species were historically managed under an MRA, managers expressed concern that catches of shortraker rockfish exceeded rougheye rockfish catches, while shortraker stocks were less abundant. To address potential pressure on the shortraker rockfish stock, the Council also considered an option to credit only 75% of the catch history of the catcher processors sector in determining its allocation, effectively reducing the allocations to approximately 45% of the combined TACs. In considering this allocation, the Council expressed concern that the relatively high history based allocation of these species could leave the stocks vulnerable, if other catches increased in other fisheries under the MRAs.³⁷

In part, to avoid possible overharvests, the Council elected to use more precise and limiting management allocating catcher processors 30.03% of the CGOA shortraker rockfish TAC and 58.87% of the CGOA rougheye rockfish TAC. Each catcher processor cooperative would receive a percentage of each of those allocations equal to its percentage of the sector's rockfish primary species quota shares. Sector members that choose to fish in the limited access fishery do not receive an allocation. Instead, limited access participants in the Pilot Program are limited by an MRA of combined shortraker rockfish and rougheye rockfish equal to 2% of the catch of rockfish primary species, the same MRA percentage applicable to catcher vessels in the Pilot Program.

Under the Pilot Program rules, allowable catches of shortraker rockfish and rougheye rockfish by catcher processors in the program differ with catcher processor sector choices of whether to enter a cooperative or fish in the limited access fishery (see Table 2-20 and Table 2-21). Generally, catcher processors are permitted to retain more shortraker rockfish and rougheye rockfish, if they join cooperatives. So, the maximum retained catch by the sector would be permitted, if all catcher processors chose to join cooperatives. Yet, since discards are permitted by participants in the limited access fishery, it is possible that total removals of shortraker rockfish and rougheye rockfish could actually be greater, if a large number of catcher processors chose to join the limited access fishery and these participants discarded substantial amounts of shortraker rockfish and rougheye rockfish. Since all catcher vessels in the program are free to discard incidental catch and are subject to an aggregate MRA that limits only retained catch and does not distinguish catch by species, no such difference in allowable retention arises in that sector.

In the first year of the Pilot Program, catcher processors participated in both cooperatives and the limited access fishery. The choice of some catcher processors to participate in the limited access fishery reduced the permitted retained catch of shortraker rockfish and rougheye rockfish by over 150 metric tons. Yet, some catcher processors are reported to have been reluctant to join cooperatives, because of the potential that the constraining shortraker rockfish and rougheye rockfish allocations would limit their ability to harvest rockfish primary species. Included in the proposed action is an option to increase the allocation of shortraker rockfish to cooperatives from 30.03% to 50% or to manage shortraker rockfish and rougheye rockfish under a combined MRA of 2% for catcher processors fishing in a cooperative. This change in the management of shortraker rockfish and rougheye rockfish could eliminate any perceived constraint these species' allocations could have on the harvest of the rockfish primary species.

Notwithstanding the reluctance of some catcher processors to join a cooperative, during each of the first 2 years of the Pilot Program, total catch of shortraker rockfish and rougheye rockfish in the limited access fishery was approximately 10 metric tons less than the amount that could have been retained under the MRA—substantially less than would have been permitted had these catcher processors elected to participate in cooperatives. In the first year of the program, catcher vessels harvested less than 10% of the

³⁷ In most fisheries (other than the primary rockfish fisheries) the MRA of aggregate shortraker rockfish/rougheye rockfish is 7 percent.

maximum amount permitted by their MRA; but in the second year, the sector's catches increase to almost one-third of the amount permitted by the MRA. Overall, catches of both species in the rockfish fisheries during the first 2 years of the Pilot Program were less than historical catches (see Table 2-22). In addition, catches in the first 2 years of the program were a relatively smaller portion of the TAC, although the distribution of that catch between the two sectors varied across years.

During the first 2 years of the Pilot Program, rockfish fisheries catches of shortraker rockfish were half of their historical levels (see Table 2-22, Table 2-23, and Table 2-52). While rockfish fisheries catches of shortraker rockfish declined in 2007 and 2008, overall catches of shortraker rockfish in the CGOA was down in 2007, but then increased in 2008. In 2008, catch of shortraker rockfish outside the rockfish fisheries was more than double the catch attributed to the rockfish fisheries. Prior to 2007, catch of shortraker rockfish in the rockfish fisheries exceeded catches from other fisheries. Whether this increase in shortraker rockfish catch by vessels outside the rockfish fisheries will persist is not known. Yet, the possible increasing shortraker rockfish catches of vessels outside the rockfish fisheries should be considered in determining an appropriate allocation to program participants.

Table 2-52. Catch of shortraker rockfish in all Central Gulf of Alaska fisheries by gear and sector (2005 through 2008).

Year	Shortraker TAC	Catcher processor				Catcher vessels				Total	
		Pilot program (mt)	Hook & line (mt)	Trawl outside pilot program (mt)	Total (mt)	Pilot program (mt)	Hook & line (mt)	Trawl outside pilot program (mt)	Total (mt)	Pilot program (mt)	Outside pilot program (mt)
2005	324	127	19	14	161	19	38	7	64	146	78
2006	353	145	8	18	171	14	97	51	163	159	175
2007	353	63	15	7	85	4	49	67	120	67	138
2008	315	57	25	8	91	32	84	38	154	89	155

Source: NMFS Catch Accounting

* Jig and pot catch totals were included with hook and line catch numbers to protect confidential data.

Under the first option for modifying management of shortraker rockfish, the maximum allocation to catcher processor cooperatives would be increased to 50% of the shortraker rockfish TAC. In the second year of the Pilot Program, catches of shortraker rockfish by catcher vessels in the rockfish fisheries were 10% of the TAC,³⁸ while catches outside of the program were nearly 50% of the shortraker rockfish TAC (see Table 2-52). Both catcher vessel rockfish fisheries catches and catches outside of the rockfish fisheries reached their highest percentage of the shortraker rockfish TAC since management of shortraker rockfish was separated from roughey rockfish management in 2005.³⁹ At these catch levels, if catcher processors were to receive an increased allocation in the Rockfish Program and all vessels joined cooperatives, catches by program catcher vessels and non-rockfish fisheries would need to be constrained to prevent overharvest of the shortraker rockfish TAC. In all likelihood, managers would put shortraker rockfish on PSC status, if needed to limit total catch, to prevent any retention of shortraker rockfish in non-rockfish fisheries (and possibly in the catcher vessel sector of the rockfish fisheries). In season managers regularly take such actions to manage catches, so such a limitation would not be extraordinary. Although these measures are believed to effectively protect stocks from overharvest, they also can result in discards of the species, an undesirable consequence, especially for a species of concern with a relatively high value, such as shortraker rockfish.

³⁸ This catch of shortraker rockfish is slightly greater than the maximum percent permitted by the sector prior to managers putting the species on PSC status for the catcher vessels sector (i.e., 9.72 percent).

³⁹ Prior to separation of management of the two species, aggregate harvests of shortraker and roughey outside the rockfish fishery never exceeded 50 percent of the aggregate TAC.

Under the second option for shortraker rockfish management, all participants in the catcher processor sector would be subject to an aggregate shortraker/rougheye rockfish MRA of 2%. The vessels unable to limit their catches of shortraker rockfish and rougheye rockfish would benefit from the MRA option, as it would remove the risk of being shut down for fully harvesting the allocation of shortraker rockfish (or rougheye rockfish), since the consequence of catch exceeding an MRA is a discard requirement. While this greater flexibility may be beneficial to operations with substantial catches of shortraker rockfish, the MRA option may have some undesirable effects. Allowable retention of shortraker rockfish and rougheye rockfish in the aggregate would be reduced from the level allowed by the current allocation⁴⁰; however, if vessels use the MRA to catch shortraker rockfish (and not rougheye rockfish), it is possible that shortraker rockfish catches could be increased beyond the current allocation amount. Regardless of the behavior of vessels subject to the MRA, if total catch of shortraker rockfish (including catches by vessels in other fisheries) approaches the TAC, it is possible that shortraker rockfish could be put on PSC status, preventing any retention.

Generally, MRAs often contribute to discards. As currently applied in the GOA, an MRA requires discards of catch that exceed the prescribed level at any time during a fishing trip. A vessel that catches an unexpected amount of an MRA species early in a trip may be forced to discard it, even if the catch could have been retainable at a later time in the trip. For valuable species, an MRA may induce a vessel to catch up to the maximum amount, knowing that overharvest of the MRA may be discarded without risk of penalty. These added discards would be avoided under the current allocations, which counts all harvest against the allocation and does not allow discards.

MRAs can also contribute to excessive harvests of a species. Since an MRA limits only retention, requiring vessels to discard all catch of the species above the retainable amount, it does not limit total harvest of a species. For species of value that are fully utilized, establishing an MRA in a fishery prosecuted with exclusive allocations of basis species and an extended season could provide participants in the fishery with an advantage in the harvest of the MRA species. These persons may fish to the MRA, as they will not be subject to the time pressures that arise in a limited access race for fish.

Sector allowances of halibut PSC

Halibut PSC will also be apportioned through a three step process. In the first stage, an allowance would be made to the Rockfish Program as a whole, based on historical average annual usage of halibut PSC by the rockfish fisheries. This allowance would then be divided between the sectors, based on qualified rockfish catch. In the third stage, each sector's allowance would be subdivided within the sector, based on rockfish primary species allocations within that sector. Table 2-53 shows the historical halibut PSC usage in the rockfish fisheries during the different qualifying year combinations, while Table 2-54 shows the halibut allowance by sector during these same qualifying year combinations.

Aggregate halibut PSC usage in the rockfish fisheries remained relatively stable across the qualifying years, but declined for the catcher processor sector, while increasing for the catcher vessel sector in more recent years. During the later qualifying year periods, the increase in rockfish primary species harvests by catcher vessels contributed to this increase in halibut PSC usage, but halibut per metric ton of rockfish continued to increase for the sector in the more recent qualifying years. Halibut PSC usage averaged 112 metric tons for the catcher processor sector and 113 metric tons for the catcher vessel sector during the

⁴⁰ In addition, it is possible that harvests could be limited below the level permitted by the MRA, if overall harvests of shortraker rockfish approached the TAC, in which case shortraker rockfish would be put on PSC status preventing any retention. Allocations of shortraker rockfish, such as those currently made to catcher processor cooperatives, are less likely to be constrained, as those allocations would be considered in determining whether to impose PSC status.

1996 through 2002 period. During the 1998 through 2006 period, average halibut PSC usage for the catcher processors was 92 metric tons, while average halibut PSC usage for the catcher vessel sector was 137 metric tons. For the 2000 to 2006 period, average halibut PSC usage for the catcher processor sector was 73 metric tons, while average halibut PSC usage for the catcher vessel sector during this period was 146 metric tons.⁴¹

Table 2-53. Total and average halibut PSC usage by sector during qualifying years.

Qualifying Year	Sector	Total halibut PSC	Average halibut PSC
1996-2002	CP	787	112
	CV	792	113
1998-2006	CP	825	92
	CV	1,233	137
2000-2006	CP	510	73
	CV	1,021	146

Source: Alaska Department of Fish and Game fish tickets for CV data and Weekly Production Reports for CP data.

Table 2-54. Estimated allowance of halibut PSC by sector and qualifying year option.

Sector	1996-2002	1998-2006 (drop 2 years)	1998-2006 (drop 2 years)	2000-2006
Catcher processor	106.4	94.2	92.4	84.7
Catcher vessel	118.6	134.4	136.3	134.1

Source: Catch accounting data and Alaska Department of Fish and Game fish tickets for CV data and Weekly Production Reports for CP data.

Two other options have been included in the analysis for calculating the halibut PSC allowance to the Rockfish Program. The first option, which the Council has suggested would not be included in its preferred alternative, would allot halibut PSC to the program based on the average annual halibut PSC usage during the first 3 years of the Pilot Program. The second option would allot halibut PSC based on 50% of the average annual halibut PSC usage during the first 3 years of Pilot Program and 50% of the average annual halibut PSC usage during the qualifying years.

As shown in Table 2-55, allowances of halibut PSC using these two approaches would result in halibut PSC allowances significantly below allowances based on historical usage prior to the implementation of the Pilot Program. Using halibut PSC totals during the Pilot Program only, results in allowances of between approximately 16 metric tons and 20 metric tons to the catcher processor sector and between approximately 23 metric tons and 25 metric tons to the catch vessel sector.⁴² Halibut PSC allowances using the approach that equally weights qualifying year and Pilot Program years provides between approximately 50 metric tons and 60 metric tons to the catcher processor sector and between approximately 70 metric tons and 80 metric tons to the catch vessel sector. Comparing allowances based on Pilot Program halibut PSC and allowances using halibut PSC usage from pre-Pilot Program years (Table 2-54) shows significant differences.

⁴¹ Observer sampled halibut caught in the rockfish target fisheries averaged 75.8 centimeters (or approximately 11.4 pounds). Extrapolating these observer estimates across annual average halibut usage in the 1996 through 2002 qualifying years, halibut mortality in the rockfish fisheries during that period was approximately 43,900 fish, annually.

⁴² It should be noted that the (1) estimated halibut PSC allowances include halibut PSC usage from the Pilot Program limited access fishery, as that halibut PSC usage supported harvest of a portion of the Rockfish Program allocations and 2) allocations differ under the qualifying year options with the differences in the distribution of qualifying rockfish history.

Table 2-55. Allowances of halibut PSC by sector based on Pilot Program usage and based equally on Pilot Program usage and qualifying year usage by sector and qualifying year option.

Sector	Allowance of halibut PSC based on usage during pilot program years only				Allowance of halibut PSC based equally on pilot program usage and qualifying year usage			
	1996-2002	1998-2006 (drop 2 years)	1998-2006 (drop 4 years)	2000-2006	1996-2002	1998-2006 (drop 2 years)	1998-2006 (drop 4 years)	2000-2006
CP	20.3	17.7	17.4	16.6	62.0	54.9	53.8	49.9
CV	22.7	25.3	25.6	26.4	72.0	80.9	82.0	81.0

Source: Catch accounting data, Alaska Department of Fish and Game fish tickets for CV data and Weekly Production Reports for CP data.

The difference in halibut PSC usage between pre-Pilot Program years and Pilot Program years has a substantial effect on the halibut allowance. In the years leading up to the Pilot Program, vessels in the rockfish fisheries averaged in excess of 20 pounds of halibut PSC mortality for each metric ton of rockfish primary species. In comparison, during the first 2 years of the program, vessels fishing in cooperatives and the limited access fishery cut halibut PSC mortality rates substantially, as a result of the incentives created by the program and the rollover of unused halibut PSC allowances on the closing of the rockfish fisheries.

Reducing the halibut PSC allowances to the Rockfish Program would reduce or possibly eliminate of the halibut PSC rollover to fifth season trawl fisheries. As shown in Table 2-19, this reduction or elimination of the halibut PSC rollover might affect those trawlers that have benefitted from the halibut PSC rollover during the fifth season in the shallow-water flatfish, rex sole, arrowtooth, flathead sole, and Pacific cod fisheries. It should be noted that the effect of the reduced allowances under these options on halibut PSC would likely be negligible, as halibut PSC are not allotted to the Pilot Program would remain available for use in deep-water species complex fisheries (including the deep-water flatfish, rex sole, and arrowtooth flounder) beginning in the third season. As a consequence, no halibut PSC savings is likely to result from this provision.

On the other hand, it is possible that one or both of the sectors could utilize all of their halibut PSC allowance prior to harvesting their rockfish allocations, if their halibut PSC allowances is based entirely on Pilot Program usage. For example, in 2008, both sectors' halibut PSC usage exceeded their estimated halibut PSC allowances, calculated using only Pilot Program halibut PSC usage. The likelihood of a sector exceeding its halibut PSC allowance diminishes when using the option that evenly weights pre-Pilot Program halibut PSC usage with Pilot Program halibut PSC usage. In addition, if an alternative that allows for a limited access fishery is selected (i.e., catcher processor alternative 3) and the limited access fishery draws from the third season general trawl halibut PSC allowance, the reduction in halibut PSC allotted to cooperatives could create a substantial disincentive for participation in cooperatives, and result in increased halibut PSC usage in the rockfish fisheries.

As with rockfish secondary species allocations, halibut PSC allowances are based on historical halibut PSC mortality in the rockfish target fisheries. One consequence of specific allotments of halibut PSC is that vessels unable to maintain halibut PSC rates at or below historical rates would be required to stop fishing or acquire halibut PSC allowances from others vessels in the Rockfish Program that are able to reduce halibut PSC usage. Currently, under the Pilot Program, the incentive for halibut PSC mortality reductions is increased by the rollover of saved halibut PSC mortality to other fisheries, later in the year. Under options, this rollover could be reduced from 100% of the unused halibut PSC allowances to as low as 25%. While it might seem that simply eliminating the rollover would result in the greatest halibut PSC savings, it is likely that eliminating the rollover altogether (or reducing it too dramatically) would reduce (or even eliminate) the incentive for reducing halibut PSC usage by rockfish vessels; however, a rollover of 100% is also likely not necessary to maintain the incentive for halibut PSC usage reductions. Under the

Pilot Program, rollovers were 128 metric tons in 2007, 135 metric tons in 2008, and 139 metric tons in 2009. These amounts were the unharvested portion of allowances of approximately 170 metric tons to the cooperatives. Reduction of the rollover to 25% of the avoided PSC mortality in the rockfish fisheries would reduce the transfer to later fisheries to slightly more than 30 metric tons, while reducing it to 75% of the avoided PSC mortality would reduce the transfer to slightly less than 100 metric tons. At the end of 2007, trawlers succeeded in avoiding approximately 55 metric tons of halibut PSC mortality, as reflected in unused allowance; in 2008, trawlers succeeded in avoiding approximately 44 metric tons of the halibut PSC allowances; and in 2009 trawlers avoided approximately 182 metric tons of halibut PSC allowances. Beyond demonstrating that halibut PSC can be avoided in these fisheries, if there is a will to do so, these figures suggest that the rollover was used in 2007 and 2008, but not in 2009. In addition, in two of the first three Pilot Program seasons, halibut PSC mortality in the fifth season exceeded the amount of the rollover, suggesting that the rollover actually resulted in “additional” fifth season halibut PSC removals that would otherwise not have been incurred, because PSC allowance would not have been available. In the third season, the halibut used in the fifth season was approximately equal to the rollover. In the last year (2009), approximately 25 vessels participated in the late season fisheries, a substantially larger number of vessels than the approximately 10 vessels participating in the preceding years.

Reducing the supplemental rollover of halibut PSC mortality to the fifth season allowance would likely reduce fishing opportunities during that fifth season, at least in some years, unless or until the sector learned to more effectively avoid halibut PSC, as has the rockfish fishing sector. A substantial reduction in halibut PSC rollover could result in a return to season lengths similar to pre-Pilot Program years, when little or no halibut PSC mortality was available to support these late season fisheries. Unlike other fishing seasons, the fifth season is usually a slow fishing period for trawlers operating in the GOA, so any reduction in fishing opportunities in the GOA during this period will likely negatively impact both participating trawl catcher vessels, trawl catcher processors, and shore plants processing this groundfish. These costs must be balanced against the additional halibut mortality, permitted by the rollover.

Most importantly, an excessive reduction in the percentage of avoided halibut PSC allowance rolled over could lead cooperatives to place less emphasis on halibut PSC reductions in their cooperative agreements. To date, those agreements (particularly in the catcher vessel sector) are believed to create substantial incentives for reducing halibut PSC. Moderate reductions in the percentage of unused halibut rolled over would likely have a negligible effect on these agreements. In addition, given the increasing fuel costs and the higher fuel consumption associated with using pelagic or semi-pelagic gear, a reduction in the supplemental rollover could result in some Rockfish Program vessels shifting back to bottom contact gear.

In-sector allocations of rockfish secondary species and halibut PSC allowances

After the sector allocation for rockfish secondary species and halibut PSC allowances are determined, allocations of both secondary species and halibut PSC allowances would be made to cooperatives, based on the aggregate rockfish primary species histories of their members. Since each license holder’s catch history is likely to affect their leverage within the cooperative, these individual histories are relevant to assessing the effects of allocations. Table 2-56 shows the numbers of eligible participants in the trawl catcher vessel and trawl catcher processor sectors and simple statistics of aggregated CGOA rockfish primary species histories that would be used to determine allocations of rockfish secondary species and halibut PSC allowances within each sector. Applying these percentages, using 2009 TAC, Table 2-57 shows the median allocation in metric tons for the rockfish secondary species and halibut PSC allowances, while Table 2-58 shows the average of the four largest allocations for rockfish secondary species and halibut PSC allowances.

Table 2-56. Mean, median, and four largest allocations for Central Gulf of Alaska aggregated rockfish species.

Qualifying Year	Sector	License Count	Mean (%)	Median (%)	Average of four largest allocations (%)
1996-2002 (drop 2)	CP	14	7.1	7.7	14.0
	CV	49	2.0	1.8	5.3
1998-2006 (drop 2)	CP	14	7.1	2.8	18.5
	CV	53	1.9	1.7	5.8
1998-2006 (drop 4)	CP	14	7.1	3.3	17.5
	CV	53	1.9	1.7	5.8
2000-2006 (drop 2)	CP	12	8.3	4.8	19.0
	CV	44	2.3	2.2	5.8

Source: Alaska Department of Fish and Game fish tickets for CV data and Weekly Production Reports for CP data.

Table 2-57. Median allocation using 2009 TAC for rockfish secondary species and halibut PSC allowances.

Sector	Qualifying Year	Median allocation using 2009 TAC (metric tons)						
		Pacific cod	Sablefish	Shortraker/ rougheye*	Shortraker*	Rougheye*	Thornyhead	Halibut PSC
CP	1996-2002 (drop 2)	3.05	12.61	28.45	n/a	n/a	8.19	3.06
	1998-2006 (drop 2)	2.67	6.30	n/a	4.36	9.81	6.41	1.74
	1998-2006 (drop 4)	3.17	7.47	n/a	5.18	11.64	7.61	2.06
	2000-2006 (drop 2)	3.37	7.63	n/a	5.88	12.51	9.85	2.38
CV	1996-2002 (drop 2)	8.74	5.39	0.91	n/a	n/a	1.28	2.10
	1998-2006 (drop 2)	13.43	5.63	n/a	0.27	1.01	1.17	2.01
	1998-2006 (drop 4)	13.43	5.63	n/a	0.27	1.01	1.17	2.01
	2000-2006 (drop 2)	20.00	7.56	n/a	0.37	1.45	1.50	2.55

Source: Alaska Department of Fish and Game fish tickets for CV data and Weekly Production Reports for CP data.

* Prior to 2005, shortraker and rougheye were managed in the Central Gulf under an aggregate TAC. As a result, in years prior to 2005 aggregate shortraker and rougheye catch were used in the catch calculation.

Table 2-58. Average of four largest allocations using 2009 TAC for rockfish secondary species and halibut PSC.

Sector	Qualifying Year	Average of four largest allocations using 2009 TAC (metric tons)						
		Pacific cod	Sablefish	Shortraker/ rougheye*	Shortraker*	Rougheye*	Thornyhead	Halibut PSC
CP	1996-2002 (drop 2)	8.29	34.29	77.35	n/a	n/a	22.26	8.33
	1998-2006 (drop 2)	16.65	39.20	n/a	27.17	61.08	39.94	10.82
	1998-2006 (drop 4)	15.80	37.22	n/a	25.79	57.99	37.92	10.27
	2000-2006 (drop 2)	15.57	35.23	n/a	27.17	57.79	45.51	10.98
CV	1996-2002 (drop 2)	25.45	15.70	2.66	n/a	n/a	3.74	6.12
	1998-2006 (drop 2)	44.90	18.82	n/a	0.91	3.39	3.92	6.71
	1998-2006 (drop 4)	44.90	18.82	n/a	0.91	3.39	3.92	6.71
	2000-2006 (drop 2)	52.65	19.90	n/a	0.97	3.81	3.94	6.72

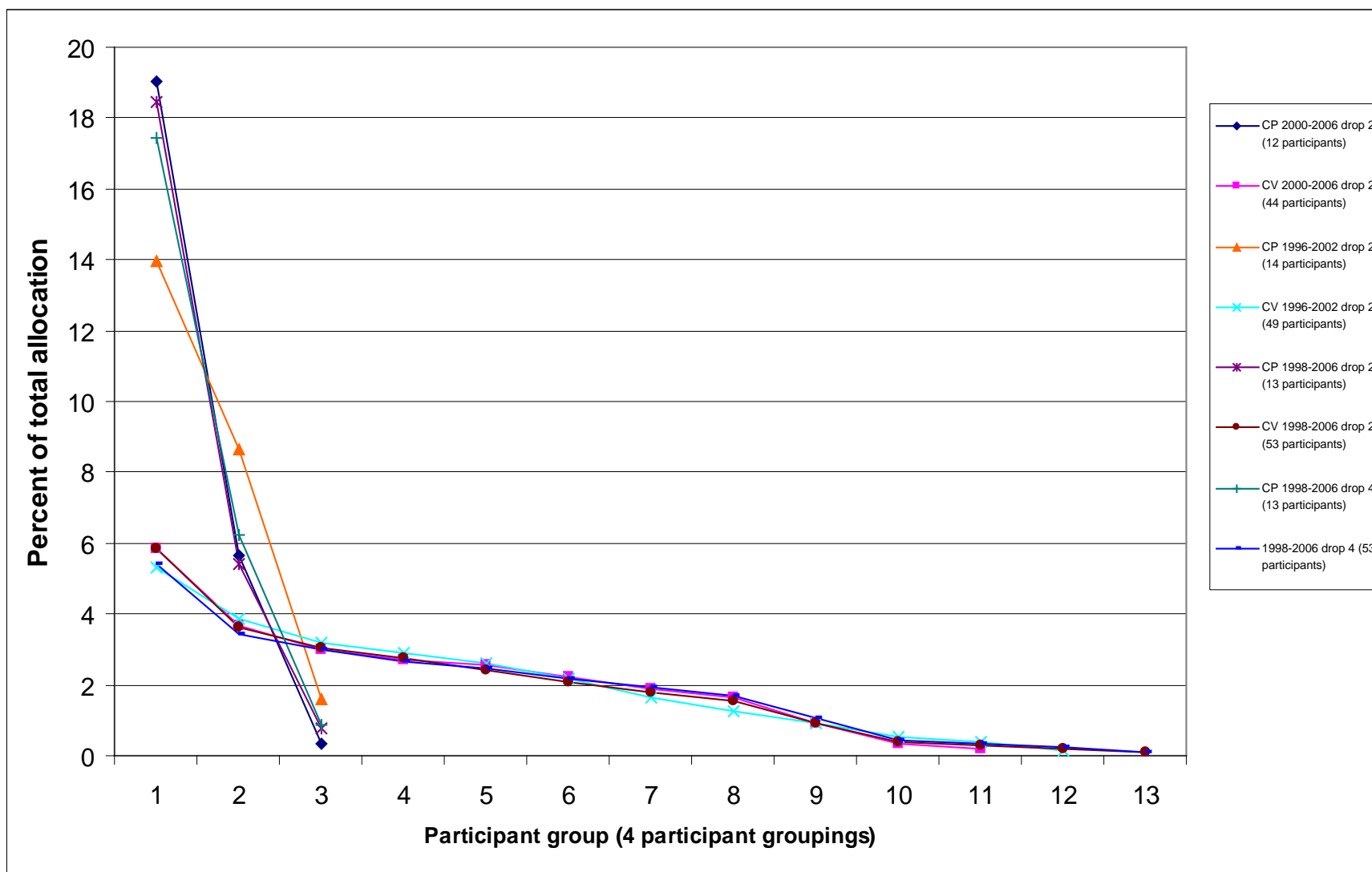
Source: Alaska Department of Fish and Game fish tickets for CV data and Weekly Production Reports for CP data.

* Prior to 2005, shortraker and rougheye rockfish were managed in the Central Gulf under an aggregate TAC. As a result, in years prior to 2005 aggregate shortraker and rougheye catch were used in the catch calculation.

The distributions of rockfish secondary species and halibut PSC mortality allowances for catcher processors and catcher vessels for each of the four different qualifying year options are shown in Figure 2-7. Allotments are aggregated into groups of four to maintain confidentiality, with vessel groupings made in descending order from the largest to the smallest. The last and smallest grouping contains between four and seven estimated/allowances, since the activities of at least four licensed entities must be included under confidentiality rules. The estimated allotments shown for each four-license group is the average allocation to members of that group. Allotments are shown as shares of the allocated rockfish secondary species and halibut PSC allowances, based on the participants proportion of the sectors aggregate rockfish history.

As shown in Figure 2-7, most of the qualifying year options yield similar results, with the exception of 1996 through 2002 (drop 2) for catcher processors. Under that qualifying year option, the four largest allocations would average 14% of the total allocation of rockfish secondary species and halibut PSC allowances to the sector. The remaining options for the catcher processors yield allocations that average less than 20% of the sector's total allocation of rockfish secondary species and halibut PSC mortality allowance for the four largest participants, while the four largest catcher vessel allocations average slightly less than 6% of that sector's shares and allowances. On the lower end, the four smallest catcher processor allocations would average less than 2% of that sector's allocation, while the five smallest catcher vessel allocations average slight greater than one-tenth of 1% of that sector's shares and allowances.

Figure 2-7. Allocations of rockfish secondary species and halibut PSC mortality allowance for catcher processors and catcher vessels using 1996 through 2002 (drop 2) year combination.



Allocation of harvest shares to processors

Under the second catcher vessel alternative (CV-3), the catcher vessel harvest share allocation would be divided between eligible harvest sector participants and eligible processing sector participants. The Council would select a fixed percentage of the catcher vessel harvest share pool for allocation to harvesters, based on their qualifying harvest histories, with the remainder allocated to processors, based on their qualifying processing histories. Under the alternative, allocations of rockfish primary and secondary species, and halibut PSC mortality allowances, would be divided between the sectors at the prescribed percentages. This section analyzes the distribution of shares among processors, assuming that the Council has decided to make an allocation to processors. The effects of the choice to make an allocation to processors are not shown in this section, but are contained in the analysis of alternative CV-3 below.

9.3 Option B - Harvester cooperatives with processor allocation of harvest shares (CV – 3)

Allocation of the rockfish primary and secondary species, and halibut PSC allowances, to the CV sector shall be apportioned between harvesters (CV only) and shore-based processors:

Option 1: 90/10

Option 2: 80/20

Option 3: 70/30

Eligible processors will be allocated rockfish primary and secondary species, and halibut PSC allowances, from the processor pool of harvest shares in proportion to their qualifying processing histories. Annual allocations will be of the same species and subject to the same allocation and harvest rules governing catcher vessel allocations.

The processor portion of the harvest share pool would be allocated to eligible processors, based on individual processing histories of CGOA rockfish primary species during qualifying years. Two options could be used to define general processor eligibility. Under each, a processor would need to have purchased at least 250 metric tons of rockfish primary species in at least 4 years, during a specific period—either 1996 through 2000 or 2000 through 2006. Allocations to eligible processors would be based on their relative processing histories during a specified qualifying period—either 1996 through 2000 (drop 1) and 2000 through 2006 (drop 2).

9.1 Processor eligibility (CV-3)

An eligible processor is a processing facility that has purchased:

Option 1 - 250 mt of aggregate Pacific ocean perch, northern rockfish, and pelagic shelf rockfish harvest per year, for 4 years, from 1996 to 2000 (inclusive).

Option 2 - 250 mt of aggregate Pacific ocean perch, northern rockfish, and pelagic shelf rockfish per year, for 4 years, from 2000 to 2006 (inclusive).

Suboption: (entry level fishery processor): 250 mt of aggregate Pacific ocean perch, northern rockfish, and pelagic shelf rockfish for 2 years from 2007 to 2009 (inclusive).

Processor qualifying years

Each eligible shore-based processor is allocated processor catch history based on individual processor histories of CGOA rockfish primary species for the years (inclusive) (Option: based on individual annual average processing history):

Option 1 - 1996 through 2000 (drop 1 year)

Option 2 - 2000 through 2006 (drop 2 year)

Suboption 1: (entry level processors): 2007 through 2009 (drop 1 year)

Suboption 2: (entry level processors) Eligible entry level processors will be allocated rockfish primary and secondary species, and halibut PSC allowance, from the processor pool of harvest shares that are derived from those trawl LLP licenses that received allocations/allowances based on participation in the entry level trawl fishery into the main program.

Table 2-59 shows the number of eligible rockfish processors, along with average landings and the mean and median processor allocations of rockfish primary species for these two qualifying year options. The table also includes the 2009 mean and median allocations for the processors for each rockfish primary species, assuming the processors receive 10%, 20%, or 30% of the harvest share pool.

Under the 1996 through 2000 (drop 1) option, five processors are eligible for an allocation, while under the 2000 through 2006 (drop 2) option six processors are eligible. Inclusion of an additional processor under the 2000 through 2006 (drop 2) option, in part, contributes to a lower median allocation under that option.

Table 2-60 shows the percent mean and median allocation and the 2009 allocation of rockfish secondary species and halibut PSC allowance for eligible rockfish processors under the two different qualifying year options. Given that the allocation of rockfish secondary species and halibut PSC allowance is based on processing history of the rockfish primary species during the qualifying period, the allocation pattern of secondary species and halibut PSC allowance is similar to rockfish primary species allocations. Using 1996 through 2000 (drop 1) qualifying period results in an allocation that is more evenly distributed across the five eligible processors, whereas 2000 through 2006 (drop 2) qualifying period again tends to favor the processors with more history, resulting in larger apportionments of rockfish secondary species and halibut PSC.

Table 2-59. Number of eligible shore-based rockfish processors, average landings, mean and median allocations of rockfish primary species (as a percent and in metric tons based on 2009 catcher vessel allocations of rockfish primary species) by qualifying year option.

Qualifying years	Species	Eligible processors	Average landings (mt)	Mean allocation (%)	Median allocation (%)	Allocation assuming processors receive 10% of the catcher vessel harvest share pool (in mt based on 2009 TAC)		Allocation assuming processors receive 20% of the catcher vessel harvest share pool (in mt based on 2009 TAC)		Allocation assuming processors receive 30% of the catcher vessel harvest share pool (in mt based on 2009 TAC)	
						Mean	Median	Mean	Median	Mean	Median
1996-2000 (drop 1)	Northern rockfish	5	1,237	20	23.5	25.5	30.0	51.1	60.0	76.6	90.0
	Pacific ocean perch		2,264		20.8	75.3	78.3	150.6	156.5	225.8	234.8
	Pelagic shelf rockfish		858		20.3	28.3	28.7	56.7	57.5	85.0	86.2
2000-2006 (drop 2)	Northern rockfish	6	1,975	17	13.9	21.7	17.8	43.4	35.6	65.1	53.4
	Pacific ocean perch		4,281		12.7	64.0	47.8	128.0	95.5	192.0	143.3
	Pelagic shelf rockfish		1,372		14.9	24.1	21.1	48.2	42.2	72.3	63.3

Source: Alaska Department of Fish and Game fish tickets

Table 2-60. Number of eligible shore-based rockfish processors, mean and median rockfish secondary species allocations and PSC allowances (as a percent and in metric tons based on 2009 catcher vessel allocations) by qualifying year option.

Qualifying years	Species	Eligible processors	Mean allocation (%)	Median allocation (%)	Allocation assuming processors receive 10% of the catcher vessel harvest share pool (in mt based on 2009 TAC)		Allocation assuming processors receive 20% of the catcher vessel harvest share pool (in mt based on 2009 TAC)		Allocation assuming processors receive 30% of the catcher vessel harvest share pool (in mt based on 2009 TAC)	
					Mean	Median	Mean	Median	Mean	Median
1996-2000 (drop 1)	Pacific cod	5	20	21.0	9.8	10.3	19.6	20.6	29.5	30.9
	Sablefish				6.3	6.6	12.5	13.1	18.8	19.7
	Thornyhead rockfish				1.9	4.1	3.7	8.1	5.6	12.2
	Halibut				2.3	2.4	4.6	4.8	6.9	7.2
					8.3	6.6	16.7	13.2	25.0	19.7
2000-2006 (drop 2)	Pacific cod	6	17	13.4	5.3	4.2	10.6	8.4	16.0	12.6
	Sablefish				1.6	2.6	3.2	5.2	4.7	7.8
	Thornyhead rockfish				2.0	1.5	3.9	3.1	5.9	4.6
	Halibut									

Source: Alaska Department of Fish and Game fish tickets

Allocation of shares to harvesters (licenses) participating in the Pilot Program entry level fishery

Under the Council's motion, participants in the Pilot Program's entry level fishery could be included in the cooperative program. The motion provides that vessels that have registered for the entry level fishery in 2007, 2008, and 2009 (or in two of those years) and have at least one landing during those years, would qualify under this provision. Two vessels registered for the Pilot Program entry level trawl fishery and participated in at least one year. Each of these participating licenses would receive an allocation either based on its history in the entry level fishery or equal to some portion of the allocation to certain vessels that qualify for the Rockfish Program under the general qualifying criteria.

4.4 Entry level trawl qualification/allocation for the main program:

- 1) Vessels / LLP licenses that do not qualify for cooperative quota for the CGOA rockfish cooperative program.
- 2) The trawl LLP license holder must have registered for the entry level fishery in 2007, 2008, and 2009.
Option: The trawl LLP license holder must have registered for the entry level fishery in 2 of 3 years, 2007, 2008, 2009.
- 3) The trawl LLP license holder must have made a landing of fish in the entry level fishery with trawl gear in 2007, 2008, or 2009.

Option: A vessel that qualifies for the entry level allocation under this section may elect to opt out of the Rockfish Program.

4.5 The qualified entry level trawl LLP license holder would receive an allocation of QS for the rockfish primary species equivalent to the:

- 1) Average of the lowest one-quarter to one-third of the qualified CV LLP license holders that actively fished in the Pilot Program in either 2007 or 2008.
- 2) Actual catch history of the vessel/LLP in 2007 or 2008 or 2009 (information would be withheld, due to confidentiality restrictions, unless the vessel(s) agrees to have the data released to the public).
- 3) Average of all qualified CV LLPs.

Option: The qualified entry level trawl LLP license holders, in aggregate, would receive an allocation of QS for the rockfish primary species in an amount between 1.5% and 5% (the set-aside for the entry level

trawl fishery and full entry level fishery under the Pilot Program), to be determined by the Council. Within that allocation, each of the qualified entry level LLP licenses would receive:

- a) an allocation of QS for the rockfish primary species in proportion to the number of years they made a delivery to an entry level processor from 2007 to 2009; or
- b) an equal allocation.

Note: secondary allocations and halibut PSC allowances are calculated the same as the other qualified LLPs.

Allocations of QS for qualified entry level trawl LLP license holders would be established as a set-aside, prior to allocations to the other CV sector licenses or CP sector.

Some of these options require interpretation. Under the options based on allocations to qualified licenses, the distribution of the allocation among the three different rockfish primary species is not delineated. The most straightforward interpretation of the motion is to provide each of the qualified entry level vessels with an equal share of the pools of the different primary species (e.g., a 1% allocation would provide 1% of each of the primary species). Allocations of rockfish secondary species and halibut PSC mortality allowances would be based on these rockfish primary species allocations, as is done for all other program participants.

One, two, or three licenses meet the “entry level” qualifying criteria, depending on the qualifying criteria selected. Only two licenses registered for the program in 2007, and both of these licenses registered in 2008 and 2009. A third license registered for the program in 2008 and 2009. If the general qualifying years include recent years (up to 2006), only one or two vessels would qualify for an entry level allocation, as one vessel that registered for the entry level fishery meets the general qualification in those years.

Table 2-61 shows the characteristics of the “entry level” allocations under options based on the allocations to eligible licenses. Those options would result in allocations to each entry level license that range from approximately 1.2% of each rockfish primary species pool to approximately 2.3% of the pool.⁴³ These allocations would exceed the allocations of between 11 and 29 of the eligible licenses (or between approximately one-fourth and one-half of the eligible licenses), respectively.

⁴³ These allocation percentages would be in addition to the allocations to licenses meeting the basic qualifying criteria. To allocate exactly 100 percent of the TACs of the rockfish primary species, all allocations would need to be standardized.

Table 2-61. Allocations to entry level participants based on aggregate catch history of Pilot Program participants (i.e., Pilot Program entry level participants receive allocations based on allocations to Pilot Program main program participants).

Qualifying years	Number of licenses qualifying for an allocation	Mean allocation		Average allocation of lowest third of active licenses		Average allocation of lowest quarter of active licenses	
		Allocation as percent of total	Number of qualifying licenses with smaller allocation	Allocation as percent of total	Number of qualifying licenses with smaller allocation	Allocation as percent of total	Number of qualifying licenses with smaller allocation
1996–2002 (drop 2)	49	2.0	27	1.4	22	1.2	18
1998–2006 (drop 2)	53	1.9	29	1.4	21	1.2	19
1998–2006 (drop 4)	53	1.9	27	1.5	20	1.3	19
2000–2006 (drop 2)	44	2.3	22	1.5	12	1.3	11

Source: Alaska Department of Fish and Game fish tickets

The option to make allocations based on catches in the entry level fishery in 2007, 2008, or 2009 also requires interpretation. This could be interpreted as providing each entering license with the amount of their harvests in 2007, 2008, or 2009. Since these allocations cannot be shown, because of confidentiality limits, this provision adds substantial uncertainty to the allocations, which in some cases may be quite large.

Although these allocations cannot be shown because of confidentiality limits, the approximate magnitude of the allocations can be determined. In all of these years, the entry level fishery received an allocation of 5% of the Pacific ocean perch available to the Pilot Program or 346 metric tons per year in 2007 and 2008 and 339 metric tons in 2009. No allocation of northern rockfish or pelagic shelf rockfish was made to the entry level trawl fishery. Crediting of catches from this allocation under the option is uncertain and again depends on interpretation. Perhaps most problematic is a pending enforcement investigation concerning all catches from the fishery in 2008. At the extreme, the investigation could result in most catches from the 2008 entry level fishery being determined to have been illegal, which would prevent their consideration for determining allocations under the program.

If each entry level participant receives an allocation equal to its 2007, 2008, or 2009 catches, with each vessel receiving its largest year's catch, the three eligible licenses could each receive an allocation as large as 10% of the available catcher vessel Pacific ocean perch (assuming that each vessel harvested almost the entire entry level Pacific ocean perch allocation in at least one year).⁴⁴ The allocation would likely be smaller, as this catch distribution is unlikely, as multiple vessels participated in some of the years. Since only one vessel participated in one of the specified years, it is fairly likely that the vessel would receive an allocation of approximately 5% of the total Pacific ocean perch available under the program (or approximately 10% of the Pacific ocean perch allocated to the catcher vessels sector).

In addition to the Pacific ocean perch harvests, entry level trawl vessels in some years may have harvested a substantial portion of the northern rockfish and pelagic shelf rockfish allocated to the entry level longline fishery (as the remaining portion of that allocation is open to trawl harvest on September 1). The entry level longline participants harvested fewer than 30 metric tons of rockfish primary species in any year historically. In the first year of the program, trawl vessels prosecuted these fall fisheries, with the northern rockfish fishery closing on TAC. In the second year, trawl vessels did not attempt to harvest the

⁴⁴ Small amounts of the other primary species could be allocated based on incidental catches by these 'entry level' licenses. These allocations would be necessary, as vessels cannot fish without unused allocations of all species.

remaining portions of the entry level longline allocations. In the third year, two trawl vessels prosecuted the fishery for the remaining portion of the entry level longline set-aside. Although confidentiality considerations prevent reporting of catch amounts, these circumstances suggest that in excess of 850 metric tons (and possibly as much as 1,800 tons) of rockfish were harvested from the entry level fishery in the first 3 years of the program. Since very little of these harvests were from the longline fisheries, much of the catch would be attributable to the entry level trawl participants. Since one can only speculate concerning the distribution of catches among vessels, if only one vessel harvested the available allocation in 2007, and another harvested the allocation in 2009, it is possible that each of these participants might receive an allocation, based on its harvest, of as much as 5% of the northern rockfish and pelagic shelf rockfish directed fisheries (which is approximately 10% of the catcher vessel portion of the fisheries). At the extreme, up to two entry level participants could each receive allocations as large as 5% of the total directed fishery allocation of each species (or approximately 10% of the catcher vessel allocation). On the other hand, it is possible that an entry level participant could receive a very small allocation of northern rockfish and/or pelagic shelf rockfish, if that entry level participant recorded little or no landings of the species.

The last option for establishing an allocation to entry level participants would allocate between 1.5% and 5% of the total Rockfish Program allocations to entry level participants. This allocation would then be divided among eligible entry level participants either equally or in proportion to the number of years of participation from 2007 through 2009. Depending on the qualifying year options (for both the general qualification and entry level qualification) between one and three licenses will qualify for the entry level fishery. Consequently, the allocation would be made to one, two, or three license holders. The use of new qualifying years will result in one entry level participant meeting the general qualification for the program (and larger allocations to the remaining entry level licenses). The smallest allocations under this option (i.e., with the 1.5% to the entry level and multiple licenses sharing that allocation equally) are comparable to average allocations under the general qualification. The larger allocations (i.e., under options with more than 1.5% to the entry level or few licenses receiving allocations or unequal distributions) are at least comparable to the average allocations under the general qualification, and in some cases are the largest or among the largest allocations in the program.

Table 2-62. Allocation under options that allocating between 1.5% and 5% of the program allocation to Pilot Program entry level licenses.

Standard qualifying years	Number of licenses qualifying under general provision	Number of entry licenses qualifying	Registered in all years (2007, 2008, 2009)							
			1.5 percent entry allocation				5 percent entry allocation			
			Average share of catcher vessel allocation to each entry license	Number of qualifying licenses with smaller allocation	Largest allocation under unequal allocation option	Number of qualifying licenses with smaller allocation	Average share of catcher vessel allocation to each entry license	Number of qualifying licenses with smaller allocation	Largest allocation under unequal allocation option	Number of qualifying licenses with smaller allocation
1996-2002	49	2	1.5	22	2.2	41	4.9	46	7.4	49
1998-2006	53	1	2.6	37	2.6	37	8.7	53	8.7	53
2000-2006	44	1	2.5	25	2.5	25	8.3	44	8.3	44

Estimates are based on 2009 TAC levels.

Under any of the options for making allocations to participants in the Pilot Program entry level fishery, the Council will have to weigh the interests of these additional licenses that, after all fail to meet the general qualifying criteria, against those of the license holders that have demonstrated a more consistent historical dependence on the fishery by meeting qualifying criteria. If the Council elects to extend the qualifying criteria to 2006, the entry level licenses that receive allocations under this provision would have had no history in the rockfish fisheries for the 7 years preceding implementation of the Pilot Program. Making an allocation to these licenses that are larger than allocations to licenses that meet the

qualifying criteria for the program could be viewed as inequitable, particularly by license holders that met the general qualifying criteria. At the same time, during the Pilot Program years, it is possible that entry level participants (particularly those that consistently participated in the entry level fishery) may have developed some dependence on the fishery. Making an allocation to these vessels that is fishable (e.g., similar to allocations to vessels that have actively participated in the Pilot Program fishery) might be appropriate to maintaining that newly established dependence. As is typical in the development of share-based programs, the Council must balance these competing interests of vessels that have historical participation and those that have demonstrated, through investment and active participation, an interest in entering the fishery.

The Council could take one of several approaches to defining allocations to licenses participating in the Pilot Program entry level trawl fishery. One approach could be to use the information presented here (and any additional information that might be requested) to identify a specific allocation to licenses used in the Pilot Program entry level trawl fishery. Using this approach will add certainty to the allocations, avoiding a potentially inequitable entry level allocation that might arise if fewer vessels or catches qualify for the entry level program than anticipated. Alternatively, the Council could simply rely on the options that are currently proposed. In choosing its approach, the Council should consider that under some options, such as those that rely on catch histories in the entry level fishery, the allocations are very uncertain.

Allocation of shares to processors participating in the Pilot Program entry level fishery

The Council has included an option that would make allocations of harvest shares to processors that participated in the entry level fishery (see provisions in 9.1 of the motion above). To be eligible to receive an allocation/allowance, a processor that participated in the entry level fishery would need to have received delivery of 250 metric tons of rockfish primary species in 2007 and 2008 combined or in 2007, 2008, and 2009 combined.⁴⁵ In the first 3 years of the program, approximately 2,100 metric tons of rockfish were allocated to the two entry level fisheries (i.e., trawl and non-trawl). Although harvest amounts cannot be reported, because of confidentiality limitations, it can be reported that in 2 of 3 years of the program, the trawl fishery closed on TAC. In the third year, two vessels participated in the fishery, coordinating catch to avoid an overage, thus allowing the fishery to remain open through the season. Catches cannot be reported, but typically, vessels using these arrangements are able to harvest a substantial portion of the TAC. The entry level longline participants harvested fewer than 30 metric tons of rockfish primary species in any year, historically. Its allocation is available to entry level trawl participants on September 1. In the first and third years of the program, trawl vessels prosecuted these fall fisheries. Although confidentiality prevents reporting of amounts of catch, these circumstances suggest that in excess of 850 metric tons (and possibly as much as 1,800 tons) of rockfish were harvested from the entry level fishery in the first 3 years of the program. Since very little of these harvests were from the longline fisheries, only processors receiving deliveries from the trawl fisheries could reach the eligibility threshold. Only two processors received deliveries from the entry level trawl fishery in the first 3 years of the Pilot Program. Consequently, only one or two processors could qualify under this provision.

The Council advanced two options for defining the allocations to processors that participated in the Pilot Program entry level fishery. The first option defines entry level qualifying years, with allocations based on processing history. Entry level processors would receive allocations based on their processing histories during 2007, 2008, and 2009 (dropping one year's history) relative to processors that qualify under the general qualification criteria. This history-based allocation could be implemented under one of two options. Under one option, the allocation would be based on the total processing histories of entry level

⁴⁵ The suboption is worded differently from the general processor qualification options in that it omits the requirement that the amount be received "per year."

processor in the entry level qualifying years; under the other, the allocation would be based on average annual processing history. Under the first approach, an entry level processor's 2 years of processing would be contrasted to the 4 or 6 years of processing history of processors that qualify for the main program. Despite confidentiality limitations, it can be revealed that between 850 metric tons and 1,600 metric tons of rockfish were harvested from the entry level fisheries in 2007, 2008, and 2009 combined. Processors qualified pounds meeting the general eligibility criteria are roughly between 21,000 metric tons and 46,000 metric tons (depending on the qualifying year option selected). If all of the entry level landings are by processors that are eligible under the entry level processor provision, these processors would receive between slightly less than 2% and slightly less than 5% of the processor allocation. Whether all landings are by processors eligible under the entry level provision cannot be revealed. In addition, this allocation could be divided between two processors, if two processors are found to meet the entry level eligibility requirement. This method would effectively provide additional weight to the histories of those processors meeting the general qualifying criteria, based on the number of years those processors were active. Such an approach might be justified, if the Council believes that this historical dependency should be recognized. Under the second option, the average annual processing of an entry level processor would be contrasted with the average annual processing of the processors meeting the general qualifying criteria. This approach would equally weight the average processing of an entry level processor during two of its qualifying years against a generally qualified processor during 4 years or 6 years of its qualifying period. Under this option, the allocation to the entry level fishery processors could range from as low as 5% to as high as 15% of the processor allocation. At the high end, if this allocation is made to a single processor, it is possible that the entry level processor's allocation would be almost as large as the average allocation to processors meeting the general qualification criteria. In addition, to the extent that the processor allocation should compare to the processor's history in the fishery, the relatively high allocation would represent a greater percentage of the catcher vessel sector fishery than could have been processed from the entry level fishery (which was limited to approximately 10% of the catcher vessel sector's share of the rockfish fisheries). In considering this option, the Council should be aware that a generally qualified processor that did not maintain relatively consistent participation over its longer qualifying period could be disadvantaged, relative to an entry level processor that would only need to have participated in 2 of 3 years to have its participation recognized as consistent. On the other hand, entry level processors had access to a limited amount of landings (i.e., approximately 10% of the catcher vessel allocation, at most). Yet, with most of the processors with any substantial history in the fishery included in the main program, entry level processors faced little competition for landings from the entry level fishery.

Under the second option, entry level processors would receive the processor portion of the harvest allocation made to entry level harvesters (i.e., 10% or 20%, as would be allocated to processors meeting the general eligibility criteria). The allocation to processors from the Pilot Program entry level fishery would be wholly dependent on the allocation to entry level harvesters. With between one and three allocations to these entry level participants, the total allocation could be as small as one-quarter of 1% or as large as 15% of the catcher vessel pool. Entry level processors would receive between 10% and 30% of these allocations (or from less than one-tenth of 1%, to 5% of the catcher vessel sector allocation). The options for those allocations could then result in each allocation being, perhaps one-quarter of 1% or less of the catcher vessel harvest share pool or as large as approximately 5% of the catcher vessel harvest share pool. As noted in the discussion of allocations to Pilot Program entry level catcher vessels, the allocation under any of the computational options is very uncertain.

The uncertainty of entry level allocations to processors could be resolved by the Council specifying those allocations. Using the information presented here, the Council could choose an appropriate percentage allocation to processors eligible under the entry level provision. The most straightforward approach would be to simply make the allocation that would be equal to all eligible entry level processors. Such an allocation would avoid any uncertainty (and potential inequity) that might arise under a computed

allocation (including any effect of the outcome of the potential enforcement action concerning harvests from the entry level fishery). Specifying an allocation for each eligible entry level processor would also provide each processor with a certain allocation that would not be dependent on (or affected by) the number of processors receiving entry level eligibility. That number would, however, impact all other qualified processors.

In developing an allocation, the Council should consider the allocations to processors that have general eligibility under the program and, therefore, longer participation and greater historical dependency on the fishery, and the potential for a processor to increase its market share under the program structure adopted. The larger the allocation of harvest shares to processors, the more justified inclusion of entry level processors, as those allocations could indirectly limit processor entry opportunities. On the other hand, caps on processing would increase entry opportunities and may reduce the need to include entry level processors in the allocation.

Transferability of processor allocations

The effects of these allocations on processors depend, in part, on the rules governing their use and transfer. The Council has identified the following provisions concerning use and transfer of harvest shares allocated to processors:

Harvest shares held by processors may be transferred to:

Option 1: Those processors, at the plant level, who were initially issued harvest shares

Option 2: Those processors who have processed at least 100 metric tons to 250 metric tons of rockfish, delivered by catcher vessels, within any 2-year period during the new program

Suboption 1: a shore-based processing facility in the City of Kodiak

Suboption 2: to a shoreside processing facility

Option 3: a holder of a CGOA Rockfish Program eligible CV LLP license

Note: More than one option may be chosen.

Note: Since annual allocations yielded by harvest shares allocated to processors are allocated to and fished by cooperatives (under the same rules and in the same manner as those shares associated with an LLP license), provisions governing share transfers apply only to the long term harvest privilege (or quota shares), not annual allocations. The rules governing annual allocations are specified under the cooperative provisions.

The first provision permits a holder of quota shares originally allocated to a processor to divide those quota shares on transfer. Allowing divisibility should have little effect on the use of annual allocations in the prosecution of the rockfish fisheries, since cooperatives oversee harvests and an LLP license that is qualified for the program is required to harvest any annual allocations. Divisibility of allocations could have a few effects on persons receiving these allocations initially and persons who wish to acquire shares in the fisheries. By making shares divisible, it is possible to divide allocations into smaller quantities. This division could help persons who wish to acquire an interest in the rockfish fisheries, but who do not wish to make a large purchase for financial, or other, reasons. On the other hand, to the extent sellers wish to obtain the highest value for their allocations, divisibility could have a minor price effect. A seller may be able to subdivide an allocation to extract higher prices per share; however, if present, this effect is likely to be very slight.

Three options defining persons eligible to acquire shares have been proposed. Under the first, processors who qualified for an allocation of harvest shares based on processing history would be permitted to acquire these harvest shares. Qualifying these processors to acquire shares would allow them to expand their interests in the rockfish fisheries, consolidating additional portions of the processor allocation of harvest shares.

The second option would qualify processors that meet a processing threshold in any 2-year period under the program. The proposed minimum threshold ranges from 100 metric tons to 250 metric tons in any 2-year period. The threshold levels are relatively low, requiring that a processor receive approximately two deliveries to meet the 100 metric ton threshold and approximately four deliveries to meet the 250 metric ton delivery. Given the size of catcher vessel harvests in the rockfish fisheries (over 4,000 metric tons, annually, since 1998), these thresholds are unlikely to constrain any processor that wishes to acquire shares in the rockfish fisheries. Under the Pilot Program, all five qualified processors meet any of these thresholds; no data can be revealed for processors in the entry level fishery. Since the Pilot Program limits processor entry to the main fishery, the potential for additional processors to meet a qualifying threshold in the future will differ.

Two options defining processors eligible for the share acquisition may constrain the processor qualification to acquire shares more than the threshold. Each requires that the processor be a shore-based processor, while the second option would further require that the processor be based in the City of Kodiak. It should be noted that, if an option is selected that requires that all processing take place in Kodiak, the two provisions are equivalent. If that geographic processing requirement is not adopted, the two provisions would differ by limiting acquisition of these shares to processors that meet the processing threshold at a plant in Kodiak. Since, historically, almost all processing in the rockfish fisheries has taken place in Kodiak, the Kodiak requirement would only constrain the acquisition of shares by processors that are expanding processing to other geographic locations. Since Kodiak currently has a substantial processing industry, the potential for new entry in the community may be challenging. Rockfish processing would likely be only a small part of the processing at any entering plant. As a result, processor entry to the rockfish fisheries would likely come from either processors expanding existing operations or processors that develop a broad scale multispecies operation. The processors most likely to meet the threshold would be current Kodiak processors (including those that did not qualify for an allocation under the program).

Under the first option, it is possible that processors in other locations could acquire shares. Depending on market conditions and opportunities, under cooperative management, it is possible that harvesters could use their allocations to obtain higher prices for landings from processors outside of Kodiak. These activities could then qualify that processor to acquire shares from the processor pool of harvest shares, which could be used to expand operations. To cause such a redistribution of landings might be difficult, as most of the harvesters in the rockfish fisheries have established relationships with current processors. In many cases, these relationships extend to other fisheries. These harvesters may be reluctant to move rockfish landings to other plants, as it could disrupt those relationships.

Although the threshold processing requirement is relatively minimal under this option, opportunities for processor acquisition of shares are likely to be few. Unless a processor is exiting the rockfish fisheries, it is unlikely that a processor would wish to sell its shares to a possible competitor. It is also likely that, if a processor were to exit, it would attempt to sell its entire operation, including any shares. This type of a transfer is unlikely to change the processing market, except when a plant is bought by a competitor who is consolidating processing. Depending on the excessive shares cap, processors may not be permitted to consolidate in this manner.

It should be noted that, as written, a processor that meets the threshold would be qualified to acquire shares (and remain qualified) indefinitely. A processor could meet the threshold activity level in the course of a year or two, stop processing in the rockfish fisheries, and then later acquire shares as a means to reenter. Given this potential, it is not clear that the processing requirement will effectively ensure that a processor has a current, meaningful connection with the fisheries.

Another option would allow any holder of a CGOA endorsed catcher vessel license eligible for the Pilot Program the opportunity to acquire shares initially allocated to a processor. **If the Council elects to adopt this option, it should clarify whether the shares remain independent of the license and its allocation.** Alternatively, the shares could attach to the license and merge with the shares associated with the license. This attachment could be permanent, preventing divisibility of the allocation in the future. **In the absence of further direction, it would be assumed that the shares would remain independent of the license.**

Should the Council adopt this option, it would provide an additional means for license holders to consolidate long term shares in the rockfish fisheries. If the Council adopts this provision together with a provision that permits processor acquisition of shares, it is likely that most transfers of processor allocations will be to another processor, with the sale of all processing interests associated with the rockfish fisheries. It is unlikely that a processor would transfer interests, if it intended to remain in the fisheries. In addition, if a processor intended to exit the fisheries, it is likely that the processor would keep all associated assets, including any share holdings together in the sale. Consequently, only if sales to other processors are not permitted, or the processor acquiring the interests of a processor is limited by a share cap, would transfers likely to be made to harvesters. In these instances, it is likely that the transfers would be made to harvesters that have associations with the acquiring processor, to increase the potential for that processor to continue to receive landings from the shares. If share transfers to processors are not permitted, over time, all harvest shares can be expected to gravitate to license holders. It should be noted that this transition may take several years, as processors are unlikely to transfer the shares, as long as they remain in the rockfish fisheries. In addition, it is possible that some of the license holders may also have processing interests in the fisheries.

2.4.2 Limits on Excessive Shares

The Rockfish Program will define a cooperative structure for CGOA rockfish participants. Like other rationalization actions of the Council, this proposed action includes options for limiting excessive accumulation of shares and activity in the rockfish fisheries. For the catcher vessels, options limit individual and cooperative share use and holdings and vessel share use. For processors, options limit harvest shares holdings and processing activity. For the catcher processors, options limit individual share use and holdings and vessel share use.

As noted in the NRC study “Sharing the Fish,” use caps are generally favored as a means to prevent excessive shares (or the control of a disproportionate amount of shares by a single person or entity). In fisheries with excess capital, it is likely that issuance of transferrable quota share will result in some consolidation, as excess capital leaves the fishery. While this consolidation might be favored for developing economies 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 and wages, and harm smaller participants in a fishery.⁴⁶ Although caps on use and holdings of shares are

⁴⁶ 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 CGOA rockfish fisheries.

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.

The Council might pursue several different objectives in its setting of use caps. Caps on excessive shares can be used to—

1. prevent consolidation of market power that is used to influence ex-vessel prices. If one or a small group of quota share holders are able to consolidate interests in the fisheries, it is possible that they would be able to withhold supplies of fish to raise the ex-vessel prices.
2. influence the availability of quota shares in the market to facilitate entry to the fishery. Consolidation of quota shares in the hands of a few holders could prevent the development of an active market for shares that is necessary for entry to the fishery.
3. prevent consolidation of market power that is used to influence crew shares and working conditions. The concentration of shares can also facilitate control of the labor market by the participants in the market.
4. limit windfalls granted during the allocation of shares. If allocations in excess of the caps are not permitted by a grandfather clause, use caps can be used to limit the windfall granted to persons receiving allocations in excess of the share.
5. ensure that the resource supports a reasonable number of participants. Use caps can be used to limit consolidation, which could result in the resource supporting the activities of few participants.

The Council must determine both the rationale for its use caps and the appropriate level of those caps necessary to serve those ends. In assessing the caps, the participation patterns of rockfish participants should be kept in mind. Participants in the rockfish fisheries have historically participated in several different fisheries throughout the year (and in July). Consolidation in the rockfish fisheries could have benefits, allowing greater specialization, improving harvest techniques, quality of landings, and potentially reducing bycatch and PSC in the rockfish fisheries.

Gauging the degree to which a cap will serve an intended purpose is complicated by several factors. The fluctuation of stocks (not only rockfish stocks, but also stocks in other fisheries prosecuted by rockfish fisheries participants) and unpredictability of prices lead to uncertainty of harvesting and processing revenues. These information shortcomings also limit the ability to predict the threat of market consolidation to competition in both ex-vessel prices and the labor market. The unavailability of ownership data prevent estimation of the current distribution of interests in the rockfish fisheries and prevents a complete assessment of the number of participants currently supported in the rockfish fisheries. Combined, these factors make it difficult to provide an accurate estimate of the effects of use caps on various aspects of the rockfish fisheries.

13 Cooperative Harvest Use Caps

CV cooperatives

No person may hold or use more than 3% to 5% of the CV QS (including any shares allocated to processors), using the individual and collective rule (Option: with grandfather provision).

Control of harvest shares by a CV cooperative shall be capped at 30% of aggregate Pacific ocean perch, northern rockfish and pelagic shelf rockfish for the CV sector.

No CV may catch more than 4% to 10% of the target CV allocation in the aggregate
(Option: with grandfather provision).

No person may hold or use more than 20% to 25% of the QS initially allocated to processors, using the individual and collective rule (Option: with grandfather provision).

CP cooperatives

No person may hold or use more than 20%, 30%, or 40% of the CP historical shares, using the individual and collective rule
(Option: with grandfather provision).

Control of harvest share by a CP shall be capped at 60% of aggregate Pacific ocean perch, northern rockfish, and pelagic shelf rockfish for the CP sector.

Option: Eligible CPs will be grandfathered at the current level.

Shoreside Processor use caps

Shoreside processors shall be capped at the entity level.

No processor shall process more than 10%, 20%, 25%, 30%, or 33% of aggregate Pacific ocean perch, northern rockfish, and pelagic shelf rockfish for the CV sector.

No processor shall process more than 10%, 20%, 25%, 30%, or 33% of the sablefish allocated to the CV sector.

Option: Eligible processors will be grandfathered for the processing cap, based on total processed catch during the qualifying years.

[Note: The Council requested staff to examine methods of adjusting the cap and grandfathered amounts, in the event that a grandfathered processor is not available for processing, and the cap creates a potential barrier to complete harvest of the rockfish fisheries.]

The average annual received catch over the qualifying years used to allocate CV QS will be used as a base (or index) for applying the aggregate caps.

Under the rules creating caps on share use and holdings, no person could hold licenses that, collectively, have associated shares in excess of the specific threshold and could not acquire annual allocations arising from shares in excess of the threshold. Vessel caps are interpreted similarly, such that no vessel can harvest rockfish arising from shares in excess of the threshold.

Individual use caps for both catcher processor and catcher vessel sectors will be calculated using the “individual and collective rule.” The “individual and collective rule” defines how much of the sector’s catch history a person may use or hold. Persons holding 100% of an eligible license would be assigned 100% of the license’s history toward their use cap. If they hold 50% of the license, they are credited with holding or using 50% of the history assigned to that license. Once the person is assigned an amount equal to the maximum excessive shares cap, that person would not be allowed to acquire any additional amount of the sector allocation.

Both the individual and vessel caps include an option to grandfather any individual or vessel, respectively, that historically exceeded the cap. Such a provision would allow all individuals and vessels to maintain activity at the level of their initial allocations. Individuals and vessels over the cap at the

initial allocation would not be allowed to acquire additional harvest shares, unless they divest of their initial allocation to a point at which they fell below the use cap. At that time, they would be permitted to acquire harvest privileges, until they reached the excessive share cap. If the option to grandfather allocations above the excessive share cap is not adopted, individuals who would receive initial allocations greater than the cap would not be allocated the portion over the cap. Unless the license is transferred to a person able to comply with the cap, that portion of the allocation would be redistributed, in proportion to qualifying history, to other eligible license holders in the sector. Since vessels do not receive allocations, in the absence of a grandfather clause, all vessels (including any vessel historically harvesting in excess of the cap) would be prohibited from harvesting over the cap in the future. A vessel cap grandfather provision would be implemented by applying the grandfather to the license. So, any vessel using a license that received in allocation in excess of the cap would be permitted to harvest an amount up to the allocation of the license.

Several factors could be used to assess whether excessive share caps on share holdings and use will serve the objective 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 historical participants in the fisheries receiving allocations provides some indication of the number of participants that these fisheries may support and some, albeit crude, insight into whether the cap is consistent with past participation levels. Also, since allocations might be a reflection of historical participation, the number of persons that would receive allocations at or above the cap provides some insight into whether the cap is consistent with historical participation. 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 use cap.

Catcher Processor Program Alternatives

Under the catcher processor program alternatives, an individual use cap would limit the holdings of any individual to 20%, 30%, or 40% of the aggregate catcher processor share pool. This cap would be applied to limit the amount of shares that an individual could acquire through license holdings or could bring to a cooperative, through license holdings and inter-cooperative transfers combined. To apply this cap, inter-cooperative transfers would need to be conducted through members. In addition, no catcher processor could harvest in excess of 60% of the catcher processor pool.⁴⁷ Persons or vessels with history in excess of these limits could be grandfathered at their historical levels.

In general, fewer than four license holders⁴⁸ exceed all of the use caps using three of the qualifying year combinations, while no holders exceed the 40% cap using the 1996 through 2002 (drop 2 years) qualifying period. As a result, a maximum four license holders may be affected by the excessive share cap options. Although difficult to discern from the table, the increase in companies over the cap when more recent qualifying years are selected suggests that the rockfish fisheries became more concentrated over the range of years under consideration. License holders exceeding the cap would not be allowed to purchase additional harvest privileges, so long as they are above the cap. Depending on the level of any vessel harvest cap and cooperative formation, it might be possible for these license holders to harvest additional CGOA rockfish, beyond their holdings, depending on the harvest agreement of their cooperatives.

⁴⁷ History transferred to catcher vessel cooperatives would remain subject to the catcher processor caps and would not be subject to catcher vessel or shoreside processor caps.

⁴⁸ The exact number cannot be reported because those data are considered confidential.

Information developed for the excessive shares analysis shows that several current participants could greatly increase their holdings, before reaching the proposed caps. That result is not surprising, as caps are set at levels that would allow three, four, or five entities to hold all quota allocated to the sector, depending on the cap. Given that seven companies hold licenses qualifying them for the sector, over half of the companies might be able to leave the rockfish fisheries under a 40% cap, before the cap would be binding, if one of the remaining participants wished to divest to another participant. At 20% cap, at least 5 companies would need to remain in the rockfish fisheries, if all companies were to stay under the cap. Yet, since some company holdings may exceed 40% on the initial allocation, it is possible that the sector could consolidate further (if these initial allocations are grandfathered). Allowing the fleet to consolidate might enable the remaining companies to operate more efficiently. Yet, since harvest may be liberally redistributed among vessels in cooperatives, it is likely that any production efficiency gains can be achieved without further ownership concentration of share in the rockfish fisheries. In addition, since many vessels in the rockfish fisheries participate in the Amendment 80 program, it is possible that long term consolidation by license transfers may be limited by the caps that apply in that program.

LLP license holders who wish to leave the rockfish fisheries would presumably prefer more liberal use caps, which would allow them to sell their holdings to the buyer willing to pay the most for the harvest privileges. Restrictive caps would exclude some buyers from the market, which may reduce sale prices, relative to the prices that might arise under more liberal use caps.

In addition to individual use caps, the Council is also considering vessel use caps. Vessel use caps would limit the percentage of the catcher processor sector's allocation of the rockfish primary species that a vessel may harvest. The vessel use cap being considered is 60% of the primary species in aggregate. This cap is unlikely to constrain activities of any vessel, as no vessel has harvested over 50% of the sectors catch in any year (including years under the Pilot Program). The Council could also elect to take no action on vessel use caps and, essentially, default to a use cap of 100% of the sector's allocation. Whether this action would be appropriate depends on whether the Council believes that the rockfish fisheries should be considered an independent fishery that should support a minimum level of vessels. It could be argued that the rockfish fisheries are one of a group of fisheries prosecuted by an identifiable fleet of catcher processors. If so, fleet contraction in the rockfish fisheries may not have a broad effect on the distribution of fishing activities on this group of vessels, as vessels leaving the rockfish fisheries may be active in other fisheries.

Consolidation of the fleet may occur as a result of the cooperative structure and transferability of shares between and within cooperatives. Reducing the number of vessels in the fleet may improve the overall economic efficiency of the sector. Production efficiency may improve as the most efficient rockfish vessels⁴⁹ harvest more of the sector's allocation. The owners of these vessels may lease (or otherwise contract) the harvest privileges assigned to other vessels to achieve these efficiencies. Since most sector vessels participate in several fisheries, consolidation in the rockfish fisheries is not likely to affect the number of jobs on participating vessels.

Implementing a vessel use cap would ensure that no vessel harvests over that cap and that at least a certain number of vessels remain active in the CGOA rockfish catcher processor sector. A 60% vessel use cap would require at a minimum two catcher processors to harvest the primary species allocated to the sector. During the 1996 through 2006 limited access fisheries, as many as 14 catcher processors and as few as five catcher processors were active in the CGOA rockfish fisheries during any one year. During

⁴⁹ Efficient vessels are able to harvest and process the rockfish primary species at a lower cost than other vessels in the fleet. A lower cost structure and revenues that are comparable revenues allow vessels to generate a larger producer surplus, *ceteris paribus*.

the 2007 through 2008 Pilot Program fisheries, as many as six catcher processors and as few as four catcher processors participated in the fisheries. During this period, more vessels participated in the limited access fishery than in cooperatives, which may suggest that greater cooperative participation could lead to further consolidation. Table 2-63 reports the number of catcher processors that caught over 10%, 20%, and 30% of the total catcher processor catch of CGOA rockfish primary species, annually, from 1996 through 2006. As the shown Table 2-3, the number of catcher processors in the CGOA rockfish fisheries diminished in more recent years, which resulted in catcher processor vessels harvesting higher proportions of the CGOA rockfish. However, no catcher processor has harvested more than 60% of the CGOA rockfish. Whether a vessel use cap of 60% would bind any vessel in the sector in the future is uncertain.

The alternatives include an option to grandfather the activities of any vessel that historically exceeded the selected vessel cap. Although data suggest that no vessel would exceed the proposed cap, the grandfather clause could be used to ensure that, if a license is assigned an amount of the sector's allocation above the use cap, the vessel using that license could catch up to the allocation associated with the license. Vessels fishing with a license receiving an initial allocation below the use cap would be bound by the use cap. Using this approach, it is very unlikely that any license would qualify for a grandfather exemption.

Table 2-63. Number of catcher processors vessels over 10%, 20%, or 30% of the annual aggregate primary catch for the sector from 1996 through 2006.

Year	10%	20%	30%
1996	4	*	0
1997	4	0	0
1998	5	0	0
1999	5	0	0
2000	5	*	0
2001	5	*	0
2002	5	*	0
2003	5	*	*
2004	5	*	0
2005	5	*	0
2006	5	*	0

Source: Weekly Production Report

* Withheld due to confidentiality requirements

Catcher Vessel Program Alternatives

The proposed action includes an option for an individual use cap of between 3% and 5% of the catcher vessel shares. If harvest shares are allocated to eligible processors, those shares would be counted toward the cap. In addition to individual use caps, a vessel use cap could be incorporated into the program that ranges from 4% to 10% of the rockfish primary species. The proposed action also includes a cooperative use cap of 30% of the aggregate rockfish primary species that would prevent consolidation in excess of that cap by any cooperative. An additional cap could be included that would limit any processor from processing in excess of between 10% and 33% of the sector's allocation.⁵⁰ Each cap also includes an option for consideration that would grandfather activity above the cap. The processing cap (including grandfather levels) could also be subject to some modification, if a processor that is grandfathered at a level above the cap chooses to depart from the rockfish fisheries.

⁵⁰ Under both catcher processor alternatives, a participant in that sector could bring their allocation onshore to be harvested by a catcher vessel cooperative and processed onshore. This use of catcher processor shares would be subject to catcher processor caps only (and would not count toward either a catcher vessel cap or a shore-based processing cap), since the caps apply exclusively to use and control of the different sector's allocations.

Table 2-64 shows the number of eligible LLP license holders that exceeded the 3%, 4%, or 5% individual use caps.⁵¹ The number of holders that exceeded the 3% cap ranged from 12 using the 2000 through 2006 (drop 2) qualifying year option, to 14 holders using the remaining qualifying year options. Five holders exceeded the 4% cap using 1998 through 2006 (drop 4) qualifying years, and 7 holders exceeded that cap using the other qualifying year options. Four holders exceed the 5% use cap using the 1998 through 2006 (drop 2) qualifying year option, and fewer than 4 holders exceeded the cap using the other qualifying year options.

Table 2-64. Number of eligible catcher vessel LLP license holders over the use caps.

Qualifying years	Sum of LLP holders with over 3 percent quota shares	Sum of LLP holders with over 4 percent quota shares	Sum of LLP holders with over 5 percent quota shares
1996-2002 drop 2	14	7	*
1998-2006 drop 2	14	7	*
1998-2006 drop 4	14	5	*
2000-2006 drop2	12	7	*

Source: Alaska Department of Fish and Game

*Withheld due to confidentiality requirements

Under the various qualifying year options and proposed caps, a maximum of 14 license holders could be constrained by the individual use cap at the initial allocation. These license holders would not be allowed to purchase additional harvest privileges, as long as their holdings exceed the cap. The proposed caps would ensure at least 20, 25, or 33 license holders remain in the catcher vessel sector. Given that between 42 and 50 license holders would be allocated rockfish primary species depending on the qualifying years, between one-quarter and more than one-half of those license holders could leave the rockfish fisheries, before all remaining owners reached the 3% cap.⁵²

Whether this consolidation would occur depends on several factors. Most importantly, the rockfish fisheries are typically a small portion of each vessel's annual operations. Persons considering acquiring additional eligible licenses will need to consider the portfolio of activities that are and can be pursued with a vessel.

In addition to the individual use caps on harvest share holdings generally, a limit on processor holdings of harvest shares is also proposed, in the event that harvest shares are allocated to processors. This limit could be set to prevent any processor from holding in excess of between 20% and 25% of the shares initially allocated to processors. While the application of the general share cap to these shares would effectively constrain harvest share holdings of both types to a specified cap level, this additional limit would prevent any share holder from dominating the market for these shares. When considering the proposed cap levels and the options for the allocation of shares to processors (which could allocate between 5% and 30% of the harvest share pool to processors), the potential for most processors to reach this cap on the initial allocation is apparent. For example, if the general cap is set at 3% and the five or six eligible processors receive 20% of the harvest share pool, it is possible that all of those processors will receive allocations over the general 3% cap and a few processors would receive allocations of more than 20% of the pool initially allocated to processors. Without a grandfather clause, making this large allocation and maintaining small share caps may have little merit, since most processors would not receive their full allocation. Likewise, if transfers of shares initially allocated to processors are limited to processors, a large allocation and relatively low cap may be unworkable, as the rockfish fisheries may be unlikely to reasonably support more processors than it does currently. For example, if 20% of the harvest

⁵¹ In reviewing these estimates, it should be noted that holdings are aggregated at the company level, as information is not available showing the percentage of ownership of any LLP license by any person.

⁵² In considering these cap levels, it should be noted that if processors receive an allocation of harvest shares, that allocation would dilute the allocation to LLP license holders, resulting in fewer license holders exceeding any cap.

share pool is allocated to processors and a cap of 3% is adopted, seven processors would be required to hold the sector's allocation without exceeding the cap. This relatively wide distribution of shares would include more processors than currently participate in the trawl fishery, including the entry level trawl fishery. **Coordination of the allocation size, the cap on holdings, and the transfer rules is needed to ensure that the processor allocation is coherent.**

In determining the allocation and setting the caps, the Council should consider whether the rockfish fisheries can reasonably support the number of processors needed to comply with both the general cap and the cap that specifically applies to shares initially allocated to processors. In the derby fishery that preceded the Pilot Program, five or six processors were typically active in the fishery (likely with some degree of variability in processing amounts). Although the number of processors in the rockfish fisheries may depend as much on the overall activity in GOA fisheries, the potential for the fisheries to support more processors is likely limited. Consequently, caps that are premised on more than five or six processors being active in the rockfish fisheries (and which do not accommodate some variability in amounts processed) may be infeasible in the long run. In addition, to the extent that some processing consolidation might be anticipated (or appropriate) under the program, less constraining caps could be called for.

Another option would establish a cooperative use cap of 30% of the catcher vessel harvest share pool. Under this option, no cooperative could control more than 30% of the harvest shares of the aggregate rockfish primary species in any season. The provision will prevent harvesters from forming cooperatives beyond the cap. This may prevent consolidation within cooperatives that could be detrimental to marginal processors in the rockfish fisheries. For example, a strong relationship may develop between a cooperative and a processor. Allowing consolidation of most of the fishery's harvest shares in that cooperative could limit the ability of other processors to compete for landings. A few other factors should be considered in assessing the effectiveness of this cap. Caps on processing (as proposed in a separate option) would likely have the same effect in a more direct manner by preventing any processor from receiving landings beyond a specific threshold. In addition, independent harvesters will be free under the program to form a marketing association (as permitted by the Fishermen's Collective Marketing Act [the FCMA]), which could include all independent harvesters in the rockfish fisheries and would more effectively organize harvesters for negotiating with processors. At the same time, the harvester cooperatives formed under the program may not have the ability to engage in negotiations with processors, unless the member harvesters fully comply with requirements of the FCMA (which includes maintaining a harvesting cooperative composed of independent harvesters).

An option for a vessel use cap would prohibit any vessel from harvesting more than from 4% to 10% of the rockfish primary species catcher vessel allocation in any year. This cap would ensure that harvest activity does not exceed the specified threshold and, indirectly, that a certain number of vessels remain active in the rockfish fisheries. For example, the 4% vessel use cap would ensure that at least 25 vessels remain active, whereas a 10% cap would ensure that at least 10 vessels remain active.

As shown in Table 2-65, as many as 12 vessels in the catcher vessel sector have historically harvested more than 4% of the sector's total catch in a given year. Few vessels have historically exceeded the proposed 8% cap and in only one year did any vessels exceed the 10% cap.

Any grandfather provision would apply to licenses (rather than a vessel), allowing the vessel using the license to harvest up to the allocation associated with the license. Table 2-66 provides the number of LLP license holders that would be grandfathered at the different vessel cap levels. In general, five or fewer LLP license holders would be grandfathered, if a vessel cap of 4% is selected, while three or fewer LLP

holders would be grandfathered if a vessel cap of 6% was selected. No LLP license holders would be grandfathered at vessel cap levels greater than or equal to 8%.

Table 2-65. Number of catcher vessels over 4%, 6%, 8%, or 10% of the annual aggregate primary catch for the sector from 1996 through 2006.

Year	4%	6%	8%	10%
1996	11	*	*	0
1997	12	6	0	0
1998	10	*	0	0
1999	8	*	*	0
2000	7	*	0	0
2001	7	4	*	0
2002	8	*	*	0
2003	8	*	0	0
2004	9	*	0	0
2005	10	*	*	0
2006	9	*	*	*

Source: Alaska Department of Fish and Game fish tickets

* Withheld due to confidentiality requirements

Table 2-66. Number of catcher vessel LLP license holders with allocations over 4%, 6%, 8%, and 10%.

Qualifying years	4%	6%	8%	10%
1996-2002 drop 2	5	*	0	0
1998-2006 drop 2	5	*	0	0
1998-2006 drop 4	5	*	0	0
2000-2006 drop 2	*	*	0	0

Source: Alaska Department of Fish and Game

* Withheld due to confidentiality requirements

Including a grandfather provision for individual share use (or holdings), but not for harvests, may require some share holders to lease a portion of their allocation to others for harvest. This approach could be used to allow persons to gain the benefits of share holdings, while ensuring that no vessel exceeds a desired level of consolidation. The extent of leasing that would be engendered by this approach will depend on the relative level of the two caps and the accompanying allocations. Although the program is unlikely to lead to vessel retirement, it is possible that some vessels may choose not to gear up for the rockfish fisheries, if leasing opportunities are present. A liberal vessel cap could contribute to this consolidation in the fisheries. Limiting the harvests of vessels with a vessel use cap could limit production efficiency gains in the fisheries to the extent that consolidation could facilitate those gains.

Finally, an option could establish a shoreside processing cap. Separate processing caps could limit the percentage of primary species and sablefish⁵³ allocated under the program at any facility to 10%, 20%, 25%, 30%, or 33% of these respective allocations. A processing cap would ensure that no processor purchases over the specified share of the landings in the rockfish fisheries. The cap might be intended to maintain a distribution of processing activity in the fisheries among several processors, which might benefit employees of those plants. In addition, the cap could be intended to stabilize the processing sector. Particularly if accompanied by a Kodiak landing requirement and a grandfathering of processors that historically exceeded the cap level, the cap could limit (or delay) any redistribution of landings among processors in the fisheries under the program. For example, if a 10% cap is established, it is likely that most or all of the five processors that were active in the rockfish fisheries during the Pilot Program

⁵³ As the most valuable of the secondary species, excessive consolidation of sablefish at a single processor could be of concern. Although less valuable, consolidation of processing of Pacific cod could have similar effect as consolidation of sablefish.

qualifying period would be grandfathered at levels above the cap.⁵⁴ Any entering processors would be limited to processing no more than 10% of the landings from the rockfish fisheries, while the grandfathered processors may continue to process up to their historical levels. By imposing these limits through a combination of a low processing cap and grandfathering historical processors at their historical shares, it is possible that the redistribution of landings among processors in the fisheries could be constrained. This constraint may have the effect of providing some stability in the sector and protecting its employees.⁵⁵

Processing competition may also be decreased, to the extent that a processor limited by the cap might not offer the highest it would be willing pay. For example, if the two most efficient processors would be willing to pay a few cents more than other processors, but are limited by the cap, they may be unwilling to compete with each other (bidding to their highest prices), as they would be unable to secure additional landings.

A motivation for capping processing may be to protect historic processors. Yet, the extent of any protection for historical processors arising from the cap is likely to vary over time and may be minimal depending on the level of the cap and whether historical processors are grandfathered. For example, currently six processors are active in the rockfish fisheries (including the Pilot Program entry level fishery). If the cap is set at 25%, it is possible that the two least efficient processors could be unable to attract landings. Depending on the preferred alternative, the Council should consider whether a cap that does not grandfather an existing processor is appropriate. Specifically, two of the alternatives do not recognize historical processing activity in any way (catcher vessel alternative 2 and catcher vessel alternative 4). Options would allow for the adoption of these processing caps without a grandfather clause. Without a grandfather clause, it is possible that a processor would need to reduce its activity in the landings market from historical levels to comply with the cap.

The dynamics under the cap could change considerably, as the cap level is reduced. A 10% cap could limit competition for landings substantially (particularly, if accompanied by a Kodiak landing requirement) by preventing an entering processor from capturing a significant share of market for the fishery's landings. This low level cap would likely need to be accompanied by a grandfather clause, to permit the entire rockfish fisheries to be landed (as the fisheries in recent years have not drawn 10 processors). The grandfather clause would allow historical processors to continue to process at their respective qualifying year levels. Even this accommodation may not ensure that the cap does not prevent processing of the entire TAC in the rockfish fisheries. For example, if a large processor in the rockfish fisheries (e.g., one grandfathered at 30% of the rockfish fisheries) chooses to drop out of the rockfish fisheries and only a single processor enters, the remaining processors might not be capable of receiving all of the remaining landings. The remaining historical processors may each be grandfathered, allowing them to collectively process up to 70% of the rockfish fisheries, while the entering processor would only be permitted to receive 10% of the landings in the fisheries. To address this potential shortcoming, an application system could be developed under which grandfathered processors apply for their grandfather

⁵⁴ The processor's affiliated cooperatives received the following percentages of the primary species allocations during the first 3 years of the Pilot Program: International Seafoods of Alaska Cooperative, 15.1%; North Pacific Rockfish Cooperative, 11.8%; Ocean Beauty Seafoods Incorporated Cooperative, 21.4%; Western Alaska Fisheries Rockfish Cooperative, 28.0%; and Star of Kodiak Rockfish Cooperative, 23.6%.

⁵⁵ It should be noted that NOAA General Counsel has advised that the Council's authority with respect to regulation of processing is limited. Specifically, the Council may regulate processing in a manner that serves a permissible purpose such as consideration of "harvesting and processing employment" and "the current and historical participation of fishing communities," and assumedly to recognize "investments in, and dependence on, the fishery," but not to establish processing privileges.

allowance on an annual basis. This application would be intended to signal that the processor would remain active in the rockfish fisheries that year. In the event a processor dropped out of the rockfish fisheries, the cap and/or grandfather amounts could be adjusted upward to remove the regulatory barrier of the cap from preventing processing of the allocations in the fisheries. While this structure may seem to work on its face, a problem could arise, particularly if some of the grandfathered processors choose to remain active, but do not process landings at or near their historical levels. In that case, it may not be possible to develop a reasonable mechanism for relaxing caps. Any processor that intends to remain active may wish to retain the opportunity to process up to its grandfather amount. If a processor later elects not to purchase landings at that level, relaxing the caps (or grandfather amounts) applicable to other processors in a manner that accommodates the landings without distorting market incentives may not be possible. For example, if a date is set, after which caps are relaxed, some harvesters may elect not to harvest their allocations prior to that date to ensure that more markets are available (and greater competition exists) for their landings. This market distortion may have the effect of reducing the overall benefits derived from the rockfish fisheries. Consequently, using processor caps to stabilize the processing sector and protect processor employees may not be workable.⁵⁶

Processing caps should therefore be used simply to limit over consolidation in the processing sector. In recent years, five or six processors have participated in the rockfish fisheries, with only one Pilot Program processor's associated cooperative exceeding 25% of the rockfish primary species, based on the allocations under the Pilot Program. In addition, the rockfish fisheries are generally thought to be accessible only to processors that process a variety of other species throughout the year. Given this structure, it is possible that a minor contraction of the processing sector (unrelated to the rockfish fisheries) could result in fewer than five processors in the rockfish fisheries. Given this structure, even a 25% cap may be overly constraining, if a single large processor were to drop out of the rockfish fisheries.

Two processing caps are under consideration. The first processing cap would limit a processor to a specific percentage of the rockfish primary species landings. This cap would be administered as a percentage of the aggregate of the catcher vessel allocations of the three rockfish primary species. Although prices and markets vary for the three rockfish primary species, those differences likely do not merit creating separate caps for the different species (Table 2-31). The second cap would limit processing of sablefish, and could be applied to the allocation of that species. Given that sablefish ex-vessel prices are typically approximately \$2.50 per pound or greater (while rockfish primary species ex-vessel prices are typically less than \$0.20), a separate cap on sablefish may be desirable to ensure that the fishery's value is distributed across several processors. The cap may be more important, if the Council elects to allow catcher vessels to make separate trips targeting sablefish, as approximately half of the sablefish harvested in the Pilot Program is taken on trips targeting sablefish. In the absence of a cap, one processor could effectively purchase all sablefish landings from the fishery. While a cap might be desirable for distributing landings of sablefish across several processors, the cap could also suppress prices, in the event that one processor has the best access to downstream sablefish markets.⁵⁷ Although this consolidation may bring the highest ex-vessel prices, if the Council's objective is to ensure a number of processors are active in the rockfish fisheries, it may be inconsistent with that objective.

In any case, caps on processing are likely to provide some processors with an advantage, if the caps are constraining. Processors constrained by the cap may reduce their prices, since they will not be permitted

⁵⁶ It should be noted that an catastrophe in Kodiak could prevent compliance with this requirement. No authority for an exemption appears to be available under the Council's motion.

⁵⁷ Although substantially lower priced than sablefish, the Council could consider whether a cap on Pacific cod might be appropriate, particularly given its relatively high value in comparison to the rockfish primary species and a demonstrated practice of "topping-off" on this species.

to compete for landings in excess of the cap. Although, at the outset, it is likely that it will be current processors that will gain the advantage of this limit on competition, it is possible that processors with little or no history in the rockfish fisheries could receive the benefits of depressed competition arising from a processing cap. The potential for an entering processor to receive this benefit is increased, if the Kodiak landing requirement is not incorporated into the preferred alternative. Although no substantial production efficiency benefit is expected to be derived from processing outside of Kodiak, if a Kodiak landing requirement is adopted, any such benefit would not be attainable.

Overall, processing caps would constrain production efficiency to the extent that competition for landings is decreased. Harvesters in the rockfish fisheries would receive a lower price for landings, to the extent that competition is constrained. This reduction in competition could, in turn, reduce the incentive for processors to improve products and enhance marketing efforts to maintain their competitiveness in product markets. The extent of this effect is not known, as under the Pilot Program, attempts of processors to increase product values through marketing efforts and product improvements yielded little additional value. Whether future efforts might meet greater success is not known.

Management of Unallocated Species

Unallocated species will be managed using MRAs. Two options for determining basis species for the purpose of determining the MRA are under consideration. Under the first, the basis species would be only allocated rockfish primary species; under the second all allocated species would be basis species.

All non-allocated species will be managed by MRA, as in the current regime. This includes Arrowtooth flounder, deep-water flatfish, shallow-water flatfish, flathead sole, rex sole, pollock, other species, Atka mackerel and other rockfish. Basis species for purposes of determining MRAs will be:

- Option 1 - Only allocated primary rockfish species
- Option 2 - All allocated species

The MRA is calculated as the percentage of the retained amount of species regulated by MRA relative to the retained amount of basis species. Amounts of the MRA regulated species that are caught in excess of the MRA percentage must be discarded.

Under the Pilot Program, MRAs for species that are not allocated are based on catch of rockfish primary species only. So, vessels with little harvest of rockfish primary species on a trip are very limited in their retention of unallocated species (including shortraker rockfish and roughey rockfish in the catcher vessel sector). While some discards in the rockfish fisheries have been voluntary, others are likely required by MRA limits. Although varying across years, this influence is suggested by the differences in percent of catches discarded in rockfish targeted trips compared to discards in trips targeting other species (see Table 2-67). For example, in 2007, the percent of shortraker rockfish discarded while targeting rockfish primary species was 8.1%, while the percent discarded while targeting non-rockfish was 95.1%. This in discard percentages between rockfish and non-rockfish targets may be caused, in part, by the effects of limiting basis species to only the rockfish primary species. Although in most cases, the discards are relatively small amounts of fish, requiring discards contributes to waste and imposes an unnecessary burden on crews. In addition, market factors may drive some of these discards as vessel operators may wish to streamline offloading and processing by eliminating rockfish from their landings of Pacific cod and sablefish to prevent damage to these more delicate species.

The option allowing all allocated species to be used for basis species for determining MRAs would prevent discards of otherwise valuable, retainable fish, but would also allow additional catches of MRA species. The effects of this option would be limited by the extent of the allocations of rockfish secondary species under the program. In general, data from the Pilot Program suggest that little effort is being expended to harvest unallocated species, so the overall effect is likely to be quite small.

The number of additional pounds of unallocated species that might be retained increases substantially when all allocated species are included as basis species (see Table 2-68). Yet, potential increases in catches of unallocated species from changing the basis species should be minor, in the absence of substantial changes in targeting behavior. To date, no targeting of unallocated species is suggested in the rockfish fisheries, as catches are far short of the allowable retention under current MRAs.

Table 2-67. Catcher vessel species catch (in metric tons) by target in the Pilot Program for 2007 and 2008.

Species	Target	2007				2008			
		Discarded ¹	Retained	Total	Percent discarded	Discarded ¹	Retained	Total	Percent discarded
Arrowtooth flounder	Rockfish	139.9	46.1	186.0	75.2	72.0	89.5	161.6	44.6
	Non-Rockfish	197.4	17.7	215.1	91.8	161.2	48.5	209.7	76.9
Atka mackerel	Rockfish	0.1	0.6	0.7	8.2	*	*	0.8	*
	Non-Rockfish	0.0	0.0	0.0	0.0	*	*	0.2	*
Deepwater flatfish	Rockfish	6.8	12.8	19.6	34.6	10.4	5.9	16.3	64.0
	Non-Rockfish	15.7	4.6	20.3	77.4	20.2	8.6	28.9	70.1
Flathead sole	Rockfish	1.3	5.9	7.2	17.9	1.9	7.4	9.3	20.3
	Non-Rockfish	2.7	2.4	5.1	53.2	3.3	4.2	7.6	44.1
Other rockfish	Rockfish	2.2	37.2	39.4	5.6	2.0	62.6	64.6	3.1
	Non-Rockfish	0.3	0.4	0.7	39.1	0.9	0.5	1.4	66.6
Skates ²	Rockfish	3.3	2.4	5.7	58.0	2.7	8.3	11.0	24.5
	Non-Rockfish	5.3	0.6	5.9	89.8	13.3	9.3	22.6	58.8
Other species	Rockfish	7.3	1.7	9.0	80.7	4.3	2.6	6.9	61.9
	Non-Rockfish	2.3	0.1	2.4	95.8	4.7	1.5	6.2	75.8
Pollock	Rockfish	2.4	19.9	22.3	10.8	3.3	46.3	49.6	6.7
	Non-Rockfish	2.5	0.5	3.0	82.1	4.6	3.5	8.0	56.9
Rex sole	Rockfish	3.3	6.0	9.3	35.2	7.1	7.0	14.1	50.6
	Non-Rockfish	7.5	1.5	9.0	83.3	4.1	2.3	6.3	63.9
Rougheye rockfish	Rockfish	0.3	4.8	5.1	5.0	2.1	1.4	3.4	60.0
	Non-Rockfish	3.9	1.1	4.9	78.1	9.5	2.3	11.8	80.2
Shallow-water flatfish	Rockfish	0.2	2.1	2.3	10.6	11.8	8.3	20.0	58.8
	Non-Rockfish	3.4	2.0	5.4	63.4	5.5	7.0	12.6	44.0
Shortraker rockfish	Rockfish	0.4	4.3	4.7	8.1	1.6	4.6	6.2	25.8
	Non-Rockfish	4.6	0.2	4.9	95.1	4.5	6.6	11.1	40.7

Source: NMFS Catch Accounting

* Withheld for confidentiality

¹ Discards are calculated based on observer data and extrapolated across the fleet.

² Big nose skate and longnose skate were combined with other skate to protect confidential data.

Table 2-68. 2008 Maximum retainable amounts by sector based on allocations of rockfish primary species and secondary species allocations.

Incidental catch species	MRA as a percentage of basis species	Catcher vessel sector			
		Allocation of primary rockfish	MRA in tons based on rockfish allocation	Maximum cooperative allocation of secondary species	MRA is tons based on secondary species allocations
Shortraker/rougheye	2	6,625	133	1,034	21
Pollock	20		1,325		207
Deep water flatfish	20		1,325		207
Rex sole	20		1,325		207
Flathead sole	20		1,325		207
Shallow water flatfish	20		1,325		207
Arrowtooth flounder	35		2,319		362
Other rockfish	15		994		155
Atka mackerel	20		1,325		207
Aggregated forage fish	2		133		21
Skates	20		1,325		207
Other species	20		1,325		207

Incidental catch species	MRA as a percentage of basis species	Catcher processor sector			
		Allocation of primary rockfish	MRA in tons based on rockfish allocation	Maximum cooperative allocation of secondary species	MRA is tons based on secondary species allocations
Shortraker/rougheye	4	6,503	265	1,019	41
Pollock	20		1,325		207
Deep water flatfish	20		1,325		207
Rex sole	20		1,325		207
Flathead sole	20		1,325		207
Shallow water flatfish	20		1,325		207
Arrowtooth flounder	35		2,319		362
Other rockfish	15		994		155
Atka mackerel	20		1,325		207
Aggregated forage fish	2		133		21
Skates	20		1,325		207
Other species	20		1,325		207

Source: NMFS Pilot Program allocations (2008).

MRA Enforcement Period for catcher processors

The Council has included two options for enforcement of MRAs in the catcher processor sector. Under the first option, MRAs will be enforced on a trip-by-trip basis, while under the second option, MRAs would be enforced on an instantaneous basis, as is currently the case.

Option 1: MRAs in the CP sector will be enforced on a trip-by-trip basis.

Option 2: MRAs in the CP sector will be enforced on an instantaneous basis.

The instantaneous enforcement period would be a continuation of the current enforcement practice. The practice of instantaneous enforcement allows managers time to assess removals or to compel avoidance of species that could otherwise reach an overfishing limit. However, instantaneous enforcement likely

generates higher discard rates. In comparison, a trip-by-trip basis⁵⁸ is intended to be less limiting to the catcher processor sector with respect to retention of incidental groundfish catch. The increased flexibility of a longer MRA accounting interval has the potential to improve the value of a fishing trip through increased retention of incidental species that have higher value than other species. Vessel operators have an economic incentive to maximize the value of each trip or group of trips and could easily choose to retain groundfish early in a fishing trip that were anticipated to be valuable, as opposed to discarding that catch, if they believe they can access sufficient MRA species later in a fishing trip.

The increased flexibility of a longer MRA accounting period has the potential for increased topping off on higher valued “incidental” species under a trip-by-trip basis. This topping-off for some species may occur later in a trip, taking the form of targeting, rather than true “incidental” accumulation of the higher valued species in lower amounts throughout the course of targeting the primary and secondary allocated species. While the trip-by-trip basis may encourage increased retention amounts, the relaxed accounting period could encourage less aggressive avoidance behavior of incidental species that require protection. Managers can be expected to observe removals and react by restricting directed fishing, or closing a fishery that is exploiting an incidental species too quickly, at too high a rate, or that is approaching a TAC.

Post delivery transfers

The proposed action includes a provision that permits post-delivery transfers of cooperative quota. There would be no limits on the number or magnitude of post-delivery transfers. All post-delivery transfers must be completed by December 31. And, no cooperative-member vessel shall be permitted to begin a fishing trip, unless the cooperative holds unused cooperative quota. Although not included in the Pilot Program at the time of implementation in 2007, the Council in December 2007 approved post-delivery transfers for rockfish cooperative participants, which was implemented on August 21, 2009. The intent of post-delivery transfers is to improve cooperative flexibility, reduce potential violations from overages, reduce enforcement costs, and allow more complete harvest of allocations.

Similar to the provisions proposed in the Rockfish Program, the existing post-delivery transfer rules allow for unlimited number and size of post-delivery transfers, but a vessel that is assigned to that cooperative may not begin a new fishing trip⁵⁹ for that cooperative, if they do not have enough unused catch quota for any of the groundfish or PSC assigned to the cooperative. This restriction prevents a cooperative from not having enough quota at the end of the year. All post-delivery transfers must be completed by December 31 of each year.

Despite the absence of limits, the provision is likely to be used in a limited way. Participants are only likely to rely on the provision for unintended small overages. This is reflected during the 2009 season

⁵⁸ The following regulation in 50 CFR 679.2 defining a catcher processor and mothership fishing trip would apply to option 1:

(1) * * *

(i) * * *

(A) The effective date of a notification prohibiting directed fishing in the same area under §679.20 or §679.21;

(B) The offload or transfer of all fish or fish product from that vessel;

(C) The vessel enters or leaves an area where a different directed fishing prohibition applies;

(D) The vessel begins fishing with different type of authorized fishing gear; or

(E) The end of a weekly reporting period, whichever comes first.

⁵⁹ A fishing trip is defined as the period beginning when a vessel operator commences harvesting any groundfish species that is assigned catch quota under the relevant LAPP and ending when the vessel operator removes any processed or unprocessed groundfish catch quota species from the vessel.

with only two post-delivery transfers in the rockfish fisheries. It is also possible that transfers could be, to some extent, prearranged through an inter-cooperative agreement that has formed in the catcher vessel sector. The number of overages at the time of landing could be slightly higher than in 2009, if participants gain confidence they will be able to cover the overage with a prearranged “transfer agreement” among inter-cooperative members. Overages not covered with a transfer and, thus, subject to penalty, should be fewer. Finally, requiring the overage to be covered on or before December 31 of the year in which the overage occurred could lead the cooperative to unreasonably delay finding shares to cover the overage, which could result in some uncovered overages. On the other hand, the potential cost of overage penalties is likely to deter most cooperatives from delaying coverage of an overage. Delaying obtaining a post-delivery transfer needed to coverage an overage until shares are unavailable for that transaction is unlikely to be a persistent problem.

2.4.3 Effect on management, monitoring, and enforcement

This section briefly summarizes management, monitoring, and enforcement requirements under the Rockfish Program. Under the no action alternative, management, monitoring, and enforcement requirements would revert to the LLP management seen prior to implementation of the Pilot Program in 2007. Under the cooperative program alternatives, management, monitoring, and enforcement requirements would likely be similar to the requirements seen in the Pilot Program.

No Action Alternative – CP-1 and CV-1

Under the no action alternative, management of the rockfish fisheries would revert to the LLP, under which managers oversee a limited access race for fish.

Non-trawl fishing in the rockfish fisheries would begin on January 1. The trawl season would open in early July and ongoing catch would be monitored by managers with the closing for both gear types timed to coincide with attainment of the TAC.⁶⁰

Under the no action alternative, observer coverage would vary with vessel size. In general, vessels that are 125 feet or longer LOA are required to have 100% observer coverage. Vessels 60 feet or greater LOA and under 125 feet LOA are required to have 30% observer coverage. Vessels under 60 feet LOA have no observer requirement. Shoreside and floating processors that process in excess of 1,000 metric tons of groundfish in a calendar month are required to maintain 100% coverage to observe landings. Shoreside and floating processors that process less than 1,000 metric tons and more than 500 metric tons of groundfish in a calendar month are required to maintain 30% observer coverage (50 CFR 679.50).

Entry Level Trawl/Longline Fisheries - EL-2

Under this alternative, NMFS would oversee two entry level, limited access, derby fisheries—a trawl fishery and a non-trawl fishery, with each receiving 2.5% of the TAC of CGOA rockfish (approximately 700 metric tons at current TACs). All participants would be required to submit an annual registration in the fall, prior to the year in which the fishing occurs. All other species (except halibut PSC) would be managed under the standard MRAs that currently apply to the entry level fisheries. Observer coverage levels would be the same as applicable to other LLP fisheries.

The season for the entry level longline fishery would open January 1, while the trawl season would open on May 1. As in other limited access fisheries, NMFS would monitor ongoing harvests, timing the closing

⁶⁰ Additional information concerning current management appears in the description of the affected environment above.

to coincide with full harvest of the TAC. Since trawl vessels can harvest on the order of 100 metric tons in a day, timing a closure to avoid overharvest is very difficult. Given this harvest capacity, in the absence of a gentlemen's agreement to limit harvests, it is likely that managers will use short openings of 24 hours or less. Management of the small allocation to trawl vessels in the entry level fishery is likely to continue to be problematic under this alternative.

NMFS will require vessels fishing the entry level allocation in federal waters to have an LLP license and to register for the entry level fishery. Longline vessels that fish exclusively in parallel waters and do not have an LLP license or a federal fisheries permit would not need to register for the program. To simplify management of the entry level longline allocation in the Pilot Program, all longline harvests of rockfish primary species from federal and parallel waters when the directed fishery is open will be counted against the entry level allocation of that gear type. Given the relatively small harvest of rockfish primary species by the longline vessels, this accounting of longline harvest would likely have little affected on the ability of sector members to participate in the fishery.

Entry Level Longline Only Fishery - EL-3 (preferred alternative)

In contrast to the trawl/longline entry level alternative described above, under this alternative, only the longline sector would receive an entry level allocation of the rockfish primary species. Allocations of each rockfish species would be set by the Council at a base level, which would be subject to incremental increases (equal to the initial allocation) each time the sector harvested in excess of 90% of the allocation. A cap on the allocation of each rockfish primary species would limit the growth of these allocations.

The longline alternative would be conducted on a limited access basis, as described under the previous entry level alternative. All longline harvests of rockfish primary species from federal and parallel waters when the directed fishery is open will be counted against the entry level allocation of that gear type. To further simplify management under this alternative, NMFS would not require vessels fishing the entry level longline allocation to register.

Catcher processor cooperatives only – CP-2 (preferred alternative)

Under this alternative, the catcher processor sector would receive allocations of rockfish primary and secondary species, and allowance for halibut PSC. In each year, eligible catcher processors would then have the option of joining a cooperative, which would fish an allocation (rockfish primary and secondary species, and halibut PSC) based on the collective histories of its members in accordance with a cooperative agreement, or refrain from fishing in the rockfish fisheries for that year. Since these two different types of allocations would be managed differently, the discussions of management of cooperatives and the limited access fishery are separated.

The implementation of the Rockfish Program will require that NMFS determine the pool of eligible licenses for the catcher processor sector, the sector allocation and the individual histories of those eligible licenses. Cooperative agreements will be filed with NMFS every year, which must be reviewed for adequacy (including monitoring plan). NMFS will be required to make annual catch allocations to cooperatives (based on member histories) and to the limited access fishery.

NMFS would require that all participants in the program submit an annual registration in the fall, prior to the year in which the fishing occurs. This requirement provides NMFS with the time necessary to incorporate any allocations to participants in the program in the annual TAC specifications process.

Under all of the program alternatives, cooperatives would be permitted to fish their allocations during an extended season, opening on May 1 and closing on November 15. This season is set to balance the interests of participants in distributing landings over a longer period of time each year and the

conservation interest in managing stocks and catch in the rockfish fisheries.⁶¹ The season timing will accommodate management responsibilities, pertaining to observer requirements and catch management, including halibut PSC mortality.

The increase in administrative and recordkeeping requirements arising from allowing post-delivery transfers is limited. Changes in the timing of administrative decisions and processes may pose challenges. In general, NMFS will oversee share accounts and share usage, maintaining a record of any overage. Instead of referring overages to NMFS Office of Law Enforcement immediately, that notice would be deferred until the time permitted to cover the overage with a post-delivery transfer has lapsed. Overall, allowing post-delivery transfers should reduce the number of enforcement actions prosecuting overages because a cooperative will have the opportunity to acquire shares to correct the pending violation.

Quota programs can increase the incentive of participants to misreport and high-grade catch, while at the same time increasing the burden on managers to provide highly defensible estimates of catch, especially when those estimates directly impact quota holders. NMFS has dealt with these issues by clearly articulating goals for the management of quota allocations and imposing new and more stringent monitoring and observer requirements as these programs have been developed. Therefore, management of allocations will require that all catch under the program be monitored similar to the Pilot Program. These monitoring standards include—

- Two observers to ensure each haul is observed;
- A motion compensating flow scale to weigh total catch separately for each haul;
- An observer sampling station with a motion-compensated platform scale and sufficient sample storage space;
- A prohibition against crew entering the bin or tank unless a NMFS approved annual bin monitoring inspection has been completed;
- One sorting line between the flow scale and the observer sample collection point to allow observers access to unsorted catch at a single point; and
- A prohibition on allowing fish to remain on deck, outside the codend, to minimize the ability of vessel's to presort catch.

Under all the program alternatives, vessels in a cooperative would be permitted to fish their allocations at any point during the extended season. During the trip, fishing outside of the program could take place. An additional monitoring requirement would be needed to ensure adequate observer deployment. For catcher processors, notices will be required prior to initiating a trip that would include fishing under their program allocation. The notification would establish a default assumption that any fishing on the trip would be under the program. Prior notice to the observer of the vessel's intent to fish in and out of the program will be required to allow debiting of catch to the appropriate accounts in the catch accounting database. This notification would be required to occur prior to the haul being brought aboard. This system would effectively require haul-by-haul notification of whether fishing is under the program, if the catcher processor intends to engage in both fishing under the program and outside the program on a single trip.

NMFS would require minimum monitoring standards for the catcher processor fleet at any time the vessel is fishing in the program. This would include all hauls outside the program during a trip for which NMFS was notified the vessel would be fishing under the program. Each of these species groups could be

⁶¹ A brief discussion of rockfish reproduction and its consideration in developing season openings is contained in section 3.4.3.

subject to differing harvest limitations, including MRAs. This necessitates separate accounting of catch for each specific program and purpose. NMFS must be able to ensure compliance with regulations governing the rockfish fisheries and there must be an authoritative record of quota fish harvested.

Two options under consideration are a prohibition on directed fishing for Pacific cod and sablefish by vessels fishing Rockfish Program allocations and to manage Pacific cod and sablefish under a modified MRA (which in addition to affecting the manner and amount of harvests would also operate as an effective prohibition on targeting). Given that Pacific cod is currently managed with a revised MRA of 4% of the rockfish primary species and sablefish is currently allocated to the catcher processor sector, only management of sablefish would be affected by the option to prevent directed fishing.

Under both catcher processor alternatives, MRA enforcement for the catcher processor sector would be on a trip-by-trip basis or instantaneous, as under the current program. A fishing trip is defined at 50 CFR 679.2 as:

(1) With respect to retention requirements (MRA, IR/IU, and pollock roe stripping), recordkeeping and reporting requirements under § 679.5, and determination of directed fishing for flatfish.

(i) *Catcher/processors and motherships.* An operator of a catcher/processor or mothership processor vessel is engaged in a fishing trip from the time the harvesting, receiving, or processing of groundfish is begun or resumed in an area until any of the following events occur:

(A) The effective date of a notification prohibiting directed fishing in the same area under § 679.20 or § 679.21;

(B) The offload or transfer of all fish or fish product from that vessel;

(C) The vessel enters or leaves an area where a different directed fishing prohibition applies;

(D) The vessel begins fishing with a different type of authorized fishing gear; or

(E) The end of a weekly reporting period, whichever comes first.

(ii) *Catcher vessels.* An operator of a catcher vessel is engaged in a fishing trip from the time the harvesting of groundfish is begun until the offload or transfer of all fish or fish product from that vessel.

(2) *IFQ program.* With respect to the IFQ program, the period beginning when a vessel operator commences harvesting IFQ species and ending when the vessel operator lands any species.

(3) *Groundfish observer program.* With respect to subpart E of this part, one of the following periods:

(i) For a vessel used to process groundfish or a catcher vessel used to deliver groundfish to a mothership, a weekly reporting period during which one or more fishing days occur.

(ii) For a catcher vessel used to deliver fish to other than a mothership, the time period during which one or more fishing days occur, that starts on the day when fishing gear is first deployed and ends on the day the vessel offloads groundfish, returns to an Alaskan port, or leaves the EEZ off Alaska and adjacent waters of the State of Alaska.

(4) *For purposes of § 679.7(n)(7),* the period beginning when a vessel operator commences harvesting any Rockfish Program species and ending when the vessel operator offloads or transfers any processed or unprocessed Rockfish Program species from that vessel.

(5) *For purposes of § 679.7(o)(4)*, the period beginning when a vessel operator commences harvesting any Amendment 80 species and ending when the vessel operator offloads or transfers any processed or unprocessed Amendment 80 species from that vessel.

(6) *For purposes of § 679.7(d)(9) for CDQ groups and § 679.7(k)(8)(ii) for AFA entities*, the period beginning when a vessel operator commences harvesting any pollock that will accrue against a directed fishing allowance for pollock in the BS or against a pollock CDQ allocation harvested in the BS and ending when the vessel operator offloads or transfers any processed or unprocessed pollock from that vessel.

It is anticipated there would be negligible practical effect on the mechanics or frequency of MRA accounting by either NMFS Enforcement or U.S. Coast Guard personnel during dockside or at-sea boardings. NMFS Enforcement personnel would likely continue to be able to conduct audits of compliance with MRA requirements based upon analysis of Weekly Production Report data.

Included in the catcher processor alternatives are excess shares limits that NMFS would be required to monitor. The excess shares limits are legal constraints on consolidation of harvest up to 60% and individual caps that prevent any person from holding or using in excess of 20% of the sector's allocation.

In addition to managing aspects of the rockfish target fisheries, NMFS may need to approve, monitor, and manage sideboards. There are a suite of proposed GOA sideboard limits for catcher processors operating in the Rockfish Program. For a complete analysis of the sideboard options as it pertains to the catcher processor alternatives, see Section 2.4.16.

Catcher processor cooperative or limited access – CP-3

Under this alternative, catcher processors would have the option of joining a cooperative or fishing a limited access fishery that receives the allocation of all non-members of cooperatives. The cooperative portion of the fishery would be managed as described under the previous alternative.

Management of a limited access fishery would differ substantially from the management of cooperatives. Under limited access, the fishery would be prosecuted early in July, with managers monitoring harvests and timing the closing of the fishery to coincide with harvest of the sector TAC. The increased monitoring requirements and observer coverage described for the cooperatives would be the same for the limited access fishery (i.e., two observers, flow scales, observer sampling stations). Participation in the limited access component cannot be predicted. If most catcher processors choose to join cooperatives, however, it is possible that the allocation could be so small that the fishery would be opened for a very limited time, the length of which would be announced prior to the opening (e.g., a 12-hour opening announced prior to fishing). The length of any such opening would be based on estimates of harvest rates from previous seasons or openings and the estimated effort of participating vessels. If the amount of fish remaining available after the closure is adequate to support an additional opening (without overage), an additional opening could be scheduled. Alternatively, if limited access participants organize harvests, it is possible that small allocations could be fished in a manner similar to cooperative harvests. This organization can ease the management burden associated attempting to constrain harvests to the TAC.

This organization might be preferred to joining a cooperative, depending on the differences in sideboard management or rockfish secondary species management in the limited access and cooperative fisheries. If eligible catcher processors perceive an advantage under the limited access management, it is possible that they would fish the limited access fishery, instead of joining a cooperative. If these vessels are able to organize their catch in the limited access fishery, it could be possible to gain the advantages of

cooperative type management, without the constraining management provisions that are intended to apply to cooperatives. Although this benefit to participants may be perceived as unfair and inconsistent with the intent of the program, managers may need to expend less effort overseeing the fishery. In the Pilot Program limited access fishery, management of rockfish secondary species is accomplished using reduced MRAs. NMFS would continue to use reduced MRAs to manage allocated secondary species in the limited access fishery. Downward adjustment of the MRAs will be used to limit the incentive to target rockfish secondary species and maintain catch at a level below the allocation.

Non-allocated species will also need to be managed in the limited access fishery. These species will be managed under existing MRAs, with the exception of Pacific cod, which will be managed with a revised MRA of 4% of the rockfish primary species. Initially, the Council, when developing the Pilot Program, considered allocating Pacific cod to catcher processors in a manner similar to allocated rockfish secondary species. However, an allocation of Pacific cod could have resulted in an allocation that was not adequate to support prosecution of the targeted rockfish allocation by catcher processors, as rockfish catcher processors have relatively low historical levels of harvest of Pacific cod. Likely, it is still the case. The revised MRA is intended to restrict Pacific cod harvests to a level similar to historical levels, using an MRA that allows discards to ensure that Pacific cod does not restrict harvest of rockfish primary species.

Similar to the above catcher processor alternative, there are a suite of proposed excessive share limits and GOA sideboard limits for this alternative. For a detailed description of those excessive share limits see the discussion of CP-2 immediately above. For a detailed analysis of sideboards as it relates to this alternative, see Section 2.4.16.

Catcher Vessel Sector - Harvester Only Cooperatives – CV-2

Under the harvester only cooperative alternative, an eligible catcher vessel license holder must join a cooperative to participate in the Rockfish Program. Eligible license holders that do not join a cooperative are restricted from participating in that year's CGOA rockfish fisheries. Cooperative members would fish an assigned amount (i.e., rockfish primary and secondary species allocations, and a halibut PSC mortality allowance) based on the cumulative history of its members in accordance with a cooperative agreement.

As under the catcher processor alternatives, implementation of the program will require that NMFS determine the pool of eligible persons for the catcher vessel sector, the sector allocation, and the individual histories of eligible persons. Cooperative agreements (including monitoring plans) must be filed with NMFS every year, which will be reviewed for adequacy. NMFS will be required to make annual catch allocations to cooperatives (based on member histories).

Cooperative allocations would be fished during the extended season described under the catcher processor alternatives, recognizing, of course, that catcher vessel catch cannot be processed onboard and must be delivered to a federally registered processor. Fishing of exclusive allocations during an extended season will require levels of monitoring similar to those used in the Pilot Program. Management of allocations will require that all catch under the program be monitored. Participants would need to make announced Rockfish Program trips, to distinguish Rockfish Program fishing from participation in other fisheries and allow deployment of adequate observer coverage. All fishing in a trip under the program would be exclusively under the program. Using this system of exclusive trips would also facilitate shoreside monitoring of offloads and account of catch against allocations.

An option provides for a Kodiak landing requirement. If adopted, NMFS would need to monitor the location of all catcher vessel landings. Since the option would apply to all shares, administration would be very straightforward and have a minimal burden.

Shoreside observer coverage

Option 1: An observer will be on duty whenever program deliveries are made. No observer will be allowed to work more than 12 hours per day (status quo under Pilot Program).

Option 2: Same observer coverage requirement for shoreside processors as in other groundfish fisheries.

Option 3: Employ a Catch Monitoring and Control Plan specialist to oversee deliveries.

With the exception of accounting for halibut PSC, catch accounting for Rockfish Program species allocated to catcher vessel cooperatives will take place shoreside. Thus, it is important for NMFS to ensure that adequate measures have been taken to facilitate accurate catch accounting. In order to accomplish this, NMFS has required that processors operate under an approved Catch Monitoring and Control Plan (CMCP). A CMCP is developed by the processor and approved by NMFS, per criteria established in federal regulations at 50 CFR 679.28(g)(7). It details a series of performance based standards that ensure that all delivered catch can be effectively monitored by an observer and that all catch is accurately sorted and weighed by species. The presence of a plant observer is integral to ensuring adherence to the CMCP, as the program will allocate several species with all allocations being binding. A major duty of plant observers is to monitor landings in accordance with the CMCP and ensure the efficient transfer of data for in-season management.

Under Option 1, each processor must have an observer on duty for every rockfish delivery. If the processor chooses to process deliveries for more than 12 hours per day, two observers would be required. Daily observer coverage would begin with the first rockfish delivery and end 12 hours later. If program deliveries occur more than 12 hours after the first delivery in the calendar day, a second observer would be required. To reduce potential conflicts in observer scheduling and ensure adequate coverage for program deliveries, an observer assigned to one processing facility could not be assigned to multiple facilities in a day. To prevent full coverage of rockfish deliveries from adversely affecting shoreside coverage for other fisheries, observer coverage for rockfish deliveries would not count towards meeting a processor's observer coverage obligations in other fisheries. Because every vessel delivering to the processor under the program would have an observer collecting biological samples and scientific data while at sea, plant observers would not collect biological samples or scientific data for rockfish deliveries. The plant observer's duties would include verifying delivery weights recorded by scales with those reported on landing reports and confirming that plant activities conform to their stated CMCP. To date, the full observer coverage requirement has been the only available option to conduct shoreside quota accounting for Pilot Program deliveries. Because of the nature of the observer's duties and the structure of the current deployment model, observers do not have the flexibility to monitor deliveries at multiple processors during the same day.

Under Option 2, plants would revert to pre-Pilot Program observer coverage. Under those requirements, a plant that processes 1,000 metric tons of groundfish or more in a month is required to have an observer present at the facility each day it processes or receives groundfish in that month. A plant that processes or receives between 500 metric tons and 1,000 metric tons of groundfish in a month is required to have an observer present at the facility at least 30% of the days in that month that it processes or receives groundfish. A plant that processes less than 500 metric tons of groundfish in a month is not required to

obtain observer coverage. A processing plant that receives program deliveries would continue to be required to have a CMCP that defines how it will sort and weigh fish during program deliveries. The plant observer, when assigned to the processor, would be tasked with confirming that plant activities conform to their stated CMCP, in addition to their other duties of collecting biological information for non-rockfish deliveries and assisting vessel observers.

Prior to the implementation of the shoreside observer coverage requirements under the Pilot Program, observers were frequently assigned to multiple processors during the same day. Under this option, assignment to multiple plants would be permitted. If rockfish deliveries occur at the same time at more than one plant that an observer is assigned to, the observer may be unable to complete observer duties for both deliveries. In addition, with the less than comprehensive observer coverage during program landings, there will likely be gaps in monitoring compliance with CMCPs. Any unobserved landings lack the independent verification needed to ensure all catch is weighed for appropriate quota accounting. Additionally, allowing the assignment of an observer to multiple plants, could lead to substantial unobserved rockfish deliveries, because the observer must complete other sampling duties.

Under the current groundfish observer program, entities required to have observer coverage contract with observer providers and pay directly for their observer coverage. NMFS is not a party to these contracts and cannot direct where observers are deployed in operations with a 30% observer coverage requirement. Under the Pilot Program, 100% observer coverage at the plant is required to ensure unbiased monitoring of a processor's Catch Monitoring Control Plan. In June 2010, the Council initially reviewed an EA/RIR/IRFA to restructure the service delivery model for the groundfish observer program such that NMFS would enter into direct contracts with observer providers. A primary objective of observer program restructuring is to reduce the sampling bias in data collected from operations with less than 100% observer coverage requirements, thereby allowing NMFS to implement a randomized sampling plan. In February 2010, the Council reviewed an Observer Program Restructuring Implementation Plan that noted that Rockfish Program plants likely would not require 100% observer coverage under a restructured observer program. Therefore, observer program restructuring offers one potential route to reduce observer coverage in Rockfish Program plants, without unduly compromising data quality. This option does not offer the same protection of data quality.

The creation of the Rockfish Program through this action provides a third option to provide impartial verification of a processor's adherence to its CMCP. Under Option 3, NMFS would use a portion of the cost recovery fees to hire personnel to monitor rockfish landings to ensure compliance with the CMCP. NMFS would differentiate the duties of their rockfish CMCP specialist, from those of a fishery observer, such that there would be no overlap in their respective functions, responsibilities, or duties. The rockfish CMCP specialist would only monitor program deliveries and would not be trained as an observer or requested to complete any observer duties, such as verifying non-rockfish fish tickets, assisting vessel observers, or collecting biological or scientific data. The duties of the rockfish CMCP specialist would be required to monitor rockfish deliveries to ensure compliance with the CMCP of any processor receiving program landings, assisting processors with rockfish species identification to ensure accurate catch sorting and quota accounting, and reporting the findings to NMFS. Program processors would be required to notify the CMCP specialist at least an hour prior to a program delivery. The CMCP specialist would establish a monitoring schedule, such that most (if not all) deliveries would be monitored. In the event of conflicting deliveries, the CMCP specialist would determine which program deliveries would be monitored.

The CMCP specialist option is similar to the Rockfish Program plant monitoring design envisioned by NMFS under a restructured observer program. Under a restructured observer program, observer coverage would be funded by industry-collected fees and NMFS could deploy observers specifically to monitor

Rockfish Program CMCPs, given the unique duties of CMCP monitoring. The CMCP specialist option would create a new type of compliance monitor with a different function than observers who conduct biological sampling and independent data collection, in addition to plant and vessel data verification. The role of the CMCP specialist would be virtually all compliance-related. In this capacity the CMCP specialist position could be funded by MSA section 304(d) cost recovery fees as authorized for LAPP management. This may provide a more expedient and efficient alternative to using fisheries observers for CMCP compliance monitoring.

It should be noted that using cost recovery fees to pay for a CMCP specialist would redistribute the cost of program plant monitoring from the individual plant, to all Rockfish Program share holders. This cost shifting may be viewed as justified, as these share holders are effectively determining the distribution of landings among plants by their delivery choices. Although a similar choice exists in a limited access fishery, the allocations to share holders (and the need to monitor the harvest of those allocations) under the program create the need for increased monitoring of landings. It is the cost of that increase in monitoring (i.e., the incremental cost under the program) that would be covered by the cost recovery funds under this option. As the beneficiaries of the allocations, the share holders may be argued to be the appropriate persons to bear the costs associated with compliance monitoring.

Because cost recovery fees would not be available at the start of the program, NMFS would be required to fund the single CMCP specialist position that is believed to be needed for adequate monitoring, until cost recovery fees are available. NMFS estimates the labor cost of the CMCP specialist to be roughly \$40,000 per season and does not have concerns about the ability to provide up-front funding for this position until cost recovery fees are available.

Participants in the sector may also be subject to sideboards limiting the amounts of catch that may be harvested from other fisheries. For a full analysis of the sideboards as it relates to catcher vessel alternatives, see Section 2.4.16.

Catcher Vessel Sector - Allocation of Harvester Shares to Processors - CV-3

In this alternative, eligible license holders and persons holding rockfish quota share initially allocated based on processing history must join a cooperative to participate in the Rockfish Program. Eligible license holders and quota share holders who choose not to join a cooperative are restricted from participating in that year's CGOA rockfish fisheries. Initial allocations of rockfish primary species under this alternative would be divided between eligible license holders (i.e., harvesters) and eligible processors, with processors receiving 10%, 20%, or 30% of the sector's pool.

Initial allocations to license holders under this alternative are administered in the same manner as under the harvester only cooperative alternative. To make processor allocations of quota share, NMFS must determine the pool of eligible processors and relative histories, based on qualifying histories. An option exists in this alternative to qualify processors that participated in the entry level fishery under the Pilot Program. These processors would receive allocations of harvest shares based on their processing histories during a special qualifying period. Similar to the harvester only cooperative alternative, cooperative agreements will be filed with NMFS every year. Annual allocations based on quota share initially allocated to processors would be subject to the same allocation and harvest rules governing catcher vessel allocations (including the requirement that all catch be made by vessels carrying LLP licenses that qualify for the program).

Otherwise, fishing activity, excessive share limits, and sideboards would be identical to the previous alternative. So except as described, implementation, monitoring and management of the rockfish fisheries under this alternative would be the same as under the previous alternative.

Catcher Vessel Sector - Severable Harvester/Processor Association (No Forfeiture) - CV-4 (preferred alternative)

Under this alternative, eligible license holders must join a cooperative. The license holder has full discretion in choosing a cooperative, both initially and annually thereafter, and may change cooperatives annually without forfeiture. Implementation, monitoring, and management of this alternative would be the same as under the other cooperative program alternatives, except that cooperative agreements would be required to identify the associated processor. The processor would need to have a federal processor permit and, if applicable, would need to comply with the Port of Kodiak landing requirement. For shore plants, the plant would need to be located in Kodiak to form the association. If a floating processor were to associate with a cooperative, that floater would need to be positioned in Kodiak to receive landings from the rockfish fisheries, if the Kodiak landing requirement is included.

Except for these distinctions, this alternative is the same as the harvester only cooperative alternative and the rockfish fisheries would be implemented and managed under identical terms.

2.4.4 The entry level fishery

Under the proposed action, there are three entry level fishery alternatives. The first is the no action alternative, under which management would revert to the LLP, which would allow any holder of an LLP license to enter a vessel in the rockfish fisheries. The second alternative is based on the current entry level management structure under the Pilot Program. Under this alternative, catcher vessel license holders that do not qualify for participation in the CGOA rockfish catcher vessel program, can participate in a derby fishery for 5% of the rockfish primary species TAC (approximately 700 metric tons at the current TACs). This entry level TAC is to be divided equally, with half available to trawl gear participants and half available to longline gear participants. The third entry level alternative would provide for only an entry level longline fishery, with a much smaller initial TAC, although with provisions that increase that TAC share, if the entry level fishery catches most or all of the apportioned TAC in the fishery.

No action – EL-1

Entry to the trawl rockfish fisheries under the no action alternative is limited by the LLP. Since a substantial number of LLP licenses endorsed for the CGOA fisheries are not currently active in the rockfish fisheries, several entities holding those licenses could enter the fisheries. The lack of entry into the fisheries prior to implementation of the Pilot Program is a result of overcapacity in the fisheries, which was demonstrated by the very short seasons during that period. Under the no action alternative, entry of a substantial number of additional vessels appears unlikely. In the long run, some persons may choose to enter the fisheries, but only if current participants depart, stock abundance improves, or market conditions improve significantly.

Entry to the non-trawl sector is also limited by the LLP. Vessels under 26 feet LOA, however, do not require an LLP license to fish in federal waters. In addition, vessels using jig gear will also be exempt from LLP requirements, once the Council's longline recency LLP action is fully implemented. So, fishermen wishing to use relatively small vessels or jig gear will not be limited by LLP requirements. If the no action alternative is selected, it is possible that some entry in the non-trawl sector would occur, as several persons participating in these small boat sectors have expressed an interest in the rockfish fisheries in the past. The sector has had relatively little historical participation and has had little success

targeting two of the available rockfish species, specifically, Pacific ocean perch and northern rockfish. Whether entry would occur in the longline sector under the LLP is not known.

Entry level trawl/longline fisheries – EL-2

Under Alternative 2, 5% of each of the rockfish primary species is set aside for the entry level fisheries (approximately 700 metric tons at the current TACs). This set-aside is divided between the trawl and longline sectors, such that each receives an equal allocation of the aggregated TACs of rockfish primary species available to the entry level fisheries. Because of operational differences, the trawl sector would receive its portion of the aggregate TACs first from the entry level TAC of Pacific ocean perch. If the entry level Pacific ocean perch TAC is less than the total allocation to the trawl sector, the sector receives proportional shares of the entry level northern rockfish and pelagic shelf rockfish TACs, such that aggregate entry level TAC is divided equally between the two gear types. For further discussion on the entry level allocation, see Section 2.4.1.

The entry level fishery is open exclusively to catcher vessel LLP license holders that are not eligible for the cooperative program, and would be prosecuted as a competitive limited access fishery. Vessels fishing the entry level longline allocation in federal waters must have an LLP license (if required for the vessel to operate in federal waters) and must have registered for the entry level fishery. Longline vessels that fish exclusively in parallel waters and do not have an LLP license or a federal fisheries permit do not need to register for the program. The Council included an option to require a VMS for longline vessels that participate in the entry level fishery. Regulations governing the VMS requirement specifically apply to a “federally permitted vessel.” Thus, if a vessel was not required to carry, or did not voluntarily carry a federal fisheries permit, the VMS requirement would not apply. Total acquisition and installation cost of a VMS were approximately \$2,068 in 2008, while transmission and maintenance costs were approximately \$187, annually, during the same time period (NMFS 2008). The Pacific State Marine Fisheries Commission will reimburse up to \$3,100 to cover the costs of purchase and freight, but not the costs associated with sales taxes, installation, annual operator expenses, or replacement to meet regulatory requirements in the Alaska Region. Although the exact number of longline vessels that could participate in the entry level fishery that already have VMS equipment install is unknown, NOAA Enforcement believes that a large percentage do not have a VMS.

The trawl fishery is scheduled to open on May 1. There are two options that address insufficient halibut PSC allowance amounts on the opening of the entry level trawl fishery. Under the first option, if halibut PSC are unavailable on the opening, the opening would be delayed until the next release of halibut PSC. Under the second option, if sufficient halibut PSC allowance is not available, the fishery would open with halibut PSC usage being deducted from the following quarter’s halibut PSC allowance. For further discussion on the entry level halibut PSC allowance, see Section 2.4.1.

In considering whether to maintain the entry level trawl fishery, the Council should also consider how that fishery compares to the main program. In the years of the Pilot Program, no more than three vessels applied for and participated in the entry level trawl fishery. If divided equally, the entry level TAC would provide these vessels with in excess of 100 metric tons of fish each. This allocation would exceed the allocation of over one-third of the catcher vessel licenses qualified for the main program. While the allocation is uncertain (since entry to this fishery is only limited by the LLP), providing greater allocations to persons that do not qualify for the main program, than those that do qualify seems counterintuitive.

Fishing practices in the entry level trawl fishery are likely to resemble those under the existing entry level trawl fishery in the Pilot Program. In the current entry level trawl fishery, NMFS is challenged to

maintain catches in below the allocation. To date, those catches have generally been maintained below the TACs by gentlemen's agreements among participants to limit catches, effectively dividing the entry level TACs among the participants. In the absence of such an agreement, it is possible that the entry level trawl fishery may be limited to very brief openings (potentially less than 24 hours) or may not open. Whether such a fishery can be managed by NMFS in the absence of industry cooperation is questionable and would depend on the number of vessels that register for the fishery.

Historically, non-trawl vessels have very minimal participation in the CGOA target rockfish fisheries. Although the fisheries have opened to non-trawl participants on January 1 and not opened to trawl gear until early July, non-trawl harvests never exceeded 1% of the TAC for any of the target species during the qualifying years. Since implementation of the Pilot Program, the longline sector has shown little interest in the rockfish fisheries. In the first 2 years of the program, a single vessel registered for the entry level longline fishery. To simplify management of the entry level longline allocation, all longline harvests of rockfish primary species from federal and parallel waters, when the directed fishery is open, are counted against the entry level allocation of that gear type. Given the relatively small harvest of rockfish primary species by the longline vessels, this accounting has not affected the ability of sector members to participate in the fishery. Despite the minimal historical participation, some non-trawl fishermen continue to express an interest in prosecuting the entry level fishery. Most have said that they will participate primarily in the summer months when the weather is the best, allowing the fleet to more safely target these offshore rockfish. The potential success of these efforts cannot be predicted. If some participants are successful in the fishery, additional entry can be expected.

Since historical harvest suggests that the longline sector may be unable to fully harvest its allocation, entry level trawl participants are permitted to harvest any residual longline allocation after September 1. This is accomplished by allowing both sectors to fish off the combined remaining TACs, beginning on September 1.

The Council's motion also includes an option that would require all landings from the entry level longline fishery to be made to a shore-based processor in the Kodiak Island Borough.

8 Allocation from sector to vessel

Option: Entry-level longline landings must be landed at a shore-based processing facility in the Kodiak Island Borough.

The borough landing requirement would be intended to ensure that Kodiak borough processors receive the benefits of all landings from the entry level fishery. This provision is likely premised on the historical distribution of landings in the CGOA trawl rockfish fishery, which has historically made almost all landings to processors in the City of Kodiak. Although the intention of the provision might be to build on that geographic association, it is possible that the limitation of this provision could be problematic for persons trying to develop the longline fishery. The longline sector is typically relatively small vessels and the CGOA extends to areas that are distant from Kodiak and close to other ports, such as Homer and Seward. A Kodiak Borough landing requirement might discourage persons from those areas from attempting to develop the entry level fishery, as compliance with the landing requirement might pose too great an expense and expose these participants to unacceptable risks. If the Council wishes to pursue this landing requirement, it should articulate its purpose and tailor the requirement carefully to that purpose to limit the potential for unintentional consequences.

Longline only fishery – EL-3 (preferred alternative)

Under Alternative 3, only the longline sector would receive an entry level allocation of the rockfish primary species. The starting entry level set-aside under this alternative would be between 1 metric ton and 10 metric tons of Pacific ocean perch, between 1 metric ton and 10 metric tons of northern rockfish, and between 10 metric tons and 30 metric tons of pelagic shelf rockfish. Increases in the subsequent year's allocation would be made (up to a specified cap) each time an allocation is more than 90% harvested. For further discussion of the allocation, see Section 2.4.1. Overall, the use of a relatively small starting longline allocation (more in line with historical catches) and a mechanism for increasing the allocations with growth in the sector could help prevent unharvested portions of the TAC, which would occur, if the allocation to the longline sector was disproportionate to their catches. Prosecution of the entry level fishery under this alternative will be supported by the general allowance of halibut PSC to longline gear. Catch of all other species would be governed by existing rules to control bycatch (i.e., MRAs, and bycatch-only status groundfish management).

Unlike Alternative 2, participants in this longline only entry level fishery would not need to register for the fishery. This may improve entry into these fisheries by removing an application deadline that would prevent a vessel from opportunistically deciding to enter the fishery mid-season. However, if the Council requires VMS on longline participants, it is likely that NMFS would require these longline participants to register for the entry level fishery in order to enforce the VMS requirement (see previous alternative for discussion on VMS costs).

Any vessel or gear type exempt from CGOA LLP requirements or any holder of a CGOA longline LLP license may enter a vessel in the fishery. The entry level fishery would be prosecuted as a competitive limited access fishery opening on January 1 each year. Although the limited access fishery will be managed similarly to other competitive fisheries in the GOA, a race for fish that dissipates rents is not likely, unless the sector greatly improves its catching power of (and markets for) these species.

2.4.5 Effects on harvest participation and fishing practices

Patterns and levels of harvester participation and fishing practices in the CGOA rockfish fisheries are likely to vary under the different alternatives. Under the no action alternative participation and fishing practices are likely to be similar to those observed prior to implementation of the Pilot Program in 2007. Under the cooperative program alternatives, participation and fishing practices will more closely resemble practices under the Pilot Program. Yet, differences in management under the alternatives considered here and the Pilot Program management may be expected to result in some notable differences in participation and fishing practices.

No Action Alternative

Under the no action alternative, the CGOA rockfish fisheries would revert to LLP management. Table 2-2 shows the number of LLP licenses with CGOA endorsements by vessel and gear type. Table 2-3 shows historical participation from 1996 through 2006 by sector. Reverting back to LLP management is likely to result in the fishing practices and patterns similar to those prior to the Pilot Program. In that fishery, the non-trawl fishermen took very little of the TAC between the opening on the non-trawl fishing in January and the opening of the trawl fishery in July. Trawl fishermen raced for catch of rockfish when the trawl season opened in July. The quality of fish harvested (and resulting fish products) may suffer from a return to the race for fish. Rockfish secondary species (i.e., Pacific cod, sablefish, thornyhead rockfish, shortraker rockfish, and roughey rockfish) are likely to continue to be harvested (i.e., targeted) on separate tows from the directed rockfish species and will contribute to revenues of vessels in the rockfish fisheries.

Given that the number of endorsed LLP licenses substantially exceeds the number of vessels historically participating in the rockfish fisheries, substantial growth in participation would be permitted under the no action alternative. Whether new entry would occur depends largely on whether potential entrants perceive a gain from entry. With the LLP management, the seasons are short. With a shortened season, most LLP holders are unlikely to perceive substantial gain from entering the rockfish fisheries. As a result, modest (if any) increase in participation should be expected if the rockfish fisheries revert to LLP management. In addition, any entrants would have to forego opportunities in other fisheries and would need to compete for landings with current participants. Currently, the opening of the rex sole and deep-water flatfish fisheries in the GOA and the WGOA rockfish fisheries coincide with the opening of the CGOA rockfish fisheries. These simultaneous openings distribute effort across fisheries and areas and are likely to help curtail entry by fisherman eligible for the CGOA rockfish fisheries that perceive these other opportunities.

Entry by non-trawl participants depends on whether participants in that sector are able to realize significant returns for harvests. Potential for success of non-trawl entrants is not apparent, given the historical participation of these vessels. Whether future non-trawl participants will be able to succeed in the rockfish fisheries cannot be determined. Growth is most likely to occur in the pelagic shelf rockfish fishery, the only fishery in which non-trawl participants have shown any consistency in participation.

Catcher processor alternative 2 – cooperative only - CP-2 (preferred alternative)

Under this alternative, eligible catcher processors could either join a cooperative or not participate in the CGOA rockfish fisheries. Historical harvests of CGOA rockfish are used to make allocations, so distribution of CGOA rockfish allocations, both to and within the catcher processor sector, will be similar to the historical distribution of harvest, during the qualifying years. The number of persons receiving allocations is approximately twice the average annual participation in the fisheries, showing that some participants have moved in and out of the fisheries over time.

Within each cooperative, it may be anticipated that each member would receive revenues based on the allocation that the person brings to the cooperative, with participants that fish shares of others receiving compensation for their fishing expenses and a share of the ex-vessel value of the associated catch. Fishing within a cooperative, however, could be far more concentrated than the underlying allocations. The most likely scenario that would lead to consolidation of rockfish fishing on fewer vessels than receive allocations arises out of the choices of persons that receive small rockfish allocations under the program.⁶² Persons eligible for the program that receive relatively small allocations could choose to join a cooperative, only to allow other members of the cooperative to fish their allocations. These eligible catcher processors would save on costs associated with gearing up for the rockfish fisheries and, depending on the arrangement in the cooperative, may have the opportunity to increase activities in other fisheries under intra-cooperative arrangements of sideboard harvests.⁶³ A second possibility is that persons eligible for the sector, but with small allocations, could choose to opt out of the program for the year, forgoing the opportunity to fish CGOA rockfish. Allocations to these vessels would be redistributed among cooperatives in proportion to their members' qualifying histories. Eligible catcher processors that choose not to enter a cooperative would not be required to stand down in fisheries in which they have met a minimum participation threshold of 2 years out of the seven qualifying years. Whether some or all of these vessels would choose to remain out of cooperative cannot be predicted, and depends on their opportunity in other fisheries. In the first year of the program, six licenses elected to opt out of the program, while in 2008 and 2009, three licenses chose to opt out.

⁶² Under all of the qualifying year options, some eligible catcher processors would receive target rockfish allocations of less than 50 metric tons (based on the 2009 TACs).

⁶³ These cooperative participants could be limited in other fisheries in July by sector sideboards and stand-downs.

In addition to the consolidation of relatively small rockfish allocations (through either opting out or joining a cooperative), other members of the sector could decide to consolidate their rockfish allocations to realize efficiencies in the rockfish fisheries and other fisheries. Cooperatives that maintain an adequate monitoring plan during all fishing for CGOA rockfish sideboard fisheries would be permitted to harvest their allocation over the longer season, freeing its members to enter other fisheries in the beginning of July (without a stand-down). This ability to enter other fisheries should lead to cooperatives harvesting their allocations either earlier or later than the traditional July opening, to free their members to compete in other fisheries that open early in July. The cooperative, however, would only be permitted to harvest its historical share from those other fisheries, limiting any potential impact on others. Because of this flexibility, rockfish catcher processors cooperative participants should be expected to fully harvest their historical shares (sideboard amount) from these other fisheries, provided that cooperatives are able to develop sideboard monitoring plans that are satisfactory to NMFS.

Under this alternative, catcher processor cooperatives would either fish their annual allocations or transfer them to other catcher processor cooperatives or to catcher vessel cooperatives. Catcher processor cooperatives would not be permitted to receive catcher vessel annual allocations. In each of the first 3 years of the Pilot Program, two catcher processor cooperatives formed. One did not fish actively, instead transferring most of its allocation to shore-based cooperatives, as the primary owner in the cooperative has shore-based affiliates. Allocations of shortraker rockfish were transferred within the sector to other catcher processor cooperative in 2 of 3 years of the program. As seen in the Pilot Program, transfers to the catcher vessel sector are most likely to occur between catcher processors that have affiliations with the shore-based sector. The potential for transfers to catcher vessels might increase, if participants in the shore-based sector are able to develop markets for higher quality or more highly processed products that cannot be served by the offshore fleet that produces mostly frozen headed and gutted and whole products. To date, these markets have not developed. In the fourth year of the program (under which fishing began in May of 2010), three catcher processor cooperatives formed. This third cooperative's members are vessels that previously participated in the limited access fishery.

Although cooperatives that manage their own sideboards may choose to harvest their allocations outside of the traditional early July season, the exact timing of their CGOA rockfish fishing will likely depend on the operational needs of cooperative members and their fishing success. Low catch rates of rockfish or high rates of incidental catch of rockfish secondary species or halibut PSC could also lead a cooperative to change its timing of rockfish targeting. During the first 3 years of the Pilot Program, a slight shift in the temporal distribution of catcher processor rockfish catches by cooperatives did occur; however, the shifts generally occurred within the summer months. Some longtime participants in the rockfish fisheries suggest that rockfish aggregations are at their greatest in the summer months. If participants observe relatively high aggregations (and catch rates) in the summer months, it is likely that their harvests will be concentrated in the summer regardless of the extended season.

The allocations of rockfish secondary species are based on total harvests made in the fisheries during the qualifying years. Since the allocation is the portion of the total catch made by the catcher processor sector in the rockfish fisheries, the allocation is intended to credit harvesting at its historical rate. Rockfish secondary species are required to be retained, with all harvests counting against the allocation of the cooperative. The allocation of each rockfish secondary species to a cooperative will operate as a hard cap on the total harvests by the cooperative, so a cooperative that has fully harvested any one of its secondary species allocations would be prohibited from any additional harvest of CGOA rockfish or related allocations under the program.

Although the rockfish secondary species allocations to the catcher processor sector are not expected to be constraining, in some instances they could limit rockfish harvests.⁶⁴ If participants with relatively small rockfish allocation were to have tows with incidental catch of rockfish secondary species in the highest percentiles, it is possible that the harvest of secondary species could prevent their harvest of rockfish primary species. In addition, since the incidental catch allocations are based on fleet averages, relative to rockfish primary species, it is possible that some participants may either have high incidental catch rates in general, or a different distribution of incidental catch than the fleet average. These participants could be constrained by the secondary allocations, if they are unable to reduce incidental catch rates of rockfish secondary species. Also, if participants attempt to extend fishing over a longer season, it is possible that unexpected higher incidental catch rates of rockfish secondary species could constrain their rockfish harvests. If high incidental catch in other parts of the year is perceived as limiting, it is likely that participants would choose to concentrate their fishing under the program closer to the traditional season. Cooperatives should prove useful for addressing any constraints arising from the secondary species allocations. Distribution of secondary species allocations among cooperative members should allow members to fully harvest their allocations of rockfish primary species. These redistributions of secondary species allocations, however, are likely to cost the participants that are constrained by those allocations. Since rockfish secondary species historically bring higher revenues per pound than the rockfish primary species, it is likely that the revenues generated by the harvest of secondary species allocations will accrue to the person that holds the license with the history leading to the allocation. On the whole, the allocations of rockfish secondary species should not constrain harvests of rockfish primary species, unless the rates of incidental catch of secondary species in the rockfish fisheries change substantially.

Catcher processor alternative 3 – cooperative or limited access -CP-3

Under this alternative, eligible catcher processors may choose to participate in the rockfish fisheries through either a cooperative or a limited access fishery. This limited access opportunity is the only difference between this alternative and the previous alternative. The analysis of this alternative therefore only describes these differences, with other aspects being as described for the previous alternative.

As under the previous alternative, cooperative members may fish outside of the traditional season, which may allow them to achieve efficiencies within the rockfish fisheries, as well as ensure that they have an opportunity to participate in other fisheries that open early in July (to the extent permitted by sideboard provisions). Holders of small allocations are likely to consolidate their allocations with others to achieve harvest efficiencies or choose to opt out of the fisheries, allowing their allocations to be redistributed among cooperatives. As noted in the cooperative only alternative, cooperative members will have some incentive to reach agreement with these recipients of small allocations, since these allocations would be inaccessible to cooperatives, once allocated to a limited access fishery. Alternatively, vessels with small allocations could choose to fish the limited access fishery, simply to attempt to take a share of the catch greater than their individual historical allocation.

It is also possible that several vessels may register for the limited access fishery, with only a few vessels participating, as has happened under the Pilot Program. Participants in this arrangement have coordinated catch to the benefit of their Bering Sea cooperative associates. As a result of these arrangements, the limited access fishery has functioned more like a cooperative than a limited access fishery. Differences in sideboards applied to the limited access fishery, the management of shortraker rockfish, and the halibut PSC mortality allowance available to the limited access may affect decisions of whether to enter the limited access.

⁶⁴ A detailed discussion of potential for shortraker rockfish allocations to constrain rockfish primary species harvests is contained in 2.4.1.

Catcher vessel alternative 2 – harvester only cooperative- CV-2

Under this alternative, historical catcher vessel participants in the rockfish fisheries would be permitted to form cooperatives that would receive allocations based on catch histories of their members. Since harvests of rockfish primary species are used to make allocations, the distribution of allocations both to and within the catcher vessel sector are similar to the historical distribution of harvests during the qualifying years. Annual participation records show that between 19 and 33 catcher vessels participated in the fisheries each of the qualifying years. The number of licenses receiving allocations is estimated to range between 44 and 53, showing that some vessels entered and exited the rockfish fisheries during the qualifying years.⁶⁵

Since cooperative formation requirements are relatively minimal (no minimum number of qualified participants) and allocations can only be accessed through cooperative membership, it is likely that most persons eligible for the catcher vessel sector will join a cooperative. Cooperatives are likely to distribute revenues based on the allocation that the person brings to the cooperative, with vessels fishing the allocations of others compensated for their costs or collecting net revenues after paying a lease fee.

Under an extended season, cooperative fishing is likely to take place outside of the traditional early July season, as has happened under the Pilot Program (see Section 2.3.2). This change in timing has avoided conflicts with other fisheries that has delayed offloads and decreased catch quality under license limitation, limited access management. As with the catcher processor cooperatives, timing of fishing CGOA rockfish allocations will depend on the particular operational needs of members, market opportunities, and fishing success. Fishing outside the traditional July season could also provide an opportunity for some participants to try to serve new markets (including a possible fresh market), but efforts to serve those markets have not succeeded, to date, under the Pilot Program. To the extent permitted by the option selected by the Council, catcher vessels will likely use targeted trips to catch allocated rockfish secondary species (particularly sablefish and Pacific cod, which are more prone to damage, if stored with rockfish).

Under this alternative, the catch of cooperatives is not only limited by primary and secondary species allocations, but also by allowances of halibut PSC. Although each cooperative will receive an allowance of halibut PSC and, therefore, it is possible that halibut PSC could close the rockfish fisheries for a cooperative, the sector would likely continue to utilize halibut PSC in a manner similar to the Pilot Program. These practices have resulted in substantial reductions in halibut mortality by vessels participating in the rockfish fisheries. These reductions are motivated by the economic constraint of the halibut allowance, along with a provision that adds any unused portion of the halibut allowance to the last season trawl halibut PSC apportionment. Options that reduce the allowance of halibut PSC or that greatly reduce the potential to rollover unutilized halibut PSC allowances could reduce the incentive to avoid halibut PSC (as the rollover value could be rather small).

Under this alternative, fishermen will have the flexibility to make deliveries to any processor. This flexibility should ensure that an agreement can be reached that accommodates delivery preferences of the harvester. It is possible that a harvester might make concessions to a processor in choosing delivery dates, but these concessions are likely to be compensated. Cooperatives will have the flexibility of delivering to multiple processors, allowing the opportunity to choose fishing timing. Despite this flexibility, it is likely that established relationships will have an important influence on harvester delivery choices and cooperative membership (at least at the outset of the program). Relationships that extend to

⁶⁵ The number of qualifying catcher vessel participants includes qualified participants from the Pilot Program's entry level fishery.

other fisheries are likely to be most enduring. Over time, changes in delivery patterns may change as harvesters perceive better opportunities with other processors.

In addition, with no direct protection of historical processing under this alternative, it is possible that processors may attempt to vertically integrate to ensure a supply of fish. Processor owned or influenced licenses may not be permitted to participate in delivery negotiations that involve other cooperative members, because of antitrust rules. Yet, processors could gain some influence in the rockfish fisheries and stability in landings from developing share holdings. Processors will be limited in the extent of ownership they can have in the fleet by excessive share caps. Yet, it is possible that a processor could hold minority interests in several licenses and still comply with those caps.

The Council motion contains a provision that establishes a port delivery requirement for allocations of the primary and secondary species to the catcher vessel sector. This provision would require that the delivery of all shares be made in the City of Kodiak, to protect that community from changes in the location of shore-based processing activities that could occur in the Rockfish Program.

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- 8 Allocation from sector to vessel
 Regionalization – Apply to catcher vessel sector only:
 All CV cooperative quota must be landed in the City of Kodiak at a shore-based processing facility.
-

Historically, Kodiak has been the base for operations in the shore-based sector of the CGOA rockfish fisheries. Almost all processing in the rockfish fisheries took place in Kodiak leading up to the implementation of the Pilot Program. The Pilot Program structure also, indirectly, requires that all deliveries under the program to be made to Kodiak shore plants, by requiring that all deliveries be made to qualified processors, all of which are based in Kodiak. As a result, the geographic distribution of processing under the program cannot indicate the potential for the redistribution of landings in the absence of a Kodiak landing requirement.

This provision would ensure that Kodiak remains the processing base for the rockfish fisheries and that Kodiak processors and the community continue to benefit from the fisheries. As with other constraints on landings, port delivery requirements can reduce market and processing innovations that might be developed without the constraint. Although there are no indications that a portion of deliveries from the fisheries would be relocated in the absence of a Kodiak landing requirement, it is possible that some portion of the landings could be redirected to other locations. While the cooperative structure of the program may delay movements of landings by establishing collective harvester associations that may reinforce ties with existing processors, that same collective activity also could facilitate the movement of landings to other locations should landing markets be available elsewhere. Development of processing capacity could come from a variety of sources in various locations. It is possible that a shore-based plant in another CGOA location could attempt to attract deliveries in an attempt to better serve fresh markets. It is also possible that a floating processor (or catcher processor) could attract deliveries by locating closer to the grounds. These landings might occur outside of any community, resulting in a general loss of shore-based effects. With the extended season in the rockfish fisheries, the opportunity to introduce new processing capacity should increase, as deliveries can be timed to avoid conflicts with activity in other fisheries. These opportunities could pose a challenge to Kodiak based processors that wish to maintain their current dominance in the processing market in the rockfish fisheries.

Options could be adopted to limit the amount of rockfish primary species and sablefish that could be processed by any processor (with an option to grandfather any processor that historically processed in excess of the cap). In Kodiak, where the rockfish fisheries have historically been based several processors have the capacity to process a substantial portion of the fisheries. In conjunction with the port landing requirement, a low cap could prevent harvest of the total allocation in the rockfish fisheries, if processors drop out of the fisheries or scale back their purchases.

Catcher vessel alternative 3 - cooperatives with allocation of harvest shares to processors - CV-3

Under this alternative, eligible processors would receive allocations of harvest shares from the catcher vessel harvest share pool. Allocations of rockfish primary species would be divided between eligible harvesters and eligible processors, with eligible processors receiving 10%, 20%, or 30% of the sector's pool of all allocated species, based on processing in the fisheries during the qualifying period.

In general, catches under this alternative will be coordinated to receive the greatest value from those landings, in a manner similar to the preceding alternative. Rockfish secondary species and halibut PSC allowances will affect harvest behavior, as vessels work to avoid those constraints. Valuable secondary species will be harvested to ensure that the rockfish fisheries bring the greatest value to participants.

Fishing will be distributed throughout the extended season, with several factors possibly affecting a cooperative's choice of when to fish its allocation. As under the previous alternative, processors may use prices to induce harvesters to time deliveries to their benefit. Processors may also allow harvesters to catch their annual allocations to influence a harvester's delivery timing and choices.

As under the previous alternative, processors would have an interest in vertically integrating through both shares received in the initial allocation based on processing histories and LLP licenses owned or acquired. To the extent permitted by excessive share caps and antitrust laws, these shares can then be used to influence landing patterns and provide stability to their processing activities in the rockfish fisheries.

The Kodiak landing requirement should have a notable effect on the rockfish fisheries by prohibiting landings with processors outside of the community. If permitted, allowing the transfer of processor allocations to independent harvesters may have an effect on the distribution of landings over time. Since only Kodiak based processors qualify for the program, any delivery relationships that are based on exchanges of those processor allocations will be lost as the shares are transferred on to independent harvesters. Caps on processing would have the same effect to that described under the preceding alternative. Processors in the rockfish fisheries are likely to attempt to overcome this change by acquiring licenses qualified for the program, to the extent permitted by excessive share caps.

Catcher vessel alternative 4 - cooperative with severable processor association (no forfeiture) - CV-4 (preferred alternative)

Catcher vessel participation and fishing patterns under this alternative are likely to be very similar to those described under the harvester only cooperative alternative; however, the requirement that a cooperative annually associate with a processor could have some effect on timing of fishing and the location of deliveries.

Harvesters will have full discretion to choose a cooperative initially, and may freely move among cooperatives, annually, thereafter. In addition, cooperatives are free to associate with any processor in any year, without forfeiture or penalty. The terms of the cooperative agreement, and consequently the

cooperative/processor association, are subject to negotiation between the cooperative members and the processor. Given the flexibility of the harvesters to move among cooperatives and cooperatives to change associations, it is likely that any limitation established under the terms of an association (such as delivery requirements or terms) will be jointly agreed to and harvesters will receive compensation for any concessions.⁶⁶ At the outset, long term relationships and relationships in other fisheries are likely to be important factors that affect cooperative and processor association choices.

While some cooperatives may use the processor association to establish delivery relationships, it is possible that some cooperatives may minimally comply with the requirement, by establishing a relationship on paper, but maintaining no operating relationship.⁶⁷ With a relatively large pool of processors to establish an association with, a cooperative could be relatively well-positioned to comply with the association requirement, with no associated delivery relationship. In this case, the cooperative would be free to deliver to any processor and negotiate delivery arrangements independent of the processor association requirement.⁶⁸ As under the other catcher vessel alternatives, processors may choose to vertically integrate in an attempt to stabilize landings and ensure access to a portion of the rockfish fisheries.

Overall, harvesters' fishing practices under this alternative are likely to be very similar to those described under the harvester-only cooperative above.

2.4.6 Effects on participation in the processing sectors

This section compares the impacts of the different alternatives on participation in the processing sector and processing practices.

No action alternative

Processing participation and practices are likely to be similar to those seen under LLP management prior to implementation of the Pilot Program in 2007. Catcher processors in the rockfish fisheries prior to the Pilot Program produced mostly whole and headed and gutted products. Catcher processors are likely to process catch as it is landed in the race for fish.

In the LLP managed fishery, shore-based processors raced to process landings in an attempt to maintain market share and to maintain a minimum quality for products. Quality, however, suffered because of the rapid rate of harvest and processing, which led to the production of relatively lower value and lower quality products. Rockfish secondary species catch, which tends to be of higher value, was often handled better than rockfish primary species catch by vessels. As a consequence, secondary species products were typically of higher quality.

⁶⁶ Under the Pilot Program, almost one-fifth of the deliveries of the rockfish primary species catch were made to a processor other than the cooperative's associated processor, despite the requirement that a harvester join a cooperative in association with the processor that it delivered the most pounds to in the qualifying period to fish in the share-based fishery. This distribution pattern suggests that shore-based processors allowed their associated cooperatives some latitude to make deliveries to other processors. Under this alternative (with a much weaker processor association), it is likely that deliveries of rockfish primary species catch will continue to be divided between associated processors and other processors.

⁶⁷ The requirement that the processor have a federal processing permit and catch monitoring and control plan will have a minimal effect, as many plants (including many in Kodiak maintain those permits and plans).

⁶⁸ The Kodiak landing requirement is interpreted as restricting the pool of processors that a cooperative may associate with to processors in Kodiak. Despite this restriction, that community is home to several processors. Consequently, a Kodiak landing requirement would likely have little effect on the ability of harvesters to avoid including delivery terms in a processor association.

Catcher processor alternative 2 – cooperative only - CP-2 (preferred alternative)

Processing by catcher processors, under the catcher processor sector allocation with cooperatives, is likely to remain the same as the current (Pilot Program) processing by this sector. Most vessels in the sector are equipped for producing a few simple products (e.g., frozen whole, headed and gutted fish). Because of size limitations, it is unlikely that any of these vessels will change plant configurations to process higher-valued, more processed products.

Although catcher processors product mix may not change under this alternative from that observed in the “no action” alternative, it is possible that some improvement in quality may be made by some participants. Generally, catcher processors produce a relatively high quality product, so the ability to make quality improvements may be limited.

Catcher processor alternative 3 – cooperative or limited access - CP-3

Processing by catcher processors under this alternative is likely to be the same as processing under the catcher processor cooperative only alternative (CV-2). If the limited access fishery were to develop a competitive, race for fish, it is possible that product quality from that segment of the fishery could suffer. To date, in the Pilot Program, no such race has developed.

Catcher vessel alternative 2 – harvester only cooperative - CV-2

Under this alternative, eligible catcher vessels may join cooperatives that annually receive exclusive allocations to harvest, during an extended season. This management structure should result in different processing practices than under the no action alternative.

Share allocations to cooperatives should provide cooperatives with the ability to improve quality of landings. These quality improvements should provide processors with the opportunity to produce higher quality and higher value products. The limited success of processors in achieving these improvements under the Pilot Program suggests that improvements may have limited success or take time to develop.

The structure of the market for landings would likely be competitive under this alternative, increasing the incentive for processors to aggressively pursue product improvements to attract additional landings. This competition should resolve delivery terms, including the timing of landings to accommodate processing schedules. This timing of landings could be critical to processors meeting some market demands, particularly, if a fresh market were to develop.

At the onset, some processors (particularly those with loyal fleets that have historically made deliveries from many different fisheries to the same processor) may choose to compete less in more challenging markets. Over time, these processors may lose landings, if those markets develop and are not pursued. Yet, it is possible that some harvesters that participate in diverse fisheries throughout the year could choose to remain with a processor offering lower rockfish prices, if lower revenues for rockfish were to be compensated for by other operational considerations provided by the processor (e.g., fuel, storage, pre-season loans).

This fishery cooperative structure and the competition for landings that it fosters may also increase the incentive for processors to vertically integrate. Processors may be able to use vertical integration to better coordinate landings and ensure that landings are timed to serve both markets and gaps in processing. The limit on excessive shares may constrain these efforts.

The Kodiak landing requirement may not have a noticeable effect on the number of processors in the rockfish fisheries. Several processors operate in that community, providing ample markets and competition for landings. In the absence of the landing limitation, a redistribution of landings to other locations could occur, particularly, if fresh product markets develop. The geographic landing restriction could limit the development of such a market.

The option to cap processing could have an effect on the rockfish fisheries. If the cap is set low, it is possible that it could prevent harvest of the total allocation in the fisheries. Higher cap levels, while allowing all landings, might constrain development of processing innovations. For example, if a processor develops markets and shares a portion of additional revenues with its affiliated fleet, the incentive for other fishing operations to follow those developments will be limited, if the innovative processor is limited by a cap on the amount of landings it can attract. This effect is unlikely to be persistent, as several other processors are available to compete for landings.

Catcher vessel alternative 3 - cooperatives with allocation of harvest shares to processors - CV-3

Processing practices under this alternative should be generally similar to those under the harvester only cooperative alternative. The extended season should result in slower rates of fishing and dispersed landings of improved quality over the no action alternative. These changes may allow for production of higher quality, more processed products from the rockfish fishery.

This alternative is distinguished from the previous alternative by the initial allocations of rockfish primary species to eligible processors (who would receive 10%, 20%, or 30% of the catcher vessel sector pool). While the allocation of shares to processors may affect the negotiating position of certain processors in the rockfish fisheries by endowing them with an allocation that can be used to compete for landings, those allocations are unlikely to have a dramatic effect on processing practices, as a large portion of the harvest share allocation will be available to independent harvesters in the rockfish fisheries.⁶⁹ It is possible that some processing differences could arise, depending on how processors use this additional negotiating leverage. Some endowed processors may be slow to develop new products and markets, relying on the negotiating leverage of their endowment to attract landings, particularly if this more intensive processing could interfere with their operations in other fisheries. This lag in product development is unlikely to be lasting, as processors will continue to need to compete for landings on a regular basis. In addition, processors will likely have an incentive to vertically integrate beyond these allocations, if needed to secure landings in the rockfish fisheries. Over time, this vertical integration would likely be very similar to levels of vertical integration seen under the previous alternative.

As under the preceding alternative, the effect of other provisions should also be considered. The Kodiak landing requirement is unlikely to have a noticeable effect on processing practices, with several processors operating in that community, but could slow the development of certain markets, most importantly fresh markets. And, the option to cap processing may reduce the incentive for processing and market development slightly, but any such effect should be minor and transitory.

⁶⁹ If these allocations are transferable to independent harvesters, it is possible that any effect of this endowment may dissipate over time, if independent harvesters come to hold the shares.

Catcher vessel alternative 4 - cooperative with severable processor association (no forfeiture) - CV-4 (preferred alternative)

The cooperative structure under this alternative should result in processing practices very similar to those of the previous two catcher vessel alternatives. Since each cooperative is required to associate with a processor, annually, it is possible (and anticipated by some) that a delivery arrangement may arise between the cooperative and processor. These types of arrangements could constrain some deliveries for the year, but will not persist unless they are advantageous to the cooperative members. As a result, processors can all be expected to pursue markets and product opportunities, to establish and maintain annual associations and attract deliveries. As under the preceding alternative, historical relationships will likely influence the formation of cooperative/processor associations, but these relationships are likely to be tested, if a processor fails to compete in product markets (or fails to match others' ex-vessel prices). In some cases, it is possible that no limitation on landings will be contained in the agreement establishing a cooperative/processor association, since those associations can be established with any processor and changed annually. If processors were to lag in product and market development, it is likely that harvesters would not only not agree to delivery constraints in the agreement, but would choose to move to a more progressive processor at the season's end.

Processors will have an incentive to vertically integrate, if needed to secure a stable supply of landings in the rockfish fisheries. The extent of that vertical integration will be limited by excessive share caps. The effects of the provision requiring all deliveries to be made to Kodiak and to limit the amount of the rockfish fisheries that may be processed by a single processor are likely to be the same under this alternative, as under the previous two alternatives.

2.4.7 Effects on production efficiency

To establish a framework for the analysis of production efficiency, 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.⁷⁰ 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, *ceteris paribus*. "Allocative efficiency" considers both the markets for inputs and outputs and choices of inputs and outputs and is a measure of the economic benefits of choosing different mixes or combinations of inputs and outputs in production. Allocative

⁷⁰ 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 latter two measures are "allocative efficiency" and require consideration of both the markets for inputs and outputs and choices of inputs and outputs.

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 gross revenues generated by outputs and the producer’s gross costs of inputs.

Since the output of the rockfish fisheries is fish products (e.g., headed and gutted fish, fillets), an analysis of overall efficiency would assess the efficiency of both the harvest of fish and the processing of that fish into saleable product forms. The Council’s problem statement, however, recognizes that production in the fisheries is generally separated into two industry segments—harvesting and processing—and expresses its intent that the rationalization program contribute to the economic stability of both of those segments. To facilitate an understanding of the implications of the alternatives on these two segments, this analysis separately assesses the implications of the different alternatives on the efficiency of harvesting and the efficiency of processing.

To develop an understanding of production efficiencies under the alternatives, it is helpful to develop a framework for assessing returns to producers in the fisheries and the sources of those returns. Three different sources contribute to returns to producers in the fisheries: resource rents, harvester normal profits, and processor normal profits. First, fish that will be harvested and processed have a scarcity value while unharvested in the water that is realized by harvesting and processing. This value can be said to exist independent of the action of harvesters and processors. Once the fish is harvested and processed, this value is captured by the industry. The value referred to here is resource rent, or the value of fish in its natural state that is realized only by the harvesting and processing of the fish. In the case of catcher processors, this value is captured entirely by the catcher processor. For the shore-based sector, the ex-vessel price determines the division of resource rents between the catcher vessels and the shore-based processors. This value, however, is only one part of the returns realized through the harvesting and processing of fish.

In addition to resource rents, each sector is generally expected to receive its normal profits (or a reasonable return on investment in the industry). The normal returns on harvesting investments and normal returns on processing investments are the other two sources of returns in the fisheries. As in any business, harvesters and processors invest capital and labor on the reasonable expectation of receiving a return on that investment.

When assessing the efficiencies in this section, one must keep in mind the relationship between resource rents and efficiencies. In a more efficient fishery, a greater portion of the rents of the resource will be captured by the fishery participants, *ceteris paribus*. For example, ending a race for fish may allow for greater attention to product quality in processing, increasing returns from the fishery. This capture of additional rents could result in relative improvements in both the catcher vessel and the shore-based processing sectors, if the efficiency gain is shared between the sectors. The discussion of efficiencies is largely an analysis of the capture and distribution of the resource rents between the two sectors. The reader should bear in mind that in a fishery in which the division of revenues moves to the detriment of one sector, that sector does not necessarily suffer a decline in efficiency (and hence may not be made worse off), if substantial efficiencies are realized (or in other words, substantial additional rents are captured). If total revenues in the fishery rise substantially, even a negative shift in the division of revenues could leave a party more efficient and better off.

As should be apparent from this discussion, a critical factor in the assessment of the effects of the alternatives on efficiency of the catcher vessels and shore-based processors is the ex-vessel price of

rockfish, which determines the distribution of product revenues between those two sectors. Rockfish landings generate revenues for harvesters and are a principal input cost to processors. Because of the importance of ex-vessel prices in determining the efficiencies of the different shore-side sectors, the analysis in this section devotes considerable attention to the effects of the different alternatives on the distribution of revenues between these sectors (reflected in those ex-vessel prices).

Since all of the participants in the rockfish fisheries also participate in other fisheries, most of the alternatives will also affect efficiency in other fisheries. To fully understand the efficiency effects of the alternatives, the effects on rockfish participants' activities in other fisheries are also considered.⁷¹

For each segment of the industry discussed below, it is possible that efficiencies could differ. Specifically, participants with small allocations could be affected differently from those receiving large allocations. To the extent that these differences can be assessed, the analysis of each alternative concludes with a discussion of the differential impacts of the alternatives within the sector.

Catcher processor alternative 1 - no action alternative – CP-1

Production efficiency of the catcher processor sector under the no action alternative is limited to some degree by the race for fish under an LLP managed fishery. Catcher processors would be compelled to race for rockfish harvests with other catcher processors, as well as catcher vessels participating in the fisheries during the few weeks the fisheries were open each year, under this alternative. Although catcher processors process their catch quickly relative to catcher vessels, the quality of harvests may suffer to some extent as participants maximized their catch rates, necessitating equivalent rates of through-put from their processing facilities. Diminishing quality dissipates a portion of the resource rents that would otherwise be available. Particularly on vessels with smaller processing plants, fishermen may 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 catcher processor fleet are only equipped to produce whole and headed and gutted frozen products.

Catcher processor alternative 2 – cooperative only - CP-2 (preferred alternative)

Under this alternative, the catcher processor sector is likely to realize some gains in production efficiency, capturing greater rents from the rockfish fisheries. The primary efficiency gains in the catcher processor sector under this alternative will result from improvements in technical efficiency. Allocative efficiency gains are unlikely to occur, since vessels participating in this sector are equipped to produce only whole and headed and gutted products, and are unlikely to reconfigure for 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 may be able to reduce expenditures on inputs to some degree (possible scaling down crew size slightly) and increasing outputs slightly (with less loss due to diminished quality). Additional technical efficiencies could arise because of the cooperative structure of the alternative. In a cooperative, participants will be free to consolidate fishing up to the 60% harvest cap. Consolidating catch on fewer vessels in the rockfish fisheries should also reduce aggregate harvest costs.

⁷¹ Some analysts might consider these effects on other fisheries to be “cumulative effects,” because they concern the interaction of the alternatives with the management programs in other fisheries. Since the interactions influence not only the efficiencies realized in those other fisheries, but also the efficiencies realized in the rockfish fisheries, a thorough analysis of the effects of the alternatives on the rockfish fisheries requires these “spill-over” considerations. In addition, since these interactive effects do affect the overall efficiency arising from the rockfish alternatives, a comprehensive net benefits analysis must include those effects.

Some cooperatives may also improve efficiency in other July fisheries, if they are able to reduce the number of vessels in the rockfish fisheries or change the timing of rockfish harvests (away from the traditional early July fishery). This interactive effect should arise one or two ways. Since each cooperative will be limited to the aggregate historical catch of its members in other July fisheries, the outputs of each cooperative will be limited. A cooperative could enter more vessels into non-rockfish fisheries (since fewer vessels will be occupied with rockfish targeting in early July). Each vessel may slow its rate of harvesting and processing slightly to gain technical efficiencies without reducing its total harvest from historical levels. Alternatively, a cooperative could choose to use fewer vessels to make its historical harvests in these other fisheries, since vessels would be able to begin fishing at the opening of the non-CGOA rockfish seasons, instead of needing to race for fish in CGOA rockfish fisheries prior to entering these other fisheries. A cooperative whose members have diverse histories in several different July fisheries may be less able to achieve these efficiencies in other fisheries, since the cooperative may need to enter vessels in several fisheries simultaneously to maintain its historical shares.

Participants in this sector will also have the option of transferring their annual allocations to the shore-based sector. Some historical participants could elect to transfer their allocations for harvest by a catcher vessel cooperative, if they perceive an added benefit from fishing of the allocation by that sector. Participants with affiliations with shore-based processors or holding relatively small allocations who cannot achieve efficiencies internally harvesting and processing those allocations (and are unable to reach satisfactory agreements with other participants in the catcher processor sector) may find that transferring their small allocations to the shore-based sector could yield a better return. Whether better returns can be realized in the shore-based fishery cannot be predicted and depends on both the difference in harvesting and processing costs between the shore-based and offshore sectors and the differences in product outputs, price, and quality. As noted in the discussion of shore-based processing below, the shore-based sector may produce value-added processed products, such as fillets, that cannot be processed onboard the catcher processors that participate in the rockfish fisheries. Whether these different products lead to greater production efficiencies, however, depends greatly on harvesting and processing costs, as well as market demand.

Although technical efficiencies should be realized by the catcher processor sector overall, some catcher processors eligible for the program may realize efficiencies that are substantially less than those realized by others. Eligible catcher processors that receive small rockfish allocations may have little to gain from coordinating the harvest of relatively small rockfish allocations, particularly since sideboards would limit their harvest from other July fisheries. It is also possible that some members of the sector could be disadvantaged by participating in the Rockfish Program, because the loss of revenues from limits on their activities in other fisheries from the sideboards may exceed the benefits of the exclusive rockfish allocations. These participants are likely to opt out of the program, allowing their potential allocation to be redistributed among participants in the program, to remove the constraints of cooperative sideboards on their participation in other fisheries. A catcher processor that opts out of the program would only be permitted to participate in fisheries that it has participated in during the first week of July in at least 2 of the 7 qualifying years. This minimal limitation is unlikely to constrain any vessels that have limited rockfish history that are likely to opt out of the program.

Catcher processor alternative 3 – cooperative or limited access - CP-3

Efficiency gains under the catcher processor cooperative alternative should be similar to those realized under the other catcher processor alternative. Vessels that join a cooperative are likely to achieve similar benefits under this alternative, gaining either benefits that arise from consolidation within the sector or benefits arising from transfers to cooperatives in the shore-based sector. In addition to allowing a vessel to join a cooperative or opt out of the rockfish fisheries, this alternative allows eligible catcher processors

to participate in the rockfish limited access fishery. Vessels in the limited access may suffer some loss of efficiency, should a race for fish develop in that fishery.

As under the other catcher processor alternative, some catcher processors with minimal allocations may choose to opt out of the program to avoid the restrictions of the cooperative sideboards. Other vessels may elect to fish the limited access fishery. In each year of the Pilot Program, vessels have registered for the limited access with only a subset of the registered vessels choosing to fish. Vessels active in this fishery have asserted that their decision was driven by rockfish secondary species allocations (most importantly the allocation of shortraker rockfish) to cooperatives, which they believe could constrain their rockfish primary species harvests. While these assertions may be true, other vessels have joined the limited access fishery, electing not fish in that fishery, but allowing the allocation to be harvested by other vessels. To date, limited access participants have reached agreements to divide the TAC in that fishery. These agreements have allowed limited access participants to receive the benefits of exclusive allocations without using the program's cooperative structure. It is not known whether inactive vessels registered for the limited access have participated in these agreements. Whether vessels will continue to fish the limited access under agreements to divide the TAC in that fishery, if this alternative is adopted, is uncertain and may depend on a few factors, including whether vessels that wish to compete for landings enter the limited access and whether allocations or management of shortraker rockfish are modified. As long as vessels continue this practice, it is likely that limited access participants will be able to gain the efficiency benefits of exclusive allocations in the limited access fishery. If a race for fish develops in the limited access fishery, it is likely that some efficiency loss will occur, as vessels incur expenditures to maintain their share of that fishery. Alternatively, vessels may elect to join a cooperative to gain the benefits of exclusive allocations.

Overall, total catcher processor efficiencies under this alternative are likely to be similar to the efficiencies under the cooperative only alternative, with differences arising from the ability to participate in the limited access fishery. Efficiencies may be greater under this alternative, if the MRA management in the limited access fishery removes a harvest constraint that would have affected vessels fishing in a cooperative. Alternatively, periodic losses in efficiency could result under this alternative, if a race for fish develops in the limited access fishery.

Catcher vessel alternative 2 – no action alternative - CV-1

Production efficiency of the catcher vessel sector under the no action alternative is limited by the short race for fish that will result from a return to LLP management. Catcher vessel efficiency is particularly vulnerable under LLP management, because catcher vessel efforts that maximize the share of the TAC can also substantially diminish quality of landings. Increasing catch per tow and filling holds to capacity can damage rockfish that are difficult to handle, in comparison to other groundfish. Also, extending trip lengths to increase catch per trip also results in a decline in quality of rockfish, which typically lose color (an important attribute in some markets) after approximately 72 hours in a hold. The LLP management and the system of MRAs had led most catcher vessel participants to use fishing effort to maximize quantities of rockfish primary species and quality of incidental catch species (primarily Pacific cod and sablefish).

Processors also race to process the glut of landings from fishermen that are trying to maximize their shares of the total catch. Efficiency, both technical and allocative, in the processing sector suffers, as lower valued products of lesser quality are produced. Technical efficiency also is lost, as crews must be scaled up for a short period of time to accommodate the rapid pace of landings during the brief season.

The conditions in the LLP may also dampen competition for landings among the participating processors to some extent, as the inability of harvesters to maintain both quality of landings and their shares of the total catch may limit their ability to attract some smaller processors into the market that would only be capable of serving higher quality markets. The extent to which resource rents are captured, and the division of those rents under this alternative, is not known. In a fishery that is prosecuted over a very short season, a substantial portion of the rents are likely to be dissipated.

Landings from non-trawl participants are very small portion of the no action alternative fishery. These landings, however, bring fishermen and processors a premium price because of their relatively higher quality.⁷² The relatively unique high quality catch made over a long season, provides harvesters with some negotiating leverage. The small scale of the fishery, however, limits its importance to any processor (except possible some of the small processors) reducing fishermen's negotiating leverage to some degree.

Catcher vessel alternative 2 – harvester only cooperative - CV-2

The catcher vessel cooperative alternative is likely to improve catcher vessel sector efficiency over no action alternative management.⁷³ Since participants will be able to gain exclusive share allocations by joining cooperatives, a harvester's share of the catch will generally be unaffected by catch rates.⁷⁴ Participants, instead, will refocus their efforts toward harvesting allocations in a manner that improves technical efficiency—reducing inputs and increasing the quality of rockfish deliveries.⁷⁵ Participants may be expected to choose to sacrifice some cost efficiencies (e.g., use more inputs such as fuel), if improvements in quality of deliveries lead to a greater (fully compensating) price for landings. Under the Pilot Program management, to date, this trade off has failed to emerge for rockfish primary species. Yet, harvesters have targeted rockfish secondary species (particularly sablefish and Pacific cod) on separate trips to increase the quality of those landings. This trade off may increase costs, but only in return for higher revenues that result from improvements in technical efficiency and overall efficiency of catcher vessels because of the higher price that might be paid for these landings.

Some cooperatives may choose to remove vessels from the rockfish fisheries to reduce costs. Consolidation of catch on fewer vessels and fishing outside of the traditional July season could also allow

⁷² The specific processed products data from the CGOA rockfish non-trawl fishery cannot be separated from processed products data from other fisheries. Both fishermen and processors assert, however, that products from this fishery are generally of higher quality and sell for a higher price than products from the main fishery.

⁷³ To understand the efficiency effects of these alternatives on harvesters requires consideration of the nature of the cooperatives created under the Pilot Program. The harvest cooperatives are explicitly for the sole purpose of coordinating the harvest of rockfish allocations and halibut PSC allowances. The cooperatives are not cooperatives formed under the Fisheries Collective Management Act (FCMA). Given their form, these cooperatives cannot negotiate price or terms of deliveries with processors. Members (or even potential members of a harvest cooperative), however, may form an FCMA cooperative with the same or similar membership as a rockfish harvest cooperative. Catcher vessel participants that are affiliated with, or owned or controlled by processors, however, may not join FCMA cooperatives. This FCMA cooperative could negotiate price and delivery terms for all or a portion of the rockfish harvest cooperative allocation. The ramifications of this distinction are discussed in the analysis of the program alternatives below, and are of particular significance under the “catcher vessel cooperative, with processor association” alternative.

⁷⁴ While seasons are of limited length to accommodate management and oversight, harvests are unlikely to be constrained by season length given the ability of the fleet to harvest the TACs of all CGOA rockfish in less than three weeks in the years prior to the Pilot Program.

⁷⁵ Because catch vessels deliver a single product (unprocessed fish) to shore plants, the change in their outputs arising from quality improvements is characterized as a technical efficiency improvement here. Some economists may assert that the change is actually allocative, because the difference in quality could be argued to be effectively changing outputs. Regardless of the characterization of the change, the result is an efficiency improvement.

the cooperative to enter more vessels in other July fisheries to ensure that the cooperative's members maintain their historical harvests in those fisheries. Under the Pilot Program, some vessels with small allocations chose not to fish for rockfish. Yet, participation levels remained similar to historical levels in the sector. Sideboards would prevent rockfish catcher vessel participants from increasing their share from July fisheries in the aggregate, but will not prevent the cooperatives from competing amongst themselves to increase their shares of the sideboard amount. The extent of this competition in other fisheries could be reduced, if cooperatives are able to agree on the division of the sideboard amount. Under the Pilot Program, rockfish participants were able to reach such an agreement.

Harvesters should be able to generate substantial competition for landings among processors under this alternative. Since 90% of all historical landings were processed by a half dozen processors during a 2 or 3 week season, prior to implementation of the Pilot Program, processors that have been unable to compete for additional landings, because of capacity constraints during the brief season, are likely to have the ability to process substantially greater quantities of rockfish, if landings can be timed to take advantage of available processing capacity.⁷⁶ Catcher vessel participants under this alternative are likely to have relatively strong negotiating leverage in the ex-vessel market, obtaining a relatively large share of any resource rents available in the rockfish fisheries.⁷⁷ Technical efficiency in processing should improve as processors are better able to schedule crews to process landings. Allocative efficiency should also increase as processors improve product quality and produce higher quality products that cannot be produced under the no action alternative, because of the relatively low quality of landings and the need to process those landings rapidly. Catcher vessel participants are likely to use cooperatives to coordinate landings contributing to technical efficiency gains in the processing sector, as well as the harvesting sector. Yet, if cooperatives fail to establish relationships with processors that allow processor to schedule activities, it is possible that efficiency could suffer. In the long run, these efficiency losses are unlikely to persist, as harvesters are likely better ex-vessel price if landings are coordinated, extracting some of the processors efficiency gain through that price. Processors, however, may experience little improvement in their overall efficiency under this alternative because of their relatively weak negotiating position in the market for landings.⁷⁸ Instead, cooperatives (and their catcher vessel fleets) should receive most of the benefits of these improvements through ex-vessel price negotiations. Notwithstanding the relatively strong position fishermen may have under this alternative, processors, overall, should obtain normal profits from their processing. Some less efficient processors may be unable to realize normal profits, and may be expected to drop out of the rockfish fisheries; while it is possible that others may be able to enter with the relatively slower pace and scheduling of deliveries.

Since the CGOA rockfish fisheries are only a small portion of the fishing undertaken by most participants in the fishery, it is possible that some catcher vessel participants may choose to accept a lower price for landings from the rockfish fisheries, to maintain a relationship with a processor in other fisheries. The extent of any processor negotiating leverage is likely to be limited and only arise from landings in fisheries in which fisherman have limited markets for their landings (such as the flatfish fisheries).

Vertically integrated processors could have some advantage over processors that are not vertically integrated under this alternative. In general, vertically integrated processors would be assured of some

⁷⁶ Although most processors have substantial participation in other GOA LLP fisheries, substantial down times exist between seasons that occupy most of the available processing capacity.

⁷⁷ Matulich et al. (2001) concluded that under the more restrictive American Fisheries Act cooperative/harvester associations and landing obligations, harvesters realize a substantial portion of the rents of the fishery.

⁷⁸ Although an option could require all landings to be made in Kodiak, since that community is home to several processors, it is unlikely that the limitation of landings to Kodiak would affect the degree of competition in the fishery.

landings in the rockfish fisheries. In the structure of this alternative, however, the ability to leverage their position for landings is not certain, but is likely to be limited. Since processor owned licenses are not permitted to participate in cooperative negotiations, it is unlikely that a processor could use its license ownership to direct landings of members of the cooperative to its plant. A processor, however, could likely ensure that the cooperative agreement allows it to land catch of its licenses at its plant. These landings could provide a basis on which to build with landings from other licenses in the cooperative or other cooperatives and could be used to fill gaps between landings from these other participants. Vertically integrated processors are also likely to be more familiar with catcher vessel operating costs providing them a slight negotiating advantage over processors that are not integrated. In addition, if a vessel owned by a processor has operating relationships with vessels that are not vertically integrated, it is possible that this relationship could influence non-integrated vessel's choice of processors. The extent of the advantage held by vertically integrated processors is difficult to predict and will differ with circumstances. Yet, this advantage also increases the incentive for processors to vertically integrate to the extent permitted by excessive share caps.

Catcher vessel alternative 3 - cooperatives with allocation of harvest shares to processors - CV-3

Operations of the catcher vessel sector under this alternative should be very similar to those under the other catcher vessel alternatives. Catcher vessel efficiency gains under this alternative, however, are likely to be different, with resource rents divided between catcher vessels and processors, based on the division of the harvest share allocation between these sectors (i.e., 90/10, 80/20, or 70/30).

The returns to participants in the catcher vessels may vary slightly, depending on the approach taken by holders of processor allocations in using their harvester shares. These different methods are likely to result in a similar distribution of any available resource rents, but may result in slightly different distributions of normal profits (to the extent profits may be realized) and operation levels of independent harvesters. If a processor elects to harvest its allocation on its own (or an affiliated vessel), the processor would receive any available resource rents and normal profits from the harvest, annually.⁷⁹ If a processor elects to sell its allocation (i.e., long term share), the processor would receive the discounted projected resource rents embodied in the allocation at the time of the sale. The purchaser would assume the risk associated with the allocation and gain an opportunity for normal profits from the harvest of the shares over the long term (and any possible windfall or loss arising from inaccurate expectations). If a processor enters an arm's length lease for its allocation (or the annual allocation yielded by its allocation), it would receive the annual rents embodied in the allocation (through the lease payment), with the lessee gaining any normal profits that may arise from the year's harvest. Lastly, a processor may use its shares as part of a broader negotiation with a cooperative (or vessels in a cooperative) to establish a relationship that extends to all (or a large segment of) the landings of the cooperative. Catcher vessels (and cooperatives) might choose to enter such a relationship to receive greater ex-vessel prices (or a more certain pricing arrangement), while the processor might benefit from the additional certainty of the arrangement (including additional harvester landings). Under such an arrangement, the processor would still be expected to receive any available rents from its allocation; however, both parties may receive an additional benefit from the operational efficiencies arising through the certainty of the arrangement. For the harvester, these benefits might be realized by a harvester through ex-vessel pricing of landings (and should include any normal harvesting profits attainable from harvest of the annual allocation of the processor).⁸⁰ In addition, as noted under the preceding alternative, processors will likely have an interest

⁷⁹ These rents and profits might be captured only after sale of finished products by the processors.

⁸⁰ In a recent action, the Pacific Fishery Management Council elected to allocate 20% of the quota in its whiting fishery to processors and to make no allocation to non-whiting to processors. In determining to make the allocation to processors in the whiting fishery the Pacific Council noted that in the whiting fishery a shift from derby

in vertically integrating by acquiring qualified licenses to stabilize landings in the rockfish fisheries. The extent of any vertical integration is likely to be limited by excessive share caps.

The extended season would continue to present catcher vessels with a substantially better position for negotiating deliveries of their own allocations, as processing capacity is unlikely to be constraining, as under the no action alternative. Catcher vessels' share of the rents from the rockfish fisheries, however, would be reduced, relative to the first cooperative program alternative by the allocation of harvest shares to processors.

While processors receiving an allocation of shares will receive available rents (or projected rents, in the case of a sale) arising from those shares, those processors that do not receive an allocation of shares will likely receive no share of the rents from the rockfish fisheries, but can realize normal profits to the extent that those processors attract landings and are able to achieve profits through their processing. Processors will have an incentive to vertically integrate at that integration should improve their position for attracting and timing landings and understanding fishery operations, which should improve their ability to realize profits from the fisheries.

As under the other catcher vessel alternatives, a portion of the benefit realized by shore-based processors from share allocations would flow to foreign-owned entities.

Catcher vessel alternative 4 - cooperative with severable processor association (no forfeiture) - CV-4 (preferred alternative)

Catcher vessel efficiency under this alternative should be very similar to efficiency under the first cooperative program alternative. Despite the requirement of cooperatives having to associate with a processor, since harvesters will have the liberty to choose a cooperative and processor association, both initially and annually thereafter, cooperatives should be able to generate competition for landings among several processors. As under the first cooperative program alternative, processors that would be unable to compete for additional landings because of capacity constraints during the brief season under the no action alternative are likely to have the ability to process substantially greater quantities of rockfish, if landings can be timed to take advantage of available capacity.

Although the annual associations may establish commitments for a season, the ability of harvesters (and cooperatives) to change associations annually should ensure broad competition for landings. In addition, it is possible that some association agreements may not contain delivery requirements, allowing the cooperative to negotiate deliveries freely with the processor of its choice. As noted under the harvester only cooperative alternative, catcher vessel participants may choose to accept a lower price for landings from the rockfish fisheries to maintain a strong relationship with a processor in other fisheries. Under this alternative, the required associations could strengthen those relationships in both the rockfish fisheries and other fisheries.

management to a share-based management program would result in a change in leverage between the two sectors in favor of the harvest sector. No such shift would occur in non-whiting fisheries, as those fisheries were not subject to derby management. In addition, the Pacific Council noted that the share-based management would likely result in a relatively small whiting fleet (of approximately 20 vessels), which could exert market leverage against the three major whiting processors. The Pacific Council also noted that the 20% allocation was intended to offset the shift in negotiating leverage between the sectors, but did express concern that the 20% allocation might be inadequate (PFMC/NMFS 2009).

Overall, the ability to coordinate harvest activity, together with a relative improvement in bargaining strength arising from no direct processor allocation should result in substantial improvements in harvest sector efficiency over the no action alternative.

Although technical efficiencies and product improvements in the processing sector are likely to occur under this alternative, catcher vessels are likely in the good negotiation position to receive most of the benefits of those improvements through the ex-vessel pricing. Most processors should obtain normal profits from their processing in the long run.

2.4.8 Effects on consumers

This section examines the effects of the Rockfish Program alternatives on consumers. To allow an examination of the net benefits to the Nation, where possible, the effects on U.S. consumers are distinguished from the effects on consumers in other markets. The Rockfish Program alternatives are again grouped in this section, because the effects are similar under those alternatives.

No action alternative

Consumers are likely to be supplied with products from the rockfish fisheries that resemble those produced prior to implementation of the Pilot Program in 2007. Catcher processors during that period produced high quality frozen headed and gutted and whole fish, most of which was sold into Asian markets. Production from catcher vessels is likely to suffer from poor handling. Landings are likely to be made into primarily headed and gutted and whole fish.

During this period, most of the catcher vessel product was sent to Asia, much of which returned after reprocessing. Some catch was made into fillets at the primary processing plant, but the ability to make quality fillets is limited, because of the quality of the landings and the time pressures arising from the race for fish.

Program Alternatives

Production of the catcher processor sector is likely to be very similar to production under the no action alternative. Minor quality improvements could occur, but these vessels already produce higher quality products, because their catch is processed onboard soon after it is harvested. Any improvements in consumer benefits arising from improved quality are likely to be realized by Asian consumers, as most of the production from this sector is sold into that market.

Changes may occur in the production of catcher vessel harvests to the benefit of consumers. Catcher vessel landings are likely to be of higher quality under all three of the catcher vessel program alternatives. Processors may change product outputs to produce fillets, instead of the less processed whole and headed and gutted products likely to be produced under the no action alternative. Some processors may attempt to serve domestic fresh markets, which would also benefit U.S. consumers. The potential for these changes depends on the success of processors in developing these markets. To date, in the Pilot Program, these markets have failed to develop.

2.4.9 Effects on management, monitoring, and enforcement costs

Management, monitoring, and enforcement under the different alternatives are described in Section 2.4.3 above. This section compares the costs of the management, monitoring, and enforcement under the different alternatives, as part of the net benefits analysis.

No action alternative

Under the no action alternative, NMFS incurs the costs of management and enforcement of fishing under the LLP. The costs of observer coverage are borne by the fleet and shore-based processors.

Catcher Processor Program Alternatives

Under the catcher processor program alternatives, NMFS will incur the additional costs of determining eligibility and making allocations of catch history to participants under the program. Cooperative agreements will be reviewed by the agency. Annual allocations must be made to cooperatives and to a limited access fishery, if any persons eligible for the program choose not to join a cooperative. NMFS will be required to conduct catch accounting for the different allocations and monitor the allocations using observer data. The costs to NMFS are likely to exceed the costs of managing the rockfish fisheries under the LLP, which are in large part coordinated with management costs of several fisheries (and therefore are distributed across several fisheries). Enforcement costs are also likely to rise under the Rockfish Program, as enforcement personnel will be required to oversee activities over a longer period. In addition, individual accountability for catch of cooperative allocations requires additional enforcement resources. If a limited access fishery is required, additional inseason management of a limited access fishery with a relatively small allocation will be required. This management is generally similar to the no action alternative management. Although the cost of the management for a smaller fleet should be less, the additional complication of monitoring a very small fleet, fishing a very small allocation, could add to those costs. NMFS estimates that the current annual costs for managing and enforcing the Pilot Program at approximately \$620,000 per year. This estimate includes regulatory development, inseason management, permitting, database management, and enforcement. Costs under the Council's preferred alternative would be expected to be roughly the same as status quo management. However, management costs may be slightly lower under the Council's preferred alternative than under the status quo option because the limited access fishery has been removed. Management of the limited access fishery, and the inseason management actions necessary to manage that fishery, require substantially more time than oversight of cooperative allocations.

In addition to costs that will be borne by NMFS, participants in the fishery are likely to have some additional costs. To date, NMFS has maintained that to fully monitor total catch on a catcher processor requires the use of flow scales, with every haul observed. A sampling station with a motion-compensated platform scale (to verify accuracy of the flow scale) would be required on board the vessel. Currently, all but one of the vessels that carry licenses that are eligible for the program have both flow scales and compliant observer stations. Fully outfitting these vessels to meet the monitoring requirements is costly.⁸¹ Approximately one-half of the vessels qualifying for this program, however, would be subject to minimum groundfish retention standard requirements to continue their participation in the Bering Sea fisheries. Since participation in the Bering Sea fisheries also requires these same monitoring upgrades, the cost of the upgrades for those vessels should be considered a cost of maintaining the vessel's operations in both the CGOA rockfish fisheries and the Bering Sea fisheries, rather than simply a cost of continued participation in the rockfish fisheries. Within a cooperative structured program any retrofitting costs could be avoided by fishing from a vessel already in compliance with the necessary monitoring provisions.

⁸¹ Approved flow scales are estimated to cost \$50,000. Observer station equipment, including an approved platform scale, is estimated to cost between \$6,000 and \$12,000. Installation costs are likely to vary across vessels and cannot be predicted. In addition, smaller vessels in the fleet could have difficulty accommodating these equipment and facility upgrades. As a result, installation could range from \$20,000 to \$250,000. Total costs of equipment and installation would therefore range from approximately \$75,000 to \$300,000. Costs in excess of \$150,000 are likely to be rare.

Added costs of observers are difficult to predict under the program. A requirement that all catch under the program be observed is likely to result in some added observer coverage for vessels harvesting fish under the program. A certified observer is estimated to cost approximately \$375 per day. Prior to the Pilot Program, the rockfish fisheries have remained open approximately 2 to 3 weeks each year. The cost of an observer for approximately 2½ weeks is approximately \$6,500. If an average vessel attempted to slow fishing to improve quality of products under the program, fishing could be extended beyond the current 2½ weeks. In considering these costs, it is also important to consider costs will vary with the size of the allocation fished, the number of allocations fished concurrently from the same vessel, and that several participants' allocations vary from the average.

The extent of the additional coverage, however, is difficult to predict, because participants may coordinate fishing under the program to optimize observer coverage to reduce costs. Savings are likely to be realized not only by participants stacking history on a single vessel, but also through coordinating monitoring within a trip. For example, a catcher processor harvesting allocations in the program may be able to catch program rockfish and non-program fish in a single trip. If Rockfish Program tows are coordinated with an observer that is already on the vessel to observe harvests in the fisheries for other species, some savings on observer costs may be realized. The coordination of observer coverage for fishing under the program will determine the extent to which participants are able to realize observer costs savings by coordinating observer coverage.

The overall rise of administration and enforcement costs will be reduced by the very small catcher processor fleet that is eligible for the program.

Similar to the crab rationalization program and the halibut and sablefish IFQ program, which also have cost recovery programs, the Council has included a cost recovery program that would require the payment of up to 3% of the ex-vessel value of all quota landings to RAM Division to defer costs of administering the Rockfish Program. Under that program, payments would be made by the harvest share holders and must be made on or before January 31 in the year after the landings. To facilitate tracking of payments, buyers would be required to report all landings, in the year of the landings. NMFS would then submit bills to share holders, based on these reports, for 3% of the ex-vessel gross revenues of the landings (based on the average price for the species). Persons may pay a lower amount provided they can demonstrate the actual price paid for landings was less than the standardized "average" price. The fee can be adjusted downward by NMFS in the event that recovered fees exceed the management and enforcement costs in the rockfish fisheries.

Catcher Vessel Program Alternatives

As under the catcher processor program alternatives, NMFS will incur additional costs under the catcher vessel program alternatives associated with determining eligibility and making allocations of history to participants under the program. Cooperative agreements will be reviewed by the agency. Annual allocations must be made to cooperatives and to the limited access fishery, if any persons eligible for the program choose not to join a cooperative. NMFS will be required to conduct catch accounting for the different allocations and monitor the allocations using observer data. Enforcement costs are also likely to rise under the program, as more resources will be required because of the cooperative allocations and the longer seasons. If an entry level fishery is prosecuted by non-members of cooperatives, cost of management would rise to an extent similar to the costs described for the limited access catcher processor fishery.

Observer costs, borne by the fleet, are likely to increase for the catcher vessel sector to provide adequate information concerning fishing activity under the program. The extent of these additional costs is not

known, and depends on the specific monitoring program developed by NMFS and the fishing practices of participants. To reduce observer costs (and operational costs), it is likely that some rockfish harvesting will be consolidated within (and possibly across) cooperatives. The extent of the impact of this consolidation cannot be predicted and will depend on aggregate costs (e.g., transactions costs, efficiencies of scale, markets and market shares) in general, including observer costs.

2.4.10 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 rockfish populations could be of less concern to the public than high visibility “charismatic megafauna” species, such as the American bald eagle or any of the great whales, it is likely that the public values the conservation and stewardship of these stocks. The value one places on knowing that a particular population continues to exist in its natural habitat is commonly referred to as a non-use value (a.k.a., passive-use values). 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 stocks sizes, the public may experience some loss of value, if catch from the fishery is not well utilized and goes to waste. No known studies of the non-use values of GOA rockfish resources have been conducted to date, preventing any quantitative estimates here. This section, however, provides a qualitative analysis of these non-use benefits.

No action alternative

Under the no action alternative, catch of all species of interest are constrained either by TAC or by PSC limits. Managers would monitor harvests inseason, closing the fisheries when the TAC 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 overfishing levels or threatened stocks. Non-use benefits derived from the management of healthy stocks of these species are likely to be maintained, if the current management is perpetuated.

Although total catch of each species is limited, discarding of most species is permitted. Rockfish secondary species tend to have very low discard rates in the rockfish fisheries, rarely exceeding 1% of their total catch in the fisheries (NMFS discard reports).⁸² Additionally, minor amounts of other species are caught incidentally, much of which is discarded. Mortality of discards of incidental catch reduces the non-use values to the public that arise through productive use and stewardship of the resource.

Program Alternatives

Under the Rockfish Program alternatives, 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 benefit derived from maintenance of healthy stocks.

NMFS will make annual, exclusive cooperative allocations for the three rockfish primary species and for three (or four) rockfish secondary species, depending on the sector, under the program. The program will establish full retention requirements for all of these allocations. These measures should have the effect of reducing discards of these species, contributing additional non-use benefits that might arise from conservation of the resource. In addition, product outputs of the shore-based processors are likely to be of

⁸² In only one year, 1998, have any of the discard rates of rockfish secondary species exceeded 2 percent of total catch of that species. In that year, discards of thornyhead rockfish were almost 20 percent.

higher quality. These improvements could also provide non-use benefits to the public that values efficient production from the resource (i.e., improved utilization and improved retention).

2.4.11 Effects on Net Benefits to the Nation

The net benefits to the Nation arising out of the change in management can accrue from several sources. First, production efficiencies in harvesting and processing could occur as a direct result of management changes. These production changes may affect the benefits realized by U.S. consumers through changes in product quality, availability, variety, and price. Further, the changes in conduct of the fisheries and management could result in changes in the environment, which yield benefit changes to the Nation through ecosystem productivity changes and welfare changes attributable to non use/passive use values. These various contributing effects of the alternatives to the net benefits to the Nation are summarized in the sections above. This section summarizes the different effects to allow comparison of the competing alternatives, and conclusions concerning the overall effects of the alternatives on net benefits to the Nation.

No action alternative

If the no action alternative is selected, net benefits to the Nation are likely to be similar to those levels seen prior to the implementation of the Pilot Program in 2007. For catcher processors, quality of the whole and headed and gutted production during that period was relatively high. Few consumer benefits from this production would be realized in the United States, as most fish is sold into foreign markets. For the shore-based sector, quality of landings and value of processed products may suffer decreased production efficiency. Consumer benefits of these harvests would be diminished by the loss of quality and product value. In addition, a substantial portion of any consumer benefit is not realized by U.S. consumers, as much of the production is sold into foreign markets. Costs of monitoring and management are relatively low, as catch is monitored at the fleet level. Non-use benefits to the public would decrease to some extent as a result of inherently higher levels of bycatch waste and halibut PSC mortality.

Catcher processor cooperative alternatives

Net benefits to the Nation would be positively affected by a few different factors under the catcher processor sector cooperative alternatives. Production efficiency should increase slightly, as some participants realize moderate improvements in quality of production. Few, if any, benefits of production improvements will be realized by U.S. consumers, as this fleet is likely to continue to primarily serve international markets. Costs of management, monitoring, and enforcement will increase, to administer and oversee the cooperative allocations. Some additional benefits to the Nation could arise through reduction in bycatch waste, since the program requires full retention of several species. Since discard rates of these species are relatively low in the current rockfish fisheries, these benefits are likely not substantial.

The Pilot Program provides a foundation for examining potential net benefits to the Nation from these Rockfish Program alternatives. First, both catcher processors fishing in cooperatives and in the limited access fishery have reduced their halibut mortality rates. To a small degree, the halibut PSC savings from the catcher processors have enabled the GOA flatfish fishery to remain open during a fifth season. This fishery has normally been closed, due to shortfalls in available halibut PSC. The degree to which the Nation would benefit from halibut PSC savings in the proposed action depends on the options selected. Options that maintain the incentive to save halibut PSC, while ensuring that some of those halibut are available in the later season fisheries, would increase net benefits to the Nation.

Generally, the Pilot Program has provided catcher processors with the ability to time fishing to avoid conflicts with activities in other fisheries, for most catcher processors providing synergies between the

Amendment 80 fisheries and the CGOA rockfish fisheries. These benefits should persist under either of the program alternatives.

Catcher vessel cooperative alternatives

A few different factors will affect net benefits to the Nation under the catcher vessel cooperatives alternatives. Slowing the rate of fishing and extending the season may lead to substantial increases in production efficiency, as participants in both sectors improve quality, resulting in higher value products. These benefits are not assured, however, because small and sporadic deliveries over an extended season may reduce efficiency owing to a loss of economies of scale for processors. Means of avoiding these undesirable impacts should be available to the participants under this program. Some production benefit could flow to foreign-owned processing entities, but since increases in processor net benefits under this alternative are expected to be relatively minor, almost all of the gain in production efficiency should be realized by U.S. entities and citizens (e.g., labor). Production improvements should lead to benefits for U.S. consumers, as this fleet is likely to maintain, or even increase production for domestic markets. In addition, greater value-added processing is likely to occur domestically, as fewer primary processed products are shipped abroad for reprocessing. Increased administration and oversight, necessary for cooperative allocations, and an extended season will result in an increase in costs of management, monitoring, and enforcement. Participants may also require additional observer coverage.

The Pilot Program for catcher vessels has also demonstrated a number of benefits to the Nation that would likely be present under the proposed action. First, similar to the catcher processors, catcher vessels fishing in cooperatives have also reduced their halibut PSC mortality rates, allowing those halibut PSC allowances to be used to support a longer GOA flatfish fishery. These halibut PSC reductions have arisen through the use of pelagic gear and semi-pelagic gear, which has reduced the amount of bottom contact by trawl gear in the fishery, presumably yielding benefits through less damage to demersal habitats. If options are selected that maintain the incentives to reduce halibut PSC, the halibut mortality savings and reduced bottom contact by gear will likely result in accrual of substantially higher benefits to the Nation than would the no action alternative. Targeting behavior has also provided benefits under the Pilot Program. Assuming that *de facto* targeting of non-rockfish is acceptable practice in the CGOA rockfish fisheries, then by targeting allocated Pacific cod and sablefish on separate trips, catcher vessels may improve quality of landings and reduced costs associated travel and with keeping those higher value species separated from rockfish. Rockfish product improvements may also arise under the program alternatives. Two processors increased production of fresh fillets under the Pilot Program. Although these changes brought little change in prices, they demonstrate the potential for production changes that could be beneficial, if markets can be developed. A further benefit demonstrated by the Pilot Program is the redistribution of rockfish landings over a substantially longer period. The redistribution has allowed processors to avoid conflicts with other fisheries, most importantly salmon fisheries that peak during the month of July. This rescheduling has decreased the time vessels wait in queue to offload their catch, and allows processors to provide more consistent employment for their crews. Finally, elimination of the race for fish improves safety at sea, by reducing the incentive for fisheries participants to take risks to maintain their share of the fisheries. These benefits, arising under the Pilot Program, should continue to be realized under the Rockfish Program alternatives, as described.

2.4.12 Effects on entry into the fisheries

The ability of interested persons to enter the rockfish fisheries differs under the no action alternative and the competing program alternatives.

No action alternative

Entry to the trawl rockfish fisheries under the no action alternative is limited by the LLP. Since a substantial number of LLP licenses endorsed for the CGOA fisheries are not active in the rockfish fisheries, several persons holding those licenses could enter the fisheries under this alternative. The lack of entry into the fisheries under continuation of LLP management is a result of overcapacity in the fisheries, which is demonstrated by the very short season prior to implementation of the Pilot Program in 2007. If LLP management is selected as the preferred alternative, entry of additional vessels is unlikely. In the long run, some persons may choose to enter the fisheries, but only if current participants depart from the fisheries or stock abundance or market conditions change significantly for the better.

Entry to the non-trawl sector is also limited by the LLP. Vessels under 26 feet LOA, however, do not require an LLP license to fish in federal waters, so fishermen wishing to use these relatively small vessels are not limited. If the LLP management is selected, it is possible that some entry in the non-trawl sector would occur, as several persons participating in this sector have expressed an interest in the rockfish fisheries. The sector has had relatively little historical participation, so the potential for the sector to successfully target rockfish has not been firmly established. In the long run, the prospect for entry, however, depends on the success of new entrants, since this sector has little history in the rockfish fisheries and has not demonstrated that it can successfully prosecute rockfish.

Program Alternatives

To assess the effect of the program alternatives, one must first develop a workable definition of entry. This analysis assumes that entry means more than simply entering a vessel into the rockfish fisheries, but instead means the development of one's participation to resemble a typical participant in the fisheries. The analysis examines both the potential to achieve that level of participation and the potential processes by which a person could develop participation to that level.

Using the definition, entry to the trawl fishery is clearly limited by the rules of the program alternatives. Although entry to the "entry level fishery" is open to all LLP license holders, this fishery is unlikely to support activities of a typical rockfish vessel. To enter the rockfish fisheries at the level of a typical participant, a person must acquire one or more licenses that are eligible and carry history adequate to support the operation of a vessel. Alternatively, a person could acquire a single license to enter the fishery, then enter a cooperative and acquire annual allocations within a cooperative to fish on a vessel. While this entry is possible, the cooperative structures that are effective at reducing transactions costs for existing participants are also likely to limit the ability of a new entrant to acquire additional portions of the cooperative's annual allocation to fish on a vessel. Clearly entry is quite limited under the program alternatives. In addition, the prices of eligible licenses are likely to vary with history in other fisheries. Since any transaction is likely to value all groundfish history related to the non-severable license, it is possible that some rockfish licenses with substantial history in other fisheries could be very costly, despite relatively small qualifying rockfish histories.⁸³ The extent of the effects of histories in other fisheries on the prices of licenses cannot be predicted. Whether entry is more effectively limited by the program than under the no action alternative (which allows free entry to a fishery that dissipates a substantial portion of the rents in a race for fish) is uncertain.

For catcher vessels, entry is likely to be more limited under the harvester only cooperative and the severable harvester/processor association alternatives. Under these alternatives, catcher vessels are likely to receive a substantially greater portion of the rents in the rockfish fisheries. These rents are likely to be

⁸³ Histories in other fisheries will likely be considered an economic asset for their potential value in other rationalization programs, such as comprehensive Gulf rationalization.

capitalized into the eligible licenses driving up the costs of those licenses to potential entrants. Acquisition of annual allocations under the program is also likely to be more costly under this alternative. Under the harvester cooperatives with allocations of harvest shares to processors alternative, entry of catcher vessels should be less costly as catcher vessel participants are likely to realize a little more than normal profits from their participation in the rockfish fisheries. Entry, however, could still be costly, if most rockfish eligible licenses carry substantial history in other fisheries.

Entry to the non-trawl sector is likely to be similar to entry under the no action alternative. In recent years, non-trawl participants have harvested a very small portion of the rockfish primary species TACs. The allocation of rockfish primary species under the program alternatives should be adequate to support any participants in this sector that wish to enter the fisheries.

2.4.13 Effects on Fishing Crew

The effects on fishing crew of the different alternatives are likely to be the same. To simplify the analysis the discussion of these alternatives are consolidated in a single discussion.

No action alternative

Crew participation and compensation in the rockfish fisheries are likely to revert to the manner it was before implementation of the Pilot Program in 2007. Most crewmembers worked in several different fisheries on the vessel that they worked on during the rockfish season, while some move to other vessels for particular fisheries. Crew members are compensated on a share basis, receiving a specific percent of the vessel's revenues (with crew of greater experience or in more demanding positions receiving a greater share). The pattern of crew participation and compensation is likely to return to the pre-Pilot Program years, if the no action alternative is selected.

Program Alternatives

The development of the Rockfish Program is likely to have some minor effect on crew. Fishing can be expected to slow and occur outside of the traditional July season. In addition, some vessels that have historically participated in the rockfish fisheries prior to 2007 are likely to no longer fish in the rockfish fisheries. Notwithstanding this decrease in vessels in the rockfish fisheries, it is unlikely that any vessels will entirely leave the North Pacific fisheries, as most rockfish vessels also have substantial participation in other fisheries.

Crew compensation could change in some cases. Crew on some vessels that leave the rockfish fisheries are likely to lose some income, if the vessel is unable to make up the loss in revenues in other fisheries. This income is not likely to be a substantial portion of a person's annual income, but could be significant to the crewmember in some cases. In addition, crew on vessels that remain in the rockfish fisheries could realize an increase in income from increased harvests and revenues in the fisheries. Catch increases are likely under all alternatives. Revenue increases should be the greatest for catcher vessels under the catcher vessel harvest only cooperative alternative and under the severable harvester/processor association alternative because of the increased negotiating leverage of catcher vessels and product improvements under those alternatives. Catcher vessel crews, however, may not fare as well under harvester cooperatives with allocation of harvest shares to processors alternative, as catcher vessel negotiating leverage is likely to be weaker to some degree. Crew on catcher processors that participate in the fisheries could benefit from consolidation of harvests on fewer vessels, and possibly a minor increase in revenues, if quality improvements are realized.

2.4.14 Effects on Shore-Based Processing Crew

Shore-based processing crew could be affected by the Rockfish Program. Affects are likely to be similar under the two catcher vessel alternatives; therefore, they are discussed in a single section.

No action alternative

Processing practices are likely to be similar to the period before implementation of the Pilot Program in 2007, if the no action alternative is selected. In that fishery, most of the processing took place in Kodiak and was undertaken by resident crews. Crews were employed processing rockfish for a relatively short period of time. When rockfish was processed during this period, relatively large crews were necessary to maintain a flow of fish through plants that kept pace with vessel offloads. Because the rockfish fisheries coincided with the pink salmon fishery, some plants employed substantially larger crews that were juggled between lines to process landings from both fisheries. Although most plant workers were also employed in other fisheries, the short intense season meant that their employment was more sporadic. Processing landings from limited access, competitive fisheries can hinder the ability of plants to develop regular employment schedules and support for their primary resident crews. The absence of regular employment also made it more difficult for plants to retain good employees.

Program Alternatives

Shore-based processing employment should change some under the program alternatives. Harvests from the rockfish fisheries are likely to be distributed over a longer period of time to improve quality and to produce more highly processed value-added products. Landings are likely to be scheduled to serve particular markets, but also to facilitate the scheduling of crews. Although the rockfish fisheries are a relatively small portion of the aggregate processing activity of participating qualified processors, the Rockfish Program alternatives are likely to contribute in a small, but positive way, to stability in processing employment, compared to the no action alternative, if landings are distributed across periods when plants are underutilized. This increased stability could lead to fewer processing jobs at peak times, but the remaining jobs should provide more stable and consistent employment. The relative stability should contribute to the processors' ability to maintain stable resident crews, a practice that is increasingly common and highly desirable in the Kodiak fish processing sector.

The effects of the two catcher vessel alternatives could be slightly different. The alternative with harvester shares allocated to processors is likely to have greater stability across processors, as each qualified processor can be expected to be allocated a percentage of the harvest share pool, based on rockfish processing history during qualifying years. Each processor should have a relatively stronger position in negotiations with catcher vessel cooperative members to schedule landings at time preferred by the processor. Under the harvester only cooperative and severable harvester/processor association alternatives, processors will need to compete more aggressively for landings for the cooperatives. While landings can be expected to be scheduled to achieve efficiencies through serving available markets and addressing employment scheduling needs, it is possible that some processors will lose landings in the competition. This change in the distribution of landings could be disruptive to processing crew employment, at least in the short run.

2.4.15 Effects on Safety

Since fishing practices and seasons are likely to be very similar under all of the Rockfish Program alternatives, implications for safety should be the same. To simplify the analysis, safety considerations under the Rockfish Program alternatives are contained in a single discussion.

No action alternative

Under the no action alternative, participants would be racing for catch share during a brief season, early in July. Although GOA weather tends to be relatively good at this time of the year, occasionally, inclement weather can be encountered. Under LLP management, an economic incentive is created to go to sea in weather conditions that may pose a higher operating risk, and to continue fishing despite operational dangers, to increase one's share of the total catch. The effects of this incentive likely vary among participants. Because the participating fleet is, by-and-large, composed of relative small vessels, the vulnerability to injury, damage, or loss is proportionally greater. The overall effect on safety in the rockfish fisheries cannot be estimated with certainty.

Program Alternatives

Management of the rockfish fisheries under an extended season, with exclusive allocations to cooperatives, should reduce the incentive for fishermen to initiate and/or continue fishing trips in inclement weather or when other operational dangers arise. Although a person's allocation will not be jeopardized by decisions to delay fishing to reduce safety risks, some incentives may exist for persons to fish in inclement weather (including market opportunities and operational cost savings). Many proponents contend that share-based management (or rationalization) makes fisheries safer, but little empirical work has been undertaken to verify that conclusion. Overall, the incentive for participants to fish in inclement weather should be reduced under the program alternatives.

2.4.16 Effects on Other Fisheries

Allowing eligible catcher processors and catcher vessels to form cooperatives should allow them to better optimize when and where they fish. The increased flexibility in planning their fishing during the rockfish season is expected to enable companies to alter their historical fishing patterns and improve their efficiency. Efficiency improvements would reduce the costs associated with harvesting and processing catch. However, the flexibility that allows them to change their fishing patterns could also give them a competitive advantage over other participants in the GOA that are unable to rationalize their fishing operations. For example, if eligible vessels can decide the best time to fish their allocation, it may provide them opportunities to increase their participation in GOA groundfish fisheries. Prior to the Pilot Program, these vessels may not have had the opportunity to participate in those fisheries at the level now possible with cooperative membership, because of conflicts with other fishing seasons. Expanding their participation in other fisheries not directly allocated among members of the sector could result in other participants having less fish available to harvest. Fishermen historically participating in those fisheries may feel they are disadvantaged as a result of the Rockfish Program. As a result, harvest limits may be placed on the fishermen participating in the Rockfish Program to restore the balance that existed prior to the Pilot Program forming (i.e., "sideboards").

Harvest caps would allow the Rockfish Program members to catch up to their "historical" amounts of species they harvest outside of their allocation. Harvest caps are not an allocation. They are a limit on the maximum amount of a species the sector can catch.⁸⁴ Members of the sector are not guaranteed that

⁸⁴ On August 2, 2010, a Biological Opinion was released by NMFS that would close the Atka mackerel and Pacific cod fisheries in the Western Aleutian Islands (Area 542) and restrict the Atka mackerel and Pacific cod fisheries in the Central Aleutian Islands (Area 542). As a result of this potential change in the management of Atka mackerel and Pacific cod fisheries in the Aleutian Islands, vessels most affected by this action could, with the proper LLP licenses and endorsements, mitigate their economic loss by shifting their effort into other groundfish fisheries in the North Pacific. However, fisheries with sideboard limitations, like those proposed in the Rockfish Program, would likely be minimally affected by this shift in effort, since sideboard limits provide a catch limit that is based on their historical catch of the sector.

amount of catch. They must compete against other fishermen to catch the fish before the TAC is harvested. Cooperative harvest caps were first developed as part of the AFA and were frequently referred to as “sideboards” in that amendment, since they limited the AFA cooperatives members’ expansion into other fisheries. Sideboards were also included in the Pilot Program to limit eligible participants from expansion into other fisheries. Given that similar impacts could result from the Rockfish Program, the Council thought it would be prudent to consider harvest limits as part of this amendment package. This section examines the effects of the Rockfish Program alternatives on other fisheries. Note, the sideboards options included below are the same sideboards included in the Pilot Program. In other words, there are no new sideboards, just options to remove the sideboards.

18 Sideboards

18.1 Catcher vessel options

West Yakutat and WGOA rockfish primary species

Option 1: For fisheries that close on TAC in the GOA, the qualified vessels in the trawl catcher vessel sector would be limited, in aggregate, in the month of July to the historic average catch of those vessels based on the retained catch as a percentage of the retained catch in the fishery in the month of July, during the qualification years. Fisheries that this sideboard provision would apply to include West Yakutat rockfish and WGOA rockfish.

Option 2: For catcher vessels, prohibit directed fishing for West Yakutat and WGOA rockfish primary species.

Suboption: Exempt a vessel that participated in the West Yakutat rockfish fishery for 2006 through 2008 and participated in the entry level pilot fishery, at least one year. These vessels will be side-boarded at their catch history for 2006 through 2008.

Halibut PSC

Option 1: For flatfish fisheries in the GOA that close because of halibut PSC, the qualified vessels in the trawl catcher vessel sector would be limited, in the aggregate, in the month of July to the historical average halibut PSC mortality, taken by those vessels in the target flatfish fisheries in the month of July, by deep-water and shallow-water complex target fisheries, as a Gulf-wide cap.

Option 2: For the month of July, limit all CVs to the shallow-water complex fisheries (except for rockfish target fisheries in CGOA, West Yakutat, and WGOA).

IFQ halibut and sablefish are exempt from sideboard provisions

Bering Sea and Aleutian Island Sideboard Provisions

Yellowfin sole, other flatfish, and Pacific ocean perch fisheries

Option 1: The qualifying vessels in the trawl catcher vessel sector may not participate in the directed yellowfin sole, other flatfish (flathead, etc.), or Pacific ocean perch fisheries in the BSAI in the month of July.

Option 2: The qualifying vessels in the trawl catcher vessel sector may participate in the limited access yellowfin sole, other flatfish, or Pacific ocean perch fisheries in the BSAI in the month of July.

Pacific cod fishery

Option 1: Qualifying vessels in the trawl catcher vessel sector may fish in the BSAI Pacific cod fishery in the month of July and would be limited, in aggregate, to the historical average catch of those vessels in the

BSAI Pacific cod fishery, based on the retained catch as a percentage of retained catch in the catcher vessel trawl fishery in July, during the qualifying years.

Option 2: The qualifying vessels in the trawl CV sector may participate in the BSAI Pacific cod fishery in the month of July, without any sideboard limit.

AFA non-GOA exempt CVs qualified under this program are subject to the restraints of AFA sideboards and their cooperative agreements, and not subject to additional sideboards under this program.

18.2 Catcher processor options

West Yakutat and WGOA rockfish primary species

Option 1: For fisheries that close on TAC in the GOA, the qualified vessels in the trawl catcher processor sector would be limited, in aggregate, in the month of July, to the historical average catch of those vessels, based on the retained catch as a percentage of the retained catch in the fisheries in the month of July, during the qualification years. Fisheries that this sideboard provision would apply to are the West Yakutat and WGOA rockfish primary species fisheries.

Option 2: For catcher processors, no sideboard limits will apply to the West Yakutat and WGOA rockfish primary species fisheries (rockfish eligible catcher processors that are also Amendment 80 participants would continue to be limited by Amendment 80 sideboards).

Non-Amendment 80 catcher processors will be prohibited from West Yakutat and WGOA rockfish species fisheries for the month of July.

Halibut PSC

Option 1: For flatfish fisheries in the GOA that close because of halibut PSC, the qualified vessels in the trawl catcher processor sector would be limited, in the aggregate, in the month of July, to the historical average halibut PSC mortality taken by those vessels in the target groundfish fisheries in the month of July, by deep-water and shallow-water complex targets, as a Gulf-wide cap.

Option 2: For catcher processors, no July GOA halibut PSC mortality sideboard limit (rockfish eligible catcher processors that are also Amendment 80 participants would continue to be limited by Amendment 80 sideboards).

Suboption: Limit all CPs to the deep-water complex fisheries in the CGOA for the month of July.

Note: IFQ halibut and sablefish are exempt from sideboard provisions

Stand-down for vessels that opt out of the rockfish fisheries

Option 1: CP vessels may decide to opt out of the CGOA cooperative program on an annual basis. These CP vessels may not target Pacific ocean perch, northern rockfish, or pelagic shelf rockfish in the CGOA, in the years they choose to opt out. They may retain these species up to the MRA amount in other fisheries. They will be sideboarded at the sector level in the GOA, as described in the general provisions.

The history of CP vessels which opt out will remain with the sector.

CPs that opt out of the rockfish cooperative program will be prohibited, for 2 weeks following the start of the traditional July rockfish fisheries, from entering other GOA fisheries in which they have not previously participated. Participation shall be defined as having been in the target fishery during the first week of July in at least two of the qualifying years. For purposes of qualifying under this provision, history from area 650 (Southeast Outside) will be considered the same as history from area 640 (West Yakutat). The following week ending dates will be used for determining participation in a target fishery:

1996 – July 6

1997 – July 5
1998 – July 4
1999 – July 10
2000 – July 15
2001 – July 7
2002 – July 6
2003 – July 5
2004 – July 10
2005 – July 9
2006 – July 8

Opting out is an annual decision. CP vessels which choose to opt out must so notify NMFS. The decision to opt out should not, in any way, alter the status of their catch history for future rationalization programs.

Option 2: No stand-down for vessels that opt out of the rockfish fisheries.

Stand-down for vessels that join cooperatives

Option 1: For the CP sector, the cooperative program fishery participants must either:

- (1) start fishing in the target rockfish fisheries at the same time as the opening of the CGOA rockfish limited access fisheries (in July) and harvest 90% of their CGOA rockfish allocation prior to entering any other GOA non-pollock groundfish fishery; or
- (2) stand down for 2 weeks from the opening of the CGOA rockfish limited access fishery, prior to participating in any other GOA non-pollock groundfish fishery.

A vessel which has met either stand-down requirement can then move into the GOA open access fisheries, subject to the sector level limitations in the GOA in the general sideboard provisions.

To the extent permitted by the motion, history may be leased between vessels. Each member of a cooperative that transfers its history to another CP or CV must still refrain from operating in any other GOA groundfish fishery, until the earlier of:

- (1) 90% of all of the stacked CGOA rockfish allocation for that vessel is harvested in the CGOA, provided fishing of the allocation began on or after the opening of the limited access fishery;
- (2) 2 weeks from the opening of the limited access fishery, prior to participating in any other GOA groundfish fishery.

Members of a cooperative will be subject to all limitations and restrictions described in the general sideboard provisions and CP specific sideboard provisions, except that cooperative members shall not be subject to any stand-down in the GOA groundfish fisheries, if all vessels in the cooperative maintain adequate monitoring plans during all fishing for CGOA rockfish sideboard fisheries.

In addition to the other limitations and restrictions described above, each cooperative will be limited in the aggregate:

- (1) for fisheries that close on TAC in the GOA in the month of July, to the historical average total catch of the cooperative members in the month of July during the qualification years. Fisheries that this sideboard provision would apply to include West Yakutat rockfish and WGOA rockfish; and
- (2) for flatfish fisheries in the GOA that close because of halibut PSC in the month of July, to the historical average halibut PSC mortality taken by cooperative members in the target flatfish fisheries in the month of July, by deep-water and shallow-water complex fisheries.

Option 2: No stand-down (or alternative cooperative limit) for vessels that join cooperatives in the rockfish fisheries.

Stand-down for vessels that join the limited access fishery

Option 1: The limited access fishery starts at the same time as the traditional rockfish target fisheries (early July). For vessels that account for less than 5% of the allocated CP history in the Pacific ocean perch fishery that participate in the limited access rockfish fishery, there are no additional intra-sector sideboards. For vessels that account for greater than or equal to 5% of the allocated CP history in the Pacific ocean perch fishery that participate in the limited access rockfish fishery, GOA stand-downs are in place until 90% of the limited access Pacific ocean perch quota is achieved.

Option 2: No stand-down for any vessels that join the limited access rockfish fishery.

No action alternative

Under the no action alternative, management of the rockfish fisheries would revert to the LLP, under which managers oversee a limited access race for fish. Reverting to a limited access race for fish will likely have no effect on other fisheries. The opening of the rockfish fisheries would be scheduled so as distribute effort between rockfish and flatfish in the North Pacific. In addition, because of the race for fish environment and the conflicts with other fishing seasons, rockfish vessels will have little opportunity to participate in other fisheries during the opening of the rockfish fisheries.

Catcher vessel alternatives

Under the catcher vessel alternatives, inter-sectoral sideboards will be established to limited license holders eligible for the Rockfish Program from increasing their effort in other fisheries. Under sideboards eligible catcher vessel license holders will be limited in the aggregate (1) to their historical catch of rockfish primary species in GOA July fisheries that were typically constrained by catch of the rockfish primary species prior to implementation of the Pilot Program in 2007; and (2) to their historical average halibut PSC mortality in GOA July fisheries that were typically constrained by halibut PSC, prior to implementation of the Pilot Program. In addition, the eligible license holders would be limited, in the aggregate, to their historical catch of Pacific cod in the BSAI in the month of July.

Table 2-69 and Table 2-70 show estimated sideboard percentage for the catcher vessel sector in West Yakutat and WGOA rockfish fisheries in which sideboards would limit harvest of the rockfish primary species. The tables show the sector's retained catch and total retained catch taken by rockfish eligible catcher vessels. Overall, the estimated sideboard limits in the tables are likely insufficient for a directed fishery, therefore NMFS would likely close the fisheries to directed fishing for the month of July. Estimated sideboard limits for 1996 to 2002, inclusive, are from the Pilot Program sideboard limits, which are presented in Table 2-35.

Table 2-69. Estimated catcher vessel sideboard amounts in West Yakutat and Western GOA rockfish fisheries by eligible rockfish vessels using 1998 through 2006 qualifying years.

		AFA Trawl CVs						Non-AFA Trawl CVs		All Trawl		All retained catch (metric tons)	Percent of retain catch
		Non-exempt		Exempt		Total							
		Number of vessels	Landings (metric tons)	Number of vessels	Landings (metric tons)	Number of vessels	Landings (metric tons)	Number of vessels	Landings (metric tons)	Number of vessels	Landings (metric tons)		
BSAI Pacific cod		18	377	4	150	22	527	4	275	26	801	1,319,737**	0.06%
Western Gulf	Northern Rockfish	0	0	0	0	0	0	0	0	0	0	3,662	0.00%
	Pelagic Shelf Rockfish	0	0	0	0	0	0	0	0	0	0	1,535	0.00%
	Pacific Ocean Perch	0	0	0	0	0	0	0	0	0	0	13,131	0.00%
West Yakutat	Pelagic Shelf Rockfish	5	10	1	*	6	*	3	6	9	40	2,493	1.61%
	Pacific Ocean Perch	6	279	1	*	7	*	2	*	9	315	5,327	5.92%

Source: Weekly Production Reports and Alaska Department of Fish and Game fish tickets

*Withheld for confidentiality requirements

** Includes only inshore catch

Table 2-70. Estimated catcher vessel sideboard amounts in West Yakutat and Western GOA rockfish fisheries by eligible rockfish vessels using 2000 through 2006 qualifying years.

		AFA Trawl CVs						Non-AFA Trawl CVs		All Trawl		All retained catch (metric tons)	Percent of retain catch
		Non-exempt		Exempt		Total							
		Number of vessels	Landings (metric tons)	Number of vessels	Landings (metric tons)	Number of vessels	Landings (metric tons)	Number of vessels	Landings (metric tons)	Number of vessels	Landings (metric tons)		
BSAI Pacific cod		18	258	4	150	22	408	4	275	26	683	1,065,379**	0.06%
Western Gulf	Northern Rockfish	0	0	0	0	0	0	0	0	0	0	4,007	0.00%
	Pelagic Shelf Rockfish	0	0	0	0	0	0	0	0	0	0	1,535	0.00%
	Pacific Ocean Perch	0	0	0	0	0	0	1	*	1	*	13,131	*
West Yakutat	Pelagic Shelf Rockfish	3	*	0	0	3	*	2	*	5	7	2,493	0.30%
	Pacific Ocean Perch	3	*	0	0	3	*	2	*	5	274	5,327	5.15%

Source: Weekly Production Reports and Alaska Department of Fish and Game fish tickets

*Withheld for confidentiality

**Includes only inshore catch

A suboption could be adopted that would exempt eligible catcher vessels from West Yakutat rockfish sector sideboards or a sector prohibition from that fishery, provided that the catcher vessel participated in the entry level Pilot Program fishery at least one year, and participated in the West Yakutat rockfish fishery from 2006 through 2008 during the month of July. Qualified exempt vessels will be limited to their historical average annual catch in the West Yakutat rockfish fisheries during the month of July from 2006 through 2008.

Suboption: Exempt a vessel that participated in the West Yakutat rockfish fishery in 2006 through 2008 and participated in the entry level pilot fishery at least one year. These vessels will be sideboarded at their catch history for 2006 through 2008.

Of the potential entry level participants that could qualify for the main Rockfish Program, one entry level catcher vessel appears to meet the qualification criteria necessary for the exemption. The qualified vessel participated in the West Yakutat rockfish fishery during the month of July from 2006 through 2008, but did not participate in the July rockfish fishery prior to 2006 or during the 2009 season. The catch history for the qualified vessel cannot be shown, because of confidentiality limits. Complicating the exemption qualification and sideboard calculations is a pending enforcement investigation concerning all catches of

rockfish from the entry trawl fishery in 2008. At the extreme, the investigation could result in all West Yakutat rockfish catch from 2008 being ruled as illegal, which would disqualify the catcher vessel from the exemption, since it would have no West Yakutat catch history in 2008.

Eligible catcher vessels would also be limited by halibut PSC mortality in flatfish fisheries in the CGOA, WGOA, and West Yakutat. Table 2-71 and Table 2-72 show estimated halibut PSC mortality sideboard amounts in the CGOA, WGOA, and West Yakutat for 1998 through 2006 and 2000 through 2006 year periods. The table also shows participation by AFA catcher vessels, including AFA catcher vessels exempt from the AFA GOA sideboards. Estimated sideboard limits for 1996 to 2002 are from the Pilot Program sideboard limits, which are presented in Table 2-37.

Table 2-71. Estimated July halibut mortality sideboard amounts for catcher vessels using 1998 through 2006.

		Number of non- exempt eligible AFA catcher vessels with July catch	Number of exempt eligible AFA catcher vessels with July catch	Total number of eligible AFA catcher vessels with July catch	July retained catch of eligible AFA catcher vessels (mt)	Number of non-AFA eligible catcher vessels with July catch	July retained catch of eligible non-AFA catcher vessels (mt)	Total number of eligible catcher vessels with July catch	July retained catch of all eligible catcher vessels (mt)	Total retained July catch (mt)	Percent of retained July catch by eligible catcher vessels	July halibut mortality sideboard amount
Central Gulf												
Deep- water complex	Arrowtooth flounder	7	16	23	865	27	1,739	50	2,604	9,836	26.47	11.0
	Deep-water flatfish	6	15	21	195	25	154	46	349	548	63.79	**
	Rex Sole	6	15	21	256	26	191	47	447	2,308	19.37	2.2
	Total deep water											13.2
Shallow- water complex	Flathead sole	5	14	19	168	25	630	44	797	1,598	49.89	1.3
	Shallow- water flatfish	4	13	17	1,166	25	5,510	42	6,676	8,143	81.99	85.6
	Total shallow- water											86.9
Western Gulf												
Deep- water complex	Arrowtooth flounder	0	0	0	0	0	0	0	0	5,072	0.00	0.0
	Deep water flatfish	0	0	0	0	0	0	0	0	10	0.00	0.0
	Rex Sole	0	0	0	0	0	0	0	0	811	0.00	0.0
	Rockfish	0	0	0	0	0	0	0	0	20,720	0.00	0.0
	Total deep water											0
Shallow- water complex	Flathead sole	0	0	0	0	0	0	0	0	291	0.00	0.0
	Shallow- water flatfish	0	0	0	0	0	0	0	0	152	0.00	0.0
	Total shallow- water											0
West Yakutat												
Deep- water complex	Arrowtooth flounder	1	6	7	10	3	2	10	13	110	11.52	0.3
	Deep-water flatfish	1	4	5	32	1	*	6	*	*	*	**
	Rex Sole	1	4	5	27	1	*	6	*	*	*	0.0
	Rockfish	1	6	7	332	4	103	11	435	9,264	4.69	0.4
	Total deep- water											0.7
Shallow- water complex	Flathead sole	0	4	4	4	2	*	6	*	*	*	0.0
	Shallow- water flatfish	0	3	3	1	1	*	4	*	*	*	0.0
	Total shallow- water											0.0

Source: NMFS PSC, Weekly Production Reports, and Alaska Department of Fish and Game fish tickets

*Withheld due to confidentiality concerns

**Deep-water flatfish included with arrowtooth flounder due to confidentiality concerns.

Table 2-72. Estimated July halibut mortality sideboard amounts for catcher vessels using 2000 through 2006.

		Number of non- exempt eligible AFA catcher vessels with July catch	Number of exempt eligible AFA catcher vessels with July catch	Total number of eligible AFA catcher vessels with July catch	July retained catch of eligible AFA catcher vessels (mt)	Number of non-AFA eligible catcher vessels with July catch	July retained catch of eligible non-AFA catcher vessels (mt)	Total number of eligible catcher vessels with July catch	July retained catch of all eligible catcher vessels (mt)	Total retained July catch (mt)	Percent of retained July catch by eligible catcher vessels	July halibut mortality sideboard amount
Central Gulf												
Deep- water complex	Arrowtooth flounder	3	14	17	566	24	1,562	41	2,129	8,599	24.8	13.6
	Deep-water flatfish	3	14	17	138	23	100	40	238	298	79.7	0.0
	Rex Sole	3	14	17	200	24	153	41	353	1,885	18.7	**
	Total deep water											13.6
Shallow- water complex	Flathead sole	3	14	17	96	23	518	40	614	1,240	49.5	0.4
	Shallow- water flatfish	3	13	16	1,072	24	4,973	40	6,045	7,304	82.8	92.6
	Total shallow- water											93.0
Western Gulf												
Deep- water complex	Arrowtooth flounder	0	0	0	0	0	0	0	0	4,382	0.00	0.0
	Deep water flatfish	0	0	0	0	0	0	0	0	8	0.00	0.0
	Rex Sole	0	0	0	0	0	0	0	0	630	0.00	0.0
	Rockfish	0	0	0	0	0	0	0	0	18,457	0.00	0.0
	Total deep water											0
Shallow- water complex	Flathead sole	0	0	0	0	0	0	0	0	285	0.00	0.0
	Shallow- water flatfish	0	0	0	0	0	0	0	0	151	0.00	0.0
	Total shallow- water											0
West Yakutat												
Deep- water complex	Arrowtooth flounder	0	4	4	1	3	2	7	4	22	16.3	0.0
	Deep-water flatfish	0	2	2	*	1	*	3	4	4	100.0	0.0
	Rex Sole	0	2	2	*	1	*	3	2	2	100.0	0.0
	Rockfish	0	3	3	270	3	102	6	373	7,667	4.9	0.0
	Total deep- water											0.0
Shallow- water complex	Flathead sole	0	3	3	0	2	*	5	1	1	100.0	0.0
	Shallow- water flatfish	0	2	2	*	0	0	2	*	0	*	0.0
	Total shallow- water											0.0

Source: NMFS PSC, Weekly Production Reports, and Alaska Department of Fish and Game fish tickets

*Withheld due to confidentiality concerns

**Deep-water flatfish included with arrowtooth flounder due to confidentiality concerns.

Included in the Council motion are two options that could potentially ease the management burden associated with catcher vessel sideboards and reduce the observer coverage and costs associated with sideboard fisheries for the catcher vessel sector. The first option would prohibit catcher vessels from directed fishing for WGOA and West Yakutat rockfish primary species during the month of July. The second option would limit the catcher vessel sector to only shallow-water complex fisheries⁸⁵ during the month of July. As seen in Table 2-69 and Table 2-70, the sector did not participate in the WGOA northern rockfish and pelagic shelf rockfish for July, while in the West Yakutat rockfish fisheries the sector had some catch, but the share of the TAC will not be sufficient to support a directed fishery. As a result, NMFS would likely prohibit sideboarded catcher vessels from participating in the WGOA and West Yakutat rockfish primary species fisheries altogether. Similarly, the sector's halibut PSC sideboard limit (see Table 2-71 and Table 2-72) for use in the deep-water complex fisheries,⁸⁶ is insufficient for directed

⁸⁵ The shallow-water complex includes flathead sole, shallow-water flatfish, pollock, and Pacific cod.

⁸⁶ The deep-water complex includes sablefish, rockfish, deep-water flatfish, rex sole, and arrowtooth flounder.

fishing in these fisheries, so NMFS would likely prohibit sideboarded catcher vessels from targeting deep-water complex species during the month of July. Given these fisheries are likely to be closed each July to directed fishing, a sideboard limitation that simply prohibits eligible license holders from directed fishing in these fisheries would reduce management costs for these fisheries and simplify sideboard regulations for the Rockfish Program, as the small share of the TAC available will never be adequate to supported directed fishing.

Another potential benefit of the WGOA, West Yakutat rockfish, and deep-water complex prohibition is that the 100% observer requirement for catcher vessel sector may not be necessary. The original purpose of 100% observer coverage for this group of vessels was to ensure compliance with the sideboard restrictions so as not to impact other sideboarded vessels. With the likely closure of WGOA and West Yakutat rockfish fisheries and deep-water complex fisheries during the month of July, only the shallow-water complex fisheries remain available for the catcher vessel sector. As seen in Table 2-71 and Table 2-72, the catcher vessel sector is the primary participant in these fisheries. During the 1998 to 2006 qualifying period, the catcher vessel sector represented 50% of the flathead sole fishery and 82% of the shallow-water fishery. Given the catcher vessel sector is the primary participant in the shallow-water complex fisheries, a halibut PSC sideboard limit for use in shallow-water complex fisheries is not necessary for these participants during the month of July. Given these vessels would no longer be sideboarded, the original purpose of the 100% coverage for these vessels is no longer necessary. The elimination the need for 100% observer coverage for catcher vessels targeting groundfish other than CGOA rockfish, the potential cost savings for the catcher vessel sector would likely be significant.

Other sideboards for the CGOA rockfish catcher vessel sector include a prohibition on entering the BSAI directed fisheries for yellowfin sole, “other” flatfish, and Pacific ocean perch, in the month of July, as these vessels have not historically participated in these fisheries. However, in 2008, Amendment 80 was implemented that assigned exclusive harvest privileges for a specific portion to the TAC for BSAI yellowfin sole, flathead sole, rockfish sole, Atka mackerel, and Pacific ocean perch to the non-AFA catcher processors, the primary user group. The remaining TAC for these species was assigned to the BSAI trawl limited access sectors. As a result, any effects of removing the BSAI prohibition will be limited to only those few historical participants in the trawl limited access fisheries.

Included in the Council motion is an option to permit qualifying catcher vessels to participate in the BSAI Pacific cod fishery during the month of July. The intent of this option is to allow Rockfish Program qualified license holders to participate in their respective Pacific cod sector allocation in the BSAI. With a sector specific allocation of Pacific cod in the BSAI, any effect from participating rockfish catcher vessel licenses would only impact participants that have the proper endorsements to participate in the BSAI Pacific cod catcher vessel sector allocation. As of November 2009, there were approximately 150 LLP trawl catcher vessel licenses with BSAI endorsement, of which 28 were eligible to participate in the Pilot Program. As shown in Table 2-69 and Table 2-70, 26 rockfish eligible catcher vessels have participated in the BSAI Pacific cod fishery during the month of July. Overall, the rockfish eligible catcher vessels reported less than 1% of the retained catch during each of the different qualifying years. Despite the limited catch and the specific sector allocation of BSAI Pacific cod, it is possible that rockfish eligible licenses with a BSAI endorsement could increase their July catch of BSAI Pacific cod, if the stand-down was removed, thereby negatively impacting other BSAI Pacific cod participants.

Under all catcher vessel alternatives, AFA vessels that are not exempt from AFA GOA groundfish sideboards would be exempt from Rockfish Program sideboards. The rationale for this exemption is that these vessels are already covered by AFA sideboards for their harvests of GOA and BSAI species that would be sideboarded under this program. Of the 53 catcher vessel licenses that are eligible in this program, 25 are qualified for AFA cooperatives. Of these, 13 vessels are exempt from the AFA GOA

sideboards, and 4 are exempt from the AFA BSAI Pacific cod sideboards. Under the Rockfish Program alternatives, it is possible that AFA vessels that are exempt from sideboards under the Rockfish Program could increase their catch in other GOA groundfish fisheries.

Catcher processor alternatives

Under the catcher processor alternatives, inter-sectoral sideboards will be established to LLP license holders eligible for the Rockfish Program from increasing their effort in other fisheries. Under the alternatives, the Council could limit the sector, in the aggregate, to their historical July catch of WGOA Pacific ocean perch, northern rockfish, and pelagic shelf rockfish, and West Yakutat Pacific ocean perch and pelagic shelf rockfish. However, recognizing that 11 of the 13 eligible rockfish catcher processors are also qualified Amendment 80 vessels that are already limited by a yearly sideboard for these rockfish species, the Council may elect not to impose an additional sideboard limit for these species during the month of July. The Council could also limit the sector to its historical average halibut PSC mortality in GOA July fisheries that are typically constrained by halibut PSC. To manage the PSC of halibut, the limit would be applied to all fishing within the applicable complex (i.e., deep-water and shallow-water) Gulf-wide. Again, the Council may elect not to impose an additional sideboard limit for halibut PSC mortality during the month of July, given that most of the vessels in the sector are already limited to their historical halibut PSC mortality, due to an Amendment 80 sideboard.

In addition to the general sideboard provisions noted above, catcher processors may also be required to participate in a number of different stand-downs. If all vessels in the cooperative develop an adequate CMCP that has been approved by NMFS and maintain the plan during all fishing in CGOA rockfish sideboard fisheries, cooperative members would be exempt from any stand-down in the GOA groundfish fisheries. Again, recognizing that most of the rockfish qualified catcher processors are restricted by Amendment 80 sideboards in the GOA, the Council can choose to not require stand-downs from other GOA groundfish fisheries for cooperative members.

Looking at the different GOA groundfish fisheries, Table 2-73 shows the reasons for closing of the different July fisheries during the qualifying years.

Table 2-73. Reasons for closures in Gulf of Alaska July groundfish fisheries (1996 through 2006).

		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Western Gulf	Pacific Ocean perch	TAC	TAC	TAC	TAC	TAC	TAC	TAC	TAC	TAC	TAC	TAC
	Northern rockfish	TAC	TAC	TAC		TAC	TAC	TAC	TAC	TAC	TAC	TAC
	Pelagic shelf rockfish			TAC		halibut	halibut	halibut	halibut	halibut	halibut	TAC
	Other rockfish		TAC	TAC		bycatch	bycatch	bycatch	bycatch	bycatch	TAC	bycatch
	Shallow water flatfish					halibut	halibut	halibut	halibut	halibut	halibut	halibut
	Deep water flatfish						halibut	halibut	halibut	halibut	halibut	halibut
	Rex sole					halibut	halibut	halibut	halibut	halibut	halibut	halibut
	Flathead sole					halibut	halibut	halibut	halibut	halibut	halibut	halibut
	Arrowtooth flounder					TAC	halibut	halibut	TAC	halibut	halibut	halibut
Central Gulf	Other rockfish					bycatch	bycatch	bycatch	TAC	TAC	TAC	TAC
	Shallow water flatfish					halibut	halibut	halibut	halibut	halibut	halibut	halibut
	Deep water flatfish					halibut	halibut	halibut	halibut	halibut	halibut	halibut
	Rex sole					halibut	halibut	halibut	halibut	halibut	halibut	halibut
	Flathead sole					halibut	halibut	halibut	halibut	halibut	halibut	halibut
West Yakutat	Arrowtooth flounder					halibut	halibut	halibut	halibut	halibut	halibut	halibut
	Pacific Ocean perch	TAC*	TAC*	TAC*	TAC*		TAC	TAC	TAC	TAC	TAC	TAC
	Northern rockfish	bycatch*	TAC	bycatch*	bycatch*							
	Pelagic shelf rockfish			TAC*		TAC	TAC	TAC	TAC	TAC	TAC	halibut
	Other rockfish		TAC*	TAC*	TAC*	TAC	bycatch	bycatch	bycatch	bycatch	bycatch	bycatch
	Shallow water flatfish					halibut	halibut	halibut	halibut	halibut	halibut	halibut
	Deep water flatfish					halibut	halibut	halibut	halibut	halibut	halibut	halibut
	Rex sole					halibut	halibut	halibut	halibut	halibut	halibut	halibut
	Flathead sole					halibut	halibut	halibut	halibut	halibut	halibut	halibut
Gulfwide	Arrowtooth flounder					halibut	halibut	halibut	halibut	halibut	halibut	halibut
	Shallow water complex	halibut	halibut	TAC	halibut							
	Deep water complex	halibut	TAC	halibut	halibut							

*Managed in the Eastern Gulf

As seen in the above table, historically, the rockfish fisheries in the WGOA and West Yakutat have in general closed due to harvesting of the TAC and have had relatively short seasons given that a substantial amount of effort moves into these fisheries during the traditional July fishing period. Whether additional effort would flow into those fisheries if the CGOA rockfish were rationalized is not known. However, the increase in effort, if any, may be limited, given that few fishing opportunities historically existed in the BSAI during the month of July, so these catcher processor vessels would have had the opportunity to participate in those rockfish fisheries in the past.

Halibut PSC limits also tend to restrict the harvest of several groundfish species in the GOA. Halibut PSC limits, developed to manage halibut mortality in other directed fisheries, often constrain harvest of species assigned to the deep-water fishery and shallow-water fishery complexes. If vessels do not have adequate amounts of halibut PSC allowance to cover their groundfish harvests, increases for those species will not occur. In general, halibut PSC tends to close fishing for most of the flatfish species, so it is expected that the PSC sideboards would limit harvest of flatfish species more than groundfish catch limits. The species that close as a result of the TAC being harvested are more likely to require groundfish sideboards.

To estimate sideboard amounts, data from the week ending dates shown in Table 2-74 were used. These dates were chosen to estimate July harvests as specified by the Council motion. Estimated sideboard limits for 1996 to 2002 are from the Pilot Program sideboard limits, which are presented in Table 2-35 and Table 2-77. Table 2-75 and Table 2-76 show estimated sideboards for the catcher processor sector in fisheries that would be limited by catch of the rockfish primary species using the two remaining qualifying periods.⁸⁷ Sideboards would be based on the sector's retained catch as a percentage of retained catch in a fishery. As shown in the tables below, the higher catch numbers relative, to total catch, in more recent years yields higher sideboard percentages in the WGOA and West Yakutat rockfish fisheries. For West Yakutat, the lack of vessel activity in more recent years prevents the publishing of estimated sideboard percentage.

Table 2-74. Week ending dates for data used to generate retained harvest of sideboard species.

1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
6-Jul	5-Jul	4-Jul	3-Jul	8-Jul	7-Jul	6-Jul	5-Jul	3-Jul	2-Jul	1-Jul
13-Jul	12-Jul	11-Jul	10-Jul	15-Jul	14-Jul	13-Jul	12-Jul	10-Jul	9-Jul	8-Jul
20-Jul	19-Jul	18-Jul	17-Jul	22-Jul	21-Jul	20-Jul	19-Jul	17-Jul	16-Jul	15-Jul
27-Jul	26-Jul	25-Jul	24-Jul	29-Jul	28-Jul	27-Jul	26-Jul	24-Jul	23-Jul	22-Jul
3-Aug	2-Aug	1-Aug	31-Jul		4-Aug	3-Aug	2-Aug	31-Jul	30-Jul	29-Jul

⁸⁷ "Transfer history" is included in the tables by including both the harvests of the vessel that is currently associated with the LLP license and the vessel that was originally associated with the LLP license, in the case of transferred LLP licenses. The table includes all retained catch by eligible participants regardless of whether the species was targeted.

Table 2-75. Estimated catcher processor sideboard amounts in fisheries limited by rockfish primary species catch for qualifying period 1998 through 2006.

Management Area	Species	Number of vessels	Retained catch (mt)	All retained catch (mt)	Percent of retained catch
WGOA	Northern Rockfish	9	3,003.6	4,488.1	66.9%
	Pacific Ocean Perch	10	8,476.8	15,422.1	55.0%
	Pelagic Shelf Rockfish	9	1,127.8	1,631.8	69.1%
WY	Pacific Ocean Perch	1	*	*	*
	Pelagic Shelf Rockfish	2	*	*	*

Source: Weekly Production Reports and Alaska Department of Fish and Game fish tickets

*Withheld for confidentiality

Table 2-76. Estimated catcher processor sideboard amounts in fisheries limited by rockfish primary species catch for qualifying period 2000 through 2006.

Management Area	Species	Number of vessels	Retained catch (mt)	All retained catch (mt)	Percent of retained catch
WGOA	Northern Rockfish	9	2,975.9	4,007.2	74.3%
	Pacific Ocean Perch	10	6,644.6	13,131.3	50.6%
	Pelagic Shelf Rockfish	10	1,109.7	1,534.5	72.3%
WY	Pacific Ocean Perch	1	*	*	*
	Pelagic Shelf Rockfish	1	*	*	*

Source: Weekly Production Reports and Alaska Department of Fish and Game fish tickets

*Withheld for confidentiality

Included in the Council motion is an option to remove sideboard limits for WGOA and West Yakutat rockfish primary species. The Council included this option for consideration because of a nearly identical sideboard on most eligible license holders from Amendment 80. Implemented in 2008, the Amendment 80 program allows eligible members of the head-and-gut trawl catcher processor sector to form cooperatives in the BSAI. The increased flexibility associated with cooperative formation enables the participants to change their fishing patterns to give them a competitive advantage over participants in non-rationalized GOA fisheries. To limit Amendment 80 vessels to their historical catch in the GOA from January 1 through December 31, the program included sideboards for GOA pollock, Pacific cod, Pacific ocean perch, northern rockfish, pelagic shelf rockfish, and halibut PSC for Amendment 80 catcher processor vessels.

Amendment 80 GOA sideboard restrictions are based on annual historic usage during the 1998 through 2004 qualifying period. Specifically, annual retained catch for non-exempt qualified head-and-gut trawl catcher processors by GOA area as a percentage of annual total retained catch of all sectors in that area from 1998 to 2004. Table 2-77 shows the Amendment 80 sideboards for WGOA and West Yakutat rockfish in addition to the estimated Rockfish Program sideboards for these same species.

Table 2-77. Estimated GOA rockfish catcher processor sideboard limits for the Rockfish Program and Amendment 80 program rockfish sideboard limits.

Management Area	Species	Amendment 80 sideboard percentage	Rockfish program sideboard percentages		
			1996-2002**	1998-2006	2000-2006
WGOA	Northern Rockfish	100.0%	78.9%	66.9%	74.3%
	Pacific Ocean Perch	99.4%	61.1%	55.0%	50.6%
	Pelagic Shelf Rockfish	76.4%	63.3%	69.1%	72.3%
WY	Pacific Ocean Perch	96.1%	76.0%	*	*
	Pelagic Shelf Rockfish	89.6%	72.4%	*	*

Source: Weekly Production Reports and Alaska Department of Fish and Game fish tickets

*Withheld for confidentiality

** The 1996-2002 sideboard percentages are Pilot Program sideboard percentages.

One of the obvious differences between the two sideboards is that Amendment 80 sideboards are based on the retained catch of the rockfish species during the **entire year** and the sideboards for the Rockfish Program are based on retained catch during the **month of July**. Given these calculation differences, it would be expected that the Amendment 80 program sideboard limits would be less restrictive than the Rockfish Program sideboard limits, which is reflected in Table 2-77. Another difference between the two sideboards is who would be limited by the sideboard. For the Rockfish Program, the sideboard would restrict the holders of LLP licenses eligible to receive rockfish quota share, even if the LLP license holder did not submit an application to participate in the Rockfish Program. The sideboard would apply to the fishing vessel itself and to any LLP license derived in whole or in part from the history of that vessel. The Amendment 80 sideboard restricts Amendment 80 vessels (and license attached to the vessel) that receive quota shares.

If WGOA and West Yakutat rockfish sideboards are included in the Rockfish Program, rockfish eligible license holders that are also Amendment 80 qualified would be limited in their catch of WGOA and West Yakutat rockfish during the month of July by both Rockfish Program sideboards and Amendment 80 sideboards (Table 2-77). This duplication of WGOA and West Yakutat rockfish sideboards from the two programs increases management cost and increases complexity of these sideboarded fisheries. Those most impacted by the absence of WGOA and West Yakutat rockfish catcher processor sideboards would be Amendment 80 participants that are not Rockfish Program qualified, with historical participation in the WGOA and West Yakutat fisheries. In general, there have been four or fewer active participants in any given year during the July WGOA rockfish fisheries in the 5 years leading up to implementation of the Pilot Program. Since implementation of the Pilot Program, two of these participants have not participated in the WGOA rockfish fisheries, while at the same time two Amendment 80 vessels that are not Rockfish Program qualified and have not actively participated in fisheries for these species in the 5 years leading up to the Pilot Program, started participating in these fisheries. For West Yakutat, there has been only one consistently active catcher processor participant prior to implementation of the Pilot Program, and that participant is qualified for both the Amendment 80 and Rockfish Program. Since implementation of the Pilot Program, an additional vessel that is also both Amendment 80 and Rockfish Program qualified has participated in the West Yakutat rockfish fishery.

By not including WGOA and West Yakutat rockfish sideboards in the Rockfish Program for the catcher processor sector, most, but not all, of the eligible license holders would still be limited to their historical catch of these species during the month of July from Amendment 80 sideboard limits. Two eligible CP license holders in the Pilot Program do not qualify for Amendment 80, so these LLP licenses would not be restricted by Amendment 80 sideboard limits, if rockfish sideboards are not included in the Rockfish Program.

Although not an indication of future fishing behavior, historically, these two eligible license holders have very limited catch history in West Yakutat rockfish fisheries and no catch history in WGOA rockfish fisheries during the month of July. One reason for the limited history in West Yakutat rockfish fisheries is likely due to the small TACs, which corresponds with small sideboard limits for these rockfish species in this area. In all likelihood, the limited catch makes the cost for most eligible license holders prohibitive relative to the revenue, thus it is unlikely any of these eligible license holders would fish in the West Yakutat rockfish fisheries at current TAC levels. In addition, given the West Yakutat fishery is a niche fishery with knowledgeable historical participants, new participants would likely be at a disadvantage in the fishery, thus making it less likely those few eligible license holders that are not limited by sideboards from entering those fisheries would do so. As for the absence of history in the WGOA, these licenses lack WGOA endorsements.

Despite the lack of history in the West Yakutat and WGOA rockfish fisheries, these eligible licenses could be used to target West Yakutat and WGOA rockfish during the month of July. To limit these participants from increasing their effort in WGOA and West Yakutat rockfish fisheries, the Council could include a sideboard limit for these licenses. Given these eligible licenses have little or no catch history in West Yakutat rockfish fisheries and no history in the WGOA rockfish fisheries, the simplest approach would be to prohibit these licenses from participating in these fisheries during the month of July. This would simplify management by eliminating the need to publish the annual sideboard limits for these fisheries followed by a closure notice for these sideboard fisheries given there would not be a sufficient amount of catch available to conduct a directed fishery.

In summary, the Amendment 80 sideboard limits for WGOA and West Yakutat rockfish species will likely be sufficient to prevent Rockfish Program participants from encroaching on other participants in these fisheries. Given that Amendment 80 sideboards in these fisheries would likely curtail effort to the same degree as the proposed Rockfish Program sideboards, the addition of these Rockfish Program specific sideboards in WGOA and West Yakutat rockfish fisheries only duplicates management costs and increase the complexity of the sideboard fisheries for managers and fisherman, with very little marginal benefit from the additional sideboard limit.

Catcher processors could also be limited in their catch of GOA groundfish by a second sideboard that is intended to constrain harvests from fisheries that are typically halibut PSC constrained. NMFS would administer the sideboard on a deep-water complex/shallow-water complex basis. A separate sideboard would be set for each complex.⁸⁸ If, in July, eligible license holders in the Rockfish Program have caught the sideboard halibut PSC amount within the shallow-water complex, they would be precluded from participating in flathead sole and shallow-water flatfish fisheries for the remainder of the month of July, while within the deep-water complex they would be precluded from participating in rex sole, deep-water flatfish, and arrowtooth flounder fisheries for the same period. Table 2-78 and Table 2-79 show the halibut PSC usage in the WGOA, CGOA, and West Yakutat trawl fisheries. Notably, halibut PSC usage was generally highest in the rockfish fisheries in the CGOA and substantial halibut PSC was taken in the WGOA and West Yakutat rockfish fisheries. The relatively high incidental catch of halibut PSC in the rockfish fisheries raises the question of why halibut PSC did not constrain the rockfish fisheries during the 1996 to 2006 period. The reason is likely because participants typically target rockfish prior to moving on to other fisheries. The non-rockfish fisheries (mostly the flatfish fisheries) are halibut PSC-constrained because of their own halibut PSC usage and the reduced halibut PSC remaining after the taking of halibut PSC by the rockfish fisheries.

⁸⁸ The deep-water complex includes sablefish, rockfish, deep-water flatfish, rex sole, and arrowtooth flounder. The shallow-water complex includes flathead sole, shallow-water flatfish, pollock, and Pacific cod.

Estimated sideboard limits during 1996 through 2002 are from the Pilot Program sideboard limits, which are presented in Table 2-35 and Table 2-77. Table 2-78 and Table 2-79 show July halibut PSC mortality in the WGOA, CGOA, and West Yakutat during the qualifying years 1998 through 2006 and 2000 through 2006. The tables show substantial halibut PSC mortality in rockfish fisheries and shallow-water flatfish, arrowtooth flounder, flathead sole, and rex sole fisheries.

Table 2-78. July halibut PSC mortality in Gulf of Alaska trawl fisheries during the 1998 through 2006.

	Western GOA	Central GOA	West Yakutat
Rockfish	173.9	1,965.0	71.6
Deep Water Flatfish	0.0	*	14.6
Shallow Water Flatfish	13.5	939.8	0.0
Flathead Sole	**	22.9	0.0
Arrowtooth Flounder	164.0	362.0	***
Rex Sole	36.0	103.6	***

Source: NMFS PSC data

*Deep-water flatfish included with arrowtooth due to confidentiality concerns.

**Flathead sole included with shallow-water flatfish due to confidentiality concerns.

***Rex sole and arrowtooth flounder included in deep-water flatfish due to confidentiality concerns.

Table 2-79. July halibut PSC mortality in Gulf of Alaska trawl fisheries during the 2000 through 2006.

	Western GOA	Central GOA	West Yakutat
Rockfish	165.1	1,524.7	26.2
Deep Water Flatfish		0.0	**
Shallow Water Flatfish	13.5	783.1	0.0
Flathead Sole	***	5.3	0.0
Arrowtooth Flounder	160.7	406.1	0.0
Rex Sole	*	*	0.0

Source: NMFS PSC data

*Rex sole included with arrowtooth due to confidentiality concerns.

**Deep-water flatfish and arrowtooth flounder included with rockfish due to confidentiality concerns.

***Flathead sole included with shallow-water flatfish due to confidentiality concerns.

The second step in estimating halibut PSC mortality is to estimate the amount of halibut PSC historically used by catcher processors eligible for the Rockfish Program. To estimate the amount of halibut PSC used in a fishery, the percentage of total retained catch of each target species in July by eligible catch processors during the qualifying years was determined. This percentage was multiplied by the average annual halibut PSC usage in that target fishery. Estimates arrived at using this method are shown in Table 2-80 and Table 2-81. Sideboard estimates for 1996 through 2002 are from the Pilot Program and are shown in Table 2-77 and Table 2-82. Sideboard estimates are separated into the deep-water complex and shallow-water complex, with estimates of halibut PSC amounts to support the WGOA and West Yakutat rockfish fisheries. As noted earlier, halibut PSC to support the CGOA rockfish harvests are allocated under the program, and therefore are not included in the sideboard amounts.

Table 2-80 Estimated catcher processor July halibut PSC mortality sideboard amounts using 1998 through 2006 qualifying years.

		Number of eligible catcher processors with July catch	July retained catch of eligible catcher processors (mt)	Total retained July catch (mt)	Percent of retained July catch by eligible catcher processors	July halibut mortality sideboard amount (mt)
Central Gulf						
Deep-water complex	Arrowtooth flounder	10	4,645	9,836	47.2%	19.0
	Deep-water flatfish	4	83	548	15.2%	*
	Rex Sole	10	415	2,308	18.0%	2.1
	Total deep water					21.1
Shallow-water complex	Flathead sole	8	126	1,598	7.9%	0.2
	Shallow water flatfish	5	7	8,143	0.1%	0.1
	Total shallow water					0.3
Western Gulf						
Deep-water complex	Arrowtooth flounder	10	1,103	5,072	21.8%	4.0
	Deep-water flatfish	3	7	10	66.8%	0.0
	Rex Sole	9	414	811	51.0%	2.0
	Rockfish	10	12,609	20,720	60.9%	11.8
	Total deep water					17.8
Shallow water complex	Flathead sole	5	175	291	60.2%	**
	Shallow water flatfish	5	109	152	72.1%	1.1
	Total shallow water					1.1
West Yakutat						
Deep water complex	Arrowtooth flounder	3	93	110	84.9%	***
	Deep-water flatfish	2	53	86	61.4%	1.0
	Rex Sole	2	37	65	57.8%	***
	Rockfish	2	8,490	9,264	91.6%	7.3
	Total deep water					8.3
Shallow water complex	Flathead sole	1	3	8	38.1%	0.0
	Shallow water flatfish	0	0	3	0.0%	0.0
	Total shallow water					0.0

Source: NMFS PSC, Weekly Production Reports, and Alaska Department of Fish and Game fish tickets

*Deep-water flatfish included with arrowtooth flounder due to confidentiality concerns.

**Flathead sole included with shallow-water flatfish due to confidentiality concerns.

***Rex sole and arrowtooth flounder included in deep-water flatfish due to confidentiality concerns.

Table 2-81. Estimated catcher processor July halibut PSC mortality sideboard amounts using 2000 through 2006 qualifying years.

		Number of eligible catcher processors with July catch	July retained catch of eligible catcher processors (mt)	Total retained July catch (mt)	Percent of retained July catch by eligible catcher processors	July halibut mortality sideboard amount (mt)
Central Gulf						
Deep-water complex	Arrowtooth flounder	10	4,203	8,599	48.9%	28.4
	Deep-water flatfish	1	12	298	3.9%	0.0
	Rex Sole	10	281	1,885	14.9%	*
	Total deep water					28.4
Shallow-water complex	Flathead sole	8	85	1,240	6.8%	0.1
	Shallow water flatfish	4	1	7,304	0.0%	0.0
	Total shallow water					0.1
Western Gulf						
Deep-water complex	Arrowtooth flounder	10	923	4,382	21.1%	4.8
	Deep-water flatfish	3	7	8	89.4%	0.0
	Rex Sole	9	411	630	65.2%	*
	Rockfish	10	10,730	18,457	58.1%	13.7
	Total deep water					18.5
Shallow water complex	Flathead sole	5	175	285	61.4%	***
	Shallow water flatfish	5	108	151	72.0%	1.4
	Total shallow water					1.4
West Yakutat						
Deep water complex	Arrowtooth flounder	1	18	22	83.7%	0.0
	Deep-water flatfish	0	0	4	0.0%	**
	Rex Sole	0	0	2	0.0%	0.0
	Rockfish	1	7,294	7,667	95.1%	3.6
	Total deep water					3.6
Shallow water complex	Flathead sole	0	0	1	0.0%	0.0
	Shallow water flatfish	0	0	0	0.0%	0.0
	Total shallow water					0.0

Source: NMFS PSC, Weekly Production Reports, and Alaska Department of Fish and Game fish tickets

*Rex sole included with arrowtooth flounder due to confidentiality concerns.

**Deep-water flatfish and arrowtooth flounder included with rockfish due to confidentiality concerns.

***Flathead sole included with shallow-water flatfish due to confidentiality concerns.

Similar to WGOA and West Yakutat rockfish sideboards, the Council included an option to remove July halibut PSC sideboard limits for the catcher processor sector, given that the sector is already limited to their historical GOA halibut PSC usage from the Amendment 80 program. Implemented in 2008, the Amendment 80 program includes sideboards for GOA halibut PSC for Amendment 80 vessels in addition to limiting participation in the GOA flatfish fishery to historical participants. GOA halibut PSC sideboards are set based on historical usage of halibut PSC by the Amendment 80 fleet from 1998 to 2004. In addition to halibut PSC sideboard limits, Amendment 80 also limits participation in the GOA flatfish fishery to those Amendment 80 vessels that participated for more than 10 weeks in the GOA flatfish fisheries from 1998 through 2004. Of the 11 Amendment 80 vessels that are permitted to participate in directed GOA flatfish fisheries, seven of these participants are also eligible license holders in the Rockfish Program. The remaining Amendment 80 vessels that are also eligible license holders in the Rockfish Program are restricted from directed fishing in GOA flatfish fisheries. The Amendment 80 program also includes an exemption from GOA halibut sideboards, if a vessel had fished 80% of their weeks in the GOA flatfish fisheries during the 2000 through 2003 period. Exempt vessels would be

prohibited from directed fishing for all other sideboarded species in the GOA (rockfish, Pacific cod, and pollock). The F/V *Golden Fleece* was the only Amendment 80 vessel that qualified for this exemption. The historical catch of the F/V *Golden Fleece* does not contribute to the halibut PSC sideboard limit calculation, and the halibut PSC usage of the F/V *Golden Fleece* does not count towards the halibut sideboard limit.

Differences between the two halibut PSC sideboard limitations are similar to those noted in the general rockfish sideboards. Proposed halibut PSC sideboards for the Rockfish Program would be based on halibut usage in July, while Amendment 80 halibut PSC sideboards are based on halibut PSC usage throughout the entire year. Table 2-82 shows the Rockfish Program's estimated halibut PSC sideboard limits for the deep-water complex and the shallow-water complex for the month of July, in addition to Amendment 80 halibut sideboard limits for both of these complexes by season.

Table 2-82. Estimated halibut PSC sideboard limits for the Rockfish Program and Amendment 80 program.

Fishery Complex	AM 80 3 rd season (July 1 – Sept 1) sideboard amount (mt)	Rockfish program sideboard percentages		
		1996-2002 (mt)*	1998-2006 (mt)	2000-2006 (mt)
Shallow-water complex	29	11	1.4	1.5
Deep-water complex	104	80	47.2	50.5

Source: NMFS PSC, Weekly Production Reports, and Alaska Department of Fish and Game fish tickets

*The 1996-2002 sideboard percentages are Pilot Program sideboard percentages.

There are also differences in participation between the two programs that ultimately affect the number of eligible license holders in the sector that would still be sideboarded on their halibut PSC usage through Amendment 80, if halibut limits were not included in the Rockfish Program. As noted in the above discussion on rockfish sideboards for catcher processors, nearly all of the eligible license holders in the Rockfish Program are already limited on their halibut PSC usage through the Amendment 80 third season halibut PSC sideboard limit. By including July halibut PSC sideboards in the Rockfish Program, nearly all of the eligible license holders would be limited by both the Rockfish Program July halibut PSC sideboards and Amendment 80 third season halibut PSC sideboard limits. However, absent any halibut PSC sideboard limit from the Rockfish Program, two license holders would not be limited in their halibut PSC usage, while the F/V *Golden Fleece*, an Amendment 80 vessel, is exempt from Amendment 80 GOA halibut PSC sideboards.

Similar to WGOA and West Yakutat rockfish fisheries, the Council could include a halibut PSC sideboard limit for the two eligible licenses not limited by Amendment 80 sideboard limits. As for the F/V *Golden Fleece*, a halibut PSC sideboard limit specific to this license and vessel may not be necessary. As noted above, the F/V *Golden Fleece* is limited to the GOA flatfish fisheries only. Any halibut PSC mortality from the F/V *Golden Fleece* does not count against the Amendment 80 third season halibut PSC sideboard limit. Given the prohibition on targeting GOA rockfish and other groundfish fisheries, the F/V *Golden Fleece* is limited in its ability to redistribute its effort to other fisheries in which the vessel has limited or no history. Given this limited ability to negatively impact other fisheries, halibut PSC sideboards for the F/V *Golden Fleece* are likely not necessary. As for the two licenses that are not limited by Amendment 80 third season halibut PSC sideboard limit, the simplest approach would be to prohibit these eligible licenses from participating in deep-water and shallow-water complex fisheries during the month of July, given their extremely limited catch history in these fisheries. This sideboard approach would simplify management by eliminating the need to publish the annual sideboard limits for these fisheries followed by a closure notice for these sideboard fisheries since the sideboard limit would not be sufficient to conduct a directed fishery.

Overall, the July halibut PSC sideboard limits that are proposed for the Rockfish Program are also captured in the Amendment 80 third season halibut PSC sideboard limit since the sideboard PSC calculation under the two programs are roughly based on the same halibut PSC usage by the eligible license holders during the July period. As a result, including July PSC halibut sideboard limits in the Rockfish Program would only duplicate sideboard limits, thus increasing the cost of managing these limits and increasing the complexity of these limits. As noted above in the discussion on rockfish sideboards, those most impacted by the absence of a halibut PSC sideboard limit would be Amendment 80 participants that are not qualified for the Rockfish Program and have historically participated in shallow-water and deep-water complex fisheries. In general, there have been four or fewer active participants in the shallow-water and deep-water complex fisheries in any given year during the July period in the 5 years leading up to implementation of the Pilot Program. Participation since implementation of Pilot Program has shifted away from historical participants to new participants.

The Council also included an option that would prohibit all eligible license holders from participating in shallow-water complex fisheries for the month of July. The shallow-water complex includes flathead sole, shallow water flats, pollock, and Pacific cod. Relative to historical catch in the deep-water complex, catch in the shallow-water complex has been minimal for the sector as a whole. As seen in Table 2-82, the halibut PSC sideboard limit for the shallow-water complex would be 11 metric tons using 1996 through 2002 qualifying years and slightly over 1 metric ton using the 1998 through 2006 and 2000 through 2006 qualifying periods. The low halibut PSC sideboard limits for shallow-water complex fisheries are an indication of the level of effort by the catcher processor sector in these fisheries in comparison to the level of effort in the deep-water complex fisheries. Overall, a prohibition on participating in the shallow-water complex fisheries during July would likely impact those license holders that tend to target shallow-water species in greater proportion than deep-water complex fisheries.

Eligible license holders that elect to participate in the cooperative program could also be limited by a cooperative sideboard and stand-downs. Most participants would be expected to opt for a cooperative, under which a cooperative would be limited to its historical catch in sideboarded fisheries. These limitations should be sufficient to prevent participants from encroaching on other fisheries by increasing their efforts. In addition, catcher processors may also be required to participate in a number of different stand-downs. However, if all vessels in the cooperative develop an adequate monitoring plan that has been approved by NMFS and maintain the plan during all fishing in CGOA rockfish sideboard fisheries, cooperative members would be exempt from any stand-down in the GOA groundfish fisheries. Again, recognizing that most of the rockfish qualified catcher processors are restricted by Amendment 80 sideboards in the GOA, the Council can choose not to require stand-downs from other GOA groundfish fisheries for cooperative members. Likely impacts from these stand-downs would be increased sideboard complexity and increased burden on management from monitoring stand-downs. Not including stand-downs could impact those Amendment 80 catcher processors that are not Rockfish Program qualified who participate in WGOA and West Yakutat groundfish fisheries. As noted above, there were approximately four historical participants that were active in the GOA July groundfish fisheries prior to the Pilot Program. Since implementation of the Pilot Program, few pre-pilot participants have continued in the July GOA groundfish fisheries, while other Amendment 80 qualified vessels have entered the July groundfish fisheries. Given the limited number of participants affected, and all but three of the qualified catcher processors already limited by Amendment 80 sideboards, the stand-downs may not be necessary.

Eligible license holders could elect to fish in a limited access fishery, instead of joining a cooperative or opting-out of the program. Participants that choose to enter the limited access fishery that have in excess of 5% of the sector's qualified catch of Pacific ocean perch would be required to stand down in the GOA groundfish fisheries, until 90% of the limited access allocation is harvested. Seven licenses are estimated to have history in excess of the 5% threshold using 1996 through 2002 qualifying period. Five licenses

are estimated to have history in excess of the 5% threshold using 1998 through 2006 and 2000 through 2006 qualifying periods. Participants with less than 5% of the Pacific ocean perch qualified history would not be subject to any stand-down requirement. The intent of the stand-down was to prevent eligible license holders with large Pacific ocean perch allocations from using the benefits of the Rockfish Program to retain their historical catch of CGOA Pacific ocean perch, while also expanding their effort into other groundfish fisheries thereby impacting historical participants in those fisheries.

Since the implementation of the Pilot Program, the number of eligible license holders that have elected to participate in the limited access fishery has ranged from four in 2007, to seven in both 2008 and 2009. Of those participants, the number of eligible licenses that have been required to stand down due to having more than 5% of the CGOA Pacific ocean perch qualified history has ranged from two in 2007, to three in 2008 and 2009. During the July fishery, these eligible license holders have fished their CGOA rockfish allocation during the first 2 weeks, then moved into other GOA groundfish fisheries. Participants in the limited access fishery have also worked more as a cooperative and less as a limited access fishery. Given the limited access group appears to be working together, removing the stand down for licenses with greater than 5% of the CGOA Pacific ocean perch qualified history would potentially allow those license holders to redistribute their effort into other GOA fisheries thereby impacting other Rockfish Program participants.

In general, the stand-down would likely increase the complexity of the program and increase the management burden necessary to monitor individual participants. However, stand-downs could be used to limit those rockfish participants with large Pacific ocean perch allocation from impacting Amendment 80 participants that are not rockfish qualified that historically participated in GOA groundfish fisheries during the first 2 weeks in July.

Eligible license holders that opt out of the program would be prevented from fishing in any fishery that the license holder did not participate in during the first week of July in at least two of the qualifying years. This provision is intended to prevent participants with multiple licenses and substantial history from opting out of the program with one license and entering other fisheries in which the license holder has no history. The history from the “opt out license” would be reallocated within the sector, including to other licenses also held by the holder of the “opt out license.” In the Pilot Program, the qualifying years are from 1996 through 2002. Under the Rockfish Program, there are three qualifying years—1996 through 2002, 1998 through 2006, and 2000 through 2006. The current language in the proposed action was inadvertently not updated to reflect the addition of the new qualifying years. Since the addition of the new qualifying years simply adds compressed intervals to the already existing 1996 through 2002 qualifying years, this analysis was expanded. The language in the motion should be adjusted to reflect these new qualifying years in the subsequent analysis. The relevant opening dates are listed in Table 2-83.

Table 2-83. Rockfish opening dates and weekending dates for federal data (1996 through 2006).

Year	Opening	1st Weekending date	2nd Weekending date
1996	1-Jul	6-Jul	13-Jul
1997	1-Jul	5-Jul	12-Jul
1998	1-Jul	4-Jul	11-Jul
1999	4-Jul	3-Jul	10-Jul
2000	4-Jul	8-Jul	15-Jul
2001	1-Jul	7-Jul	14-Jul
2002	30-Jun	6-Jul	13-Jul
2003	29-Jun	5-Jul	12-Jul
2004	4-Jul	3-Jul	10-Jul
2005	5-Jul	2-Jul	9-Jul
2006	1-Jul	1-Jul	8-Jul

Dates in bold are to be used for identifying participation in the first week of July for sideboard purposes.

Another possible effect of the Rockfish Program on other fisheries could arise from the allocation of shortraker rockfish and rougheye rockfish to program participants. Whether the portion of the TAC remaining after the allocations to the rockfish fisheries will be adequate to support catch of shortraker rockfish and rougheye rockfish in other fisheries is not certain.

2.4.17 Duration and Review

Provisions for program review and duration of shares are contained in two sections of the Council motion. Analysis of these provisions and options are consolidated in this section. Sections 15 and 16 of the Council motion contain the following provisions concerning duration and review of the Rockfish Program:

15 Program review

A formal detailed review of the program shall be undertaken 5 years after implementation. The review shall assess:

- 1) the progress of the program in achieving the goals identified in the purpose and need statement and the MSA, and
- 2) whether management, data collection and analysis, and enforcement needs are adequately met. Additional reviews will be conducted every 7 years thereafter coinciding with the fishery management plan policy review.

16 Duration

Share Duration

The duration of all CGOA rockfish LAPP program permits are 10 years. These permits shall be renewed before their expiration, unless the permit has been revoked, limited, or modified.

Option: Program Duration

Absent Council review and recommendation to extend, the CGOA rockfish LAPP program expires 10 years after implementation.

The NRC study, “Sharing the Fish,” points out that LAPPs that are stable and in which persons are able to make long-term investments will achieve greater benefits. While the MSA provides that LAPPs create a revocable privilege that is not permanent, the creation of long-term interests is argued by some to create a stewardship and conservation interest by giving participants a more direct stake in the condition of the stock.

The Council is considering an option that would end the program 10 years after the date of implementation, absent Council review and recommendation to extend the program. By not selecting this option, the program would have an indefinite duration (subject to modification as the Council deems necessary), with reviews set at specific intervals. Program reviews would be conducted 5 years after implementation and every 7 years thereafter, coinciding with the fishery management plan policy review. Reviews would be designed to attempt to objectively measure the success of the program by addressing issues raised in the amendment’s problem statement and the standards set forth in the MSA, including the impact of action on harvesting and processing sectors, and fishery dependent communities. After reviewing the impacts of the program, the Council would have the option of taking any necessary and appropriate action to modify or end the program.

Review of a new program can be important to the program’s success. A review process would allow for a full evaluation of whether the program is serving intended objectives and could provide guidance to the Council for revising the program to mitigate harmful or unexpected consequences. Early review of a

program can be used to determine that the program is functioning as intended. Periodic reviews can be used to determine whether circumstances have changed in a fishery that would justify amending a management program. A well conducted and fully evaluated review often requires extensive staff time, consultants, and Council time. Reviews are important to ensuring the success of management programs but should be undertaken on a schedule such that the need and utility of the information in the review are likely to outweigh the costs.

Including a sunset date in the program could have various consequences for the Rockfish Program. This sunset is likely to affect the value of the licenses that qualify for the program, as the longer-term exercise of the fishing privilege associated with the license will be uncertain. This limited duration is likely to affect planning by both sectors, as uncertainties will arise concerning future management of the rockfish fisheries. In such an environment, it is possible that participants may choose not to invest in improvements that are beneficial in the share-based management of the cooperative alternatives, but less useful under LLP management. Although the proposed sunset would ensure that program participants cannot lay claim to their allocations in perpetuity, the sunset is likely to intensify lobbying efforts in the future, as participants work to maintain their interests. In addition, mandating Council recommendation to extend the Rockfish Program would substantially increase Council and staff workloads, as a formal extension of the program would be required if the Council follows the normal process for amending its FMP. Although some of the work for such an amendment package would be derived from the reviews of the program, substantial administrative and analytical burdens will arise from any action to extend the program. In addition, advancing a comprehensive analytical package of this type through the Council will likely affect the Council's ability to address other needs, including possible amendments to the existing program. For example, minor modifications of the Pilot Program have been incorporated into this package, rather than advanced more quickly in a separate package.

Finally, the Rockfish Program includes a share duration limit of all Rockfish Program permits, which would be 10 years. These permits would be renewed before their expiration, unless the permit has been revoked, limited, or modified. NMFS would have full discretion in determining which permits would be subject to revocation, limitation, or modification.

2.4.18 Cost Recovery Fee

Section 304(d) of the MSA authorizes and requires the collection of fees for limited access privilege based programs, such as the Rockfish Program. The Council motion includes a cost recovery fee, not to exceed 3% of ex-vessel value, to cover the costs of administration of the Rockfish Program. NMFS currently administers several cost recovery fee collection programs in the North Pacific, including the halibut/sablefish IFQ cost recovery, BSAI crab cost recovery, and three fishing capacity reduction program loan repayment fees (AFA inshore, BSAI hook and line catcher /processors, and BSAI crab).

Market and stock uncertainties, as well as variation in management costs, mean that the fees may not precisely cover management costs. TAC announcements for the largest fisheries (Bristol Bay red king crab, and Bering Sea *C. opilio*) are not made until after the fee percentage is set. In addition, ex-vessel prices will fluctuate with market conditions, so the basis that the fee percentage is applied to will change throughout the season. Fees are due by July 31 (the end of the crab fishing year). NMFS cannot assess penalties until at least 30 days after a payment is due. For example, although NMFS collected more than the amount required to cover program costs for the 2007–2008 season, the specific amount of fees collected was not fully known prior to the publication of the fee percentage notice for the 2008–2009 season. Because of these uncertainties, a formulaic approach to setting the fee percentage is used. Regulations require that NMFS establish the fee percentage based on the prior year's costs and ex-vessel values, instead of projections which can be highly subjective.

Although, NMFS cannot adjust the crab fee percentage at the end of a season, regulations require that any debit or credit to the fee collection account must be carried forward and applied toward the fee percentage calculations for future years. Because fee collection for the 2008–2009 season exceeded costs, NMFS subtracted the remaining balance from the estimated costs, prior to calculating the fee percentage for the 2009–2010 season (effectively reducing the fee percentage for the 2009–2010 season to zero).

For the Rockfish Program, any participant granted a limited access privilege would be responsible for payment of cost recovery fees. A limited access privilege is a federal permit, issued as part of a limited access system under section 303A of the MSA, to harvest a quantity of fish, which represents a portion of the TAC of a fishery that may be received or held for exclusive use by a person. In the case of the Rockfish Program,⁸⁹ quota share holders may join a cooperative and receive an exclusive harvest privilege, even if those participants choose not fish in a cooperative. Participants fishing in either the limited access fishery or under a cooperative would be subject to cost recovery fees based on their catch. Those participants that do not fish, (e.g., those participants that opt out) would not be subject to cost recovery fees, because they are not harvesting species that are managed under the program subject to fees. Entry level participants who do not hold a limited access privilege would not be responsible for cost recovery fees.

Similar to the crab program and the halibut IFQ and sablefish IFQ program, NMFS would use average ex-vessel prices in the Rockfish Program for the allocated species, and the annual management cost to determine the fee. Allocated species would differ by sector. For the catcher processors, allocated species would include the three rockfish primary species and allocated rockfish secondary species shortraker rockfish, rougheye rockfish, and thornyhead rockfish. The Council could choose to allocate sablefish to the catcher processor sector; if so, sablefish would also be included in the fee program. For catcher vessels, allocated species would include the rockfish primary species and secondary species thornyhead rockfish, and potentially sablefish and Pacific cod, if the Council selects the option to allocate these species to the sector. The recovery fee would be applied to total catch of allocated species, since no discards of allocated species are permitted in the Rockfish Program.

2.5 The Preferred Alternative

The Council identified three programs in its preferred alternative. These include (1) a longline only entry level fishery (EL-2), (2) a catcher processor cooperative program (CP-2), and (3) a catcher vessel cooperative program, under which cooperatives must form annual associations with processors (CV-4). These annual associations would be severable, without penalty.

The above alternatives are defined by the following elements and options.

1 ICA Set-Aside

Prior to calculating annual cooperative allocations within the sectors, NMFS shall set aside an Incidental Catch Allocation (ICA) of Pacific ocean perch, northern rockfish, and pelagic shelf rockfish to meet the incidental catch needs of fisheries not included in the cooperative program.

⁸⁹ Section 3(26) of the MSA

“The term ‘limited access privilege’--

(A) means a Federal permit, issued as part of a limited access system under section 303A to harvest a quantity of fish expressed by a unit or units representing a portion of the total allowable catch of the fishery that may be received or held for exclusive use by a person; and

(B) includes an individual fishing quota; but

(C) does not include community development quotas as described in section 305(i).”

2 Entry-level Set-Aside

A percentage of CGOA Pacific ocean perch, northern rockfish, and pelagic shelf rockfish will be reserved for use by catcher vessels not eligible to participate in the program.

2.2 Longline (non-trawl) only entry level fishery

The annual set-aside will be:

5 mt of the Pacific ocean perch TAC

5 mt of the northern rockfish TAC

30 mt of the pelagic shelf rockfish TAC

If the entry-level fishery has retained harvests of 90% or more of their allocation of a species, the set-aside would increase the following year by:

5 mt Pacific ocean perch

5 mt northern rockfish

20 mt pelagic shelf rockfish

This increase would be capped at a maximum percent of TAC of:

Pacific ocean perch

1%

Northern Rockfish

2%

Pelagic Shelf Rockfish

5%

The entry level fishery will be managed as a limited access fishery.

Start date for the entry level fishery should be January 1..

Prosecution of the entry level fishery will be supported by the general halibut PSC allowance for the gear type and the general allocations of rockfish secondary species.

Any longline vessel or gear type exempt from CGOA LLP requirements or any holder of a CGOA longline LLP license may enter a vessel in the entry level fishery.

Entry level longline sector targeting rockfish is exempt from VMS requirements (Pacific cod VMS requirements continue to apply).

3 Program eligibility

The eligibility for entry into the cooperative program is one targeted landing of Pacific ocean perch, northern rockfish, or pelagic shelf rockfish caught in the CGOA during the qualifying period using a CGOA trawl LLP license.

In addition, the following participants would be eligible to enter the program:

those persons whose vessel had one targeted landing of Pacific ocean perch, northern rockfish, or pelagic shelf rockfish caught in the CGOA during the qualifying period with interim trawl CGOA license that was later determined to be an invalid trawl CGOA endorsement, but who acquired a valid CGOA trawl license prior to December 31, 2003, which has been continuously assigned to the vessel with the target landing since acquired until the date of final Council action.

4 Qualified catch

4.1 Basis for the qualifying catch assigned to the LLP license holder is the catch history of the vessel on which the LLP license is based, and shall be determined 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 qualifying catch assigned to the LLP shall be based on the aggregate catch histories of (1) the vessel on which the 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.)

For licenses that qualify based on catch of an interim license (and for licenses used on a vessel that previously fished in the rockfish fisheries during the qualifying years using an interim license), the basis of the allocation will be the catch history of such vessel using the interim license (plus the history of the vessel using the permanent license) during qualifying period, notwithstanding the invalidity of the interim endorsement under which the vessel operated during the qualifying period. However, (1) no permanent license shall be assigned history from two vessels for any portion of the qualifying period; and (2) no history shall be assigned to two licenses. To qualify for this provision, the permanent license must be assigned to the vessel on or before December 31, 2003, and must not be assigned to any other vessel through the date of final Council action.

- 4.2 Catch history will be the history during the following qualifying period (dates inclusive):
2000 through 2006 (drop 2 years)

- 4.3 Qualified rockfish primary species history is allocated based on retained catch (excluding catch converted to meal) during the rockfish target fisheries. Different years may be used (or dropped) for determining the history of each of the three rockfish primary species.

The CP catch history will be based on Weekly Production Report data.
CV catch history will be based on fish tickets.

Note: Only legal landings will be considered in determining catch history.

- 4.4 Entry level trawl qualification for the main program:
The trawl LLP license holder must have made a landing of fish in the entry level fishery with trawl gear in 2007, 2008, or 2009.

A vessel that qualifies for both the entry level and the main program must opt out of one or the other. A vessel that qualifies under this section may elect to opt out of the Rockfish Program. This is a one-time selection. Opt-out qualified catch from the entry level trawl qualified vessels would be redistributed across the CV and CP sectors.

- 4.5 The qualified entry level trawl LLP license holders,⁹⁰ in aggregate, shall be assigned 2.5% of the rockfish primary species total qualified catch. Within that amount, qualified catch for each of the qualified entry level LLP license holders would be distributed for rockfish primary species in proportion to the number of years they made a delivery to an entry level processor from 2007 through 2009.

Note: rockfish secondary species qualified catch and halibut PSC allowances are calculated the same as for the other qualified LLP licenses.

Qualified catch for entry level trawl LLP license holders would be calculated as a set-aside, such that the qualified catch for the entry level LLP license holders moving into the main program is established from the combined CV and CP sectors. The qualified catch for these LLP licenses would be assigned to the CV sector.

5 Sector definitions

Trawl catcher vessel – A trawl catcher vessel that has a CV or CP LLP license, but does not process its catch on board.

⁹⁰ This provision would qualify trawl catcher vessels that participated in the Pilot Program entry level trawl fishery for an allocation under this program.

Trawl catcher processor - A trawl catcher processor is a trawl vessel that has a CP LLP license and that processes its catch on board.

6 Rationalized areas

Eligible catch history is established for the CGOA only (NMFS statistical areas 620 and 630).

7 Sector catch history

7.1 Rockfish primary species

Catch history is determined by the sector's qualified catch in pounds, as a proportion of the total qualified catch in pounds.

Sector catch histories of rockfish primary species are based on individual qualified vessel histories applying any applicable drop year provision at the vessel level.

Full retention of the rockfish primary species is required.

7.2 Rockfish secondary species

Rockfish secondary species history is based on retained catch of the species, while targeting rockfish, over retained catch in all fisheries.

7.2.1 Except as provided below, qualifying history will be established in each sector for the following rockfish secondary species:

sablefish,
shortraker rockfish,
roughey rockfish,
thornyhead rockfish, and
Pacific cod.

7.2.3 Except as otherwise provided below, rockfish secondary species qualifying history will be based on: The sector's average annual percentage of retained catch of the secondary species by the rockfish target fisheries during the qualifying period. For each qualifying year calculate the sector's retained catch of the species in the target rockfish fisheries divided by the retained catch of all CGOA fisheries. Sum these percentages and divided by the number of qualifying years. The calculated average annual percentage is multiplied by the secondary species TAC for that fishery year to establish qualified catch for each sector in the cooperative program.⁹¹

7.2.4 Exceptions:

Shortraker rockfish and roughey rockfish

For shortraker rockfish and roughey rockfish:

For the CP sector:

A shortraker rockfish allocation of the TAC will be 40%, to be managed as a hard cap; and

A roughey rockfish allocation of 58.87% of the TAC, to be managed as a hard cap.

For the CV sector, shortraker rockfish and roughey rockfish will be managed with a combined MRA of 2%. If harvest of shortraker rockfish by the CV sector reaches 9.72% of the shortraker rockfish TAC, then shortraker rockfish will go on PSC status for that sector.

Pacific cod

For the catcher processor sector, Pacific cod history will be managed by MRA of 4%.

Rockfish secondary species allocations may be fished independently of the primary species allocations.

⁹¹ In other words, each year, the percentage is multiplied by the TAC of the species to derive the amount of that species that will be available to cooperatives in the sector.

Full retention of all allocated species is required.

Participants must retain all allocated rockfish secondary species and stop fishing when a cap is reached.

MRAs in the CP sector will be enforced on a trip-by-trip basis.

7.3 Prohibited Species Catch (halibut mortality)

Allowance to the rockfish cooperative program will be based on 87.5% of the historical average usage (during the qualifying years), calculated by dividing the total number of metric tons of halibut mortality in the CGOA rockfish target fisheries during the qualifying years, by the number of years, and multiplying by 0.875. The difference between the historical average usage and the allowance provided above will remain unavailable for use.

The halibut PSC allowance will be divided between sectors, based on the relative amount of qualifying rockfish primary species catch in each sector.

Option for supplementing the last seasonal halibut apportionment for trawl gear

55% of any rockfish sector allowance of halibut PSC that has not been utilized by November 15 (or after the declaration to terminate fishing) will be added to the last seasonal apportionment of halibut PSC for trawl gear, during the current fishing year. The remaining portion of any allowance will remain unavailable for use.

8 Vessel catch history

Within each sector, history will be assigned to LLP holders with CGOA endorsement that qualify for a sector under the “sector catch history” above. The history will be assigned to the current owner of the LLP of the vessel which earned the history.

Rockfish primary species

Each LLP holder will receive catch history equivalent to the license’s proportion of the total of the sector qualifying catch history.

Rockfish secondary species

Each LLP holder will be assigned qualifying catch of allocated rockfish secondary species equal to the license’s proportion of the sector’s rockfish primary species catch history.

PSC (Halibut Mortality)

Each LLP holder will receive an allowance of halibut mortality equivalent to the license’s proportion of the sector’s rockfish primary species catch history.

Halibut PSC in the CP sector shall be divided between the cooperative(s), according to the history of their respective participating member vessels.

9 Catcher vessel/shore-based processor provisions

9.4 Harvester cooperatives with annual processor associations and severable, no forfeiture

Harvesters must join a cooperative to participate in the target rockfish fisheries.

The shore-based Kodiak processor must have a federal processor permit and an approved Catch Monitoring and Control Plan (CMCP).

A holder of catcher vessel harvest history must join a cooperative to coordinate the harvest of allocations. (Cooperatives are subject to general cooperative rules below.)

Membership agreements will specify that processor affiliated cooperative members cannot participate in price setting negotiations except as permitted by general antitrust law.

Cooperatives are intended only to conduct and coordinate harvest activities of the members and are not Fishermen's Collective Marketing Act cooperatives.

Cooperatives of at least 2 LLPs may engage in inter-cooperative transfers of annual apportionments with other cooperatives.

Annual allocations issued to cooperatives may be transferred between cooperatives of at least two LLPs.

Regionalization – Apply to catcher vessel sector only:

All CV cooperative quota must be landed in the City of Kodiak at a shore-based processing facility.

Entry-level longline landings must be landed at a shore-based processing facility.

10 Catcher processor cooperatives

More than one cooperative may form within the sector.

Annual allotments issued to cooperatives may be transferred between cooperatives of at least two LLPs.

Participants have a choice of participating in a cooperative or opting out of the Rockfish Program.

11 General cooperative provisions – apply to both sectors

Duration of cooperative agreements is 1 year.

The cooperative membership agreement (and an ancillary agreement with an associated processor, if applicable) will be filed with the RAM Division. The cooperative membership agreement must contain a fishing plan for the harvest of all cooperative fish.

The cooperative agreement must have a monitoring program. Cooperative members are jointly and severally responsible for cooperative vessels harvesting in the aggregate no more than their cooperative's allocation of rockfish primary species and secondary species, and PSC mortality allowance, as may be adjusted by inter-cooperative transfers.

A cooperative may adopt and enforce fishing practice codes of conduct as part of their membership agreement, so long as they are consistent with the law.

Cooperatives will submit a written report to the Council, annually.

Cooperatives will be required to notify RAM Division by March 1 of the fishing year, as to which LLP holders are in their cooperative.

12 Sector Transfer provisions

CP annual cooperative allocations may be transferred to CV cooperatives. CV annual cooperative allocations may not be transferred to CP cooperatives.

All transfers of annual cooperative allocations would be temporary, and history would revert to the original LLP at the beginning of the next year.

A person holding an LLP that is eligible for this program may transfer that LLP. That transfer will effectively transfer all history (below the holdings cap) associated with the LLP and any privilege to participate in this program that might be derived from the LLP.

Permit post-delivery transfers of cooperative quota (annual allotments to cooperatives).

There would be no restrictions on the number or size of post-delivery transfers, subject to the amount of unused quota. All post-delivery transfers must be completed by December 31.

No cooperative vessel shall be permitted to begin a fishing trip, unless the cooperative holds unused cooperative quota.

13 Cooperative Harvest Use Caps

CV cooperatives

No person may contribute more than 4% of the CV sector catch history to annual cooperative allocations, using the individual and collective rule (with grandfather provision).

In the event that initial qualifying history exceeds the applicable cap, the person holding that license will be grandfathered. The initial holder may sever the portion of the history that exceeds the cap on transfer, provided that the severed history is transferred to a qualified CV license holder, after which that history will attach to the license of the recipient. After the transfer, recipients must comply with all caps.

Control of harvest shares by a CV cooperative shall be capped at 30% of aggregate Pacific ocean perch, northern rockfish, and pelagic shelf rockfish for the CV sector.

No single CV may catch more than 8% of the target CV annual cooperative allocation, in the aggregate.

CP cooperatives

No person may contribute more than 40% of the CP sector catch history to annual cooperative allocations, using the individual and collective rule (with grandfather provision).

No single CP may catch more than 60% of the aggregate Pacific ocean perch, northern rockfish, and pelagic shelf rockfish annual cooperative allocations for the CP sector.

Shoreside Processor Use Caps

Shoreside processors shall be capped at the entity level.

No processor shall process or receive more than 30% of the aggregate Pacific ocean perch, northern rockfish, and pelagic shelf rockfish for the CV sector.

No processor shall process or receive more than 30% of the sablefish allocated to the CV sector.

No processor shall process or receive more than 30% of the Pacific cod allocated to the CV sector.

(The average annual received catch over the qualifying years used to establish CV qualifying catch will be used as a base (or index) for applying the aggregate caps.)

14 Harvesting provisions

The cooperative season start date is May 1, and closing date is November 15.

All non-allocated groundfish species will be managed by MRA, as in the current regime. This includes arrowtooth flounder, deep-water flatfish, shallow-water flatfish, flathead sole, rex sole, pollock, "other species," Atka mackerel, and "other rockfish." Basis species for purposes of determining MRAs will be all allocated species.

Full retention of all allocated species is required.

15 Program review

In addition to the review required under the MSA, a formal detailed review of the program shall be undertaken 3 years after implementation. The review shall assess:

- 1) the progress of the program in achieving the goals identified in the purpose and need statement and the MSA, and
- 2) whether management, data collection and analysis, and enforcement needs are adequately met.

In order to assess program objectives, specific elements of the detailed 3-year program review shall include:

- 1) whether the allocation of rockfish and associated incidental harvests are fair and equitable given consideration of
 - a) present participation in the fishery, including the participation of current rockfish harvesters and processors;
 - b) historical investments in, and dependence upon the fishery, including investments and dependence upon the fishery by the historical harvesters and processors in the fishery; and
 - c) employment in the harvesting and processing sectors.
- 2) changes in annual cooperative formation, including number of LLPs associated with each cooperative, number of active vessels, and stability of annual cooperative membership
- 3) stability and use of annual processor associations
- 4) number of processing facilities, distribution of program harvests among facilities, temporal distribution of program harvests and fifth season flatfish opportunities made available from Rockfish Program halibut allowance
- 5) changes in product form, first wholesale value, and distribution of first wholesale value between the catcher vessel and shore-based processing sectors relative to those under rockfish Pilot Program and LLP management

16 Duration

Program Duration

The CGOA rockfish LAPP program shall expire 10 years after implementation.

17 Cost recovery

A fee, not to exceed 3% of ex-vessel value, will be charged on all program landings, to cover the costs of administration of the program.

18 Sideboards

18.1 Catcher vessel options

West Yakutat and WGOA rockfish primary species

For catcher vessels, prohibit directed fishing for West Yakutat and WGOA rockfish primary species in the month of July.

Halibut PSC

For the month of July, limit all CVs to the shallow-water complex fisheries (except for rockfish target fisheries in CGOA, West Yakutat, and WGOA).

IFQ halibut and IFQ sablefish are exempt from sideboard provisions

Bering Sea and Aleutian Island Sideboard Provisions

Yellowfin sole, other flatfish, and Pacific ocean perch fisheries

The qualifying vessels in the trawl catcher vessel sector may participate in the limited access yellowfin sole, other flatfish, or Pacific ocean perch fisheries in the BSAI in the month of July.

Pacific cod fishery

The qualifying vessels in the trawl CV sector may participate in the BSAI Pacific cod fishery in the month of July, without any sideboard limit.

AFA non-GOA exempt CVs qualified under this program are subject to the restraints of AFA sideboards and their cooperative agreements, and not subject to additional sideboards under this program.

18.2 Catcher processor options

West Yakutat and WGOA rockfish primary species

For fisheries that close on TAC in the GOA, the qualified vessels in the trawl catcher processor sector would be limited, in aggregate, in the month of July, to the historical average catch of those vessels, based on the retained catch as a percentage of the retained catch in the fishery in the month of July, during the qualification years. Fisheries that this sideboard provision would apply to are the West Yakutat and WGOA rockfish primary species fisheries.

Non-Amendment 80 catcher processors will be prohibited from West Yakutat and WGOA rockfish species fisheries for the month of July.

Halibut PSC

For flatfish fisheries in the GOA that close because of halibut PSC, the qualified vessels in the trawl catcher processor sector would be limited, in the aggregate, in the month of July, to the historical average halibut PSC mortality taken by those vessels in the target groundfish fisheries in the month of July, by deep-water and shallow-water complex targets, as a Gulf-wide cap.

Note: IFQ halibut and IFQ sablefish are exempt from sideboard provisions

Stand-down for vessels that opt out of the rockfish fisheries

CP vessels may decide to opt out of the CGOA cooperative program on an annual basis. These CP vessels may not target Pacific ocean perch, northern rockfish, or pelagic shelf rockfish in the CGOA in the years they choose to opt out. They may retain these species up to the MRA amount in other fisheries. They will be sideboarded at the sector level in the GOA, as described in the general provisions.

The history of CP vessels which opt out will remain with the sector.

CPs that opt out of the rockfish cooperative program will be prohibited, for 2 weeks following the start of the traditional July rockfish fishery, from entering other GOA fisheries in which they have not previously participated. Participation shall be defined as having fished in the shallow-water flatfish complex or deep-water flatfish complex or target rockfish fisheries during the first week of July in at least two of the qualifying years. For purposes of qualifying under this provision, history from area 650 (Southeast Outside) will be considered the same as history from area 640 (West Yakutat). The following week ending dates will be used for determining participation in a fishery:

1996 – July 6
1997 – July 5
1998 – July 4
1999 – July 10
2000 – July 15

2001 – July 7
2002 – July 6
2003 – July 5
2004 – July 10
2005 – July 9
2006 – July 8

Opting out is an annual decision. CP vessels that do not join cooperatives will be assigned opt-out status. The decision to opt out should not, in any way, alter the status of their catch history for future rationalization programs.

Stand-down for vessels that join cooperatives

In addition to the other limitations and restrictions described above, each cooperative and opt-out vessel in the aggregate will be limited:

- 1) for fisheries that close on TAC in the GOA in the month of July, to the historical average total catch of the cooperative members or opt-out vessels in the month of July during the qualification years. Fisheries that this sideboard provision would apply to include West Yakutat rockfish and WGOA rockfish, and
- 2) for flatfish fisheries in the GOA that close because of halibut PSC in the month of July, to the historical average halibut PSC mortality taken by cooperative members or opt-out vessels in the target flatfish fisheries in the month of July, by deep-water and shallow-water complex fisheries.⁹²

19 Observer Coverage

Shoreside observer coverage

Shoreside processor observer coverage requirements for all Rockfish Program deliveries will be:

Employ a CMCP specialist to oversee deliveries.

Catcher vessel observer coverage

Fishing days and observer coverage under the Rockfish Program will be separate from and not count towards meeting a vessel's overall groundfish observer coverage requirement.

This section of the analysis describes the preferred alternative and analyzes its effects. Since the preceding section of this document analyzed most elements of the preferred alternative, this section largely references that analysis. Provisions that differ from or expand on elements analyzed in the previous section and the effects of those provisions are described in greater detail.

The action creates two set-asides, prior to allocating rockfish primary species to the main program. The first is an ICA, intended to support incidental catch of rockfish primary species in other target fisheries. This allowance will be defined by NMFS based on recent catches in those other fisheries. The second set-aside would be used to establish an entry level fishery for longline vessels, as described by the second entry level alternative (EL-3). The initial allocation to the entry level fishery would be 5 metric tons of Pacific ocean perch, 5 metric tons of northern rockfish, and 30 metric tons of pelagic shelf rockfish, and would be increased for a species, each time the sector harvested in excess of 90% of that species' allocation. For Pacific ocean perch and northern rockfish, the incremental increase would be 5 metric tons; for pelagic shelf rockfish, the incremental increase would be 20 metric tons. Growth of the entry

⁹² This provision is intended to set a limit based on catches of all licenses in either cooperatives or vessels that opt out, in the aggregate.

level fishery is limited to 1% of the Pacific ocean perch TAC, 2% of the northern rockfish TAC, and 5% of the pelagic shelf rockfish TAC. All catches in the entry level fishery must be delivered to shore-based processors (but a Kodiak landing requirement was not adopted).

The action also establishes a cooperative program for catcher processors (without an option for a limited access fishery) as defined by the first catcher processor alternative in the analysis (CP-2) and a cooperative program for catcher vessels under which each cooperative must annually associate with a shore-based processor in Kodiak (CV-4). Vessels in either sector may annually change cooperatives and the catcher vessel cooperative/processor association may be changed annually without forfeiture. Allocations of each of the rockfish primary species are based on the individual catch histories of eligible licenses. Any license used to target rockfish primary species during a qualifying period from 2000 to 2006, inclusive, is eligible for the program. In addition, a license assigned to a vessel that fished in the rockfish fisheries during the qualifying period would also qualify for the program, provided the license was assigned to the vessel prior to December 31, 2003, and remained assigned to the vessel through the date of the Council's action.

An allocation of 2.5% of the allocation to the program would be made to licenses that participated in the Pilot Program's entry level trawl fishery in 2007, 2008, or 2009, which amounts to approximately 4.2% of the catcher vessel sector allocation. This allocation would be divided among licenses that participated in the entry level fishery in proportion to the number of years that the license was used to make landings in that fishery from 2007 to 2009, inclusive. Under this method, the average entry level license would receive an allocation equal to 1.4% of the catcher vessel sector allocation (or an allocation slightly above the median allocation to licenses that participated in the fishery during the qualifying period). The unequal allocation will result in an allocation of between 2% and 2.5% of the catcher vessel sector allocation (which is at or slightly larger than the mean allocation to qualifying licenses). In the event that a license qualifies for both the entry level allocation and an allocation under the general eligibility provisions, the license holder would make a one-time election of which allocation to receive. Similarly, a license qualifying because of activity in the Pilot Program entry level trawl fishery may elect to opt out of the program altogether. Any entry level allocation that is not received because of an election to forgo that allocation would be reallocated to both the catcher processor sector and the catcher vessel sector, in proportion to their qualified catches.

Allocations to the sectors are shown in Table 2-84. All other species would be managed under existing MRA rules. A few species-specific provisions to address unique circumstances were also included in the program. In the catcher vessel sector, shortraker rockfish will be put on prohibited species status (under which retention is prohibited) if the sector's catch exceeds 9.72% of the shortraker rockfish TAC. Halibut PSC allowances will be made to the program in an amount equal to 87.5% of the annual average usage of halibut in the target fishery during the qualifying period by both sectors. The remaining 12.5% would remain unavailable for use in any fishery. To create an incentive for further halibut mortality reductions, 55% of any cooperative's unused halibut allowance would be available for use in the fifth season trawl fisheries

Table 2-84. Allocation to each sector (as a percentage of the total allowable catch available to the program unless otherwise noted).

Sector	Pacific ocean perch	Northern rockfish	Pelagic shelf rockfish	Pacific cod	Sablefish	Shortraker rockfish	Rougheye rockfish	Thornyhead rockfish	Halibut
Catcher processor	40.5	40.3	38.2	4 % MRA	3.5	40	50.87	26.5	74.1 mt
Catcher vessel	59.5	59.7	61.8	3.8	6.8	2% combined MRA		7.8	117.3 mt

All catch of allocated species must be retained and the cooperative's members must stop fishing when they have fully harvested the cooperative's allocation of any allocation (or the cooperative's apportionment of halibut PSC). Cooperatives of two or more licenses would be permitted to transfer allocations and apportionments. Catcher processor cooperatives will be permitted to engage in transfers to shore-based cooperatives, but will not be permitted to receive any transfers from shore-based cooperatives. Transfers may be made to cover overages, without penalty for any covered overage, provided transfers are completed by December 31. Several caps (shown in Table 2-85) will limit consolidation in the fisheries.

Table 2-85. Excessive share caps as a percentage.

Sector	Individual cap on sector primary rockfish	Vessel cap on sector primary rockfish	Cooperative cap on sector primary rockfish	Processor cap on sector primary rockfish	Processor cap on sector sablefish	Processor cap on sector Pacific cod
Catcher processors	40 with grandfather	60	NA	NA	NA	NA
Catcher vessel	4 with grandfather	8	30	30	30	NA

Sideboards applicable during the month of July (when the rockfish fisheries were historically prosecuted) will be established to prevent program participants from increasing their activities in other fisheries. For a detailed discussion of these sideboards and their impacts, see Section 2.4.16.

2.5.1 Summary of effect of the preferred alternative

Under the preferred alternative, eligible catcher processors could either join a cooperative or not participate in the CGOA rockfish fisheries. Within each cooperative, it is anticipated that each member would receive revenues based on the allocation that the person brings to the cooperative, with participants that fish shares of others receiving compensation for their fishing expenses. Persons eligible for the program that receive relatively small allocations could either choose to join a cooperative to allow other members of the cooperative to fish their allocations or choose to opt out of the program for the year, forgoing the opportunity to fish CGOA rockfish. Other members of the sector could decide to consolidate their rockfish allocations to realize efficiencies in the rockfish fisheries and other fisheries. Whether some or all of these vessels would choose to remain out of a cooperative cannot be predicted, and depends on their opportunities in other fisheries.

Allocations of rockfish secondary species should not constrain harvests of rockfish primary species, unless the rates of incidental catch of secondary species in the rockfish fisheries change substantially. Cooperatives should prove useful for addressing any constraints arising from the secondary species allocations, given that cooperatives would allow for the redistribution of secondary species allocations among cooperative members. The more liberal 40% allocation of shorttraker rockfish under the preferred alternative should eliminate any perceived constraint this species allocation has had on the harvest of the primary species under the Pilot Program.

Processing by catcher processors under this alternative is likely to remain similar to the current (Pilot Program) processing by this sector. Most vessels in the sector are equipped for producing a few simple products (frozen whole and headed and gutted fish). Because of size limitations, it is unlikely that any of these vessels will change plant configurations to process higher-valued, more processed products. Although catcher processors product mix may not change under this alternative when compared to the no action alternative, it is possible that some improvement in quality may be made by some participants. Generally, catcher processors produce a relatively high quality product, so the ability to make quality

improvements may 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 primary production efficiency gains in the catcher processor sector under this alternative will result from participants maintaining a slower pace of fishing and processing. In the slower fishery, participants may be able to reduce expenditures on inputs to some degree (possible scaling down crews slightly) and increasing outputs slightly (with less loss due to diminished quality). Additional production efficiencies could arise because of the cooperative structure of the alternative. In a cooperative, participants will be free to consolidate fishing up to the 60% harvest cap. Consolidating catch on fewer vessels in the rockfish fisheries could also reduce aggregate harvest costs.

Under the preferred alternative, eligible catcher vessels would access exclusive allocations through cooperatives, each of which is required to associate with a processor; however, catcher vessels will have the flexibility of the harvesters to move among cooperatives, and of cooperatives to change associations. Consequently, any limitation established under the terms of an association (such as delivery requirements or terms) will be fully voluntary and harvesters will receive compensation for any concessions. Cooperatives will have the flexibility of delivering to multiple processors, allowing the opportunity to choose fishing timing. Despite this flexibility, it is likely that established relationships will have an important influence on harvester delivery choices and cooperative membership (at least at the outset of the program). Over time, delivery patterns may change as harvesters perceive better opportunities with other processors.

The ability to coordinate harvest activity and remove vessels from the fleet (to the extent permitted by the vessel use caps) without loss of harvest share, together with a relative improvement in bargaining strength arising from no processor protection or limit on processor entry should result in substantial improvements in harvest sector efficiency over the no action alternative, which would establish a limited access race for fish. Fishing will be slowed, as cooperatives receive exclusive allocations. Production efficiency in processing should improve as processors are better able to schedule crews to process landings and as processors improve product quality and produce higher quality products that cannot be produced during a derby fishery, because of the relatively low quality of landings and the need to process those landings rapidly. However, processors may experience little improvement in their overall efficiency under this alternative because of their relatively weak negotiating position in the market for landings. Instead, cooperatives (and their catcher vessel fleets) should receive most of the benefits of these improvements through ex-vessel price negotiations. Notwithstanding the relatively strong position fishermen may have under this alternative, processors should obtain normal profits from their processing, and in some cases may be able to use relationships in other fisheries and the processor association requirement to leverage their negotiating position. Processing caps would reduce production efficiency to the extent that competition for landings is decreased. Harvesters, in the short run at least, could receive a lower price for landings to the extent that competition is constrained. This reduction in competition could, in turn, reduce the incentive for processors to improve products and enhance marketing efforts to maintain their competitiveness in product markets. Processors could derive a benefit from this provision to the extent that ex-vessel price reductions occur, but those benefits will not necessarily accrue to historical processors.

The structure of the market for landings would likely be competitive under this alternative, increasing the incentive for processors to aggressively pursue product improvements to attract additional landings. This competition should resolve delivery terms, including the timing of landings to accommodate processing schedules. This timing of landings could be critical to processors meeting some market demands, particularly if a fresh market were to develop. A requirement that all deliveries be made to Kodiak will

ensure that Kodiak remains the processing base for the rockfish fisheries and that Kodiak processors and the community continue to benefit from the fisheries, at some cost to competing Alaska communities and fishermen. Yet, since Kodiak is home to several processors, this requirement is unlikely to affect competition in the processing sector, at least in the near future.

The establishment of an entry level longline fishery should provide longline vessels with a reasonable opportunity to develop a target fishery for all three of the rockfish primary species. The provision for increase of these allocations should ensure that longline vessels are not constrained by the allocation for the foreseeable future.

2.5.2 Net Benefits to the Nation

The net benefits to the Nation arising out of the change in management may accrue from several sources. First, production efficiencies in harvesting and processing segments of the rockfish fisheries could occur as a direct result of management changes. These production changes may affect the benefits realized by U.S. consumers, through changes in product quality, availability, variety, and price. This change is likely to be relatively small, unless U.S. markets for rockfish products expand from their current levels. Further, the changes in conduct of the fisheries and management could result in desirable changes in the biological and ecological environment, which yield benefits to the Nation through ecosystem productivity changes and welfare changes associated with non-use/passive use values.

Net benefits to the Nation arising from management of the catcher processor sector will be affected by a few different factors. Production efficiency should increase slightly, as some participants realize moderate improvements in quality of production. Few, if any, benefits of production improvements will be realized by U.S. consumers, as this fleet is likely to continue to serve international markets. Costs of management, monitoring, and enforcement will increase to administer and oversee the cooperative allocations. Some additional benefits to the Nation could arise through reduction in bycatch mortality, since the program requires full retention of several species. Since discard rates of these species are relatively low in the current rockfish fisheries, these benefits are likely not substantial. Further improvement is halibut PSC avoidance would be expected to increase net National welfare by avoiding a portion of the waste attributable to PSCs.

Likewise, a few factors will affect net benefits to the Nation arising from management of the catcher vessel sector. Slowing the race for fish and extending the season should lead to substantial increases in production efficiency, as participants in both sectors improve quality. Some production benefit could flow to foreign-owned processing entities, but since increases in processor net benefits under this alternative are relatively minor, almost all of the gain in production efficiency should be realized by U.S. entities and citizens. Production improvements could lead to benefits for U.S. consumers, but those gains will be minor, unless the rockfish fisheries increase production for domestic markets. Again, depending on changes in domestic markets, greater production may occur domestically, if fewer primary-processed products are shipped abroad for reprocessing. Increased administration and oversight necessary for cooperative allocations and an extended season will result in an increase in costs of management, monitoring, and enforcement, but through cost recovery, these should not diminish the net benefit to the Nation of more nearly “rationalized” rockfish fisheries in the GOA.

3 Environmental Assessment

The purpose of this section is to analyze the environmental impacts of the proposed Central Gulf of Alaska Rockfish Program (the Rockfish Program), a share-based management program under which the total allowable catch (TAC) for Pacific ocean perch, northern rockfish, and pelagic shelf rockfish fisheries in the Central Gulf of Alaska (CGOA) is apportioned as exclusive shares to cooperatives based on the catch history of the members of those cooperatives. An environmental assessment is intended, in a concise manner, to provide sufficient evidence of whether or not the environmental impacts of the action is 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 3.1), of alternatives (Section 3.2), and of the environmental impacts of the proposed action and alternatives (Section 3.4). A list of agencies and persons consulted is included in Sections 7 and 8 of this document.

3.1 Problem Statement

The North Pacific Fishery Management Council (the Council) developed the following problem statement defining its purpose for development of alternatives for this action:

The intent of this action is to retain the conservation, management, safety, and economic gains created by the Rockfish Pilot Program to the extent practicable, while also considering the goals and limitations of the Magnuson-Stevens Fisheries Conservation and Management Act Limited Access Privilege Program (LAPP) provisions.

The existing CGOA Rockfish Pilot Program (RPP) will sunset after 2011. Consequently, if the management, economic, safety and conservation gains enjoyed under the RPP are to be continued, the Council must act to create a long term CGOA rockfish LAPP. For both the onshore and offshore sectors, the RPP has improved safety at sea, controlled capacity of the fleets, improved NMFS' ability to conserve and manage the species in the program, increased vessel accountability, reduced sea floor contact, allowed full retention of allocated species and reduced halibut bycatch. In addition, the rockfish fishery dependent community in the CGOA and the shorebased processing sector have benefited from stabilization of the work force, more shoreside deliveries of rockfish, additional non-rockfish deliveries with the RPP halibut savings, and increased rockfish quality and diversity of rockfish products. Moreover, the CGOA fishermen, and the shorebased processing sector have benefited from the removal of processing conflicts with GOA salmon product. The Council needs to resolve identified issues in the management and viability of the entry level fishery.

The portion of the current catcher processor sector currently participating in the rockfish coop have also benefitted from the RPP. These benefits include greater spatial and temporal flexibility in prosecuting the fishery, which result in lower bycatch, a more rational distribution of effort and more stable markets. Certain provisions of the current RPP act as disincentives to some CP operators from joining the coop sector and achieving these benefits. These disincentives should be eliminated to the extent practicable in the new RPP.

The design of the new program is to replace the short-term CGOA Rockfish Pilot Program (the Pilot Program) with a long-term program. Similar to the Pilot Program, the fishing fleets have had little experience with cooperative fishery management and thus need to continue the educational process. In addition, all aspects of the economic portfolio of the rockfish fisheries need to be recognized in order for

the fisheries to be rationalized. Similar to the current demonstration program, all the historical players—harvesters (both catcher vessels and catcher processors) and processors need to continue to be recognized in a meaningful way. One aspect highlighted in the problem statement is the entry level program. The Council recognizes that the current entry level fishery has some trouble spots that need to be addressed in the new long-term program.

3.2 The Alternatives

To address its problem statement, the Council has adopted analysis alternatives for three different sectors (i.e., entry level, catcher vessels, and catcher processors). These program alternatives are derived from a common set of elements and options with differences that reflect the different operations of the sectors. The specific elements and options that define the alternatives follow the description of the alternatives (including the no action alternative) below.

For the **entry-level sector**, three alternatives have been defined. The first is the no action alternative, under which management would revert to the License Limitation Program (LLP), under which any holder of an LLP license could enter a vessel in the rockfish fisheries. The second alternative is the current entry level management structure under the Pilot Program. Under this alternative, catcher vessel license holders that do not qualify for participation in catcher vessel program can participate in a derby fishery for 5% of the rockfish primary species TAC. This entry level TAC is divided equally with half available to trawl gear participants and half available to longline participants. The third entry level alternative would provide for only an entry level longline fishery.

Two alternatives are defined for the **catcher processor sector**. The first is the no action alternative, under which the rockfish fisheries would revert to LLP management. The second alternative is the existing Pilot Program structure, which allocates to the trawl catcher processor sector rockfish primary and secondary species (historically harvested in conjunction with rockfish primary species) and halibut prohibited species catch (PSC) based on the harvest history of sector members. Eligible sector participants could then access exclusive allocations through cooperative membership.

Four alternatives are defined for the **catcher vessel sector**. The first is the no action alternative, under which the rockfish fisheries would revert to LLP management. The second alternative would establish a cooperative program for catcher vessel sector under which eligible catcher vessels could participate in the rockfish fisheries only by joining a cooperative, which would receive an allocation of rockfish primary and secondary species, and halibut PSC, based on historic catches. The third alternative would divide harvest share allocations of rockfish primary species and secondary species, and halibut PSC, between historic catcher vessel participants and historic processing participants, with allocations within each sector based relative historic participation within that sector. Under the fourth alternative, a harvester must join a cooperative in association with a processor. The harvester has full discretion in choosing a cooperative both initially and annually thereafter and may change cooperatives (and accompanying processor associations) with forfeiture of harvest quota.

At its June 2010 meeting, the Council adopted as its **entry level fishery preferred alternative**, the third alternative, which establishes an entry level fishery for the longline sector only. As its **catcher processor preferred alternative**, the Council adopted the second alternative, which establishes a cooperative structure for the rockfish fisheries. As its **catcher vessel preferred alternative**, the Council adopted the fourth alternative, which establishes a cooperative program with annual, severable processor associations.

3.3 Affected Environment

This section describes the environment (including the human environment) that would be affected by the proposed action. The section begins with a description of the physical environment of the CGOA rockfish fisheries. The section describes the stocks and biology of the various species that could be affected by the action and provides a brief fishery overview for each species. The section also describes various other species that could be affected by the rockfish fisheries, such as marine mammals and seabirds. The section concludes by very briefly describing the GOA marine ecosystem and the economic and socioeconomic conditions in the human environment that would be affected by the proposed action.

3.3.1 Physical Environment

The Fishery Management Unit for the GOA includes all waters in the exclusive economic zone along the southeastern, southcentral and southwestern coasts of Alaska from Dixon Entrance to Unimak Pass. While depths in this region are as great as 7,000 meters in the western region near the Aleutian Trench, it is the continental shelf area which is of greatest importance in the context of fishery management. The continental shelf in the GOA is narrowest in southeast Alaska, and broadens to 100–200 km along the southcentral coast. South of Kodiak Island it reaches its broadest point (approximately 200 km) at Portlock Bank. Along the Alaska Peninsula and proceeding westward the shelf narrows to 50 km at Unimak Pass.

Circulation in the GOA is dominated by the Alaska Coastal Current, a fast moving westward trending coastal current. Coastal circulation in the GOA is driven in the winter by anti-clockwise wind stress over the GOA region and in the summer by the freshwater inputs along the coast. To the west of Kodiak Island where freshwater input is reduced, the circulation is driven by prevailing winds.

Along the continental shelf, seasonal variations in water properties are driven by differential wind stress. During the winter, southwesterly winds bring convergence and downwelling together with winter cooling and replacement of the warm, high saline bottom waters. During the summer the wind field is reversed resulting in the upwelling of warmer, higher saline nutrient rich waters from the CGOA onto the shelf break.

The GOA Fishery Management Unit is subdivided for management purposes into three regions, Western Gulf of Alaska (WGOA), CGOA and Eastern GOA. For purposes of this analysis it is the CGOA subregion that is of interest. This region includes the regulatory areas of 620 and 630.

3.3.2 Rockfish Primary Species Stocks

The principle target rockfish species for this proposed action are Pacific ocean perch, northern rockfish, and the pelagic shelf rockfish assemblage. Pertinent information on the biology, ecological relationships and fishery information on each species is summarized below.

Pacific Ocean Perch

Pacific ocean perch (*Sebastes alutus*) is a demersal rockfish species with a wide geographic distribution from California to the North Pacific and the Bering Sea to the Kuril Islands (Hanselman et al. 2003). They are a long-lived, slow-growing rockfish species, with maximum age estimated to be in excess of 90 years (Leaman 1991). There is a great deal of uncertainty about the early life history of the species given that larval identification is difficult and infrequent (Gharret et al. 2001). Larvae are hypothesized to stay at depth of release for several months then move to shallower waters. Larvae are pelagic and do not become demersal for approximately 2 to 3 years (Gunderson 1977; Haldorson and Love 1991). Pacific ocean perch juveniles have some of the slower daily growth rates of all the rockfish species. After

recruitment, juveniles settle on hard low-relief sediments while older fish are generally found between 150 meters and 350 meters in the summer and deeper in the winter (Haldorson and Love 1991).

Pacific ocean perch abundance is influenced by periodically abundant year classes. Availability of abundant zooplanktonic prey for Pacific ocean perch larvae or post-larvae may be an important determining factor in year class strength (Hanselman et al. 2003). However, there is no information on food habits of larval or post-larval rockfish thus it is difficult to draw a relationship between food availability and year class strength. Some juvenile rockfish in inshore habitat have been found to prey on shrimp, amphipods, other crustaceans, mollusks and some fish (Byerly 2001). Adult Pacific ocean perch feed primarily on euphausiids which is also a major prey item for walleye pollock, thus changes in walleye pollock population could impact the population of euphausiids and thus impact the Pacific ocean perch populations as well (Hanselman et al. 2003).

Pacific ocean perch are preyed upon by a variety of other fish at all life stages and to some extent marine mammals as well during late juvenile and adult stages (Hanselman et al. 2003). Documented predators include Pacific halibut and sablefish and it is likely that Pacific cod and arrowtooth flounder also prey upon Pacific ocean perch (NMFS 2004b). Pelagic juveniles are consumed by salmon and benthic juveniles are consumed by lingcod and other demersal fish (NMFS 1997). The relative population impact of predators is unknown, although it is presumed predation would have a larger impact at the larval, post-larval and juvenile life stages. Information on these life stages and their related predators however is unknown.

The majority of the historical commercial catch of Pacific ocean perch has been taken by bottom trawls, although in recent years a portion of the catch has been taken by pelagic trawls. The percentage of the Pacific ocean perch Gulf-wide catch taken in pelagic trawls increased from 2% to 8% during 1990–1995 to 14–20% during 1996–1998 (Hanselman et al. 2003). In the most recent period from 1999–2002, annual percentages have ranged from 10.3% to 17% (Hanselman et al. 2003).

The Pacific ocean perch acceptable biological catch (ABC), overfishing level (OFL), and total allowable catch (TAC) are apportioned over the three areas of the GOA (western, central and eastern) based upon a proportional weighting scheme which considers the proportion of biomass in each region as well as the relative variability in survey biomass estimates. The ABC, OFL and TAC and catch for the CGOA Pacific ocean perch stock from 1996 to 2009 are included in Table 3-1.

Recent summaries of Observer data from 1997–2002 (Gaichas and Ianelli summary, in Hanselman et al. 2003) indicate that bycatch in the combined rockfish trawl fishery is predominantly arrowtooth flounder, Pacific cod, and sablefish. The only non-rockfish fishery catching a major amount of Pacific ocean perch as bycatch is in the rex sole fishery, averaging 280 metric tons per year, while smaller amounts are taken in the other flatfish, pacific cod and sablefish fisheries (Gaichas and Ianelli summary, in Hanselman et al. 2003).

Additional information on the GOA Pacific ocean perch biology and fishery can be found in the Final PSEIS (NMFS 2004c) as well as the annual Stock Assessment and Fishery Evaluation reports.

Table 3-1 Overfishing limit, allowable biological catch, total allowable catch, and catch of CGOA Pacific ocean perch (1996 through 2009) .

Year	Overfishing Level	ABC	TAC	Catch
1996	10,165	3,860	3,333	5,145
1997	19,760	6,690	5,352	6,720
1998	18,090	6,600	6,600	7,452
1999	18,490	6,760	6,760	7,910
2000	15,390	9,240	9,240	8,379
2001	11,350	9,610	9,610	9,249
2002	9,760	8,220	8,220	8,262
2003	10,120	8,510	8,510	8,106
2004	9,960	8,390	8,390	8,446
2005	10,226	8,535	8,535	8,064
2006	8,806	7,418	7,418	8,282
2007	8,922	7,612	7,612	7,280
2008	9,717	8,185	8,185	7,682
2009	9,790	8,246	8,246	

Source: NMFS Annual Catch Reports & Groundfish Harvest Specifications 1996-2009

Northern Rockfish

The northern rockfish, *Sebastes polypsinis*, are a semidemersal long-lived rockfish species. Their distribution ranges from northern British Columbia across the Pacific Rim to eastern Kamchatka and the northern Kurile Islands to the eastern Bering Sea (Allen and Smith 1988). They are most abundant throughout their northerly range in Alaskan waters from the western end of the Aleutian Islands to Portlock Bay in the CGOA (Clausen and Heifetz 2004). There is little known about the life history of northern rockfish.

While there is limited information on the habitat preference of juvenile northern rockfish, trawl surveys and commercial fishery data have indicated that adult northern rockfish prefer relatively shallow banks on the outer continental shelf at depths between 75 meters and 150 meters (Clausen and Heifetz 2004). These data also indicate that within this habitat adult northern rockfish have patchy, localized distributions (Clausen and Heifetz 2004). This may be a result of the prey availability of euphausiids. Offshore euphausiids are not directly associated with the bottom but are presumed to be advected onshore near bottom at the upstream ends of underwater canyons (Brodeur 2001). This distribution of prey may help to explain the observed patchy distribution of northern rockfish.

Northern rockfish feed primarily on euphausiids but have also been shown to feed on copepods, hermit crabs and shrimp in smaller quantities (Yang 1993, 1996; Yang and Nelson 2000). Predators of northern rockfish are not well documented. Predators of other rockfish species, such as Pacific halibut, are presumed likely to prey upon northern rockfish. Rockfish in general are preyed upon by a variety of other fish at all life stages and to some degree marine mammals during late juvenile and adult stages. Predator effects are likely to be more important on the earlier life stages of northern rockfish but actual information on these life stages and their relative predators is unknown. The influence of predator-prey relationships on the population dynamics of northern rockfish is likewise unknown.

The majority of the commercial catch of northern rockfish in the fishery is taken with bottom trawl gear in the CGOA management area, where the majority of the exploitable biomass is concentrated. Most of the catch has been taken during July, as the directed rockfish trawl fishery in the GOA has traditionally opened around July 1. Rockfish trawlers usually direct their efforts first towards Pacific ocean perch due to the ease of targeting. After the TAC for Pacific ocean perch has been reached and the National Marine Fisheries Service (NMFS) closes directed fishing for this species, trawlers switch and target northern rockfish. With the implementation of the Pilot Program, catches have been spread out more throughout the year. The OFL for northern rockfish is Gulf-wide over the three management areas. The ABC, OFL and TAC and catch for the CGOA northern stock from 1996 to 2009 are included in Table 3-2.

Based on observer program data from 1990–1998, 80% of the catch of northern rockfish came from the directed fishery while 18% came as bycatch in other fisheries (Clausen and Heifetz 2004; Courtney et al. 2003). Bycatch in the directed northern rockfish fishery was predominantly dusky rockfish, followed distantly by “other slope rockfish,” Pacific ocean perch, and arrowtooth flounder (Ackley and Heifetz 2001). This study was based on observer program data from 1993–1995 and represents the only detailed study to date of bycatch in the slope rockfish fishery in the GOA. Additional information on the GOA northern rockfish biology and fishery can be found in the Final PSEIS (NMFS 2004c) as well as the annual Stock Assessment and Fishery Evaluation reports.

Table 3-2. Overfishing limit, allowable biological catch, total allowable catch, and catch of CGOA northern rockfish (1996 through 2009).

Year	Overfishing Level*	ABC	TAC	Catch
1996	9,926	4,610	4,610	3,146
1997	9,420	4,150	4,150	2,870
1998	9,420	4,150	4,150	2,967
1999	9,420	4,150	4,150	4,825
2000	7,510	4,490	4,490	2,578
2001	5,780	4,280	4,280	2,588
2002	5,910	4,170	4,170	2,999
2003	6,560	4,640	4,640	4,810
2004	5,790	4,100	4,100	3,711
2005	7,673	3,608	3,608	3,947
2006	6,050	4,283	4,283	3,985
2007	5,890	4,938	4,938	3,076
2008	5,430	2,408	2,408	2,135
2009	5,120	2,302	2,302	

Source: NMFS Annual Catch Reports & Groundfish Harvest Specifications 1996-2009

* OFL is gulfwide over the 3 management areas

Pelagic Shelf Rockfish

The pelagic shelf rockfish are a managed assemblage of mid-water, schooling rockfish which inhabit the continental shelf area of the GOA. The assemblage is composed of three species: dusky rockfish (*Sebastes ciliatus*) yellowtail rockfish (*S. flavidus*), and widow rockfish (*S. entomelas*). Of these three, dusky rockfish is the most important species Gulf-wide in the assemblage while the other two species are minor parts of the assemblage in Alaskan waters. Dusky rockfish has the northernmost distribution of all rockfish species in the Pacific Ocean. While the species range extends from British Columbia north to the Bering Sea and west to Hokkaido Island, Japan, the species appears to be abundant only in the GOA.

There are two distinct species of dusky rockfish in the GOA, a lighter-colored species (light dusky), found in more offshore waters and a darker-colored species found in shallow waters closer inshore (Clausen et al. 2003). The majority of available data on dusky rockfish from trawl surveys and the commercial fishery are on light dusky rockfish. Currently an annual stock assessment with an age-structured model is being done for light dusky rockfish. In March 2007, the Council took final action to remove dark rockfish from both the GOA fishery management plan (FMP) (pelagic shelf rockfish complex) and Bering Sea and Aleutian Islands (BSAI) FMP (other rockfish complex). Removing the species from the federal FMPs serves to turn full management authority of the stock over to the State of Alaska in both regions (NMFS 2008). The effective date of these FMP amendments was January 30, 2009.

The stock condition of dusky rockfish is influenced by periodically abundant year classes. As with the other rockfish species, the availability of zooplankton prey may play an important role in year class strength, however there is insufficient information available on food habits to determine this. Euphausiids are important in the diet of adult rockfish thus any change in the abundance of euphausiids based on climatic conditions or predation by other fish species could impact food availability for rockfish.

Pelagic shelf rockfish are caught almost exclusively with bottom trawl gear although some small amounts of reported catch are caught with longline gear. The vast majority of the catch is composed of light dusky rockfish (see table below). Catch of light dusky rockfish occurs in July following the close of the Pacific ocean perch target fishery. Catches are concentrated on shallow, offshore banks of the continental shelf, specifically the areas west of Yakutat, Portlock Bank northeast of Kodiak Island and around Albatross Bank southeast of Kodiak Island (Clausen et al. 2003). The highest catch-per-unit-effort in the commercial fishery tends to be within the 100-meter to 149-meter depth range (Reuter 1999).

In a recent study on localized depletion of Alaska rockfish, it was found that dusky rockfish were rarely depleted in areas 5,000 km² to 10,000 km², except during 1994 in one area known as the “Snakehead” outside Kodiak Island in the GOA. This area was heavily fished for northern rockfish in the 1990s and both fishery and survey catch-per-unit-effort have consistently declined in this area since 1994. In general, however, there is little evidence for localized depletion of dusky rockfish in the GOA. Potential reasons for this may include (1) the local populations may be large enough compared to the existing catch limits that significant depletions do not occur, (2) there is insufficient data for a less targeted species like dusky rockfish to detect real depletions that are happening, or (3) the data selection criteria were aimed at the complex of targeted rockfish. If the fishery concentrates on harvesting Pacific ocean perch until the catch limit is reached, then subsequently targets northern rockfish then dusky rockfish, depletion would be exaggerated for the first target and then underestimated for the final target. (NMFS 2008)

The ABC and TAC for pelagic shelf rockfish assemblage are apportioned over the three areas of the GOA (western, central, eastern). In the Eastern GOA, West Yakutat and Southeast Outside are split with separate ABCs and TACs for each region. The OFL for the complex is Gulf-wide. The ABC, OFL and TAC for the complex from 1996 through 2009 are included in Table 3-3.

Bycatch in the directed pelagic shelf rockfish fishery tends to be largely northern rockfish and “other slope” rockfish, with smaller amounts of Pacific ocean perch (Ackley and Heifetz 2001). Catch data from a different study also showed that dusky rockfish were most commonly associated with northern rockfish, Pacific ocean perch, and harlequin rockfish (Reuter 1999). No information is available on bycatch of pelagic shelf rockfish in the non-rockfish fisheries, however it is presumed to be small (Clausen et al. 2003).

Additional information on the GOA pelagic shelf rockfish biology and fishery can be found in the Final PSEIS (NMFS 2004) as well as the annual Stock Assessment and Fishery Evaluation reports.

Table 3-3. Overfishing limit, allowable biological catch, total allowable catch, and catch of CGOA pelagic shelf rockfish (1996 through 2009).

Year	Overfishing Level*	ABC	TAC	Catch
1996	8,704	3,200	3,200	1,849
1997 (Nearshore)		260	260	199
1997 (Offshore)	8,400	3,320	3,320	1,760
1998	8,040	3,260	3,260	2,477
1999	8,190	3,370	3,370	3,835
2000	9,040	4,080	4,080	3,074
2001	9,040	4,080	4,080	2,436
2002	8,220	3,480	3,480	2,680
2003	8,220	3,480	3,480	2,209
2004	5,570	3,010	3,010	2,158
2005	5,680	3,067	3,067	1,897
2006	6,662	3,262	3,262	1,715
2007	6,458	3,325	3,325	2,479
2008	6,400	3,626	3,626	2,870
2009	6,294	3,566	3,566	

Source: NMFS Annual Catch Reports & Groundfish Harvest Specifications 1996-2009

* OFL is gulfwide over the 3 management areas

3.3.3 Allocated Rockfish Secondary Species Stocks and Prohibited Species Catch

The following section summarizes biological, ecosystem, and fishery information concerning other species caught incidentally in the CGOA rockfish fisheries, including sablefish, shortraker rockfish, roughey rockfish, thornyhead rockfish, and Pacific cod.

Sablefish

Sablefish (*Anoploma fimbria*) are distributed from northern Mexico to the GOA, westward to the Aleutian Islands and into the Bering Sea (Wolotira et al. 1993). Adult sablefish are found along the continental slope, gullies and deep fjords generally at depths greater than 200 meters. Sablefish that were observed from a manned submersible were found within 1 meter of the bottom (Krieger 1997).

Sablefish are assessed as a single population in federal waters off Alaska because northern sablefish are highly migratory for at least part of their life (Heifetz and Fujioka 1991; Maloney and Heifetz 1997; Kimura et al. 1998). Sablefish are managed by discrete regions to distribute exploitation throughout their wide geographical range. There are four management areas in the GOA (Western, Central, West Yakutat, and East Yakutat/Southeast Outside) and two management areas in the BSAI.

Spawning is pelagic at depths of 300 meters to 500 meters near the edges of the continental slope (McFarlane and Nagata 1988), with eggs developing at depth and larvae developing near the surface as far offshore as 180 miles (Wing 1997). Average spawning (date based on otolith analysis) is March 30 (Sigler et al. 2001). During surveys of the outer continental shelf, most young-of-the-year sablefish are caught in the central and eastern GOA (Sigler et al. 2001). Near the end of the first summer, pelagic juveniles less than 20 cm drift inshore and spend the winter and following summer in inshore waters, reaching 30 cm to 40 cm by the end of their second summer (Rutecki and Varosi 1997). After their second summer, they begin moving offshore, typically reaching their adult habitat, the upper continental slope at 4 to 5 years.

Young-of-the-year sablefish prey mostly on euphausiids (Sigler et al. 2001). Juvenile and adult sablefish are opportunistic feeders. Diet studies have found that three-fourths of stomach content weight is fish, with the remainder invertebrates (Yang and Nelson 2000). Because of their opportunistic feeding practices, juveniles and adults are unlikely to be affected by availability and abundance of individual prey

species, but overall changes in ecosystem productivity could affect growth and survival rates. The main sablefish predators are adult coho and Chinook salmon, which prey on young-of-the-year.

Water mass movements and temperature appear related to recruitment success (Sigler et al. 2001). Above average recruitment is somewhat more likely with northerly winter currents and much less likely for years when the drift is southerly. Growth rate of young-of-the-year sablefish is higher in years when they are more abundant.

Fishing effects of the current management regime are either minimal or temporary based on the criteria that sablefish are currently above minimum stock size threshold. Sablefish are substantially dependent on benthic prey, which may be adversely affected by fishing. Little is known about sablefish spawning habitat and the effects of fishing on that habitat. Habitat requirements for growth to maturity are better known, but this knowledge is incomplete. Although sablefish do not appear dependent on physical structure, living structure and coral are substantially reduced in much of the area where sablefish are concentrated.

United States and Canadian fishermen have exploited sablefish since the end of the 19th century. The fishery developed as a secondary fishery for participants in the United States and Canadian halibut fisheries. The fishery developed off the Washington and British Columbia, spreading north to Alaska in the 1920s. Until the late 1950s, the fishery was exclusively United States and Canadian ranging from northern California to the GOA off Kodiak Island (Low et al. 1976).

In the late 1950s, Japanese longliners entered the sablefish fisheries in the eastern Bering Sea. Japanese fishing quickly expanded to the GOA, where catches peaked at almost 37,000 metric tons in 1972. This heavy fishing led to a substantial population decline and a sharp reduction in catch. Japanese trawlers also caught sablefish incidentally in the GOA Pacific ocean perch fishery until 1972, when directed trawl fishing for sablefish developed (Sasaki 1973).

The U.S. longline fishery began expanding substantially in 1982. By 1988 almost all GOA sablefish were taken by U.S. fishermen, with the exception of minor harvests by some remaining joint venture participants. The fishery expanded rapidly through the 1980s, prompting the development the IFQ program. IFQ management has increased fishery catch rates and decreased the harvest of immature fish (Sigler and Lundsford 2001).

In addition to the directed longline fishery, sablefish are caught incidentally in GOA trawl fisheries, primarily fisheries for rockfish and deep-water flatfish. In addition, five state longline fisheries land sablefish outside of the IFQ program. A switch by some fishermen to pot gear for sablefish in the BSAI has been prompted by killer whale depredation of longline catch. Pot gear is not permitted in the GOA.

The longline fishery catches mostly medium and large fish which are typically mature. The trawl fishery, which accounts for a small part of the total catch, occurs along the continental shelf where catches medium and small fish are often made. Catching these fish as juveniles, likely reduces the yield available from each recruit, though the shift is likely small because trawl harvests are a small portion of the total catch.

The ABC and TAC for sablefish are apportioned over the four areas of the GOA (the Western Gulf, the Central Gulf, West Yakutat, and East Yakutat/Southeast Outside) with separate ABCs and TACs for each region. The OFL for sablefish is Gulf-wide. The ABC, OFL and TAC for sablefish from 1996 through 2009 are included in Table 3-4.

The sablefish quota in the CGOA is allocated 80% to hook-and-line gear and 20% to trawl gear. Current maximum retainable amounts (MRAs) vary by directed basis species. The MRA for pollock, Pacific cod, Atka mackerel, shallow-water flatfish, skates, arrowtooth flounder, “other species,” and aggregated amounts of non-groundfish species is 1%. Deep-water flatfish, rex sole, flathead sole, Pacific ocean perch, shortraker rockfish, rougheye rockfish, northern rockfish, pelagic shelf rockfish, thornyhead rockfish, and other rockfish have an MRA of 7%.

Table 3-4 Overfishing limit, allowable biological catch, total allowable catch, and catch of CGOA pelagic shelf rockfish (1996 through 2009).

Year	Gear	Overfishing Level (mt) Gulfwide	ABC (mt)	TAC (mt)	Catch (mt)
1996	Hook & Line	22,800	6,900	5,520	5,122
	Trawl			1,380	1,650
1997	Hook & Line	39,950	6,410	5,128	4,935
	Trawl			1,282	1,302
1998	Hook & Line	23,450	6,320	5,056	4,674
	Trawl			1,264	1,245
1999	Hook & Line	19,720	5,590	4,472	4,557
	Trawl			1,118	1,316
2000	Hook & Line	16,600	5,730	4,584	4,786
	Trawl			1,146	1,386
2001	Hook & Line	15,720	54,101	4,328	4,434
	Trawl			1,082	1,084
2002	Hook & Line	19,350	5,430	4,344	4,611
	Trawl			1,086	1,569
2003	Hook & Line	20,020	6,440	5,152	5,661
	Trawl			1,288	1,429
2004	Hook & Line	22,160	7,300	5,840	6,096
	Trawl			1,460	989
2005	Hook & Line	15,940	7,250	5,800	5,672
	Trawl			1,450	1,015
2006	Hook & Line	14,840	6,370	5,096	5,186
	Trawl			1,274	844
2007	Hook & Line	14,239	6,190	4,952	4,793
	Trawl			1,238	392
2008	Hook & Line	15,040	5,500	4,400	4,660
	Trawl			1,100	633
2009	Hook & Line	11,160	4,990	3,992	3,529
	Trawl			998	256

Source: NMFS Annual Catch Reports & Groundfish Harvest Specifications 1996-2009

* 2009 catch was as of July 6, 2009

Shortraker Rockfish and Rougheye Rockfish

As with most other rockfish, shortraker rockfish (*Sebastes borealis*) and rougheye rockfish (*Sebastes aleutianus*) are slow growing and long-lived. They inhabit waters of the outer continental shelf and continental slope. Shortraker rockfish are consistently most abundant in the Yakutat area. Rougheye rockfish are typically most abundant in the Southeastern area. Estimates of maximum age of shortraker rockfish is 120 years, while estimates of maximum age of rougheye rockfish range from 90 years to 140 years.

As with other slope rockfish, shortraker rockfish and rougheye rockfish appear to be influenced by periodic abundant year classes. Availability of suitable zooplankton prey in sufficient quantity for larval and post-larval rockfish may be an important determining factor of year class strength. Information is unavailable to further assess this relationship. Adult shortraker rockfish and rougheye rockfish are thought to opportunistically feed on mollusks and fish. Little is known about the abundance trends of rockfish prey items. Rockfish are preyed on by a variety of other fish at all life stages, and to some extent marine mammals during late juvenile and adult stages. Whether any particular predator has a significant or

dominant effect is unknown. Predators also affect larval, post-larval, and small juvenile fish, but these effects are unknown.

Shortraker rockfish and rougheye rockfish have traditionally been combined for management purposes. Prior to 2004 there was no requirement to report catches of these two species separately and fishermen and processors could report shortraker rockfish, rougheye rockfish, or shortraker/rougheye rockfish catch. In 2004, shortraker rockfish and rougheye rockfish were divided into separate subgroups. These subgroups were established to protect these species from possible overfishing. Although TACs of the two species are separated, in most fisheries they remain subject to an “aggregate rockfish” MRA that limits retained catch to 5% or 15% of catch of species for which directed fishing is permitted. Under this rule, “aggregate rockfish” catch includes catch of all *Sebastes* and *Sebastalobus* excluding black rockfish and blue rockfish.

In 2007, the Pilot Program was implemented. To avoid possible overharvest of shortraker rockfish and rougheye rockfish by program participants, the Council elected to use more precise and limiting management in the Pilot Program. Catcher processor cooperatives are limited by constraining allocations with no discards permitted.⁹³ Catcher processors in the limited access fishery and all catcher vessels are limited by a 2% MRA, applicable to shortraker rockfish and rougheye rockfish in the aggregate. This more species specific reduced MRA is intended to limit any potential incentive to “top off” on these two species.

The ABC and TAC for shortraker rockfish and rougheye rockfish are apportioned by each of the three GOA areas, while the OFL is managed Gulf-wide. The relative proportions by areas are calculated based on comparison with the three most recent trawl survey results (2003, 2005, and 2007). The ABC, OFL and TAC for the complex from 1996 through 2009 are included in Table 3-5.

⁹³ The allocations of shortraker rockfish and rougheye rockfish to the catcher processor sector are based on specific percentages of the TAC selected by the Council determined after considering historic catches by catcher processors in the rockfish fisheries (i.e., 30.03 % of the Central Gulf shortraker TAC and 58.87 % of the Central Gulf rougheye TAC). Each catcher processor cooperative receives a percentage of each of those allocations equal to its percentage of the sector’s rockfish primary species quota shares.

Table 3-5. Overfishing limit, allowable biological catch, total allowable catch, and catch of CGOA shortraker/rougheye rockfish (1996 through 2009).

Year	Species*	Overfishing Level (mt) (Gulfwide)	ABC (mt)	TAC (mt)	Catch (mt)
1996	Shortraker/rougheye	2,925	1,210	1,210	941
1997	Shortraker/rougheye	2,740	970	970	931
1998	Shortraker/rougheye	2,740	970	970	868
1999	Shortraker/rougheye	2,740	970	970	580
2000	Shortraker/rougheye	2,510	930	930	887
2001	Shortraker/rougheye	2,510	930	930	998
2002	Shortraker/rougheye	2,340	840	840	631
2003	Shortraker/rougheye	2,340	840	840	949
2004	Shortraker/rougheye	2,510	656	656	343
2005	Shortraker	982	324	324	223
	Rougheye	1,531	557	557	121
2006	Shortraker	1,124	353	353	302
	Rougheye	1,180	608	608	134
2007	Shortraker	1,124	353	353	158
	Rougheye	1,148	611	611	181
2008	Shortraker	1,197	315	315	248
	Rougheye	1,548	834	834	191
2009	Shortraker	1,197	315	315	199
	Rougheye	1,545	833	833	100

Source: NMFS Annual Catch Reports & Groundfish Harvest Specifications 1996-2009

* Starting 2005, shortraker rockfish and rougheye rockfish were managed separately.

Thornyhead Rockfish

Thornyhead rockfish are long-lived, slow-growing high value rockfish species in Alaskan waters. The shortspine thornyhead rockfish, *Sebastolobus alaskanus*, are abundant in the GOA and are of commercial importance as a high value rockfish species. Longspine thornyhead rockfish, *S. altivelis*, as well as another thornyhead rockfish species common off Japan, *S. macrochir*, are infrequently encountered in the GOA, thus annual assessments focus upon the shortspine thornyhead rockfish.

Shortspine thornyhead rockfish are a demersal species found in deep waters from 92 meters to 1,460 meters with a geographic distribution extending from the Bering Sea and GOA to Baja California ((Gaichas and Ianelli summary, in Hanselman et al. 2003). Thornyhead rockfish life history is not well known. The maximum recorded age is in excess of 50 years (NMFS 2004b). Shrimp had been noted to be the most important food in the thornyhead rockfish diet (Yang 1993, 1996, Yang and Nelson 2000, NMFS 2004b). Other important prey items include Tanner crabs, Pollock, capelin, sculpins, polychaetes, mysids, amphipods and other crabs (Yang 1993, 1996, Yang and Nelson 2000, In NMFS 2004). California sea lion (Lowry et al. 1990) and sablefish (Orlov 1997) are documented predators of shortspine thornyhead rockfish.

Shortspine thornyhead rockfish are caught with both trawl and hook-and-line gear. In the past, this species was seldom the target of a directed fishery. Today thornyhead rockfish are one of the most valuable of the rockfish species, with most of the domestic harvest exported to Japan. Thornyhead rockfish are nearly always taken in fisheries directed at sablefish and other rockfish. The incidental catch of shortspine thornyhead rockfish in these fisheries has been sufficient to capture a substantial portion of the thornyhead rockfish quota established in recent years, so directed fishing on shortspine thornyhead rockfish exclusively is not permitted.

In 2007, the Pilot Program was implemented to enhance resource conservation and improve economic efficiency for harvesters and processors who participate in the CGOA rockfish fisheries. Thornyhead rockfish are a secondary species that has an allocation of quota share which can be caught while fishing for the primary management groups.

The ABC and TAC for thornyhead rockfish are apportioned by each of the three GOA areas while the OFL is managed Gulf-wide. The ABC, OFL and TAC for the complex from 1996 through 2009 are included in Table 3-6.

Additional information on thornyhead rockfish biology and fishery can be found in the Final PSEIS (NMFS 2004a) as well as the annual Stock Assessment and Fishery Evaluation reports.

Table 3-6. Overfishing limit, allowable biological catch, total allowable catch, and catch of CGOA thornyhead (1996 through 2009).

Year	Overfishing Level (mt) (Gulfwide)	ABC (mt)	TAC (mt)	Catch (mt)
1996 (Gulfwide)	2,200	1,560	1,248	1,132
1997 (Gulfwide)	2,400	1,700	1,700	1,240
1998	2,840	710	710	716
1999	2,800	700	700	583
2000	2,820	990	990	551
2001	2,770	970	970	523
2002	2,330	840	840	505
2003	3,050	840	840	745
2004	2,590	1,940	1,940	405
2005	2,590	1,010	1,010	390
2006	2,945	989	989	400
2007	2,945	989	989	196
2008	2,540	860	860	302
2009	2,540	860	860	

Source: NMFS Annual Catch Reports & Groundfish Harvest Specifications 1996-2009

Pacific Cod

Pacific cod (*Gadus macrocephalus*), also known as grey cod, are moderately fast-growing and short-lived fish. Females reach 50% maturity of about 67 cm, at an age of 6.7 years and are highly fecund. Annual natural mortality of adults is estimated to be 0.37. Cod are demersal fish and in the winter and spring concentrate on the shelf edge and upper slope at depths of approximately 100 meters to 200 meters. They spawn from January through April, then move to shallower waters (less than 100 meters) in the summer. Cod recruit to trawl fisheries at approximately 3 years, but are not fully recruited to all fisheries until 7 years.

Pacific cod is a transoceanic species, occurring at depths from shoreline to 500 meters. The southern limit of the species distribution is about 34° N latitude, with a northern limit of about 63° N latitude. Pacific cod is distributed widely over the GOA, as well as the Eastern BSAI area. Tagging studies have demonstrated significant migration both within and between the eastern Bering Sea, Aleutian Islands, and GOA. Genetic studies have failed to show significant evidence of stock structure within these areas. Pacific cod is not known to exhibit any special life history characteristics that require it to be assessed or managed differently from other groundfish stocks in the GOA.

A primary ecosystem phenomenon affecting Pacific cod seems to be the periodic occurrence of “regime shifts” (Livingston, ed. 2003). Additional study of the relationship between ecology of Pacific cod and these regime changes is necessary to fully understand the implications of these changes. Major trends in predators and prey can be expected to affect Pacific cod dynamics. Small Pacific cod feed mostly on invertebrates, while large Pacific cod are mainly piscivorous. Predators for Pacific cod include halibut, salmon shark, northern fur seals, Steller sea lions, harbor porpoises, various whale species, and tufted puffin.

Potentially, fisheries for Pacific cod can have effects on other species in the ecosystem through a variety of means. Pitcher (1981) showed that Pacific cod is important winter prey for Steller sea lions. Sinclair

and Zeppelin (2002) reinforced this finding, showing that Pacific cod was one of the four most important prey items of Steller sea lions, based on frequency of occurrence averaged over years, seasons, and sites, and was particularly important in winter. Size ranges of Pacific cod harvested commercially overlap with those consumed by sea lions, and to some extent commercial fisheries share geographic regions with sea lions (Livingston, ed. 2003).

Prior to adoption of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) in 1976, the Pacific cod fishery was relatively small, averaging approximately 3,000 metric tons per year in the two previous decades. In the late 1970s the fishery grew, mostly through foreign participation, which peaked in 1981 with a catch of almost 35,000 metric tons. The domestic fishery grew slowly through the early 1980s, and then jumped sharply in 1987 to approximately 31,000 metric tons, as the foreign fishery was eliminated. The current fishery is prosecuted by three gear types: trawl gear, hook-and-line gear, and pot gear. Traditionally trawl gear has taken the largest share of the catch, although in the last 2 years, pot gear has accounted for the largest share.

The ABC and TAC for Pacific cod are apportioned by each of the three GOA areas (Western Gulf, Central Gulf, Eastern Gulf), while the OFL is managed Gulf-wide. In addition, Pacific cod is allocated between processor components (inshore/offshore) and season. Ninety percent of the TAC is allocated to the inshore component and 10% to the offshore component. The CGOA allocation is further allocated at 60% of each component's quota to the A season (January 1 to June 10), while the remainder is allocated to the B season (June 11 to December 31). Directed fishing in the B season opens September 1. Historically, the majority of the GOA catch of cod has come from the CGOA. This distribution of effort has resulted, to some extent, from catch limits established for the different areas. Area specific allocations have varied with estimates of the distribution of biomass and management responses to local concerns. The ABC, OFL and TAC for Pacific cod from 1996 through 2009 are included in Table 3-7.

Table 3-7. Overfishing limit, allowable biological catch, total allowable catch, and catch of CGOA Pacific cod (1996 through 2009).

Year	Gear	Overfishing Level (mt) Gulfwide	ABC (mt)	TAC (mt)	Catch (mt)
1996	Inshore	88,800	42,900	38,610	42,213
	Offshore			4,290	5,351
1997	Inshore	180,000	51,400	42,321	43,406
	Offshore			1,369	271
1998	Inshore	141,000	49,080	37,548	38,031
	Offshore			4,172	3,405
1999	Inshore	134,000	53,170	38,642	40,928
	Offshore			4,293	3,619
2000	Inshore	102,000	43,550	30,672	30,257
	Offshore			3,408	1,928
2001	Inshore	91,200	38,650	27,225	25,255
	Offshore			3,025	2,066
2002	Inshore	77,100	31,680	22,311	22,665
	Offshore			2,479	2,393
2003	Inshore	70,100	29,000	20,421	22,584
	Offshore			2,269	2,159
2004	Inshore	102,000	35,800	27,116	25,419
	Offshore			2,712	1,931
2005	Inshore	86,200	33,117	22,577	22,344
	Offshore			2,509	361
2006	Inshore	95,500	37,873	25,565	21,627
	Offshore			2,840	1,402
2007	Inshore	97,600	37,873	25,565	24,860
	Offshore			2,840	1,138
2008	Inshore	88,660	37,901	25,583	26,565
	Offshore			2,843	1,262
2009	Inshore	66,600	31,521	21,277	14,847
	Offshore			2,364	1,322

Source: NMFS Annual Catch Reports & Groundfish Harvest Specifications 1996-2009

* 2009 catch was as of July 6, 2009

Halibut

Pacific halibut (*Hippoglossus stenolepis*) range from the Eastern Bering Sea to Oregon, with the center of abundance in the GOA. Spawning takes place in the winter months from December to February, mostly off the edge of the continental shelf at depths of 400 meters to 600 meters. Male halibut become sexually mature at 7 or 8 years of age; females become sexually mature at 8 to 12 years. In the 1970s, 10-year-old males averaged 9.1 kilograms, and females averaged 16.8 kilograms. Males can grow to approximately 35 kilograms and live up to approximately 30 years; females can grow to over 225 kilograms and live up to approximately 40 years. Females can produce up to 3 million eggs annually. Fertilized eggs float free for about 15 days before hatching. Larvae drift free for up to 6 months and can be carried great distances to shallow waters by prevailing currents. Most young halibut spend 5 to 7 years in shallow waters. At about 35 centimeters, these fish begin life as bottom dwellers. Up to age 10, halibut in the GOA are highly migratory, generally migrating clockwise throughout the GOA. Older halibut are much less migratory. Halibut prey on variety of fish, crab, and shrimp, at times leaving the bottom to feed on fish, such as herring and sand lance.

The catch of halibut in directed fisheries is managed under a treaty between the United States and Canada, through the International Pacific Halibut Commission. Pacific halibut are considered a single interrelated stock, but are regulated by quotas at the subarea level. Both commercial and recreational fisheries date back to the 1800s.

Currently, regulations limit catch of halibut as PSC. NMFS annual sets PSC limits under 50 CFR 679.21 through the annual TAC-setting process. Halibut PSC limits are apportioned by gear group, fishery categories, and season to create more refined PSC limits.

Table 3-8 and Table 3-9 show the halibut PSC limits by gear, seasons, and fisheries. The purpose of the seasonal apportionment is to maximize the ability of the fleet to harvest the available groundfish TAC and to minimize halibut PSC. NMFS will base any seasonal apportionment of the halibut PSC on (1) seasonal distribution of halibut, (2) seasonal distribution of target groundfish species, (3) PSC bycatch needs on a seasonal basis, (4) expected variations in bycatch rates throughout the fishing year, (5) expected changes in directed groundfish fishing season, (6) expected start of fishing effort, and (7) economic effects of establishing seasonal halibut allocations on segments of the target groundfish industry.

For the GOA trawl fisheries, the halibut PSC limit is 2,000 metric tons. The 2,000 metric tons are then apportioned among seasons (currently five⁹⁴) and fishery complexes (shallow-water and deep-water species) through the annual specification process. The shallow-water fishery complex includes pollock, Pacific cod, flathead sole, Atka mackerel, and “other species.” The deep-water complex includes all rockfish species, rex sole, deep-water flatfish, sablefish, and arrowtooth flounder. There is no apportionment between shallow-water and deep-water fishery complexes during the fifth season.

Unused seasonal apportionment of halibut PSC will be added to the respective seasonal apportionment for the next season during the current fishing year. If a seasonal apportionment of halibut PSC is exceeded, that amount of halibut limit will be deducted from the next season’s apportionment during the current fishing year. Unused halibut PSC that has been allocated to a rockfish cooperative is added to the last seasonal apportionment for trawl gear after November 15 or after the effective date of a declaration to terminate fishing by the rockfish cooperative during that fishing year.

If, during the fishing year, NMFS determines the trawl vessels will catch the halibut PSC limit for that fishery category, NMFS will close the entire GOA or regulatory area to directed fishing with trawl gear for that species complex.⁹⁵ NMFS currently apportions 800 metric tons of halibut PSC to the deep-water complex. This apportionment is split among the five seasons, with the third season (starting in July, when the rockfish fisheries open) being apportioned 400 metric tons.

Prior to implementation of the Pilot Program, if the halibut mortality limit was reached prior to catch of the rockfish TAC, the rockfish fisheries were closed for the season and reopened when the next apportionment came available in September. Since implementation of the Pilot Program, cooperatives receive exclusive allocations of halibut PSC from the third quarter deep-water apportionment that constrain their fishing activity. Participants in the limited access fishery (who elected not to join a cooperative) are subject to the same limitation as participants in the rockfish fisheries prior to the Pilot Program. In other words, if the third season halibut PSC apportionment is fully used prior to harvest of the applicable limited access rockfish TAC, that fishery will be closed until the next season’s apportionment comes available in September.

⁹⁴ Season 1: January 20–April 1; Season 2: April 1–July 1; Season 3: July 1–September 1; Season 4: September 1–October 1; Season 5: October 1–December 31.

⁹⁵ Trawl vessels fishing for pollock with pelagic gear may continue despite closure of shallow-water fisheries.

Table 3-8. Final 2009 and 2010 Pacific halibut PSC limits, allowances, and apportionments (all values are in metric tons).

Trawl gear		Hook-and-line gear ¹			
Season	Amount	Other than DSR		DSR	
		Season	Amount	Season	Amount
January 20 – April 1	550 (27.5%)	January 1 – June 10	250 (86%)	January 1 – December 31	10 (100%)
April 1 – July 1	400 (20%)	June 10 – September 1	5 (2%)		
July 1 – September 1	600 (30%)	September 1 – December 31	35 (12%)		
September 1 – October 1	150 (7.5%)	n/a	n/a		
October 1 – December 1	300 (15%)	n/a	n/a		
Total	2,000 (100%)	n/a	290 (100%)		10 (100%)

¹ The Pacific halibut PSC limit for hook-and line gear is allocated to the demersal shelf rockfish (DSR) fishery and fisheries other than DSR. The hook-and-line sablefish fishery is exempt from halibut PSC limits.

Table 3-9. Final 2009 and 2010 apportionment of Pacific halibut PSC trawl limits between the trawl gear deep-water species complex and the shallow-water species complex (values are in metric tons).

Season	Shallow-water species complex	Deep-water species complex ¹	Total
January 20 – April 1	450	100	550
April 1 – July 1	100	300	400
July 1 – September 1	200	400	600
September 1 – October 1	150	Any remainder	150
Subtotal January 20 – October 1	900	800	1,700
October 1 – December 31 ²	n/a	n/a	300
Total	n/a	n/a	2,000

¹ Vessels participating in cooperatives in the Central Gulf of Alaska Rockfish Pilot Program will receive a portion of the third season (July 1 – September 1) deep-water category halibut PSC apportionment. At this time, this amount is unknown but will be posted later on the Alaska Region Web site at <http://www.alaskafisheries.noaa.gov> when it becomes available.

² There is no apportionment between shallow-water and deep-water fishery complexes during the 5th season (October 1 – December 31).

Estimated annual halibut catch and mortality for catcher processors and catcher vessels in the CGOA rockfish fisheries from 1996 to 2006 are provided in Table 3-10.

Table 3-10. Halibut mortality of trawl vessels in the Central Gulf of Alaska directed rockfish fisheries (1996 through 2006).

Year	Catcher processors			Catcher vessels		
	Halibut PSC mortality (pounds)	Catch of primary rockfish (tons)	Pounds of halibut PSC mortality per ton of primary rockfish retained catch	Halibut PSC mortality (pounds)	Catch of primary rockfish (tons)	Pounds of halibut PSC mortality per ton of primary rockfish retained catch
1996	117,064.3	4,456.4	26.3	204,983.7	3,445.9	59.5
1997	328,198.8	5,899.6	55.6	109,215.9	3,297.9	33.1
1998	322,643.2	6,680.7	48.3	191,447.5	5,156.5	37.1
1999	372,511.3	8,532.4	43.7	274,097.9	5,877.8	46.6
2000	105,732.6	4,591.2	23.0	300,861.8	8,577.5	35.1
2001	243,916.9	6,301.8	38.7	454,742.8	6,656.4	68.3
2002	244,909.0	4,782.1	51.2	209,657.5	8,051.9	26.0
2003	144,423.1	4,148.7	34.8	340,930.7	9,728.1	35.0
2004	107,653.0	4,977.7	21.6	474,015.4	8,548.7	55.4
2005	150,053.8	5,506.0	27.3	306,010.6	7,445.8	41.1
2006	127,343.3	5,558.0	22.9	165,482.1	6,839.4	24.2

Source: CP data from Catch Accounting/Blen and CV data from Alaska Department of Fish and Game fish tickets

In 2007, the Pilot Program was implemented. The intention of the program is to enhance resource conservation and improve economic efficiency for harvesters and processors who participate in the program. Under the Pilot Program, allocations of the rockfish primary species (Pacific ocean perch, northern rockfish, and Pelagic rockfish) and important incidental catch species (i.e., sablefish, Pacific cod, shorttraker rockfish and rougheye rockfish, and thornyhead rockfish) are divided between the catcher vessel sector and the catcher processor sector. In addition, each sector is also allocated halibut PSC based

on historic catch of halibut in the target rockfish fisheries. Under the program, participants in each sector can either fish as part of a cooperative or in a competitive, limited access fishery. As seen from Table 3-11, annual halibut catch and mortality in the CGOA rockfish fisheries has declined since the implementation of the Pilot Program in 2007 and 2008.

In the years leading up to the Pilot Program, vessels in the rockfish fisheries averaged in excess of 20 pounds of halibut mortality for each metric ton of rockfish primary species. In the first 2 years of the program, vessels fishing in cooperatives and the limited access fishery under the program cut halibut mortality rates substantially. Vessels in the catcher processor limited access fishery reduced their catch to approximately 13 pounds of halibut per ton of rockfish primary species catch in 2007, while in 2008 the halibut mortality rate was 16.5 pounds per ton of rockfish primary species catch.⁹⁶ For catcher processor cooperative, the single vessel fishing in 2007 reduced its halibut mortality to less than 9 pounds of halibut per metric ton of rockfish primary species catch, while the two participating vessels in 2008 had a halibut mortality of 10.5%. The catcher vessel sector reduced its halibut mortality to slightly more than 4 pounds of halibut per ton of rockfish primary species catch in 2007, while the halibut mortality in 2008 for this sector was roughly 8 pounds per metric ton of rockfish primary species.⁹⁷

Table 3-11 Halibut mortality of vessels in the Pilot Program (2007 and 2008).

Year	Fishery	Vessels	Halibut PSC mortality (pounds)**	Catch of primary rockfish (tons)	Pounds of halibut PSC mortality per ton of primary rockfish catch	Allocation including transfer of halibut PSC mortality (pounds)	Unused allocation (pounds)
2007	Catcher processor limited access	3	26,312.8	2,063.3	12.8	NA	NA
	Catcher processor cooperative*	1	16,623.3	1,933.1	8.6	77,760.7	61,137.3
	Catcher vessel cooperative	25	32,710.1	7,746.0	4.2	309,816.8	277,106.7
	Total	29	75,646.3	11,742.4	6.4	387,577***	338,244+
2008	Catcher processor limited access	4	47,624.4	2,892.1	16.5	NA	NA
	Catcher processor cooperative*	2	19,332.0	1,836.4	10.5	44,092.0	24,760.0
	Catcher vessel cooperative	23	60,622.0	7,446.7	8.1	331,906.9	271,284.9
	Total	29	127,578.4	12,175.2	10.5	375,998.9***	296,044.9+

Source: NMFS Catch Accounting Data

*Data are not confidential because of disclosure in cooperative reports.

**Includes all halibut mortality under the primary program (i.e., excludes entry level fishery).

***Includes allocation to catcher processor cooperative that did not fish. No allocation is made to the limited access fishery.

+Includes all allocations and only catches by vessels subject to those allocations.

⁹⁶ In assessing the change in catch rate in the catcher processor limited fishery access, it should be borne in mind that (although not fishing as a cooperative) the vessels fishing in that fishery did not compete for the allocations of pelagic shelf rockfish, reducing the pressure to race for fish.

⁹⁷ These calculations include all halibut mortality of vessels fishing allocations under the program, including mortality in trips targeting Pacific cod and sablefish.

The drastic reduction in halibut mortality (particularly in the catcher vessel sector) likely arises from several factors. First, vessels have exclusive allocations, allowing them to move from areas of high halibut catch without risking loss of catch of the rockfish primary species. Second, exclusive allocations also increase the incentive for participants to communicate with each other concerning catch rates, improving information concerning areas of high halibut incidental catch in the fleet, and preventing repeated high halibut mortality among vessels exploring fishing grounds. Third, several vessels have begun employing new pelagic gear that limits bottom contact and halibut incidental catch. These gear changes are apparent when comparing the percentage of catch using pelagic trawl gear and non-pelagic gear in the first 2 years of the program with catch by those gear types in the preceding years (see Table 3-12). In the second year of the program over 40% of rockfish primary species catch was with pelagic trawl, in comparison to less than 25% in 2006 and 6% or less in the preceding years. In the second year of the program, nearly 85% of the catcher vessel fleet used pelagic gear for some of its catch, in comparison to slightly more than half of that fleet in 2006 and less than 20% in the preceding years. In the catcher processor sector, two of the four active vessels used pelagic gear in the first year of the program, in comparison to no pelagic trawl gear prior to implementation of the program. Catch data by gear type cannot be revealed for the catcher processor sector because of confidentiality protections. Participants in the program report that a primary motivation for these changes in gear types is constraining halibut allocations, which could jeopardize cooperative catches in the event that halibut bycatch exceeds allocations.

Table 3-12. Catch by gear by sector in the Central Gulf of Alaska rockfish fisheries (2003 through 2008).

Year	Catcher processors		Catcher vessels					
	Non-pelagic trawl	Pelagic trawl	Non-pelagic trawl			Pelagic trawl		
	Number of vessels	Number of vessels	Number of vessels	Catch of primary rockfish species (in metric tons)	Percentage of catch of primary rockfish species	Number of vessels	Catch of primary rockfish species (in metric tons)	Percentage of catch of primary rockfish species
2003	5	0	31	9,396.6	99.0	1	95.6	1.0
2004	6	0	28	7,875.0	100.0	0	0.0	0.0
2005	6	0	24	6,702.4	94.0	4	429.2	6.0
2006	4	0	23	5,153.2	76.4	13	1,590.0	23.6
2007	4	2	24	4,813.0	62.1	19	2,933.0	37.9
2008	6	1	26	4,230.2	56.8	22	3,216.5	43.2

Source: NMFS Catch Accounting

The incentive for halibut mortality reductions is increased by the rollover of saved halibut mortality to other fisheries late in the year, allowing the trawl sector as a whole (including vessels that did not qualify for the Pilot Program) to benefit from these halibut mortality reductions. As seen in the 3 years of the Pilot Program, any unused halibut PSC that has been allocated to the cooperatives that has not been used by a cooperative before November 15 or after a declaration to terminate fishing by the cooperative, will be added to the last seasonal apportionment for trawl gear during the current fishing year. On November 13, 2007, 128 metric tons of unused rockfish cooperative halibut PSC was reallocated to the trawl gear; on November 13, 2008, 135 metric tons was reallocated; and on November 15, 2009, 139 metric tons was reallocated. In all 3 years, the reallocation of halibut PSC from the Pilot Program to the GOA trawl fisheries allowed the trawl GOA groundfish fisheries to remain open until December 31. As demonstrated in Table 3-13, in the 5 years previous to implementation of the Pilot Program, the trawl GOA groundfish fisheries were closed to directed fishing prior to the end of the season so as not to exceed the halibut PSC limit. In two of those years, 2004 and 2005, the trawl GOA groundfish fishery was closed to direct fishing on October 1.

Table 3-13. Season duration of the trawl Central Gulf of Alaska groundfish fisheries from October 1 to December 31, 2000 through 2009.

Year	October					November				December			
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
2000													
2001													
2002													
2003													
2004													
2005													
2006													
2007													
2008													
2009													

Source: NOAA Fisheries status reports and groundfish closure summaries

* Gaps are approximate closure periods

Catch of groundfish late in the year has fluctuated both before and after implementation of the Pilot Program. Table 3-14 shows vessel count, total catch, and halibut PSC by target for trawl vessels during the October 1 to December 31 period from 2000 to 2009. As seen in the table, in the 2 years preceding the program, no harvest of groundfish occurred, as all fisheries were closed because no halibut PSC was available. In earlier years, halibut PSC was primarily caught in the shallow-water flatfish, Pacific cod, and arrowtooth flounder fisheries. Smaller amounts of halibut PSC were caught in the rex sole and flathead sole fisheries. In years since the Pilot Program, halibut PSC was primarily caught in the shallow-water flatfish fishery, while a smaller amount of halibut PSC was caught in the Pacific cod and arrowtooth flounder fisheries. The rollover, 128 metric tons in 2007, 135 metric tons in 2008, and 139 metric tons in 2009 has clearly supported additional fishing activity, but the degree of the change is uncertain and appears to depend on target preferences, which have varied year-to-year.

Table 3-14. Vessel count, total catch, and halibut PSC by target for trawl vessels in the Central and Western GOA during the fifth season (October 1–December 31) from 2000 through 2009.

Species Complex	Target		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Shallow-water	Shallow-water flatfish	Vessel Count	16	9	26	2	0	0	7	7	7	24
		Target catch	1,711	183	3,518	*	0	0	1,776	3,204	5,773	5,970
		Halibut PSC	82	9	213	*	0	0	210	208	238	138
	Pacific cod	Vessel Count	1	53	9	3	0	0	3	6	9	6
		Target catch	*	10,166	170	*	0	0	*	710	2,170	392
		Halibut PSC	*	437	6	*	0	0	*	15	56	7
	Flathead sole	Vessel Count	2	4	2	2	0	0	1	0	2	5
		Target catch	*	194	*	*	0	0	0	0	*	1,320
		Halibut PSC	*	4	*	*	0	0	0	0	*	13
Deep-water	Rex sole	Vessel Count	4	1	2	1	0	0	1	1	0	3
		Target catch	1,353	*	*	*	0	0	*	*	0	*
		Halibut PSC	38	*	*	*	0	0	*	*	0	*
	Arrowtooth	Vessel Count	2	1	8	13	0	0	7	6	8	8
		Target catch	*	*	2,702	6,700	0	0	2,095	1,808	2,025	1,098
		Halibut PSC	*	*	70	186	0	0	122	38	45	12
	Deep-water flatfish	Vessel Count	2	0	0	0	0	0	0	0	0	0
		Target catch	*	0	0	0	0	0	0	0	0	0
		Halibut PSC	*	0	0	0	0	0	0	0	0	0
	Rockfish	Vessel Count	0	0	0	1	0	0	3	7	5	4
		Target catch	0	0	0	*	0	0	*	973	1,392	458
		Halibut PSC	0	0	0	*	0	0	*	9	23	1
Days open during 5 th season**			92	20	16	14	0	0	7	82	82	92

Source: Target catch was from Blend data/Catch Accounting, while halibut PSC was from NMFS PSC data

*Withheld for confidentiality

** All closures during the 5th season were to prevent exceeding halibut PSC limit.

3.3.4 Unallocated Prohibited Species Catch

In prosecuting the targeted rockfish fisheries in the CGOA, participating catcher processors and catcher vessels in the fisheries also catch prohibited species. Retention of prohibited species is not allowed in the GOA groundfish fisheries, including the trawl rockfish fishery. The Magnuson-Stevens Act prohibition on retention of prohibited species harvests was intended to eliminate any incentive that groundfish fishermen might otherwise have to target these species: Pacific halibut (*Hippoglossus stenolepis*), Pacific salmon (*Oncorhynchus spp.*), steelhead trout (*Oncorhynchus mykiss*), Pacific herring (*Clupea pallasii*), red king crab (*Paralithodes camtschaticus*), blue king crab (*P. platypus*), golden or brown king crab (*Lithodes aequispinus*), bairdi Tanner crab (*Chionoecetes bairdi*) and opilio Tanner crab (*C. opilio*).

Prohibited species harvest data were obtained from NMFS for the CGOA trawl rockfish fishery. NMFS uses observer data to calculate prohibited species harvests. For prohibited species other than halibut, 100% mortality is assumed.

Table 3-15 provides an overview of the PSC that has resulted from the CGOA rockfish fisheries over the 13-year period from 1996 through 2009. The total annual amount of targeted groundfish (reported in metric tons) is shown in the second column of the table. For the prohibited species, the figures show the

number caught, not the weight of the catch, with the exception of herring. The last column in the table shows the catch of herring in kilograms.

Table 3-15. Prohibited species catch in the targeted CGOA rockfish fisheries (1996 through 2009).

Year	Sector	Targeted groundfish (mt)	Halibut mortality (mt)	Bairdi mortality (count)	Red king crab mortality (count)	Chinook salmon mortality (count)	Other salmon mortality (count)	Other king crab mortality (count)	Other tanner crab mortality (count)	Herring mortality (kgs)
1996	CP totals	7,225.3	53.1	84.8	0.0	17.1	11.4	423.3	394.0	20.4
1997		10,543.8	148.9	94.8	0.0	2,316.4	368.1	456.3	0.0	0.0
1998		10,753.0	146.4	19.2	0.0	21.8	145.6	276.7	0.0	0.0
1999		11,404.4	169.0	173.5	226.1	141.2	619.7	333.4	1.6	0.0
2000		6,883.4	48.0	0.2	0.0	905.7	81.5	279.2	0.0	57.5
2001		8,941.9	110.6	1,615.1	0.0	177.0	129.9	324.7	36.0	0.0
2002		7,420.0	111.1	726.2	0.0	1,141.6	671.5	354.3	0.0	0.0
2003		7,218.2	65.5	0.1	57.0	0.4	29.9	1.6	0.0	0.0
2004		6,954.6	48.8	0.0	253.7	75.1	136.0	237.7	0.0	0.0
2005		7,973.1	68.1	0.0	0.0	361.8	0.0	0.0	0.0	0.0
2006		7,725.6	57.8	34.5	0.0	0.0	195.1	0.0	0.0	0.0
2007		4,833.7	25.8	0.0	0.0	1,506.0	0.0	98.0	0.0	0.0
2008		5,884.1	30.4	0.0	0.0	280.0	117.0	93.0	0.0	0.0
2009		5,434.6	19.2	0.0	0.0	299.0	107.0	0.0	0.0	0.0
1996	CV totals	7,340.2	93.0	4,172.4	0.0	121.2	49.7	75.4	163.8	0.0
1997		4,908.3	49.5	6,770.8	0.0	0.0	0.0	0.0	0.0	0.0
1998		6,225.3	86.8	2,727.0	0.0	55.4	207.7	82.4	0.0	0.0
1999		10,492.3	124.3	384.5	5.2	328.0	909.4	130.6	0.0	0.0
2000		12,816.5	136.5	224.6	0.0	212.5	485.5	0.2	0.3	0.0
2001		10,101.6	206.3	778.8	0.0	0.0	254.7	0.0	0.0	91.4
2002		11,330.4	95.1	178.4	0.0	107.9	222.9	21.1	0.0	0.0
2003		13,565.9	154.6	171.0	0.0	800.3	2,150.1	0.0	0.0	0.0
2004		12,760.7	215.0	1,517.1	0.0	98.3	3,270.1	0.0	0.0	0.0
2005		10,026.1	138.8	1,575.1	0.0	98.3	3,270.1	0.0	0.0	0.0
2006		9,195.3	75.1	795.2	0.0	263.4	1,062.2	0.0	0.0	0.0
2007		8,921.7	19.7	7.8	0.0	502.0	277.7	0.0	0.0	21.2
2008		8,064.5	12.3	64.9	0.0	1,628.0	130.6	1.0	0.0	39.7
2009		8,164.8	11.0	195.0	0.0	874.0	344.6	34.7	0.0	0.0

Source: NMFS PSC data for PSC data and Catch Accounting/Blend Data for targeted groundfish data

Chinook salmon

In the GOA, the primary species of concern for salmon bycatch is Chinook salmon (*Oncorhynchus tshawytscha*), which is caught almost exclusively in trawl gear. Other salmon appear in the trawl bycatch in much smaller numbers than Chinook salmon and generally are not a bycatch concern (NPFMC 2010). For the period from 2003 through 2009, the average bycatch of salmon for all groundfish trawl fisheries in the GOA was 20,793 (Table 3-16). This is very similar to the 1990–2009 average bycatch level of 20,395 Chinook salmon.

Table 3-16. Bycatch of Pacific salmon in GOA groundfish trawl fisheries, by species, 1990 through 2009.

Year	Chinook	'Other' salmon ^a	Chum	Coho	Sockeye	Pink
1990	16,913		2,541	1,482	85	64
1991	38,894		13,713	1,129	51	57
1992	20,462		17,727	86	33	0
1993	24,465		55,268	306	15	799
1994	13,973		40,033	46	103	331
1995	14,647		64,067	668	41	16
1996	15,761		3,969	194	2	11
1997	15,119		3,349	41	7	23
1998	16,941	13,539				
2000	26,705	10,996				
2001	14,946	5,995				
2002	12,921	3,218				
2003	15,172	10,362				
2004	17,596	5,816				
2005	30,724	6,694				
2006	18,726	4,273				
2007	40,320	3,487				
2008	15,299	2,156				
2009	7,714	2,355				
Average 1990-2009	20,395	14,084^b				
Average 2003-2009	20,793	5,020				

^a Combines chum, coho, sockeye, and pink salmon.

^b Average combines chum, coho, sockeye, and pink salmon bycatch for 1990-1997.

Source: NMFS catch reports (<http://www.fakr.noaa.gov/sustainablefisheries/catchstats.htm>) for 1990-2002 (all species) and 2003-2009 (non-Chinook species); AKFIN Comprehensive PSC data for 2003-2009 (Chinook).

Most salmon bycatch in the GOA occurs in the CGOA management area. On average for the period from 2003 through 2009, over 80% of Chinook salmon bycatch was taken in the CGOA (an annual average of 17,063 Chinook salmon), divided approximately equally between regulatory areas 620 and 630.

By target fishery, the largest portion (74%) of the 2003–2009 average Chinook salmon bycatch in the CGOA occurred while trawling for pollock (NPFMC 2009), while only 6% of bycatch (average 2003–2009) occurred in the rockfish fisheries (Table 3-17). Chinook salmon bycatch in the rockfish fisheries has increased, however, since the implementation of the Pilot Program in 2007, by vessels using both nonpelagic and pelagic trawl gear. For 2003 to 2006, the average annual Chinook salmon bycatch in the rockfish fisheries was 602 Chinook salmon; for 2007 to 2009, the average annual bycatch was 1,696 Chinook salmon.

Table 3-17 Bycatch of Chinook salmon in the CGOA, by main target fisheries, 2003 through 2009.

Gear type	Target fishery	2003	2004	2005	2006	2007	2008	2009	Average 2003-2009
Nonpelagic trawl	Rockfish	799	885	397	263	1,714	1,163	970	884
	Flatfish	4,975	1,046	1,244	1,757	2,569	2,697	3,566	2,550
	Pacific Cod	2,952	813	41	681	434	326	101	764
	Pollock	423	257	1,296	380	50	32	277	388
Pelagic trawl	Rockfish	*		63	-	294	746	203	187
	Pollock	3,134	10,398	20,117	10,757	31,587	7,938	1,844	12,254
Total bycatch in CGOA		12,313	13,398	23,157	13,847	36,649	12,901	7,157	17,060
Bycatch in rockfish target as % of CGOA total		6%	7%	2%	2%	5%	15%	16%	6%

* = data is confidential.

Source: AKFIN Comprehensive PSC data, February 2010.

The timing of Chinook salmon bycatch follows a predictable pattern in most years, corresponding primarily with seasonal openings of the pollock fishery (Table 3-18). Chinook salmon are caught as bycatch in the rockfish fisheries throughout the time that the fisheries are open. Bycatch in April is largely attributable to the arrowtooth flounder fishery. Since the implementation of the Pilot Program, more efficient use of halibut PSC has allowed the shallow-water flatfish fishery to remain open longer into the fall (see previous section), which has also resulted in some increase in Chinook salmon bycatch during these months.

Table 3-18 Seasonal bycatch of Chinook salmon in the CGOA, by main target fishery, average bycatch by month for 2003 through 2006 and 2007 through 2009.

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
All trawl fisheries	Average 2003-2009	307	2,686	6,728	1,097	690	245	544	337	1,377	2,906	110	33
Pollock	Average 2003-2006	178	3,553	2,477	3				449	1,436	2,979	27	
	Average 2007-2009	89	333	35,272						1,206	4,189	401	
Rockfish	Average 2003-2006			*		*		602	0	*	*		
	Average 2007-2009					1,167	596	535	19	199	3	6	
Shallow water flatfish	Average 2003-2006		83	27	15	9	9	0	0	23	0		
	Average 2007-2009	0	0	0	0	0	0	2	39	45	623	31	28
Arrowtooth flounder	Average 2003-2006	23	89	0	207	175		0	3	25	48		
	Average 2007-2009		9	22	846	326		0	1	49	45	0	*
Pacific cod	Average 2003-2006	218	545	4	1	*			*	266	27		
	Average 2007-2009	47	66	0		0	15	0	6	154	0	*	

* = data is confidential. If cell is blank, no bycatch was recorded in those months.

Source: AKFIN Comprehensive PSC Data, February 2010.

3.3.5 Other Unallocated Species

All non-allocated rockfish secondary species harvested in the CGOA rockfish fisheries will be managed by MRA, the same as under current management. These non-allocated species include arrowtooth flounder, deep-water flatfish, shallow-water flatfish, flathead sole, rex sole, pollock, other species, Atka mackerel, and other rockfish.

Table 3-19 shows the annual harvest of the non-allocated rockfish secondary species for the period from 1996 through 2009 for the catcher processor sector and the catcher vessel sector. The data source for all of the tables is the same, NMFS blend data 1996–2002 and NMFS catch accounting data 2003–2009. Table 3-20 provides discarded and retained incidental catch of unallocated species in the CGOA rockfish fisheries from 2003 through 2009.

Table 3-19. Incidental catch of unallocated species by sector in the Central Gulf of Alaska rockfish fisheries (1996 through 2009).

Year	Atka Mackerel			Arrowtooth flounder			Flathead sole			Other flatfish		
	Sector Harvest (mt)		Total CGOA harvest (mt)	Sector Harvest (mt)		Total CGOA harvest (mt)	Sector Harvest (mt)		Total CGOA harvest (mt)	Sector Harvest (mt)		Total CGOA harvest (mt)
	CP	CV		CP	CV		CP	CV		CP	CV	
1996	1	3	9	271	1,507	19,740	7	100	2,166	60	579	10,854
1997	1	0	7	525	477	12,620	14	32	1,934	116	159	9,985
1998	0	0	38	774	664	9,610	6	13	1,168	39	98	5,388
1999	0	0	1	938	1,233	11,902	7	51	687	33	157	4,163
2000	0	1	3	589	1,660	17,640	2	72	1,274	28	491	7,136
2001	7	0	18	341	1,035	13,442	20	71	1,311	70	460	6,623
2002	11	15	30	394	747	14,895	3	17	1,725	49	155	7,445
2003	130	19	161	328	884	22,149	5	73	1,934	60	176	5,361
2004	30	6	39	266	1,473	16,169	6	50	2,473	46	148	3,658
2005	379	1	387	212	606	17,379	0	70	1,941	42	75	5,079
2006	272	22	317	151	733	25,579	0	23	2,679	23	93	7,783
2007	86	1	176	140	213	22,194	1	8	2,466	19	25	8,771
2008	316	1	324	89	162	26,261	2	9	3,149	11	36	9,518
2009	360	4	508	89	119	23,305	2	16	3,355	7	31	8,837

Year	Other rockfish			Other species			Pollock			Rex sole		
	Sector Harvest (mt)		Total CGOA harvest (mt)	Sector Harvest (mt)		Total CGOA harvest (mt)	Sector Harvest (mt)		Total CGOA harvest (mt)	Sector Harvest (mt)		Total CGOA harvest (mt)
	CP	CV		CP	CV		CP	CV		CP	CV	
1996	490	28	618	54	65	3,700	27	49	25,654	41	202	5,202
1997	844	33	1,185	98	64	4,510	130	47	57,978	87	52	2,438
1998	574	58	851	65	46	2,704	37	48	88,136	28	25	2,195
1999	253	307	689	60	76	3,130	19	31	68,274	32	116	2,393
2000	222	62	553	55	124	4,991	17	117	47,690	12	73	2,702
2001	221	35	462	118	179	4,406	12	53	37,664	65	152	2,507
2002	366	50	601	116	103	3,445	8	93	31,438	56	163	2,619
2003	486	51	704	30	134	4,917	26	41	32,078	59	70	2,727
2004	390	98	536	50	58	3,997	49	80	39,014	27	44	940
2005	431	41	516	63	60	4,226	89	89	47,243	17	40	1,603
2006	398	54	607	57	49	6,037	49	123	44,237	20	53	2,944
2007	282	51	740	19	19	5,445	19	31	33,839	20	12	2,440
2008	359	74	901	18	18	5,219	47	50	33,469	19	14	2,522
2009	321	78	685	23	16	5,073	217	218	26,232	21	12	4,410

Source: Catch accounting and Blend Data

Table 3-20. Retained and discarded incidental catch of unallocated species in the Central Gulf of Alaska rockfish fisheries (2003 through 2009).

Year	Arrowtooth Flounder			Atka Mackerel			Flathead Sole			Other Flatfish		
	Discarded	Retained	Total	Discarded	Retained	Total	Discarded	Retained	Total	Discarded	Retained	Total
2003	901	311	1,213	22	127	149	22	56	78	157	79	236
2004	1,407	332	1,739	17	18	35	37	20	56	85	108	193
2005	618	200	818	0	380	381	7	63	70	76	41	117
2006	808	76	884	146	148	294	10	13	23	97	19	116
Pre-pilot program average	934	230	1,164	46	169	215	19	38	57	104	62	166
2007	296	57	353	0	86	86	2	8	9	13	31	44
2008	142	109	251	11	306	317	3	8	11	28	20	48
2009	155	53	207	11	253	263	1	18	19	11	27	38
Pilot program average	198	73	270	7	215	222	2	11	13	17	26	43
Year	Other Rockfish			Other Species			Pollock			Rex Sole		
	Discarded	Retained	Total	Discarded	Retained	Total	Discarded	Retained	Total	Discarded	Retained	Total
2003	350	218	568	136	27	164	20	47	67	55	74	129
2004	325	174	499	92	16	108	43	85	129	35	36	71
2005	174	507	681	106	17	123	15	163	178	26	31	57
2006	293	356	649	100	6	106	33	139	172	49	23	73
Pre-pilot program average	286	314	599	109	17	125	28	109	136	41	41	82
2007	116	217	333	33	5	38	12	38	50	6	26	31
2008	236	198	433	24	11	36	5	92	97	9	24	33
2009	172	226	398	28	10	39	37	398	435	3	31	33
Pilot program average	175	214	388	29	9	37	18	176	194	6	27	33

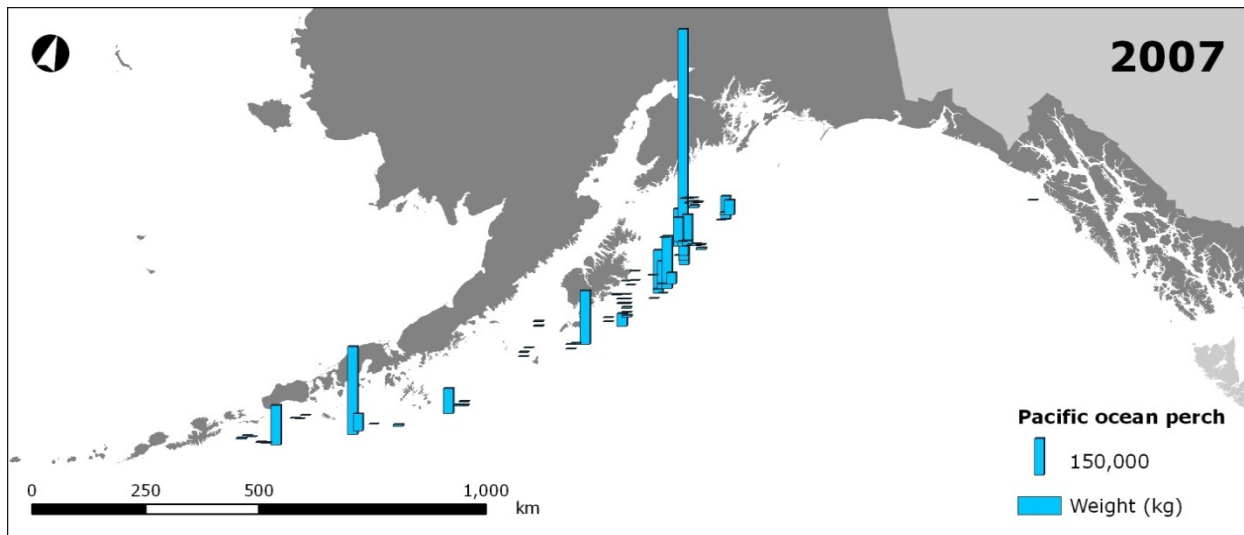
Source: Catch accounting

3.3.6 Benthic Habitat and Essential Fish Habitat

Section 303(a)(7) of the Magnuson-Stevens Act requires all FMPs to describe and identify Essential Fish Habitat (EFH), defined as “those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity.” In addition, FMPs must minimize to the extent practicable adverse effects of fishing on EFH and identify other actions to conserve and enhance EFH. To this end, the Environmental Impact Statement for Essential Fish Habitat Identification and Conservation in Alaska (NMFS 2004c) provides a detailed analysis of the interactions between fisheries and EFH. Most of the controversy surrounding EFH concerns the effects of fishing activities on sea floor habitats. The analysis concludes that there are long term effects of fishing on benthic habitat features off Alaska and acknowledges that considerable scientific uncertainty remains regarding the consequences of those effects on the sustained productivity of managed species. Based on the best available scientific information, the EIS concludes that the effects on EFH are minimal because the analysis finds no indication that continued fishing activities at the current rate and intensity would alter the capacity of EFH to support healthy populations of managed species over the long term. The analysis concludes that no Council-managed fishing activities have more than a minimal and temporary adverse effect on EFH, which is the regulatory standard requiring action to minimize adverse effects under the Magnuson-Stevens Act. Notwithstanding these findings, the Council elected to adopt a variety of new measures to conserve EFH, which have been implemented over the past few years.

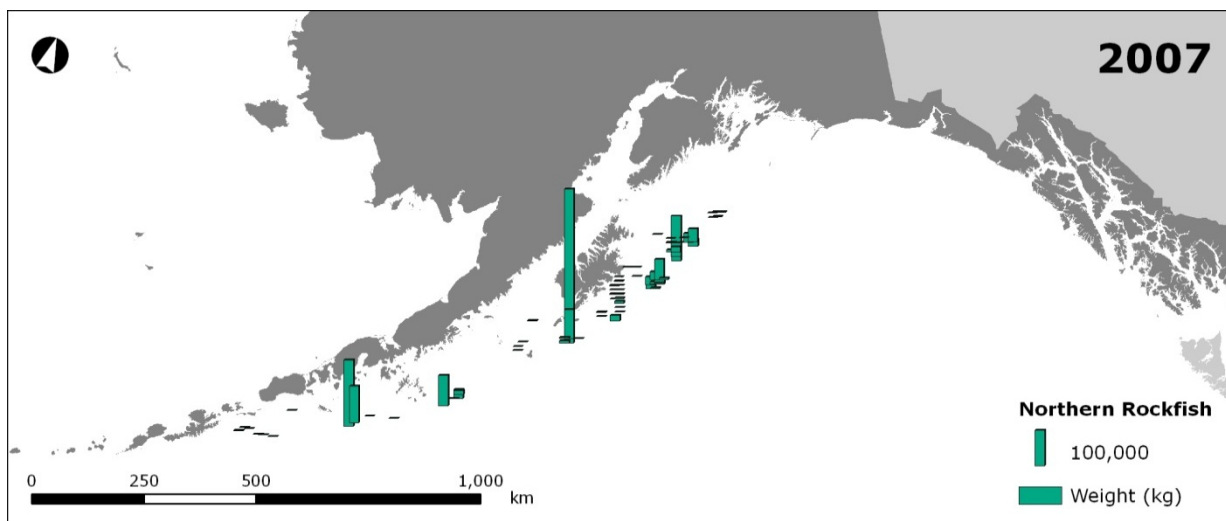
Figure 3-1, Figure 3-2, and Figure 3-3 show the concentration of observed rockfish trawl hauls for 2007. The areas of greatest concentration are on the slope south of the Kenai Peninsula, with fewer areas of concentration south of Kodiak Island and south of the Alaska Peninsula. The Pacific ocean perch fishery occurs over sand, gravel, and mud at depths of 90 fathoms to 200 fathoms. The northern rockfish and pelagic shelf rockfish fisheries occur over rock, gravel, and hard sand at depths of 40 fathoms to 80 fathoms. The analysis of the EIS provides detailed descriptions of EFH and the effects of fishing on EFH (NMFS 2004c).

Figure 3-1. Pacific ocean perch catch based on observer data (100 square kilometer blocks) for 2007.



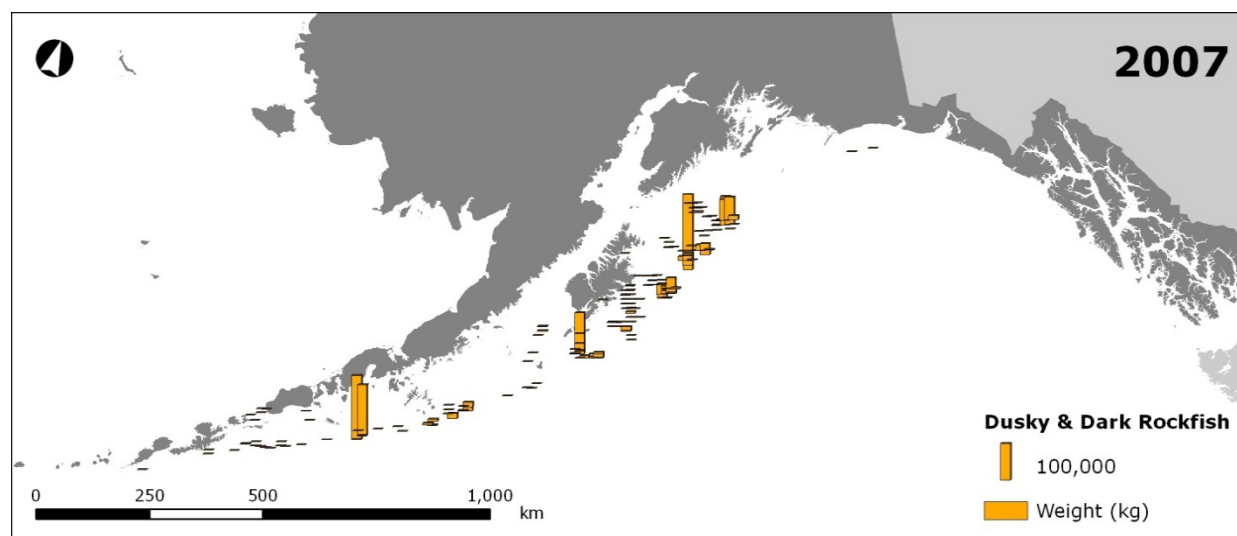
Source: Dana Hanselman, AFSC, NOAA Fisheries

Figure 3-2. Northern rockfish catch based on observer data (100 square kilometer blocks) for 2007.



Source: Dana Hanselman, AFSC, NOAA Fisheries

Figure 3-3 Pelagic shelf rockfish catch based on observer data (100 square kilometer blocks) for 2007.



Source: Dana Hanselman, AFSC, NOAA Fisheries

3.3.7 Marine Mammals

Marine mammals occur in diverse habitats in the GOA, and include both resident and migratory species. Marine mammal species that occur in the GOA are in Table 3-21 (Allen and Angliss 2010; NMFS 2007). The Groundfish PSEIS (NMFS 2004) provides descriptions of the range, habitat, and diet for these marine mammals. Annual stock assessment reports prepared by the National Marine Mammal Laboratory provide population estimates, population trends, and estimates of potential biological removals (Allen and Angliss 2010).

Direct and indirect interactions between marine mammals and the groundfish fisheries result from temporal and spatial overlap between commercial fishing activities and marine mammal occurrence. Direct interactions include injury or mortality due to entanglement in fishing gear and disturbance. Indirect interactions include overlap in the size and species of groundfish important both to the fisheries and to marine mammals as prey. The GOA groundfish fisheries (pot, trawl and hook-and-line) are classified as Category III fisheries under the Marine Mammal Protection Act (2009 draft List of Fisheries [74 FR 27739, June 11, 2009]). Category III fisheries are unlikely to cause mortality or serious injury to more than 1% of the marine mammal's potential biological removal level, calculated on an annual basis (50 CFR 229.2). Taking of marine mammals is monitored by the North Pacific observer program.

Marine mammals listed under the Endangered Species Act (ESA) that may be present in the GOA are listed in Table 3-21. All of these species are managed by NMFS, with the exception of northern sea otter, which is managed by U.S. Fish and Wildlife Service. A Biological Opinion evaluating impacts of the groundfish fisheries on the endangered species managed by NMFS was completed in November 2000 (NMFS 2000). The western population segment of Steller sea lions was the only ESA-listed species identified as likely to be jeopardized or to have adverse modification of designated critical habitat from the Alaska groundfish fisheries. A 2001 biological opinion on the Steller sea lion protection measures for the groundfish fisheries determined that the fisheries were not likely to result in jeopardy of extinction or adverse modification or destruction of critical habitat for Steller sea lions (NMFS 2001). Because of new information on Steller sea lions and potential fishery interactions, and new information on humpback and sperm whales, a new Section 7 consultation was initiated in 2006. The final Biological Opinion was released in November 2010, and NMFS implemented the Steller sea lion protection measures in the RPA

on January 1, 2011 (NMFS 2010a) by interim final rule (75 FR 77535, December 13, 2010, corrected 75 FR 81921, December 29, 2010). NMFS completed informal consultation on northern sea otters in 2006 and found that the Alaska fisheries were not likely to adversely affect northern sea otters (Mecum 2006). Critical habitat for sea otters has been designated and is located primarily in nearshore waters (74 FR 51988, October 8, 2009) and is not likely affected by federal fisheries.

Table 3-21 Marine Mammal Stocks Occurring in Gulf of Alaska.

	Species	Stocks
Pinnipedia	Steller sea lion*	Western U.S. (west of 144° W long.) and Eastern U.S. (east of 144° W long.)
	Northern fur seal**	Eastern Pacific
	Harbor seal	Southeast Alaska, Gulf of Alaska, Bering Sea
	Ribbon seal	Alaska
	Northern elephant seal	California
Cetacea	Species	Stocks
	Beluga Whale*	Cook Inlet
	Killer whale	Eastern North Pacific Northern Resident, Eastern North Pacific Alaska Resident, Eastern North Pacific GOA, Aleutian Islands, and Bering Sea transient, AT1 transient**, West Coast Transient
	Pacific White-sided dolphin	North Pacific
	Harbor porpoise	Southeast Alaska, Gulf of Alaska, and Bering Sea
	Dall's porpoise	Alaska
	Sperm whale*	North Pacific
	Baird's beaked whale	Alaska
	Cuvier's beaked whale	Alaska
	Stejneger's beaked whale	Alaska
	Gray whale	Eastern North Pacific
	Humpback whale*	Western North Pacific, Central North Pacific
	Fin whale*	Northeast Pacific
	Minke whale	Alaska
	North Pacific right whale*	North Pacific
	Blue whale*	North Pacific
	Sei whale*	North Pacific
USFWS Managed Species		
	Species	Stock
Mustelidae	Northern sea otter*	Southeast Alaska, Southcentral Alaska, Southwest Alaska

Source: Allen and Angliss 2010.

As a result of the Biological Opinion in 2000, the Steller sea lion protection measures include area-specific closures around rookeries and haulouts and seasonal divisions of TACs to disperse fishing effort throughout the year. The Pacific cod fishing season was divided into two periods: 60% of the TAC was allocated among the A season (January 1–June 10) and 40% to the B season (June 10–December 31). The objective was to limit the total amount of cod harvested in the first half of the year. Pacific cod is an important prey item of Steller sea lions (NMFS 2000).

Since 2000, the U.S. portion of the western population of Steller sea lions has been increasing. However, the 2004 count (38,988 animals) was still 7.4% lower than the 1996 count and 32.6% lower than the 1990 count. In the GOA, the 2004 count (9,005 animals) was 12.6% higher than the 2000 count (7,995 animals), but was 45.1% lower than the 1990 count. Although counts at some trend sites are missing for both 2006 and 2007, available data indicate that the size of the adult and juvenile portion of the western Steller sea lion population throughout much of its range (Cape St. Elias to Tanaga Island, 145°–178° W) in Alaska has remained largely unchanged between 2004 (23,107 animals) and 2007 (23,118 animals) (Fritz et al. 2007). However, there are significant regional differences in recent trends: increases between

2004 and 2007 in the eastern Aleutians and western/central GOA have largely been offset by decreases in parts of the central Aleutians and eastern GOA. The relative stability in the Cape St. Elias-Tanaga Island area coupled with the declining trends observed through 2006 west of Amchitka Pass suggest that the overall trend for the western stock in Alaska (through 2007) is either stable or declining slightly.

Incidental mortality of Steller sea lions during the GOA groundfish fisheries is summarized in Table 3-22. No incidental mortalities were observed in the longline sectors. In the 2007 stock assessment, the GOA pollock trawl fishery contributes an estimated 0.5% of the total annual mortality to the western population of Steller sea lions attributed to commercial fisheries. The minimum estimate of incidental mortality due to commercial fishing activities in all waters off Alaska is 26.2 sea lions per year, which exceeds 10% of the potential biological removal, however the total estimated annual level of human-caused mortality and serious injury for all sources is below the potential biological removal level (247) for this stock (Allen and Angliss 2010).

Table 3-22 Incidental mortality of Steller sea lions in the GOA groundfish fisheries (2002 through 2006) and estimate of the mean annual mortality rate, based on observer data.

Fishery	Years	Observer coverage	Observed mortality	Estimated mortality	Mean annual mortality
GOA Pacific cod trawl	2002	23.2%	0	0	0
	2003	27.3%	0	0	
	2004	27.0%	0	0	
	2005	21.4%	0	0	
	2006	22.8%	0	0	
GOA pollock trawl	2002	26.0%	0	0	1.33 (CV = 0.66)
	2003	31.2%	1	2.1	
	2004	27.4%	0	0	
	2005	24.2%	1	4.2	
	2006	26.5%	0	0	

Source: Allen and Angliss 2010.

3.3.8 Seabirds

Various species of seabirds occur in the GOA, including resident species, migratory species that nest in Alaska, and migratory species that occur in Alaska only outside of the breeding season. A list of species is provided below.⁹⁸ The Groundfish PSEIS (NMFS 2004) provides descriptions of the range, habitat, diet, abundance, and population status for these seabirds.

Species nesting in Alaska

Tubenoses-Albatrosses and relatives: Northern Fulmar, Fork-tailed Storm-petrel, Leach's Storm-petrel

Kittiwakes and terns: Black-legged Kittiwake, Red-legged Kittiwake, Arctic Tern, Aleutian Tern

Pelicans and cormorants: Double-crested Cormorant, Brandt's Cormorant, Pelagic Cormorant, Red-faced Cormorant

Jaegers and gulls: Pomarine Jaeger, Parasitic Jaeger, Bonaparte's Gull, Mew Gull, Herring Gull, Glaucous-winged Gull, Glaucous Gull, Sabine's Gull

Auks: Common Murre, Thick-billed Murre, Black Guillemot, Pigeon Guillemot, Marbled Murrelet, Kittlitz's Murrelet, Ancient Murrelet, Cassin's Auklet, Parakeet Auklet, Least Auklet, Whiskered Auklet, Crested Auklet, Rhinoceros Auklet, Tufted Puffin, Horned Puffin

⁹⁸ Source: (USFWS web site "Seabirds. Species in Alaska. Accessed at <http://alaska.fws.gov/mbmp/mbm/seabirds/species.htm> on August 31, 2007).

Species that visit Alaska waters

Tubenoses: Short-tailed Albatross, Black-footed Albatross, Laysan Albatross, Sooty Shearwater, Short-tailed Shearwater

Gulls: Ross's Gull, Ivory Gull

Several species of conservation concern occur in the GOA as well (Table 3-23). Short-tailed albatrosses are listed as endangered under the ESA, while Kittlitz's murrelet is a candidate species for listing under the ESA, and the U.S. Fish and Wildlife Service (USFWS) is currently working on a 12-month finding for black-footed albatrosses.

Table 3-23 ESA-listed and candidate seabird species that occur in the GOA.

Common Name	Scientific Name	ESA Status
Short-tailed Albatross	<i>Phoebastria albatrus</i>	Endangered
Steller's Eider	<i>Polysticta stelleri</i>	Threatened
Kittlitz's Murrelet	<i>Brachyramphus brevirostris</i>	Candidate
Black-footed Albatross	<i>Phoebastria nigripes</i>	USFWS working on 12 month finding

FWS has primary responsibility for managing seabirds, and has evaluated effects of the BSAI and GOA FMPs and the harvest specifications process on currently listed species in two Biological Opinions (USFWS 2003a and 2003b). Both Biological Opinions concluded that the groundfish fisheries, including the GOA Pacific cod fishery, are unlikely to jeopardize populations of listed species or adversely modify or destroy critical habitat for listed species.

The groundfish fisheries have direct and indirect impacts on seabirds. Seabird take is the primary direct effect of fishing operations. Seabirds are taken in the hook-and-line fisheries in two ways. While hooks are being set, seabirds attracted to bait may become entangled in fishing lines. Seabirds are also caught directly on baited hooks. Seabirds are taken in the trawl fisheries when they are attracted by offal or discarded fish and become entangled in fishing gear. Indirect effects include impacts to food sources. The groundfish fisheries may reduce the biomass of prey species available to seabird populations. Fishing gear may disturb benthic habitat used by seabirds that forage on the seafloor and reduce available prey. Bottom trawl gear is the primary source of benthic habitat disturbance in the groundfish fisheries. Fishing activities may also create feeding opportunities for seabirds, for example when catcher processors discard offal.

Hook-and-line gear accounts for up to 94% of seabird bycatch in the BSAI and GOA groundfish fisheries combined (Fitzgerald et al. 2006). In the GOA, this bycatch consists of 46% fulmars, 34% albatrosses, 12% gull species, 5% unidentified seabirds, 2% shearwater species, and less than 1% of "all other" species (Fitzgerald et al. 2006). Most bycatch of black-footed albatross in waters off Alaska occurs in the GOA hook-and-line fisheries. From 2000 to 2004, an estimated 88 black-footed albatross were taken annually in the GOA hook-and-line fisheries. Total seabird bycatch in the GOA hook-and-line fisheries peaked in 1996 at 1,649 birds, and decreased to 156 birds in 2004, despite an increase in fishing effort. The incidental catch rate in the GOA decreased from an annual average of 0.021 birds per 1,000 hooks from 1993 to 1999 to 0.01 birds per 1,000 hooks from 2000–2004.

Due to different sampling procedures on trawl vessels, two sets of estimates are calculated for seabird bycatch. Average annual take by trawl vessels in the GOA from 1993 to 2004 was either 63 birds or 97 birds (Fitzgerald et al. 2006). Northern fulmars comprised the majority of bycatch by trawl vessels during this period. Seabird bycatch by the groundfish pot sector has historically been very low. Average annual

bycatch in the GOA pot sector from 1993–2004 was 55 seabirds, less than 1% of the average annual seabird bycatch in the groundfish fisheries.

3.3.9 The Ecosystem

An ecosystem is a spatially explicit area that includes all organisms and components of the abiotic environment within its boundaries. The GOA is a large marine ecosystem, identified by its distinct geographical and biological features (see the Alaska Groundfish Fisheries Programmatic SEIS).

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, change predator-prey relationships and community structure, introducing foreign species, affecting trophic or functional diversity, alter genetic diversity, and alter habitat, and damage benthic organisms or communities. An assessment of the effects of commercial fishing on marine ecosystems off Alaska is contained in the Alaska Groundfish Fisheries Programmatic SEIS and is incorporated by reference (NMFS, 2001).

3.3.10 Environmental justice

Environmental justice requires that federal agencies address any disproportionately high, adverse environmental or health effects on minority or low-income populations. Environmental justice includes not only effects on the natural and physical environment, but also related social, cultural, and economic effects (see Executive Order 12898).

To assess the environmental justice of the alternatives, the demographics of the geographic areas affected by the action are examined to determine the extent of minority or low-income populations and the degree to which those populations could be affected. The connection of these populations to the rockfish fisheries resource is examined to determine the degree to which the alternatives are likely to disproportionately affect those populations.

The city most affected by this action is Kodiak, where all of the eligible processors operate and several of the owners of eligible catcher vessels reside. The 2000 U.S. census estimated the population of Kodiak at 6,334. Of this population, approximately 30% are estimated to be of Asian descent, while another 10% are estimated to be Native American or Native Alaskan, and slightly less than 10% are estimated to be Hispanic. An additional 10% are estimated to be of mixed race, making approximately 50% of the community minority or mixed race. The 2000 U.S. Bureau of the Census also estimated approximately 7.4% of the population to be at or below the poverty level.

The Kodiak minority and low income population that is likely to be affected by the alternatives are employees of the processing facilities in the community. As recent as 2002, approximately 1,000 persons were estimated to be employed by Kodiak shore-based processing facilities. A large portion of this workforce is believed to be drawn from the local, minority populations (EDAW, Inc. 2005). Consequently, any differential impacts of the alternatives on processing employment are likely to have some environmental justice implications. Additional information concerning Kodiak-based processing can be found in the Comprehensive Baseline Community Profiles (EDAW, Inc. 2005). Although no crew specific data are available, if catcher vessel crews are assumed to mirror the local population demographics, Kodiak catcher vessels likely employ a substantial number of minority crew.

While most of the eligible catcher vessel and shore-based processing activity is based in Kodiak, a large portion of the eligible catcher processor fleet is based in Seattle, Washington. No specific minority or low population community is known to depend substantially on the catcher processor fleet for employment. As a result, no environmental justice considerations arise with respect to the Seattle-based catcher processor fleet.

3.3.11 Economic and Socioeconomic Factors

A comprehensive description of the social and economic conditions of the fisheries is contained in Section 2.3.9 of the Regulatory Impact Review above.

3.4 Analysis of the Alternatives

This section analyses each of the alternatives comparing the alternatives to each other and to the baseline condition in the rockfish fisheries. 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 that arise under the different alternative. Predictability of these individual actions and their effects is constrained by the novelty of the alternatives 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 participants under the alternatives.

To examine the impacts of the alternatives, the analysis begins by considering the changes in practices and participation in fishing and processing that are likely to arise under the various management systems proposed by the different 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 significance of impacts of the different alternatives.

3.4.1 Effects on Implementation, Management, Monitoring, and Enforcement

No action alternative

Under the no action alternative, the rockfish fisheries would revert back to a managed limited access race for fish. Managers would manage the LLP, under which license holders must declare with NMFS their intention to use a license on a vessel. The rockfish fisheries would be managed at the fleet level. The trawl season would be expected to open in early July. Managers would monitor fleet harvest in an attempt to time their closure announcement with full harvest of the TAC, reserving a relatively minor amount of rockfish to support incidental catch of rockfish in fisheries later in the year.

Observer coverage would revert to the level prior to implementation of the Pilot Program in 2007. During that period, observer coverage varied with vessel size. In general, vessels that are 125 feet or longer LOA are required to have 100% observer coverage. Vessels under 125 feet LOA and 60 feet or greater LOA are required to have 30% observer coverage. Vessels under 60 feet LOA have no observer requirement. Shoreside and floating processors that process in excess of 1,000 metric tons of groundfish in calendar month are required to maintain 100% coverage to observe landings. Shoreside and floating processors that process less than 1,000 metric tons and more than 500 metric tons of groundfish in a calendar month are required to maintain 30% observer coverage (50 CFR 679.50).

Program Alternatives

The Rockfish Program is very similar in its implementation, management, monitoring, and enforcement to the Pilot Program. Because of the similarities between the two programs, there is no apparent reason to develop different standards for the Rockfish Program.

In general, catcher processors monitoring requirements are—

- all hauls must be observed by a NMFS-approved observer (200% observer coverage or an alternative fishing plan);
- an observer work area is required;
- all catch must be weighted on NMFS approved scales;
- no catch may be on deck when fish are moving from the bins or tanks to the factor or when fish are passing across the scale; and
- vessels must implement a vessel specific monitoring plan that will help to ensure unbiased sampling, and provide additional sorting space for observers.

For catcher vessels, a NMFS-approved observer must be on the vessel while participating in a rockfish cooperative, rockfish limited access fishery, or rockfish sideboard fishery. Participating vessels would be required to carry and use a VMS (vessel monitoring system) transponder. Use of VMS will allow NMFS to monitor stand-down vessels, track harvest location, ensure that deliveries are made to participating processors and facilitate general enforcement. With the exception of some vessels that may choose to participate in the entry level fishery, all of the vessels that are eligible for this program are currently required to use VMS during most of the fishing year. Thus, this requirement will have little or no impact on the participating fleet.

With the exception of accounting for halibut PSC, catch accounting for Rockfish Program species allocated to catcher vessel cooperatives will take place shoreside. Thus, it is important for NMFS to ensure that adequate measures have been taken to facilitate accurate catch accounting. In order to accomplish this, NMFS has required that processors operate under an approved Catch Monitoring and Control Plan (CMCP). A CMCP is developed by the processor and approved by NMFS per criteria established in federal regulations at 50 CFR 679.28(g)(7). It details a series of performance based standards that ensure that all delivered catch can be effectively monitored by an observer and that all catch is accurately sorted and weighed by species. The presence of a plant observer is integral to ensuring adherence to the CMCP, as the program will allocate several species with all allocations binding. A major duty of plant observers is to monitor landings in accordance with the CMCP and ensure the efficient transfer of data for in-season management. To monitor landings and insure the CMCP is adhered too, the Council has included in the proposed action three options. The first option would require an observer on duty whenever Rockfish Program deliveries are made. Under this option, no observer will be allowed to work more than 12 hours per day (status quo under the Pilot Program). The second option would require the same level of observer coverage for shoreside processors as in other groundfish fisheries. Finally, under Option 3, a CMCP specialist would oversee Rockfish Program deliveries.

Under the Option 1, each processor must have an observer on duty for every rockfish delivery. If the processor chooses to process deliveries for more than 12 hours per day two observers would be required. Daily observer coverage would begin with the first rockfish delivery and end 12 hours later. If program deliveries occur more than 12 hours after the first delivery in the calendar day, a second observer would be required. To reduce potential conflicts in observer scheduling and ensure adequate coverage for program deliveries, an observer assigned to one processing facility could not be assigned to multiple facilities in a day. To prevent full coverage of rockfish deliveries from adversely affecting shoreside coverage for other fisheries, observer coverage for rockfish deliveries would not count towards meeting a

processor's observer coverage obligations in other fisheries. Because every vessel delivering to the processor under the program would have an observer collecting biological samples and scientific data while at sea, plant observers would not collect biological samples or scientific data at the delivery. The plant observer's duties would include verifying delivery weights recorded by scales with those reported on landing reports and confirming that plant activities conform to their stated CMCP. To date, the full observer coverage requirement has been the only available option to conduct shoreside quota accounting for Pilot Program deliveries. Because of the nature of the observer's duties and the structure of the current deployment model, observers do not have the flexibility to monitor deliveries at multiple processors during the same day.

Under Option 2, plants would revert to pre-Pilot Program observer coverage. Under those requirements, a plant that processes 1,000 metric tons of groundfish or more in a month is required to have an observer present at the facility each day it processes or receives groundfish in that month. A plant that processes or receives between 500 metric tons and 1,000 metric tons of groundfish in a month is required to have an observer present at the facility at least 30% of the days in that month that it processes or receives groundfish. A plant that processes less than 500 metric tons of groundfish in a month is not required to obtain observer coverage. A processing plant that receives program deliveries would continue to be required to have a CMCP that defines how it will sort and weigh fish during program deliveries. The plant observer, when assigned to the processor, would be tasked with confirming that plant activities conform to their stated CMCP, in addition to their other duties of collecting biological information for non-rockfish deliveries and assisting vessel observers.

Prior to the implementation of the shoreside observer coverage requirements under the Pilot Program, observers were frequently assigned to multiple processors during the same day. Under this option, assignment to multiple plants would be permitted. If rockfish deliveries occur at the same time at more than one plant that an observer is assigned to, the observer may be unable to complete observer duties for both deliveries. In addition, with the less than comprehensive observer coverage during program landings will likely leave gaps in monitoring compliance with CMCPs. Any unobserved landings lack the independent verification needed to ensure all catch is weighed for appropriate quota accounting. Additionally, allowing the assignment of an observer to multiple plants, could lead to substantial unobserved rockfish deliveries, because the observer must complete other sampling duties.

Under the current groundfish observer program, entities required to have observer coverage contract with observer providers and pay directly for their observer coverage. NMFS is not a party to these contracts and cannot direct where observers are deployed in operations with a 30% observer coverage requirement. Under the Pilot Program, 100% observer coverage at the plant is required to ensure unbiased monitoring of a processor's Catch Monitoring Control Plan. In June 2010, the Council reviewed the EA/RIR/IRFA to restructure the service delivery model for the groundfish observer program such that NMFS would enter into direct contracts with observer providers. A primary objective of observer program restructuring is to reduce the sampling bias in data collected from operations with 30% observer coverage requirements thereby allowing NMFS to implement a randomized sampling plan. In February 2010, the Council reviewed an Observer Program Restructuring Implementation Plan that noted that Rockfish Program plants likely would not require 100% observer coverage under a restructured observer program. Therefore, observer program restructuring offers one potential route to reduce observer coverage in Rockfish Program plants without unduly compromising data quality. This option does not offer the same protection of data quality.

The creation of the Rockfish Program through this action provides a third option to provide impartial verification of a processor's adherence to its CMCP. Under Option 3, NMFS would use a portion of the cost recovery fees to hire personnel to monitor rockfish landings to ensure compliance with the CMCP.

NMFS would distinguish the duties between this rockfish CMCP specialist and a fishery observer such that there would be no overlap in their respective functions or duties. The rockfish CMCP specialist would only monitor program deliveries and would not be trained as an observer or requested to complete any observer duties such as verifying non-rockfish fish tickets, assisting vessel observers, or collecting biological or scientific data. The duties of the rockfish CMCP specialist would be required to monitor rockfish deliveries to ensure compliance with the CMCP of any processor receiving program landings, assisting processors with rockfish species identification to ensure accurate catch sorting and quota accounting, and reporting the findings to NMFS. Program processors would be required to notify the CMCP specialist at least an hour prior to a program delivery. The CMCP specialist would establish a monitoring schedule such that most (if not all) deliveries would be monitored. In the event of conflicting deliveries, the CMCP specialist would determine which program deliveries would be monitored.

The CMCP specialist option is similar to the Rockfish Program plant monitoring envisioned by NMFS under a restructured observer program. Under a restructured observer program, observer coverage would be funded by industry-collected fees and NMFS could deploy observers specifically to monitor Rockfish Program CMCPs, given the unique duties of CMCP monitoring. The CMCP specialist option would create a new type of compliance monitor with a different function than observers who conduct biological sampling and independent data collection in addition to plant and vessel data verification. The role of the CMCP specialist would be virtually all compliance-related. In this capacity the CMCP specialist position could be funded by Magnuson-Stevens Act section 304(d) cost recovery fees as authorized for Limited Access Privilege Program management. This may provide a more expedient and efficient alternative to using fisheries observers for Control Monitoring and Control Plan compliance monitoring.

It should be noted that using cost recovery fees to pay for a CMCP specialist would redistribute the cost of program plant monitoring from the individual plant to all Rockfish Program share holders. This cost shifting may be viewed as justified, as these share holders are effectively determining the distribution of landings among plants by their delivery choices. Although a similar choice exists in a limited access fishery, the allocations to share holders (and the need to monitor the harvest of those allocations) under the program create the need for increased monitoring of landings. It is the cost of that increase in monitoring (i.e., the incremental cost under the program) that would be covered by the cost recovery funds under this option. As the beneficiaries of the allocations, the share holders may be argued to be the appropriate persons to bear the costs associated with compliance monitoring.

Because cost recovery fees would not be available at the start of the program, NMFS would be required to fund the CMCP specialist position until cost recovery fees are available. NMFS estimates the labor cost of a CMCP specialist to be roughly \$40,000 per season and does not have concerns about the ability to provide up-front funding for this position until cost recovery fees are available.

For the entry level fishery, monitoring protocols would need to be in place for all participants. Implementing a monitoring program in the entry level fishery could include high costs relative to gross revenues particularly for trawl vessels and may preclude participation by some eligible vessels. However, these measures would be necessary to adequately measure small levels of catch in a sector where there is a high potential for exceeding quota levels. Because participants in the entry level fishery are allocated only primary species, only 30% observer coverage will be necessary for this fleet. Because catch accounting will take place shoreside, participating entry level processors will be required to meet the same standards as other program processors. Vessels would also be required to carry and use a VMS system when participating in the program.

Given the Rockfish Program is very similar to the Pilot Program, changes to the catch accounting system should be limited. Leasing of catch history by cooperatives must continue to be tracked in the accounting

system. Leasing will require receipt of lease information, incorporation of lease information for reassignment, readjustment of accounts, and most likely reporting for both lessee and lessor.

The entry-level fishery will require annual receipt of applications, calculation of allocations, and establishment of individual accounts. Separate accounts would be necessary for each vessel for northern rockfish, Pacific ocean perch, and pelagic shelf rockfish. The number of entries each year is unknown, and it will require additional amount of time to create these annual accounts.

Permitting and quota determination process can also be staff intensive. These processes include receiving applications for quota, calculating allocations based on history, accounting for catch history transfers, and distributing annual quota to cooperatives. Time would be needed for the completion of these processes prior to the beginning of fishing. The initial allocation process would be subject to requirements for appeals of disputed catch history claims.

Given the complexity of the program and the limited time period for its effectiveness, NMFS intends to continue to manage the fishery to reduce costs and the complexity of quota management. First, similar to the Pilot Program, the initial allocation process would be simplified. Eligible LLP holders would be provided with a summary of their catch history and would have an opportunity to dispute claims and present evidence to support their claims, but NMFS would not require a formal application period with a specific deadline as was required under the BSAI crab rationalization program.

Second, NMFS intends to use the analytical database developed by the Council for determining catch history allocations. The Council data are the most recent available, and are the best available information for assessing catch history. Further, relying on these data will reduce confusion that may arise if NMFS and Council data sources differ in their estimates of catch history by vessel. If necessary, appeals would require NMFS to consult original source data.

Third, cooperatives would be required to notify NMFS annually which LLP license holders are in a cooperative prior to the annual harvest specification process. A deadline of March 1 will be established for this notification to provide adequate time to allocate catch history to specific cooperatives through the specification process. Those LLP license holders not in a cooperative would have their catch history assigned to the limited access pool under most of the options.

Forth, for vessels subject to stand-down provisions, NMFS would continue to impose a check-in and check-out requirement for vessel operators to ensure adequate compliance with stand-down provisions.

3.4.2 Effects on Fishing Patterns

Patterns and levels of harvester participation in the CGOA rockfish fisheries are likely to vary under the different alternatives. The following summarizes changes in fishing patterns that are pertinent to the analysis of this environmental assessment. Additional information on fishing patterns is contained in the Regulatory Impact Review above.

No action alternative

Under the no action alternative, fishing patterns would likely revert back to similar fishing patterns before the implementation of the Pilot Program in 2007. During that period, trawl catch dominated the fisheries, with catch concentrated shortly after the early July opening.

Catch of catcher vessels would likely occur close to port because of the need to offload harvests and return to the fishing grounds to maximize total catch. In addition, processors would likely require

fishermen to limit trips to less than 72 hours as a means of ensuring quality of catch. This limitation on fishing trip time would effectively limit the spatial distribution of catch for catcher vessels. Since Kodiak processors process the great majority of catch from the rockfish fisheries, catch of the catcher vessel sector would likely be concentrated in the grounds surrounding Kodiak. While catcher processors would also be subject to the time limitation of the season, their fishing activity would likely not be spatially limited in the same manner as catcher vessels since catcher processors process their catch on board.

Participants would likely revert to catching valuable rockfish secondary species (Pacific cod, sablefish, thornyhead rockfish, shortraker rockfish, and rougheye rockfish) at levels approaching the MRA. Catch of these species is likely to be limited because of the race for the rockfish primary species. Participants would try to strike a balance of time harvesting rockfish primary species and valuable secondary species in an attempt to maximize their total revenues.

Program Alternatives

For the most part, fishing patterns are likely to be similar under all of the program alternatives, so those patterns are summarized in this single discussion.

Given the Rockfish Program alternatives would continue to allocate cooperative fishing privileges, which may be fished during an extended season, participants in the program are likely to continue the current rate of harvest, which is slower than under the no action alternative. In addition, participants would likely continue to distribute harvest over a greater time and a larger area when compared to the no action alternative.

Changes in activities across the two sectors would likely continue to differ somewhat because of operational requirements. Catcher vessels, given their limited range of fishing activity, will likely continue to be concentrated in areas that are in relatively close proximity to Kodiak, where all of the qualified processors are located. Catcher processors, on the other hand, are not constrained by shore-based processing, and thus would likely continue to distribute their catch over larger areas of the grounds.

Both sectors would likely continue to distribute catch over extended time periods, as the longer season allows. The extent to which catch is temporally distributed depends on both operational needs of participants and bycatch considerations. Most participants would likely schedule fishing to avoid conflicts with their participation in other fisheries. At a minimum, one would expect fishing continue to occur prior to and after the July season to allow participants to fish in other July fisheries. Participants may also be distributed throughout the season (by catcher vessels particularly) to continue to develop markets for fresh fish. Other market demands and scheduling preferences are likely to occur, but depend on individual circumstances and cannot be predicted.

Bycatch considerations could also to affect the temporal distribution of fishing effort. Participating fishermen will be limited by allocations of the three rockfish species, three or four rockfish secondary species, and halibut PSC. All of the allocations are based on historic catch that occurred in the traditional July season. Attempting to fully harvest all of these allocations could be challenging, if catch composition changes substantially outside of the traditional July season.

3.4.3 Effects on Rockfish Primary Species Stocks

No action alternative

Under the no action alternative, management of the rockfish fisheries and associated fishing patterns would return to pre-Pilot Program period management. Prior to implementation of the Pilot Program, the rockfish fisheries were managed as a limited access derby style fishery. The season for all three rockfish species opened near the first of July. Under this alternative, directed fishing for each species would remain open until the TAC was estimated to have been fully harvested, at which time a closure would be announced. Under the no action alternative, there is some potential for localized depletion of rockfish primary species stocks due to concentrated effort as a result of participants attempting to maximize their catch. However, it is unlikely that under the no action alternative that allowable biological catch limits are rarely, if ever exceeded, and therefore it can be expected that overfishing limits will not be exceeded.

Program Alternatives

The program alternatives should have no negative impact on stocks of rockfish primary species populations. These species will continue to be managed by conservatively set TACs. Cooperative allocations in the fisheries should effectively limit catch to the TACs. More precise management of the TACs should be possible under program alternatives, as individuals within a cooperative will be responsible for any overage.

Some potential benefit could arise, if participants distribute catch over larger areas or time periods, reducing any potential local depletion that could occur under the no action alternative. Any beneficial effect from greater distribution of catch spatially is likely to be limited, if participants perceive a benefit to concentrating catch to reduce costs or increase revenue. For catcher vessels, concentration of catch in close proximity to processors could improve quality of landings, as needed to serve some high valued markets. For catcher processors, concentration of catch spatially and temporally could reduce costs, if consistent high catch rates are observed at particular times and locations.

The May 1 opening date of the fishery could result in some harvests in the fishery prior to completion of rockfish reproduction. The exploitation rates for rockfish in the GOA are conservative, largely due to the lack of definitive biological information on many of the species. It is not likely that allowing the fishery to occur prior to larvae release would create a biological concern.

3.4.4 Effects on Allocated Rockfish Secondary Species and Prohibited Species Catch

Four or five secondary species, depending on the sector, are allocated under the Rockfish Program. Those species are Pacific cod, sablefish, shortraker rockfish, roughey rockfish, and thornyhead rockfish. In addition, halibut mortality will be allocated under the program alternatives. This section briefly examines the effects of the program on the stocks of those species.

No action alternative

Under the no action alternative, the rockfish fisheries will revert to limited access management. Catch of secondary species in the rockfish fisheries will be limited by MRAs and TACs that limit overall catch from all fisheries. Incidental catch of Pacific cod and sablefish in the rockfish fisheries were approximately 2.5% and 10% of the respective TACs of those species in the CGOA prior to implementation of the Pilot Program in 2007. Incidental catch of thornyhead rockfish by the rockfish fisheries during the qualifying years of the Pilot Program were approximately 25% of the CGOA total catch, while incidental catch of shortraker/roughey rockfish (under the combined TAC) was over half of the total harvest from the CGOA. Although this catch is substantial, each of these species is managed

under conservative TACs. Retained catch under an LLP rockfish fishery would be limited by MRA, with total catch limited by the current system of putting species on PSC status, if the TAC is reached and closing fisheries that incidentally catch the species, if the ABC is to be reached. In addition, the separation of shortraker rockfish and rougheye rockfish into separate TACs (established in 2005) should ensure the stock integrity of these two species.

Halibut is managed as PSC in the CGOA rockfish fisheries. Catch of halibut is required to be discarded and would be accounted for against the deep-water complex PSC allocation if the Council selected the no action alternative. Halibut mortality associated with this alternative on the halibut stock is mitigated through the halibut harvest strategies and other management measures adopted by the International Pacific Halibut Commission.

Program Alternatives

Similar to the rockfish primary species stocks, no negative effects on rockfish secondary species stocks are expected to occur under the program alternatives. Catch of these species will be limited by cooperative allocations and reduced MRAs.⁹⁹ In addition, discards are not permitted for allocated species under the program. Overall harvests will continue to be limited by TACs that apply to total catch from all fisheries.

Some rockfish participants could elect to participate in a limited access fishery under some of the options. Rockfish secondary species harvests from any such limit access fishery will be constrained by reduced MRAs. These reduced MRAs may be a disincentive for participation in the limited access fishery. In any case, harvests of secondary species will be limited by the constraining allocations to cooperatives and by reduced MRAs, which should ensure that overall TAC is not exceeded.

In development of the Pilot Program, additional attention was given to shortraker rockfish and rougheye rockfish to ensure that the change in management would not negatively affect those stocks. The species were historically managed under an aggregate MRA; however, managers believe that catches of shortraker rockfish exceeded rougheye rockfish catches, while shortraker rockfish stocks were less abundant. To adequately protect shortraker rockfish, the maximum catcher processor cooperative allocations were reduced from their historic catches to approximately 30% of the shortraker rockfish TAC, while rougheye rockfish maximum allocations were set at slightly less than 60% of the rougheye rockfish TAC. Both catcher processor limited access participants and all catcher vessels in the Pilot Program are limited by a reduced MRA of 2% of rockfish primary species catches. Under these rules, (as shown in Table 3-24 and Table 3-25) allowable catches of shortraker rockfish and rougheye rockfish by catcher processors in the program differs with catcher processor sector choices of whether to enter a cooperative or fish in the limited access fishery. Generally, catcher processors are permitted to retain more shortraker rockfish and rougheye rockfish, if they join cooperatives. So, maximum retained catch by the sector would be permitted, if all catcher processors chose to join cooperatives. Yet, since discards are permitted by participants in the limited access, it is possible that total catches of shortraker rockfish and rougheye rockfish could be greater if a large number of catcher processors chose to join the limited access, and participants in the limited access have substantial discards. Since all catcher vessels in the program are subject to an aggregate MRA that limits only retained catch and does not distinguish catch by species, no such difference in allowable retention arises in that sector. To ensure that shortraker rockfish catch is constrained, the Council included a provision in the program alternatives that would require

⁹⁹ For the catcher processor sector, an MRA will apply to Pacific cod harvests that will limit catch to 4% of the harvest of target rockfish. In addition, an option would create an MRA for shortraker rockfish and rougheye rockfish for catcher vessel sector.

shortraker rockfish to be put on PSC status for catcher vessels in the program in the event that their catch exceeds 9.72% of the CGOA TAC for the species.

Table 3-24. Maximum permitted catches and actual catch of shortraker rockfish and rougheye rockfish in 2007.

		Catcher processor	Catcher vessels	Total
Maximum permitted catches under various co-op membership scenarios	Maximum sector shortraker allocation	106*	NA	
	Maximum sector rougheye allocation	360*	NA	
	Maximum sector catch of MRA shortraker and rougheye aggregate	192**	204	
	Maximum retained catch of shortraker and rougheye			669
Maximum permitted catches under first year co-op memberships	Allocation of shortraker to cooperatives	60		
	Allocation of rougheye to cooperatives	203		
	Maximum MRA catch of shortraker and rougheye - aggregate	41	204	
	Maximum retained catch of shortraker to cooperatives			508
Catches in the first year	Total catch of shortraker by cooperatives	44	9	
	Total catch of rougheye by cooperatives	203		
	Total catch of shortraker and rougheye – aggregate	41	204	
	Total catch of shortraker and rougheye			106

Sources: NMFS Catch Accounting data and cooperative reports

Notes: MRA amounts assume that allocations of primary species are harvested in their entirety. MRAs limit only retained catch, so maximum catch under an MRA excludes potential discards. Total catch amounts include discards and retained catch.

* Maximum allocation to cooperatives, if all catcher processors join a cooperative.

** Maximum possible MRA catch, if all catcher processors join the limited access fishery.

Table 3-25. Maximum permitted catches and actual catch of shortraker rockfish and rougheye rockfish in 2008.

		Catcher processor	Catcher vessels	Total
Maximum permitted catches under various co-op membership scenarios	Maximum sector shortraker allocation	95.0*	NA	
	Maximum sector rougheye allocation	491.0*	NA	
	Maximum sector catch of MRA shortraker and rougheye aggregate	123.8**	132.5	
	Maximum retained catch of shortraker and rougheye			718.5
Maximum permitted catches under second year co-op memberships	Allocation of shortraker to cooperatives	48.0		
	Allocation of rougheye to cooperatives	251.0		
	Maximum MRA catch of shortraker and rougheye - aggregate	57.8	132.5	
	Maximum retained catch of shortraker to cooperatives			489.3
Catches in the second year	Total catch of shortraker by cooperatives	28.7	32.0	
	Total catch of rougheye by cooperatives	6.9	15.0	
	Total catch of shortraker and rougheye – aggregate	54.4		
	Total catch of shortraker and rougheye			106.2

Source: NMFS Catch Accounting data

Notes: MRA amounts assume that allocations of primary species are harvested in their entirety. MRAs limit only retained catch, so maximum

* Maximum allocation to cooperatives, if all catcher processors join a cooperative.

** Maximum possible MRA catch, if all catcher processors join the limited access fishery.

In the first year of the Pilot Program, catcher processors participated in both cooperatives and the limited access fishery. The choice of some catcher processors to participate in the limited access fishery reduced the permitted retained catch of the two species by over 150 metric tons. Yet, some catcher processors are reported to have been reluctant to join cooperatives because of the potential that the constraining shortraker rockfish and rougheye rockfish allocations would limit their ability to harvest primary species.

Included in the proposed action is an option to increase the allocation of shortraker rockfish to cooperatives from 30.03% to 50% or to manage shortraker rockfish and rougheye rockfish under a combined MRA of 2% for catcher processors fishing in a cooperative. This change in the management of shortraker rockfish and rougheye rockfish could eliminate any perceived constraint these species' allocations could have on the harvest of the primary species.

Notwithstanding the reluctance of some catcher processors to join a cooperative, during the first 2 years of the Pilot Program, total catch of shortraker rockfish and rougheye rockfish in the limited access was approximately 10 metric tons less than the amount that could be retained under the MRA—substantially less than would have been permitted had these catcher processors elected to participate in cooperatives. In the first year of the program, catcher vessels harvested less than 10% of the maximum amount permitted by the MRA, but in the second year the sector's catches increase to almost one-third of the amount permitted by the MRA. Overall, catches of both species under the program's allocations and MRAs during the first 2 years of the Pilot Program were less than historical catches in the rockfish fisheries (see Table 3-26). In addition catches in the first 2 years of the program were a relatively smaller portion of the TAC, although the distribution of that catch between the two sectors varied across years. Also, total catches of shortraker rockfish and rougheye rockfish in all fisheries relative to their TACs do not suggest a risk of overharvest in those years (see Table 3-27), but in 2008 catch of shortraker rockfish outside of the rockfish fisheries increased substantially over historic levels.

Under the first option for modifying management of shortraker rockfish, the maximum allocation to catcher processor cooperatives would be increased to 50% of the shortraker rockfish TAC. In the second year of the program, catches of shortraker rockfish by catcher vessels in the rockfish fisheries were 10% of the TAC,¹⁰⁰ while catches outside of the program were approximately 50% of the shortraker rockfish TAC. Both catcher vessel rockfish fisheries catches and catches outside of the rockfish fisheries reached their highest percentage of the shortraker rockfish TAC since management of shortraker rockfish was separated from rougheye rockfish management in 2005.¹⁰¹ At these catch levels, if catcher processors were to receive an increased allocation in the program and all vessels joined cooperatives, catches by non-rockfish fisheries would need to be constrained to prevent overharvest of the shortraker rockfish TAC. In all likelihood, managers would put shortraker rockfish on PSC status, if needed to limit total catch, to prevent any retention of shortraker rockfish in non-rockfish fisheries (and possibly in the catcher vessel sector of the rockfish fisheries). In season managers regularly take such actions to manage catches, so such a limitation would not be extraordinary. Although these measures are believed to effectively protect stocks from overharvest, they also can result in discards of the species, an undesirable consequence, especially for a species of concern with a relatively high value, such as shortraker rockfish.

Under the second option for shortraker rockfish management, all participants in the catcher processor sector would be subject to an aggregate shortraker/rougheye rockfish MRA of 2%. The reduced MRA would have a few effects on catcher processor cooperatives. First, allowable retention of shortraker rockfish would be reduced from the level allowed by the current allocation.¹⁰² Despite this reduction in

¹⁰⁰ This catch of shortraker rockfish effectively equals the maximum percent permitted by the sector prior to managers putting the species on PSC status for the catcher vessels sector (i.e., 9.72%).

¹⁰¹ Prior to separation of management of the two species, aggregate harvests of shortraker rockfish and rougheye rockfish outside the rockfish fishery never exceeded 50% of the aggregate TAC.

¹⁰² In addition, it is possible that harvests could be limited below the level permitted by the MRA, if overall harvests of shortraker rockfish approached the TAC, in which case, shortraker rockfish would be put on PSC status, preventing any retention. Allocations of shortraker rockfish, such as those currently made to catcher processor cooperatives, are less likely to be constrained, as those allocations would be considered in determining whether to impose PSC status.

allowable retention, the risk of being shut down for fully harvesting the allocation of shortraker rockfish (or rougheye rockfish) would be removed, as the consequence of catch exceeding an MRA is a discard requirement.

Table 3-26. Total allowable catches and total catches of shortraker rockfish and rougheye rockfish in the Central Gulf of Alaska rockfish fisheries (2005 through 2008).

Year	Species	Total allowable catch	Catcher processor sector		Catcher vessel sector		Total	
			Catch (in metric tons)	Percent of the total allowable catch	Catch (in metric tons)	Percent of the total allowable catch	Catch (in metric tons)	Percent of the total allowable catch
2005	Shortraker rockfish	324	127	39	19	6	146	45
	Rougheye rockfish	557	48	9	9	2	57	10
2006	Shortraker rockfish	353	145	41	14	4	159	45
	Rougheye rockfish	608	5	1	30	5	35	6
2007	Shortraker rockfish	353	63	18	4	1	67	19
	Rougheye rockfish	611	19	3	6	1	25	4
2008	Shortraker rockfish	315	57	18	32	10	89	28
	Rougheye rockfish	834	33	4	15	2	49	6

Source: NMFS Catch Accounting

Table 3-27. Catches and total allowable catches of shortraker rockfish and rougheye rockfish in all Central Gulf of Alaska fisheries (2005 through 2008).

Year	Shortraker rockfish			Rougheye rockfish		
	Catch (in metric tons)	Total allowable catch (in metric tons)	Percent of total allowable catch harvested	Catch (in metric tons)	Total allowable catch (in metric tons)	Percent of total allowable catch harvested
2005	223	324	68.8	122	557	21.9
2006	303	353	85.8	134	608	22.0
2007	158	353	44.8	178	611	29.1
2008	244	315	77.5	190	834	22.8

Source: NMFS Catch reports (2005–2008).

Note: Prior to 2005, shortraker rockfish and rougheye rockfish were managed using an aggregate total allowable catch

Any negative effects on halibut stocks arising from catches under the program alternatives are mitigated by program management measures and management measures in other fisheries. The program alternatives will be prosecuted with cooperative allocations of halibut mortality. These allocations will constrain halibut bycatch and will prohibit participants in the program from fishing in excess of their halibut allocations. Although some fishing would likely take place out of the traditional July season, mortality will be constrained by the allocations of halibut mortality. Rockfish participants will likely have an incentive to reduce halibut mortality to reduce constraining halibut allocations that could jeopardize cooperative catches. The incentive for halibut mortality reductions is increased by the rollover of saved halibut mortality to other fisheries late in the year, allowing the trawl sector as a whole (including vessels that do not qualify for the Rockfish Program) to benefit from these halibut mortality reductions. As a result, rockfish vessels will likely move from areas of high halibut bycatch, participants will continue to communicate with each other concerning catch rates of halibut at different fishing grounds, and vessels will use pelagic gear that limits bottom contact and halibut incidental catch all of which could result in halibut savings being passed on to all trawl vessels operating in the GOA during the final season of each year.

3.4.5 Effects on Stocks of Unallocated Prohibited Species Catch

The implementation of the Pilot Program in 2007 has resulted in an increase in bycatch of Chinook salmon, likely due to the slower pace of the rockfish fisheries and the lengthened fishing season. Additionally, more rockfish vessels are using pelagic trawl gear. For 2003 to 2006, the average annual Chinook salmon bycatch in the rockfish fisheries was 602 Chinook salmon; for 2007 to 2009, the average annual bycatch was 1,696 Chinook salmon (Table 3-17). Nonetheless, the proportion of GOA Chinook salmon bycatch attributable to the rockfish fisheries is relatively small compared to bycatch in other fisheries, primarily the pollock fishery, but also flatfish target fisheries. Average bycatch in the pollock fishery for 2003 to 2009 was 12,642 Chinook salmon. In 2008 and 2009, the rockfish fisheries accounted for 15% and 16% of GOA Chinook salmon bycatch, respectively, compared to a previous average for 2003 to 2007 of 4% of the annual total. Additionally, it is possible that some additional Chinook salmon bycatch is indirectly attributable to the implementation of the program, due to the lengthening of the fishing season for shallow-water flatfish (a result of more efficient use of halibut PSC in the rockfish fisheries). Table 3-18 indicates that an average of 682 Chinook salmon were caught as bycatch in the shallow-water flatfish fishery in October through December from 2007 to 2009, compared to zero from 2003 to 2006. This figure represents approximately 2%, 5%, and 10% of the total CGOA Chinook salmon bycatch in 2007, 2008, and 2009, respectively.

The overall levels of Chinook salmon bycatch in the GOA groundfish trawl fisheries vary considerably from year to year (Table 3-16). There are also concerns about the precision of bycatch estimations due to the fact that a high proportion of vessels in the GOA are unobserved or only partially observed (NPFMC 2010). With the implementation of the Pilot Program, however, higher levels of observer coverage were required, which has reduced uncertainty in the estimates of Chinook salmon bycatch in the rockfish fisheries. The respective contribution of the rockfish fisheries to total CGOA Chinook salmon bycatch has increased since 2007, but remains small compared to bycatch in the pollock fishery. Consequently, bycatch of Chinook salmon under the continuation of the program is not expected to reach a significant threshold that is likely to affect the sustainability of the species.

3.4.6 Effects on Benthic Habitat and Essential Fish Habitat

No action alternative

Under the no action alternative, the rockfish fisheries will revert to LLP management and fishing practices are likely to be those in the fisheries prior to the Pilot Program. At that time, participants concentrated fishing activity both temporally and spatially. Under an LLP managed fishery, each vessel can be expected to race to maximize its harvest rockfish prior to full harvest of the TACs and closure of the rockfish fisheries. Under a race for fish, many vessels would likely use bottom trawls to harvest rockfish, increasing the impact on habitat. It is possible that some vessels that converted to pelagic and semi-pelagic gear under Pilot Program management might continue to use that gear, if they believe they can effectively compete with other vessels in the limited access fishery. Despite a possible increase in the use of bottom gear, effort levels under the no action alternative would be low and would occur in areas considered to have less sensitive habitat (rock, gravel, mud, and sand). As a result, the no action alternative would have a minimal and temporary effect on benthic habitat and essential fish habitat (NMFS 2005).

Program Alternatives

Under the program alternatives, rockfish fishing would likely continue to be distributed over a longer season and may disperse spatially, as a result of the removal of time constraints by the cooperative allocations. The relative low effort level of the rockfish fisheries along slope areas is likely to continue. Concentrations of bottom trawl effort in the CGOA rockfish fisheries would likely be reduced as trawl vessels continue to move towards pelagic and semi-pelagic trawls to reduce halibut bycatch. The need for

catcher vessels to keep short trip lengths to maintain quality is likely to result in some continued concentration in areas proximate to Kodiak harbor. Overall, the rockfish fisheries are likely to continue to have minimal and temporary effects on the essential fish habitat. No long term negative impacts to essential fish habitat are likely under the program alternatives.

Reducing some of the benefits of the Rockfish Program on the GOA habitat is the potential for increased GOA bottom trawling due to the rollover of halibut PSC, which extends fishing in the fifth season. Since implementation of the Pilot Program, vessels fishing in cooperatives and the limited access fishery have cut halibut mortality rates substantially. The reduction in halibut PSC by Pilot Program participants has resulted in rollovers of unused halibut PSC on or about November 15 during the 2007 and 2008 seasons.

As a result of these rollovers of unused halibut PSC over the last 2 years, the GOA trawl groundfish fisheries have remained open for a significantly longer period of time when compared to recent years. In the 6 years leading up to the Pilot Program, the longest fifth season opening was 20 days in 2001. Since implementation of the Pilot Program, the 2007 and 2008 seasons remained open for 82 days for each of the 2 years. This extension of the fifth season in the CGOA and WGOA has (and will continue to) increased bottom trawling because of the additional halibut PSC availability. These extended seasons have allowed continued fishing in the shallow-water flatfish and Pacific cod fisheries. Assuming these targeting trends continue, habitats in these fisheries are likely to realize some additional impacts. The shallow-water flatfish fishery is primarily limited to areas on south and east of Kodiak Island. The habitat affected would be sand and sandy silt at depths of 80 fathoms to 250 fathoms (NMFS 2005). The Pacific cod habitat most likely to be affected by additional effort would also be in areas south and east of Kodiak, as well as to the east of Sanak Island. The habitat affected would be sand, sandy mud, cobble, and gravel bottoms, at depths of 100 feet to 600 feet (NMFS 2005). Studies of habitat effects of fishing gear have found that trawls can alter or remove physical and biological structures, as well as other organisms. These changes may affect the ability of fish to use these areas for prey, shelter from predators, spawning substrate or for other functions (NMFS 2005). In general, the ecological implications of reported changes to bottom trawling are poorly known, particularly as they relate to sustainable fishery production and healthy ecosystem function (NMFS 2005).

In summary, there is some potential an extended fifth season under the program alternatives that could impact the GOA habitat of known shallow-water flatfish and Pacific cod fisheries when compared to no action alternative. However, given the effort in these fisheries in other seasons, this effect is believed to be minimal.

3.4.7 Effects on Marine Mammals

Impacts of the GOA groundfish fisheries on Steller sea lions were analyzed in the Programmatic SEIS (NMFS 2004) and in the 2001 Biological Opinion (NMFS 2001). In 2006, NMFS reinitiated a FMP-level Section 7 consultation on the effects of the groundfish fisheries on Steller sea lions, humpback whales, and sperm whales to consider new information on these species and their interactions with the fisheries (NMFS 2006). A draft Biological Opinion was released in July 2010 (NMFS 2010b). The draft opinion found that the effects of the groundfish fisheries may be likely to jeopardize the continued existence and adversely modify designated critical habitat (JAM) for Steller sea lions. The draft Biological Opinion also found that the groundfish fisheries were not likely to jeopardize the continued existence of humpback or sperm whales. Because the draft Biological Opinion found that the groundfish fisheries may cause JAM for Steller sea lions, a reasonable and prudent alternative (RPA) was included. The final Biological Opinion was released in November 2010, and NMFS implemented the Steller sea lion protection measures in the RPA on January 1, 2011 (NMFS 2010a) by interim final rule (75 FR 77535, December

13, 2010, corrected 75 FR 81921, December 29, 2010). The RPA did not change the Steller sea lion protection measures in the GOA.

The proposed action would institute a proposed share-based management program under which the TAC for Pacific ocean perch, northern rockfish, and pelagic shelf rockfish fisheries in the CGOA is apportioned as exclusive shares to cooperatives based on the catch history of the members of those cooperatives. Although the timing of the rockfish fisheries would likely increase under the proposed action, general location, and overall level of fishing effort in the GOA groundfish fisheries is not expected to change. There would be no changes to the harvest specifications process or management of the fisheries relevant to Steller sea lion protection measures. Annual mortality of Steller sea lions is not expected to change under the proposed action, because fishing effort will remain similar to the no action alternative. The proposed alternatives are not likely to change fisheries activities in a way that would affect the potential for competition for prey, disturbance, or incidental takes of marine mammals. Thus, this action would not likely have any effects on marine mammals beyond those already analyzed for the GOA groundfish fisheries in previous biological opinions and environmental impact statements (NMFS 2001, NMFS 2007).

3.4.8 Effects on Seabirds

The groundfish PSEIS (NMFS 2004) concluded that the current groundfish fisheries are not adversely impacting ESA-listed seabird species. Biological Opinions by the USFWS (2003a and 2003b) concluded that the groundfish fisheries, including the GOA rockfish fisheries, are unlikely to jeopardize populations of listed species or adversely modify or destroy critical habitat for listed species. Based on current estimates of seabird bycatch, the no action alternative is not likely to have a significant impact on seabird populations.

Under the program alternatives, rockfish fishing would likely be distributed over a longer season and may disperse spatially, as a result of the removal of time constraints by the cooperative allocations. The relatively low effort level of the rockfish fisheries along slope areas is likely to continue. The need for catcher vessels to keep short trip lengths to maintain quality is likely to result in some continued concentration in areas proximate to Kodiak harbor. Overall, the rockfish fisheries are likely to continue to have minimal and temporary effects on the seabirds. Thus, this action would not likely have any effects on seabird bycatch beyond those already analyzed for the GOA groundfish fisheries in previous biological opinions and environmental impact statements (USFWS 2003a, 2003b; NMFS 2007).

3.4.9 Effects on the Ecosystem

Effects of fishing on the GOA marine ecosystem are analyzed in detail in the Alaska Groundfish Fisheries Programmatic SEIS and Alaska Groundfish Harvest Specifications EIS and analysis is incorporated by reference. Although some temporal and spatial dispersion of catch in the rockfish fisheries could occur under the Rockfish Program alternatives, none of the alternatives are expected to have a negative effect on the GOA marine ecosystem.

3.4.10 Effects on the Economic and Socioeconomic Factors

No action alternative

Under the no action alternative, the CGOA rockfish fisheries would revert to LLP management. Reverting back to LLP management is likely to result in fishing practices and patterns similar to those seen prior to the Pilot Program. In that fishery, trawl vessels raced for catch of rockfish when the trawl season opened in July. Typically, Pacific ocean perch was caught first, followed by northern rockfish and pelagic shelf rockfish.

The quality of fish harvest would likely suffer from a return to the race for fish. In addition, catcher processors must also process the rockfish rapidly to maintain quality and accommodate additional catch. Modest increase in participation might be expected, if the rockfish fisheries revert to LLP management.

Processing participation and practices are likely to be similar to those seen under LLP management prior to implementation of the Pilot Program. Catcher processors in the rockfish fisheries prior to the Pilot Program produced mostly whole and “headed and gutted” products, therefore these vessels would likely continue to process catch in a similar manner under the no action alternative. Production efficiency for the catcher processors sector would likely be limited slightly by the race for fish under an LLP managed fishery. Although catcher processors process their catch quickly relative to catcher vessels, the quality of harvests could suffer to some extent as participants race to maximize their catch rates. Diminishing quality dissipates a portion of the resource rents that would otherwise be available.

Production efficiency of catcher vessels under the no action alternative would also be limited by the short, race for fish that will likely result. Increasing catch in each tow and filling holds can damage rockfish, owing to their being difficult to handle. The no action alternative would also likely extend trip lengths, to increase catch per trip which can result in a decline in the quality of rockfish. Returns to catcher vessels under this alternative would likely be limited, both by the quality of their landings and the compressed time period in which those landings must be made. Most processors would likely process deliveries quickly to keep pace with the landings. These conditions could dampen competition for landings among the participating processors to some extent. Quality would likely suffer because of the rapid rate of harvest and processing, which would likely lead to the production of relatively lower value and lower quality products. Efficiency, both technical and allocative, in the processing sector would suffer, as lower value products of lesser quality are likely to be produced in greater quantities. Technical efficiency would also be lost, as crews scale up for a short period of time to accommodate the rapid pace of landings during the compressed season.

Consumers are likely to be supplied with products from the rockfish fisheries similar to those supplied prior to the Pilot Program. Catcher processors are likely to produce high quality frozen headed and gutted and whole fish. Production from catcher vessel catch is likely to suffer from poor handling.

Crew participation and compensation would likely revert to what it was before implementation of the Pilot Program. During that time, most crewmembers worked in several different fisheries on the vessel that they worked on during the rockfish season, while some moved to other vessels for particular fisheries. Crew members’ compensation would likely revert to receiving a specific percent of the vessel’s adjusted revenues.

For shore-based processing crew, the no action alternative would result in similar processing practices seen before implementation of the Pilot Program. During that period, most of the processing took place in Kodiak and was undertaken by resident crews. Crews were employed processing rockfish for a relatively short period of time. When rockfish was processed, relatively large crews were necessary to maintain a flow of fish through the plants. Because the rockfish fisheries coincided with the pink salmon fishery, some plants employed substantially larger crews that were juggled between lines to process landings from both fisheries.

Catcher Processor Sector - Cooperative Only – CP-2 (preferred alternative)

Under this alternative, eligible catcher processors could either join a cooperative or not participate in the CGOA rockfish fisheries. Within each cooperative, it is anticipated that each member would receive revenues based on the allocation that the person brings to the cooperative, with participants that fish

shares of others receiving compensation for their fishing expenses. Persons eligible for the program that receive relatively small allocations could either choose to join a cooperative to allow other members of the cooperative to fish their allocations or choose to opt out of the program for the year, forgoing the opportunity to fish CGOA rockfish. Other members of the sector could decide to consolidate their rockfish allocations to realize efficiencies in the rockfish fisheries and other fisheries. Whether some or all of these vessels would choose to remain out of a cooperative cannot be predicted, and depends on their opportunities in other fisheries.

Allocations of rockfish secondary species should not constrain harvests of rockfish primary species, unless the rates of incidental catch of secondary species in the rockfish fisheries change substantially. Cooperatives should prove useful for addressing any constraints arising from the secondary species allocations, given that cooperatives would allow for the redistribution of secondary species allocations among cooperative members. One factor some sector participants have sighted as creating an incentive for not joining cooperatives under the Pilot Program is the shorttraker rockfish allocation. Included in the proposed action is an option to increase the allocation of shorttraker rockfish to cooperatives from 30.03% to 50% or to manage shorttraker rockfish and roughey rockfish under a combined MRA of 2% for catcher processors fishing in a cooperative. It is possible that one of these suggested changes could eliminate any perceived constraint these species allocations have on the harvest of the primary species.

Processing by catcher processors under this alternative is likely to remain similar to the current (Pilot Program) processing by this sector. Most vessels in the sector are equipped for producing a few simple products (frozen whole and headed and gutted fish). Because of size limitations, it is unlikely that any of these vessels will change plant configurations to process higher-valued, more processed products. Although catcher processors product mix may not change under this alternative when compared to the no action alternative, it is possible that some improvement in quality may be made by some participants. Generally, catcher processors produce a relatively high quality product, so the ability to make quality improvements may 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 primary efficiency gains in the catcher processor sector under this alternative will result from improvements in technical efficiency. Allocative efficiency gains are unlikely to occur since vessels participating in this sector are equipped to produce only whole and headed and gutted products and are unlikely to reconfigure for 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 may be able to reduce expenditures on inputs to some degree (possible scaling down crews slightly) and increasing outputs slightly (with less loss due to diminished quality). Additional technical efficiencies could arise because of the cooperative structure of the alternative. In a cooperative, participants will be free to consolidate fishing up to the 60% harvest cap. Consolidating catch on fewer vessels in the rockfish fisheries could also reduce aggregate harvest costs.

Specific sideboard provisions include a limit on West Yakutat pelagic shelf rockfish, Pacific ocean perch, as well as WGOA pelagic shelf rockfish, Pacific ocean perch, and northern rockfish. There would also be a limit on halibut PSC, to constrain harvest from fisheries that are typically halibut constrained. In addition, catcher processors that elect to fish in the limited access fishery (CP-3) that have in excess of 5% of the sector's qualified catch of CGOA Pacific ocean perch are subject to additional limits from July 1, until 90% of the CGOA Pacific ocean perch that is allocated to the catcher processor limited access fishery has been harvested. For qualified participants that choose to opt out of the Rockfish Program, they would be prevented from participating in any directed fishery that the license holder did not participate in during the first week of July in at least two of seven qualifying periods.

Complicating the Rockfish Program sideboards for the catcher processor sector are Amendment 80 sideboards. Implemented in 2008, the Amendment 80 program includes sideboards for pollock, Pacific cod, Pacific ocean perch, northern rockfish, pelagic shelf rockfish, and halibut PSC for the same catcher processor fleet that would likely be limited by sideboards in the Rockfish Program. Amendment 80 GOA sideboards appear less restrictive relative to the Rockfish Program sideboards, but Rockfish Program sideboards would apply only for the month of July, while the Amendment 80 sideboards apply all year. Given that Rockfish Program sideboards and Amendment 80 sideboards are based on historical retained catch by the sector, it is likely that both sideboards are constraining of fishing effort in a similar fashion. Given that Rockfish Program and Amendment 80 sideboard limits would likely curtail the same catcher processor fleet from encroaching on other fisheries, it is likely that having both sets of sideboards would only duplicate management costs and increase the complexity of the sideboard fisheries, albeit at relatively insignificant levels, with no added benefit.

Catcher Processor Sector - Cooperative or Limited Access – CP-3

This alternative differs from the cooperative only alternative only in that eligible catcher processors may choose to participate in a limited access fishery (instead of a cooperative). The catcher processor limited access fishery will be managed in a manner similar to the Pilot Program limited access fishery. Under the Pilot Program, several vessels have registered for the limited access fishery, with only a few vessels participating. As a result, no race for fish has developed. Instead participants have coordinated catch allowing each to harvest an agreed share. Since most of the limited access vessels are members of a common cooperative in the Bering Sea, it is possible that some vessels registered for the limited access that do not participate have chosen to register for the limited access to benefit their Bering Sea cooperative associates (rather than see their allocations redistributed among the rockfish cooperatives). As a result of these arrangements, the limited access fishery has functioned more like a cooperative than a limited access fishery. Limited access registered vessels, however, cannot begin harvests prior to the early July opening and, under sideboards, cannot fish in other fisheries in early July, until a large portion of the rockfish harvests are made. These limitations are intended to prevent encroachment of vessels in those other fisheries.

Processing by catcher processors under this alternative is likely to be the same as under the previous alternative where catcher processors will continue to produce a relatively high quality product, so the ability to make quality improvements may be limited. Catcher processors would be likely to realize similar gains in production efficiency as the cooperative-only alternative, with differences arising from the ability to participate in the limited access fishery. Catcher processors may receive a benefit under this alternative, if the MRA management in the limited access fishery removes a harvest constraint that would have affected vessels fishing in a cooperative. To date in the Pilot Program, no constraint appears to have arisen. Alternatively, periodic losses in efficiency could result under this alternative, if a race for fish develops in the limited access fishery.

Catcher Vessel Sector - Harvester Only Cooperative – CV-2

Under this alternative, eligible harvesters would receive exclusive allocations that can be accessed through cooperatives. These cooperatives will have the flexibility to make deliveries to any processor, which should ensure that harvester delivery preferences are recognized. It is possible that a harvester might make concessions to a processor in choosing delivery dates, but these concessions are likely to be compensated. Cooperatives will have the flexibility of delivering to multiple processors, allowing the opportunity to choose fishing timing. Despite this flexibility, it is likely that established relationships will have an important influence on harvester delivery choices and cooperative membership (at least at the

outset of the program). Over time, changes in delivery patterns may change as harvesters perceive better opportunities with other processors.

The structure of the market for landings would likely be competitive under this alternative, increasing the incentive for processors to aggressively pursue product improvements to attract additional landings. This competition should resolve delivery terms, including the timing of landings to accommodate processing schedules. This timing of landings could be critical to processors meeting some market demands, particularly if a fresh market were to develop.

Under this alternative, the ability to coordinate harvest activity and remove vessels from the fleet without loss of harvest share, together with a relative improvement in bargaining strength arising from no processor protection on processor entry should result in substantial improvements in harvest sector efficiency over the no action alternative. Fishing will be slowed, as cooperatives receive exclusive allocations. Technical efficiency in processing should improve as processors are better able to schedule crews to process landings. Allocative efficiency should also increase as processors improve product quality and produce higher quality products that cannot be produced under the no action alternative, because of the relatively low quality of landings and the need to process those landings rapidly. However, processors may experience little improvement in their overall efficiency under this alternative because of their relatively weak negotiating position in the market for landings.¹⁰³ Instead, cooperatives (and their catcher vessel fleets) should receive most of the benefits of these improvements through ex-vessel price negotiations. Notwithstanding the relatively strong position fishermen may have under this alternative, processors should obtain normal profits from their processing, and in some cases may be able to use relationships in other fisheries to leverage their negotiating position.

All of the catcher vessel alternatives include an option for an individual use cap of between 3% and 5% of the catcher vessel shares. Under the various qualifying year options and proposed caps, a maximum of 14 license holders could be constrained by the individual use cap at the initial allocation. Given that between 42 and 50 license holders would be allocated rockfish primary species depending on the qualifying years, between one-quarter and more than one-half of those license holders could leave the rockfish fisheries before all owners reach the 3% cap. Another option considered in all of the catcher vessel alternatives would establish a cooperative use cap of 30% of the catcher vessel harvest share pool. The provision will prevent harvests from forming cooperatives beyond the cap of the threshold, which may prevent consolidation within cooperatives that could be detrimental to marginal processors in the rockfish fisheries.

A vessel use cap of between 4% and 10% is also being considered for the catcher vessel alternatives. As many as 12 vessels in the catcher vessel sector have historically harvested more than 4% of the sector's total catch in a given year. Few vessels have historically exceeded the proposed 8% cap and in only one year did any vessels exceed the 10% cap. Finally, a processing cap of 20%, 25%, 30%, or 33% is being considered for the catcher vessel alternatives. A processing cap would ensure that no processor purchases over the specific share of the landings in the rockfish fisheries. Overall, processing caps would reduce production efficiency to the extent that competition for landings is decreased. Harvesters, in the short run at least, could receive a lower price for landings to the extent that competition is constrained. This reduction in competition could, in turn, reduce the incentive for processors to improve products and enhance marketing efforts to maintain their competitiveness in product markets. Processors could derive a

¹⁰³ Although an option could require all landings to be made in Kodiak because that community is home to several processors, it is unlikely that the limitation of landings to Kodiak would affect the degree of competition in the fishery.

benefit from this provision to the extent that ex-vessel price reductions occur, but those benefits will not necessarily accrue to historical processors.

The Council motion contains an option to add a port delivery requirement for allocations of the rockfish primary and secondary species to the catcher vessel sector. The port delivery requirement is intended to protect the community of Kodiak from changes in the location of shore-based processing activities that could occur in the Rockfish Program. If adopted, this option would ensure that Kodiak remains the processing base for the rockfish fisheries and that Kodiak processors and the community continue to benefit from the fisheries, at some cost to competing Alaska communities and fishermen.

As would be applied to catcher processors, a general sideboard would limit catcher vessel participants, in the aggregate, to their historical harvests in other fisheries during the month of July. Given that NMFS would likely close the WGOA and West Yakutat rockfish fisheries and the deep-water complex to directed fishing for the catcher vessel sector due to insufficient catch history, prohibiting eligible catcher vessel license holders from directed fishing in these fisheries would likely reduce management costs, observer costs to the sector, and simplify sideboard regulations for the Rockfish Program.

Catcher Vessel Sector – Allocation of Harvester Shares to Processors – CV-3

Under this alternative, eligible processors would receive allocations of harvest shares from the catcher vessel harvest share pool. Allocations of rockfish primary species would be divided between eligible harvesters and eligible processors, with eligible processors receiving 10%, 20%, or 30% of the sector's pool of all allocated species based on processing in the fisheries during the qualifying period. In general the processors receiving these allocations will receive the resource rents associated with that allocation.

Catcher vessel efficiency gains under this alternative are likely to be different, with resource rents divided between catcher vessels and processors based on the division of the harvest share allocation between these sectors (i.e., 90/10, 80/20, or 70/30). The returns to participants in the catcher vessel sector may vary slightly depending on the approach taken by holders of processor allocations in using their harvester shares. These different methods are likely to result in a similar distribution of resource rents, but may result in slightly different distributions of normal profits and operation levels of independent harvesters. If a processor elects to harvest its allocation on its own (or an affiliated vessel), the processor would receive resource rents and normal profits from the harvest, annually.¹⁰⁴ If a processor elects to sell its allocation (i.e., long term share), the processor would receive the presumed resource rents (discounted to their present value equivalent) embodied in the allocation at the time of the sale. The purchaser would assume the risk associated with the allocation and gain any normal profits (or losses) from the harvest of the shares over the long term. If a processor enters an arm's length lease for its allocation (or the annual allocation yielded by its allocation), it would receive the annual rents embodied in the allocation at the time of each lease, with the lessee gaining assuming all risks of profits or losses from harvest of the annual allocation. Lastly, a processor may use its shares as part of a broader negotiation with a cooperative (or vessels in a cooperative) to establish a relationship that extends to all (or a large segment of) the landings of the cooperative.

Under this alternative, processors that receive an allocation of harvest shares are likely to realize substantially greater benefits from the rockfish fisheries, than under the other catcher vessel alternatives. This benefit would be derived from the share allocation, as opposed to operational efficiencies, as this alternative is likely result in similar operational efficiencies as other cooperative alternatives. Processors will have several choices for using their shares, including selling their long term shares, leasing annual

¹⁰⁴ These profits might be captured only after sale of finished products by the processors.

allocations, and (in some cases) harvesting annual allocations on affiliated vessels. In most cases, it is likely that these processors will use their allocations. While each of these would be expected to bring the share holder the resource rent arising from the shares, it is likely that most processors holding harvest shares will negotiate the harvest of their allocations with cooperatives, to gain additional landings and coordinate processing activity in the rockfish fisheries.

In addition to the many different caps included in the catcher vessel alternatives, this alternative would include an additional limit on processor holdings of harvest shares. Under one option, the general harvest share limits could be applied to all holdings, effectively constraining harvest share holdings. It is possible under this option that all processors initially allocated harvest shares could exceed the cap. A grandfather provision could allow these processors to maintain holdings on the allocation. A second option would establish a 10% use cap on processor holdings. If processors receive only 10% of the harvest share pool in the initial allocation, it would be possible for a single processor to acquire all of those shares, if the use cap is set at 10%. With the exception of a limit on processor holding of harvest shares, the effects of excessive share limits and sideboards noted in CV-2 would also apply to this alternative.

The specific effects of the processor allocations will also depend, in part, on the rules governing their use and transfer. A holder of quota shares, originally allocated to a processor, would be permitted to divide those quota shares on transfer. In addition, three options defining persons eligible to acquire shares have been proposed. The first option would qualify processors that meet a minimum processing threshold in the rockfish fisheries to acquire these shares. The second option would allow processors receiving an initial allocation of shares to acquire additional shares. In general, opportunities for processor acquisition of shares are likely to be few. The third option would allow any qualified license holder to acquire shares initially allocated to a processor. Unless a processor is exiting the rockfish fisheries, it is unlikely that a processor would wish to sell its shares to a possible processing competitor (or harvester). It is also likely that, if a processor were to exit, it would attempt to sell its entire operation, including any shares. This type of a transfer is unlikely to change the processing market, except when a plant is bought by a competitor who is consolidating processing. Depending on the excessive share cap, processors may not be permitted to consolidate in this manner.

Catcher Vessel Sector – Cooperative with Severable Processor Association (no forfeiture) – CV-4 (preferred alternative)

Under this alternative, a cooperative would be required to annually associate with a processor to access its allocation. Harvester will have full discretion to choose a cooperative, initially, and may freely move among cooperatives, annually, thereafter. In addition, cooperatives are free to associate with any processor in the community in any year without forfeiture or penalty. The terms of the cooperative agreement, and consequently, the cooperative/processor association are subject to negotiation between the cooperative members and the processor. Given the flexibility of the harvesters to move among cooperatives, and of cooperatives to change associations, it is likely that any limitation established under the terms of an association (such as delivery requirements or terms) will be fully voluntary and harvesters will receive compensation for any concessions. Long term relationships and relationships in other fisheries are likely to be important factors that affect cooperative and processor association choices.

While some cooperatives may use the processor association to establish delivery relationships, it is possible that some cooperatives may minimally comply with the requirement, by establishing a relationship on paper, but maintaining no operating relationship. With unlimited choice in processor associations, such an arrangement is plausible. In this case, the cooperative would be free to deliver to any processor and negotiate delivery arrangements independent of the processor association requirement.

It is expected that processors will pursue markets and production opportunities, to establish and maintain annual associations and to attract deliveries. Historical relationships will likely influence the formation of cooperative/processor associations, but these relationships are likely to be tested, if a processor fails to compete in product markets (or fails to match others' ex-vessel prices).

As noted above, there is an option for an individual use cap of between 3% and 5% of the catcher vessel shares that would constrain up to 14 license holders in their initial allocation and would allow between one-quarter and more than one-half of those license holders to leave the rockfish fisheries before all owners reach the 3% cap. Another option is a cooperative use cap of 30% of the catcher vessel harvest share pool, which may prevent consolidation within cooperatives that could be detrimental to marginal processors in the rockfish fisheries. A vessel use cap of between 4% and 10% is also being considered. As many as 12 vessels in the catcher vessel sector have historically harvested more than 4% of the sector's total catch in a given year. Few vessels have historically exceeded the proposed 8% cap and in only one year did any vessels exceed the 10% cap. Finally, a processing cap of 20%, 25%, 30%, or 33% is also being considered for this alternatives. As noted above, this cap could reduce competition for landings which could, in the short, reduce the ex-vessel price to the extent that competition is constrained and reduce the incentive for processors to improve products and enhance marketing efforts. Processors could derive a benefit from this provision to the extent that ex-vessel price reductions occur, but those benefits will not necessarily accrue to historical processors.

Overall, the ability to coordinate harvest activity, together with a relative improvement in bargaining strength arising from no direct processor allocation, should result in substantial improvements in harvest sector efficiency over the no action alternative.

The effects of excessive share limits and sideboards noted in CV-2 and CV-3 would also apply to this alternative.

Entry Level Trawl/Longline Fisheries – EL-2

Under this alternative, 5% of each of the rockfish primary species is set aside for the entry level fisheries. This set-aside is divided equally between the trawl and longline sectors. With longline vessels taking less than 1% of the TAC of any rockfish species historically, it is unlikely that the longline allocation will constrain that fleet. To reduce the potential for the longline allocation to go unharvested, that TAC is available for harvest by entry level trawl vessels late in the year.

The trawl allocation would be available for harvest by all applicants for the entry level program. Despite the large number of persons eligible for the fishery, the trawl fishery could draw few applicants as the allocation is relatively small and few potential participants have experience in the fishery. Given the potential for relatively small allocations to the fishery (approximately 350 tons of Pacific ocean perch), the ability of NMFS to effectively manage the trawl portion of the entry level fishery to prevent TAC overages could be limited, if a substantial number of applicants for the entry level trawl fishery are receive. If several vessels enter the fishery, it is likely that managers would have to close the fishery or use short openings of 24 hours or less.¹⁰⁵ Management of the small allocation to trawl vessels in the entry level fishery is likely to be problematic under this alternative.

¹⁰⁵ No similar problem exists for the longline sector under this alternative, as that fleet has shown limited capacity to quickly harvest the allocations. This slower rate of harvest allows managers the opportunity to close the fishery in a timely manner to avoid TAC overages.

Entry Level Longline Only Fishery – EL-3 (preferred alternative)

Under this alternative, only longline sector would receive an entry level allocation of the rockfish primary species. The starting entry level set-aside under this alternative would be between 1 metric ton and 10 metric tons of Pacific ocean perch, between 1 metric ton and 10 metric tons of northern rockfish, and between 10 metric tons and 30 metric tons of pelagic shelf rockfish.

Limiting the entry level fishery to non-trawl only, and reducing the set-aside for the non-trawl fishery, would resolve complications associated with the entry level trawl fishery. Not including trawl participants in the entry level fishery eliminates the potential for trawl effort to result in the TAC being exceeded. Reducing the set-aside for the non-trawl CGOA rockfish could also reduce unharvested CGOA rockfish TAC. Historically, non-trawl vessels have very minimal participation in the CGOA rockfish fisheries. However, allocations less than 5 metric tons for Pacific ocean perch and northern rockfish could be very difficult to manage, so NMFS would likely close those entry level fisheries. To avoid closures in the entry level program prior to the season opening, the Council would have to select Pacific ocean perch and northern rockfish allocations greater than or equal to 5 metric tons.

Included in the alternative is the ability to expand the entry level longline allocation as harvests increase. If the longline entry level participants harvest 90% or more of their allocation of a rockfish species in a year, the set-aside would be increased by the amount of the initial allocation of the species. Allocation increases would be capped at a maximum of between 1% and 5% of Pacific ocean perch TAC, between 2% and 5% of northern rockfish TAC, and between 2.5% and 5% of pelagic shelf rockfish TAC. Overall, the use of a relatively small starting longline allocation (more in line with historical catches), and a mechanism for increasing the allocations with growth in the sector, could help prevent unharvested portions of the TAC, which would occur, if the allocation to the longline sector was disproportionate to their catches.

Summary of Preferred alternatives

Under the preferred alternative, eligible catcher processors could either join a cooperative or not participate in the CGOA rockfish fisheries. Within each cooperative, it is anticipated that each member would receive revenues based on the allocation that the person brings to the cooperative, with participants that fish shares of others receiving compensation for their fishing expenses. Persons eligible for the program that receive relatively small allocations could either choose to join a cooperative to allow other members of the cooperative to fish their allocations or choose to opt out of the program for the year, forgoing the opportunity to fish CGOA rockfish. Other members of the sector could decide to consolidate their rockfish allocations to realize efficiencies in the rockfish fisheries and other fisheries. Whether some or all of these vessels would choose to remain out of a cooperative cannot be predicted, and depends on their opportunities in other fisheries.

Allocations of rockfish secondary species should not constrain harvests of rockfish primary species, unless the rates of incidental catch of secondary species in the rockfish fisheries change substantially. Cooperatives should prove useful for addressing any constraints arising from the secondary species allocations, given that cooperatives would allow for the redistribution of secondary species allocations among cooperative members. The more liberal 40% allocation of shortraker rockfish under the preferred alternative should eliminate any perceived constraint this species allocation has had on the harvest of the primary species under the Pilot Program.

Processing by catcher processors under this alternative is likely to remain similar to the current (Pilot Program) processing by this sector. Most vessels in the sector are equipped for producing a few simple

products (frozen whole and headed and gutted fish). Because of size limitations, it is unlikely that any of these vessels will change plant configurations to process higher-valued, more processed products. Although catcher processors product mix may not change under this alternative when compared to the no action alternative, it is possible that some improvement in quality may be made by some participants. Generally, catcher processors produce a relatively high quality product, so the ability to make quality improvements may 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 primary production efficiency gains in the catcher processor sector under this alternative will result from participants maintaining a slower pace of fishing and processing. In the slower fishery, participants may be able to reduce expenditures on inputs to some degree (possible scaling down crews slightly) and increasing outputs slightly (with less loss due to diminished quality). Additional production efficiencies could arise because of the cooperative structure of the alternative. In a cooperative, participants will be free to consolidate fishing up to the 60% harvest cap. Consolidating catch on fewer vessels in the rockfish fisheries could also reduce aggregate harvest costs.

Under the preferred alternative, eligible catcher vessels would access exclusive allocations through cooperatives, each of which is required to associate with a processor; however, catcher vessels will have the flexibility of the harvesters to move among cooperatives, and of cooperatives to change associations. Consequently, any limitation established under the terms of an association (such as delivery requirements or terms) will be fully voluntary and harvesters will receive compensation for any concessions. Cooperatives will have the flexibility of delivering to multiple processors, allowing the opportunity to choose fishing timing. Despite this flexibility, it is likely that established relationships will have an important influence on harvester delivery choices and cooperative membership (at least at the outset of the program). Over time, delivery patterns may change as harvesters perceive better opportunities with other processors.

The ability to coordinate harvest activity and remove vessels from the fleet (to the extent permitted by the vessel use caps) without loss of harvest share, together with a relative improvement in bargaining strength arising from no processor protection or limit on processor entry should result in substantial improvements in harvest sector efficiency over the no action alternative, which would establish a limited access race for fish. Fishing will be slowed, as cooperatives receive exclusive allocations. Production efficiency in processing should improve as processors are better able to schedule crews to process landings and as processors improve product quality and produce higher quality products that cannot be produced during a derby fishery, because of the relatively low quality of landings and the need to process those landings rapidly. However, processors may experience little improvement in their overall efficiency under this alternative because of their relatively weak negotiating position in the market for landings. Instead, cooperatives (and their catcher vessel fleets) should receive most of the benefits of these improvements through ex-vessel price negotiations. Notwithstanding the relatively strong position fishermen may have under this alternative, processors should obtain normal profits from their processing, and in some cases may be able to use relationships in other fisheries and the processor association requirement to leverage their negotiating position. Processing caps would reduce production efficiency to the extent that competition for landings is decreased. Harvesters, in the short run at least, could receive a lower price for landings to the extent that competition is constrained. This reduction in competition could, in turn, reduce the incentive for processors to improve products and enhance marketing efforts to maintain their competitiveness in product markets. Processors could derive a benefit from this provision to the extent that ex-vessel price reductions occur, but those benefits will not necessarily accrue to historical processors.

The structure of the market for landings would likely be competitive under this alternative, increasing the incentive for processors to aggressively pursue product improvements to attract additional landings. This competition should resolve delivery terms, including the timing of landings to accommodate processing schedules. This timing of landings could be critical to processors meeting some market demands, particularly if a fresh market were to develop. A requirement that all deliveries be made to Kodiak will ensure that Kodiak remains the processing base for the rockfish fisheries and that Kodiak processors and the community continue to benefit from the fisheries, at some cost to competing Alaska communities and fishermen. Yet, since Kodiak is home to several processors, this requirement is unlikely to affect competition in the processing sector, at least in the near future.

The establishment of an entry level longline fishery should provide longline vessels with a reasonable opportunity to develop a target fishery for all three of the rockfish primary species. The provision for increase of these allocations should ensure that longline vessels are not constrained by the allocation for the foreseeable future.

3.4.11 Effects on environmental justice

No Action Alternative

Under the no action alternative, the management of the rockfish fisheries would revert back to LLP management. Prior to implementation of the Pilot Program in 2007, there were no negative impacts on minority or low income populations identified. As a result, it is expected there would be no negative impacts on minority or low income populations if management reverted back to LLP management.

Program Alternatives

Under the Rockfish Program alternatives, some consolidation of fishing activity could occur in the rockfish fisheries despite already being under cooperative management. This consolidation could affect income for participants on vessels that no longer participate in the rockfish fisheries. However, this consolidation is unlikely to result in the removal of vessels from all fisheries and could lead to some of the vessels that leave the rockfish fisheries increasing their activities in other fisheries (to the extent permitted by sideboard limitations and cooperative agreements). As a result, the impacts to vessel owners and crewmembers may not be negative, even if rockfish fishing activity decreases. In addition, the degree to which any impacts will affect minority or low-income vessel owners or crewmembers cannot be determined because demographics of vessel owners and crewmembers are not available. If employment and vessel ownership of Kodiak resident owned vessels mirrors the local population, a substantial number of minority crew could be affected by this action. The overall effect of the action, however, is likely to be beneficial, as returns from the rockfish fisheries are expected to improve. In addition, the program is likely to provide some additional stability to crew employment in the rockfish fisheries.

Kodiak based processing crews, which include a substantial number of minority employees, are also likely to be affected by this action. In general the effects of the Rockfish Program alternatives are expected to be beneficial to those workers. The Rockfish Program alternatives are likely to continue the distribution of landings over a longer period of time, particularly when shore plants are not processing catch from other fisheries. This distribution of landings could result in a loss of some seasonal positions, but will also result in greater stability for crews that are year round processing workers. This additional stability in employment is likely to benefit the minority populations that are employed by the processing facilities.

3.4.12 Cumulative Effects

This section describes the cumulative effects of the various alternatives. Cumulative effects of an alternative are the impacts on the environment resulting from the incremental effect of the alternative when added to other past, present, or reasonably foreseeable future actions [RFFA]). The past and present

actions are described in several documents and are incorporated by reference. These include PSEIS (NMFS 2004), the EFH EIS (NMFS 2005) and the harvest specifications EIS (NMFS 2007). This analysis provides a brief review of the RFFA that may affect environmental quality and result in cumulative effects. Future effects include harvest of federally managed fish species and current habitat protection from federal fishery management measures, harvests from state-managed fisheries and their associated protection measures, efforts to protect endangered species by other federal agencies, and other non-fishing activities and natural events.

The most recent analysis of RFFAs for the groundfish fisheries is in the harvest specifications EIS (NMFS 2007). No additional RFFAs have been identified for this proposed action. The RFFAs are described in the harvest specifications EIS section 3.3 (NMFS 2007a), are applicable for this analysis, and are incorporated by reference. A summary table of these RFFAs is provided in Table 3-28. The table summarizes the RFFAs identified applicable to this analysis that are likely to have an impact on a resource component within the action area and timeframe. Actions are understood to be human actions (e.g., a proposed rule to designate northern right whale critical habitat in the Pacific Ocean), as distinguished from natural events (e.g., an ecological regime shift). Council on Environmental Quality regulations require a consideration of actions, whether taken by a government or by private persons, which are reasonably foreseeable. This is interpreted as indicating actions that are more than merely possible or speculative. Actions have been considered reasonable if some concrete step has been taken toward implementation, such as Council recommendation or the publication of a proposed rule. Actions simply “under consideration” have not generally been included because they may change substantially or may not be adopted, and so cannot be reasonably described, predicted, or foreseen. Identification of actions likely to impact a resource component within this action’s area and time frame will allow the public and Council to make a reasoned choice among alternatives.

Table 3-28. Reasonable foreseeable future actions.

Ecosystem-sensitive management	<ul style="list-style-type: none"> Increasing understanding of the interactions between ecosystem components, and on-going efforts to bring these understandings to bear in stock assessments, Increasing protection of ESA-listed and other non-target species components of the ecosystem, Increasing integration of ecosystems considerations into fisheries decision-making
Fishery rationalization	<ul style="list-style-type: none"> Continuing rationalization of federal fisheries off Alaska, Fewer, more profitable, fishing operations, Better harvest and bycatch control, Rationalization of groundfish in Alaskan waters, Expansion of community participation in rationalization programs
Traditional management tools	<ul style="list-style-type: none"> Authorization of groundfish fisheries in future years, Increasing enforcement responsibilities, Technical and program changes that will improve enforcement and management
Other federal, state, and international agencies	<ul style="list-style-type: none"> Future exploration and development of offshore mineral resources Reductions in U.S. Coast Guard fisheries enforcement activities Continuing oversight of seabirds and some marine mammal species by the USFWS Expansion and construction of boat harbors Expansion of state groundfish fisheries Other state actions Ongoing EPA monitoring of seafood processor effluent discharges
Private actions	<ul style="list-style-type: none"> Commercial fishing Increasing levels of economic activity in Alaska's waters and coastal zone

RFFAs that may affect target and prohibited species are shown in Table 3-28. Ecosystem management, rationalization and traditional management tools are likely to improve the protection and management of target and prohibited species and are not likely to result in significant effects when combined with the direct and indirect effects of the proposed action. The Council is pursuing a replacement program for the Pilot Program that retains to the extent practicable conservation, management, safety, and economic gains created by the Pilot Program. Other government actions and private actions may increase pressure on the sustainability of target and prohibited fish stocks either through extraction or changes in the habitat, but it not clear that these would result in significant cumulative effects. Any increase in extraction of target species would likely be offset by federal management. These are further discussed in Sections 4.1.3 and 7.3 of the harvest specifications EIS (NMFS 2007).

4 Consistency with other Applicable Laws

This section of the analysis examines the consistency of the Central Gulf of Alaska Rockfish Program (the Rockfish Program) alternatives with respect to the National Standards and Fishery Impact Statement requirements in the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) and Executive Order 12866.

4.1 National Standards

Below are the ten National Standards as contained in the Magnuson-Stevens Act, and a brief discussion of the consistency of the proposed alternatives with each of those National Standards, as applicable.

National Standard 1

Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery.

Nothing in the proposed alternatives would undermine the current management system that prevents overfishing. The proposed alternatives would result in annual allocations to cooperatives. Under the no action alternative, management would be to a specified TAC, which can prove difficult. Managers would attempt to regulate harvests to the TAC by timing the closure of the rockfish fisheries with the harvest of the rockfish TAC. The use of annual allocations to cooperatives would likely result in catch levels that are closer to the specified TACs in the fisheries.

National Standard 2

Conservation and management measures shall be based upon the best scientific information available.

The analysis draws on the best scientific information that is available concerning the CGOA rockfish fisheries. The most up-to-date information that is available has been provided by the managers of these fisheries, as well as by members of the fishing industry.

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 various stocks that are affected by this action are each managed as separate stocks. All interrelated stocks are managed as a unit or are managed in close coordination.

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 allocations 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.

The proposed alternatives would treat all participants in the rockfish fisheries the same, regardless of their residences. The allocations in the fisheries would be based on historical catch in the fisheries without discrimination among participants.

The total annual allocation in each fishery will be based on the fishery management plan that is developed to promote conservation of the resource. Any changes in a fishery, as a result of the Rockfish Program,

that impact conservation of the source will be taken into account when setting the TACs in a year. No changes are expected.

Limits on cooperative holdings, individual holdings or usage of allocations, and processing would prohibit any individual from acquiring an excessive share of harvest privileges or controlling an excessive share of processing in the fisheries.

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 Rockfish Program alternatives are thought to improve the efficiency of utilizing the CGOA rockfish resources. Under a race for fish in the rockfish fisheries, it is generally understood that both the harvest and processing sectors would operate in an inefficient manner in comparison to a limited access privilege program. While the allocation of quota under all of the Rockfish Program alternatives would have economic consequences, the primary goals are to maintain or increase efficiency and equitably distribute interests in each of the fisheries. Additional benefits would continue to be realized through the direct allocation of catch of eight species under the continuation of the program. No discards of these species would be permitted, which should have the effect of allowing more precise management of catch and could contribute to further reductions in bycatch and discards.

National Standard 6

Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

Under all of the Rockfish Program alternatives, changes in the availability of the rockfish fisheries resources each year would be addressed through changes in annual allocations. These changes in allocations will be used to ensure conservation of the resource in the future.

National Standard 7

Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

The Rockfish Program alternatives would, in general, continue the existing allocation of quota and cooperative management of the CGOA rockfish fisheries and would not duplicate any other laws. The costs of managing the fisheries under the new program would likely remain similar to those that occur in the CGOA Rockfish Pilot Program.

National Standard 8

Conservation and management measures shall, consistent with 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.

Implementing the Rockfish Program alternatives is likely to have continued positive impacts on fishing communities. As a result of the CGOA Rockfish Pilot Program, it is generally understood that rockfish communities have enjoyed increased efficiency. Quality of CGOA rockfish landings and products has improved as participants in both sectors have maximized production of harvest quota shares. Community participation in the fisheries is unlikely to change under the Rockfish Program alternatives. Kodiak has

historically been home to processors that have processed almost all of the rockfish landings. Under the Rockfish Program alternatives, this should continue.

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.

The continued allocations of four or five species (depending on the sector) in addition to the rockfish primary species should continue to maintain reduced bycatch or in some instances lower bycatch. Full retention of these species will be required, with the allocation operating as a hard cap, which requires participants to stop fishing when any allocation is fully harvested. This measure should continue to keep bycatch low or even lower the bycatch. In addition, limited access privileges should continue the ability of the crews to handle bycatch carefully to decrease bycatch mortality.

National Standard 10

Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

The Rockfish Program alternatives should maintain the incentives for rockfish fishermen to avoid fishing in inclement weather or fishing in a manner that compromises safety. The removal of time pressures of the race for fish that would likely occur under the no action alternative, could reduce fishing activity in bad weather, and could improve safety in the fisheries.

4.2 Section 303(a)(9) – Fisheries Impact Statement

Section 303(a)(9) of the Magnuson-Stevens Act requires that any management measure submitted by the Council take into account potential impacts on the participants in the fisheries, as well as participants in adjacent fisheries. The impacts of the Rockfish Program alternatives on both participants in the rockfish fisheries and participants in other fisheries have been discussed in previous sections of this document. Under the program alternatives, rockfish allocations to cooperatives would be based on historical participation of eligible members of the cooperative. Persons without the qualifying history necessary to receive allocations could be negatively impacted.

Less obvious impacts from the Rockfish Program alternatives could accrue to participants in adjacent fisheries. The impacts would be in terms of “spillover” effects as rockfish fisheries participants with limited access privileges are able to increase effort in other fisheries. To limit Rockfish Program participants to historic catch in adjacent fisheries, the Rockfish Program includes sideboard limitations. These sideboard limits should mitigate any negative spillover impacts in adjacent fisheries.

5 Initial Regulatory Flexibility Analysis

5.1 Introduction

The Regulatory Flexibility Act (RFA), first enacted in 1980, and codified at 5 U.S.C. 600-611, 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 either, (1) “certify” that the action will not have a significant adverse effect on a substantial number of small entities, and support such a certification declaration with a “factual basis,” demonstrating this outcome, or, (2) if such a certification cannot be supported by a factual basis, prepare and make available for public review an Initial Regulatory Flexibility Analysis (IRFA) that describes the impact of the proposed rule on small entities.

Based upon a preliminary evaluation of the proposed Central Gulf of Alaska Rockfish Program (Rockfish Program) alternatives, it appears that “certification” would not be appropriate. Therefore, this IRFA has been prepared. Analytical requirements for the IRFA and FRFA are described below in more detail.

The IRFA must contain:

1. A description of the reasons why action by the agency is being considered;
2. A succinct statement of the objectives of, and the legal basis for, the proposed rule;
3. 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);
4. A description of the projected reporting, record keeping, 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;
5. An identification, to the extent practicable, of all relevant federal rules that may duplicate, overlap, or conflict with the proposed rule;
6. 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 adverse 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:
 - a. The establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities;
 - b. The clarification, consolidation or simplification of compliance and reporting requirements under the rule for such small entities;
 - c. The use of performance rather than design standards;
 - d. An exemption from coverage of the rule, or any part thereof, for such small entities.

The “universe” of entities to be considered in an IRFA generally includes only those small entities that can reasonably be expected to be directly regulated by the proposed action. If the effects of the rule fall primarily on a distinct segment of the industry, or portion thereof (e.g., user group, gear type, geographic area), that segment would be considered the universe for purposes of this analysis.

In preparing an IRFA, an agency may provide either a quantifiable or numerical description of the effects of a proposed rule (and alternatives to the proposed rule), or more general descriptive statements if quantification is not practicable or reliable.

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 a “small business concern,” which is defined under section 3 of the Small Business Act. A “small business” or “small business concern” includes any firm that is independently owned and operated and not dominate in its field of operation. The U.S. Small Business Administration (SBA) has further defined a “small business concern” as one “organized for profit, with a place of business located in the United States, and which operates primarily within the United States, or which makes a significant contribution to the U.S. economy through payment of taxes or use of American products, materials, or labor. A small business concern may be in the legal form of an individual proprietorship, partnership, limited liability company, corporation, joint venture, association, trust, or cooperative, except that where the form is a joint venture there can be no more than 49% participation by foreign business entities in the joint venture.”

The SBA has established size criteria for all major industry sectors in the United States, including fish harvesting and fish processing businesses. A business “involved in fish harvesting” is a small business if it is independently owned and operated and not dominant in its field of operation (including its affiliates), and if it has combined annual receipts not in excess of \$4.0 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 (including its affiliates) and employs 500 or fewer persons, on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide. A business involved in both the harvesting and processing of seafood products is a small business if it meets the \$4.0 million criterion for fish harvesting operations. A wholesale business servicing the fishing industry 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.

The SBA has established “principles of affiliation” to determine whether a business concern is “independently owned and operated.” In general, business concerns are affiliates of each other when one concern controls or has the power to control the other, or a third party controls or has the power to control both. The SBA considers factors such as ownership, management, previous relationships with or ties to another concern, and contractual relationships, in determining whether affiliation exists. Individuals or firms that have identical or substantially identical business or economic interests, such as family members, persons with common investments, or firms that are economically dependent through contractual or other relationships, are treated as one party, with such interests aggregated when measuring the size of the concern in question. The SBA counts the receipts or employees of the concern whose size is at issue and those of all its domestic and foreign affiliates, regardless of whether the affiliates are organized for profit, in determining the concern’s size. However, business concerns owned and controlled by Indian Tribes, Alaska Regional or Village Corporations organized pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. 1601), Native Hawaiian Organizations, or Community Development

Corporations authorized by 42 U.S.C. 9805 are not considered affiliates of such entities, or with other concerns owned by these entities, solely because of their common ownership.

Affiliation may be based on stock ownership when: (1) A person is an affiliate of a concern if the person owns or controls, or has the power to control 50% or more of its voting stock, or a block of stock which affords control because it is large compared to other outstanding blocks of stock, or (2) If two or more persons each owns, controls or have the power to control less than 50% of the voting stock of a concern, with minority holdings that are equal or approximately equal in size, but the aggregate of these minority holdings is large as compared with any other stock holding, each such person is presumed to be an affiliate of the concern.

Affiliation may be based on common management or joint venture arrangements. Affiliation arises where one or more officers, directors, or general partners control the board of directors and/or the management of another concern. Parties to a joint venture also may be affiliates. A contractor and subcontractor are treated as joint ventures if the ostensible subcontractor will perform primary and vital requirements of a contract or if the prime contractor is unusually reliant upon the ostensible subcontractor. All requirements of the contract are considered in reviewing such relationship, including contract management, technical responsibilities, and the percentage of subcontracted work.

Small organizations: The RFA defines “small organizations” as any nonprofit enterprise that is independently owned and operated and is not dominant in its field.

Small governmental jurisdictions: The RFA defines small governmental jurisdictions as governments of cities, counties, towns, townships, villages, school districts, or special districts with populations of fewer than 50,000.

5.2 Description of the Reasons Why the Action is Being Considered

Recognizing the management, economic, safety, and conservation gains created by the CGOA Rockfish Pilot Program (the Pilot Program), the North Pacific Fishery Management Council (Council) developed a problem statement defining its purpose for development of the Rockfish Program:

The intent of this action is to retain the conservation, management, safety, and economic gains created by the Rockfish Pilot Program to the extent practicable, while also considering the goals and limitations of the Magnuson-Stevens Fisheries Conservation and Management Act Limited Access Privilege Program (LAPP) provisions.

The existing CGOA Rockfish Pilot Program (RPP) will sunset after 2011. Consequently, if the management, economic, safety and conservation gains enjoyed under the RPP are to be continued, the Council must act to create a long term CGOA rockfish LAPP. For both the onshore and offshore sectors, the RPP has improved safety at sea, controlled capacity of the fleets, improved NMFS’ ability to conserve and manage the species in the program, increased vessel accountability, reduced sea floor contact, allowed full retention of allocated species and reduced halibut bycatch. In addition, the rockfish fishery dependent community in the CGOA and the shorebased processing sector have benefited from stabilization of the work force, more shoreside deliveries of rockfish, additional non-rockfish deliveries with the RPP halibut savings, and increased rockfish quality and diversity of rockfish products. Moreover, the CGOA fishermen, and the shorebased processing sector have benefited from the removal of processing conflicts with GOA salmon product. The Council needs to resolve identified issues in the management and viability of the entry level fishery.

The portion of the current catcher processor sector currently participating in the rockfish coop have also benefitted from the RPP. These benefits include greater spatial and temporal flexibility in prosecuting the fishery, which result in lower bycatch, a more rational distribution of effort and more stable markets. Certain provisions of the current RPP act as disincentives to some CP operators from joining the coop sector and achieving these benefits. These disincentives should be eliminated to the extent practicable in the new RPP.

The design of the new program is to replace the short-term Pilot Program with a long-term program. Similar to the Pilot Program, the fishing fleets have had little experience with cooperative fishery management and, thus, need to continue the educational process. In addition, all aspects of the economic portfolio of the rockfish fisheries need to be recognized, in order for the fisheries to be rationalized. Similar to the Pilot Program, all the historical players—harvesters (both catcher vessels and catcher processors) and processors need to continue to be recognized in a meaningful way. One aspect highlighted in the problem statement is the entry level program. The Council recognizes that the current entry level fishery has some trouble spots that need to be addressed in the new long-term program.

5.3 The Objectives of, and the Legal Basis for, the Proposed Rule

Under the current regulatory structure, the Central Gulf of Alaska (CGOA) rockfish fisheries are managed under the Pilot Program. The alternatives proposed by the Council are intended to continue the success of the Pilot Program by continuing to improve economic efficiency, reduce incentives for bycatch, encourage PSC avoidance, reduce unnecessary physical risk when fishing conditions are hazardous, and address a range of social concerns.

Under the current regulatory structure, GOA groundfish species are managed by NMFS, under the Fishery Management Plan for Groundfish of the Gulf of Alaska. The authority for this action and the fishery management plan are contained in the Magnuson-Stevens Act, as amended by the Magnuson-Stevens Fishery Conservation and Management Reauthorization (P.L. 109-479).

5.4 Number and Description of Directly Regulated Affected Small Entities

Information concerning ownership of vessels and processors, which would be used to estimate the number of small entities that are directly regulated by this action, is somewhat limited. Using available information and data, however, estimates of the number of small entities regulated by the action are provided.

Of the 12 catcher processors that are eligible for the Rockfish Program regulated by this action, none are small entities, as defined by the RFA. Thirty-two catcher vessels eligible for the Rockfish Program were either members of a cooperative and, as such, are not considered small entities for the purpose of the RFA, or had annual gross revenues of at least \$4 million. The remaining 14 eligible catcher vessels are all considered small entities. It is likely that some of these eligible 14 catcher vessels are affiliated through partnerships with other entities, and would be considered large entities for the purpose of this action, but in the absence of complete ownership information, these affiliations cannot be definitively determined.

In addition to the main program, this action also creates an “entry level” fishery for longline sectors. Since participation in that fishery is voluntary, the number of small entities participating cannot be predicted. It is likely that a substantial portion of the entry level longline fishery participants will be small entities.

5.5 Recordkeeping and Reporting Requirements

This action is not projected to have more than a *de minimus* effect on the recordkeeping and reporting requirements of small entities participating in the GOA groundfish fisheries. Some recordkeeping and reporting requirements will be imposed, such as the requirement that Rockfish Program cooperatives submit annual reports, and that they file a list of participating members, pre-season, with NMFS Restricted Access Management division. These new reporting and recordkeeping mandates will not, however, increase the burden on small entities, because, by entering into contractual relationships, cooperatives are affiliations, and as such, are subject to evaluation on the basis of the aggregate gross receipts of all members, worldwide. It is highly unlikely that any cooperative will form in these fisheries which will qualify as a small entity under SBA criteria. Any operators not joining a cooperative are already required to record and report catch data. These reporting burdens will not change under the proposed action. The regulations proposed in this amendment are not, therefore, expected to increase the recordkeeping and reporting requirements for any small entities in the rockfish fisheries.

5.6 Relevant federal rules that may duplicate, overlap, or conflict with proposed action

The analysis uncovered no federal rules that would conflict with, overlap, or be duplicated by the program alternatives.

5.7 Description of Significant Alternatives to the Proposed Rule that Accomplish the Stated Objectives of the Proposed Action

The Council considered a suite of three alternative for the entry level sector, four alternatives for the catcher vessel sector, and three alternatives for the catcher processor sector. For each sector and the entry-level fishery, there is the no action alternative (i.e. revert back to Limited License Program management regime). The other alternatives are cooperative programs for the catcher vessels and catcher processors, under which participants would be permitted to join a fishing cooperative that would receive an annual allocation on behalf of its members. The alternatives are fully described and analyzed in the Regulatory Impact Review and Environmental Assessment above. Based upon the best available scientific data, and consideration of the objectives of this action, it appears that there are no alternatives to the proposed action that have the potential to accomplish the stated objectives of the Magnuson-Stevens Act and any other applicable statutes and that have the potential to minimize any significant adverse economic impact of the proposed rule on small entities.

6 References

- Ackley, D. and J. Heifetz (2001) Fishing practices under maximum retainable bycatch rates in Alaska's groundfish fisheries, *Alaska Fisheries Resource Bulletin*, 8, 22–44.
- Allen, M. and G. Smith (1988) Atlas and zoogeography of common fishes in the Bering Sea and northeastern Pacific, NOAA Technical Report NMFS 66.
- Allen, B. M., and R. P. Angliss. 2010. Draft Alaska marine mammal stock assessments, 2010. U.S. Dept. of Commerce, NOAA Tech. Memo. NMFS AFSC-206, 276 p.
- Brodeur, R. (2001) Habitat-specific distribution of Pacific ocean perch in Pribilof Canyon, Bering Sea, *Continental Shelf Research* 21, 207–224.
- Byerly, M. (2001) The ecology of age-1 Copper Rockfish in vegetated habitats of Sitka Sound Alaska. M.S. thesis, University of Alaska Fairbanks.
- Clausen D. and J. Heifetz (2004) The northern rockfish in Alaska: commercial fishery, distribution, and biology, *Marine Fisheries Review*.
- Clausen, D., C. Lunsford, D. Hanselman, and J. Fujioka (2003) Pelagic shelf rockfish, in *Stock Assessment and Fishery Evaluation Report for the Groundfish Resources of the GOA*, 573–597, North Pacific Fishery Management Council.
- Courtney, D.L., D. M. Clausen, J. Heifetz, J. Fujioka, and J. Ianelli (2003) Gulf of Alaska northern rockfish. In *Stock assessment and fishery evaluation report for the groundfish resources of the Gulf of Alaska*, p. 481–529. North Pacific Fishery Management Council, 605 W. 4th Avenue, Suite 306, Anchorage, AK 99501-2252.
- EDAW, Inc., with Northern Economics (2005) Comprehensive Baseline Commercial fishing Community Profiles: Unalaska, Akutan, King Cove, and Kodiak, Alaska.
- Fitzgerald, S., K Kuletz, M Perez, K Rivera, and D Dragoo. 2006. Seabirds. In J Boldt, ed., *Appendix C, Ecosystem Considerations for 2007*. November 2006. NPFMC 605 West 4th Ave., Suite 306 Anchorage, AK 99501. Pp. 239-278.
- Gharrett, A., A. Gray, and J. Heifetz (2001) Identification of rockfish from restriction site analysis of the mitochondrial NM-3/ND-4 and 12S rRNA gene regions, *Fisheries Bulletin*, 99, 49–62.
- Gunderson, D. (1977) Population biology of Pacific ocean perch stocks in the Washington Queen Charlotte Sound region and their response to fishing, *Fisheries Bulletin* 75(2), 369–403.
- Haldorson, L. and M. Love (1991) Maturity and fecundity in the rockfishes, a review, *Marine Fisheries Review*, 53(2), 25–31.
- Hanselman, D., J. Heifetz, J. Fujioka, and J. Ianelli (2003) Gulf of Alaska Pacific ocean perch, in *Stock Assessment and Fishery Evaluation Report for the Groundfish Resources of the Gulf of Alaska*, 289–308, North Pacific Fishery Management Council.

- Heifetz, J. and J. Fujioka (1991) Movement dynamics of tagged sablefish in the northeastern Pacific Ocean, Fisheries Resources, 11, 355–374.
- Kimura, D., A. Shimada, and F. Shaw (1998) Stock structure and movement of tagged sablefish in offshore northeast Pacific waters and the effect of El Nino-Southern Oscillation on migration and grow Fisheries bulletin, 96, 462–481.
- Kodiak Chamber of Commerce. 2004. City of Kodiak, Kodiak, AK. <http://www.kodiak.org/community/government.html>.
- Krieger, K., (1997) Sablefish, *Anaplopoma fimbria*, observed from a manned submersible, in M. Saunders and M. Wilkens (eds.) Proceedings of the International Symposium on the Biology and Management of Sablefish, 115–121, NOAA Technical Report 130.
- Leaman, B. M. (1991) Reproductive styles and life history variables relative to exploitation and management of *Sebastes* stocks. Environmental Biology of Fishery 30: 253–271.
- Livingston, P. (ed) (2003) Ecosystem Considerations for 2003, North Pacific Fishery Management Council, Anchorage, AK.
- Low, L., G. Tanonaka,, and H. Shippen (1976) Sablefish of the Northeastern Pacific Ocean and Bering Sea, NFSC Processed Report.
- Maloney, N. and J. Heifetz (1997) Movements of tagged sablefish, released in the eastern Gulf of Alaska, in M. Saunders and M. Wilkens (eds.) Proceedings of the International Symposium on the Biology and Management of Sablefish, 115–121, NOAA Technical Report 130.
- Matulich, S., M. Sever, and F. Inaba (2001) American Fisheries Act Cooperative Rationalization, Marine Resource Economics, 16(1), 1–16.
- McFarlane G. and W. Nagata (1988) Overview of sablefish mariculture and its potential for industry. Alaska Sea Grant Report 88-4, 105–120, University of Alaska Fairbanks.
- NMFS. 2000. Endangered Species Act – Section 7 Consultation: Biological Opinion and Incidental Take statement (Biological Opinion). NMFS, Alaska Region, Sustainable Fisheries Division.
- NMFS. 2001. Steller Sea Lion Protection Measures Final Supplemental Environmental Impact statement (SEIS). NOAA, NMFS, Alaska Region..
- National Marine Fisheries Service/North Pacific Fishery Management Council (2004) Bering Sea Aleutian Islands Crab Fisheries Final Environmental Impact Statement.
- National Marine Fisheries Service/North Pacific Fishery Management Council (2004) Stock Assessment and Fishery Evaluation Report for the Groundfish Resources of the Gulf of Alaska.
- NMFS. 2004c. Alaska Groundfish Fisheries Final Programmatic Supplemental Environmental Impact Statement, U.S. Dept. of Commerce, NOAA Fisheries, Alaska Region. June 2004. <http://www.alaskafisheries.noaa.gov/sustainablefisheries/seis/intro.htm>

- National Marine Fisheries Service/North Pacific Fishery Management Council (2005) Final Environmental Impact Statement for Essential Fish Habitat Identification and Conservation in Alaska.
- NMFS. 2006. Biological assessment of the Alaska Groundfish Fisheries and NMFS managed Endangered Species Act listed marine mammals and sea turtles. April. Available: http://www.alaskafisheries.noaa.gov/sustainablefisheries/sslmcc/agency_documents/BA4-6-06.pdf.
- NMFS. 2007. Alaska Groundfish Harvest Specifications Final Environmental Impact Statement. DOC, NOAA Fisheries, Alaska Region. January 2007. <http://www.alaskafisheries.noaa.gov/analyses/specs/eis/final.pdf>.
- National Marine Fisheries Service/North Pacific Fishery Management Council (2008) Stock Assessment and Fishery Evaluation Report for the Groundfish Resources of the Gulf of Alaska.
- Pacific Fishery Management Council/National Marine Fisheries Service (2009) Rationalization of the Pacific coast Groundfish Limited Entry Trawl Fishery, Draft Environmental Impact Statement, Regulatory Impact Review and Initial Regulatory Flexibility Analysis.
- North Pacific Fishery Management Council (2010). Chinook Salmon Bycatch in Gulf of Alaska groundfish Fisheries: Staff Discussion Paper. March 2010.
- NMFS. 2010a. ESA Section 7 Biological Opinion on the Alaska Groundfish Fisheries. November 2010. NMFS Alaska Region, P.O. Box 21668, Juneau, AK 99802-1668.
- NMFS. 2010b. Draft ESA Section 7 Biological Opinion on the Alaska Groundfish Fisheries. July 2010. NMFS Alaska Region, P.O. Box 21668, Juneau, AK 99802-1668.
- Pitcher, K. (1981) Prey of Steller sea lion in the Gulf of Alaska, Fishery Bulletin 79, 467–472.
- Reuter, R. (1999) Describing dusky rockfish habitat in the Gulf of Alaska using historical data, M.S. Thesis, California State University, Hayward.
- Rutecki, D. and E. Varosi (1997) Distribution, age, and growth of juvenile sablefish in Southeast Alaska, M. in Saunders and M. Wilkens (eds.) Proceedings of the International Symposium on the Biology and Management of Sablefish, 45–54, NOAA Technical Report 130.
- Sasaki, T. (1973) Data of the Japanese blackcod fisheries in the North Pacific – I. Development and History of the Japanese blackcod fisheries through 1972, unpublished report, Far Seas Fisheries Resource Laboratory, Japan Fish Agency, 7-1 Orido 5 chromo, Shimizu 424, Japan.
- Sigler, M. and C. Lunsford (2001) Effects of individual quotas on catching efficiency and spawning potential in the Alaska sablefish fishery, Canadian Journal Fisheries and Aquatic Science, 58, 1300–1312.
- Sigler, M, T. Rutecki, D. Courtney, J. Karinen, and M. Yang (2001) Young-of-the-year sablefish abundance, growth, and diet, Alaska Fisheries Research Bulletin 8(1), 57–70.

- Sinclair, E. and T. Zeppelin (2002) Seasonal and spatial differences in diet in the western stock of Steller sea lions, *Journal of Mammalogy* 83(4).
- USFWS. 2003a. Programmatic Biological Opinion on the effects of the Fishery Management Plans (FMPs) for the GOA (GOA) and Bering Sea/Aleutian Islands (BSAI) groundfish fisheries on the endangered short-tailed albatross (*Phoebastria albatrus*) and threatened Steller's eider (*Polysticta stelleri*). Anchorage Fish and Wildlife Field Office.
- USFWS. 2003b. Biological Opinion on the Effects of the Total Allowable Catch (TAC)-Setting Process for the GOA (GOA) and Bering Sea/Aleutian Islands (BSAI) Groundfish Fisheries to the Endangered Short-tailed Albatross (*Phoebastria albatrus*) and Threatened Steller's Eider (*Polysticta stelleri*). Anchorage Fish and Wildlife Field Office.
- Wing, B. (1997) Distribution of sablefish larvae in the Eastern Gulf of Alaska, in M. Saunders and M. Wilkens (eds.) Proceedings of the International Symposium on the Biology and Management of Sablefish, 13–26, NOAA Technical Report 130.
- Wolotira, R., T. Sample, S. Noel, and C. Iten (1993) Geographic and Bathymetric Distributions for Many Commercially Important Fishes and Shellfishes Off the West Coast of North America, based on research survey and commercial catch data, 1912–1984, NOAA Technical Memo, NMFS-AFSC-6.
- Yang, M. (1993) Food habits of the commercially important groundfishes in the Gulf of Alaska in 1990, NOAA Technical Memo, NMFS-AFSC-22.
- Yang, M. (2006) Food habits of groundfishes in the Gulf of Alaska in 1999 and 2001, NOAA Technical Memo, NMFS-AFSC-164.
- Yang M. and M. Nelson (2000) Food habits of the commercially important groundfishes in the Gulf of Alaska in 1900, 1993, and 1996, NOAA Technical Memo, NMFS-AFSC-112.

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