Gulf of Alaska Trawl Bycatch Management Discussion Paper

June 2016

In December 2015 the North Pacific Fishery Management Council (Council) developed a Work Plan[1] for the development of an Environmental Impact Statement (EIS) for the Gulf of Alaska (GOA) Trawl Bycatch Management Program. This document is the second in a series of discussion papers stemming from the Work Plan that Council and NMFS staff are providing in order to aid the Council and the public

[1] http://npfmc.legistar.com/gateway.aspx?M=F&ID=5b33ee05-22f1-4d1f-be33-a6f7981ffab0.pdf

as they develop and refine the range of alternatives, elements, and options. The first paper was presented at the February 2016 Council meeting; that paper described the primary action alternatives, explored the relative benefits and management implications of several cooperative design strategies, and provided baseline information on the existing License Limitation Program (LLP) licenses that are endorsed for trawl gear in the GOA.[2] At that meeting, the Council made several amendments to the alternatives to be analyzed. Those changes are captured in the Council's February 2016 motion.[3] The current set of alternatives is included in this document as Appendix 1. A table comparing general elements of the alternatives is included as Appendix 2.

The Council made several substantive revisions to Alternative 3 in February. While this paper is not exclusively focused on that alternative, Section 2 is dedicated to illustrating the analysts' best understanding of the Council's language and intent. The paper identifies any assumptions that were made in order to tie the elements and options together in a manner that is consistent and feasible for NMFS to implement, should that alternative be selected.

Other sections of this paper are dedicated to topics that apply to both alternatives. Section 2.7 discusses the program elements under each of the action alternatives (including Alternative 4) that promote community stability, albeit through different mechanisms. That section also includes preliminary information with which the analysts will – at the EIS stage – assess the value of LLP licenses and the level of various stakeholders' investments in the fishery. Section 4 discusses the potential for fleet and processor consolidation, under either of the action alternatives or the No Action alternative (Alternative 1). That section provides preliminary data on evidence of consolidation trends under the existing LLP management regime. Section 5 includes several sub-topics related to monitoring: information with which to analyze the impact of requiring 100% observer coverage on all GOA trawl vessels; an early-stage assessment by NMFS staff of whether the proposed program structures would necessitate new monitoring tasks; and a timeline with description of the efforts that the Council and NMFS have invested in developing alternatives for a fixed-gear electronic monitoring (EM) program, to be used as a template for possible EM consideration in the trawl fishery. Section 6 provides an early-stage analysis of the potential effects of changing the pollock and Pacific cod season dates, which is an option under either of the action alternatives.

As with the previous discussion paper, this document is not meant to constitute a complete analysis of the issues addressed. Rather, this document provides information that might facilitate public participation, and identifies parts of the program that are not yet fully defined or well understood. Some items that were discussed in February – for example, cooperative structure and formation – are not revisited in this paper, but will be revisited as a major part of the forthcoming EIS.

[2] http://npfmc.legistar.com/gateway.aspx?M=F&ID=a02b1f46-1217-476c-abc5-6b61ee3ebab1.pdf
[3] http://npfmc.legistar.com/gateway.aspx?M=F&ID=8243544e-4b8d-4c49-98d5-45c5c30593b7.pdf

1 Comparison of Elements in Alternatives 2 and 3

This section provides an updated summary of key similarities and differences between the two primary action alternatives, Alternatives 2 and 3. Readers can refer to the language of the alternatives in Appendix 1, and a tabular comparison in Appendix 2.

Both alternatives would base the new trawl program around voluntary cooperatives, but only Alternative 2 defines a cooperative structure for the CP/offshore sector. The membership of each Inshore cooperative[4] would include one shoreside processing plant (facility) and trawl catcher vessels (CV).

The most basic difference between Alternatives 2 and 3 is the allocation of groundfish quota based on qualifying catch history that is associated with each LLP license. Alternative 2 allocates both groundfish and prohibited species catch (PSC) quotas, while Alternative 3 allocates only PSC. At this time, and barring further direction from NOAA General Counsel, the analysts have concluded that the program would be considered a Limited Access Privilege Program (LAPP) under Alternative 2, but not under Alternative 3. LAPPs are specifically defined in the Magnuson-Stevens Act (MSA Section 303A(c)(5)), and the designation carries with it certain elements that might not be required for a non-LAPP, such as cost recovery fees and program review. The analysts are considering Alternative 2 as a LAPP because the MSA frames the definition around the allocation of a privilege to harvest a quantity of fish. Alternative 3 would annually allocate PSC limits to cooperatives (and to a Limited Access sector), but does not allocate any privileges to harvest a percentage of the total available harvest. The PSC species allocated under Alternative 3 cannot be sold for processing and resold in the global fish market, thus they do not have an ex-vessel value and would not be subject to cost recovery.

1.1 Elements that are the Same or Similar

1.1.1 100 percent observer coverage for GOA trawl vessels

Vessels would be required to carry an observer on all trips when fishing with trawl gear in the GOA. This would apply not only to vessels that are enrolled in voluntary cooperatives, but also to vessels that are fishing in the Limited Access sector. Further discussion of changes to observer coverage and other monitoring requirements is provided in Sections 5.1 and 5.4.

Both alternatives state that the Council would authorize NMFS to report weekly vessel-level bycatch information as authorized under MSA Section 402(b)(2)(A) and outlined in Federal regulations at §679.54. NMFS already publishes this information on the web, so neither alternative would represent a change from the status quo in this respect. The regulations state that NMFS may report either: (1) "weekly summary bycatch information identified by vessel; or (2) haul-specific bycatch information without vessel identification." This authorization and regulations apply only to observer data, and not to total PSC estimates that are generated using observer data through the Catch Accounting System. On many trips, all hauls are sampled by the observer; however, on trips where some hauls are not sampled the observer data would not be the same as the total PSC estimated for the trip.

[4] The terms Inshore sector and CV sector are used interchangeably in this paper, as are the terms Offshore sector and CP sector.

The NMFS website currently reports weekly vessel-level PSC rates.[5] Data from sampled hauls on groundfish trips with an observer onboard are made public. The website contains downloadable data files that include observer data on each vessel's halibut PSC rate (kg of halibut per mt of groundfish) and the amount of Chinook salmon PSC (number of fish), as well as rates for herring bycatch and amounts of crab PSC species and non-Chinook salmon.[6] Due to confidentiality restrictions on the reporting of vessel-level groundfish catch, it would not be possible to report both a PSC rate and a total amount of PSC for a single species, as one could combine those data to calculate a vessel's directed fishery harvest. The data fields that can be, and are being, reported are specified in regulation at §679.54. The publication of any other data fields would require regulatory amendment.

The analysts note that the reporting of vessel-level bycatch information that is referenced in Element 1 of Alternatives 2 and 3 is different than the required intra-cooperative data sharing agreements. Cooperatives must submit a plan that includes PSC information sharing within cooperatives to which PSC is allocated, but there is no requirement for that data to be made public.

1.1.2 Eligibility of participants

Element 2 of Alternative 2 defines sector eligibility for the Inshore and Offshore sectors. The Offshore sector is defined as the vessels listed in Table 31 to CFR Part 679 (and their replacement vessels), which are also shown in Table 1 of this document. The Inshore sector includes shoreside processors and harvesters that did not process catch on board during the qualifying years, so long as they possess the appropriate federal permits and GOA trawl-endorsed LLP licenses.

Element 4.a of Alternative 3 provides the same definition, though it is limited to the Inshore sector. Under Alternative 3, the Council has used the term "cooperative eligibility" rather than "sector eligibility. The analysts do not draw any distinction from the different term.

Both alternatives state that CPs that have operated as CVs would be considered part of the Inshore sector under the implemented program. One small difference is that under Alternative 2 the CP LLP that is associated with a vessel that has not processed catch offshore would be officially converted to a CV LLP; Alternative 3 does not call for that administrative action by NMFS. The discussion of allocating CV catch history that was delivered to the Offshore sector is addressed in more detail in Section 1.2.1 (*Catcher/Processor sector cooperatives).*

1.1.3 Modify pollock and Pacific cod season dates (Option)

Both alternatives contain options to modify the season dates for the pollock and Pacific cod directed fisheries. These options are discussed in greater detail in Section 6 of this document.

[5] https://alaskafisheries.noaa.gov/fisheries/vessel-specific-bycatch-rates

[6] Available at: https://alaskafisheries.noaa.gov/fisheries-catch-landings; bycatch data files are found at the bottom of the page under "Prohibited Species – BSAI/GOA Combined", and weekly vessel-level reports are under the title "Bycatch Rates – by week and vessel". Publication of these data was authorized by regulations published at 59 FR 18757 (April 20, 1994) and effective May 20, 1994. The proposed rule for this action is 59 FR 2817 (January 19, 1994).

Element 4.a of Alternative 2 and Element 2 of Alternative 3 define the option. The pollock fishery would be modified from four seasonal TAC apportionments to two. The seasons would meet on June 10, eliminating the gap between the current B and C seasons where directed fishing is not permitted. Currently, directed fishing for pollock is not permitted between May 31 and August 25. The Pacific cod season dates would be similarly modified to meet on June 10. Currently, directed fishing for Pacific cod is not permitted between June 10 and September 1. The existing season dates and TAC apportionments were originally implemented as a measure to reduce the impact of trawl fisheries on Steller sea lions. The analysts will incorporate relevant information on the potential impact of the action on marine mammals in the EIS.

While the analysts interpret the language under each alternative to have the same effect, the wording is different. The Council might consider aligning the wording in order to promote public understanding.

1.1.4 Revise seasonal apportionments of GOA pollock TAC (Option)

Both alternatives have identical options to revise the GOA-wide seasonal pollock apportionments for the A, B, C, and D seasons (Alt. 2, Element 4.a, and Alt. 3, Element 2). Currently, 25% of the GOA-wide pollock TAC is apportioned to each season. The options would shift more of the annual TAC into the early part of the year; the A and B seasons currently run from January 20 through May 31. The resulting apportionments would be 30% for the A and B seasons, and 20% for the C and D seasons. If the Council modifies the pollock season dates, as described in the section above, this option would result in a 60% apportionment to the A season (Jan. 20 through June 10) and 40% to the B season (June 10 through November 1). These options would not modify the area-distribution of the pollock TAC between areas 610, 620, and 630, which are defined in the harvest specification process. The purpose of the options is to allow the fleet to do more of its fishing during the times of year when expected Chinook salmon PSC rates are lower.

This issue is addressed in more detail in Section 6. Any potential impact on Steller sea lions would be assessed in the EIS.

1.1.5 Reduce Chinook salmon PSC limit for GOA pollock trawl fishery (Option)

Both alternatives contain identical options to reduce the Chinook salmon PSC limit for the GOA pollock fishery by 25%, relative to its current level of 25,000 Chinook that was established under Amendment 93 (Alt. 2, Element 5.a, and Alt. 3, Element 3.a). This total GOA PSC limit is already apportioned between the WG and CG (6,684 Chinook and 18,316 Chinook). The analysts assume that any reduction to the overall limit would be applied proportionally to each area. For a 25% reduction to a total limit of 18,750, the WG limit would be 5,013 Chinook (73.3%) and the CG limit would be 13,737 Chinook (26.7%). Any Chinook PSC taken by a vessel while trawling in the West Yakutat district would be debited against the CG PSC limit for that vessel's cooperative, or from the Limited Access sector's PSC limit, if the vessel is not a member of a cooperative.

1.1.6 Changes to the halibut PSC limit for the GOA non-Rockfish Program trawl fisheries (Option)

Both alternatives contain options to reduce the halibut PSC limit for the GOA non-RP trawl fishery, relative to the current limit of 1,515 mt (Alt. 2, Element 5.b, and Alt. 3, Element 3.b). The reduction could be set at 10% (1,364 mt) and phased in over a two-year period, or 15% (1,288 mt), 20% (1,212 mt), or 25% (1,136 mt) phased in over a three-year period[7]. Under either alternative, vessels operating as part of a cooperative would not have any seasonal or species complex (deep-water/shallow-water) restrictions on their use of halibut PSC. That means that vessels operating in the Limited Access sector under either alternative would continue to operate under seasonal and complex apportionments. It also means that, under Alternative 3, the GOA CP sector would continue to operate under seasonal and complex apportionments, unless those restrictions were removed.

1.1.7 Deadline to file a cooperative contract with NMFS

Both alternatives set a November 1 deadline for either LLP holders or vessel owners, depending on the alternative, to sign onto a cooperative contract or to indicate their intent to operate in the Limited Access sector. Alternative 3 calls for participants to make several additional declarations by this deadline: the fisheries that they intend to prosecute with their vessel, and submission of inter-cooperative agreements. Some discussion of the timing aspect surrounding Alternative 3 is included in Section 2.6 of this document.

1.1.8 Transferability of PSC and LLP licenses

Alternatives 2 and 3 both define transferability separately in terms of annual transfers and permanent transfers. Alternative 2 allows annual quota transfers within the cooperative for primary species, secondary species, and PSC. Transfers within the cooperative do not require NMFS approval, or that a transfer application is submitted to NMFS. Inter-cooperative transfers of annual allocations are also allowed under Alternative 2. A transfer application and approval by NMFS is required so that NMFS can determine whether a cooperative is within their annual allocation. Alternative 2 allows annual CP cooperative allocations to be transferred to inshore cooperatives, but does not allow annual inshore cooperative allocations to be transferred to CP cooperatives.[8]

Alternative 2 permits long-term transfers of the catch history that underlies annual quota allocation if the LLP license is transferred. Alternative 2 includes an option that would allow the catch history associated with an LLP license to be severable from an inshore CV trawl license and transferable to another eligible inshore CV trawl license. However, any LLP license or history (target and secondary species) attached to a LLP license retains the regional delivery designation, if such a designation is part of the program. PSC is assigned to a LLP license, and thus to the cooperative or the Limited Access sector, based on the

[7] The motion does not define how the reductions would be phased in over the time period selected. Without further direction from the Council, the analysis in the EIS will assume that the percentage reduction will be equal in each year.

[8] NMFS would need to draft new regulatory language to allow for PSC limits to be transferred between voluntary cooperatives. PSC transfers from the CP sector to Inshore cooperatives would need to be executed by NMFS and noticed in the Federal Register, similar to the process for reallocating hook-and-line halibut PSC limits between the CV and CP sectors.

amount of target species history assigned to the LLP license. Because PSC quota is determined by the target species history assigned to a license, it cannot be permanently transferred separately from the target and secondary species history.

Alternative 2 also includes an option for a cooling off period. The cooling off provision would prohibit LLP license transfers (sales) or the severing of catch history from an inshore CV license during the first two years of the program. The purpose of this provision is to allow initial recipients of quota time to determine the impacts of the program, and to get a better understanding of the value of the quota before it is transferred. This provision would not prohibit persons from entering into private contracts that define the terms of a permanent transfer before the two year window is over. The effect of the action is to prohibit NMFS from approving any transfers during the cooling off period.

Alternative 3, like Alternative 2, allows transferability of PSC cooperative quota for annual use within the cooperative. Unlike Alternative 2, the amount of each PSC species that a *person* in a cooperative can use during a year is limited. That annual use limit could be set in the range of 110% to 150% of the amount of PSC that the person brought into the cooperative. Because the rule is based on the person and not the vessel, it is assumed that if a person owned more than one vessel then all of the PSC that they brought into the cooperative could be used on one vessel. **If the true intent of the use restriction is to limit fleet consolidation in terms of vessels, it might be appropriate to modify the language of the option to apply to the vessel and not the person that brought the PSC into the cooperative. The revised language could read:**

> *(Annually) Allow transferability of PSC cooperative quota for annual use within the cooperative. Limit the amount of each PSC species ~~of~~ annual ~~PSC~~ cooperative quota PSC limit a ~~person can~~ vessel may use in the cooperative to (options: 110% - 150%) of what ~~they~~ it brought into the cooperative.*

Alternative 3 also allows cooperatives to engage in inter-cooperative transfers of annually allocated PSC during the year. Because Offshore (CP) cooperatives are not included in Alternative 3, they are not addressed and no transfers of PSC limits from the Inshore CV sector to the Offshore sector would be allowed. Inshore inter-cooperative transfers must be processed and approved by NMFS. The alternative has an option to limit the amount of a cooperative's annual PSC allocation that can be transferred to other cooperatives (options: 10% to 50% of the cooperative's initial annual PSC allocation). As with the individual PSC use cap, the analysts are assuming that the inter-cooperative transfer cap is accounted separately for each of the two allocated PSC species. The inter-cooperative transfer limit could be enforced as an absolute cap that is proportional to the cooperative's initial annual allocation, or it could be enforced based on the net amount of PSC that has been transferred out of the cooperative. The former method would not account for PSC that a cooperative *receives* through inter-cooperative transfer at other times in the year.

Alternative 3 also defines long-term transfers. It indicates that LLPs are transferable, but that PSC cannot be permanently transferred separately from a license or vessel. The latter part of this definition – that PSC cannot be permanently transferred separately from the license – is not necessary to state. The new construct of Alternative 3 issues cooperative allocations of PSC limits on an annual basis; PSC is not issued in some semi-durable allocation based on catch history. In other words, there is no "long-term"

PSC to be transferred. Any person may join a cooperative if they have a vessel with an appropriate LLP license (meets the MLOA designation on the LLP license and allows the vessel to fish in an area with trawl gear). Each year NMFS determines the amount of the overall PSC limit that is assigned to a qualified vessel (based on the formula proposed by the Council and discussed in Section 2 of this paper).

1.2 Elements that are Different

1.2.1 Catcher/Processor sector cooperative(s)

Alternative 3 does not establish, or set rules for, the formation of CP cooperative(s). No terms are outlined for contract requirements, formation deadlines, or reporting requirements. The analysts assume that if CPs wish to form one or more cooperatives, or an inter-cooperative agreement, they could do that on a voluntary basis that would fall outside of the terms of this program. The major change to the CP sector under Alternative 3, relative to the status quo, is that it would have a sector allocation of PSC as opposed to a sideboard limit[9]. The size of that sector allocation would be based on its historical PSC use during the selected qualifying years.

Both Alternative 2 and Alternative 3 would divide the GOA PSC limits between the CP sector and in the Inshore (CV) sector. Chinook salmon PSC limits for the sectors are based on GOA Amendment 97 limits for the non-pollock non-RP fisheries. All of the Chinook salmon PSC limit for the pollock fishery would be assigned to the Inshore sector. Because those limits apply only to the Western and Central GOA, any Chinook salmon PSC caught in the WY district are deducted from a cooperative's Central GOA Chinook salmon PSC limit. The non-RP halibut PSC limit would be apportioned between the CP and Inshore sectors, and would be based on halibut PSC use during the selected qualifying years.

The Offshore sector is defined under Alternative 2 as the Amendment 80 vessels that are listed in Table 31 CFR Part 679, their replacement vessels, and their current GOA trawl LLP. The Amendment 80 vessels included in that table are listed in Table 1 of this document. Alternative 2 states that sector-level PSC limits are based on each trawl sector's PSC usage during the qualifying years. CP history is defined by the catch of vessels that held a CP LLP and processed catch onboard. That definition excludes catch by vessels with a CV LLP that delivered to CPs or motherships. Three or fewer CVs operated in this manner, so their catch history cannot be reported. Those CVs did not participate in the fishery every year during the qualifying period, so their collective PSC usage is relatively small (less than 1% of the total). Unless otherwise specified, halibut PSC limit taken on CVs that delivered to the CP sector would not be credited to the CP sector when PSC is apportioned. Therefore, **the Council may wish to consider broadening its definition of the CP sector.** The Council could continue to include Amendment 80 CPs, but also allow the owners of CVs that delivered catch to CP or motherships during the qualifying years to make a one-time decision that would apply that catch history to the CP sector. CV catch history that is applied to the CP sector would remain in the CP sector for the duration of the program. None of the catch history from these CVs would be assigned to the Inshore sector, and those CVs would be prohibited from participating in the Inshore Limited Access fishery.

[9] Sideboard limits for Amendment 80 were established based on catch from 1998 through 2004, and the program was implemented in 2008. Therefore, some years considered in this action for the PSC limit division were not used to set sideboard limits, and were years when sideboard limits were not in effect.

Access to Inshore cooperatives would be controlled through private contracts. Movement of catcher vessels (or LLPs) between the CP and Inshore sectors would complicate catch accounting. If allowed, that movement would require the catcher vessel to checkout of the CP cooperative and into a specific Inshore cooperative before it is allowed to start fishing. Alternatively, the prohibition for vessels to fish in the Inshore Limited Access fishery could be extended to any Inshore fishery, and would prohibit any Offshore vessel from delivering Inshore quota to shoreside processors.

Table 1 Amendment 80 vessels listed in Table 31 of CFR 679

Amendment 80 vessel	USCG Number	Groundfish license
Alaska Juris	569276	LLG 2082
Alaska Ranger	550138	LLG 2118
Alaska Spirit	554913	LLG 3043
Alaska Voyager	536484	LLG 2084
Alaska Victory	569752	LLG 2080
Alaska Warrior	590350	LLG 2083
Alliance	622750	LLG 2905
American No 1	610654	LLG 2028
Arctic Rose	931446	LLG 3895
Arica	550139	LLG 2429
Bering Enterprise	610869	LLG 3744
Cape Horn	653806	LLG 2432
Constellation	640364	LLG 1147
Defender	665983	LLG 3217
Enterprise	657383	LLG 4831
Golden Fleece	609951	LLG 2524
Harvester Enterprise	584902	LLG 3741
Legacy	664882	LLG 3714
Ocean Alaska	623210	LLG 4360
Ocean Peace	677399	LLG 2138
Prosperity	615485	LLG 1802
Rebecca Irene	697637	LLG 3958
Seafisher	575587	LLG 2014
Seafreeze Alaska	517242	LLG 4692
Tremont	529154	LLG 2785
U.S. Intrepid	604439	LLG 3662
Unimak	637693	LLG 3957
Vaerdal	611225	LLG 1402

Table 2 reports the percentage of GOA trawl halibut PSC usage by the Inshore and CP sectors from 2003 through 2015, excluding any catch taken as part of the Central GOA RP. The averages at the bottom of the table represent the qualifying periods that are being considered to determine the sector-level PSC apportionments, as well as the entire time period for which annual data are available since 2003. The data indicate that the CP sector would be allocated 24.8% to 28.0% of the GOA halibut PSC limit. The CP sector would not be further divided by subarea.

Table 2 also shows the division between the Inshore and CP sectors by area. This information is most important for the Inshore sector because its PSC limit will be divided by area before being allocated to

cooperatives. The total column is most important for the CP sector's PSC limit, since it will not be subdivided by area.

Table 2 Percentage of GOA halibut PSC usage by the Inshore and CP sectors

	Offshore				Inshore			
Year	CG	WG	WY	Total	CG	WG	WY	Total
2003	28.4%	12.3%	0.3%	41.0%	56.6%	2.3%	0.0%	59.0%
2004	24.2%	7.2%	0.2%	31.6%	65.2%	2.5%	0.6%	68.4%
2005	20.2%	6.8%	0.1%	27.1%	71.7%	1.2%	0.0%	72.9%
2006	23.6%	4.6%	0.1%	28.2%	68.7%	3.1%	0.0%	71.8%
2007	12.1%	9.1%	0.3%	21.4%	76.3%	2.2%	0.0%	78.6%
2008	16.8%	6.0%	0.1%	22.9%	71.7%	5.4%	0.1%	77.1%
2009	21.1%	3.6%	0.3%	25.0%	72.5%	2.5%	0.0%	75.0%
2010	26.7%	4.0%	0.1%	30.8%	68.6%	0.6%	0.0%	69.2%
2011	23.4%	3.6%	0.3%	27.3%	70.2%	2.4%	0.1%	72.7%
2012	17.5%	4.7%	0.2%	22.4%	70.6%	7.0%	0.0%	77.6%
2013	25.4%	4.1%	0.0%	29.5%	62.5%	8.0%	0.0%	70.5%
2014	29.5%	5.7%	0.0%	35.2%	59.5%	5.3%	0.0%	64.8%
2015	21.7%	2.3%	0.1%	24.0%	72.4%	3.6%	0.0%	76.0%
2003-2015	22.2%	6.0%	0.2%	28.3%	68.3%	3.3%	0.1%	71.7%
2003-2012	21.5%	6.4%	0.2%	28.0%	69.0%	2.9%	0.1%	72.0%
2007-2012	19.4%	5.2%	0.2%	24.8%	71.8%	3.3%	0.1%	75.2%
2008-2012	21.0%	4.4%	0.2%	25.6%	70.8%	3.6%	0.1%	74.4%

Source: AKFIN Summary of NMFS Catch Accounting Data
Note: The Offshore data include halibut PSC taken by the F/V Golden Fleece, which is not covered by the Amendment 80 GOA halibut PSC sideboard, but would be part of the CP sector allocation under the proposed program.

Table 3 reports the amount of trawl halibut PSC usage by the CP sector in the non-RP fisheries. Data since 2007 are included in the table since that time period reflects the years used in two of the three qualifying periods under consideration, and reflects all the years that Amendment 80 has been in place (2008 and later).

Table 3 Halibut PSC usage by the CP sector since 2007 (mt)

Year	CG	WG	WY	Total
2007	229	172	6	406
2008	320	114	1	435
2009	377	65	5	447
2010	419	62	2	484
2011	422	64	5	491
2012	283	77	3	362
2013	297	47	0	344
2014	388	75	0	463
2015	286	30	2	317

Source: AKFIN Summary of NMFS Catch Accounting Data
Note: As in Table 2, these data include the F/V Golden Fleece.

Table 4 uses the halibut PSC limits that are considered in this action to calculate the amount available for the non-RP fisheries. The overall halibut PSC limits are reported in the top row of the table. The second row of the table shows the Inshore limit after reducing the total by 191 mt to reflect the deduction for the RP. After that deduction is made, the remaining halibut PSC limit is multiplied by the percentage assigned to the CP sector, based on qualifying period, generating the estimated halibut PSC limit for the CP sector. Under most options, the CP fleet will need to reduce their halibut PSC to levels below its historical PSC usage. Of the nine years considered, the CP sector would have exceeded its halibut PSC limit under, under any reduction option, in four years; the sector avoided exceeding its limit in a fifth year by only 1 mt. Based on the 25% reduction option, the fleet would have only been under the limit during one year and only if the option that goes back to 2003 is not selected. Therefore, it is expected that the CP sector would need to improve its PSC usage rates in order to harvest GOA groundfish at historical levels under all the proposed options.

Table 4 Estimated halibut PSC limits for the CP sector in metric tons, based on options considered

	Percent of halibut PSC limit available to		Reduction				
			Status Quo	10%	15%	20%	25%
		Total Limit (mt)	1,706	1,555	1,479	1,403	1,327
Years	Offshore sector	Non-RP Limit (mt)	1,515	1,364	1,288	1,212	1,136
2003-2012	28.0%		425	383	361	340	319
2007-2012	24.8%		376	339	320	301	282
2008-2012	25.6%		387	349	329	310	290

Source: AKFIN Summary of NMFS Catch Accounting Data

The estimated trawl halibut PSC limit allocated to the CP sector would be available for use by any vessel that is qualified to participate in the fisheries that are open to that sector. Under Alternative 3, the CP sector's halibut PSC limit is not further divided by area, and no cooperative structure is defined. If the CP sector wishes to form cooperatives, member vessels must all be participants in a voluntary cooperative or, at a minimum, must sign onto an inter-cooperative agreement that divides PSC limits among CP cooperatives. Because the list of CPs that are allowed to participate in the Offshore fishery is defined in regulation, the program may provide sufficient stability for a voluntary cooperative to form. If "Offshore" CVs are allowed to participate in the CP sector, regulations should restrict those vessels from entering the Inshore Limited Access sector. This restriction could be accomplished by restricting CV membership in the CP sector to vessels (or LLPs, depending on how catch history is defined) that contributed PSC history to the CP sector.

CP cooperatives under Alternative 2:

Under Alternative 2, halibut PSC would be divided between the CP cooperatives and the CP Limited Access sector on a pro rata basis, relative to the target species that are allocated. The analysts presume that halibut PSC allocated to the CP sector could be used in any area or CP fishery that is open to directed fishing.

Under Alternative 2, pollock and Pacific cod TACs would be allocated to the Inshore sector, and the CP sector would receive an incidental catch allowance (ICA) for Pacific cod and pollock that would be managed under MRAs. Any other groundfish species allocated to CP cooperatives or to the Limited

Access sector would be assigned using the same qualifying years that are used for sector-level allocation of halibut PSC limits. The analysts assume that the Council could select different sets of qualifying years for halibut PSC allocation and for the groundfish catch history.

Vessels that are part of the CP sector may join a cooperative or remain in the Limited Access sector. Cooperative members must file an application with NMFS by November 1 of each year preceding the year in which the cooperative is in effect. That application would include a roster of members for the year, which allows NMFS to make allocations to cooperatives and the Limited Access sector. The Council's current set of alternatives provides two options that define the minimum standard to form a CP cooperative:

> Option 1: at least 2 separate entities (using the 10% individual and collective rule); and/or
> Option 2: at least [2 – 4] eligible LLP licenses that have qualifying catch history.

The elements of Alternative 2 that define quota transferability apply to both the Inshore and CP sectors. Those elements allow the transfer of catch history from one LLP license to another. As transfers occur, the number of LLP licenses that have catch history could be reduced. The analysts assume that LLP licenses that no longer hold qualifying catch history would no longer count toward the minimum cooperative formation requirement.

Alterative 2 allows annual CP sector allocations (including PSC) to be transferred to the Inshore sector, but Inshore allocations cannot be transferred to the CP sector. Because Alternative 2 allows annual quota allocations to be transferred at the species level, annual PSC limits may be transferred separately from the target species. The language of Alternative 3 does not provide direction on whether the same provision for transfer of annual PSC limit allocations are allowed to move from the CP sector to the Inshore sector, or vice versa. If the Council wishes to provide that option it would need to be added.

CP cooperatives would also be required to develop a cooperative contract signed by all LLP holders in the cooperative. The annual cooperative contract must include:

- Bylaws and rules for the operation of the cooperative,
- An annual fishing plan,
- An operational plan for monitoring and minimizing PSC, with vessel level accountability.

These cooperative contract requirements are fairly generic in regards to past Council actions. If the Council wishes to provide further direction or specificity to the list, it may do so at a future meeting. These issues would not require significant staff analysis, so it is not critical that they are added at this time.

1.2.2 Full retention of groundfish target species

Alternative 3 does not contain any options for additional directed fishery retention requirements beyond those that currently exist in regulation. Alternative 2, Element 1 (Observer Coverage and Monitoring) requires full retention of all allocated target species. The analysts assume that this would apply to both GOA trawl vessels that are members of cooperatives and to vessels operating in the Limited Access sector when the allocated target species are open to directed fishing. The Council also requested an evaluation of

the fleet's ability to meet the full retention requirement for allocated species if the prohibition for directed fishing for pollock and Pacific cod remains in effect from November 1 through December 31.

Both Alternative 2 and Alternative 3 would retain the Improved Retention/Improved Utilization (IR/IU) program requirements. Regulations at 50 CFR 679.27 define the IR/IU program. In the general, the owner or operator of a vessel that is required to obtain a Federal fisheries or processor permit (FFP or FPP) must retain IR/IU species based on the status of its directed fishery. IR/IU species in the GOA include pollock, Pacific cod, and shallow water flatfish species. Vessel operators must retain all IR/IU species when brought onboard a vessel if that species is open for directed fishing. Vessel operators that catch IR/IU species when *directed* fishing for that species is closed must retain those fish up to the maximum retainable amount (MRA). Retention of IR/IU species is prohibited when the *species* has been placed on prohibited status.

IR/IU regulations currently mandate the retention of all GOA pollock, Pacific cod, and shallow water flatfish species harvested when those directed fisheries are open. Under Alternative 2, if those species are allocated to an Inshore cooperative, those species are open to directed fishing as long as cooperative quota for that species is available and the directed fishery for that species is open by regulation. Members of a cooperative are required to stop fishing when the cooperative's quota, or any quota acquired via inter-cooperative transfer, is fully used.

The Rockfish Program has target fishery allocations that are subject to IR/IU and IR/IU species that are not allocated. Species that have full retention under IR/IU regulations (pollock, shallow-water flatfish), but are not a Rockfish Program cooperative allocation, are on "bycatch" status at all times when fishing for a Rockfish Program cooperative and full retention is required up to the MRA in Table 30 at 50 CFR 679, unless they are on PSC status and then no retention is allowed. That decision was made for the Rockfish Program to prevent vessels from using their Rockfish Program allocation to increase their catch of non-allocated species. In the proposed program those same motivations may not exist for all target fisheries. For example, if shallow-water flatfish are not allocated, it may not make sense to keep that fishery on "bycatch" status all year since there are no other sectors that would need to be protected against potential increases in effort.

Rockfish Program regulations supersede the IR/IU regulations. When vessels are fishing under the Rockfish Program there is a separate MRA table for Rockfish Program catches and species that are not allocated and are on bycatch status[10]. It may be appropriate for the Council to address how MRAs will be managed under the proposed GOA Trawl Bycatch program and which program takes precedence in which situations. NMFS will also need to know which species are allocated under the GOA Trawl Bycatch program before they can determine whether a separate MRA table for GOA trawl fisheries is needed. NMFS would prefer that MRAs defined in Table 10 at 50 CFR 679 continue to be used.

Under Alternative 2, the Council is considering allocating the primary species listed in Table 5. Of these species, pollock and Pacific cod are the only species covered under the IR/IU regulations. The rockfish species listed in Table 5 would be required to be retained under the GOA Trawl cooperative program requirements, if they are allocated as primary species.

[10] Table 30 at 50 CFR 679 that replaces Table 10 at 50 CFR 679

Table 5 Primary species considered for allocation to cooperatives under Alternative 2

Species	Area(s)
Pollock	610, 620, 630, and 640
Pacific cod	CG and WG
Northern rockfish	WG
Dusky rockfish	WG and WYK
Pacific ocean perch	WG and WYK

CG = Central GOA; WG = Western GOA; WYK = West Yakutat District
Note: CG Pacific cod allocated to RP as a Secondary Species would be deducted from amount available before allocations for the proposed program would be determined. CG rockfish are excluded from the table because they are allocated under the RP.

Fishing under the cooperative structure eliminates the need for sector-level closures of allocated target species.[11] Because each cooperative must manage its cooperative quota allocation, the cooperative would be required to stop *all* trawl fishing in the GOA when it exceeds its quota for any allocated species.[12] Day-to-day management of the cooperative allocation is the responsibility of the cooperative and not NMFS. NMFS reviews the cooperative's harvest relative to its allocation at the end of the fishing year. If the cooperative's catch exceeds its quota allocation then its members could be subject to an enforcement action at that time. Compliance is reviewed at the end of the fishing year because cooperatives would be allowed to acquire quota through inter-cooperative transfer to cover overages that may have occurred during the fishing year.

Table 6 lists the secondary species that could be allocated under Alternative 2, Element 3.b. These species are tiered as options that could be selected jointly or individually (refer to the Council's language in Appendix 1, found in Section 7 of this document).[13] Option 1 would allocate sablefish, and Option 2 would allocate secondary rockfish species. A suboption to Option 2 would allocate big and longnose skates. Secondary species listed in the table are not traditionally opened to directed fishing with trawl gear in the GOA, outside of the Rockfish Program.

[11] This statement applies when all eligible trawl vessels are members of GOA trawl cooperatives. If some members of the fleet opt to remain in the Limited Access sector, those vessels would still be subject to sector-level openings and closures of the directed fisheries for those target species.
[12] A cooperative could execute post-delivery transfers at market quota prices to cover any overage, or to extend its season of operation.
[13] If the Council selects Option 3 under Alternative 2, Element 3.b, no secondary species would be allocated. Rather, cooperatives would be charged with managing secondary species under MRA limits.

Table 6 Secondary species considered for allocation to cooperatives under Alternative 2

Species	Area(s)	2016 CG RP allocations*	Non-RP TAC 2016
Sablefish (trawl)	CG*, WG, and WYK	414 mt	3,609 mt (CG)[14]
Thornyhead rockfish**	CG* and WG	339 mt	649 mt (CG)
Shortraker rockfish**	CG* and WG	120 mt	181 mt (CG)
Rougheye/Blackspotted rockfish**	CG* and WG	416 mt	291 mt (CG)
'Other' rockfish	CG and WG	n/a	All
Big skates**	CG and WG	n/a	All
Longnose skates**	CG and WG	n/a	All

CG = Central GOA; WG = Western GOA; WYK = West Yakutat District
*Secondary species under CGOA RP are maintained.
** There is no WYK allocation - the allocations are for the entire Eastern GOA. The Other Rockfish category does have a WYK TAC, but is excluded from the secondary species allocations because of low levels of historical catch.

Table 7 lists the species that are open to directed fishing (excluding Rockfish Program species), but not proposed to be allocated under this program. Retention of shallow water flatfish would be required, as defined in the IR/IU regulations. That means that full retention would be required by cooperative members and by vessels operating in the Limited Access sector when shallow water flatfish are open to directed fishing. When shallow water flatfish are closed to directed fishing, all trawl vessels fishing in the GOA would be required to retain those species up to the MRA limit. All other species listed in Table 7 that are open to directed fishing would not be subject to full retention requirements under either IR/IU or under the proposed cooperative program.

Table 7 GOA species traditionally open to directed fishing with trawl gear, but not proposed to be allocated under Alternative 2

Species	Areas
Shallow water flatfish	CG, WG, and WYK
Deep water flatfish	CG, WG, and WYK
Arrowtooth flounder	CG, WG, and WYK
Rex sole	CG, WG, and WYK
Flathead sole	CG, WG, and WYK

CG = Central GOA; WG = Western GOA; WYK = West Yakutat District

Applying the November 1 – December 31 directed fishery closure for pollock and Pacific cod to cooperatives would require their members to retain pollock and Pacific cod up to the MRA and then discard any pollock or Pacific cod in excess of the MRA when directed fishing for flatfish or rockfish. Discarding these species would be required regardless of whether the cooperative held adequate quota to cover catches in excess of the MRAs. If the Council's intent were to allow the pollock and Pacific fisheries to remain open to directed fishing after November 1, so that cooperative members could retain pollock and Pacific cod above the MRA for those species, the impacts of this change would be addressed in more detail in the EIS and as appropriate in an ESA Section 7 consultation.
.

[14] The non-RP TAC for trawl is 391 mt. The remaining 3,218 mt is allocated to the IFQ program.

The analysts anticipate that cooperatives would reserve some pollock and Pacific cod quota to cover bycatch that might occur in the rockfish and flatfish fisheries after November 1. If a cooperative did not have quota to cover its pollock and Pacific cod bycatch, it would not be allowed to participate in those rockfish and flatfish fisheries even if it had PSC quota available. It is assumed that any pollock or Pacific cod that must be discarded would still count against the cooperative's quota limit. As a result of this requirement, cooperatives would likely need to save a portion of their pollock and Pacific cod quotas to cover the incidental catch of these species. Assuming that vessels could harvest rockfish and flatfish during this part of the year while remaining under their MRAs, reserving pollock or Pacific cod quota above the expected MRA levels would result in an inefficient use of cooperative quota.

Discards of GOA pollock and Pacific cod have been relatively low in recent years. The percentage of pollock discarded in the GOA during 2015 was less than 1% of the total pollock catch and less than 2% of Pacific cod was discarded. Allowing full retention over the MRA after November 1, may provide benefits to the fishing industry by reducing regulatory discards and increasing gross revenue at the ex-vessel and first wholesale levels, but will have a modest impact on the discard percentages. Additional information that shows discard amounts and rates in the pollock and Pacific cod fisheries will be provided in the EIS. That information is expected to provide greater detail in the differential in discards that occur when the pollock and Pacific cod fisheries are open and closed to directed fishing.

1.2.3 Increase GOA pollock trip limit (Option)

Element 4.a of Alternative 2 includes an option to increase the pollock trip limit from136 mt (300,000 lbs.) to 159 mt (350,000 lbs.). Participants testified that this measure would increase operational efficiency and mitigate a source of regulatory at-sea discards. The trip limit was established as a measure to slow down the pollock fishery and reduce the jeopardy that it might otherwise impose on Steller sea lions (SSL). Those testifying in favor of the option noted that the pace of the fishery is likely to slow under Alternative 2, relative to the status quo. Though any change to the SSL protection measures would need to be analyzed, the proposed 350,000 lbs. limit would still be at a level below the harvest rates that occurred before the measures were put in place. No modification the trip limit is proposed under Alternative 3.

NMFS would recommend that the Council consider an option to eliminate the pollock trip limit under Alternative 2. The voluntary cooperative structure under Alternative 2 may slow down fishing to provide sufficient temporal and spatial dispersion of pollock harvests, which may remove the need for the pollock trip limit regulation. The trip limit creates catch monitoring and enforcement challenges, which are described in Section 6 of this document. As described above, impacts of changes to the pollock trip limit regulation on the environment and ESA-listed species will be addressed in more detail in the EIS and as appropriate in an ESA Section 7 consultation.

1.2.4 Halibut PSC reductions for the CV and CP sectors (Option)

Both alternatives include options to reduce the total halibut PSC limit by up to 25% relative to the 2016 non-RP limit of 1,515 mt, phased in over two-year or three-year periods. However, the Council added a clause to Alternative 3, Element 3.b, stating that different percentage reductions can be selected for the CP and CV sectors. This option is not explicitly stated in Alternative 2.

1.2.5 PSC limit reduction for the Limited Access sector

Both alternatives define a Limited Access fishery for vessels that do not join a cooperative. In either case, the elements that define that fishery include options that would further reduce the amount of PSC that is available to Limited Access participants, over and above any other PSC limit reductions that are part of the program. The maximum possible reduction differs slightly between the alternatives. The Limited Access PSC reduction could be as much as 30% under Alternative 2, but only up to 25% under Alternative 3.

1.2.6 Basis for allocation of PSC quota to vessels/LLP licenses

Alternative 2 allocates PSC to cooperatives by the LLP licenses on which the member vessels are named. Groundfish species are first allocated according to retained catch history during the selected qualifying years. PSC is then allocated by taking each PSC limit (e.g., non-pollock non-RP Chinook salmon), apportioning that limit by area (WG or CG/WY) based on historical use, then allocating to each LLP in proportion to its relative amount of catch history in the target fisheries that are covered by that PSC limit.

Alternative 3 allocates PSC according to the number of vessels that are in a cooperative (or in the Limited Access sector). Existing PSC limits are apportioned by area, then allocated equally to each vessel that qualifies for a share. The area-PSC limits might be further subdivided into "PSC pools" based on some of the options that the Council could select from Element 4. Section 2 of this document provides an extensive discussion of the PSC allocation process under Alternative 3.

1.2.7 Vessel/License-holder affiliation with a processor

The nature of the cooperative affiliation between CVs and the shoreside processors is a key difference between the alternatives. This topic has been covered in most of the GOA trawl discussion papers produced since 2013, and will not be focused on as heavily in this document.

In short, Alternative 2 Elements 6.d (initial cooperative formation) and 6.f (cooperative contract elements) result in a program where LLP license holders and their vessels are placed in a cooperative with a shoreside processor based on historical delivery patterns[15], and must remain in that cooperative for at least the first two years of their participation in the Inshore cooperative sector of program. Harvesters are not obligated to deliver exclusively to the processor in their cooperative, though there will likely be a correlation between cooperative affiliation and delivery patterns. After two years, harvesters could move to another cooperative or to the Limited Access sector. While the Council would not set "exit provisions" for vessels that leave their initial cooperative, there is room for such provisions to exist in the cooperative contract.

[15] Recall the NOAA General Counsel (NOAA GC) offered an opinion at the October 2014 Council meeting, stating that the determination of initial cooperative affiliations based on historical delivery patterns constitutes an allocation of onshore processing privileges, and is not permitted under current law. NOAA GC stated that the Council could continue to analyze this formation structure, but that the Secretary of Commerce might not be able to approve it as a recommendation. NOAA GC advised that the Council consider alternative formation structures, but none have been defined for analysis at this point. NOAA GC's comments are fully summarized in Section 2.2.1 of the October 2015 discussion paper.

By contrast, Alternative 3 does not define cooperative formation, other than setting a November 1 deadline for vessels that pre-registered to participate in the fishery to join a cooperative and file a cooperative contract with NMFS. Presumably, vessels could choose to affiliate with a different cooperative (i.e., processor) after any year. The required contract elements (Element 4.f) do not reference terms for dissolving the cooperative. Even if they did, there could be no scenario where a vessel owner would have to "leave behind" some valuable access privilege, since PSC allocations are only issued on a one-year basis.

1.2.8 Inshore cooperative contract content and approval process

The Council has outlined required elements for Inshore cooperative contracts under Alternative 2 Element 6.f and Alternative 3 Element 4.f. The key differences between the required elements for each Alternative reflect the differences in the overall approaches to cooperative structure. Contracts under Alternative 2 would have to address issues like the dissolution of the contract if harvesters wish to leave the cooperative. Contracts under Alternative 3 do not address the movement of vessels between cooperatives, since the structure proposed under that alternative is less restrictive on affiliation. Instead, the requirements under Alternative 3 focus on the definition of provisions that promote active participation and limit the ability of a vessel (or the cooperative) from deriving economic benefits without making a good faith effort to take part in the fishery.

The Council included minimum contract approval thresholds under Alternative 2, but not under Alternative 3. Alternative 2 Element 6.e would require that no fewer than (options) 33%, 51%, or 80% of the LLP license holders who join the cooperative *and whose licenses hold qualifying catch history* must have signed onto the cooperative by the November 1 filing deadline in order for the cooperative to receive an annual allocation. (Another option would also require a signature representing the community where the processor-member of the cooperative is located.) The language of Alternative 2 does not currently describe what would happen if a cooperative attempts to form, but fails to gain the required number of members' signatures. It is assumed that the only option for these CVs is to participate in the Limited Access sector for the first two years of the program, since they would not be allowed to join another cooperative based on their historic delivery patterns.

1.2.9 Proportion of PSC quota controlled by a cooperative's processor-member (Option)

Both alternatives include options to give the processor member of an Inshore cooperative control over some portion of the cooperative's PSC allocation. The range for how much of the PSC a processor could control is quite different under each Alternative. Alternative 2, Element 6.b would allow the processor to control 10% to 40% of the PSC allocation, while Alternative 3, Element 4.b would set the range at 5% to 20%.

Potential uses and motivations for including processor-held PSC were discussed with regard to Alternative 2 in Section 2.2 of the October 2015 paper.[16] The Council might have a different rationale for including this option, depending on which alternative is ultimately selected.

[16] http://npfmc.legistar.com/gateway.aspx?M=F&ID=210f1587-0e38-47fa-af4d-3dcd04edf3ac.pdf

1.2.10 PSC quota incentive for cooperatives to join an inter-cooperative agreement (Option)

Alternative 3 includes a specific incentive for cooperatives to establish inter-cooperative agreements (ICA) to share information that can reduce bycatch and to "provide bycatch reduction incentives at the vessel level" (Element 4.e). Inter-cooperative agreements could form under Alternative 2, but there would be no allocation reward or impact.

As with most contracts, the contents are more important than its mere existence. It is likely that cooperatives would keep the contract simple and flexible, especially since it would need to be signed prior to the November 1 deadline and annual PSC allocations would not be known at that time (recall that annual allocations are affected by the number of vessels that register their intent to participate in the upcoming year, and that amount is not known until November 1). The directive to "provide bycatch reduction incentives" is somewhat ambiguous as to who is providing or defining the incentives. One could read this as meaning that the cooperatives must simply commit to providing vessel-level incentives within their own membership contract, or one could read that the cooperatives must jointly define incentive mechanisms and agree to them in the ICA. The latter interpretation would lead to a more complicated negotiation between cooperative managers, and could lengthen the annual formation process.

Section 2.3.1.3 of this document describes how this element fits into the PSC allocation process under Alternative 3.

1.2.11 Definition of "active participation"

Both alternatives define measures to promote active participation, or to limit the ability of individuals to benefit from the program without actually participating in the fishery. Element 8.c of Alternative 2 sets minimum participation levels for eligibility to purchase a trawl LLP license or catch history that is severed from another license. A suboption would apply those minimum requirements to the ability to retain catch history from year to year. This latter mechanism is the most direct way to promote continued active fishing by individuals that possess catch history, though it should be noted that having a minimum ownership stake in a trawl vessel[17] (options: 20% to 30%) meets the "participation" requirement and, thus, vessel owners who also hold catch history would not have to go out and fish every year in order to continue receiving annual cooperative allocations.

Alternative 3 addresses active participation under the guidelines for the contents of annual cooperative contracts (Element 4.f). Under that alternative, the Council would be relying on the cooperatives to develop their own measures to prevent non-active participants from collecting excessive rents from the program.

These issues were explored in greater detail in the February 2016 discussion paper.[18]

[17] In February 2016, the Council acknowledged the need to define a "trawl vessel" in regulation. The analysts presume that any vessel named on a trawl-endorsed LLP license is considered a trawl vessel for the purpose of this element. However, because any vessel smaller than the MLOA defined on LLP license could be named on the license, trawl vessel ownership may not correlate well with active GOA trawl fishery participation in the future.
[18] http://npfmc.legistar.com/gateway.aspx?M=F&ID=a02b1f46-1217-476c-abc5-6b61ee3ebab1.pdf

1.2.12 Mechanisms to limit consolidation

Both alternatives include measures to limit consolidation in the Inshore sector, but through different mechanisms. The range of elements that related to consolidation and community stability are listed in Section 3.1, and a discussion of current and potential participation trends is provided in Section 4.

Alternative 2, Element 8.a limits the harvest of individual target species quota by vessels, but PSC use is only limited by the amount of PSC quota that the vessel's cooperative holds, and any internal bylaws that the cooperative has developed. Element 8.a also includes an option to cap the amount of Inshore groundfish quota for a given species that a single plant can process in a year.

Alternative 3 has several indirect consolidation limits. Element 5 defines PSC transfer limits for persons[19] and for cooperatives. In theory, limiting the amount of PSC quota that an entity can give up or receive should prevent a situation where fewer vessels have the necessary PSC to prosecute the groundfish fishery. The tool only has that effect when PSC is, or is perceived to be, a constraint on the harvest of groundfish – which is expected to be the case in many years. One could also view the directive to cooperatives to define and report on measures that promote active participation as a measure to limit consolidation (see Element 4.f, also mentioned in the previous subsection).

1.2.13 Regional and specific delivery requirements

Only Alternative 2 would include regional delivery requirements or a port of landing requirement for Kodiak (Element 8.b). These measures are grouped with other options that the Council is considering as tools to promote community stability in the Inshore sector.

Table 8 shows where the processing occurred for the Inshore sector's GOA trawl harvest caught in each area. This information is provided for each of the qualifying periods under consideration. Element 8.b states that quota "regionalization" could be based on the delivery patterns displayed during the selected qualifying period, or on deliveries during 2011 and 2012. The table includes only shoreside deliveries, and excludes all catch made under RP cooperative quota. The percentages in these tables provide a good starting point if the Council wished to consider implementing regionalization requirements for shoreside landings of species allocated to Inshore cooperatives.

The only target species that are caught in the CG and processed outside of that area are pollock and Pacific cod. The practice of processing deliveries from the CG Pacific cod target fishery outside of the area increased in the most recent years considered. The 2011 through 2012 period shows that about 14% of CG Pacific cod was processed outside the CG. The extra-regional processing of CG Pacific cod during periods that include earlier years was never more than 5.82%, and as low as 3.71%. CG pollock fishery target catches were processed in the CG at a rate of about 96% to 97%, depending on the period of years. All other CG target fishery catches were processed exclusively in the CG area.

[19] Staff has asked if it is the Council's intent that the limit be applied at the level of "persons" (as defined in regulation at §679.2), or vessel. An individual, corporation, partnership, association, organized non-individual entity, and government can all be considered to be a "person".

Table 8 includes data for 2013 through 2015. Those are the most recent data available, but the years fall after the control dates that the Council has identified. The information for more recent years is provided to show the current state of the fishery, as required for analysis, but is not intended to indicate that the Council would modify the control dates. During those years, a greater proportion of the CG Pacific cod harvest (16.6%) was processed outside of the area than during other period considered. This represents 2.6% more Pacific cod being processed outside of the CG compared to 2011 through 2012, and a 12.9% increase over the 2003 through 2012 period. The most recent years also reflect a small increase in CG pollock being processed at WG plants. Some of that trend might be attributable to Trident Seafoods's practices of transporting and tendering pollock to its plants in Sand Point and Akutan; given Trident's recent investment in greater processing capacity in Kodiak, this trend might not be indicative of future expectations.

Almost all of the catch taken in the WG target fisheries was delivered to shoreside processors in that area (including Unalaska and Akutan). The small percentage of WG catch that was being processed by CG shoreside processors decreases as the qualifying period is restricted to more recent years. During the 2011 through 2012 period, all WG target catch was delivered to shoreside processors in the "WG" area.

Table 8 Percentage of target catch in an area by area processed

	CG Harvests		WG Harvests	
	Processed CG	Processed WG/Akutan/Unalaska	Processed CG	Processed WG/Akutan/Unalaska
Target Fishery	**2003-2012**			
Arrowtooth Flounder	100.00%	0.00%		
Deep Water Flatfish - GOA	100.00%	0.00%		
Flathead Sole	100.00%	0.00%	27.26%	72.74%
Other Species	100.00%	0.00%	0.00%	100.00%
Pacific Cod	96.29%	3.71%	0.01%	99.99%
Pollock - bottom	99.57%	0.43%	0.10%	99.90%
Pollock - midwater	96.95%	3.05%	0.00%	100.00%
Rex Sole - GOA	100.00%	0.00%		
Rockfish	100.00%	0.00%	100.00%	0.00%
Shallow Water Flatfish - GOA	100.00%	0.00%	0.00%	100.00%
All Targets	98.15%	1.85%	0.07%	99.93%
	2007-2012			
Arrowtooth Flounder	100.00%	0.00%		
Deep Water Flatfish - GOA	100.00%	0.00%		
Flathead Sole	100.00%	0.00%		
Other Species	100.00%	0.00%		
Pacific Cod	94.89%	5.11%	0.00%	100.00%
Pollock - bottom	99.34%	0.66%	0.11%	99.89%
Pollock - midwater	97.15%	2.85%	0.00%	100.00%
Rex Sole - GOA	100.00%	0.00%		
Rockfish	100.00%	0.00%	100.00%	0.00%
Shallow Water Flatfish - GOA	100.00%	0.00%		
All Targets	97.91%	2.09%	0.10%	99.90%
	2008-2012			
Arrowtooth Flounder	100.00%	0.00%		
Deep Water Flatfish - GOA	100.00%	0.00%		
Flathead Sole	100.00%	0.00%		
Other Species	100.00%	0.00%		
Pacific Cod	94.18%	5.82%	0.00%	100.00%
Pollock - bottom	99.14%	0.86%	0.11%	99.89%
Pollock - midwater	96.91%	3.09%	0.00%	100.00%
Rex Sole - GOA	100.00%	0.00%		
Rockfish	100.00%	0.00%		
Shallow Water Flatfish - GOA	100.00%	0.00%		
All Targets	97.62%	2.38%	0.05%	99.95%
	2011-2012			
Arrowtooth Flounder	100.00%	0.00%		
Deep Water Flatfish - GOA	100.00%	0.00%		
Flathead Sole	100.00%	0.00%		
Other Species	100.00%	0.00%		
Pacific Cod	86.01%	13.99%		100.00%
Pollock - bottom	97.97%	2.03%		100.00%
Pollock - midwater	96.10%	3.90%		100.00%
Rex Sole - GOA	100.00%	0.00%		
Rockfish	100.00%	0.00%		
Shallow Water Flatfish - GOA	100.00%	0.00%		
All Targets	95.82%	4.18%		100.00%
	2013-2015			
Arrowtooth Flounder	100.00%	0.00%		
Deep Water Flatfish - GOA	100.00%	0.00%		
Flathead Sole	100.00%	0.00%		
Other Species	100.00%	0.00%		
Pacific Cod	83.40%	16.60%		100.00%
Pollock - bottom	98.08%	1.92%		100.00%
Pollock - midwater	95.37%	4.63%		100.00%
Rex Sole - GOA	100.00%	0.00%		
Shallow Water Flatfish - GOA	100.00%	0.00%		
All Targets	95.07%	4.93%		100.00%

Source: AKFIN summary of NMFS Catch Accounting data.

Element 8.b of Alternative 2 includes an option for a Kodiak delivery requirement. Inshore target species quota that is allocated on the basis of CG catch history that was delivered to Kodiak would be designated for exclusive delivery to the port of Kodiak. Quota with the port of Kodiak delivery requirement must be delivered to a shoreside processor in the port of Kodiak. Table 9 reports the percent of retained catch from each target fishery and area that was delivered to the port of Kodiak, as defined by the "Intent to Operate" field in Fish Ticket data, which indicates the location of the processing facility.

Table 9 Percent of Inshore GOA retained catch processed in Kodiak, by target fishery and qualifying years

Harvest Area	Target Fishery	2003-2015	2003-2012	2007-2012	2008-2012	2011-2012
CG	Arrowtooth Flounder	100.0%	100.0%	100.0%	100.0%	100.0%
	Deep Water Flatfish - GOA	99.9%	100.0%	100.0%	100.0%	100.0%
	Flathead Sole	98.5%	98.2%	100.0%	100.0%	100.0%
	Other Species	95.5%	95.5%	96.7%	100.0%	100.0%
	Pacific Cod	90.3%	93.9%	91.4%	90.2%	82.7%
	Pollock - bottom	99.1%	99.6%	99.3%	99.1%	98.0%
	Pollock - midwater	93.6%	96.9%	97.1%	96.8%	96.0%
	Rex Sole - GOA	99.6%	100.0%	100.0%	100.0%	100.0%
	Rockfish	99.5%	99.4%	99.6%	99.5%	98.9%
	Shallow Water Flatfish - GOA	100.0%	100.0%	100.0%	100.0%	100.0%
CG All Groundfish		**95.6%**	**97.9%**	**97.6%**	**97.2%**	**95.5%**
WG	Flathead Sole	27.3%	27.3%	0.0%	0.0%	0.0%
	Other Species	0.0%	0.0%	0.0%	0.0%	0.0%
	Pacific Cod	0.0%	0.0%	0.0%	0.0%	0.0%
	Pollock - bottom	0.1%	0.1%	0.1%	0.1%	0.0%
	Pollock - midwater	0.0%	0.0%	0.0%	0.0%	0.0%
	Rockfish	100.0%	100.0%	100.0%	0.0%	0.0%
	Shallow Water Flatfish - GOA	0.0%	0.0%	0.0%	0.0%	0.0%
WG All Groundfish		**0.1%**	**0.1%**	**0.1%**	**0.0%**	**0.0%**
WY	Deep Water Flatfish - GOA	100.0%	100.0%	0.0%	0.0%	0.0%
	Other Species	100.0%	100.0%	0.0%	0.0%	0.0%
	Pollock - bottom	95.3%	96.0%	95.6%	95.5%	91.3%
	Pollock - midwater	81.8%	85.8%	87.8%	87.7%	78.7%
	Rockfish	82.6%	82.6%	79.4%	75.6%	73.9%
WY All Groundfish		**84.9%**	**87.9%**	**88.5%**	**88.1%**	**81.4%**

Source: AKFIN summary of NMFS Catch Accounting data

1.2.14 Opportunity for gear conversion

Only Alternative 2 includes an opportunity for "gear conversion" (Element 10). Gear conversion would allow allocated Pacific cod trawl quota to be fished with pot gear. This tool would allow vessels to harvest Pacific cod without accruing PSC towards its cooperative's limit. Some of the impacts and administrative catch accounting challenges were discussed in greater detail in Section 7 of the October 2014 discussion paper.[20]

Gear conversion is not included in Alternative 3. Alternative 3 does not provide cooperatives with a secure annual allocation of Pacific cod quota, so the fishery would still be prosecuted in a competitive limited access manner. Presumably, the Council has concluded that vessels would not take advantage of

[20] http://npfmc.legistar.com/gateway.aspx?M=F&ID=40ad31b4-d26e-495f-bbbc-e5750f9347ae.pdf

this tool unless their cooperative has an allocation, because pot gear would not typically be competitive with trawl gear in a race for fish.

In regards to Alternative 2, the April 2014 discussion paper noted that the Council has not yet stated whether a vessel without a trawl endorsement could acquire trawl groundfish quota through transfer and fish for Pacific cod with pot gear. If that is permitted, the Council should state whether that vessel would be subject to full observer coverage. Fishing quota that is allocated under a LAPP that includes transferable PSC limits typically triggers full observer coverage requirements, but the Council's alternative explicitly states that PSC taken with pot gear would not accrue to a PSC limit or a cooperative PSC allocation. The fact that PSC does not have to be accounted for could obviate the need for full coverage.

1.2.15 Removal and creation of sideboard limits

Element 12 of Alternative 2 states that existing GOA sideboards that control access to newly allocated species would be removed. If trawl entities receive allocations based on their historical participation, they would no longer need protection from harvest competition moving into the GOA from other rationalized fisheries. The Council also asked the analysts and NMFS staff to provide information on fisheries where new sideboards might be considered, such as the BSAI trawl limited access fisheries (Pacific cod and yellowfin sole) and the GOA fixed-gear Pacific cod fishery.[21] Stakeholders in those limited access fisheries have testified that rationalizing the GOA trawl fishery could create opportunities for vessels to expand their effort to times and areas where they did not historically fish. These issues have been covered in several GOA trawl discussion papers, most recently in Section 2.6 of the October 2015 paper.[22]

The existing network of sideboards would not be altered under Alternative 3. Groundfish would not be allocated under that alternative, so the program would not directly alter incentives or opportunities for effort to shift between fisheries, relative to the status quo.

1.2.16 Cost recovery and loan program

If the Council selects Alternative 2, the GOA Trawl program would be considered a Limited Access Privilege Program (LAPP). The Magnuson-Stevens Act (MSA) has special requirements for LAPPs, one of which is to implement a cost recovery and loan program (§304(d)). Cost recovery fees are collected to recover the actual costs that are directly related to the management, data collection, and enforcement of a LAPP; such a fee shall not exceed 3% of the ex-vessel value of the fish harvested under the program.

The cost recovery fee program was more fully described in Section 11 of the October 2014 discussion paper.[23] The cost recovery program includes a loan component as described in §304(d)(C) (i): *"Fees collected under this paragraph shall be in addition to any other fees charged under this Act and shall be deposited in the Limited Access System Administration Fund established under section 305(h)(5)(B),*

[21] As a housekeeping matter, the Council could remove the second paragraph from Alternative 2, Element 12. That paragraph directs staff to provide information on fisheries where new sideboards might be needed. The analysts have complied with this request, as noted in the following reference to the October 2015 discussion paper.
[22] http://npfmc.legistar.com/gateway.aspx?M=F&ID=210f1587-0e38-47fa-af4d-3dcd04edf3ac.pdf
[23] http://npfmc.legistar.com/gateway.aspx?M=F&ID=40ad31b4-d26e-495f-bbbc-e5750f9347ae.pdf

except that the portion of any such fees reserved under section 303(d)(4)(A) shall be deposited in the Treasury and available, subject to annual appropriations, to cover the costs of new direct loan obligations and new loan guarantee commitments as required by section 504(b)(1) of the Federal Credit Reform Act (2 U.S.C. 661c(b)(1)).”

The Halibut and Sablefish IFQ cost recovery program and the Crab Rationalization cost recovery program allow for the collection of actual management and enforcement costs up to 3% of ex-vessel gross revenues, and a loan program that uses 25% of the fees collected. Receipts from the Crab Rationalization cost recovery fee collection are deposited into two accounts. Twenty-five percent of the collections is deposited into the U.S. Treasury for a Fisheries Finance Program (loan program). Those funds are available to Congress for annual appropriations to support the BSAI Crab Quota Share Loan Program. The other 75% is deposited into the Limited Access System Administrative Fund. Funds in that account are available only to the Secretary of Commerce and must be spent on Crab Rationalization Program management and enforcement. If Alternative 2 is selected, the Cost Recovery fee for the GOA trawl program could also include setting aside 25% of collected fees for a loan program. Those funds could be used to allow specific groups of individuals, defined by the Council and NMFS, to access loans to purchase quota shares allocated under the GOA Trawl Bycatch Management Program.

The Fisheries Finance Program was established under the authority of the 1996 Sustainable Fisheries Act and is administered by the NMFS Financial Services Division. The program initially provided loan authority for the IFQ Program, but has since expanded to include loan authority for BSAI Crab QS. Funding for the loan program comes from IFQ and Crab Rationalization cost recovery fees. Up to 25% of the cost recovery collections are deposited in the U.S. Treasury. They are available to Congress for annual appropriations to support the loan program.

For the halibut and sablefish IFQ fisheries, the Fisheries Finance Program provides entry level fishermen and fishermen fishing from small vessels (Class B, C, or D) the opportunity to purchase IFQ or to refinance existing IFQ debt within the IFQ program. For the Crab Rationalization Program, the Fisheries Finance Program provides captains and crewmembers the opportunity to purchase crab quota shares or to refinance existing debt related to the purchase of crab quota shares. The halibut and sablefish loan program started in 1998 with a $5 million annual loan authority. The Crab Rationalization loan program became effective in January 2011. Together, these loan programs have $24 million of loan authority. The loan authority is annual, and the remaining loan authority is lost if a portion of the loan appropriation is not obligated during the fiscal year.

Both the IFQ and Crab Rationalization loan programs have eligibility requirements that loan-seekers must meet. By statute, the Fisheries Finance Program may only finance up to 80% of the cost of purchasing halibut, sablefish, and crab QS. This means that there is a minimum 20% down payment requirement for loans offered through the program. The loans have fixed interest rates set at 2% over the U.S. Treasury’s cost of funds. For example, if the cost of borrowing from the Treasury has a 2.18% interest rate at the time of loan closing, the total interest rate for the borrower would be 4.18%. The loans are long-term with maturities not exceeding 25 years. There is also an application fee of 0.5% of the financed amount. The applicant must pay the application fee at the time that they file their application for a loan.

As with any lending institution, the Fisheries Finance Program evaluates the credit risk of the applicant when determining eligibility for a loan. The agency requires proof of income including tax returns, financial statements, and catch reports to establish that the applicant's income is sufficient. Aside from income, applicants may also use secondary collateral (e.g., equity in a vessel, land, home, other fishing permits, or a co-signer) to meet the credit eligibility requirements for a loan.

The analysts' present understanding is that the program would not be considered a LAPP under the current form of Alternative 3. NMFS staff will continue to provide input on this determination as the form of the alternative continues to take shape.

2 Mechanics of Alternative 3

The purpose of this section is to walk the reader through the various mechanisms (options and suboptions) that, taken as a whole, would determine the annual PSC allocations to cooperatives and the Limited Access sector. The analysts identify assumptions that were made regarding the Council's intent in order to make the suite of options work together in a way that accounts for all of the available PSC quota, and that facilitates drafting implementing regulations. The annual quota allocation process needs to be structured in a way that functions no matter how vessels alter their individual choices from year-to-year – for example, by participating in different fisheries, entering the GOA trawl sector as a new vessel, or moving between the Limited Access sector and cooperatives.

The Council first introduced Alternative 3 in October 2015, and made several meaningful revisions in February 2016. Among the revisions, the Council removed an option to distribute a portion of the PSC according to "vessel capacity" and replaced it with an option that would consider "vessel dependency" (Element 4.b, Option 2). The Council also added an element that would carve out a portion of the total pool of the available PSC limits and allocate it to cooperatives that sign an inter-cooperative agreement to share member vessel bycatch rates on a tow-by-tow basis, and provide bycatch reduction incentives at the vessel level (Element 4.e).

When thinking about Alternative 3 in a broad sense, keep in mind that *annual* allocations are made on the basis of the planned participation and, to some extent, historical activity of a *vessel*. This stands in contrast to Alternative 2, where *semi-durable* quota allocations are made on the basis of historical groundfish catch associated with a particular *LLP license*.

The analysts intend for this section to read, in some sense, like a recipe or a set of assembly instructions. Certain steps might be included or excluded depending on which options the Council ultimately selects. Inputs – such as the size of a certain PSC pool at a given step – might change depending on how the Council affirms or refines the assumptions that the analysts have made along the way. Ideally, the "order of operations" described below should hold true under any selected set of options.

The two major steps for allocating PSC under Alternative 3 are: (1) apportion PSC between the CV and CP sectors[24]; and (2) annually allocate PSC to Inshore cooperatives via their member vessels (or to the

[24] This is the final step for CPs since the Council does not define CP cooperatives under Alternative 3.

Limited Access sector). Sections 2.1 and 2.3 address these steps in order. The following sections provide hypothetical examples of PSC allocation within the CV sector, identify administration and implementation issues flagged by NMFS staff, and highlight elements of Alternative 3 that might need further Council clarification at the June 2016 meeting.

2.1 Apportionment of PSC between CV and CP Sectors

2.1.1 Chinook salmon PSC

The apportionment of Chinook salmon PSC between the CV and CP sectors is already established by GOA Groundfish FMP Amendment 97, and the Inshore definition of the GOA directed pollock fishery.

Amendment 93 set a Chinook salmon PSC limit of 25,000 for the directed pollock trawl fishery. Because there is no directed pollock trawl fishery for CPs, all of this Chinook salmon PSC would be part of the PSC pool that is allocated amongst CVs that register their intent to participate in the fishery. By regulation, that limit is divided by area as follows: 18,316 Chinook salmon for the Central GOA, and 6,684 Chinook salmon for the Western GOA. Element 3.a includes an option to reduce the 25,000 Chinook salmon PSC limit by 25%, to 18,750. The analysts assume that this reduction would be proportional by area, resulting in a limit of 13,737 Chinook salmon for the Central GOA and 5,013 for the Western GOA.

Amendment 97 set a 7,500 Chinook salmon PSC limit for the GOA non-pollock trawl fisheries. Of that, 3,600 Chinook salmon are apportioned to the CP sector. That amount supports the CP sector's Pacific cod, flatfish, rockfish, and Rockfish Program (RP) activity, and would be unchanged by this action. By contrast, Amendment 97 apportioned 3,900 Chinook salmon to the non-pollock CV sector. After removing 1,200 from that amount for the RP CV fishery, 2,700 Chinook remain to support the sector's Pacific cod and flatfish activity.[25] That amount is not apportioned in regulations between the Central and Western GOA. Before being allocated to vessels under Alternative 3, this particular PSC limit of 2,700 Chinook salmon will be apportioned by area (CG/WY vs. WG) based on the selected qualifying years, as stated in Element 4.b.

2.1.2 Halibut PSC

Element 3.b.i states that halibut PSC will be divided between the CV and CP sectors according to historical use during the selected qualifying period. This element clarifies which vessels should be included in the CP sector when defining that sector's PSC apportionment.[26] All vessels acting as CPs are included in that sector; those CPs must have a valid CP license to both harvest and process fish onboard the vessel. The language of the element clearly states that vessels may only be in one sector. Vessels with a CP license must choose to act as either a CV or CP under this program. That selection does not change the vessel's designation in the RP, in BSAI trawl fisheries, or in fisheries using other gear types. If a vessel with a CP license is designated by the owner as an Inshore CV, the vessel must remain in that sector during all future years. The halibut PSC quota associated with that vessel would be annually

[25] As well as any directed CV rockfish fishery that might develop in the Western GOA in the future.
[26] The Council may wish to expand this definition, as described later in this section.

allocated to the Inshore cooperative of which the vessel is a member, or to the Limited Access sector if the vessel chooses not to join a cooperative.

Element 3.b.iii states that all GOA CPs will operate under a shared halibut PSC limit that is not divided by area (CG/WY vs. WG). This is similar to the status quo, except that the GOA-eligible CPs would have a defined sector-level apportionment rather than a sideboard limit. If there were to be any provision for rolling over unused halibut PSC from the CP sector the CV sector at a particular point in the year, the Council would need to add that language to the alternative and provide direction as to how the PSC would be distributed amongst vessels in Inshore cooperatives and vessels in the CV Limited Access sector. As noted in footnote 8 in Section 1.1, any transfer of PSC from the CP sector to Inshore cooperatives would have to be executed by NMFS and noticed in the Federal Register.

Table 10 shows the average percentage of GOA halibut PSC usage by month and the unique number of CPs that were active in the fisheries over the 2010 through 2015 period. The table was generated to show monthly PSC usage to provide information on the when PSC was being used and in which CP fisheries.

Table 10 Catcher/Processor Halibut PSC usage and vessel counts by month and target fishery, 2010 through 2015 combined

	Month												
	01	02	03	04	05	06	07	08	09	10	11	12	Total
Halibut PSC													
Arrowtooth Flounder	1%	2%	1%	38%	8%	4%	9%	7%	6%	11%	13%	2%	100%
Flathead Sole	0%	6%	11%	17%	22%	1%	0%	8%	0%	5%	9%	20%	100%
Rex Sole	0%	6%	11%	56%	14%	1%	4%	1%	3%	1%	2%	1%	100%
Rockfish	0%	0%	0%	0%	0%	0%	74%	9%	2%	11%	4%	0%	100%
Shallow Water Flatfish	0%	0%	1%	9%	17%	9%	5%	19%	7%	13%	14%	5%	100%
All listed target fisheries	*0%*	*3%*	*5%*	*36%*	*10%*	*3%*	*12%*	*6%*	*5%*	*8%*	*9%*	*3%*	*100%*
CP Vessel Counts													
Arrowtooth Flounder	1	1	1	7	4	2	5	5	4	5	5	1	8
Flathead Sole		2	3	5	1	1		1		2	2	2	5
Rex Sole		1	3	6	3	1	2	1	1	1	2	1	6
Rockfish				1	1		18	3	2	5	2		18
Shallow Water Flatfish			1	1	1	1	1	1	1	1	1	1	1
All listed target fisheries	*1*	*2*	*4*	*8*	*5*	*2*	*19*	*5*	*4*	*9*	*6*	*2*	*19*

Source: AKFIN summary of NMFS catch accounting data
Note: excludes Rockfish Program PSC usage

For the purpose of apportioning halibut PSC between the two sectors, the Council should address the issue of how to treat the activity of CVs that were delivering to motherships (or to CPs acting as motherships) during the qualifying years. CVs are not considered to be part of the Inshore sector when acting in that manner. At present, and without further direction from the Council, the analysts are assuming that the historical PSC use of these vessels would accrue towards the CP sector apportionment, and that they would be required to deliver any future catch under this program to the Offshore sector. If the vessel owner *elects* to be part of the Inshore sector prior to implementation, their historical use would be credited towards the Inshore sector's halibut PSC apportionment, and any future catch under this program would have to be delivered to a shoreside processor.

Before any PSC apportionment is calculated, the program would account for any halibut PSC reduction that might be selected under Element 3.b.ii. The analysts assume that any halibut PSC reduction would be applied to the Inshore and CP sectors *proportionally*.

2.2 Allocation of the Halibut PSC limit within the CV sector

The first step in determining the halibut PSC limit for, and within, the CV sector is to allocate an amount of the total non-Rockfish Program PSC limit (1,515 mt, or as reduced by Element 3.b) to the CP sector. That amount is determined by historical use, as described above in Section 2.1; the CP sector would receive their own halibut PSC limit, as opposed to the shared sideboard limit with the CV sector under the status quo structure.

The allocation of the halibut PSC limit within the CV sector will depend on two factors that could vary annually: (1) how many vessels choose to join a cooperative (as opposed to the Limited Access sector), and (2) the characteristics of those vessels, in terms of their GOA dependency and whether their cooperatives are signed onto an inter-cooperative agreement. (The effects of those latter characteristics are described in Section 2.3.) Because the set of vessels that remain in Limited Access will continue to fish under the system of seasonal and complex-based PSC limits (5 seasonal apportionments, with deep-water and shallow-water PSC divisions for the first 4 seasons), the annual allocation process will always need to start with a table that resembles the current specifications table for GOA trawl halibut PSC.[27] Once all of the halibut PSC limit that is allocated to vessels that join cooperatives is removed, a 5-season/2-complex structure of Limited Access halibut PSC limits must remain. The amount of PSC in each of those 9 "boxes" would depend the number of vessels that do not join cooperatives. By the same logic, a vessel that joins a cooperative would be allocated a pro-rata share from each of the 9 boxes, but once that PSC limit is assigned to a cooperative it may be used in any season or complex.

Several outstanding questions remain:

- How to treat halibut PSC sideboard limits for non-exempt AFA CVs that remain in the Limited Access sector, how those revised sideboard amounts might be determined, and whether any sideboard should apply to non-exempt AFA CVs that join GOA trawl cooperatives. These issues are described in Section 2.2.1.
- Whether and how to pre-determine the deep-water complex halibut PSC apportionment for the 4th season (Sept. 1 – Oct. 1), which is currently defined as "any remainder" from the full amount that is apportioned to the shallow-water complex for that season. This amount might not need to be pre-determined, if one assumes that the full amount for the 4th season – 128 mt in 2016 – is allocated among all the vessels and the Limited Access remainder is treated with the same "any remainder" approach that is currently used for apportioning halibut between the two species complexes.
- How to treat the rollover of halibut PSC from the Rockfish Program's allocation to the 5th halibut PSC season. This issue is further discussed in Section 2.7.1. The Council might also wish to address whether any of the RP halibut PSC that is currently available for use by RP CPs (under a sideboard limit) is eligible for rollover to GOA trawl CV cooperatives.

[27] See Harvest Specifications Table 15 at: https://alaskafisheries.noaa.gov/sites/default/files/16_17goatable15.pdf

- Whether the "vessel dependency" threshold for halibut PSC (Element 4.b, Option 2) is determined separately on the basis of participation in deep-water and shallow-water complexes, and whether mid-water pollock history should be considered when assessing the threshold (or the shallow-water complex threshold). This issue is discussed further in Section 2.3.1.1.

2.2.1 AFA CV sideboard limits for halibut PSC

When the AFA program was implemented, the Council established sideboard limits for halibut PSC in GOA trawl fisheries for a certain set of "non-exempt" AFA CVs. Non-exempt AFA CVs are limited to 34% of the shallow-water complex halibut PSC limit and 7% of the deep-water complex halibut PSC limit in each of the first four halibut PSC seasons. The non-exempt AFA CV halibut PSC limit is 20.5% of the fifth season limit, which is not divided between the deep-water and shallow-water complex.[28]

Under the proposed GOA cooperative program as defined in Alternative 3, vessels that join a cooperative are only limited by their cooperative's halibut PSC allocation. This also applies to the non-exempt AFA CVs that join cooperatives, meaning that those non-exempt vessels would receive the same allocation as any other GOA CV that meets the requirements for the proposed allocation mechanisms described below (i.e., equal shares, dependence, and inter-cooperative agreements). Vessels that opt to fish in the Limited Access sector will be subject to the current rules that apply to them (aside from the potential for further off-the-top PSC limit reductions). Under Element 6, Option 1, the PSC limit for the Limited Access sector is available to all vessels in the sector, and is used competitively. The Council should consider whether it wishes to maintain a halibut PSC sideboard limit for the non-exempt AFA CVs, and, if so, how that limit would be determined. There are two reasons to reconsider the percentage of halibut PSC that can be used by AFA non-exempt CVs:

1. Under this program, halibut PSC limits will be divided – or allocated – between the Inshore and Offshore sectors, whereas the previous sideboard limit was calculated as a percentage of the total amount of PSC available to both sectors.
2. The existing sideboard limit percentages are based on historical use by all AFA non-exempt CVs during a qualifying period. It is assumed that some, if not all, AFA non-exempt CV will join a GOA cooperative.

The simplest way to retain AFA non-exempt CV sideboard limits would be to set the halibut PSC limit equal to the aggregate amount of halibut PSC that AFA non-exempt CVs contributed to the Limited Access sector *in that year*. This would require NMFS to make an annual calculation based on registry to join cooperatives, and to monitor potentially small sideboard amounts in the Limited Access sector. The analysts assume that if the PSC sideboard amount is too small then NMFS might not open directed fisheries to those sideboarded Limited Access vessels.

2.3 Annual PSC Allocation to Catcher Vessels

Once the halibut and Chinook salmon PSC limits for the Inshore CV sector have been established, the next step is to allocate that available PSC across individual vessels according to the options that have been selected (under Elements 4.b, 4.e, and Alternative 4). Ultimately, each vessel would have an amount

[28] See Harvest Specifications Table 20 at: https://alaskafisheries.noaa.gov/sites/default/files/16_17goatable20.pdf

of halibut and Chinook PSC attached to it for the year, and would carry that amount of the PSC limit to either a cooperative or to the Limited Access sector.[29] Each vessel's annual PSC allocation is determined by the sum of the PSC limit amounts from each **PSC pool** for which that vessel qualifies.

The concept of "PSC pools" is central to how the analysts are approaching Alternative 3. Distinct fishery- and area-based PSC limits already exist in regulation. The analysts presume that the equation for distributing PSC among vessels – the mix of selected options, or "mechanisms" – would be applied to each existing PSC limit separately, and would be summed to result in the annual allocation that a particular vessel brings to a cooperative (or the Limited Access sector). Refer to Figure 1, below, for a visual representation of PSC pools. Each circle in the figure represents an existing PSC limit (e.g., Chinook PSC for the Central GOA pollock fishery, or annual halibut PSC for the GOA non- RP trawl CV sector). Each section, or "slice," of the limit is a PSC pool, as determined by the allocation percentages identified by the Council for each selected mechanism (see Table 11). A vessel "draws" an equal share of PSC from each pool for which it qualifies; the size of that draw is determined by the number of vessels that qualify for that pool in that year. Qualification is determined by declaring an intent to participate during the upcoming year in a GOA trawl fishery that is capped by an existing PSC limit, depending on the options selected[30], and other factors such as having joined a cooperative or meeting a dependency threshold.

The Council has proposed four different mechanisms that would affect how the various PSC limits are allocated to vessels. These mechanisms could be selected in many combinations:

1. Equal shares (Element 4.b, Option 1)
2. Vessel dependency (Element 4.b, Option 2)
3. PSC allocated to cooperatives that sign an inter-cooperative agreement (Element 4.e)
4. Community Fisheries Associations or Adaptive Management (Alternative 4)

For each of the four allocation mechanisms, the Council has assigned percentage ranges of the PSC limit – which the analysts have interpreted to mean *each* PSC limit – that would be allocated on that basis (Table 11). The analysts presume that the percentages associated with each selected mechanism must, in the end, add up to 100 percent.

Note that Element 4.b, Option 3 (Processor-held PSC) is included in the alternative in a way that looks similar to the four allocation mechanisms listed above, but the analysts interpret it as affecting the allocation of PSC at a different step in the "order of operations." Option 3 directs the control of PSC quota *after* PSC has been allocated amongst the cooperatives (according to their vessel membership) and the Limited Access sector. This is further explained in Section 2.3.1.2.

[29] Per Element 6, a CV that chooses not to join a cooperative is in the Limited Access sector. That vessel might have an individual PSC limit (Element 6, Option 2), or might fish competitively under a PSC limit that is shared amongst all of the vessels that pre-register to trawl in the GOA by November 1, but do not join a cooperative (Element 6, Option 1).

[30] For example, if the Council only selects Element 4.b Option 1 (equal shares), without the suboption, a vessel would qualify for a PSC allocation by declaring an intent to participate in *any* GOA non-Rockfish Program trawl fishery.

As reflected in Table 11, the analysts presume that Element 4.b, Option 1 (equal shares) is the mechanism by which all remaining PSC quota would be allocated across vessels after accounting for all other selected mechanisms. Whether that calculation includes the percentage that might be selected under Alternative 4 (CFA/AM) could affect the size of the PSC pools that are being allocated, and thus the size of each vessel's allocation (as illustrated below in Table 12).

The Council has not yet specified whether different allocation percentages could be selected for the pools that exist within each existing PSC limit. For example, the Council might specify that vessel dependency governs the distribution of 20% of the Central GOA pollock fishery's Chinook salmon PSC limit, but only 10% of the halibut PSC limit. Selecting lower allocation percentages means that a larger share of the available PSC is annually distributed across all active vessels based on "equal shares."

Table 11 Range of PSC allocation percentages for each proposed mechanism

Mechanism	Range
Vessel Dependency	10% - 50%
Inter-Coop. Agreement	5% - 20%
CFA/AM	5% - 15%
Equal Shares	Remainder

Table 12 illustrates why it matters whether the CFA/AM PSC pools (5% to 15% of the PSC limit) are taken "off the top" or is just another factor in the mix of selected allocation mechanisms. Consider a scenario where all four mechanisms are selected and there are 1,000 "units of PSC" to be allocated across vessels that are in cooperatives. Method 1 illustrates the interpretation that Alternative 4 (CFA/AM) is treated the same as the other mechanisms – that it is another slice of the proportional-allocation pie. Method 2 illustrates the interpretation that the PSC for Alternative 4 is set aside *before* proportionally allocating according to the other mechanisms. For this example, the selected allocation percentages (from the ranges in Table 11) are the same. The difference between 100% and the sum of the selected allocation percentages makes up the "equal share PSC pool." The grey boxes in Table 12 contain the set of allocation percentages that must sum to 100%. The difference between the methods is that the CFA/AM percentage is not part of that summation in Method 2. The effect is that each of the "grey" percentages in Method 1 are applied to the entirety of the 1,000 PSC units being allocated, and the "grey" percentages in Method 2 are applied to 900 PSC units (1,000 minus the 100 units that were previously set aside for CFA/AM). This affects the size of the non-CFA/AM pools and, under Method 2, the amount of the remaining pool that is allocated according to "equal shares."

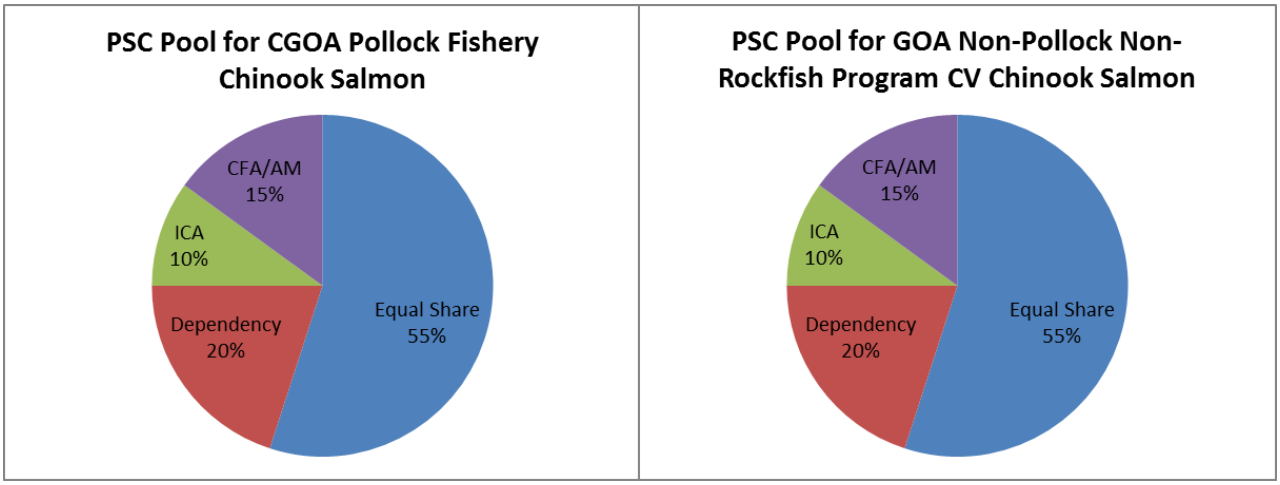
Table 12 Two interpretations of how to treat PSC allocation to cooperatives if Alternative 4 is selected

Mechanism	Method 1		Method 2	
	Percentage	PSC Pool	Percentage	PSC Pool
CFA/AMP	10%	100	10%	100
Dependency	30%	300	30%	270
Inter-coop Agrmt.	10%	100	10%	90
Equal share	50%	500	60%	540
Total PSC		**1,000**		**1,000**

Note: Processor shares are not included in the allocation to cooperatives, because the PSC they control (if any) is based on the amount that vessels bring to the cooperative.

The language in the two options under Alternative 4 varies slightly, but it is not clear to the analysts that the Council was expressing a specific intent through its choice of words. Option 1 (CFA) states: "Element 1: **Allocate** 5% - 15% of the fishing quota for all species allocated to CVs under the program […]." Option 2 (AM) states: "Adaptive Management Program: **Set-aside** 5% - 15% of fishing quota for all species allocated to CVs under the program […]" (emphasis added). Unless otherwise directed, the analysts interpret these phrases to have the same meaning, which is that the allocation made under Alternative 4 is treated the same as any percentage allocation defined by the elements in Alternative 3. In other words, the 5% to 15% for the CFA or Adaptive Management is just another factor in the mix of mechanisms whose percentages must sum to 100%, as illustrated by Method 1 in Table 12. The analysts do not see any policy significance in which interpretation the Council selects, but a selection must be made. For the purpose of this paper, the analysts are using Method 1 because it is intuitive and simpler, albeit not by a large margin. *The Council should confirm or revise this assumption at the June meeting*.

Figure 1 Hypothetical PSC pools for two of the existing Chinook salmon PSC limits



Note: that the allocation percentages used in the figure are simply examples, and do not indicate a Council preference. The figure reflects the "Method 1" interpretation of how to treat CFA/AM PSC quota. The size of the pools (slices) within each of two these PSC limits is the same because the analysts are assuming that the Council is not selecting different allocation percentages for each PCS limit; however, the Council could take that approach.

Staff also assumed that CFA/AM PSC assigned to the cooperative would be subject to the processor control provision in this discussion paper. Because CFA/AM PSC is treated differently in terms of who controls the PSC and its allocation to vessels, the Council should clarify its intent regarding whether any portion of the CFA/AM PSC is subject to processor control after it is brought into a cooperative. The current language of the alternative indicates that if a vessel is a member of a cooperative, 5% to 20% of the PSC it brings to the cooperative could be controlled by the processor that is associated with the cooperative. This language makes no distinction between PSC brought into the cooperative as a result of the CFA/AM programs and other allocation methods.

2.3.1 Further Detail on PSC Allocation Mechanisms

The following subsections provide some finer detail on several of the allocation mechanisms, and explain some of assumptions made by the analysts in interpreting the language of the alternative.

2.3.1.1 Vessel Dependency PSC

Element 4.b, Option 2 reads as follows:

> *Apportion (Option: 10% - 50%) halibut PSC and Chinook salmon PSC limits to each cooperative on a pro rata basis relative to the dependency on GOA trawl groundfish by species (pollock, flatfish, and Pacific cod) and area (WG and CG/WY) of the vessel assigned to the cooperative member's LLP the 3 prior years. The remaining PSC would be distributed based on equal shares. The vessel's dependency on GOA trawl groundfish, by species and area, is established by affidavit at the time of filing intent to join a cooperative or participate in the Limited Access fishery. Dependency on GOA groundfish is based on a threshold of (Option: 25% - 75%) of total pounds landed, by species and area, in GOA trawl groundfish fisheries.*

The core principle of the dependency option is to associate a relatively greater amount of cooperative PSC quota with vessels that have a defined level of reliance on GOA fisheries, as opposed to trawl fisheries in the BSAI, for their Alaska groundfish trawl harvest operation. Based on that thinking, vessels that make a few hauls when transiting through the GOA on the way to the BSAI should not qualify for an equal amount of PSC quota – particularly if those deliveries are primarily being made for the purpose of receiving a larger PSC limit allocation. The threshold is a minimum proportion of pounds landed in a GOA trawl fishery compared to the total number of pounds landed in all Alaska trawl fisheries of that type.[31] Limiting the landings used in the threshold calculation to those made with trawl gear is a fairly narrow definition of dependency[32]; the Council would need to provide direction to staff if the intent was to consider vessels' groundfish landings with other gear types in the denominator of the threshold calculation.

The language of the option leads the analysts to assume that whatever portion of each PSC limit is designated as dependency-based quota (10% to 50%) is allocated only to vessels that join cooperatives. The options states: "Apportion […] PSC limits *to each cooperative* […]" (emphasis added). In that sense, dependency quota is an "off the top" reduction to the amount of PSC that is available to the Limited Access sector.

As fits with the analysts' working understanding of PSC pools, a vessel's "dependency" should be assessed separately at the level of each fishery for which a PSC limit is already established in regulation. One should think of separate pools of dependency-based PSC quota, as illustrated in Table 13. Vessel owners who join a cooperative would qualify to receive an equal share of PSC quota from a "dependency

[31] This equation represents the basic scheme for calculating dependency:

$$\boldsymbol{Eq.1}\ \frac{Lbs.GOA\ Trawl}{(Lbs.GOA\ Trawl + Lbs.BSAI\ Trawl)} \geq Threshold\ [25\%, 75\%]$$

[32] It excludes harvests of other gear types, harvests from outside Alaska, harvests in State fisheries, and dependence on salmon tendering.

pool" by submitting an affidavit stating that the vessel named on their LLP has been credited with sufficient landings (by weight) to meet the threshold for a that pool.[33] NMFS could investigate and verify claims made on the affidavit, but any investigation would occur after the fact (refer to Section 2.6 for NMFS's general recommendations regarding the timing and combination of affidavit submission).[34] For the purpose of analysis – the exercise of determining how many vessels might qualify[35] for an equal share of PSC quota from the dependency pools based on historical landings – the analysts will use Catch Accounting System (CAS) data and treat the threshold as if it were assessed and verified for each vessel when making annual PSC allocations.[36]

The various thresholds would be judged based on landings during the three years prior to the year for which PSC quotas are being issued.[37] The analysts assume that "prior" years do not include the present year during which the dependency affidavit is being submitted to NMFS for an allocation in the next year. The dependency threshold for each PSC pool would be assessed looking only at landings on Alaska trawl trips that targeted the species that are managed under that PSC limit. For example, the dependency threshold for the pollock fishery Chinook salmon PSC limit is assessed by relating landings from GOA trawl gear trips targeting pollock to landings from BSAI trawl pollock target trips.[38] Similarly, the threshold for the dependency pool within the GOA non-pollock non-Rockfish Program (NPNR) CV sectors Chinook salmon PSC limit would be assessed by relating GOA NPNR trawl landings to the BSAI trawl landings of non-pollock groundfish.[39] Note that CG/WY and WG are considered jointly when assessing whether or not a vessel meets a GOA dependency threshold; the rationale for this interpretation is described below.

The Council's motion defines dependence on GOA groundfish fisheries by species: pollock, Pacific cod, and flatfish. This paper defines dependency pools as a subset of each existing PSC limit that is allocated

[33] Whether or not different thresholds could be established within the 10% to 50% range for different pools might need to be defined.

[34] Accountability measures might need to be defined.

[35] Historical activity may not be a good indicator of the number of vessels that would qualify for an allocation from the dependency pool, since those years of activity are not expected to be used in the determination of dependence.

[36] Council staff would rely on Catch Accounting and AKFIN trip target designations for several reasons. First, AKFIN data includes "program flags" that would help us exclude, for example, RP catch when assessing the dependency pool linked a separate PSC limit (e.g., the non-pollock non- RP CV sector Chinook salmon PSC limit of 2,700 fish). Second, fish ticket data on landings of a given species would not necessarily tell us which "fishery" the vessel was in – and which PSC limit it was fishing under – when it landed some amount of non-pollock species. Some amount of non-pollock species is caught in the directed pollock fishery, and some amount of non-rockfish species is caught in the RP fishery.

[37] The Council's motion states that the "3 prior years" would be considered, but there was some discussion on the record that one or two years could be selected instead. In either case, the analysts assume that the threshold would be judged on the basis of the most recent years, and not a choice of one or two years from the most recent set of three.

[38] $\boldsymbol{Eq.2}$ $\frac{Lbs.GOA\ Trawl_{pollock\ targets}}{(Lbs.GOA\ Trawl_{pollock\ targets}+Lbs.BSAI\ Trawl_{pollock\ targets})} \geq Threshold\ [25\%, 75\%]$

[39] $\boldsymbol{Eq.3}$ $\frac{Lbs.GOA\ Trawl_{NPNR}}{(Lbs.GOA\ Trawl_{NPNR}+Lbs.BSAI\ Trawl_{non-pollock\ targets})} \geq Threshold\ [25\%, 75\%]$

to qualifying vessels that join cooperatives. Chinook salmon PSC limits are divided by species groups (pollock, non-pollock non-Rockfish Program CV sector, and Rockfish Program CV sector); the Chinook PSC limits for pollock and the Rockfish Program CV sector are already divided by area. These definitions match fairly well with the Council's motion to consider dependence based on pollock, Pacific cod, and flatfish species. The primary difference is that dependency pools combine Pacific cod and flatfish into a single dependency group (non-pollock non-Rockfish Program CVs). If the Council wishes to establish separate dependency groupings for Pacific cod and flatfish Chinook salmon PSC limits, the proposed dependency pools could be divided based on historical Chinook PSC usage in the Pacific cod and flatfish directed fisheries, as defined by trip targets in the CAS. Those pools would then be allocated to vessels that meet the dependency threshold established by the Council for each species or species group. Establishing separate dependency pools for the two non-pollock species groups adds a step in the allocation process. The Council should instruct staff as to whether that procedure is a better way to meet the program objectives.

The language of Element 4.b itself, as well as the description of Option 2, state that PSC is "divided" or "apportioned" *by area*. The basic premise of dividing the total amount of available PSC quota by area is to meet historical PSC-demand, as defined by the selected qualifying years. Determining "dependency" on an area-basis creates a problem in regards to the dependency threshold model described above (and in Equation 1, footnote 31). Consider a vessel that trawls in the Central GOA, Western GOA, and BSAI. This vessel might historically catch 85% of its trawl-groundfish in the GOA and 15% in the BSAI. On a GOA vs. BSAI basis, this vessel meets any GOA dependency threshold, the options for which range from 25% to 75%. However, that vessel's *GOA groundfish* (85% of the total) is split between the Central and Western GOA. If the vessel's GOA groundfish landings are distributed 80% in the Central GOA and 20% in the Western GOA, then the vessel might not meet a dependency threshold in the Western GOA if dependency is assessed *by area*.[40] The vessel in question would likely be a member of two processor-affiliated cooperatives, one in the Central GOA and one in the Western GOA. This vessel would bring less PSC quota to the Western GOA cooperative, purely as a function of the fact that its GOA catch distribution tends more heavily towards one of the subareas. This may or may not be the Council's intent.

Having consulted with State of Alaska and NMFS staff, the analysts have made the following assumption about what it means to allocate or divide PSC by area. First, each vessel will be determined to have either qualified or not qualified as "GOA dependent" for each fishery or set of fisheries that is governed by an existing PSC limit. For our purposes, these would include (1) the directed GOA pollock trawl fishery (for Chinook salmon PSC), (2) the CV non-pollock non-Rockfish Program fishery (for Chinook salmon PSC), and (3) GOA trawl fisheries, excluding mid-water pollock (for halibut PSC limits) . It might also make sense to treat the halibut PSC limits for the deep-water and shallow-water species complexes as separate PSC pools.[41] Simultaneously, each PSC limit – and the subset that makes up the dependency pool for that

[40] 20% of 85% is equivalent to only 24% of 100%.

[41] Halibut PSC limits are divided by the deep-water and shallow-water complex for the first four seasons. The fifth seasonal apportionment does not divide halibut PSC between the two complexes. If halibut PSC limits are not divided by deep-water and shallow-water complex it will have distributional impacts, benefiting persons that fish primarily shallow-water complex species. If the PSC limit was divided it would require the person to fish in the arrowtooth flounder or another deep-water fishery to access that PSC pool. Without that division everyone that fishes for pollock or Pacific cod (or other shallow-water complex species) would qualify for PSC pool limits that was

limit – is divided by area based on historical PSC use during the selected qualifying period.[42] The result is area-specific dependency pools for each existing PSC limit. Vessels that complete the following tasks by November 1 are then allocated an equal share from each dependency pool for which it qualifies:

- Join a cooperative;
- Register intent to participate in specific fisheries (by area);
- Submit an affidavit to NMFS stating which dependency thresholds the vessel meets. (*Note that, as the calculations for determining vessel dependency become more complicated, the likelihood that vessels will request NMFS staff to review their dependency history increases*.)

Evaluating vessel dependency separately for each existing PSC limit makes clear sense for the allocation of Chinook salmon PSC, since those limits are already divided between pollock and non-pollock fisheries. The halibut PSC limit is not divided by deep-water and shallow-water directed trawl fisheries for the entire year, or by area, but it does have a carve-out for the Central GOA Rockfish Program. The analysts' current interpretation requires that the total amount of halibut PSC be divided by area based on historical use, then allocated to vessels in each area based on dependency and the other selected "mechanisms." The existing halibut PSC limit supports all trawl groundfish target fisheries (except mid-water pollock), so by our own definition the dependency threshold should be evaluated based on catch from all groundfish trips (except mid-water pollock). The threshold would be evaluated in the manner described by Equation 1 in footnote 31. *The Council might consider whether to exclude pollock landings from the dependency threshold calculation for halibut PSC allocation*. Midwater-pollock trips account for a relatively small amount of halibut PSC use, but the landed amount of groundfish can be very large. Including mid-water pollock landings in the calculation might "swamp" the GOA dependency determination of any vessel that participates in the AFA pollock fishery but relies on the GOA for its flatfish or cod production.

Staff proposes that the dependency portion of the halibut PSC limit first be divided into pools that are allocated separately to the Rockfish Program and the non-Rockfish Program. The non-Rockfish Program pool would consist of the GOA trawl halibut limit after the Rockfish Program limit is deducted (as defined in the annual harvest specification table). The existing halibut PSC limit for the non-Rockfish Program fishery is not divided by area; an area-division would be made based on historical usage during the qualifying years.

If the halibut PSC limit is first divided into two pools (deep-water and shallow-water species complex apportionments), the issue of whether to consider mid-water pollock when determining dependency only comes up in regard to the shallow-water complex pool. Regulations at 50 CFR 679.21(d)(3)(ii) define the

historically taken by persons that rely on the GOA deep-water complex. Persons dependent on those deep-water GOA fisheries may not be allocated halibut PSC limits that are sufficient to fund their historic fishing patterns. Methods could be developed to divide the fifth season limit if the Council wished to pursue that approach. For example, it could be divided based on historic use in the deep-water and shallow-water complexes during the same years used to divide PSC limits between the sectors.

[42] The Chinook salmon PSC limit for the pollock fishery is already divided by area in regulation (18,316 for the Central GOA vs. 6,684 for the Western GOA). That distribution would not be changed, regardless of which qualifying years are selected.

species in each complex.[43] Dependency could be assessed for each complex, since each complex essentially represents a separate existing PSC limit.[44] In addition to Pacific cod and some flatfish species, the shallow-water complex includes pollock. Regulations at §679.21(d)(6)(i) allow vessels using "pelagic" (mid-water) trawl gear to continue fishing for pollock when the shallow-water complex is closed to directed fishing as a result of the shallow-water halibut PSC limit being reached.[45] The analysts suggest that the Council consider excluding mid-water pollock catch from the dependency threshold calculation for the dependency pool of halibut PSC that is associated with the shallow-water complex. This approach is basically the same as the one described for the allocation of the dependency-based quota for the Chinook salmon PSC non-Rockfish Program CV sector, in that it combines Pacific cod and flatfish history. The primary difference is that bottom-trawl pollock is also included in the threshold calculation. Mid-water trawling represents the vast majority of pollock catch[46], but halibut PSC levels in that target fishery are low. After allocation, any halibut PSC taken in the pollock fishery would be deducted from a cooperative's quota, regardless of whether it was taken using pelagic or non-pelagic gear. By comparison, assessing dependency for the deep-water complex is simpler, since the complex does not include the pollock fisheries.

Table 13 "Dependency pools" by PSC limit, based on the selected percentage for Element 4.b, Option 2

		Dependency Pool				
PSC Limit	**Base Amount**	**10%**	**20%**	**30%**	**40%**	**50%**
CG Pollock Fishery Chinook (#fish)	18,316	1,832	3,663	5,495	7,326	9,158
WG Pollock Fishery Chinook (#fish)	6,684	668	1,337	2,005	2,674	3,342
Non-pollock Non-RP CV Chinook (#fish)	2,700	270	540	810	1,080	1,350
GOA Trawl Halibut (mt)*	1,515	152	303	455	606	758

* This number accounts for the halibut PSC allocation to the Central GOA Rockfish Program (191.4 mt), but would be further reduced by an allocation to the CP sector based on historical PSC use. According to Table 4, the CP sector would be allocated between 25% to 28% of the non-RP halibut PSC limit (depending on the selected qualifying years); that would equate to a CP allocation of 376 mt to 425 mt of halibut PSC at the level of status quo limits.

Finally, the analysts note that the dependency mechanism does not treat relatively new entrants any differently than it treats vessels that have a long history in the GOA. As long as a vessel has at least one year of past participation in the GOA non-Rockfish Program trawl fisheries, the vessel is eligible to draw from one or all of the dependency pools if its distribution of GOA/non-GOA catch meets the selected thresholds. The only case where a new entrant to the GOA might be treated differently is if a vessel had participated in the BSAI in some of the years counted in the dependency calculation prior to their participation in the GOA. Relative to a vessel that enters the GOA with no Alaska trawl history, that

[43] The shallow-water complex is defined as directed fishing for pollock, Pacific cod, shallow-water flatfish, flathead sole, Atka mackerel, and "other species". The deep-water complex is all groundfish species not included in the shallow-water complex (i.e., arrowtooth flounder, rex sole, deep-water flatfish, etc).
[44] Recall that a cooperative can use its PSC quota in any fishery, so halibut PSC that starts out as a shallow-water complex allocation can be used to target deep-water complex species once the PSC is allocated to the cooperative.
[45] The analysts assume that this regulation would remain in place, and that vessels in the Limited Access sector could continue directed fishing for pollock with pelagic trawl gear even if the Limited Access sector's shallow-water complex halibut PSC limit has been reached.
[46] 92% to 99%, depending on area (610/620/630) of GOA trawl pollock caught in 2015 was taken with pelagic gear.

vessel would have a harder time meeting the GOA dependency threshold; this likely conforms to the Council's intent.

2.3.1.2 Processor-Held PSC

Element 4.b, Option 3 reads as follows:

> *Each processor controls a portion of the annual PSC [options: 5% - 20%] within a cooperative associated with its member vessels. Each processor would assign the incremental PSC to vessels in the cooperative under the terms of the cooperative agreement. PSC made available by these agreements cannot be used by vessels owned by the processor (a vessel with more than 10% ownership by a processor using individual and collective rules for determining ownership).*

The analysts are interpreting this option as a mechanism that directs the control of PSC *after it is allocated to a cooperative*. The first sentence in the option explicitly refers to PSC within a cooperative; PSC that arrived in the cooperative via the vessels that signed on as members. If, for example, the Council selects 5% as the allocation percentage for this option, then 5% of each of the cooperative's PSC accounts (i.e., Chinook salmon, halibut) is under processor control. This option does not reduce the amount of each existing PSC limit (e.g., Chinook for the pollock fishery, or halibut) that could potentially flow into the Limited Access sector. In other words, the 5% does not represent an "off the top" allocation to processors that are in cooperatives.

The option states that processor-held PSC cannot be used by vessels that are wholly or partially owned by the processor (10% threshold). Tracking whether or not a processor-owned vessel uses any of this PSC will be difficult to do in a direct manner. A simple but indirect way to enforce this rule would be to prohibit any processor-owned vessel from using more PSC than 100% of the amount that it brought into the cooperative. By contrast, keeping with the example of the 5% option from above, non-processor-owned vessels would have access to 95% of the PSC that they brought into the cooperative plus any amount of processor-held PSC that is distributed under the terms of the cooperative contract (this would be subject to limitation by a vessel use cap that could be set at 110% to 150% of a vessel's initial PSC allocation, as defined under Element 5). As with any vessel-level PSC use cap, the Council should recognize that accountability measures need to be defined, and that a vessel could exceed a cap in the normal course of operation as a result of a lightning-strike bycatch event or as an artifact of the basket sampling procedures used in PSC estimation (this is further discussed in Section 2.6).

The 10% ownership and control rule would need to be determined by an affidavit provided to NMFS during the cooperative formation process. That affidavit would define the ownership of the vessel, and any linkage any of the owners have to the cooperative's processor.

2.3.1.3 PSC Allocated to Cooperatives that Sign an Inter-Cooperative Agreement

Element 4.e reads as follows:

> *Allocate (Options 5% - 20%) of the PSC limits (halibut and Chinook salmon) to cooperatives that sign an inter-cooperative agreement to share member vessel bycatch rates on a tow-by-tow basis and provide bycatch reduction incentives at the vessel level. Allocation of PSC is*

contingent upon agreement to the terms of information sharing within the inter-cooperative agreement. PSC is allocated by area on a pro-rata basis relative to the number of member vessels (Option: the number of member vessels that meet the active participation requirements) within each cooperative.

In contrast to the processor-held PSC option (and similar to the vessel dependency option), the analysts interpret this element in a manner that would affect the proportion of an existing PSC limit that is potentially available to vessels that select the Limited Access sector. Whereas the wording of the processor-held PSC option references "a portion of the annual PSC within a cooperative," this element reads: "Allocate [a percentage] of the PSC limits (halibut and Chinook salmon) **to cooperatives** […]" (emphasis added). In this sense, the element functions as an incentive for individuals to join a cooperative, and for those cooperatives to agree to share data with the anticipation that information sharing can lead to the development of bycatch reduction tools and incentives.[47] The analysts believe this to be the Council's intent.

For example, if the Council selects 10% for Element 4.e, then 10% of each existing PSC limit would be placed into PSC pools that are only accessible to vessels that are members qualifying cooperatives as of November 1. From the perspective of vessels that choose Limited Access or join a cooperative that does not sign an inter-cooperative agreement, these PSC pools represent an "off the top" reduction to the amount of halibut and Chinook salmon that they could access. For the Chinook PSC limit for the Central GOA pollock fishery, that 10% would amount to 1,832 Chinook salmon. The size of the PSC pools for the other PSC limits can be deduced from the other numbers shown the first column of Table 13.[48] The 1,832 Chinook salmon from the Central GOA pollock PSC limit represents a single "PSC pool," and that pool would be distributed across the qualifying cooperatives based on the number of vessels in each cooperative (the Council has also an option to make this distribution based on the number of vessels in each cooperative that meet whatever active participation requirements have been defined). The remaining 90% of that PSC limit (16,484 Chinook salmon) would be distributed across all active vessels – cooperative members and Limited Access participants – based on the other selected mechanisms.

The analysts interpret the language of the element to mean that the cooperative, itself, controls the use of this annual PSC limit once it has been allocated. Distribution for use by particular vessels or inter-cooperative transfer would likely be executed by the cooperative's manager, and governed by bylaws in the cooperative contract. Based on experience with other cooperative programs, the analysts anticipate that this PSC would be proportionately reallocated to the members based on what they brought into the cooperative. NMFS might receive information on how this PSC was used via the cooperative's annual

[47] As written, the option merely asks that cooperatives share bycatch rates on a tow-by-tow basis. This piece of mandatory information sharing could be more effectual if the Council were to ask for more specific data. For example, the Council could require cooperatives to share tow-level bycatch rates in conjunction with spatial and temporal data, or some indicator of how the vessel was operative (e.g., early-season test tows, what the vessel was targeting, etc.). All things equal, sharing highly aggregated tow-level bycatch data might not be much more useful that sharing no data at all.

[48] Note that the amounts shown in the table for the NPNR CV sector Chinook limit and the GOA trawl halibut limit would first be divided by area (WG vs. CG/WY) based on historical use during the qualifying period, and that the halibut limit would have been previously reduced to reflect the CP sector's apportionment.

report, but the agency would not directly monitor its use during the season.[49] This is yet another case where monitoring vessel-level PSC use in real time, to enforce the individual use caps ("110% to 150%"), presents a management challenge.

The language of the element refers to "cooperatives that sign an inter-cooperative agreement," but does not specify whether there could be multiple inter-cooperative agreements within each area (WG or CG/WY). Having a different agreement in each region makes sense because the shared bycatch information and reduction incentives would revolve around locally-specific information and operations. Within a region, however, the Council might wish to consider whether several separate inter-cooperative agreements might form. If, for example, there are eight cooperatives in the Central GOA, there could conceivably be four or more four different inter-cooperative agreements, each having two signatories. The benefit of allowing multiple agreements is that it allows *willing* contracting partners (cooperatives) to come together as parties that can work with one another smoothly and effectively. Requiring that there be only one agreement in the area could create a situation where a cooperative that cannot agree to the incentive terms being proposed by the other cooperatives has no alternative path to access this PSC pool. This could occur if the incentive terms are difficult for cooperatives that participate in specific fisheries to achieve, or are punitive as opposed to geared toward sharing of information for the benefit of all members. Smaller or less influential parties in the negotiation might then have to choose between agreeing to unfavorable terms or sacrificing some access to PSC. If the terms are punitive and complex, the analysts assume that forcing many diverse cooperatives to reach a single agreement will be a more costly and time-intensive process, relative to the alternative. It might be easier to get all cooperatives to sign onto a single agreement and share information if the agreement is simple, designed promote cooperative behavior, and achieves fleet-wide reductions in PSC usage or better utilization of PSC.

One cost of allowing multiple inter-cooperative agreements to form, in the abstract, is that it shrinks the number of parties that are sharing bycatch rates and it creates silos of information. An explicit objective of the program is to create a system in which the sharing of information is beneficial to all participants. The Council has often described bycatch information sharing as an important tool for reducing and/or better utilizing available PSC. Cooperatives that perceive the cost of obtaining access to additional PSC through sharing information and defining vessel-level incentives as burdensome, they are free not to sign the inter-cooperative agreement.

Though not stated in the Council's language, the analysts assume that the inter-cooperative agreement would need to be signed by November 1 so that NMFS can make annual PSC allocations. This would be considered part of the annual cooperative quota application process.

In all likelihood, the analysts expect that GOA trawl cooperatives would take a minimalist approach in defining the terms of an inter-cooperative agreement, thus avoiding situations where one cooperative feels alienated or unable to sign on. An example of "minimalist terms" could be that the agreement simply states that the cooperatives consent to share data and that each individual cooperative contract will define vessel-level incentives for its members.

[49] NMFS would continue to collect information at the vessel level through the CAS and the observer program.

2.3.2 Definition of the PSC Pools

Having laid out the assumptions for understanding the various allocation mechanisms, we must next define the various PSC pools from which vessels will "draw" equal individual allocations that they then take into a cooperative or the Limited Access sector. In practice, each vessel might have a unique set of draws from the different pools. For example, a vessel would draw from all of the PSC pools if it (1) declares its intent to participate in GOA pollock and non-pollock trawl fisheries, (2) joins a processor-affiliated cooperative that has signed onto an inter-cooperative agreement, and (3) meets the dependency threshold for the pollock, and non-pollock targets. However, not every vessel will meet all of these qualifications.

Figure 2 illustrates the flow and division of the four existing PSC limits that were identified in Table 13. The halibut and non-pollock Chinook salmon PSC limits are not currently divided by area, which necessitates an additional step. Halibut PSC limits are also divided by deep-water and shallow-water complex for all but the fifth PSC season. The diagram assumes that halibut PSC limits would not first be divided by species complex but, as noted earlier, this is an unresolved decision point for the Council. The result is six different sub-limits of PSC that are then subdivided into PSC pools for each mechanism that the Council selects from the list in Table 11. The size of each pool is determined by the allocation percentage that is also selected from the ranges listed in Table 11. The size of each vessel's draw from a given pool is determined by the number of vessels that qualify to share in that pool. If the Council chooses to include all four of the possible allocation mechanisms – dependency, inter-cooperative agreement, CFA/AM, and equal shares – then the total number of PSC pools being allocated equally among qualifying vessels is 24: each of the six pie-shaped icons in Figure 2 includes a slice, or pool, for each of the four allocation mechanisms.

Figure 3 shows expanded detail on one of six PSC sub-limits. For the purpose of illustration, assume this is the PSC sub-limit for Chinook salmon in the Western GOA non-pollock non-Rockfish Program CV sector. Imagine the following:

- 15 CVs registered their intent to participate in that fishery (by November 1 of the previous year);
- There are three cooperatives; two signed onto an inter-cooperative agreement, and one did not;
- 2 vessels chose to fish in the Limited Access sector (did not join a cooperative);
- 11 vessels meet the threshold for GOA dependency in the non-pollock fishery[50]; one of those vessels is not in a cooperative.

The PSC sub-limit for Western GOA NPNR CV Chinook salmon PSC would be divided in the following way:

- The "equal share" pool is divided into 15 equal shares; 13 of those shares go into the three cooperatives, and 2 of those shares form the Limited Access PSC limit;
- The "CFA/AM" pool is divided into 15 equal shares; all 15 shares are allocated to whichever program or association is defined under Alternative 4;
- The "inter-cooperative agreement (ICA)" pool is divided into a number of equal shares that is determined by the number of vessels that are enrolled in the two cooperatives that signed onto an

[50] As noted in Section 2.3.1.1, that calculation is made on the basis of all GOA non-pollock trawl fishing – in other words, the numerator in that threshold calculation includes both WG and CG/WY non-pollock history.

inter-cooperative agreement; none of this PSC pool is allocated to the third cooperative or to the Limited Access sector;

- The "dependency" pool is divided into 10 equal shares (recall that one of the 11 vessels that met the dependency threshold for this PSC limit did not join a cooperative); those shares are allocated to whichever cooperatives list those dependent vessels as their members. This is illustrated in the pop-out section of Figure 3.

Ultimately, the total amount of PSC that a particular cooperative has at its disposal is determined by the sum of the "portfolios" of its member vessels. A Central GOA cooperative might have some member vessels that qualify for a share of all three pertinent dependency pools (CG Pollock Chinook, CG/WY NPNR Chinook, and CG/WY halibut), and other member vessels that qualify for only some (or none) of the dependency pools. These vessels would bring different amount of PSC quota to the cooperative. As stated before, the option that puts some amount of PSC quota under the control of the processor member of the cooperative is applied *after* the total cooperative allocation is determined by summing the allocations of its member vessels (Element 4.b, Option 3).

Figure 2 **Subdivision of existing PSC limits into PSC pools for allocation under Alternative 3**

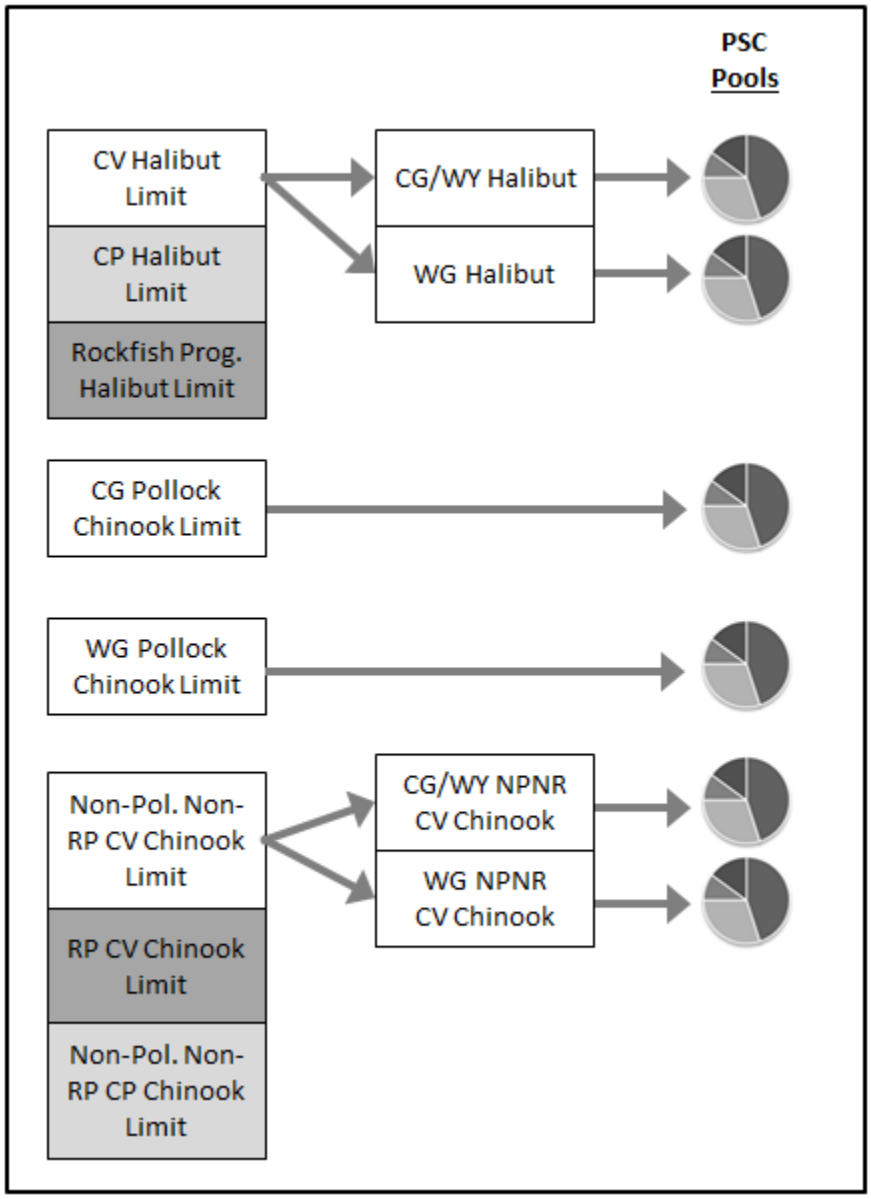
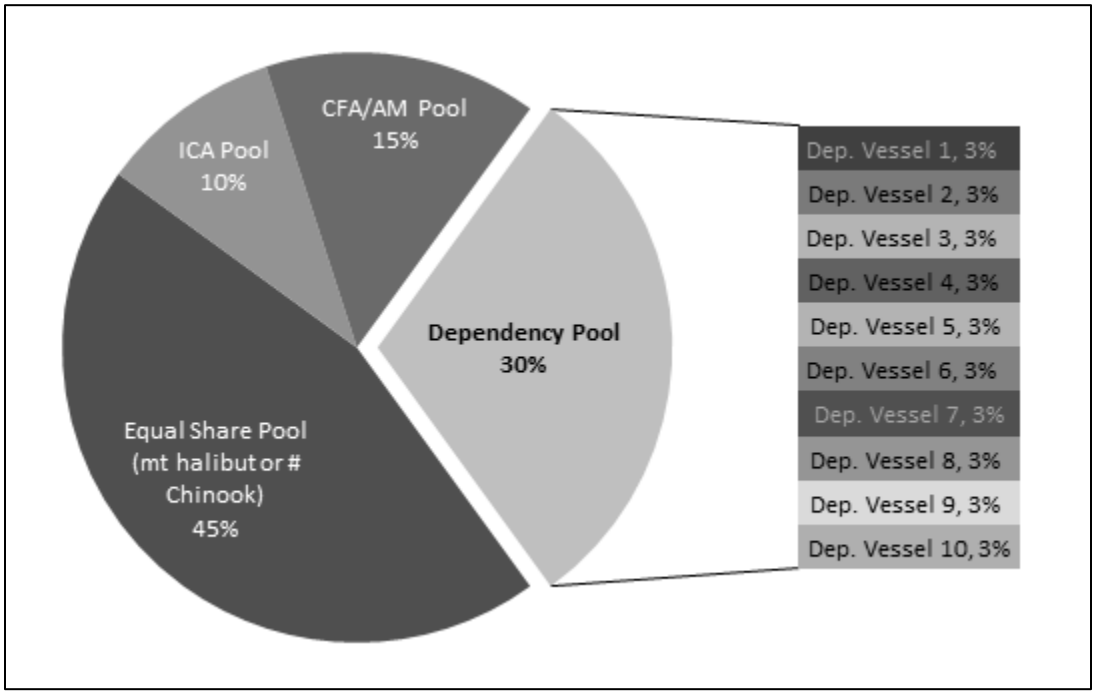


Figure 3 **Example of PSC pools within a PSC sub-limit, and equal vessel allocation within one of those pools**



2.4 Example Scenarios

This section describes two scenarios for allocating PSC to a vessel under Alternative 3. These are provided for illustration, and the reader should be aware that the actual outcome could be different depending on which options the Council selects, how many vessels participate in the fishery, and whether those vessels fit a certain profile. The vessel described in these scenarios could take the allocated amount of PSC into either a cooperative or the Limited Access sector. Both scenarios rely on illustrative assumptions about the vessel that are necessary to arrive at a PSC allocation; these assumptions are not intended to signal any Council intent regarding preferred program elements.

2.4.1 Scenario 1

Scenario 1 is a highly simplified version of Alternative 3. This scenario assumes the following:

1. The Council selects only the "equal shares" option as the basis for PSC allocation;
2. Non-pollock/non-RP CV Chinook PSC is apportioned by area based on 2008 through 2012 qualifying years (historical PSC use by area);
3. The GOA trawl halibut PSC limit is apportioned by sector (CP/CV) and area based on the 2008 through 2012 qualifying years;
4. The pollock fishery Chinook salmon PSC limit remains as defined by Amendment 93 (not reduced by 25% relative to the existing 25,000 Chinook limit); and
5. The halibut PSC limit is not reduced relative to the existing limit.

Table 14 shows the difference between the estimated PSC limits calculated for the WG and CG. The options considered by the Council are not substantially different in terms of the PSC distribution by area.

The Chinook salmon PSC for the WG would be larger if 2015 was included in the calculation, because of the higher estimated Chinook salmon bycatch that year.

Table 14 Estimated inshore sector and area apportionments (and apportionment options) based on Council motion

PSC Limit	Base Amount	CG	WG
CG Pollock Fishery Chinook (#fish)	18,316		
WG Pollock Fishery Chinook (#fish)	6,684		
*Non-pollock Non-RP CV Chinook (#fish)	2,700		
2003-2015**	2,700	2,556	144
2003-2012	2,700	2,628	72
2007-2012	2,700	2,655	45
2008-2012	2,700	2,650	50
2015**	2,700	1,709	991
*GOA Trawl Halibut (mt) Non-RP	1,515		
Estimated CV limit 2003-2012	1,090	1,047	43
Estimated CV limit 2007-2012	1,139	1,090	49
Estimated CV limit 2008-2012	1,128	1,075	53

* Council must select option to divide PSC limits by area or sector and area.
** Not an option included in motion, but provided to show variation.

Scenario 1 calculates vessel PSC limits based on the number of vessels that were active in each area during the 2008 through 2012 period, and the number of GOA trawl LLP licenses that are endorsed for the area. Fifty-six CVs actively delivered to CG shoreside processors in 2015, and 26 were active in the WG. Had these 2015 vessel numbers been used in the calculation, the PSC per vessel would be greater than what is reported in the table. However, one would expect that allocating PSC based on "equal shares" would entice a greater number of vessels to register for an allocation than the number that fished in 2015, so that data is not included in the table.

Table 15 Alternative 3 allocation of PSC to each vessel based only on equal shares using 2008 through 2012 data

PSC Limit	Base Amount	Allocation based on active vessels: 2008-2012	Allocation if all GOA Trawl LLPs issued were attached to a vessel
CG Pollock Fishery Chinook (#fish)	18,316	258.0	188.8
*CG Non-pollock Non-RP CV Chinook (#fish)	2,650	37.3	27.3
CG Chinook Total	***20,966***	***295.3***	***216.1***
WG Pollock Fishery Chinook (#fish)	6,684	148.5	85.7
*WG Non-pollock Non-RP CV Chinook (#fish)	50	1.1	0.6
WG Chinook Total	***6,734***	***149.6***	***86.3***
*CV CG GOA Trawl Halibut (mt) -- Non-RP	1,075	15.1	11.1
*CV WG GOA Trawl Halibut (mt) -- Non-RP	53	1.2	0.7

Notes: Assumes 71 vessels were active in the CG and 45 in the WG (based on 2008-2012); LLP data indicates that 97 GOA trawl LLP licenses are endorsed for the CG and 78 are endorsed for the WG. Those counts include 51 LLP licenses that were endorsed for both areas.

In this scenario, a vessel that is highly dependent on the GOA throughout the whole year would control the same amount of PSC as a vessel that also relies on the BSAI groundfish fisheries for much of the year. A vessel that controls more PSC than it requires for its GOA fisheries could fish with less regard for PSC rates, or could transfer "excess" PSC to vessels that fish more of the year in the GOA. CVs that historically depend on the GOA flatfish fisheries are likely to experience the greatest adverse impact. Those vessels tend to spend more of the year in the GOA, and might need to acquire additional PSC through intra- or inter-cooperative transfers. The cost of PSC transfers could be prohibitive for platforms that operate in a relatively low-value/low-margin environment. Vessels that are less dependent on flatfish or Pacific cod would likely have excess halibut PSC. Those CVs would have less incentive to take on costs to achieve lower PSC rates if limitations are placed on transfers, or if that extra PSC has less value to the business.

A traditional constraint to new entry into the GOA trawl fisheries has been the ability to find a market. CVs must find a processor that is willing to accept their deliveries and has the capacity to take new vessels in their delivery rotation. Because all trawl CVs with an eligible LLP license to fish could have access to available PSC, processors might feel obligated to take on new boats (new entrants) in order to get their PSC allocations into the cooperative. This may not be a substantial burden to the processor if they are only required to take three deliveries from the vessel.

Some processors business plan focuses more heavily on pollock fisheries than other processors. The cooperatives that are formed around these processors are more likely to have excess halibut PSC. Mid-water pollock harvests do not accrue halibut against the PSC limit. However, these same cooperatives may be constrained by the Chinook PSC limit. Constraints are more likely to be realized if the overall pollock fishery Chinook salmon PSC limit is reduced as part of this action or the fleet encounters high levels of unexpected/unavoidable Chinook salmon PSC.

Vessels that are most likely to enter the fishery are those that are already operational and have low entry costs. These vessels could be AFA vessels that have focused their effort in the BSAI and West Coast, or

vessels that have a trawl endorsement for both the WG and CG but have only been fishing one area. The owners of these vessels may be willing to expand their fisheries if they determine the PSC allocation has sufficient value.

2.4.2 Scenario 2

The next scenario is more complicated and includes all of the Council's proposed program elements. This scenario is based on the same percentages used in Figure 3 for the ICA pool, CFA/AM pool, equal shares pool, and dependency pool. This scenario also assumes that processors will control 10% of PSC limits that are allocated to their cooperative. All other assumptions listed for Scenario 1 apply to this scenario. Obviously, the Council could select from a large number of ways to combine the various allocation mechanisms and relative percentages.

The same base amount of PSC is available to divide among the various pools. All vessels that enter the fishery and have an eligible LLP license will be granted a portion the Equal Shares pool. Vessels that are members of a cooperative that has entered into an approved ICA for data sharing/PSC reduction will be granted a share of the ICA pool. Finally vessels that have submitted an affidavit that they are dependent on the GOA fishery subject to a PSC limit are given a portion of that pool. The CFA/AM pool is taken off the top of the PSC limits and is not controlled by the vessels. Instead that pool in under the control of the CFA/AM entity, but may be accessed by the vessels in the table. The processors control 10% of the PSC limits that the cooperative member CVs bring to the cooperative.

Table 16 assumes that all vessels qualify for all the pools and that no new vessels enter the fishery that were not active from 2008 through 2012. Both these outcomes are probably unrealistic. However, if these conditions held, the amount of each PSC limit a vessel would control is reported. Also reported is the amount of PSC controlled by processors and the CFA (based on the number of qualified vessels).

Table 16 PSC derived from different pools if all vessels qualify and amount of PSC controlled

		All vessels qualify for all allocation pools				Per vessel PSC Contolled by:		
PSC Limit	Base Amount	Equal Shares pool: 45%	ICA pool: 10%	Dependency pool: 30%	Total vessel takes into cooperative	Harvester	Processor	CFA/AM pool: 15%
CG Pollock Fishery Chinook (#fish)	18,316	116.1	25.8	77.4	219.3	197.3	21.9	38.7
*CG Non-pollock Non-RP CV Chinook (#fish)	2,650	16.8	3.7	11.2	31.7	28.6	3.2	5.6
CG Chinook Total	***20,966***	***132.9***	***29.5***	***88.6***	***251.0***	***225.9***	***25.1***	***44.3***
WG Pollock Fishery Chinook (#fish)	6,684	66.8	14.9	44.6	126.3	113.6	12.6	22.3
*WG Non-pollock Non-RP CV Chinook (#fish)	50	0.5	0.1	0.3	0.9	0.9	0.1	0.2
WG Chinook Total	***6,734***	***67.3***	***15.0***	***44.9***	***127.2***	***114.5***	***12.7***	***22.4***
*CV CG GOA Trawl Halibut (mt) -- Non-RP	1,075	6.8	1.5	4.5	12.9	11.6	1.3	2.3
*CV WG GOA Trawl Halibut (mt) -- Non-RP	53	0.5	0.1	0.4	1.0	0.9	0.1	0.2

Notes: Assumes 71 vessels were active in the CG and 45 in the WG (based on 2008-2012)

Table 17 makes additional assumptions regarding the vessels that qualify. This table assumes that 90% of the inshore CVs would qualify for the ICA pool and 70% of the CVs would qualify for the dependency pool. Vessel 1, in the table, realized an increase in its allocation as a result of getting a larger share of the ICA and Dependency pools. Vessel 2 only qualified for the Equal Share pool, so its allocation was reduced to 45% of its allocation in Table 16. Vessel 3 qualified for the Equal Shares pool and the

Dependency pool, but its cooperative did not sign an eligible ICA. Its PSC limit allocation was reduced but only by 10% relative to Table 16.

Table 17 PSC assigned to vessels based on qualifying pools, not all vessels qualify for ICA (90%) or dependency pool (70%)

		Vessel 1: qualifies for all pools				Vessel 2	Vessel 3
PSC Limit	Base Amount	Equal Shares pool: 45%	ICA Pool: 10% (90% of vessels in co-ops sign ICA)	Dependency Pool: 30% (70% of vessels qualify)	Total the vessel takes into cooperative	Qualfies for neither ICA nor Dependency pools, only equal shares	Qualfies for Dependency pool and equal shares pool
CG Pollock Fishery Chinook (#fish)	18,316	116.1	28.7	110.6	255.3	116.1	226.6
*CG Non-pollock Non-RP CV Chinook (#fish)	2,650	16.8	4.1	16.0	36.9	16.8	32.8
CG Chinook Total	***20,966***	***132.9***	32.8	126.6	***292.2***	132.9	259.4
WG Pollock Fishery Chinook (#fish)	6,684	66.8	16.5	63.7	147.0	66.8	130.5
*WG Non-pollock Non-RP CV Chinook (#fish	50	0.5	0.1	0.5	1.1	0.5	1.0
WG Chinook Total	***6,734***	***67.3***	16.6	64.1	***148.1***	67.3	131.5
*CV CG GOA Trawl Halibut (mt) -- Non-RP	1,075	6.8	1.7	6.5	15.0	6.8	13.3
*CV WG GOA Trawl Halibut (mt) -- Non-RP	53	0.5	0.1	0.5	1.2	0.5	1.0

Notes: Assumes 71 vessels were active in the CG and 45 in the WG (based on 2008-2012)

Table 17 shows the importance that vessel owners might place on qualifying for a particular pool, especially if the allocation percentage for that pool is relatively large. In this scenario, the incentives for GOA vessels to meet the dependency pool are substantial. Vessel owners that have secure allocations in the BSAI are likely to make sure that they meet a minimum landing requirement to qualify for that pool in future years. The structure of the pools makes it more desirable for individuals to qualify for the pool if fewer vessels are going to take a share of that quota. For example, the ICA pool would be more valuable to each vessel in a qualifying cooperative if only 20% of the vessels can access that pool. However, the low cost of meeting the minimum requirement is expected to entice most vessel owners to sign an ICA to receive an allocation from that pool.

2.5 Management Considerations

Alternative 3 could create significant additional challenges for inseason management of fisheries. Alternative 3 would maintain, or potentially intensify, the competition for available groundfish TACs, specifically pollock and Pacific cod. Under alternative 3, NMFS anticipates that participants in the fishery would be constrained primarily by the allocation of Chinook salmon and halibut PSC that is allocated to each cooperative, and then apportioned among the members of the cooperative. Although the seasonal apportionment of groundfish TACs constrain overall harvests in the fisheries, the TAC is not apportioned among fishery participants and all fishery participants can compete (race) for the available TAC. Therefore, NMFS anticipates that under Alternative 3, participants will seek to maximize their harvest of groundfish as quickly as possible before the overall TAC is reached within the constraints imposed by PSC allocations made to the cooperatives.

Cooperatives might have different strategies for managing their individual PSC limits. These strategies could affect NMFS inseason management actions. Based on NMFS' understanding of cooperative practices in other fisheries with PSC limits, this section of the analysis assumes that the cooperatives established under Alternative 3 will operate consistent with these other cooperative programs. That is, each cooperative would initially assign each member of the cooperative an amount of Chinook salmon and halibut PSC that represents the contribution provided of the PSC limit provided by that cooperative

member. This type of "pass through" model of cooperative apportionment has been observed in management programs (e.g., Amendment 80). Typically, cooperatives have provided mechanisms for intra-cooperative transactions ("transfers") so that cooperative members can give or receive PSC from other participants, provided unused PSC is available and other participants wish to transfer that unused PSC.

Because Alternative 3 does not allocate groundfish TACs, NMFS would not be able to reliably predict the amount of groundfish harvests. This is similar to status quo management in the absence of voluntary arrangements that have been undertaken in some years to coordinate harvests of some species (primarily for pollock in the Central GOA). Relative to Alternative 2 where TAC allocations can be known with greater certainty, it may be more difficult under Alternative 3 for NMFS to manage these fisheries with precision. NMFS would anticipate using more conservative management to prevent exceeding TACs. Conservative management typically results in greater amounts of the TAC being unharvested. In fisheries that take place over longer periods of time, variable effort can be accommodated and still result in precise management; however, it is unlikely that pollock and Pacific cod fisheries will be spread out over time under Alternative 3 compared to Alternative 2. When there is a race for fish and one vessel starts fishing, typically all vessels will start fishing to preserve their opportunity to maintain historic harvest levels. Relative to Alternative 2, Alternative 3 would not provide the fleet tools to prevent a race for fish because it does not provide secure access to a portion of the groundfish TACs. Without secure access to a portion of a groundfish TAC, each individual participant has an incentive to start fishing as early as possible after the season opens.

Cooperative PSC limit allocations without cooperative groundfish allocations add multiple layers of complexity that will affect NMFS's ability to make precise fishery closure projections, primarily due to variable effort. In the past, NMFS has been able to determine effort and project harvest based on historical participation and current vessel location obtained through VMS. Under Alternative 3 these methods may be less reliable at predicting vessel harvests and making management decisions compared to status quo. Because it is likely that each vessel will be constrained by individual PSC limits, the operations of vessels may differ significantly compared to the status quo as vessel operators seek areas of high harvests and low PSC rates to ensure they do not exceed their individual PSC limits. This could result in harvesters changing fishing locations more frequently, or fishing in areas not previously fished. These changes in fishing patterns would be expected to reduce the ability of inseason managers to predict and manage groundfish harvests. NMFS anticipates that changes in fishing practices and patterns may be greatest among participants in the Western GOA who do not have a history of participating in voluntary cooperatives that assign individual PSC limits. In the Western GOA, Alternative 3 (and Alternative 2) would represent a significant departure from status quo management.

Under Alternative 3, NMFS would be required to manage groundfish harvests based on estimated effort by individual participants, but the cooperative will be managing each member vessel's PSC limit. NMFS will not have access to the cooperative-level information regarding each vessel's individual PSC limit. Therefore, NMFS may not know whether an individual vessel has reached the limit established internally in the cooperative agreement and would count each vessel as effort available for the fishery. This could cause NMFS to overestimate effort for the fishery and could result in a fishery closure before the TAC is harvested.

During development of the GOA trawl program, the Council has discussed the voluntary organization of the GOA trawl fleet for the pollock fishery in recent years (2010 through 2015). This organization required significant effort by both the fleet and NMFS because all fishery participants had to support the agreement and comply with the requirements. While there are clear economic incentives for the pollock fleet to organize (e.g., optimize roe quality in the pollock fishery and fish when PSC encounter rates are low), some vessel operators may have stronger incentives to pursue an individual business plan rather than organize to achieve these fleet-wide goals. Without 100% agreement of all fishery participants, the fleet is unable to organize and the fishery defaults to a race for fish.

Based on experience with voluntary fleet organization, it appears that incentives are highest for all members in the fleet to coordinate when the pollock seasonal apportionment is less than the 24-hour harvest capacity of the fleet. NMFS' management practice is not to open a fishery if estimated effort would result in harvest that would exceed the seasonal allocation in less than a 24-hour period--unless the fleet organizes to limit individual vessel harvests and prevent harvest from exceeding the seasonal allocation. In these circumstances, the fleet has a strong incentive to organize to ensure that NMFS can open the fishery and provide an opportunity to harvest the seasonal apportionment. This incentive is substantially reduced when pollock TACs increase and the seasonal apportionment is greater than the 24-hour harvest capacity of the fleet. The current relatively high level of pollock TACs has reduced the likelihood that harvest would exceed the seasonal allocation in less than a 24-hour period, and the fleet did not participate in voluntary organization for the 2016 A season fishery. Voluntary cooperation is also more likely when participation in the fishery is stable and the operators have established fishing patterns and working relationships. Data in Table 22 indicates that fishery participation patterns may be changing in recent years. Because Alternative 3 likely would continue the race for groundfish in the same manner as the status quo, it is unlikely that voluntary organization by the industry to slow the pace of pollock fisheries would occur except at low TAC levels and when participation in the fishery is stable.

The cooperative structure under Alternative 3 may provide limited incentives for the fleet to organize and communicate on the fishing grounds compared to the status quo. Experience with other cooperative groundfish management programs in the GOA and BSAI has shown that the primary benefits of cooperative membership are communication with other vessels on the fishing grounds about groundfish catch rates and encounters with PSC and coordination of groundfish harvests to maximize the value of the fishery. These benefits are possible because cooperative members collectively agree on groundfish harvest and PSC limits for individual vessels or business operations within the cooperative. These limits are established through the program allocations and cannot be affected inseason by other participants in the fishery.

Alternative 3 would not provide this specific type of cooperative structure. It likely would not be possible for cooperative members to collectively agree on groundfish harvest limits for individual vessels in the cooperative because the cooperative would not receive groundfish species allocations. While there may be some incentives for vessels within a cooperative to communicate on the grounds and coordinate groundfish harvests under Alternative 3, these efforts could be negatively impacted by groundfish harvests from vessels in other cooperatives that are not party to the agreement. This is similar to the

situation under the status quo, in which less than 100% agreement of all fishery participants to organize defaults to a race for fish.

2.6 Administrative Considerations

2.6.1 Annual PSC allocation

Under Alternative 3, NMFS will go through an annual process to determine the allocations for cooperatives and the Limited Access sector. If the Council selects Element 4.b, Option 2, one of the determinants of allocation will be the dependency of a CV's recent historical activity on a particular GOA trawl target fishery. The Council could go in one of two directions in regard to dependency-based PSC allocation. First, the Council could state that allocation of dependency-based PSC is determined solely by an affidavit submitted by each vessel owner who plans to participate in a GOA trawl cooperative or the Limited Access sector. In this case, NMFS would not verify the dependency claim on the affidavit. This position is the one suggested by a strict reading of the language in the Council's current alternative. Second, NMFS might play a direct or indirect role in verifying vessels' dependency status. Indirectly, NMFS anticipates that many, if not all, vessel owners will ask the agency to verify their dependency status so as not to inadvertently submit a false claim.[51] Directly, NMFS could potentially be asked by one vessel owner to review the dependency claim made by another vessel owner, because the first owner views what he or she considers to be a false claim as a reduction to the amount of dependency-based PSC that he would have otherwise received. In the case that NMFS staff has any foreseeable role in verifying vessels' dependency status, then the affidavit process is likely redundant and only creates additional paperwork for participants and the agency.

NMFS staff provided the analysts with a more general recommendation that the several affidavits and declarations referenced in the language of Alternative 3 should be combined into one submission. Bundling this flow of information from participants to the agency would reduce the administrative burden on both ends. The requested submissions include: whether the vessel plans to participate in GOA trawl fisheries in the upcoming year; which target fisheries the vessel will prosecute (by area); whether the vessel will join a processor-affiliated cooperative or the Limited Access sector; and whether the vessel's cooperative is a signatory to an inter-cooperative agreement that meets the requirements of Element 4.e.

Considering the number of factors and declarations that could affect the annual PSC allocation process, it is important to establish a coherent timeline of communication between participants and the agency. This issue of timing and declarations is also discussed under the "Pre-registration" heading in Section 2.7. If NMFS has any role, direct or indirect, in verifying vessels' dependency status, then NMFS staff would need to make those determinations prior to the November 1 deadline for cooperative formation, as knowledge of whether or not a vessel meets dependency thresholds might affect cooperative decisions and the content of the required annual fishing plan. NMFS would likely need to pre-determine the dependency status for *all* vessels that are named on a GOA trawl-endorsed LLP license; this includes vessels that have not recently participated in GOA trawl fisheries, as they are no less eligible to declare

[51] If NMFS is going to review the claims on the affidavits, even if it is a year-end compliance review, the Council should define the nature of the penalties for false claims. Penalties might include sanctions for the following year (loss of access to the dependency pool), a fine that is greater than the estimated benefit derived from the extra PSC, or, if the review is completed during the fishing season, revocation of PSC.

their intent to participate in a cooperative or the Limited Access sector on November 1. NMFS notes that its staff would need to undertake these dependency determinations as soon as the previous year's catch accounting is complete, and would need to notify vessel owners of their findings in order to accommodate any appeals process that might be required under the Administrative Procedure Act.[52] Ultimately, NMFS would not be able to inform vessel owners of their individual PSC allocations until after the November 1 deadlines because several determinant factors – allocation of additional PSC to cooperatives that sign an inter-cooperative agreement, and division of all remaining PSC according to "equal shares" – cannot be calculated until all vessels have declared their intent to participate in the upcoming year and cooperative contracts are submitted and approved. The requirement to declare intent to participate in the upcoming year applies to both cooperative and Limited Access vessels.

2.6.2 Enforcement of active participation requirements

Element 4.f states that each cooperative shall define its own active participation requirements. Individuals – license holders or vessel owners – that do not meet the requirements may not benefit from the cooperative and use of its annual PSC allocation. NMFS recommends that cooperatives should be responsible for enforcing the active participation requirements that they have defined. Enforcement of unique active participation criteria across the various cooperatives would be burdensome for NMFS to monitor and enforce. Moreover, if NMFS had to verify active participation, the allocation process would be slowed because the agency would likely be required to provide cooperative members an opportunity to appeal the findings that support some adverse action taken as an active participation enforcement measure.

2.6.3 PSC transfer provisions

Element 5 includes a restriction on the transfer of PSC quota within cooperatives. That element would prevent any person[53] from "using" more than 110% to 150% (options) of the PSC quota that it brings into a cooperative by virtue of its participation and dependency. NMFS advises that it would not be able to

[52] The specific nature of the appeals process cannot be determined until NOAA General Counsel knows the entire purpose of the affidavit, how it would be designed to achieve that purpose, and what information must be submitted. In other catch share programs, affidavits are used when a person needs to declare to NMFS that something has been done, but NMFS does not have access to evidence demonstrating that the thing was, in fact, done. If NMFS is prepared to take dependency affidavits at face-value, an appeals process might not be necessary. If NMFS is responsible for conducting an administrative adjudication when reviewing or processing the affidavit, an appeals process might be warranted. The question of whether or not NMFS reviews affidavits using the data available to the agency likely comes down to whether or not the Council wants NMFS to settle any question of vessel dependency through before-the-fact administrative adjudications, rather than after-the-fact enforcement actions. If NMFS is verifying eligibility for dependency-based PSC, then the affidavit functions more like an application; NMFS would need to provide vessel owners with the data it is using to make before-the-fact dependency determinations.

[53] The language of the alternative states that the PSC cap applies to a "person." As noted earlier, the regulatory definition of a person includes non-individual entities such as corporations and partnerships. The Council should clarify whether it intended to apply the cap to a "person" or to a vessel. In either case, the administrative raised here warrant consideration regardless of which definition the Council chooses.

monitor person-level PSC use[54] in real time. The limit of NMFS's ability to enforce this provision would be an end-of-year compliance check, at which point any specified accountability measures for person use caps would have to be administered after the fact. Given the reality of basket sampling in the PSC estimation procedure, NMFS notes the possibility that a single bycatch event could push a person from well-under to well-over a vessel level cap, especially if the amount of PSC that each person brings into the cooperative is small. Small person-level PSC caps could be the result of having a large influx of participating vessels thus reducing per-vessel allocations such as "equal shares." Person-level PSC caps would also be made effectively smaller if the cap is applied separately for each PSC limit that is allocated – i.e., separate allocations of Chinook salmon PSC for the pollock fisheries (WG and CG/WY) and non-pollock fisheries. The question of how to apply person-level PSC caps is also highlighted in the following section (Section 2.7).

Element 3.c states that "Any Rockfish Program PSC that would roll over for use in other trawl CV fisheries under the current rules […] can be transferred to the trawl CV cooperatives through inter-cooperative transfer."[55] NMFS recommends that regulations should specify a date before which PSC allowances may not be transferred (rolled over) from the Rockfish Program to the GOA Trawl program. This would simplify the transfer process. Currently, Rockfish Program Chinook salmon PSC may be rolled over on October 1 and/or November 15 depending on the amount that remains available from the Rockfish Program CV sector's annual apportionment of 1,200 Chinook, and on the projected demand for Chinook salmon PSC in the two fisheries (Rockfish Program CV sector and GOA non-pollock CV sector). Halibut PSC can be rolled over from the Rockfish Program to the fifth seasonal apportionment of GOA trawl halibut PSC on a cooperative-by-cooperative basis (as cooperatives "check out" of the Rockfish Program), or on November 15. NMFS requests further clarification on how PSC that is transferred from the Rockfish Program to GOA trawl cooperatives would be distributed amongst the cooperatives; this is further discussed in the following section (Section 2.7).

2.7 Items in Need of Clarification

At various points in the first two sections of this paper, the analysts have identified language in the Council's current set of alternatives that could be further clarified, or could be stated more clearly if the analysts' interpretation is correct. This section summarizes those instances in one place, for easier reference.

2.7.1 PSC rollovers from the Rockfish Program

This subsection explains the existing reallocations, or "rollovers," that allow unused Rockfish Program (RP) PSC to be used at the end of the year in the GOA non-Rockfish Program trawl fisheries, and then highlights several points in need of clarification as this program is further defined.

Existing Halibut PSC Rollover

[54] Here, "use" means the total amount of PSC attributed to the person through catch accounting procedures, not simply the PSC reported in observer data. Even with 100% observer coverage, not all hauls could be observed and fully enumerated through a census count.

[55] The analysts assume that, as with other inter-cooperative transfers, these transfers must be processed and approved by NMFS (as stated in Element 5).

The RP season ends by regulation on November 15, but each cooperative may "check out" of the fishery earlier. Regulations state that NMFS can reallocate up to 55% of the unused halibut PSC from the RP to the last (fifth) trawl fishery seasonal halibut apportionment on either November 15 or as each RP cooperative checks out of the program[56], whichever occurs first. The remaining 45% of the unused RP halibut PSC is not available for use after the rollover. NMFS has not executed this rollover in recent years because halibut PSC was not a constraint during the latter part of the non- RP trawl fishery. (In order to avoid unnecessary administrative costs, NMFS sometimes opts not to execute reallocations that provide no additional benefit to stakeholders.) While halibut has not been rolled-over, fishery data indicate that RP halibut was available to be rolled over (Table 18). Table 18 includes data back to 2012, which was the first year that the current version of the RP was implemented.

Table 18 Rockfish Program halibut PSC mortality usage and maximum amount available for rollovers, 2012 through 2015

Year	RP Halibut PSC Remaining (mt)	Maximum available for reallocation (mt)	Percent of 2016 Non-Rockfish Program halibut PSC (1,515 mt)
2012	159	87	5.8%
2013	211	116	7.7%
2014	208	114	7.6%
2015	171	94	6.2%
Avg.	187	103	6.8%

Source: NMFS RP reports (e.g., https://alaskafisheries.noaa.gov/sites/default/files/reports/car163_rockfish_psc2012.pdf).
Note: Maximum available for roll-over was calculated as 55% of the remaining PSC.

Existing Chinook salmon PSC Rollover

Amendment 97 included a rollover provision for Chinook salmon PSC. The RP CV sector is annually apportioned 1,200 Chinook salmon to support the fishery. On October 1, NMFS *may* reapportion all but 150 of whatever amount of Chinook salmon PSC remain unused within the RP at that point in the year.[57] Any amount of Chinook salmon PSC that remains in the RP CV sector on November 15 is automatically rolled over to the non-pollock non-RP CV sector at that time. Because the RP Chinook salmon rollover provision was only implemented in 2015, the analysts have not provided a table showing the amount that was available for rollover on October 1 or at the conclusion of the RP season.[58]

[56] This is stated in regulation at §679.21(d)(4)(iii)(B) as: "After the effective date of a termination of fishing declaration according to the provisions set out in §679.4(n)(2)"

[57] This language was amended from "shall" to "may" in Amendment 103 (currently in the implementation process). This change was made in order to allow the agency greater flexibility to keep Chinook PSC within the RP on October 1 if it appears that RP CVs' PSC demand could meet or exceed that level over the remainder of the season.

[58] As described in the analysis for Amendment 103, 2015 was an unusual year for Chinook salmon PSC apportionment in the GOA trawl fisheries. The NPNR CV sector reached its annual apportionment in May, but was allocated 1,600 additional Chinook salmon by NMFS through an Emergency Rule; only four of those 1,600 Chinook salmon were used during the duration of the fishery. Due to low use following the August 2015 implementation of the Emergency rule, NMFS did not execute the RP CV rollover on October 1. Following that, the RP CV sector encountered a PSC "lightning strike" of approximately 800 Chinook salmon on the last day of the fishery, taking the sector from a comfortable underage to a significant overage in the course of a day.

The GOA CP sector is annually apportioned a Chinook salmon PSC limit of 3,600 fish. This PSC limit supports CP activity both within and outside of the RP. As a result, no rollover provisions would be necessary under Alternative 2.

Discussion

Existing regulations allow for PSC to be rolled over from the Central GOA RP to the GOA limited access trawl fishery at certain points in the year. Alternative 2 (Element 5.c) and Alternative 3 (Element 3.c) state that "any RP PSC that would roll over for use in other fisheries *under the current rules* (after the set aside for halibut savings) can be transferred to the Gulf program through inter-cooperative transfer" (emphasis added).[59] The rules for the existing rollovers are described above. The Council should clarify when and how those rollovers would occur under the proposed program.[60] Specifically, the Council should consider how reallocated PSC will be distributed amongst the cooperatives and the Limited Access sector. This mechanism will need to be clarified regardless of whether the Council selects Alternative 2 or Alternative 3.[61]

Under the existing License Limitation Program, RP PSC rolls over to the GOA trawl fishery and is available to any vessel that is active as long as the fishery remains open. Under the proposed alternatives, PSC will be allocated to specific GOA trawl cooperatives and to the Limited Access sector.

- One option for reallocating the rollover PCS is to distribute RP PSC equally to each cooperative and the Limited Access sector in proportion to the number of member vessels (similar to an "equal shares" arrangement)[62].
- A second option would be to allocate PSC to the cooperatives and the Limited Access sector in the same proportions as the initial allocation. For example, if a cooperative was allocated 10% of the PSC for a certain species during the initial annual allocation, that cooperative be allocated 10% of the PSC rolled over from the RP. NMFS would have these percentages available and would not be required to recalculate the percentage assigned to each cooperative and the Limited Access sector. This approach would differ from the first approach in that it does account for dependency or the signing of an inter-cooperative agreement. It is likely that on October 1 – or dates after – some vessels or cooperatives would no longer be active in the GOA trawl fishery; allocations of additional "rollover PSC" to these vessels could go unutilized or, if transferable, could have a windfall effect. Moreover, regulations must account for the possibility that there

[59] This language is the same under each alternative, but is prefaced as an "option" under Alternative 3. The analysts assume that this discrepancy has no real effect, since the Council could choose to include or omit the element when it selects a preferred alternative.
[60] This decision point could be a part of the overall discussion of how the RP and the GOA Trawl Bycatch Management Program interact, once the latter program is better defined.
[61] This section is primarily focused on Alternative 3, which does not define a cooperative structure and allocations for the CP sector. As a result, the following information pertains mainly to the Inshore CV sector. However, as the Council develops Alternative 2 it should consider whether the existing halibut CP sideboard will be treated as an allocation to that sector, and, if so, how a rollover would be distributed amongst the CP cooperatives.
[62] A suboption could be to roll over PSC to cooperatives (and the Limited Access sector) in proportion to the vessels that are members of a RP cooperative, if the Council feels it is important to "reward" the vessels that judiciously used PSC in the RP.

might be no Limited Access sector in that year because all vessels that registered their intent to trawl in the GOA that year were enrolled in a cooperative.

- As a third option, the Council could ask NMFS to make the rollover available only to cooperatives whose member vessels remain active in the fishery after the rollover date. This would require additional record keeping and reporting, as well as accountability measures for cooperatives or vessels that declare their intent to operate during that period but do not. As with the enforcement of vessel PSC use caps, enforcement measures could only be applied after the fact, and NMFS would need to provide an appeals process.
- If the Council defines a list of entities that are eligible to receive a rollover, on a contingent basis, it could expand the list to include cooperatives that have exceeded their annual PSC limit and are in the position of needing to acquire PSC on the transfer market in order to balance their accounts. Though this might seem in opposition to the discouragement of PSC use, those cooperatives would certainly be able to claim a "need" for PSC.
- Finally, for halibut PSC, the Council might recommend only reallocating RP halibut PSC to cooperatives and the Limited Access sector in proportion to the number of participating vessels that have displayed a historical dependence on late-year flatfish. This approach would require an additional, more specific, dependency calculation that is not currently included in the analysts' description of the dependency mechanism that is used to make annual allocations (Element 4.b, Option 2), which was described in Section 2.3.1.1 of this document.

Under either Alternative, halibut PSC that is allocated to the Limited Access sector would retain any seasonal or species designations that still apply. If halibut PSC is reapportioned to the fifth season, which runs from October 1 to December 31, it may be used in any fishery that remains open to directed fishing. The analysts assume that this would remain the case for halibut PSC that is rolled over from the RP, but that halibut PSC reallocated to cooperatives could be used at any time. If RP cooperatives check out of that fishery prior to October 1, cooperatives could potentially use that PSC in the fourth season, which runs from September 1 to October 1. The analysts presume that cooperatives could use that PSC in any target fishery, as is the case for the PSC that was allocated to the cooperative at the beginning of the year. In other words, cooperatives' halibut PSC is not designated for use in either the deep-water or shallow-water species complexes. It bears reiterating that NMFS recommends that the Council define a specific date on which (or after which) halibut PSC can be rolled over (Section 2.6). The system of halibut rollovers would be somewhat less complex if cooperatives are not checking out and rolling over unused PSC at different point in the year.

Both alternatives propose that the amount of PSC allocated to vessels (or LLP licenses, under Alternative 2) fishing in the Limited Access sector should be reduced by some percentage. Options for that reduction range from 10% to 30% of what would have been allocated if the vessel (or license) were enrolled in a cooperative. The Council should clarify whether or not any PSC that is rolled over from the RP to the Limited Access sector would be similarly reduced.

For Alternative 3, the Council should also clarify whether or not any RP PSC that is rolled over and used by a GOA trawl vessel accrues towards a vessel's individual PSC use cap (options: 110% to 150% of the

amount the vessel was initially allocated for that year). This is largely a policy decision.[63] The Council might want to count this PSC towards the use cap so as not to further complicate the already difficult task of tracking vessel caps in-season (as noted in Section 2.6). Treating rollover PSC differently, in regards to the use cap, would potentially require NMFS to track two separate PSC accounts for each vessel during the latter part of the year. On the other hand, counting rollover PSC towards the vessel use caps might preclude its use by the vessels that would stand to benefit the most. Not all GOA trawl vessels are historically active in the late-year fisheries. Scenarios could arise where a vessel that has room underneath its cap has already left the GOA, while a vessel that would otherwise target GOA flatfish at that point in the year is unable to use the rollover PSC. The analysts perceive the intent of the vessel use cap as measure to limit fleet consolidation. Allowing vessels to continue targeting flatfish at the end of a PSC-constrained year would not create consolidation.

2.7.2 Allocation percentages for the selected mechanisms

The Council has identified a range of allocation percentages for each of the four allocation mechanisms listed in Table 11. For example, between 10% and 50% of PSC could be allocated on the basis of vessels' GOA dependency. Given the way that the analysts have described the allocation process in Section 2.3 – where each existing PSC limit contains some number of "PSC pools" that correspond to each selected mechanism – the Council should now define whether the allocation percentage associated with each mechanism can vary across PSC limits. Returning to the example of the vessel dependency mechanism, the analysts would like to know whether the vessel dependency pool for the halibut PSC limit could be set as 30% of the limit, while the vessel dependency pool for the NPNR CV Chinook salmon PSC limit could be set at 50% of the limit.

2.7.3 Delivery history used for sector apportionment of PSC

The first step in allocating PSC is to divide the existing PSC limits between the CP and Inshore sectors based on historical use during the selected qualifying period. This is most applicable to the GOA trawl halibut PSC limit, because the Chinook salmon limits are already either allocated to the Inshore sector (pollock) or were previously apportioned under Amendment 97 (non-pollock).

As noted in Section 2.1, the Council should address the issue of how to treat the activity of CVs that were delivering to motherships (or to CPs acting as motherships) during the qualifying years. CVs are not considered to be part of the Inshore sector when acting in that manner. The analysts are assuming that the historical PSC use of these vessels would accrue to the sector-apportionment history of the sector in which the vessel owner chooses to participate for the duration of the program, and where that vessel must continue to delivery while fishing with GOA trawl quota.

[63] The Council encountered a somewhat similar decision in its recent action on GOA Chinook salmon PSC reapportionment (GOA Amendment 103). The Council set a percentage-based cap on how much PSC could be added to a sector's annual apportionment, and decided not to count any additional PSC that the sector was carrying from the Amendment 97 "uncertainty buffer" when making that calculation.

2.7.4 Allocation of halibut PSC to AFA-sideboarded CVs fishing in the GOA Limited Access sector

This issue was identified in Section 2.2 of this document.

2.7.5 Treatment of PSC set-aside for Alternative 4 (CFA/AM)

Section 2.3 describes two potential PSC allocation methods, or "orders of operation," if the Council selects Alternative 4. Alternative 4 would allocate or set aside 5% to 15% of all quota to either a Community Fisheries Association or an Adaptive Management program (PSC under Alternative 3, or PSC and groundfish under Alternative 2). The CFA/AM percentage of the allocated quota could either be set aside prior to the application of any other selected allocation mechanism, or could be allocated simultaneously with the other mechanisms. Under Alternative 3, this decision impacts the proportion of PSC that is allocated on the basis of "equal shares" for all pre-registered trawl participants, as illustrated in the example provided in Section 2.3. Setting aside CFA/AM PSC at the outset results in more PSC being allocated as equal shares, relative to applying the mechanism alongside all the others.

2.7.6 Removal of language from Element 4.b

Element 4.b describes two of the options for allocation mechanisms: equal shares and vessel dependency. The analysts have identified two instances where the written langue of the element includes an unnecessary suboption or causes confusion.

Option 1 (equal shares) includes a suboption that would divide halibut PSC and non-pollock non-RP CV Chinook salmon PSC according to total historical landings in the Pacific cod and flatfish targets before making allocations. The language of the element does not define any criteria that a vessel must meet in order to get an equal share from each sub-pool of PSC, so every vessel would receive a share from each pool. As a result, the suboption has no effect.

Option 2 (vessel dependency) references the "cooperative member's LLP" when describing the vessel for which historical catch in the GOA and elsewhere would be compared in order to make a threshold calculation. The analysts suggest removing the reference to the LLP license. The program defined by Alternative 3 is generally vessel-based, as opposed to Alternative 2 which is license-based. Unintended complications could arise if an LLP is transferred from one individual to another and is assigned to a different vessel. The historical catch on the vessel that used to be named on the transferred license should not have any effect on the dependency calculation for the new license owner's vessel. The only privileges conferred to the new license owner are the gear and area endorsements on the license.

2.7.7 Possibility of multiple inter-cooperative agreements within a GOA area (CG/WY or WG)

This issue was discussed in Section 2.3.1.3 of this document.

2.7.8 Application of transfer restrictions

Element 5 includes two different transfer restrictions. The first limits the amount of PSC that a "person" can use in a given year (110% to 150% of the PSC that the person was allocated and went into their

cooperative or the Limited Access sector). The second limits the amount of PSC quota that a cooperative can sent to other cooperatives, in aggregate (10% to 50% of the cooperative's initial PSC allocation for that year.

As demonstrated throughout the analysts' explanation of the PSC allocation process, a person or a cooperative's PSC allocation is not thought of as a single block. Rather, that person or cooperative's PSC allocation is a collection of multiple PSC allocations. For example, a person could be allocated halibut PSC, Chinook salmon PSC for use in the directed pollock fishery, and Chinook salmon PSC for use in non-pollock fisheries. At the very least, a person or a cooperative's PSC allocation should be thought of as two separate accounts – one for halibut and one for Chinook. NMFS would presumably be responsible for monitoring and enforcing these limits. The analysts request that the Council clarify whether these limits are applied separately to each account. Were that not to be the case, then a person (vessel) could use more than their percentage limit of one PSC species, but their overall use percentage would remain under the cap by virtue of the larger denominator that results from adding their initial halibut and Chinook salmon PSC allocations together. The same can be said for the cooperative transfer limit.

2.7.9 Remove language regarding "permanent" transfer of PSC

The final paragraph of Element 5 states that LLP licenses are transferable and that "PSC cannot be permanently transferred separately from a license or vessel." LLP licenses are transferrable under the status quo, so that portion of the element is unnecessary. The latter part of the statement is also unnecessary. The premise of Alternative 3 is that PSC quota is only issued on an annual basis. As a result, "permanent" transfers of PSC cannot exist. Since PSC is allocated annually on the basis of a vessel's participation and other qualifications (e.g., dependency), no quotas are associated with an LLP license and there is nothing to be transferred that has value over multiple years.

2.7.10 Pre-registration for Limited Access sector

The language of Element 6 states that "vessels must pre-register to operate in the limited access fishery by November 1 of the previous year." Vessels that join cooperatives are essentially pre-registering as well, since the cooperatives have to submit signed contracts to NMFS by November 1. This subsection elaborates on the need for pre-registration, how the process and deadline would be enforced, and provides some context to help the Council consider whether November 1 is the appropriate deadline.

NMFS has the ability to establish regulations that require a person to register by a certain deadline in order to receive an authorization to fish. The authorization could take the form of an annual license, a permit, or a letter. Without such authorization, a vessel would likely not be eligible to receive a PSC allocation under Alternative 3; in other words, the vessel would not be part of the "denominator" when determining how to divide a given PSC pool. The Council would need to develop a decision record that supports the rationale for requiring vessels to pre-register for the fishery – either as a participant in the Limited Access sector or as a member of a cooperative that submits a timely contract.

The likely rationale would speak to the fact that NMFS needs to know the total number of vessels that plan to be active in each sector of the Inshore fishery (cooperatives and Limited Access) in order to make share-based allocations. The "universe" of vessels that could potentially receive shares could be defined

as a list of all the vessels that are currently named on an LLP license that carries a GOA trawl endorsement; for some PSC pools, the universe would be the vessels named on an LLP that carries a GOA trawl endorsement for a particular area. Pre-registration would allow NMFS to define the Limited Access sector as a subset of the eligible vessels that did not join a cooperative by the selected deadline.

Once the pre-registration deadline arrives, NMFS must identify each vessel that was eligible to participate in the program, but neither joined a cooperative nor pre-registered for Limited Access. Under similar North Pacific programs that have deadlines, NMFS send these vessels an Initial Administrative Determination (IAD) to alert them to the fact that they have not registered, and to provide them an opportunity for due process.[64] The person receiving the IAD might have decided not to pre-register because he or she has no plan to trawl in the GOA during the upcoming year. On the other hand, that person might have forgotten to register, or their communication failed for any number of valid reasons. The IAD officially puts the potentially eligible person on notice that he or she failed to submit a timely application for the annual authorization, and provides that person with an opportunity to appeal that IAD if they so choose.

Element 6 lacks accountability measures to ensure that vessel owners do not pre-register with a real intent to participate in the fishery. Unlike the cooperative sector, there are no active participation requirements for the Limited Access sector. One might imagine that a vessel that registers and then does not participate in one year could be barred from registering in the following year, though they would have to be given a chance to appeal that decisions, perhaps demonstrating a hardship; nevertheless, effects of that behavior would be felt in the first year. Each vessel that joins the Limited Access sector represents some amount of PSC that is not available to cooperatives, as it dilutes the size of each share in the "equal share" PSC pool. Under Element 6, Option 1 (sector-level PSC limits), a registered Limited Access vessel that is inactive would be effectively increasing the amount of PSC that is available to other Limited Access participants. Under Element 6, Option 2 (individual non-transferable PSC limits), the PSC allocated to that inactive vessel would simply go unused. For obvious reasons, NMFS would not be able to tell if a vessel is going to behave this way – for one reason or another – during the currently defined time window between November 1 and January 20 when allocations must be made.

The Council may wish to take a broader look at the number of deadlines that are set at November 1, and how they might interact. Currently, that list includes:

1. "Harvester" must indicate intent to participate in GOA trawl fisheries and be in a cooperative with a processor
2. Vessels must pre-register to operate in the Limited Access sector
3. Cooperatives must have an annual contract filed with NMFS, and that contract must define how cooperative members will internally allocate and manage its PSC allocation

[64] One example of NMFS issuing IADs is the issuance of annual IFQ in the Crab Rationalization Program. If a crab QS holder fails to submit an application by the June 15 deadline, NMFS RAM division sends that QS holder an IAD stating that they will not receive a crab IFQ permit for the upcoming year, and notifying them of their right to appeal the IAD. This procedural due process benefits both the QS holder and NMFS. The QS holder can rectify the situation if he or she actually attempted to (or meant to) submit a timely application. NMFS has adequate time to resolve any disputes in advance of calculating annual allocations and issuing permits for the correct amounts of IFQ.

4. Inter-cooperative agreements must be signed and submitted (*not stated in the alternative, but assumed by the analysts to be necessary in order to make allocations if Element 4.e is selected*)

Cooperatives will find it difficult to craft a plan for allocating and managing their PSC before they know the amount that they are allocated. NMFS cannot make the allocations until it knows how many vessels are in each sector (cooperatives vs. Limited Access), and how many vessels qualify for each of a number of different PSC pools (e.g., dependency pools). The timeline for determining the number of vessels in each sector will need to include time for due process on IAD appeals, not to mention time for NMFS's likely involvement in reviewing vessels' dependency claims in some form or fashion (as noted earlier, even if vessels are free to claim dependency by a simple affidavit submission, the agency anticipates receiving requests to verify claims since no vessel owner will want to have inadvertently submitted a false claim). At a minimum, the Council might consider moving up the deadline to pre-register for either the Limited Access sector or the cooperative sector, and the presumed deadline to submit inter-cooperative agreements to NMFS.[65] (For reference, the deadline to submit an application for annual IFQ in the Crab Rationalization Program is June 15.) This would provide NMFS with enough information to make PSC allocations to vessels prior to November 1. With that information, vessels could join or form cooperatives which could then craft the operational and bycatch minimization plans that are required parts of the cooperative contracts due to NMFS by November 1.

2.7.11 Vessel replacement

The allocation structure described by Alternative 3 is vessel-based. As such, the Council should consider how the alternative would operate in the case of an unanticipated need for a vessel replacement (i.e., a vessel sinking as opposed to being decommissioned as part of a business plan). The need for such a provision is especially relevant if the Council includes the vessel dependency in its preferred alternative (Element 4.b, Option 2). As written, qualification for PSC quota allocated on the basis of historical dependency is based solely on the submission of an affidavit by the vessel owner. However, if the Council foresees any role for NMFS in verifying the accuracy of those affidavits, the agency must rely on historical fishery data collected for that vessel. The Council might need to direct agency staff to develop regulations that govern how dependency-history will be treated in the case of a vessel replacement.

If the Council does not select vessel dependency as one of the PSC allocation mechanisms under Alternative 3, then the issue of vessel replacement would only arise if a vessel that sinks during the season was in the Limited Access sector and the Council had selected Element 6, Option 2 (individual vessel PSC allocations for the Limited Access sector). Otherwise, the PSC associated with that vessel would have already been allocated to either a cooperative or to the Limited Access sector's shared PSC limit.

2.7.12 Halibut PSC dependency

Section 2.3.1.1 raised the question of whether halibut PSC limits should be divided between the deep-water complex and shallow-water complex before determining dependency. That section also raises the question of whether or not mid-water pollock history should be included when determining whether

[65] This assumes that the terms of the "incentive structures" in the ICA would be fairly generic, as the cooperatives could not submit detailed PSC use plans without knowing their allocations.

vessels meet the dependency threshold for halibut PSC (or for shallow-water complex halibut PSC if the complexes' PSC limits are treated as two different pools).

2.7.13 Transferability and consolidation limits

Alternative 3, Element 5 defines the use limit of 110% through 150% at the "person" level. The Council should clarify whether that cap is intended to apply as written, or to apply at the vessel level.

2.7.14 Community Fisheries Association or Adaptive Management PSC

Clarify whether a percentage of the CFA/AM PSC assigned to a cooperative is subject to processor control. This issue is discussed in Section 2.3.

3 Community Measures

Each of the Council's action alternatives includes elements that are intended to promote social and economic stability in GOA coastal communities. The first subsection lists the elements of each alternative that are directly related to this program objective. These elements are identified – and in some cases explained – in Sections 1 and 2 of this document. The elements are merely listed in this section as a more convenient way for the reader to contrast the various approaches. Some of these elements might trade off production efficiency in order to achieve other goals. Typically, there is not a "right" or "wrong" level at which to set a protection measure, such as a consolidation limit. Ultimately, the Council faces a policy decision about how to balance competing objectives. The Council has often heard stakeholders testify that keeping the fishery economically viable is a necessary pre-condition for community stability. While that is true, the Council has a host of decisions to make that will likely influence where, and to whom, the benefits from the fishery flow and how they are distributed across people and over generations.

One of the major concerns expressed regarding community stability is fleet and processor consolidation, which is further explored in Section 4 of this document. The Council should bear in mind that many regulatory decisions influence consolidation, and that the industry is already experiencing pressures from world product markets and relative currency values. Consolidation in the processing sector could occur under status quo regulations. In general, the current lean times in the marketplace mean that processors or harvesters with access to capital or revenue from other fisheries are better positioned to weather the challenge and to invest in future business positions. Fishery participants who do not have sufficient financial reserves are often the first to exit a fishery when prices are low or costs are high. A lack of certainty about the future of the fishery can exacerbate this sequence. Consolidation occurs when those participants need to sell their vessels or permits and the only buyers in the market are those who have the most resources and an ability to take on debt. Ultimately, when the economic conditions in the fishery improve, fewer entities will be around to benefit. Elements that limit consolidation can manage some of the direct consolidation effects of Alternative 2 or 3, but could indirectly limit the overall industry's ability to respond to broader economic events in the medium- to long-term.

The following subsections provide baseline social information on GOA trawl stakeholders, a discussion of the relationship between new management regimes and the value of LLP licenses, and some preliminary analysis of how the proposed qualifying periods for catch history and PSC usage could

differentially affect certain participants. The subsection on social data is a first step toward characterizing the human and capital investments that have been made in this fishery, which could be affected by the Council's policy choices. At the February 2016 meeting, the Council asked staff to begin developing that information as soon as possible. Council staff and contractors will continue to build on this effort as a social impact assessment is prepared for inclusion in the EIS.

Section 3.2 in mainly included to refer the reader to Appendix 4 (Section 10), which lays out a straw-man formulation of a Community Fisheries Association (CFA) might be structured as part of the larger program. This material was developed by stakeholders who are proponents of the CFA option.[66] Their contribution to this document is responsive to the Council's request that they take further steps to define a more specific vision of a CFA for staff to analyze so that the Council can weigh its merits in relation to the program objectives.

3.1 Program Elements

Table 19 and Table 20 list the program elements that the Council is considering in order to promote community stability. These options are not mutually exclusive. The language of the alternatives can be found in Appendix 1 (Section 7).

Alternative 4 could be selected alongside either Alternative 2 or Alternative 3. The two options within Alternative 4 – CFA and Adaptive Management – *are* mutually exclusive. The primary purpose of including Alternative 4 is to provide additional tools to promote community stability. Aside from the straw-man described in Section 3.2, this paper does not go into the details of Alternative 4. In regard to the second option under Alternative 4 (Adaptive Management quota), the analysts continues to emphasize the need for the Council to define the purposes for which AM quota might be used (Alternative 4, Option 2, Element 1). If paired with Alternative 2, the Council should be aware of the fact that trawl harvesters might make business plans based on receiving 100% of the annual quota allocated on the basis of their license's catch history, so reallocating quota for Adaptive Management in some undetermined future year could increase uncertainty for the fleet, or have adverse effects on license-holders who have not planned to account for a 5% to 15% decrease in their annual allocation. One of the primary "lessons learned" identified in the October 2014 discussion paper on CFAs and Adaptive Management was that treating AM quota as a "pass-through" during the early years of a program makes it more difficult to repurpose and redistribute that quota in the future.[67]

[66] The analysts were not provided with a list of all the stakeholders who provided input. The paper was submitted by staff from Alaska Marine Conservation Council, and they reported that several people, within and outside their organization, contributed to the proposal.
[67] http://npfmc.legistar.com/gateway.aspx?M=F&ID=3b69e1c8-d6f5-4523-b01e-e8a651452f23.pdf

Table 19 Community stability measures in Alternative 2

Element	Found in this document…	Comments
Element 8.a (Options 1 & 2): Groundfish quota ownership and vessel use caps for CVs	Section 1.2.12, "*Mechanisms to limit consolidation*"	
Element 8.a (Option 3): Facility-based shoreside processing caps for each target species	Section 1.2.12, "*Mechanisms to limit consolidation*"	
Element 8.b: Regionalization of target species quota	Section 1.2.13, "*Regional and specific delivery requirements*"	The element specifically refers to "cooperative quota." The Council should state whether regional delivery requirements also apply to the unallocated portion of a species' area-TAC that goes into the Limited Access sector.
Element 8.b (Option 3): Kodiak port of landing requirement	Section 1.2.13, "*Regional and specific delivery requirements*"	
Element 8.c: Active participation criteria	Section 1.2.11, "*Definition of 'active participation.'*" Also refer to February 2016 discussion paper.[68]	
Element 12: Sideboards	Section 1.2.15, "*Removal and creation of sideboard limits.*" Also refer to Section 2.6 of the October 2015 discussion paper[69], and the February 2014 discussion paper on GOA Pacific cod pot sector participation.[70]	
Element 14: Cost recovery and loan program	Section 1.2.16, "*Cost recovery and loan program*"	
Element 6.b (Option): Processor control of cooperative PSC quota	Section 1.2.9, "*Proportion of PSC quota controlled by a cooperative's processor-member*." Also refer to Section 2.2 of the October 2015 discussion paper.[71]	The use of this PSC quota would be defined by the cooperative, but previously discussed uses included incentives for local vessels, keeping the fishery open longer, or generally combatting processor consolidation.

[68] http://npfmc.legistar.com/gateway.aspx?M=F&ID=a02b1f46-1217-476c-abc5-6b61ee3ebab1.pdf
[69] http://npfmc.legistar.com/gateway.aspx?M=F&ID=210f1587-0e38-47fa-af4d-3dcd04edf3ac.pdf
[70] http://npfmc.legistar.com/gateway.aspx?M=F&ID=35fd8735-dd86-475a-b3f9-41df28fdf26d.pdf
[71] http://npfmc.legistar.com/gateway.aspx?M=F&ID=210f1587-0e38-47fa-af4d-3dcd04edf3ac.pdf

Table 20 Community stability measures in Alternative 3

Element	Found in this document…	Comments
Element 5: Vessel-level PSC use cap	Section 1.1.8, "*Transferability of PSC and LLP licenses*." Section 2.6.3, "*PSC transfer provisions*." Section 2.7.1, "*PSC rollovers from the Rockfish Program*." Section 2.7.8, "*Application of transfer restrictions*."	
Element 5: Inter-cooperative PSC transfer cap	Section 1.1.8, "*Transferability of PSC and LLP licenses*."	
Element 4.f: Contracts must limit benefits to non-active participants or non-active cooperatives	Section 1.2.11, "*Definition of 'active participation.'*"	The analysts interpret this element to mean that cooperatives must define contract terms to prevent their member vessels, or themselves, from registering from the program to receive PSC quota, only to transfer that quota to another party for some benefit (as limited by the transfer restrictions listed above). The Council should state whether NMFS is responsible for monitoring and enforcing this requirement, and describe the nature of accountability measures.
Element 4.f: Minimum delivery requirements for contractual "active participation" qualifiers	Section 1.2.11, "*Definition of 'active participation.'*" Also refer to February 2016 discussion paper.[72]	The Council specified a 3-delivery minimum requirement *for each target species* in order to meet the terms of the cooperative's active participation "benefit" threshold. The analysts presume that the cod and flatfish targets would be considered jointly, as those targets are both covered under an existing PSC limit (non-pollock non-RP CV sector Chinook salmon). Similarly, GOA halibut PSC is not currently apportioned by target fishery. Presumably, 3 GOA deliveries of any target species could qualify a vessel as an "active participant" in regards to halibut PSC. Alternatively, if the Council bases halibut PSC dependency on the deep-water complex and shallow-

[72] http://npfmc.legistar.com/gateway.aspx?M=F&ID=a02b1f46-1217-476c-abc5-6b61ee3ebab1.pdf

		water complex, the 3 GOA delivery requirement could be applied at the complex level.
Element 4.b (Option 3): Processor control of cooperative PSC quota	Section 1.2.9, "*Proportion of PSC quota controlled by a cooperative's processor-member*." Also refer to Section 2.2 of the October 2015 discussion paper.[73]	The objective of this element is not yet fully defined. Several of the potential uses might enhance community stability, as a processor could use PSC quota to keep local, year-round vessels operating in the face of constraining PSC, or to employ incentive measures to keep the fleet operating longer in general (thus keeping processing labor engaged for more of the year).

3.2 Community Fisheries Association (Alternative 4, Option 1)

At its February 2016 meeting, the Council asked stakeholders that have supported a Community Fisheries Association (CFA) to develop a more detailed proposal for the option in order to focus discussion of how it might fit within the overall GOA Trawl program. The CFA structure that is included in the Council's current set of alternatives is based on the Fishing Communities provision in the MSA (§303A(c)(3)). To date, little guidance for establishing a CFA has been provided by the Federal government. The Council noted that refining the vision of the CFA option was an important first step of a process wherein NMFS, NOAA General Counsel, stakeholders, and the Council itself can determine whether CFAs are an appropriate tool for achieving the program's goals.

The Council's main requests to the stakeholders were to elaborate on community and individual eligibility to participate in the CFA or benefit from its quota allocation, the methods for making CFA quota available to fishery participants, governance, reporting, and the contents of the "community sustainability plan" that is required by MSA. In response, stakeholders have provided revised language for Alternative 4, Option 1 and a preamble. Because this material was not prepared or edited by Council or NMFS staff, this material is included in this document as Appendix 4 (Section 10), and no further analysis is provided at this time. However, the analysts note that the introduction to the stakeholders' submission begins by stating that their version of the alternative "presents an initial allocation process to apply if the Council proceeds with development of a LAPP."As noted elsewhere in this document, the analysts consider Alternative 2 to be a LAPP, but not Alternative 3. The have stakeholders confirmed their position that a CFA would not be a necessary measure if the Council selected Alternative 3, as currently written, to be the preferred alternative for program structure. This is worth noting because, at its February 2016 meeting, the Council specifically directed staff to consider how Alternative 4 could be integrated with Alternative 3 if the Council were to move in that direction.

Previous discussion papers on the GOA trawl program have addressed CFAs. Refer to Section 2.9.1 of the October 2015 discussion paper[74], which references the October 2014 discussion paper and a summary

[73] http://npfmc.legistar.com/gateway.aspx?M=F&ID=210f1587-0e38-47fa-af4d-3dcd04edf3ac.pdf
[74] http://npfmc.legistar.com/gateway.aspx?M=F&ID=210f1587-0e38-47fa-af4d-3dcd04edf3ac.pdf

report on the Council's February 2014 CFA Workshop. That section describes the Council's process up to this point on the CFA option, information on the MSA's definition of Fishing Communities, metrics to define community eligibility to participate in a LAPP "to harvest fish," potential participation criteria to be considered for this program, and a summary of relevant points from NOAA's 2014 Technical Memorandum *The Design and Use of Fishing Community and Regional Fishery Association Entities in Limited Access Privilege Program* (Stoll & Holliday, 2014).

3.3 Investment in Kodiak's Utility Infrastructure

The city of Kodiak, Alaska and the Kodiak Island Borough are integrally linked to the GOA trawl fishery. In 2006, five of the top 10 principal employers in the city of Kodiak were fish processing plants.[75] The vast majority of Central GOA groundfish trawl catch is landed at Kodiak shoreside processors, which employ a high proportion of resident workers relative to other Alaska plants. The following subsections provide a first-cut of information that characterizes the community's investment in infrastructure that supports the industry. With assistance from the City of Kodiak and the Kodiak Electric Association, Inc. (KEA), future iterations of this analysis could breakdown the following data further to delineate the utility consumption of the Kodiak shore-based processing plants as a subset of the commercial and industrial users in the area. As is, the information provided here illustrates that the Borough and municipality have invested in production capabilities that are driven by the demands of peak fish processing during the heights of the groundfish season and, to a lesser extent, the directed salmon fishing season.[76] Some finer resolution of detail is available for fish processing usage of electricity via a report by the Alaska Groundfish Data Bank (see Figure 5).

3.3.1 Electricity

KEA has provided annual sales data through 2012, and monthly data through 2013. Figure 4 shows the positive relationship between KEA electricity sales and the months that are known to be peak processing times in the GOA trawl fishery. Figure 6 shows that annual electricity sales track with the amount of fish that moves through Kodiak processing plants. [77] Figure 5 shows that Kodiak shore-based plants' monthly electricity consumption peaks between 5 and 6 million kWh in the spring and fall, which means that together they consume around 40% to 45% of total electricity production at peak, and around 20% to 30% during the shoulder-seasons. Kodiak's high-consumption months generally correspond to production of pollock, Pacific cod, and pink salmon.

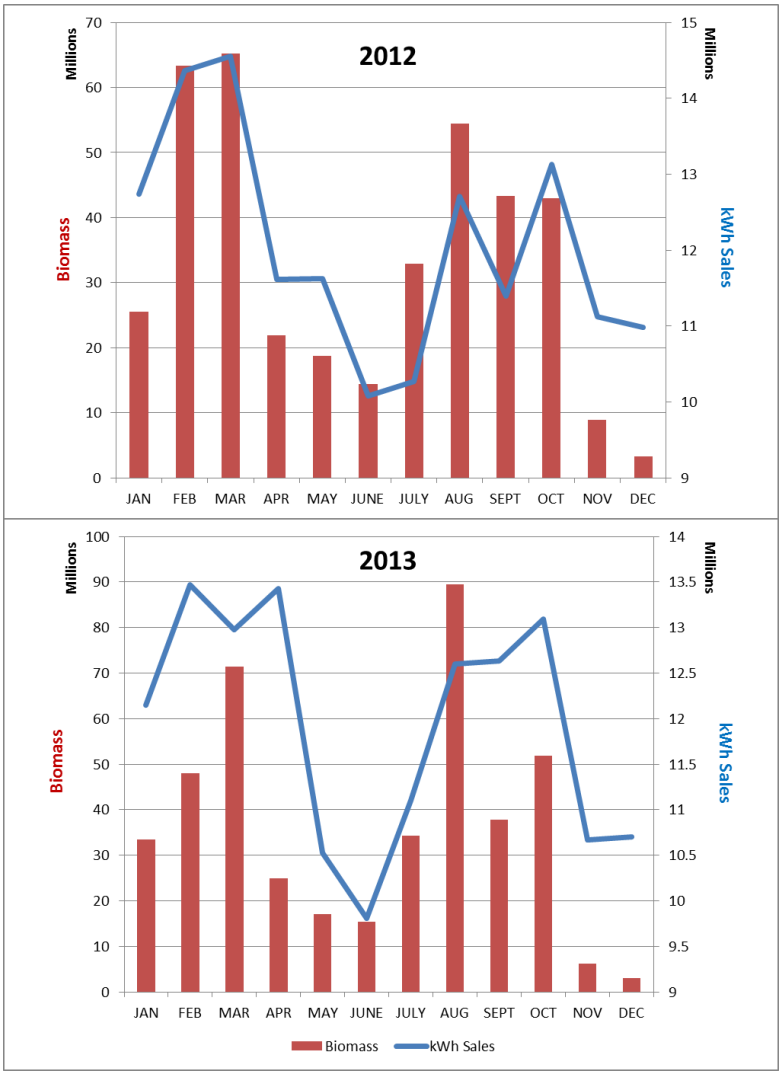
[75] Source: City of Kodiak Comprehensive Annual Financial Report for Fiscal Year 2015, available at: http://www.city.kodiak.ak.us/sites/default/files/fileattachments/finance/page/352/city_of_kodiak_cafr_fy_2015.pdf. Specific employer information is no longer available, due to a change in Alaska statute.

[76] Information on electricity usage provided by Darron Scott (KEA) via Rebecca Skinner (Kodiak Island Borough Assembly). Information on water usage provided by Mark Kozak and Kelly Mayes (City of Kodiak).

[77] Note that "biomass" in both Figure 4 and Figure 6 includes all fisheries and gear types, but the well-known seasonal distribution of volume by fishery/gear allows the analysts to be confident that the local peaks are largely driven by the groundfish trawl sector. The "kWh sales" total represents sales to *all* KEA customers, including residential users and commercial/industrial users that are not fish processors.

According to the Alaska Groundfish Data Bank (AGDB), total electricity consumption by Kodiak shore-based processors has increased during the 2011 through 2015 period, from around 40 million kWh to around 44 million kWh.[78] This increase matches the increase in the total volume of fish deliveries. However, the rate of electricity consumption to biomass (kWh/lb.) has decreased gradually, and somewhat more sharply between 2014 and 2015. AGDB attributes this rate reduction to several factors: the plants' focus on energy efficiency as a means to reduce processing and freezing costs; higher delivery volumes that allow plants to operate closer to peak efficiency without as much time spent ramping production up and down; and the replacement of an older plant with a new Trident Seafoods plant-expansion that was designed specifically for high-volume freezer operations.

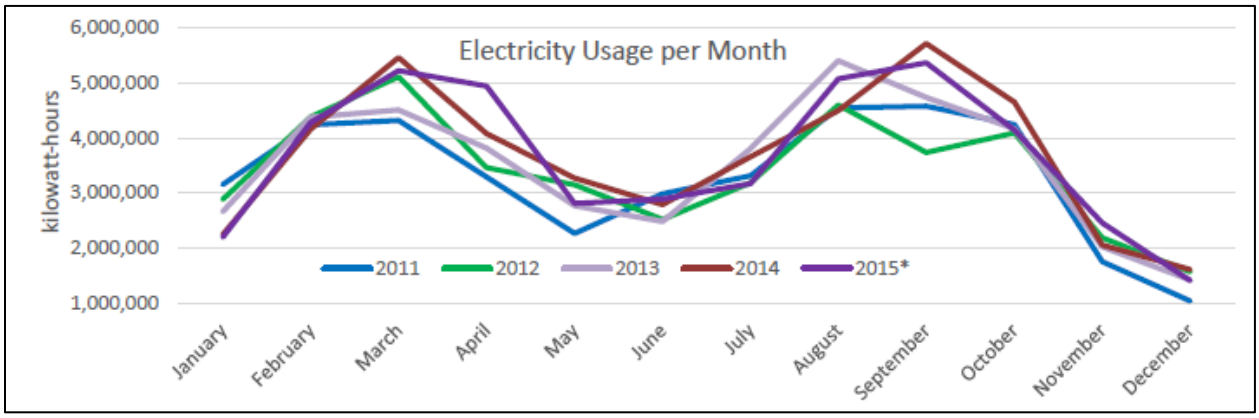
Figure 4 Fish processed at plants in the city of Kodiak (million lbs.) and total KEA electricity sales (kWh), by month for 2012 and 2013



Source: Biomass data provided by Alaska Groundfish Data Bank, taken from NMFS reports; Electricity usage data provided by Kodiak Electric Association.

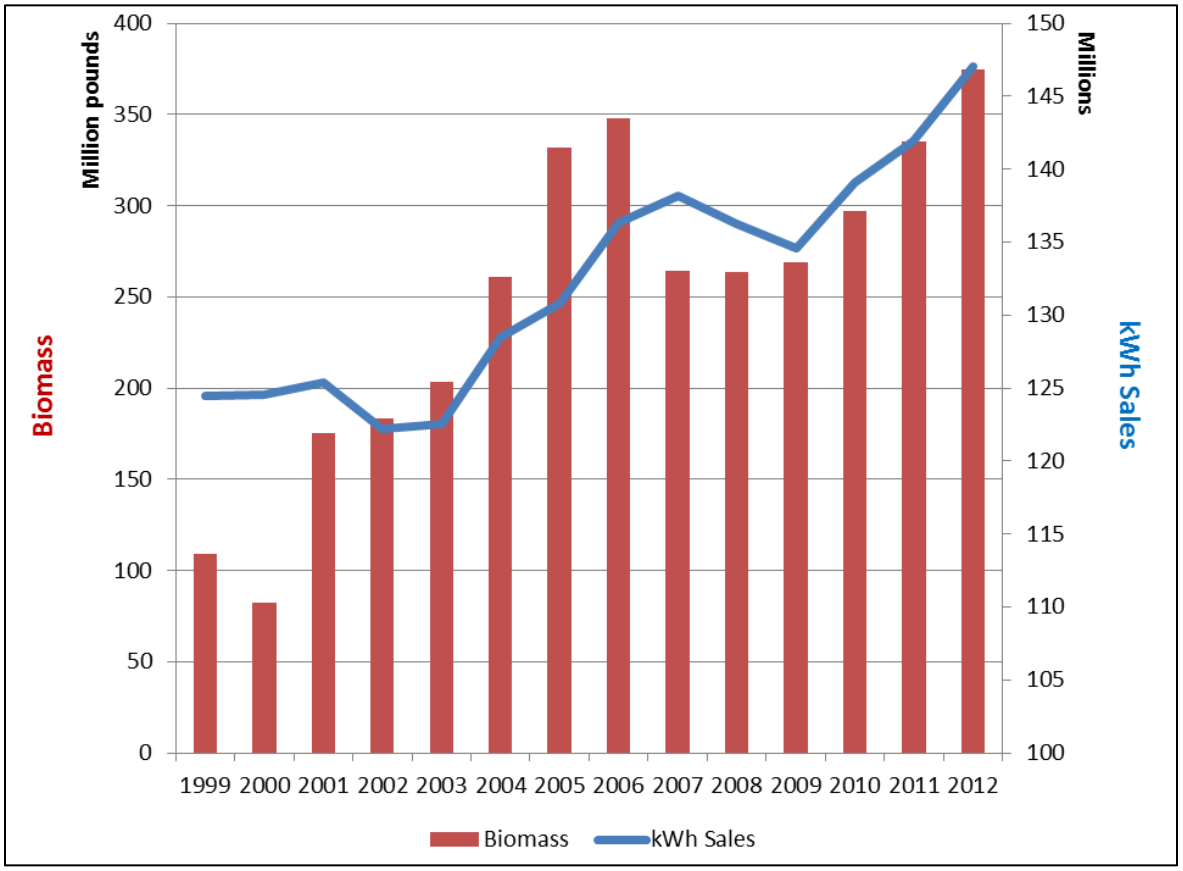
[78] Alaska Groundfish Data Bank, Inc. 2015. "Historical Kodiak Fishery Performance and Fishery Outlook", AGDB special report produced for Kodiak Electrical Association,1614 Mill Bay Rd. Kodiak, AK 99615.

Figure 5 Kodiak shore-based processor electricity usage by month, 2011 through 2015 (Dec. 2015 estimated)



Source: Alaska Groundfish Data Bank, 2015.

Figure 6 Annual shore-based processing at plants in the city of Kodiak (million lbs.) and total KEA electricity sales (kWh), 1999 through 2012



Source: Biomass data from COAR; Electricity usage data provided by Kodiak Electric Association.

3.3.2 Water

Employees with the City of Kodiak have informed the analysts that the municipality's water system is sized to meet the peak flows that occur during times of high-volume processing, and that the peaks are more closely associated with groundfish seasons (pollock and Pacific cod) that with salmon. Peak days can require 8.5 to 9.5 million gallons per day (MGD). Anecdotally, recent years have included fewer "extreme peak" days (more than 9.5 MGD), but an overall greater number of high flow days. In summary, city managers stated that the water operating system is built greatly out of proportion to the community's population, in order to meet processing needs.[79]

Figure 7 summarizes water usage over the 2005 through 2015 time period. The years are broken into three sets in order to compare the time prior to the Central GOA Rockfish Program (pre-2007) and years since the Council embarked on the development of the GOA Trawl program (post-2012). The monthly pattern of usage appears consistent across time periods. The figure shows total water consumption by all municipal users, the amount of that total that was used by industrial/commercial users, and the proportion of the total use that the industrial/commercial group accounted for. The industrial/commercial subset includes the fish processing plants, but also includes others. If the Council finds this information to be useful, the city could provide a more refined break-out of the plants' use for a future analysis. Over the entire time period, the industrial/commercial sector accounted for roughly 55% of water usage (~990 MG out of 1.8 billion gallons). During the months when the industrial/commercial sector accounts for a high proportion of use, it consumed around 60% to 80% of the total.

[79] Mark Kozak. City of Kodiak. Personal communication, April 2015.

Figure 7 City of Kodiak's total average monthly water usage and average percent used by the commercial/industrial sector, 2005 through 2015 (Source: City of Kodiak)

3.4 Impacts on the Market Value of LLP Licenses

Determining the future value of a groundfish LLP license is challenging because there are different ways to measure the present value of future cash flows, the various attributes of licenses, and uncertainty associated with fishing. Traditionally the value of an asset is calculated in terms of its Net Present Value (NPV). NPV is the difference between the estimated present value of gross revenues and the estimated present value of expenses (discounted long-term stream of net revenue). In general, a positive net present value indicates that the projected earnings generated by fishing with a license exceeds the anticipated costs of fishing. The NPV calculation includes a factor for the time value of money (TVM); a dollar amount in the present time period has greater value than the same dollar amount in the future. To state it another way, a dollar earned in the future will not be worth as much as one earned in the present. This is both because of earnings that could potentially be generated using the money during the intervening time, and because of inflation.

Projecting the effect of the alternatives on the value of an LLP license is complicated by a variety of factors that are characterized by uncertainty. Estimating the change in the NPV of an LLP license relies on multiple assumptions and estimates. These assumptions and estimates can result in large errors associated with the NPV calculation when compared to actual sales values. Because of this, none of the other analyses for LAPP programs (e.g., Rockfish Program) implemented by the Council included estimates of changes in license values.

Factors of the NPV calculation include the costs of fishing, an assumed discount rate[80], and projected revenues associated with using the LLP license to fish. The discount rate and the revenue estimates may not inherently account for risks associated with purchasing a license. Moreover, each individual might apply different risk factors and discount rates when determining their own NPV of a license. If a person does not properly account for unexpected costs, or is overly optimistic in their revenue projections, he could pay too much for a license.

Uncertainty associated with gross revenue in future years:

- Changes in the annual groundfish TACs.
- Changes in exchange rates, since much of the fish harvested is sold into foreign markets
- Fluctuation in ex-vessel prices resulting from negotiations with processors
- PSC limits or other closures that occur before the TAC is harvested
- Annual harvest by the vessel using the license. Vessel level harvests can be affected by success in fishing (catch rates), knowledge of captain, mechanical failures, gear failure, environmental factors, etc.

Uncertainty associated with costs:

[80] When used in this sense, the term "discount rate" is a factor in the equation by which future payoffs are converted to a NPV. The discount rate is often similar to the expected interest rate during the time period between the present and the point of future comparison. Another way to think about it is the growth rate of present money if it had been invested – in markets, or perhaps in productive capital such as fishing gear – at expected rates of return for the defined period of time.

- Cooperative management costs
- Observer costs
- Insurance costs
- Fuel and other variable costs
- Other fishing costs, such as capital depreciation and repairs
- Other management related costs

Attributes of a particular LLP license impact the cost of the license. These attributes include[81]:

- The permitted length of the vessel on which the license can be used (MLOA)
- Catch history associated with the license that could have value in future LAPPs
- The endorsements on the license
    - Areas (BS, AI, WG, CG, EG)
    - Species (Pacific cod)
    - Gear types
    - AFA: A person may not use an LLP license that was derived from the qualifying fishing history of an AFA catcher vessel or a listed AFA catcher/processor to fish for groundfish or crab on a non-AFA catcher vessel or non-AFA catcher/processor
- Rockfish Program quota is attached to the license
- Whether the associated crab LLP license must be transferred with the groundfish LLP license. Regulations at 50 CFR 679.4(viii)(B) state that a groundfish license and a crab license issued based on the legal landings of the same vessel and initially issued to the same qualified person are not severable and must be transferred together.

The analysis will consider the expected directional change in NPV under each of the two primary cooperative alternatives, relative to the status quo. Quantitative estimates of the change in LLP license value will not be generated, because of the potential for large errors resulting from the uncertainty associated with costs, revenues, variation in the attributes of the LLP license, and technical efficiency (fishing knowledge and skill) of the persons using the LLP license.

In general, it is anticipated that the NPV of a license would be similar to the status quo under Alternative 3. Currently a license provides access to the fishery and the PSC limit associated with that fishery. Alternative 3 provides access to the TAC and PSC limit to any GOA trawl license holder who indicates he or she will participate in the fishery. The primary difference between Alternative 3 and the status quo is that the PSC limits will be further divided among cooperatives and the Limited Access sector according to other factors; however, those factors are not tied to the attributes or history of the LLP license itself. As long as TAC remains available, participants might experience some benefits as a result of coordination within the cooperative, though the extent of those effects is not yet known. If PSC does not constrain a cooperative's access to the available TAC, then the value of the license and associated PSC will be about the same as it is under the status quo. For Alternative 3 to increase the NPV of the license, it would need to increase the expected long-term net revenue derived from the license. In other words, it would need to increase the revenue generated to a level that would more than cover the expected increase in costs associated with operating under Alternative 3.

[81] See LLP summary tables presented in Appendix 3 (Section 9).

The NPV of the license could either increase or decrease under Alternative 2, based on the percentage of the PSC limit and various TACs that are assigned to the license. A license that has no allocation of TAC or PSC limit assigned to it might decrease in value; whether it does depends on the other attributes of the license (crab quota, Rockfish Program quota, AFA eligibility, area endorsements, etc.). Licenses that have no other attributes that would allow the owner to generate future revenues would decrease in value. Licenses that generate revenue from other sources will retain most of their value. License that are assigned a substantial percentage of the GOA TACs and associated PSC limit will increase in value. The increase in value is associated with the expected long-term revenue stream that is expected to be generated from the exclusive harvest privilege associated with the LLP license.

Past transfers of groundfish LLP licenses with a GOA trawl endorsement reflect the variability in license values[82]. AKFIN staff provided a summary of the RAM LLP transfer files. A total of 10 GOA trawl licenses were reported have been transferred based on that data (since 2000). The three transfers with the lowest prices were reported to average about $100,000 per license. The three licenses that sold for the most money averaged about $1.4 million per license. Only a few trawl-endorsed licenses are currently listed for sale by public online brokers.[83] Those licenses were endorsed for trawl and non-trawl gear in the GOA and Bering Sea, and were endorsed for fixed gear Pacific cod. The asking prices ranged from $150,000 to $185,000.

3.5 Qualifying Years and Target Species Harvests

Alternative 2 and Alternative 3 both use the same sets of qualifying years as options to divide PSC limits between in the Inshore (CV) and Offshore (CP) sectors, when they are not currently divided (see Appendix 1 in Section 7). Alternative 2 uses those same sets of years to assign catch history of target and secondary species to LLP licenses (the numerator in the quota calculations). Catch history assigned to all of the qualified LLP licenses is then used as the denominator to calculate the percentage of the available TAC of each target species and secondary species that the holder of the LLP License could take into a cooperative or the limited access fishery.

This section provides information on the number of active and inactive LLP licenses and vessels in the GOA trawl fishery. Table 21 provides a count of the number of vessels that reported catch of groundfish data with trawl gear, excluding RP catches, from 2003 through 2015. Participation is shown for each management area. In general, the number of vessels has tended to decline over the period considered. The number of vessels reporting GOA non-RP trawl landings in 2015 was only 68% of the vessels that reported landings in 2015.

Vessel counts provided in the bottom section of the table show total number of vessels that were active in the Non-RP groundfish trawl fisheries over the time period considered. Information on the three

[82] LLP licenses allow access to the North Pacific groundfish fisheries. State of Alaska fisheries (e.g. salmon) and West Coast groundfish fisheries are managed under different licenses and programs. Only North Pacific groundfish fisheries affect the value of the LLP groundfish license, if they are not licenses linked to LLP crab licenses.

[83] LLP licenses were listed with Dock Street Brokers and Alaska Boats & Permits. The analysts visited their websites in mid-March 2016. The analysts also sent queries to these and other brokers requesting historical LLP sale prices, but no reply has been received.

qualifying periods are included as well as data showing vessel counts that extend those three periods through 2015 (the most current full year of data). That information indicates that there are four vessels that fished from 2013 through 2015 that did not have GOA groundfish landings in any of the previous years considered.

Table 21 Unique count of active vessels, by year and qualifying periods

	CP				CV				Total
Year	CG	WG	WY	CP Total	CG	WG	WY	CV Total	
2003	15	16	1	21	64	40	9	93	114
2004	11	15	1	16	57	33	6	77	93
2005	12	13	1	16	51	37	18	79	94
2006	12	11	1	16	48	34	7	74	89
2007	9	13	2	15	41	37	5	72	87
2008	10	11	1	14	46	29	5	73	86
2009	12	14	3	18	40	31	9	71	89
2010	10	13	2	17	43	29	19	67	84
2011	8	14	2	17	51	26	18	68	85
2012	8	15	1	17	62	32	15	70	87
2013	8	10	1	14	58	30	18	69	83
2014	7	8	2	11	62	27	12	69	80
2015	6	8	2	10	56	26	3	68	78
2003-2015	17	19	5	22	97	69	33	126	146
2003-2012	17	19	4	22	94	66	31	122	142
2007-2015	14	17	5	20	76	54	28	98	117
2007-2012	14	17	4	20	72	51	26	94	113
2008-2015	12	17	5	20	75	49	28	93	112
2008-2012	12	17	4	20	71	46	26	89	108

Source: AKFIN summary of Catch Accounting data
Note: Excludes harvests made under the Rockfish Program

Table 22 provides information on the vessels that were reported to have made shoreside deliveries. The numbers in the table correspond closely, but not exactly to the number of CVs in Table 21, because some CVs may have only delivered to motherships or CPs. The table also breaks out the vessels that had shoreside deliveries by whether they were AFA vessels or non-AFA vessels. The information shows that approximately two-thirds of the vessels are non-AFA vessels.

Table 22 Number of vessels delivering to shoreside processors

	Non-AFA				AFA				All Total
Year(s)	CG	WG	WY	Non-AFA Total	CG	WG	WY	AFA Total	
2003	40	32	5	64	24	8	4	29	93
2004	33	26	1	50	24	7	5	27	77
2005	29	28	6	51	22	8	12	27	78
2006	26	28	3	47	21	6	4	26	73
2007	20	30	2	46	21	7	3	26	72
2008	24	25	1	48	22	3	4	24	72
2009	19	27	3	46	21	4	6	25	71
2010	24	24	8	44	19	5	11	23	67
2011	30	24	8	45	21	2	10	23	68
2012	40	29	7	47	22	3	8	23	70
2013	36	25	10	45	22	5	8	24	69
2014	41	25	5	47	21	2	7	22	69
2015	34	25		46	22	1	3	22	68
2003-2015	67	50	15	87	29	18	18	37	124
2003-2012	64	47	14	83	29	18	17	37	120
2007-2015	51	41	14	65	25	12	14	32	97
2007-2012	47	38	13	61	25	12	13	32	93
2008-2015	50	40	14	63	25	8	14	29	92
2008-2012	46	37	13	59	25	8	13	29	88

Source: AKFIN summary of Catch Accounting data
Note: Excludes harvests made under the Rockfish Program

Table 23 is a summary of the groundfish LLP licenses that were issued as of March 2, 2016. The information in this table does not indicate whether the LLP license would qualify for any allocation under Alternative 2, it simple indicates that the LLP license could be used to fish with trawl gear in at least one GOA area.

Data are also broken out by the areas that the LLP license can be used to fish with trawl gear and whether the LLP license has a CP or CV endorsement. A total of 124 CV LLP groundfish trawl licenses have been issued. Thirty-eight of those licenses are endorsed for trawl gear only and 86 are endorsed to use either trawl or non-trawl gear. Fifty-one of the licenses have both a CG and WG endorsement and 46 have a CG only endorsement, meaning that at total of 97 CV licenses can be used to fish with trawl gear in the CG. A total of 78 CV licenses can be used to fish with trawl gear in the WG.

A total of 28 CP licenses were issued to fish with trawl gear in the GOA. Most of the licenses (24 of 28) can only use trawl gear. These licenses are used on Amendment 80 and AFA CPs. Recall that the AFA CPs are prohibited from fishing or processing groundfish in the GOA.

Table 23 Total number of groundfish LLP licenses with a GOA trawl endorsement

License	Area	Trawl only	Trawl and non/trawl	Total
CV	CG & WG	17	34	51
	CG only	14	32	46
	WG only	7	20	27
	Total	**38**	**86**	**124**
CP	CG & WG	11	2	13
	CG only	6	2	8
	WG only	7	0	7
	Total	**24**	**4**	**28**
All	CG & WG	28	36	64
	CG only	20	34	54
	WG only	14	20	34
	Total	**62**	**90**	**152**

Source: NMFS RAM LLP data (March 2, 2016)

Table 24 reports the number of active GOA LLP licenses with a trawl endorsement over the periods considered. Depending on the option selected under Alternative 2, the table shows the number of LLP licenses that would be expected to get an allocation. It does not provide any information on the allocation each license would be issued since the amount would vary based on the catch history associated with the license.

Information in the table shows that 90 LLP licenses were used to harvest GOA groundfish as a CV from 2008 through 2012 and 112 licenses were active as a CV from 2013 through 2012[84]. Therefore, 22 more LLP licenses may qualify for an allocation if the longer qualification period is selected. As expected selecting the longer time period increases the number of persons that will qualify, but it will, in general, reduce the percentage of the TAC associated with an LLP license.

The table also shows that of the CV licenses were only active from 2008 through 2015, 5 were only active from 2013 through 2015. These LLP licenses would not have catch history that would allow a percentage of the TAC be taken into a cooperative. In other words, these licenses had recent history but would not qualify for the program under the Council's current cut-off date.

The number of CP licenses that were active over the ranged from 20 to 24, depending on the dates selected. No CP LLPs were only active from 2013 through 2015. However, one CP LLP license was only used in the WYK District between 2013 and 2015.

[84] There were five LLP licenses with a CP designation used as a CV during the time periods considered. Three of the CP LLP licenses were only used as a CV. Two of the licenses were used as both a CV and a CP during the years considered. There were a few records that had a blank LLP number field. A blank LLP license field occurred for both the CV and CP catch and is included in the counts. These LLPs account for the differences in the counts provided in Table 24 and those provided in Table 25, Table 26, and Table 27. Table 24 is based on the actual fishing mode and Table 25, Table 26, and Table 27 are based on the designation listed in the LLP license. As a result the CPs that acted as a CV were excluded from the counts in Table 25, Table 26, and Table 27.

Table 24 Number of *active* trawl-endorsed groundfish LLPs

Year(s)	CP				CV				Total
	CG	WG	WY	Total	CG	WG	WY	Total	
2003	16	17	1	24	62	37	10	88	111
2004	12	16	1	19	60	32	7	79	97
2005	13	14	1	18	55	40	20	83	101
2006	13	12	1	18	52	38	8	81	98
2007	10	13	2	17	44	40	6	78	94
2008	10	11	1	14	49	30	6	77	91
2009	12	14	3	18	42	32	9	74	92
2010	10	13	2	17	46	29	22	70	87
2011	8	14	2	17	53	27	19	71	88
2012	8	15	1	17	65	32	16	73	90
2013	8	10	1	14	61	30	19	73	87
2014	7	8	2	11	67	27	13	74	85
2015	6	8	2	10	62	27	3	75	85
2003-2015	17	20	5	24	89	59	36	113	134
2003-2012	17	20	4	24	87	59	34	112	133
2007-2015	14	17	5	21	77	51	31	98	117
2007-2012	14	17	4	21	72	49	29	93	112
2008-2015	12	16	5	20	77	46	31	95	114
2008-2012	12	16	4	20	72	44	29	90	109

Source: AKFIN summary of Catch Accounting data

Table 25, Table 26, and Table 27 show the number of CV LLP licenses (as defined as a CV license in the LLP license data base) that were active and inactive during the three time periods considered. The licenses considered are the same 124 CV LLPs described in Table 23. Information in each of these tables shows the active and inactive CV LLP licenses during that time period and whether the LLP license was derived from an AFA vessel.

In addition the tables indicate the other types of endorsements on the active and inactive LLP licenses. The top section of each table shows the types of Pacific cod endorsements on the LLP licenses. The middle section of the tables shows Bering Sea endorsements. Finally, the bottom portion of the table shows the Aleutian Islands endorsements on the licenses. The total number of licenses in each section total to the 124 LLP CV licenses that were issued as of March 2, 2016.

Table 25 Active and Inactive CV LLP licenses 2003 through 2012, by AFA and fishery endorsements

	Active			Inactive			All Total
	AFA						
License Endorsements	No	Yes	Total	No	Yes	Total	
Total CV Licenses	**71**	**35**	**106**	**15**	**3**	**18**	**124**
Pacific cod Endorsements							
AI CV HAL; CG CV HAL	1		1				1
BS CV Pot; WG CV Pot				1		1	1
CG CV Pot	5	1	6				6
CG CV Pot; CG CV HAL				1		1	1
No Pcod Endorsement	42	34	76	6	3	9	85
WG CV Pot	22		22	5		5	27
WG CV Pot; CG CV HAL				1		1	1
WG CV Pot; CG CV Pot	1		1				1
WG CV Pot; WG CV JIG				1		1	1
Bering Sea Endorsements							
None	52	1	53	9		9	62
Non-trawl	10		10	5		5	15
Non-trawl; Trawl	4	17	21		2	2	23
Trawl	5	17	22	1	1	2	24
Aleutian Islands Endorsements							
None	69	30	99	15	1	16	115
Non-trawl	1		1				1
Non-trawl; Trawl	1	2	3		2	2	5
Trawl		3	3				3

Sources: RAM Groundfish LLP data and AKFIN summary of Catch Accounting Data

Table 26 Active and Inactive CV LLP licenses 2007 through 2012, by AFA and fishery endorsements

	Active			Inactive			All Total
	AFA			AFA			
License Endorsements	No	Yes	Total	No	Yes	Total	
Total CV Licenses	**58**	**30**	**88**	**28**	**8**	**36**	**124**
Pacific cod Endorsements							
AI CV HAL; CG CV HAL				1		1	1
BS CV Pot; WG CV Pot				1		1	1
CG CV Pot	3	1	4	2		2	6
CG CV Pot; CG CV HAL				1		1	1
No Pcod Endorsement	35	29	64	13	8	21	85
WG CV Pot	20		20	7		7	27
WG CV Pot; CG CV HAL				1		1	1
WG CV Pot; CG CV Pot				1		1	1
WG CV Pot; WG CV JIG				1		1	1
Bering Sea Endorsements							
None	41	1	42	20		20	62
Non-trawl	8		8	7		7	15
Non-trawl; Trawl	4	15	19		4	4	23
Trawl	5	14	19	1	4	5	24
Aleutian Islands Endorsements							
None	57	27	84	27	4	31	115
Non-trawl	1		1				1
Non-trawl; Trawl		1	1	1	3	4	5
Trawl		2	2		1	1	3

Sources: RAM Groundfish LLP data and AKFIN summary of Catch Accounting Data

Table 27 Active and Inactive CV LLP licenses 2008 through 2012, by AFA and fishery endorsements

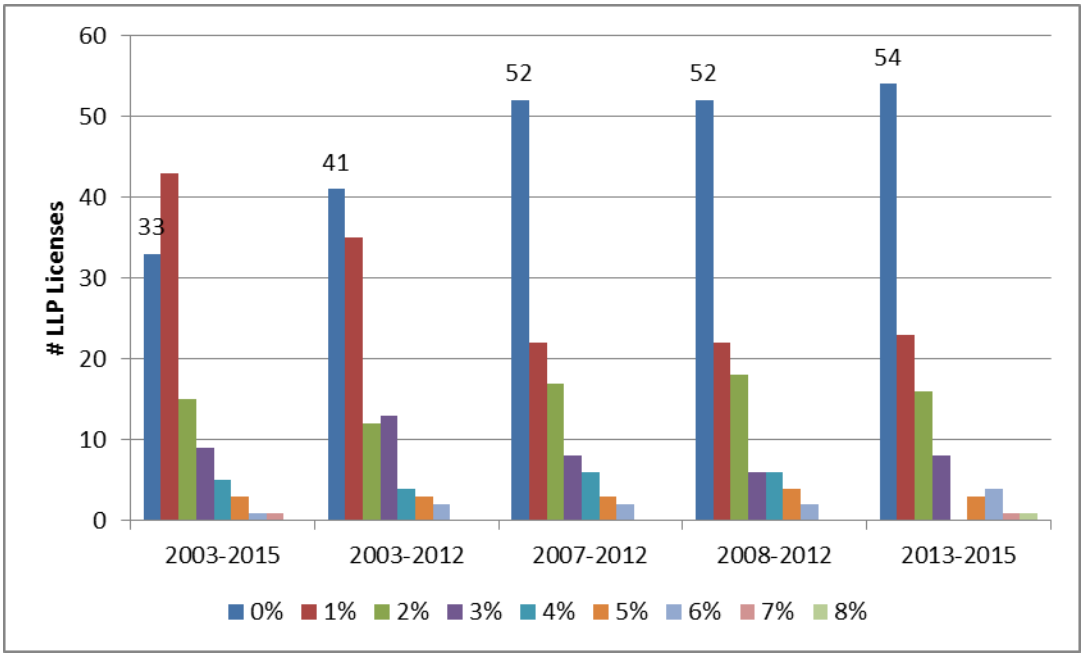
	Active			Inactive			All Total
	AFA			AFA			
License Endorsements	No	Yes	Total	No	Yes	Total	
Total CV Licenses	**57**	**28**	**85**	**29**	**10**	**39**	**124**
Pacific cod Endorsements							
AI CV HAL; CG CV HAL				1		1	1
BS CV Pot; WG CV Pot				1		1	1
CG CV Pot	3	1	4	2		2	6
CG CV Pot; CG CV HAL				1		1	1
No Pcod Endorsement	35	27	62	13	10	23	85
WG CV Pot	19		19	8		8	27
WG CV Pot; CG CV HAL				1		1	1
WG CV Pot; CG CV Pot				1		1	1
WG CV Pot; WG CV JIG				1		1	1
Bering Sea Endorsements							
None	41	1	42	20		20	62
Non-trawl	7		7	8		8	15
Non-trawl; Trawl	4	15	19		4	4	23
Trawl	5	12	17	1	6	7	24
Aleutian Islands Endorsements							
None	56	26	82	28	5	33	115
Non-trawl	1		1				1
Non-trawl; Trawl		1	1	1	3	4	5
Trawl		1	1		2	2	3

Sources: RAM Groundfish LLP data and AKFIN summary of Catch Accounting Data

The next portion of the document provides a series of seven figures that report the percentage of target catch associated with each LLP. Each figure provides estimates of the percentage of the available TAC that would be assigned to LLP licenses under Alternative 2. It is important to note that the data used for those calculations is the total catch in each target fishery considered. If catch is allocated to a LLP license, under Alternative 2 of the proposed program, it will be based on the total catch of that species in all target fisheries. The figures will be updated to reflect that information in the RIR. The information is provided in this format here because it provides a rough estimate of the allocations by LLP and provides information on the number of LLPs that were used in various target fisheries.

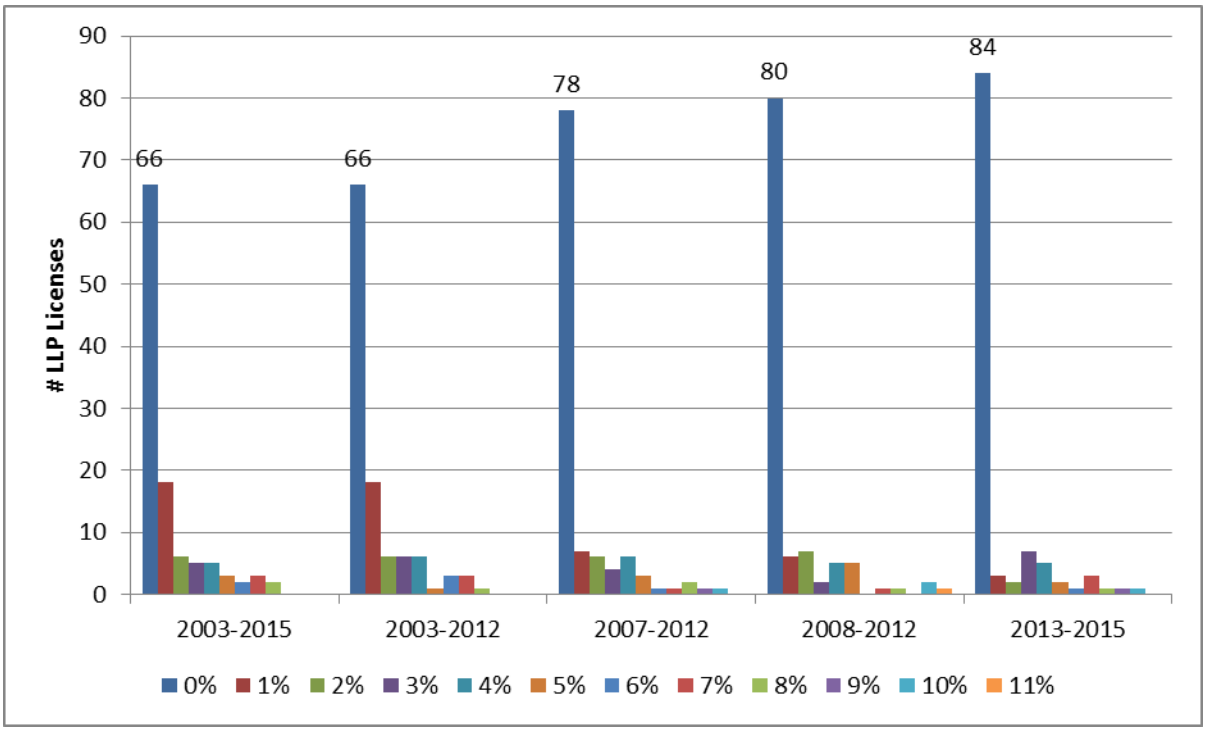
Figure 8 and Figure 9 provide estimates of the percentage of catch in the Pacific cod target fisheries by number of LLP licenses that would qualify. In the CG, Figure 8, no Pacific cod catch history was associated with 41 LLPs in the 2003 through 2012 time period. Most of the LLP licenses that would qualify would be allocated about 1% of the available TAC. About the same number of LLP licenses would be assigned 2% or 3% of the available TAC. No LLP license would be allocated more than 6% of the available TAC. Using a shorter time period increases the number of LLP licenses that would not qualify. However, distribution of catch history among the qualifiers is more evenly distributed with more LLP license being assigned more than 1% of the history. Figure 9 shows similar information for the WG Pacific cod fishery. While more CV licenses do not qualify for any history in the WG, relative to the CG, the same general trends are shown. Including more years increases the number of LLP licenses that do not qualify, and tends to reduce the percentage of catch history associated with each license.

Figure 8 Percentage of the available CG Pacific cod TAC allocated to Inshore (CV) LLP licenses by time period



Source: AKFIN summary of NMFS Catch Accounting data

Figure 9 Percentage of the available WG Pacific cod TAC allocated to Inshore (CV) LLP licenses by time period

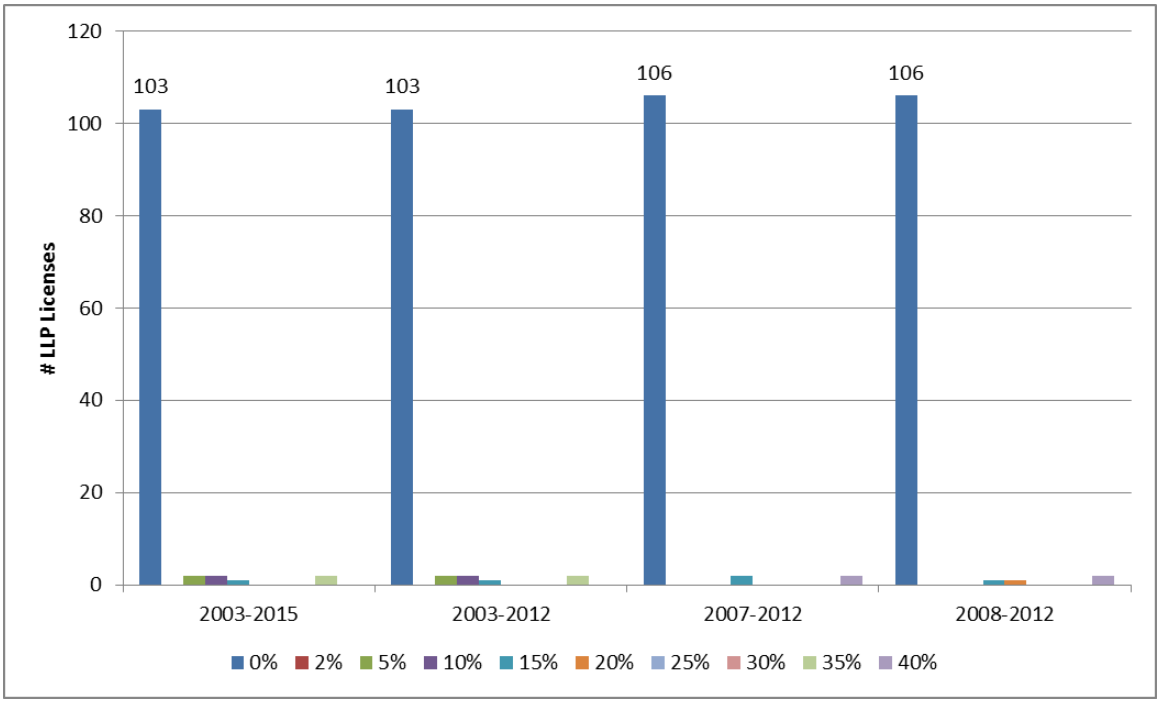


Source: AKFIN summary of NMFS Catch Accounting data

Because of the limited number of participants in the various rockfish target fisheries, the figures for those fisheries are aggregated and only provided for the WYK District. Only one CV was reported to have targeted rockfish in the WG during the qualifying periods considered. Recall the CG Rockfish Program catches are excluded from the data. The CV catch of WG rockfish was very limited and a separate table was not provided. The one CV LLP had a WG rockfish target landing during the periods considered had made bottom trawl landings in the WG (delivered to Sand Point) but was mainly a Kodiak boat. The one delivery may have been a bottom pollock trip that had enough rockfish to be classified a rockfish target.

Of the 124 trawl CV LLP licenses that were issued, only 18 to 21 would qualify for catch history based on targeting rockfish. Because fewer vessels targeted these species the ones that did qualify would be allocated a larger percentage of the available TAC than is reported for in the Pacific cod and pollock figures.

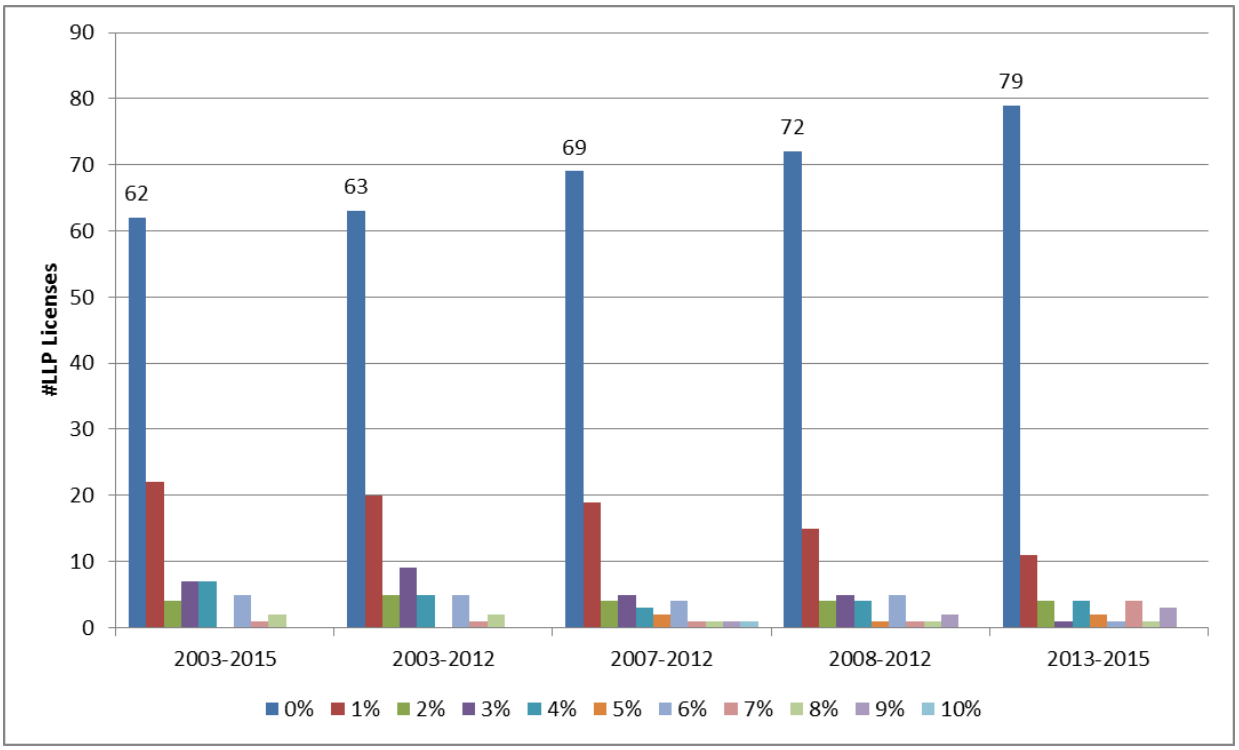
Figure 10 Percentage of the available WYK Rockfish TACs allocated to Inshore (CV) LLP licenses by time period



Source: AKFIN summary of NMFS Catch Accounting data

Figure 11, Figure 12, Figure 13, and Figure 14 report information on the number of LLP licenses with catch history in the area 610, 620, 630, and 640 pollock target fisheries, respectively. As expected, the areas 620 and 630 had the most active LLP licenses and, therefore, fewer of the 124 CV LLP license would be excluded from an allocation. Depending on the years selected, LLP license that had catch history in area 610 could be allocated up to 10% of the available TAC, but most LLP licenses would be assigned 1% of the available TAC. Five or fewer LLP licenses would allocated more than in each of the other percentage categories, except about 9 LLP license would be allocated 3% of the available TAC using the 2003 through 2012 time period.

Figure 11 Percentage of the available 610 Pollock TAC allocated to Inshore (CV) LLP licenses by time period

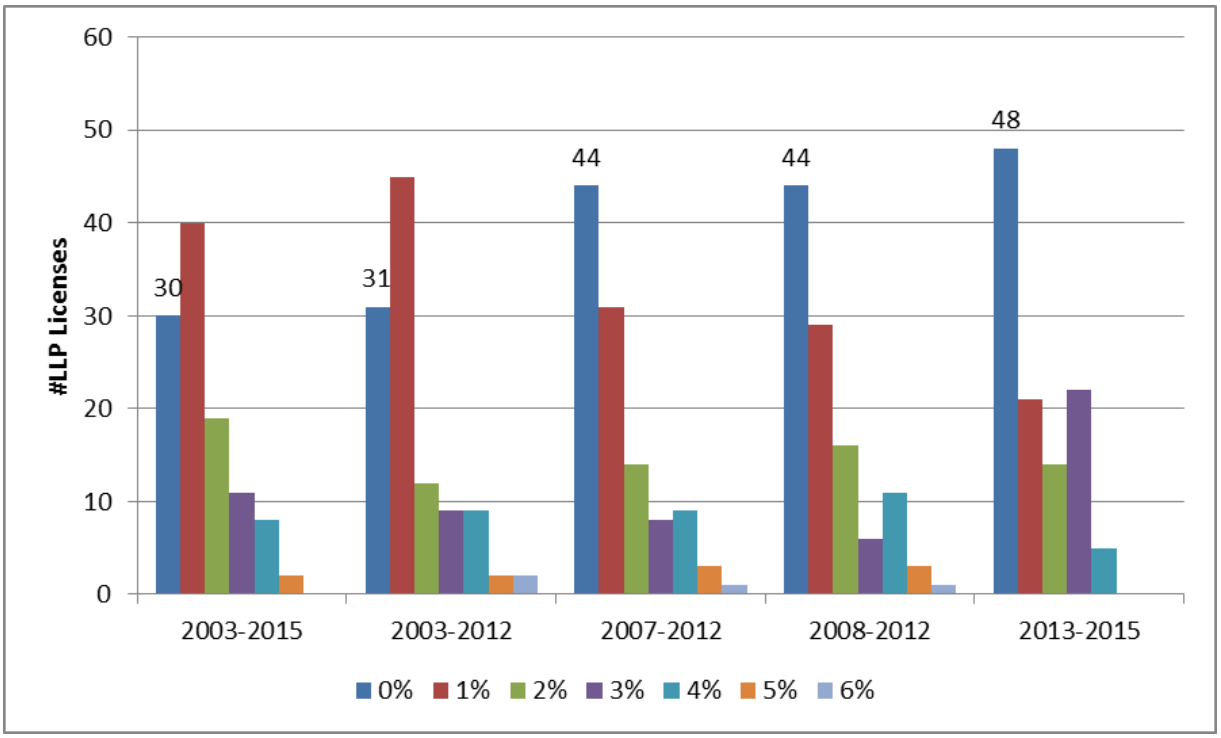


Source: AKFIN summary of NMFS Catch Accounting data

The most LLP licenses had pollock history in area 620. This intuitively makes sense because that area can be reached by CVs delivering the WG plants or Kodiak. A CG endorsement can be used to fish that area and more LLPs have a CG endorsement than a WG endorsement. As a result only 31 LLPs would not have been issued pollock catch history for that area using the 2003 through 2012 time period. Using either the 2007 through 2012 or the 2018 through 2012 time period would exclude 44 CV LLP license from an allocation. The LLP licenses that would be granted an allocation would be granted access to between 1% and 6% of the available TAC. Indicating that more LLP license holders are sharing the TAC that is available and they are sharing it more equally.

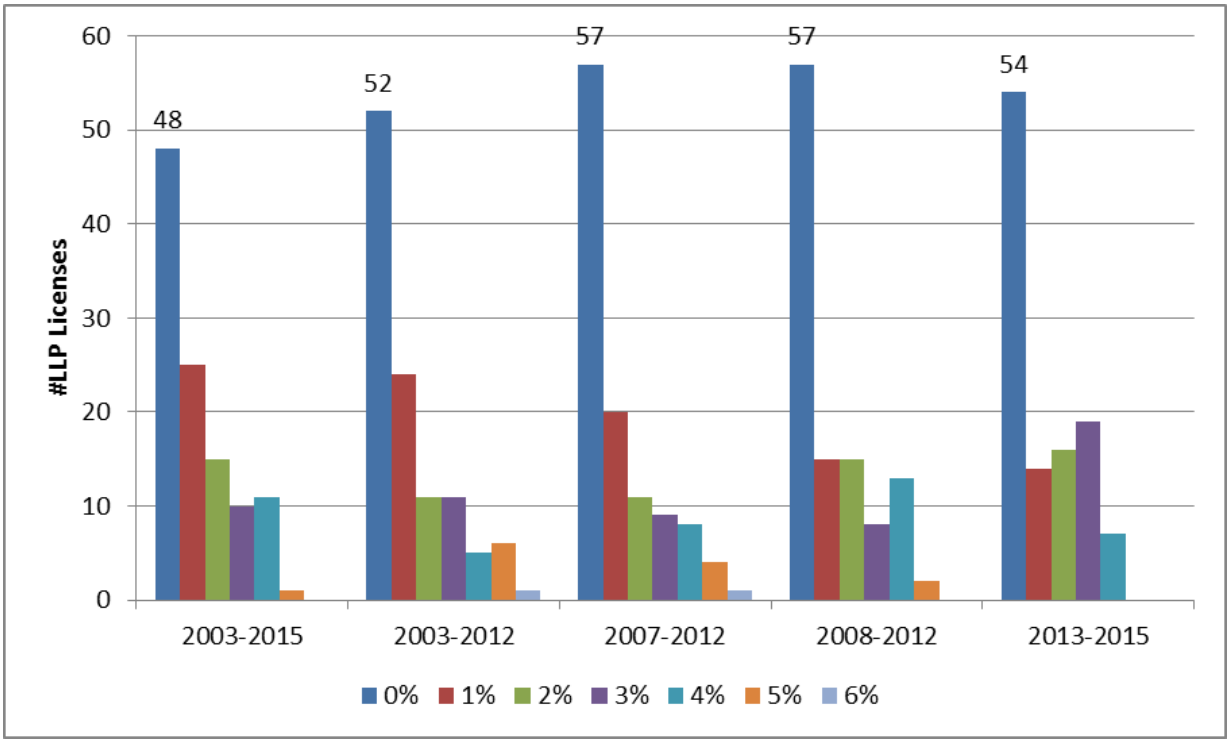
The information presented for area 630 shows a similar pattern to that described for area 620. More LLP licenses were used to make pollock landings and the catch history was more evenly distributed among those license that in other GOA fisheries.

Figure 12 Percentage of the available 620 Pollock TAC allocated to Inshore (CV) LLP licenses by time period



Source: AKFIN summary of NMFS Catch Accounting data

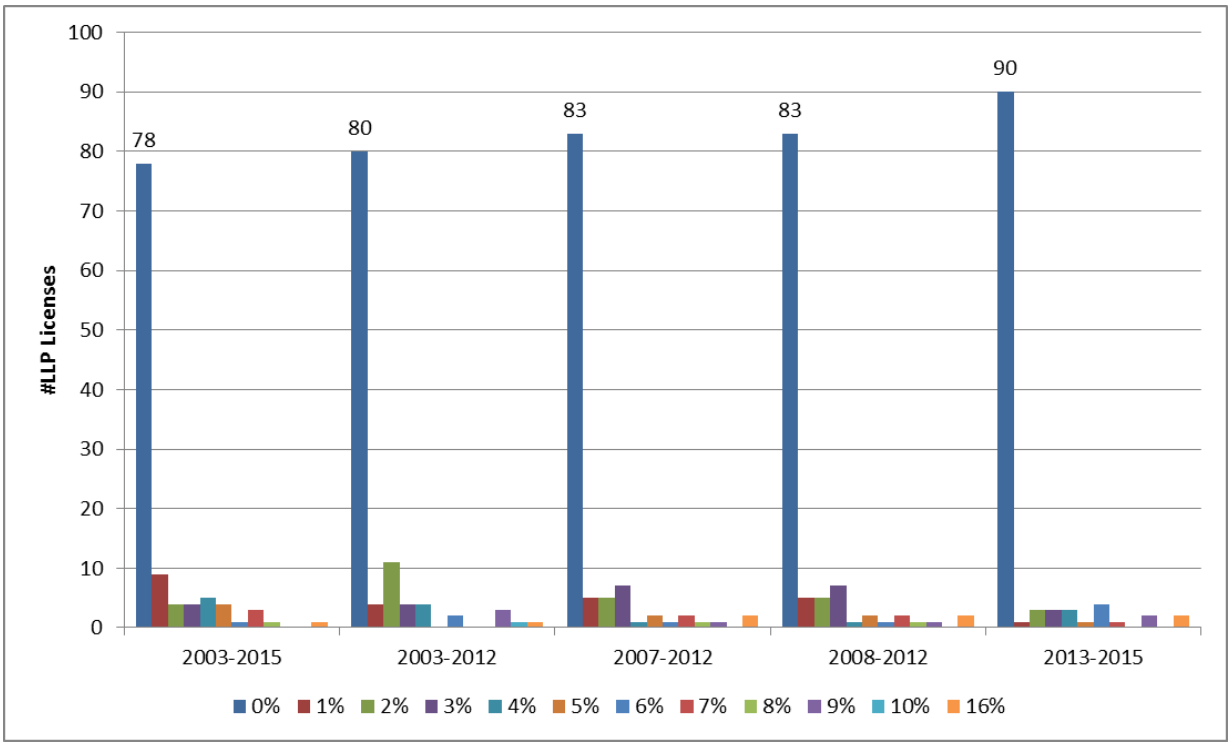
Figure 13 Percentage of the available 630 Pollock TAC allocated to Inshore (CV) LLP licenses by time period



Source: AKFIN summary of NMFS Catch Accounting data

Finally, Figure 14 shows the participation in the area 640 pollock fishery. Fewer LLP licenses were active in that fishery than any of the other pollock fisheries considered. As few as 80 LLP licenses and as many as 83 LLP license did not have associated catch history in the area 640 pollock fishery, based on the time periods considered under Alternative 2. The LLPs that would be granted an allocation would be issued as little as 1% of the available TAC and as much as 16%.

Figure 14 Percentage of the available 640 Pollock TAC allocated to Inshore (CV) LLP licenses by time period



Source: AKFIN summary of NMFS Catch Accounting data

The figures presented above indicate that the GOA trawl fleets are generally most active in the pollock and Pacific cod fisheries. Because of that activity and the understanding that they are the fisheries that are fished first (given the highest priority) by catcher vessels delivering to shoreside processors, additional information is provided that is focused on those fisheries. This information is particularly relevant to Alternative 2 and supports the proposed idea that both pollock and Pacific cod should be allocated as target species under Element 3.a Option 1, as opposed to only allocating one species or the other.

Table 28 shows the number of vessels that delivered shoreside in the GOA pollock and Pacific cod fisheries from 2008 through 2015. The information in that table shows that the majority (depending on the year considered it ranged from about 69% to 83% (Table 29)) of the shoreside delivery vessels participate in both the GOA pollock and Pacific cod fisheries. In the CG vessels tended to fish for either both species or only pollock. The years 2013 and 2014 were the exceptions when 9 and 13 vessels, respectively, fished only Pacific cod. In the WG there was less of a trend, if a vessel only fished one of the target fisheries.

Table 28 Number of trawl vessel participating in Pollock and Pacific Cod Directed Fisheries in the GOA

	Central			Western			Entire GOA			Pacific Cod or Pollock in both Central and Western GOA
	Pollock and Pacific Cod	Pacific Cod Only	Pollock Only	Pollock and Pacific Cod	Pacific Cod Only	Pollock Only	Pollock and Pacific Cod	Pacific Cod Only	Pollock Only	
2008	39	2	5	14	9	5	53	11	8	2
2009	34	0	6	16	9	6	50	9	12	0
2010	36	2	5	12	3	14	48	4	15	5
2011	38	3	9	9	3	14	47	5	15	9
2012	45	2	15	21	3	8	58	3	9	24
2013	36	9	13	17	6	7	49	5	15	19
2014	35	13	14	22	2	3	54	1	14	20
2015	33	2	21	17	6	3	47	6	15	14

Source: NMFS Catch Accounting data

Table 29 Percent of trawl vessels delivering shoreside in pollock and Pacific cod directed fisheries in the GOA

	Central			Western			Entire GOA		
	Pollock and Pacific Cod	Pacific Cod Only	Pollock Only	Pollock and Pacific Cod	Pacific Cod Only	Pollock Only	Pollock and Pacific Cod	Pacific Cod Only	Pollock Only
2008	85%	4%	11%	50%	32%	18%	74%	15%	11%
2009	85%	0%	15%	52%	29%	19%	70%	13%	17%
2010	84%	5%	12%	41%	10%	48%	72%	6%	22%
2011	76%	6%	18%	35%	12%	54%	70%	7%	22%
2012	73%	3%	24%	66%	9%	25%	83%	4%	13%
2013	62%	16%	22%	57%	20%	23%	71%	7%	22%
2014	56%	21%	23%	81%	7%	11%	78%	1%	20%
2015	59%	4%	38%	65%	23%	12%	69%	9%	22%

Table 30 shows the percentage of pollock catch by the shoreside delivery vessels that targeted GOA pollock. The information in this table shows that vessels that fish both species harvest a greater percentage of the catch than vessel that focus on only pollock. However, the percentage pollock caught by pollock only vessels has been increasing the CG and decreasing in the WG since 2013. During earlier the opposite trend existed, indicating the trends are dependent on the TAC, relative value of the catch to other opportunities, and catch rates.

Table 30 Percentage of Pollock catch by vessels that targeted Pacific cod and pollock or only pollock

	Central		Western		Entire GOA	
	Pollock and Pacific Cod	Pollock Only	Pollock and Pacific Cod	Pollock Only	Pollock and Pacific Cod	Pollock Only
2008	95.0%	5.0%	92.5%	7.5%	94.6%	5.4%
2009	96.0%	4.0%	85.2%	14.8%	92.1%	7.9%
2010	97.0%	3.0%	51.8%	48.2%	83.0%	17.0%
2011	97.5%	2.5%	52.4%	47.6%	87.8%	12.2%
2012	93.2%	6.8%	77.6%	22.4%	93.5%	6.5%
2013	82.9%	17.1%	63.5%	36.5%	84.3%	15.7%
2014	78.3%	21.7%	90.4%	9.6%	83.2%	16.8%
2015	72.7%	27.3%	94.7%	5.3%	81.8%	18.2%

Source: NMFS Catch Accounting data

Table 31 shows that the percentage of Pacific cod catch by shoreside delivery vessels was much greater when a vessel participated in the directed fishery for both species. Percentages reported as less than or greater than were included in the table to protect confidential information. In the CG the percentage of Pacific cod caught ranged from about 79% in 2013 to 100% in 2009. In the WG the percentage of Pacific cod catch by vessels that targeted both species was generally lower than the CG. However, these vessels caught between 64% and 96% of the WG Pacific cod catch, depending on the year. Gulf-wide, typically more than 90% of the Pacific cod was harvested by vessels that participated in both fisheries.

Table 31 Percentage of Pacific cod catch by vessels that targeted Pacific cod and pollock or only Pacific cod

	Central		Western		Entire GOA	
	Pollock and Pacific Cod	Pacific Cod Only	Pollock and Pacific Cod	Pacific Cod Only	Pollock and Pacific Cod	Pacific Cod Only
2008	*>99%*	*< 1%*	64.0%	36.0%	88.1%	11.9%
2009	100.0%	0.0%	75.9%	24.1%	93.8%	6.2%
2010	*>95%*	*< 5%*	89.9%	10.1%	98.0%	2.0%
2011	97.6%	2.4%	74.8%	25.2%	93.7%	6.3%
2012	*>95%*	*< 5%*	95.8%	4.2%	98.6%	1.4%
2013	78.6%	21.4%	88.3%	11.7%	96.1%	3.9%
2014	82.2%	17.8%	*>85%*	*< 15%*	*>85%*	*< 5%*
2015	*>99%*	*< 1%*	75.8%	24.2%	90.1%	9.9%

Source: NMFS Catch Accounting data

Table 32 provides information on the percentage of pollock and Pacific cod combined that was caught by vessels delivering to shoreside processors. A "c' in the table indicates the data was confidential or including the data would allow other confidential data to be calculated. The data indicates vessels that participate in both fisheries catch the majority of the pollock and Pacific cod delivered shoreside. The percentages vary by year but have always been greater than 82% gulf-wide.

Table 32 Percentage of Pollock and Pacific cod catch by vessels that targeted both or one species

	Central			Western			Entire GOA		
	Pollock and Pacific Cod	Pacific Cod Only	Pollock Only	Pollock and Pacific Cod	Pacific Cod Only	Pollock Only	Pollock and Pacific Cod	Pacific Cod Only	Pollock Only
2008	96.0%	*c*	*c*	85.9%	8.3%	5.8%	93.1%	2.7%	4.2%
2009	96.8%	0.0%	3.2%	84.1%	2.7%	13.2%	92.3%	1.0%	6.7%
2010	97.3%	*c*	*c*	54.3%	0.7%	45.1%	85.6%	0.3%	14.0%
2011	97.5%	0.4%	2.1%	54.4%	2.3%	43.3%	88.6%	0.8%	10.6%
2012	93.8%	*c*	*c*	80.7%	0.7%	18.6%	94.2%	0.2%	5.6%
2013	82.4%	2.6%	15.1%	74.2%	5.0%	20.8%	85.9%	0.5%	13.5%
2014	78.6%	1.5%	19.9%	89.5%	*c*	*c*	84.7%	*c*	*c*
2015	74.7%	*c*	*c*	91.0%	4.7%	4.3%	82.5%	0.8%	16.7%

Source: NMFS Catch Account data

Finally, Table 33 reports GOA trawl CV LLPs that had no reported catch in GOA trawl fisheries (2012 through 2015) by the amount of catch they had in the BSAI trawl fisheries. The information in the table indicates that 27 of the 47 LLP licenses also had no BSAI trawl catch during that period. These would be totally inactive trawl LLPs. The other 20 LLPs had some level of trawl activity in the BSAI during this period. The amount of catch ranged from less than 1,000 mt to over 25,000 mt during that period.

Table 33 GOA trawl CV LLPs with no reported trawl catch in GOA from 2012 through 2015, by amount of trawl catch in the BSAI during that period

BSAI (mt)	# of LLPs
0	27
<1,000	5
1,000 to < 5,000	3
5,000 to < 10,000	6
10,000 to < 25,000	1
25,000 or more	5
Total	47

Source: AKFIN summary of NMFS Catch Accounting data

3.6 Socioeconomics and Environmental Justice

A social impact assessment is being prepared and will be included as an appendix to the EIS. A discussion paper outlining the anticipated contents of that social impact assessment, including an annotated outline and a summary of existing conditions information that has already been compiled, is being prepared and will be provided as an appendix to this discussion paper. In brief, however, the social impact assessment will: (1) develop a quantitative characterization of fisheries engagement and dependency by sector across communities; (2) summarize other relevant secondary data needed for analysis; (3) include a detailed description of the communities and stakeholders likely to be most directly impacted by the actions, including the Alaska communities of Kodiak, King Cove, Sand Point, and Seward; (4) provide a less detailed summary of the communities/regions that are likely to be less directly impacted by the proposed action, with the communities included to be determined based on additional data analysis, but at a minimum will include Unalaska/Dutch Harbor, Akutan, the greater Seattle area, and coastal Oregon; (6) include information available on residence of vessel owners, crew, and processing workers; (7) include information available on annual or monthly employment trends at shore-based processing operations, to the extent practicable; (8) specifically incorporate relevant sector demographic and socioeconomic baseline data from the 2014 AFSC Gulf of Alaska Groundfish Trawl Fishery Social Survey; and (9) provide a socioeconomic and environmental justice analysis of the four options of

sufficient scope and detail to meet the requirements for those sections of the EIS as well as meet the guidelines for fishing community analysis under MSA National Standard 8.

4 Fleet and Processing Consolidation

The Council must consider the potential for consolidation in the harvesting and processing sectors. One of the Council's stated objectives for the program (#6) is to promote community stability by limiting consolidation, employment, and entry opportunities. That objective must be balanced with other goals; for instance, Objective #6 *also* states that the program should increase the economic viability of groundfish harvesters, processors, and support industries. The goals of limiting consolidation and increasing economic viability are not necessarily in tension with one another, though they can be under certain circumstances. If the Council is developing a Limited Access Privilege Program (LAPP), as it would be under Alternative 2, consolidation must be considered in the context of MSA National Standards 4 and 8, which refer to it indirectly through "excessive shares" and providing for "sustained participation of fishing communities." Both Alternatives 2 and 3 include measures that are intended to limit harvester and processor consolidation; these include ownership caps, use caps, processing caps, transfer restrictions, and active participation requirements.

Consolidation is central to three issues that are commonly associated with LAPPs: changes in market power, social welfare, and self-governance (Abayomi & Yandle, 2012). Also, since many LAPP regulations have been motivated, in part, by a desire to encourage efficiency with in the harvesting and processing sectors, there is some evidence that consolidation is a necessary condition achieve market efficiency when excess harvesting and processing capacity exists.

Market power might shift when quota ownership becomes concentrated among a few harvesters or processors. Buck (1995) identified two threats associated with unrestricted consolidation in LAPP programs:

- An individual or group of individuals could influence the market by obtaining a disproportionate share of allocations; and
- Processors could exert substantial control over the industry by obtaining a large portion of the harvest quota shares.

LAPPs have been well covered in the fisheries management literature in the context of social welfare. Studies indicate that LAPPs can redistribute the wealth generated by a fishery, and shift control of a fishery away from fishers who are embedded in a local community (Carothers, Lew, & Sepez, 2010) (Palsson & Helgason, 1995). These changes have the potential to increase unemployment (Abbott, Garber-Yonts, & Wilen, 2010) (Squires, Kirkley, & Tisdell, 1995). These changes might also increase barriers to entry for new fishers (Palsson & Helgason, 1995). The loss of economic activity in the communities could damage existing firms and support industries (McCay, 2004). The leasing of quota has also been associated with consolidation; as ownership of quota concentrates, the practice of leasing could increase, and might consume a significant proportion of gross ex-vessel revenues.

When fisheries and the firms that depend on them operate at low profit margins, consolidation could occur even without implementing a LAPP. The Council has often received testimony that the GOA trawl

fisheries are a low-margin industry. Persons or firms with access to capital at the lowest interest rates will be in the best position to acquire additional quota shares or LLP licenses/vessels. This means that corporate investors, rather than independent fishermen, are the most able to purchase available quota shares or assets to participate in the fishery. Increased corporate ownership could impact social welfare in a manner similar to what is described above for conventional industry consolidation.

Self-governance is a more recent topic to emerge in the LAPP literature. Studies indicate that LAPPs can provide the basis for self-governing regimes (Arnason, 2007). This assumes that quota shares are directly involved with fishing, and that they generate long-term profit incentives to manage a fishery sustainably. Quota owners respond to incentive structures differently than short-term lease holders. Depending on their perceived dependence on future leases (short-term versus long-term contracts), short-term lease holders may not make optimal self-management decisions for the fishery. In those cases, the persons fishing the LAPPs quota may not value the long-term stability of the fishery as highly as a quota owner. Therefore, short-term users might make fishing decisions that are less beneficial to the long-term viability of the fishery.

Both program structure and market conditions will, in part, determine the amount of transfers that occur. Transfers that do take place are likely to occur in a market where:

- Persons with access to capital at the lowest interest rates are in the best position to acquire additional quota shares. Corporate investors are likely to purchase the available quota shares or licenses, regardless of their technical efficiency as fishermen.
- The quota share market might not operate in a truly efficient manner due to the small size of the market (low trade volume, or "thinness") and the biological, economics, and social forces that create uncertainty in share pricing.

4.1 Consolidation Limits

Consolidation issues can, at least in part, be addressed through restrictions on the ownership (control) and use (harvesting or processing) of quota shares. These restrictions vary in their direct effectiveness, and effectiveness also depends on the structure of the program.

Alternative 2 (Element 8.a) limits the amount of quota that persons can control or actively use. The ownership caps being considered for the Inshore sector range from 3% through 15% of each target species, by region (WG and CG/WY). The use caps being considered for Inshore vessels range from 3% to 15% of target species in each region; processor use caps range from10% to 30% for each target species in a region.

Table 34 Alternative 2 proposed consolidation limits and the minimum number of entities that could prosecute a target fishery

Ownership Cap	Minimum Number of Quota Owners	Vessel Use Cap	Minimum Number of Vessels	Processor Use Cap	Minimum Number of Processors
3%	34	3%	34	10%	10
5%	20	10%	10	20%	5
7%	15	15%	7	30%	4

Note: Assumes no one was grandfathered and all owners/users are at the cap for all target species in the area

Alternative 3 (Element 4) would allocate PSC to vessels – and subsequently to cooperatives or the Limited Access sector – according to the number of vessels that apply and qualify for an allocation based on a number of factors, such as the vessel's dependence on the fishery. After the cooperative's allocation is determined, a percentage of that allocation (5% to 20%) could be assigned to the processor member of the cooperative to control. A result of that reapportionment within the cooperative could result in some vessel owners acquiring more PSC than they would have brought into the cooperative without this option. If this were the case the converse must also be true, that other vessel operators could have the PSC they control decreased.

Vessels must be named on an LLP license that holds the required GOA trawl endorsements in order to qualify for an allocation. Because a person must hold a valid GOA trawl LLP license in order to join a cooperative or the Limited Access sector, the existing regulation that limits LLP license holdings to 10 LLPs per person would place at least some control, albeit weakly, on the total amount of PSC that a person could be allocated.

Based on March 2016 LLP data, 124 CV LLP licenses hold a GOA trawl endorsement for at least one area.[85] If those LLP licenses were sold, so that each license holder held the maximum allowed, the PSC limits could be controlled by as few as 13 persons.[86] To simplify the example, the analysts assume that only one cooperative would be formed in each area. Ninety-seven LLP licenses have a CG trawl endorsement, and 78 have a WG trawl endorsement. Included in those totals are 51 LLP licenses that have a GOA trawl endorsement for both areas. Using the number of licenses in each area and the 10-LLP license holding limit, 10 persons could comprise the CG cooperative and 6 persons could comprise the WG cooperative. Once a person's PSC limit is assigned to a cooperative, Alternative 3 would limit that person to using a maximum of (options) 110% to 150% of what he or she brought into the cooperative. A cooperative could also transfer, in aggregate, (options) 10% to 50% of its annual PSC limit to (or from) other cooperatives. These measures could further reduce the number of persons that would effectively control the PSC that is being used in the fishery during that year.

Conversely, if the Council selects the Alternative 3 use cap option that limits a person to 110% to 150% of the PSC that he or she brought to the cooperative, owning multiple vessels (and LLP licenses) could

[85] Additional tables showing the endorsements on LLP licenses are provided in Appendix 3 (Section 9).
[86] This level of consolidation is not anticipated, but is reported to show the theoretical maximum consolidation that could occur. Note the discussions throughout this document describing changing "person" to "vessel" in order to reduce consolidation allowed through intra-cooperative transfers (refer to Sections 1.1.8 and 2.6.3).

become a logistical advantage. The use cap limits opportunities to share PSC – even within a cooperative – if a person who owns a single vessel needs to leave the fishery for shipyard time or for other reasons. However, since the limit is based on the person and not the vessel or LLP, persons who own multiple vessels and LLPs could utilize their PSC limit on their other vessels without violating the use cap. This added flexibility is an incentive for consolidation of LLPs and vessels under a single person to relieve the restrictions imposed by the use cap.

4.2 General Discussion of Consolidation

Studies have been conducted to calculate the consolidation that occurred under existing LAPPs (Abayomi & Yandle, 2012). These studies focused on estimating the level of consolidation that was realized after the programs were implemented. Because the GOA trawl program has not been implemented, it is not possible to use these particular models to forecast consolidation. Those studies are more appropriate for the program reviews that will be conducted at 5 or 7 year intervals. Instead, the analysts' goal is to identify the types of challenges that excessive consolidation could cause, and the measures under consideration that could prevent excessive consolidation (in the view of some policy-makers and stakeholders).

The proposed program structure will allow consolidation to occur, as described above. Public testimony and the Council's own deliberation have reflected concerns about excessive consolidation. The persons expressing the greatest concern about consolidation often cite the Crab Rationalization Program. In that program, participants were highly dependent on the high-value crab stocks that had experienced substantial declines in available harvest, or Guideline Harvest Levels (GHL). Declines in crab fishery net revenues were driven by lower levels of catch that were not offset by higher prices. Ex-vessel crab prices, like groundfish ex-vessel prices, are impacted by global supplies of substitute products and changes in consumer demand.

4.3 Central GOA Rockfish Program and Rockfish Pilot Program

The Rockfish Pilot Program (RPP) was implemented in 2007, and was replaced by the Central GOA Rockfish Program (RP) in 2012. The RP fishery is comprised of many of the same vessels and processors that participate in the other GOA groundfish trawl fisheries. Consolidation under the RPP and the RP has not been significant. The number of vessels targeting rockfish in the Central GOA slightly increased since the implementation of the RPP.

Table 35 Number of trawl CVs targeting rockfish in the Central GOA, by year

Year	Number of Vessels
2005	25
2006	24
2007	27
2008	28
2009	26
2010	28
2011	27
2012	29

2013	29
2014	28
2015	29

Source: NMFS Catch Accounting Data

While one might have assumed that issuing cooperative quota would have spurred vessel consolidation in the GOA, rockfish targets represent a relatively small portion of the annual catch harvested by GOA trawl CVs. Table 36 provides a snapshot of CV sector catch by target species in 2015. Since most GOA trawl CVs derive the majority of their annual revenue from the pollock and Pacific cod fisheries, which have remained limited access fisheries, the implementation of RP cooperatives was always less likely to result in fleet consolidation or the movement of CVs between processors. The Central GOA CVs that are involved in the RP have had to maintain stable relationships with their shoreside processing partners in order to keep operations stable in the competitive limited access directed fisheries. Therefore, the RPP and the RP are not useful proxies for the patterns of potential consolidation under a new GOA trawl program as envisioned under Alternative 2.

Table 36 2015 Trawl CV catch in the Central GOA, by target

Species	Metric Tons
Pollock	132,806
Pacific cod	13,225
Flatfish	12,252
Primary rockfish species	11,167
All other	2,913

Source: NMFS Catch Accounting data

4.4 Amendment 80

The Amendment 80 program issues cooperative quota for most of the target fisheries prosecuted by the non-AFA trawl CP fleet in the BSAI. The sector-wide quota is currently divided among two cooperatives. Therefore, the Amendment 80 trawl fleet offers some insight into the potential for consolidation resulting from sector-wide cooperatives in the GOA. Since the Amendment 80 program began in 2008, the number of active vessels has decreased from 22 to 18. From 2008 through 2015, one new vessel entered as a replacement vessel, and five CPs ceased fishing actively in the program. (One of the vessels that is no longer active in the fishery is the Alaska Ranger, which sank in 2008.)

From 2008 through 2015, there were seven active vessels of 124' LOA or less. With the exception of the Alaska Ranger (203'), all of the CPs that stopped actively participating in the fishery were of that smaller size, leaving only three active CPs of 124' or less.

Table 37 Amendment 80 vessels active in the BSAI area, by year

Year	Number of Active Amendment 80 Vessels
2006	22
2007	22
2008	22
2009	21

2010	20
2011	20
2012	19
2013	18
2014	18
2015	18

Source: NMFS Catch Accounting data

Based on cooperative reports submitted to the Council, all of the smaller CPs' LLP permits (with the exception of the Golden Fleece, which is not active in the BSAI area) have been consolidated into six multi-CP companies, all of whom own larger CP vessels. Presumably, the smaller CPs' quota has been consolidated and is now fished on larger vessels for efficiency reasons.

4.5 Stacking LLP Licenses

Alternative 3 is framed around vessels and persons, rather than LLP licenses. The Council's alternatives suggest that a vessel carrying multiple LLP licenses does not accrue multiple shares of PSC quota. Because allocations are based on the number of vessels that register for a fishery, a person would not benefit by purchasing multiple LLP licenses and consolidating a larger PSC allocation on a single larger vessel. Were there a benefit to holding multiple LLPs, there would likely be fewer unattached licenses available on the market for new entrants, thus increasing the barrier for non-established participants to enter the fishery. Basing shares on LLP licenses rather than vessels might have caused smaller vessels to be retired so that their LLP licenses could be assigned to a smaller fleet of high-capacity vessels. This is analogous to small independent vessels in the Amendment 80 fleet being consolidated into larger companies. Moreover, since the use caps defined for Alternative 3 are imposed on a "person," a person with multiple LLP-based quota shares attached to a larger vessel would have had a competitive advantage over a person with only one LLP license.

Since the directed fisheries for pollock and Pacific cod would continue to operate as unallocated limited access derbies, smaller vessels, such as 58 foot vessels, might have been less competitive with persons who were able to stack LLP-based PSC quota allocations onto larger vessels. The fact that smaller vessels are less competitive in limited access fisheries might actually exacerbate the migration of LLP licenses to fewer persons, fueling a feedback loop with negative impacts for certain stakeholders.

4.6 Multiple Fishery Vessels

Presumably, there would be restrictions to prevent Bering Sea trawl vessels from making the minimum three deliveries on their way to or from the Bering Sea, and thereby accessing full GOA shares while conducting most of their trawling in the Bering Sea. However, there is no such restriction in Alternative 3 on non-trawl or non-groundfish fisheries. For example, small vessels owned by a person could make the minimum of three trawl deliveries, and then spend most of their time fishing in other directed fisheries such as salmon, halibut, or fixed gear cod. Presumably, these would be small vessels and would catch small amounts of PSC limit quota species in their three deliveries. Their remaining PSC quota could then be consolidated on a larger full-time trawl vessel owned by the same person (or company).

Equal share allocations may mean the available PSC limits are divided between more vessels than historically participated in the fishery. Smaller allocations to each vessel could make it difficult for a person who owns a single vessel to fully participate, if the allocation is reduced below what the vessel needs to prosecute its GOA fisheries. This could require consolidation of PSC limits on vessels within cooperatives if they wish to remain fully competitive in the GOA trawl fisheries. Persons with one vessel in the cooperative could be at a disadvantage since they would need to acquire shares from other cooperative members. Even if this consolidation occurs, because more vessels were issued an allocation than historically participated in the fishery, it does not necessarily mean the number of number of vessels would be reduced from historic levels.

4.7 Processing Consolidation

Alternative 2 (Element 8.a, Option 3) contains facility-based processor use caps for allocated target species (suboptions: 10% to 30% for each species). Alternative 3 does not allocate target species, nor does it limit the total amount of PSC that could be used on vessels that are delivering to a single facility. [87]

The number of shoreside processing plants that took deliveries from the GOA non-RP trawl groundfish fishery is show in Table 38. A total of 18 plants were reported to have taken deliveries in 2011. By 2015, the number of shoreside plants had declined to 12. These counts include floating processors that operate in the inshore sector. Processing plants in this class have listed Seattle as the Intent to Operate city. In 2015 these three processors were operated by Icicle Seafoods and Trident Seafoods. Some companies own more than one plant listed in the table, so the number of companies involved in processing is less than the reported number of plants.

Table 38 Number of shoreside processing plants that took at least one delivery of trawl-caught GOA groundfish, 2003 through 2015

Intent to Operate City	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	City Total
Akutan	1	1	1	1	1	1	1	1	1	1	1	1		1
Dutch Harbor/Unalaska	1	2	1	1	1	1	1	1	2	1				3
False Pass													1	1
Homer	1													1
Kenai	1													1
King Cove	2	2	2	2	1	1	1	1	1	1	1	1	1	2
Kodiak	6	8	7	8	10	9	9	9	9	7	8	7	6	14
Ninilchik	1			1										1
Sand Point	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Seattle	2	2	2		1	1	1	1	2	2	2	3	3	4
Seward		1	1					1	2	2	1	1		3
Sitka										1				1
Annual Total	16	17	15	14	15	14	14	15	18	16	14	14	12	33

Source: AKFIN summary of Catch Accounting data

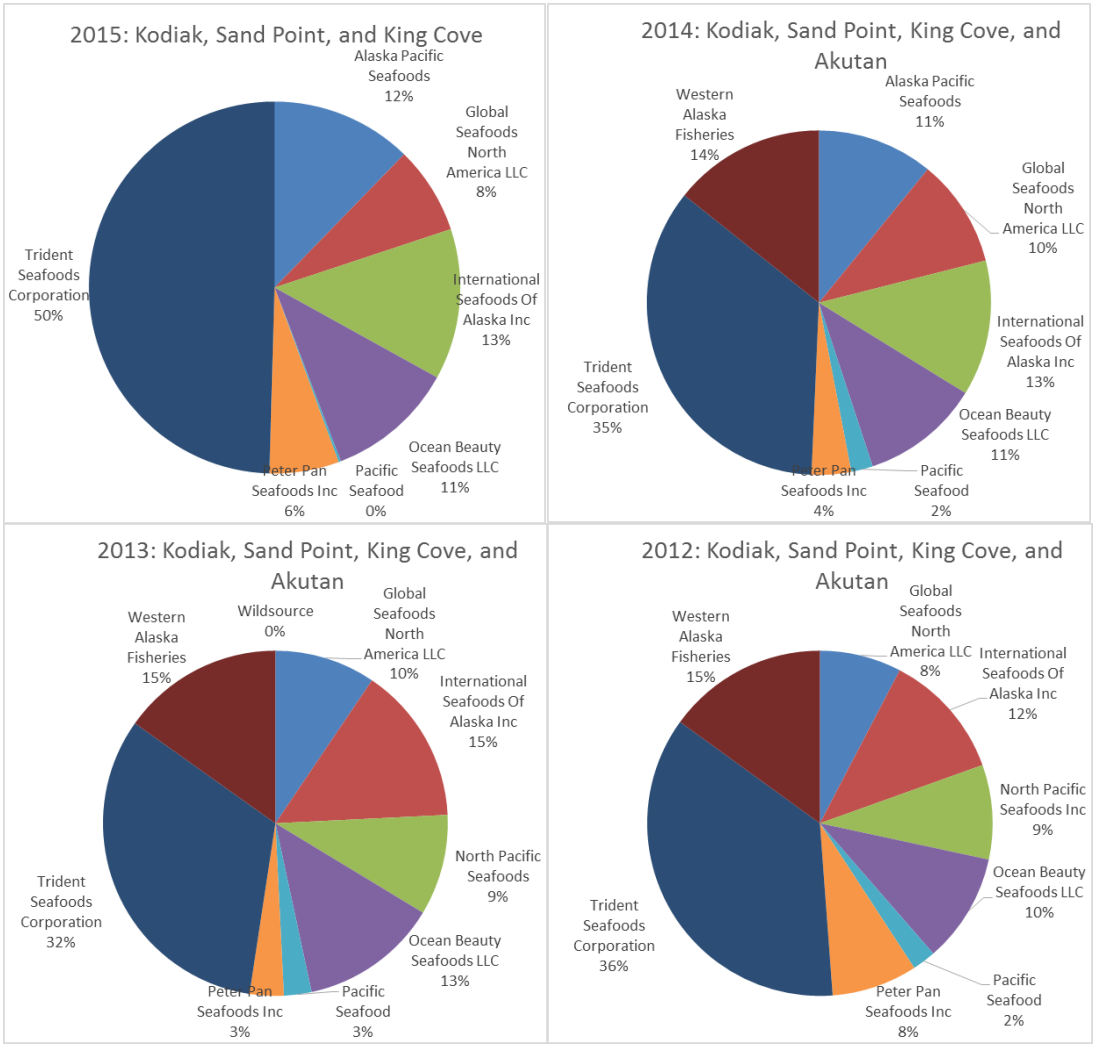
[87] Section 2 of this paper describes the allocation process that would occur Alternative 3, and an option for processors to control 5% through 20% of the PSC limit associated with their cooperative (Element 4.b, Option 3). That option is different from a processor use cap, since the program would not restrict the plant from taking deliveries from vessels that are not members of its cooperative. Rather, the option allows the processing facility associated with a cooperative to direct the use of a portion of the allocated PSC among the harvester members of the cooperative; the use of that PSC could be determined by a number of goals, but is not directly related to the prospect of consolidation.

Note: Excludes harvests made under the Rockfish Program.

Figure 15 reports the percentage of all trawl-caught GOA groundfish (excluding the RP) that was processed by each *company* with an Intent to Operate location designation in the city of Kodiak, Sand Point, or King Cove. The number of companies reported in the figure is less than the number of plants in Table 38 because some companies own multiple plants, plants in municipalities other than these three are not listed, and companies that received very small amounts of trawl deliveries are excluded. The analysts chose to exclude the catch received by plants in other locations and plants that had low participation makes the figure easier to read, and because the deliveries to all of those plants combined would have rounded to 0% of the total.

The amount of GOA trawl groundfish processed by each company displays a small amount of variation across years. The most substantial change occurred in 2015, and is shown by Trident Seafoods's acquisition of the Western Alaska Fisheries plant in Kodiak. That acquisition increased Trident Seafoods's percentage of non-RP GOA trawl groundfish processing from, roughly, 35% to 50%.

Figure 15 Percentage of GOA trawl-caught groundfish landed by processing company, 2012 through 2015



4.8 Multiple Cooperatives per plant

In February, the Council clarified that one cooperative could not include multiple processor members. However, the question of whether one plant could be a part of multiple cooperatives would be permitted under either alternative – essentially subdividing "its fleet" into smaller groups. The Council has also yet to clarify whether one processing plant could for separate cooperatives in each GOA region (WG and CG/WY). If plants are allowed to form cooperatives in each region, the total number of plants taking GOA trawl deliveries could decrease. This possibility will be more fully evaluated after the Council clarifies its intent in this regard.

4.9 Other Conclusions

It is likely better to begin the program with rules that more aggressively prevent consolidation, and loosen the rules as appropriate. Tightening consolidation rules after the fact would be less effective, in part because consolidation will already have occurred. It will also be more accurate to use methods/models

described in the economics literature to calculate consolidation after the program is in place than try to predict consolidation levels before implementation.

As the analysis moves forward, the Council might look to stakeholders to describe the likelihood of consolidation in their part of the GOA trawl fishery. The nature of the fleet that prosecutes a particular GOA fishery will not have the same profile as those prosecuting other GOA targets or fishing in other GOA areas. For example, the 58' vessels that trawl for pollock and Pacific cod in the Western GOA might be less likely to exit the fishery, because their business plans tend to rely on a combination of different targets and gear types in order to maintain a viable operation. As reported anecdotally to the analysts, vessels that trawl, use pot gear, and seine for salmon could not afford the increased risk of dropping one of their fisheries, since a poor salmon year might need to be propped up by pollock trawling, or vice versa. This might not be the case for a vessel that focuses only on trawl fisheries and has endorsements to rebalance their portfolio by replacing GOA effort with increased activity in the BSAI or on the West Coast.

5 Monitoring

The first parts of this section include present NMFS, NOAA GC, and NOAA OLE comments on how catch accounting, monitoring, and enforcement would function under the two main action alternatives. The third part describes the analysts' current limitations in regards to publicly available data on the daily cost of full observer coverage for vessels operating out of GOA ports. The fourth part recaps some general conclusions about the impact of full coverage on vessel owners and the manner in which CVs would prosecute the fishery. The fifth part provides a description and timeline of the work that the Council and stakeholders have put into the development of an action that would integrate electronic monitoring (EM) into the Observer Program for a certain class of vessels participating in the halibut and sablefish IFQ program; the Council requested this overview in response to stakeholder comments that EM might be an effective way to achieve monitoring and enforcement goals while minimizing costs for participants.

5.1 Monitoring and Catch Accounting Comparison of Alternatives 2 & 3

With the exception of vessels participating in the central Gulf of Alaska (GOA) Rockfish Program, fisheries in the GOA are managed at the fishery or sector level. Catch accounting and catch monitoring, including observer coverage, observer sampling, and regulations governing how catch are sorted and weighed, have been implemented to support fishery-level management. The GOA trawl bycatch management program being considered would implement transferable groundfish and/or PSC allocations to an entity, such as a cooperative.

Management programs that allocate catch and PSC quota to an entity (catch share program) are enforced through a variety of regulatory provisions. This style of fishery management gives catch share recipients specific control over their fisheries, and the management approach changes with such allocations. Generally, entities that receive allocations are prohibited from exceeding their allocation. If they exceed an allocation NOAA may initiate enforcement action against the entity. This requires that all concerned parties (NMFS, other management agencies, and quota holders) have access to a single authoritative

record that clearly details the amount of quota harvested. This is particularly true when catch or PSC data collected by observers must be used as a basis for enforcement action should an entity exceed an allocation.

Under a program with transferable quota and accountability measures tied to observer data, observers may be pressured or coerced to manipulate data, and there is an increased incentive for fishery participants to intentionally bias observer data and to interfere with observer sampling duties. This leads to an increased risk for observer harassment, interference, and failure to assist issues.

Catch share programs can also create a strong incentive for an entity receiving an allocation to maximize the value of each pound of their allocated quota, rather than competing with other participants to harvest shared quota. The constraining nature of quota, and the improved ability for participants to not engage in a race for fish under a catch share program, increases incentives and the ability to engage in practices such as high grading or misreporting catch. An effective catch share program must recognize that the ability to engage in illegal activities increases without appropriate management controls. The combination of these factors generally requires an accounting system with a more intensive catch monitoring system than is required when NMFS manages allocations at a fishery or sector level. When NMFS is managing allocations, inseason authority is used to project when a fishery closure date is needed, rather than a catch share program where enforcement action may be taken when an entity exceeds its allocation. NMFS and the Council have addressed these issues in other catch share programs (e.g. CGOA Rockfish, CDQ, AFA, Amendment 80) by articulating goals for the management of catch share fisheries and imposing a combination of monitoring tools, including observer coverage requirements on both vessels and at the shoreside processing plants.

The purpose of this appendix is to outline the major components that NMFS is currently considering for monitoring and catch accounting under the GOA trawl bycatch management program. Information is provided for the trawl catcher/processor (CP), trawl catcher vessel (CV), and shoreside processor sectors in this appendix; including a comparison between Alternatives 2 and 3, with a corresponding summary in Table 39. These monitoring provisions will continue to be developed and modified as the Council refines alternatives and NMFS incorporates input from NOAA Office of Law Enforcement and others.

Table 39 Summary of the proposed monitoring components under the status quo and Alternatives 2 and 3 to implement groundfish and PSC allocations under GOA trawl bycatch management (note that some of these monitoring components contain unresolved questions, and some provisions may change as the Council refines the alternatives)

	Status Quo	**Alternative 2** (would apply to both cooperatives & limited access)	**Alternative 3**
CP	**Rockfish CPs:** • 200% observer coverage • NMFS-approved flow scale • Observer sampling station • Computer & transmission capability for observer to enter and send data • eLogbook • VMS • PSC estimation based on extrapolations from at-sea samples **Non-Rockfish CPs:** • 100% observer coverage • Computer & transmission capability for observer to enter and send data • VMS • PSC estimation based on extrapolations from at-sea samples	Apply Rockfish Program CP requirements to all CPs: • 200% observer coverage • NMFS-approved flow scale • Observer sampling station • Computer & transmission capability for observer to enter and send data • VMS • Continue status quo for halibut PSC estimation based on extrapolations from at-sea samples Additional tools if salmon PSC based on census: • All salmon PSC must be retained until counted and sampled by an observer; • Approved salmon storage container; • Compliance video system; • No salmon PSC of any species may pass the last point where sorting occurs.	Continue status quo
Shoreside Processors and CVs	**Rockfish Shoreside Processors:** • Operate under NMFS-approved CMCP when receiving Rockfish Program deliveries • NMFS CMCP specialist monitors rockfish deliveries **Rockfish CVs:** • 100% Observer coverage when checked into Rockfish Program • Computer for observer to enter data • VMS • Full retention of salmon PSC • PSC estimation based on extrapolations from at-sea samples **Non Rockfish Shoreside Processors:** • No CMCP requirements for non-rockfish deliveries **Non Rockfish CVs:** • Partial Observer coverage • Full retention of salmon PSC • PSC estimation based on extrapolations from at-sea samples, except for salmon PSC in the pollock fishery which is based on offload counts	Shoreside Processors: • Apply CMCP requirements to all deliveries • Full Observer coverage at plant ('pay as you' go by industry) • Provide computer for observer to enter and transmit data. CVs: • Full (100%) Observer coverage • Full retention of all allocated primary and secondary species • Computer for observer to enter data • VMS • Halibut PSC estimates based on at-sea samples or potentially EM Additional tools if salmon PSC based on offload monitoring: • Expand CMCP requirements at shoreside plants to include tools for accurate salmon PSC counts • Full retention of all salmon PSC on vessels • Maximized retention of all groundfish & any discard, including halibut PSC, would need to be monitored & controlled to ensure no salmon were discarded at sea (single point of discard, etc.)	CVs: • Full (100%) Observer coverage • Vessel provides computer for observer to enter data (NMFS would need to decide on transmission requirements or add requirements for shoreside plants to provide computer) • Continue status quo for PSC estimation based on extrapolations from at-sea samples

5.1.1 Trawl Catch/Processors

5.1.1.1 Alternative 2

5.1.1.1.1 Groundfish

As described in the introduction to Section 5.1, catch share program quota management must incorporate management measures to address incentives for under-reporting or high-grading catch, bycatch, and PSC. In addition, implementation of successful catch share programs requires that both quota holders and NMFS have access to a single authoritative record that clearly details the amount of quota harvested. Under Alternative 2, which would allocate groundfish to catcher/processor (CP) cooperatives, NMFS would extend the monitoring tools currently in place for CPs fishing under the CGOA Rockfish Program[88] to ***all*** CP vessels under this program. These tools would include (see Table 39):

- 200% coverage, which enables every haul to be sampled by an observer;
- An observer sampling station;
- Requirement to weigh catch on a NMFS-approved flow scale;
- Submission of electronic logbooks;
- Video system to monitor flow scale compliance;
- Use of a single fish processing line in the factory; and
- Prohibition on deck sorting.

5.1.1.1.2 Salmon PSC

Methods for monitoring and estimating salmon PSC on CPs in the GOA depend on data collected by observers. Currently, CPs that are checked-in to the Rockfish Program are required to carry two NMFS-certified observers; non-rockfish program CPs are in the full coverage category and are required to carry one NMFS-certified observer on every trip. During each trip under the full coverage category, the observer randomly selects hauls to be sampled; whereas when two observers are onboard, every haul is sampled. Observers use a systematic sampling design and they strive to take multiple, equal-sized samples from throughout the haul. Sampling for salmon is conducted as part of the overall species composition sampling and observers collect information about the number of salmon in each sample and the total weight of each haul. NMFS estimates the total number of salmon in each haul by extrapolating the number of salmon in the species composition sampled to the total haul weight. In cases when every haul is not sampled, then NMFS applies species composition samples from an observed haul to the unobserved haul using a nearest neighbor imputation method. More details about observer sampling and catch estimation is available in Cahalan, Jasper, & Mondragon (2015).

Salmon are a relatively uncommon species in trawl vessel hauls and there is a relationship between the abundance of a given species in a haul, the sample size, and the level of precision in the resulting estimate of species catch from sampling. In general, the larger the sample size, the more precise an estimate of species catch will become. Many of the CPs in the GOA have flow scales, which enhance an observer's ability to collect large samples. Additionally, sampling methods on CPs allow observers to collect large species composition samples under more controlled conditions than on CVs because observer sampling is facilitated by an observer sampling station and is conducted inside the fish processing factory instead of

[88] Includes CPs fishing under Rockfish Program, but does not include the F/V Golden Fleece.

on the deck of a boat. However, even when observers are able to collect multiple large samples within a haul, catch estimates of a very rare species, such as Chinook salmon, can be relatively imprecise (e.g., uncommon and clustered) when compared with common species.

In the pollock fishery in the Bering Sea, NMFS has implemented a census method for accounting for salmon on CPs and motherships because of industry concerns with the precision of the PSC estimates based on sampling. A census is an alternative sampling approach where every salmon is sorted and counted. In the GOA, CPs have also expressed interest in implementing a census for salmon in lieu of sampling. The benefit of a census is that it does not rely on the species composition sample, so sample extrapolation to the rest of the haul is not required. The disadvantage of a census, however, is that it requires very intensive and costly monitoring to ensure that every fish is counted and that no salmon are missed.

Under Alternative 2, NMFS supports the use of census for salmon on CPs as long as conditions exist to properly monitor that all salmon PSC is retained and observers are provided the tools necessary for identifying, counting, and reporting all salmon in each haul. The requirements to monitor PSC allocations of salmon with a census count would be the same as the set of tools that were necessary to implement a census of Chinook salmon on CPs under Amendment 91 to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area. These requirements would include:

- All salmon PSC of any species must be retained until it is counted by an observer;
- Vessel crew must transport all salmon PSC from each haul to an approved storage location adjacent to the observer sampling station so that the observer has free and unobstructed access to the salmon, and the salmon must remain within view of the observer from the observer sampling station at all times;
- The observer must be given the opportunity to count the salmon and take biological samples, even if this requires the vessel crew to stop sorting or processing catch until the counting and sampling is complete;
- The vessel owner must install a video system with a monitor in the observer sample station that provides views of all areas where salmon could be sorted from the catch and the secure location where salmon are stored;
- No salmon PSC of any species may pass the last point where sorting occurs in the factory; and
- Operators of CPs must report the count of salmon by species in each haul to NMFS using an electronic logbook.

5.1.1.1.3 Halibut PSC

Under Alternative 2, PSC allocations of halibut would be monitored the same as currently done under the status quo, so that halibut PSC would be based on halibut sampled in the species composition samples. A significant difference between status quo and alternative 2 is that there would be two observers onboard instead of one, which provides the opportunity for each haul to be sampled, instead of a random selection of sampled hauls. Currently, an EFP is underway in the BSAI to determine the feasibility of sorting halibut on deck with the goal of increasing halibut survival by returning them to the sea quickly. Depending on the success of this EFP, it is possible that similar tools could also be used by CPs in the GOA.

5.1.1.2 Alternative 3

Alternative 3 would not create allocations of groundfish so the additional monitoring tools (e.g. flow scales, use of a single fish line in the factory, etc.) on CPs would not be necessary to monitor groundfish catch. The provisions under alternative 3 also do not include PSC limits to CP cooperatives and PSC limits for the offshore section would remain status quo. Under Alternative 3, NMFS anticipates it would continue status quo monitoring and PSC estimation for trawl CP vessels (Table 39).

5.1.2 Shoreside Processors and Trawl Catcher Vessels

5.1.2.1 Alternative 2

5.1.2.1.1 Groundfish

Under Alternative 2, NMFS recommends that all catch accounting for allocated groundfish species take place at the shoreside processing facilities. Catch would be required to be sorted and weighed by species on a State approved scale and NMFS would need to ensure that adequate measures have been taken to facilitate accurate catch accounting. In other catch share programs where catch accounting takes place shoreside, NMFS has required that processors operate under an approved Catch Monitoring Control Plan (CMCP). The CMCP is developed by the processor and approved by NMFS. It details a series of performance-based standards to ensure that all delivered catch can be effectively monitored by an observer, that the observer can effectively conduct their sampling duties, and that all catch is accurately sorted and weighed by species. CMCP standards would include:

- From the observation area, an observer must be able to monitor the entire flow of fish and ensure that no removals of catch have occurred between the delivery point and a location where all sorting has taken place and each species has been weighed.
- All catch delivered to the plant must be sorted and weighed by species. The CMCP must detail the amount and location of space for sorting catch, the number of staff devoted to catch sorting, and the maximum rate that catch will flow through the sorting area.
- The observation point must be located where it is convenient to the observer workstation. An observer in average physical condition must be able to walk between the workstation and the observation point in less than 20 seconds without encountering safety hazards.
- The observer workstation must be located where the observer has access to unsorted catch.
- An observer work station for the exclusive use of the observer must provide: a platform scale of at least 50 kg capacity, an indoor working area of at least 4.5 square meters, a table, and a secure and lockable cabinet.
- A plant liaison, designated by name, who would be responsible for orienting the observer to the plant, ensuring that the CMCP is implemented, and assisting in the resolution of observer concerns.

Currently, shoreside processors in the GOA are not required to sort and weigh all catch by species prior to the offload entering the factory. Therefore, several GOA shoreside processors do not have dedicated sorting areas and major modifications to many of the shoreside processors would most likely be required to incorporate these CMCP requirements. At this time, most processors in Kodiak have CMCPs in place

for the Rockfish Program, however, those installations are somewhat temporary as the rockfish fisheries occur during a small window of the year. If CMCPs are implemented as part of the GOA trawl bycatch management program, the Kodiak processors will also likely need to make major renovations to their factories in order to accommodate these requirements on a full time basis. Other shoreside processors outside of the Kodiak rockfish fisheries may currently be required to follow CMCPs as part of AFA fisheries, however, these processors may use completely different procedures during GOA trawl fisheries and would also likely need to make modifications to their operations to accommodate requirements under Alternative 2.

The monitoring tools currently in place for CVs participating in the CGOA Rockfish Program provide the model for the monitoring of allocated groundfish that NMFS would propose for CVs under Alternative 2. These vessel requirements include:

- Full observer coverage (carry an observer on all trips);
- Retain all primary and secondary groundfish species and salmon PSC;
- After sampling is completed by an observer, discard all halibut PSC at sea;
- Provide a computer for observer to enter data; and

Deliver all catch to a processor that has a NMFS approved Catch Monitoring and Control Plan (CMCP).

5.1.2.1.2 Salmon PSC

As described in Section 5.1.1.1.2, industry participants have expressed interest in implementing offload monitoring for salmon PSC under the GOA trawl bycatch management program due to concerns regarding salmon PSC accounting based on at-sea samples under the status quo. NMFS supports this approach so long as the necessary tools are in place to support offload monitoring. A suite of changes on CVs and at the shoreside processing plants would be necessary to implement offload monitoring for salmon. In order to understand the monitoring changes that would be necessary to implement salmon offload accounting under Alternative 2, it is useful to understand the differences in salmon monitoring that occur in different fisheries under the status quo.

Salmon PSC under Status quo

Current methods for monitoring and estimating salmon PSC for CVs in the GOA differ between the pollock fishery and the non-pollock fisheries (including the Rockfish Program).

Pollock fishery

In pollock fisheries, catch is generally either dropped or mechanically pumped from a codend directly into refrigerated seawater (RSW) tanks. In addition, the codends have a large volume of fish and the fish flows quickly into the RSW tanks. Observers attempt to obtain a random sample by collecting catch as it flows from the codend to the RSW tanks. However, due to the volume of fish typically caught in a pelagic pollock target haul, observer samples are often obtained opportunistically and the size of the samples can be small. For uncommon species such as salmon, large sample sizes are generally not logistically possible on pollock CVs. For this reason, whenever possible, NMFS estimates salmon PSC on CVs based on counts of the salmon PSC that are generated from offload sampling, which occurs during the delivery to the shoreside processor. Shoreside accounting only occurs on trips where pollock is the target fishery.

This requires the vessel captain to anticipate the target and to notify the observer about the intended target prior to deploying gear.

Although observers seek to conduct offload counts for salmon in the GOA pollock fishery, all of the monitoring tools that support salmon census in the Bering Sea are not currently in place in the GOA and NMFS has concerns about the current monitoring in the GOA pollock fisheries. While pollock CVs generally do not sort catch at sea, they are subject to trip limits, which can result in wholesale discarding of portions of the codend. To the extent that salmon are also discarded with the pollock discarded in these large discard events, the counts at the shoreside processor cannot be considered a true census.

There are also issues with sorting at shoreside plants. Salmon that are missed during sorting of the pollock delivery end up inside the processing facility, which requires special treatment by the shoreside processor and the observers to ensure they are counted. These "after-scale" salmon (so called because they were initially weighed along with the target species) create tracking difficulties for the shoreside processor and the observer. Although after-scale salmon are required to be given to an observer, there is no direct observation of salmon once they move past the observer and into the processing area. Vessel observers currently record after-scale salmon as if they had collected them. However, after-scale salmon would be better characterized as shoreside processor reported information. Further complications in salmon accounting at the shoreside processor occur when multiple CVs are delivering in quick succession, making it difficult or impossible to determine to which CV these salmon should be assigned. Also, shoreside processor personnel may not save after-scale salmon for observers; therefore, after-scale salmon numbers are difficult to quantify and verify for each delivery.

Non-pollock fisheries

Unlike in the pelagic pollock fishery, CVs in the bottom trawl pollock fishery or in other GOA non-pollock fisheries, which include deep and shallow water flatfish and Pacific cod, sort their catch extensively at sea. Sorting at sea is associated with these fisheries because they have a larger amount of unmarketable bycatch and PSC than the pollock fishery, and discards required by MRAs. For example, vessels in these fisheries frequently have conveyor systems on deck to facilitate sorting of unmarketable species and PSC, which must be discarded at sea. Vessels without a sorting conveyor often sort directly from the trawl alley. Observers collect species composition samples prior to any sorting of catch by the fishing crew. However, observers are concurrently engaging in other duties, making it extremely difficult to verify that no salmon PSC have been discarded at sea in these fisheries during the large amount of sorting that occurs at sea. Since salmon PSC may have been sorted from the catch prior to delivery and verification of full retention is not possible, offload monitoring of salmon PSC is not possible in these non-pollock fisheries. Therefore, PSC estimates from CVs in non-pollock fisheries are all derived from at-sea samples. As described in section 2.1.2, at sea-samples are collected using a systematic sampling design that is based on multiple, equal sized samples taken from throughout a haul to obtain the largest sample possible.

<u>Salmon PSC under Alternative 2</u>

Under Alternative 2, the tools that NMFS would propose to monitor groundfish allocations (Section 5.1.2.1.1) would ensure accurate accounting of allocated groundfish at shoreside processors and would lay the foundation for what is necessary for monitoring salmon PSC in both pollock and non-pollock

fisheries. However, additional tools would be needed to perform offload monitoring of salmon PSC for all fisheries in the GOA trawl bycatch management program. These additional tools would also address concerns with current methods of salmon PSC accounting in the pollock fishery. The changes fall into two broad categories: (1) monitoring on the vessel to make certain all salmon are retained and ensure that no salmon are missed; and (2) monitoring at the plant to enable accurate counts of salmon PSC.

Monitoring on the vessel
Obtaining an accurate offload count of salmon requires that salmon are not sorted and discarded on the CV prior to offload at the plant. Observers are unable to monitor all sorting and discard activity aboard CVs while they are completing other duties, so any sorting and discarding of catch at-sea can present vulnerabilities in monitoring PSC. Under alternative 2, it is possible that salmon PSC could limit a cooperative's ability to fully harvest their groundfish allocations. Participants would have a strong incentive to reduce their salmon PSC, but this could also create a strong incentive to illegally discard salmon so that they were not counted by observers. The ability of observers to monitor discard activity and ensure that all salmon are retained is especially difficult during large discard events, for example, where a large portion of the codend is discarded because the vessel has reached a trip limit. To the extent that salmon PSC is discarded along with the groundfish, the observer's ability to conduct a census of the salmon that were caught by the vessel is compromised. To ensure that all salmon PSC were delivered to the shoreside processor, sorting and discarding groundfish and PSC while at sea would need be minimized and controlled.

To support salmon offload monitoring, ideally there would be no discards of any species on the vessel because a prohibition on discards would minimize monitoring vulnerabilities. As described in Section 5.1.2.1.1, retention of all primary, and secondary species, and salmon PSC would be required for CVs fishing under alternative 2. However, there would still be several situations in which regulatory discards are required. There include: (1) halibut PSC; (2) groundfish species that are in PSC status (for example if catch of skates reaches a TAC) and not allocated to the program; (3) lingcod during certain times of the year; (4) catch above the Maximum Retainable Amount (MRA) for species that are not allocated to the program; and (5) pollock when a trip limit is reached. In order to minimize sorting at sea and provide observers unbiased access to salmon PSC at the shoreside processor, regulatory discards would need to be minimized so that all discards from the vessel could be monitored. Of the five types of regulatory discards mentioned above; MRAs and trip limits would create the need for vessels to discard large portions of their catch. Removing pollock trip limits and reducing the number of species managed under MRAs would reduce the risk of salmon being discarded at sea and enable offload monitoring at the shoreside plant.

The feasibility of conducting offload monitoring for salmon PSC also depends on minimizing where discards occur on the vessel. If discarding is done from multiple locations on the vessel deck (e.g. port and starboard scuppers, trawl ramp, and over the gunwales) observers will be unable to effectively to monitor discard activity and ensure that all salmon are retained. A possible solution to this issue would be to restrict discard locations to one distinct location where discards could be monitored. NMFS would need to design and test potential methods to monitor and control discards on CVs.

Monitoring at the plant

To perform offload monitoring of salmon PSC under Alternative 2, changes would also need to be made to shoreside processing plants to enable accurate census counts of salmon PSC and address concerns with status quo salmon PSC monitoring in the pollock fishery. Additional tools would be necessary to ensure observers have access to all salmon PSC prior to the fish being conveyed into the factory area of the processing plant. The requirements would replicate those that were implemented for Amendment 91 in the Bering Sea and would include:

- Processors would be prohibited from allowing salmon of any species to pass from the area where catch is sorted and into the factory area of the processing plant;
- No salmon of any species would be allowed to pass the observer's sampling area;
- The observer work station currently described in regulations at 50 CFR 679.28(g) would be required to be located within the observation area;
- A location must be designated within the observation area for the storage of salmon, and;
- All salmon of any species must be stored in the observation area and within view of the observer at all times during the offload.

The presence of a shoreside plant observer would be integral to ensure adherence to the CMCP, to monitor landings in accordance with the CMCP, and to ensure the efficient and accurate submission of data for quota monitoring of allocated groundfish species. To support census counts of salmon PSC at shoreside processors in the Bering Sea under Amendment 91, NMFS required 200% observer coverage at the plant so that all deliveries can be monitored and that the entire offload for each delivery can be monitored for sorting and sampling of salmon. These plants fall under the full coverage requirements and are required to procure their own observers. However, lower observer coverage (100%) might be possible in the GOA if shoreside processors did not operate 24-hours a day and only took deliveries within a 12-hour period.

Sampling a portion of the offload for salmon PSC instead of a complete offload count may also be an option to potentially reduce the number of observers that would need to be assigned to a shoreside processor. In order to accomplish sampling of an offload, the observer would need to determine the amount of all the catch that was sorted during the sampling period. This method has not been developed and would take further coordination with the shoreside processors and the affected fleet to determine the feasibility of this approach.

5.1.2.1.3 Halibut PSC

Under Alternative 2, vessels would not be exempted from halibut PSC discard requirements. NMFS would need to develop methods to ensure that only the *sorting* of halibut PSC occurred on CVs. Since halibut would be required to be discarded at sea, halibut PSC accounting would continue using the status quo method in which PSC is estimated from at-sea samples collected by observers. A different approach, which would require extensive development, could be to obtain halibut PSC estimates using EM (refer to Section 5.1.3).

5.1.2.2 Alternative 3

Alternative 2 would create a catch share program with allocations of both groundfish and PSC species whereas Alternative 3 would allocate PSC only. Since there would be no allocations of groundfish, the

monitoring and catch accounting for groundfish under alternative 3 would remain status quo. A significant difference between status quo and Alternative 3 is that there would be full observer coverage instead of partial coverage, which eliminates the need to extrapolate PSC from observed trips to unobserved trips.

The agency has never implemented transferrable PSC limits to cooperatives without also allocating privileges to harvest a percentage of groundfish catch. The incentives to maximize the volume of groundfish catch before a PSC limit is reached will likely be high. The potential for observer harassment, interference, and failure-to-assist issues is a concern, as Alternative 3 creates individual vessel focus on PSC without a coinciding positive incentive of cooperative-specific groundfish allocations. Alternative 3 also likely creates a "race-for-fish" in the groundfish fisheries. When combined with transferable PSC limits the race-for-fish in the groundfish fishery presents a challenging management and monitoring scenario, especially if the PSC limits are very small. Inseason management tools that would be necessary to manage a fast-paced groundfish fishery would prevent certain sampling and catch accounting approaches.

Trip limits and MRA restrictions are important inseason management tools when managing and making decisions about fishery closures. Since Alternative 3 does not allocate groundfish catch to cooperatives, NMFS would still need to make fishery closure decisions and therefore the current inseason management tools would continue to remain in place. Trip limits and MRAs result in discard requirements and extensive sorting of the catch while at sea and, as described in Section 5.1.2.1.2, these practices prevent reliable and accurate salmon PSC accounting at offload. Because a large amount of sorting occurs at sea in the non-pollock fisheries and the observers would be unable to monitor this sorting while engaged in other sampling duties, it would be extremely difficult to verify that no salmon PSC have been discarded at sea. Therefore, offload counts of salmon PSC in the non-pollock fisheries would not possible under Alternative 3. Observers would continue to sample salmon and halibut PSC at sea as part of their species composition sample and the total amount of salmon and halibut PSC would be extrapolated from these samples.

For the pollock fishery under alternative 3, NMFS could continue to collect salmon PSC counts at the processor as is being conducted under the status quo. However, as described in Section 5.1.2.1.2, NMFS has concerns about the observer's ability to obtain accurate counts during pollock offloads in the GOA under the status quo. If the salmon PSC limits became more constraining under Alternative 3, then the inadequacies of the current monitoring could be exacerbated and the potential for tampering and fraud could be increased. Pollock trip limits and the costs of making major modifications to the shoreside processors to ensure accurate accounting of salmon PSC may limit NMFS' ability to implement additional monitoring protocols under Alternative 3. If the agency was unable to obtain defensible offload counts in the pollock fishery, NMFS would use at-sea samples to account for salmon PSC in the pollock fishery.

5.1.3 Electronic Monitoring

Prior to the implementation of full observer coverage on CVs in the Rockfish Program, Alaska Groundfish Databank, in conjunction with NMFS, conducted several pilot studies to assess the efficacy of video for recording and quantifying the discard of halibut from trawl CVs. The studies demonstrated that

the use of video had potential, but the costs for the video systems and the video analysis were higher than the cost of observer coverage and the time lag of up to two weeks to receive the data was unacceptable for NMFS and industry quota managers. The studies suggested that one potential solution to reduce the costs of the video system and the associated video data analysis would be broader use of video to increase the economy of scale. Under Alternative 2, the number of vessels and days per year that they would fish in the GOA trawl bycatch management program is likely greater than number of vessels and amount fishing activity that was evaluated in the Rockfish Program pilot studies. Thus, the GOA trawl bycatch management program might provide the economy of scale for EM implementation. Since the pilot studies were conducted, NMFS and industry participants have been investigating a chute camera system that automates the process of counting and obtaining lengths from discarded halibut that might decrease the time lag before video data are available to manage the fisheries. Similar to the discussion on reducing and controlling discards in Section 5.1.2.1.2, NMFS would need to consider prohibitions on sorting and discarding if video monitoring was used to estimate halibut PSC.

Methods to ensure all discarded halibut are counted and that no other species were discarded using a video monitoring system would need to be established. These would include the following:

- All halibut and only halibut would be discarded through the chute camera.
- Overhead or deck view cameras would be used to ensure that only halibut were discarded from the vessel and into the chute camera.

Since sorting of all halibut from large catches may be difficult to accomplish, halibut are likely to make it back to the shoreside processor and would need to be counted there to obtain a census of halibut catch. In order to accomplish this, additional requirements would need to be added to the CMCP similar to those described for salmon PSC. These would include:

- Processors would be prohibited from allowing halibut to pass from the area where catch is sorted and into the factory area of the processing plant;
- No halibut would be allowed to pass the observer's sampling area;
- A location must be designated within the observation area for the storage of halibut, and;
- All halibut must be stored in the observation area and within view of the observer at all times during the offload.

Using EM to monitor halibut PSC would depend on all of the tools previously described for Alternative 2 (e.g. maximized retention of all groundfish and PSC, full observer coverage, and CMCPs at shoreside processors). Extending this EM approach to Alternative 3, however, would be very challenging due to the continuation of discards and sorting at sea. Whether or not an EM approach could be possible under Alternative 3 would need further testing.

The Council requested that staff provide a sense of the scope and timeline of work that has been dedicated to the EM program for the fixed-gear sector. That information is summarized in Section 5.5.

5.1.4 Limited Access Sector

From a monitoring perspective, the management challenges associated with the limited access fishery would be very similar to those associated with the cooperatives. This is especially true if the number of

vessels participating in the limited access fishery is small and there is a *de facto* "allocation" of catch or PSC. For example, if one or two eligible vessels choose to operate in the limited access fishery, the fishery would be allocated a portion of the overall available allocation for harvest by the one or two participating vessels. These vessels may have incentives to maximize efficiencies and productivity similar to those vessels operating in a cooperative, or they may have an incentive to continue to race for fish. But either scenario will increase the monitoring necessary to effectively manage this portion of the fishery. **For these reasons, NMFS would require identical monitoring standards for both vessels that choose to participate in cooperatives *and* those in the Limited Access sector for both Alternatives 2 and 3**.

5.1.5 Other Monitoring Components

In addition to the topics discussed in the previous sections, NMFS anticipates that additional components would be required for a comprehensive monitoring scheme under both Alternatives 2 and 3. Here, NMFS staff provides a short summary of one of these components: ATLAS software. Other elements, including monitoring tenders, will be addressed in future iterations of the analysis.

Under both Alternatives 2 and 3, NMFS would require vessels and processors to provide equipment and communications to facilitate at-sea observer data entry and transmission. Under both alternatives, NMFS would require vessels to provide a computer for use by an observer. However, transmission requirements would be different under the two action alternatives as described below.

NMFS would install a custom software application (ATLAS) on the computer provided by the vessel. Together the hardware and software allow observers to enter and prepare data for electronic transmission to NMFS. The ATLAS software includes quality assurance business rules to validate data entered, which dramatically increases the quality of the preliminary observer data at the time it is submitted to NMFS. When data are transmitted electronically, instead of submitted via fax, the data are typically made available to fishery managers much faster.

The requirement for vessels to provide communications equipment to facilitate electronic transmission of observer data from the vessel and directly to NMFS results in better communication between observers and NMFS staff. The vessels subject to this requirement currently include CPs and large CVs in the BSAI and the GOA. While onboard vessels with the ATLAS software and communications equipment, observers have the ability to communicate directly with Observer Program staff in near real time to address questions regarding sampling as well as to notify staff of potential compliance concerns. This further improves the quality of observer data by allowing timely inseason review by NMFS staff. This communication with NFMS staff is not currently available to observers who enter data on one computer and then transfer that data to a different computer for transmission, as is currently the standard practice for CVs participating in the CGOA Rockfish Program.

The CVs participating in the CGOA Rockfish Program are currently required to provide the computer for the ATLAS software but are not required to provide the communications equipment to facilitate transmission of data while at sea. Under this program, observers enter all their data into the ATLAS software that is installed on a computer provided by the vessel. Once the vessel returns to port to offload catch, the observer downloads their data to a memory stick and transmits the data from a shore-based computer with internet access. In development of the Rockfish Program, NMFS determined that vessels

made short duration trips and that the costs of requiring communications equipment would outweigh the benefits of increased timeliness of data transmission. This worked well under the Rockfish Pilot Program where full observer coverage was required at all processing plants receiving Rockfish Pilot Program catch, the processing plants had a computer installed with ATLAS available for the shoreside observer assigned to the plant, and vessel observers were able to transmit using this system. After the sunset of the Rockfish Pilot Program and the implementation of the current Rockfish Program in 2012 and the implementation of the Restructured Observer Program in 2013, these processors no longer have an observer coverage requirement. Without observer coverage requirements for shoreside processors, maintenance of a computer installed with the most recent ATLAS software is done on a voluntary basis by the manager of the processing plant, which has created problems for observers assigned to CVs that rely on that equipment. Under Alternative 2, NMFS is recommending full observer coverage at the shoreside processor as well as a computer installed with ATLAS software and transmission capabilities. Therefore, NMFS recommends that vessels provide a computer for ATLAS software but would not require transmission capability from the vessel. Shoreside processors would be required to allow vessel observers access to the shoreside plant observer's computer for transmission.

Under Alternative 3, NMFS would require vessel to provide a computer installed with ATLAS. NMFS would need to define who is responsible to facilitate data transmission. Several options exist. First, NMFS could extend the processor responsibility to facilitate data transmission to include observers that are assigned to vessels delivering to the processor, but this could be difficult for processors located in very remote locations that may only receive a few deliveries from vessels with full observer coverage requirement. Second, NMFS could require the catcher vessel to facilitate data transmission upon delivery, this would require the catcher vessel to contract with the processor or otherwise install communication equipment that would allow the observer to transmit from the computer installed on the vessel at the time of offload. Third, NMFS could require the full coverage observer provider to facilitate observer data transmission, but the additional cost likely would be passed on to the vessel. Therefore, it might be more efficient for the vessel owner to maintain access to communications in the ports where they deliver.

5.2 Enforcement Considerations

NMFS recommends that the Council consider the Enforcement Precepts presented at the December 2015 meeting.[89] The precepts include keeping regulations as simple and straightforward as possible, streamlining regulations where feasible, maintaining a clear record of Council intent to help with enforcement of regulations, and creating accountability and traceability in the seafood product chain. Additionally, the Council should consider the impact of electronic monitoring and technology on OLE and the U.S. Coast Guard, and the impacts of management changes on observers, with specific focus on developing compliance tools to limit the impact of new regulations on observers. Finally, the Council should weigh the resources needed for new regulations in relation to existing enforcement resources.

The structure of Alternative 2 would likely lead to fewer enforcement concerns accompanied by a reduction in the need for enforcement resources, as many duties that are currently under the jurisdiction of NMFS OLE would fall to the cooperative to monitor and enforce.

[89] http://npfmc.legistar.com/gateway.aspx?M=F&ID=c111a456-89fa-4423-8719-e9aa48afe2d6.pdf

The impact of Alternative 3 on enforcement activities is uncertain, although it is likely to be similar to the status quo, if not lead to greater enforcement concerns.

The following comments are provided by NMFS, in consultation with NOAA GC and NOAA OLE.

5.2.1 Pollock trip limits and MRAs (Alternative 2)

Enforcement staff spend a considerable amount of time enforcing the pollock trip limit and MRAs under the status quo. Removing the trip limit and reducing the number of applicable MRAs under Alternative 2 could reduce enforcement effort compared to the status quo. Alternative 2 provides a management structure that would allow participants to slow down the pace of the pollock fisheries, which could reduce the management need for the pollock trip limit. Alternative 2 also provides groundfish allocation options that could reduce the number of fisheries that would be closed to directed fishing and subject to MRAs.

5.2.2 Annual affidavits to determine vessel dependence (Alternative 3)

Our current understanding is that the Council does not intend for NMFS to verify the information submitted on annual affidavits that indicate dependence on GOA groundfish fisheries for the specified time period. This would not result in additional enforcement burden.

If NMFS is required to verify the information submitted on annual affidavits, any affidavits found to include inaccurate information based on prior landings data would be forwarded to the Office of Law Enforcement for investigation.

5.2.3 Vessel-based PSC limit (Alternative 3)

Enforcing a vessel-based PSC limit within a cooperative could only be done after the fishing season was completed. It would not be possible for NMFS to close directed fishing for specific vessels if the vessel's PSC limit was reached during the year because PSC from vessels in a cooperative would accrue to the cooperative's PSC limit. This would also raise practical enforcement concerns, as the ability to successfully investigate and prosecute PSC overages of individual vessels and cooperatives would require significant enforcement time and resources. Evidence of these overages would likely depend on the extrapolated data from multiple observers, which makes building cases more complicated since many people and scientific sampling protocols are involved. We recommend that this provision is managed by individual cooperatives as a part of a cooperative agreement, not NMFS.

Additionally, in existing catch share programs with PSC allocations, NMFS relies on incentives and tools, such as post-delivery transfers to prevent overages at the end of the season, which helps prevent the need to prosecute a cooperative based on a violation of a PSC allocation. Thus far, the need for prosecution of an overage has largely been negated using these incentives. Although Alternative 3 would authorize post-delivery transfers up to a specified limit for cooperatives to trade PSC, it is unclear what incentives could be included to prevent vessels from exceeding individual PSC use caps, if those caps are nontransferable. There are significant enforcement concerns without such incentives in place.

5.2.4 Quota use/ownership caps (Alternative 2)

Use caps based on quota holdings by a "person" has proven very difficult to enforce in other quota management programs. A person means "any individual (whether or not a citizen or national of the United States), any corporation, partnership, association, or other non-individual entity (whether or not organized, or existing under the laws of any state), and any Federal, state, local, or foreign government or any entity of any such aforementioned governments."

Based on previous experience, quota is often held by subsidiaries under a main holding company, and it is very challenging to determine affiliations among these entities. In other catch share programs, NMFS requires quota holders to report ownership information to determine individual and collective quota holdings. However, NMFS has had challenges verifying the "person" to which quota holdings should be attributed based on multiple subsidiaries or other complex business structures. We recognize the Council's policy goal for including use caps in quota management programs, however the agency's ability to enforce these caps is limited.

5.2.5 Processor-owned vessels and limitations on use of cooperative quota (Alternatives 2 & 3)

Both Alternative 2 and Alternative 3 include participation limits on processor-owned vessels. To implement this provision, NMFS would require processors to annually report vessels that are more than 10% processor-owned based on the individual and collective rule. NMFS would only be able to verify this on an annual basis. It is likely that the same issues that come up under quota use/ownership caps would be relevant in relation to NMFS's ability to verify the "person" to which ownership should be attributed based on multiple subsidiaries or other complex business structures.

5.2.6 Cooperative quota use limits for processors (Alternative 2)

This provision limits the amount of primary species allocated to the inshore sector that can be delivered to a processing facility. FPPs authorizing processing activity are issued by facility, however NMFS does not collect information on the ownership of the facility, just the ownership of the processing business. A company may own different facilities under different names, and a facility may be utilized by several companies. Additionally, NMFS would not be able to identify the processing facility to which the groundfish was delivered until after a landing occurs, which creates difficultly for determining real-time processing cap compliance. NMFS would need to collect additional information on processing facility ownership and establish a tracking system by processing facility to adequately monitor compliance with these caps.

5.3 Full Coverage Daily Cost Estimates

In October 2015, the Council received a discussion paper on the potential effects of placing *all* GOA trawl CVs in the full observer coverage category.[90] That paper relied on estimates of the daily cost for a full coverage observer that were drawn from the 2014 NMFS Observer Program Annual Report (NMFS, 2015). The best information available to the Alaska Fisheries Science Center's Fisheries Monitoring and Analysis (FMA) division placed the daily cost to a vessel owner around $330 to $370. FMA was able to

[90] http://npfmc.legistar.com/gateway.aspx?M=F&ID=918c7758-9e37-4685-aefb-c47ef6ab874d.pdf

make estimates for trawl CVs as a category, but could not provide a specific estimate for trawl CVs operating in the GOA due to confidentiality restrictions (fewer than three full coverage observer providers work with the GOA trawl sector; refer to MSA §402(b)(1)). The Council has heard subsequent testimony that those estimates are not an accurate reflection of the daily rates paid by GOA trawl vessel operators for a full coverage observer.

In addition to confidentiality issues, FMA staff are not able to perfectly reconcile the copies of *monthly* fee invoices that they receive with specific fishing trips. This can be an issue when a trip spans the end of one month and the beginning of another, and when a vessel operates with a full coverage observer in both the GOA and the BSAI in the same month.

Section 2.4 of NMFS's 2015 Observer Program Annual Report updates the estimated cost per day for full coverage to the extent possible (NMFS, 2016). FMA's conclusion is that the average daily rate for a trawl CV is $375, but again that estimate is not specific to the GOA. FMA staff are able to analyze confidential data to get closer to understanding the specific costs for GOA trawl CVs operating under full coverage (i.e., Central GOA Rockfish Program). Overall, FMA staff finds evidence that daily rates billed for the GOA are higher than the reported trawl CV average, and that the two main cost drivers are transportation/location and trip duration. Both factors increase fixed costs, or the costs to get an observer to the point of embarkation and onshore housing costs between deployments at sea. Shorter trips means that vessel owners amortize fixed costs over fewer actual fishing days. The nature of the GOA fisheries also means that observers are less likely to be deployed to a boat for a long period that covers multiple trips. The location factor in the GOA drives costs because observers must be deployed out of multiple ports, rather than having an effective "hub" in Dutch Harbor/Unalaska for the BSAI fisheries. Moreover, the GOA trawl fishery includes relatively remote ports such as Sand Point and King Cove, the latter of which does not have regular commercial air service. The 2015 Annual Report includes the following statement:

> *"[A]nalysis of stratified results indicate that (1) the average cost per day of observer coverage is highest for the trawl CV sector particularly in the Gulf of Alaska, and (2) based on sampled invoices where deployment durations were 5 days or less, the average cost per day of shorter duration trips could be significantly higher than the average cost per day for the trawl CVs as a whole. The higher costs in these strata are the result of higher fixed costs (airfare and other incidental expenses) and fewer days of coverage. The higher fixed costs are likely attributable to the fact that the scale of CV fishing activities requiring full coverage is smaller in the Gulf of Alaska with fewer days of coverage per vessel."*

Across all gear sectors and fisheries in both FMP areas, FMA staff finds that fixed costs (transportation and incidentals) account for approximately 10% of the total invoiced amount paid to observer providers by vessel owners. The conclusions in the Annual Report suggest that this proportion is higher in the GOA, but the exact amount is not known.

FMA staff is working to marginally improve the resolution of the invoice data that they receive by requesting it on the basis of observer deployment rather than by month, but deployments are not the same as trips so disentangling fixed costs from daily rates will remain a challenge. For the purpose of this

analysis, the Council could consider making a formal request to observer providers to waive their data confidentiality protection.

Absent any new developments in the quality of full coverage cost data, the analysts will likely have to utilize a benchmark approach for the GOA Trawl EIS. The analysts would employ the same cost estimation methodology that was used for the October 2015 discussion paper, but, instead of using the $371/day estimate, staff would perform the same arithmetic with a series of stand-in values (e.g., $400/day, $500/day, $600/day). The Council would then have a range of potential impacts to consider, and would have to rely on public testimony and anecdotal evidence to decide which marker provides the most accurate depiction of the cost of full coverage.

5.4 Potential Impact of 100% Coverage Requirement

The October 2015 discussion paper on moving all GOA trawl CVs to the full observer coverage category (referenced in footnote 90) provides a more expansive discussion of how Element 1 of Alternatives 2 and 3 might affect harvesters, processors, observer provider companies, and the NMFS Observer Program itself. The analysts will continue to revisit that information and will eventually include it in the EIS. Previous discussion papers have included the following observations:

- Full observer coverage is more costly to vessel owners than paying the 1.25% ex-vessel based fee that is levied on vessels operating in the partial coverage category.
- Moving trawl CVs from partial to full coverage would eliminate a cost factor for shoreside processors, which are assumed to pay half of the partial coverage fee.
- Because a vessel's observer costs under the full coverage category are determined by the number of contracted observer days, carrying a full coverage observer is effectively a variable operating cost (analogous to fuel). The fact that costs are driven by sea-time could affect vessel operators' decisions. If a vessel has contracted an observer, standing down to avoid fishing during a spike in local PSC rates would be more expensive. Spending time running to more distant fishing grounds with lower expected PSC rates would have a similar cost impact. Vessel owners would also have to consider the cost factor of additional running time when deciding whether to take shorter trips in order to deliver fresher product, which has been mentioned as a value-creating opportunity under a catch share program like Alternative 2. In general, the time-driven costs of carrying a full coverage observer might complicate decisions about the timing of fishing effort and coordination of deliveries, both of which are cited as positive opportunities under a program structure that allocates groundfish.

As informed by stakeholder testimony, Council and NMFS staff will continue to consider how requiring full coverage might affect operations and planning for harvesting and processing businesses.

5.5 Development of a Fixed-Gear Electronic Monitoring Program for the North Pacific

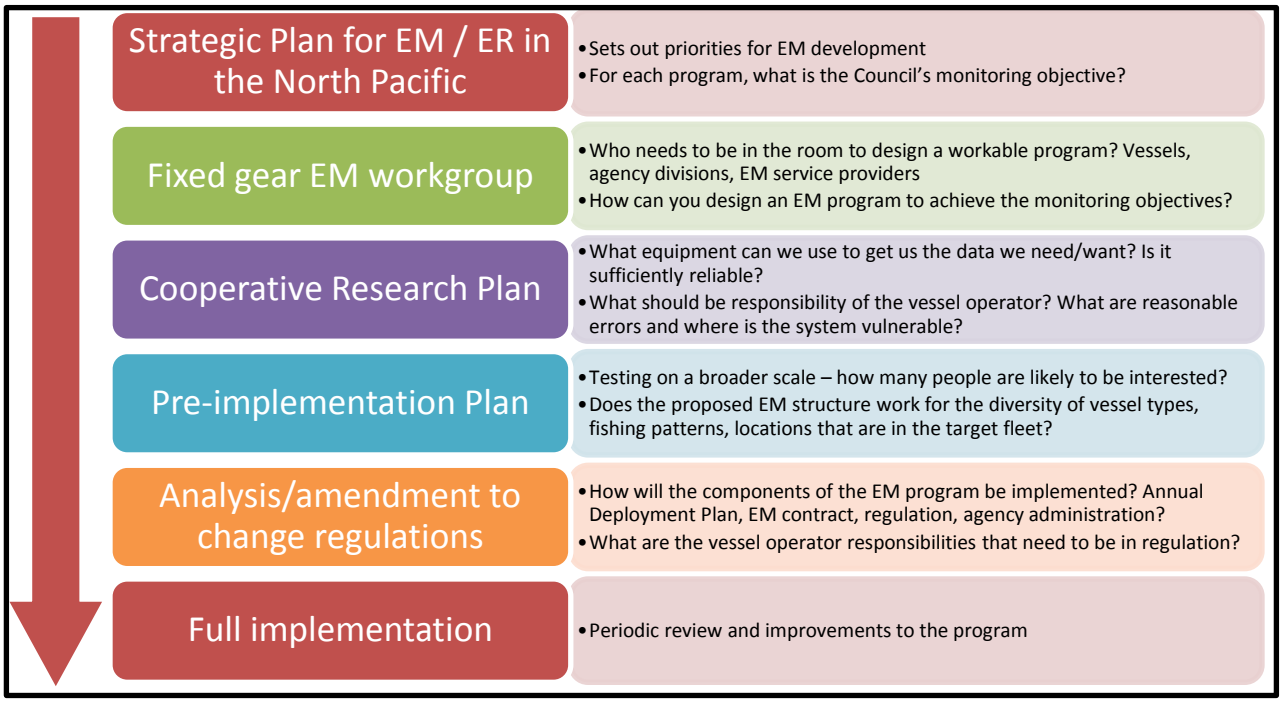
In February 2016, the Council received public testimony from stakeholders who felt that electronic monitoring (EM) could provide a path to limiting industry monitoring costs. The Council has been working for several years to develop an EM program for the fixed gear sector. Specifically, the Council will soon begin to review an analysis on the effects of integrating EM into the Observer Program for a range of monitoring goals for fixed gear vessels. Each goal, or element of EM program structure, is

considered in a forthcoming regulatory amendment analysis for integrating EM as a tool in the Council's monitoring program.

This section is provided as a reference that illustrates the amount of work that has been expended on that effort by stakeholders and NMFS/Council/ADFG staff. This information might be useful to the Council in deciding whether or not to initiate an EM project for the GOA trawl sector, and in determining the appropriate timeline in view of competing management priorities and human resources[91].

Figure 16 shows the steps of the EM development process. The building block of EM development is the "Strategic Plan for EM / ER[92] in the North Pacific" (NMFS, 2013), which was reviewed and adopted by the Council in June 2013. The document lays out a plan for integrating monitoring technology into data collection programs for the North Pacific. Through that document, the Council identified their initial priority for developing camera systems, targeting a monitoring option for vessels 40-57.5 feet in length, which have difficulty accommodating a human observer onboard. These vessels had only recently become subject to observer coverage under a restructuring of the Observer Program, and many of the vessels are small halibut boats, with limited crew and space onboard for an additional person. The Council committed to developing EM as a monitoring alternative for collecting data to be used in catch estimation for this fleet.

Figure 16 Steps in the EM development process



[91] The Council prioritizes a range of analytical projects related to the Observer Program at each meeting, by reviewing a status table presented under the staff tasking agenda item. The current list, as updated for the Observer Advisory Committee in May 2016, is available at: http://www.npfmc.org/wp-content/PDFdocuments/ObserverAnalyticalPriorities0516.pdf.

[92] ER = Electronic reporting

The Council created a Fixed Gear EM Workgroup in April 2014, as a forum for all stakeholders to work together on EM development. Stakeholders include representatives of the commercial fishing industry sectors, agencies (Council, managers, enforcement, the Observer Program), and EM service providers (equipment and service providers as well as video reviewers). The purpose of the Workgroup was to cooperatively and collaboratively design, test, and develop EM systems that are consistent with Council goals to integrate EM into the Observer Program. With the establishment of the Workgroup, the EM development dynamic went from unproductive relationships (especially from 2012 to early 2014) to a cooperative process. While there are still differences among the members, there is now a mechanism in place to address and resolve differences. The time commitment from members is fairly intensive, however; the group met 4-5 times per year in 2014 and 2015, and is scheduled for a similar commitment in 2016. A National Fish and Wildlife Foundation grant has provided some financial support for industry participation. The Workgroup will likely continue to meet actively through full implementation, at which time the group may transition to a different role with reviewing and improving the program.

The Cooperative Research Plan, effective in 2015, was the first effort to bring together various EM pilot testing work that had been done previously, and begin to test systems designed to assess the efficacy of EM for catch accounting of retained and discarded catch. The research plan also helped to identify key decision points related to operationalizing and integrating EM systems into the Observer Program for fixed gear vessels. This morphed into a Pre-implementation Plan for 40-57.5 foot longline vessels in 2016, which continued to include research elements for other gear types, different EM equipment, and other longline size classes. The Workgroup established a two-step process whereby new technology or program elements should be first field-tested for workability, and then more broadly operationally-tested in a pre-implementation environment. In this way, the Workgroup can evaluate whether a program element is conducive to deployment on the diversity of fixed gear vessels, by different operators employing individual fishing patterns. This process is also conducive to continued research and development, both of new technologies, and deploying EM gradually into different sectors of the fixed gear fleet.

The development of an EM analysis and regulatory amendment is linked to the research and pre-implementation plans, as these field efforts help to identify the appropriate questions for informing implementation decisions and Council alternatives for how EM can be used in a comprehensive monitoring plan. Even though the current EM development effort has focused on the Council's priority of small longline vessels that have difficulty in carrying a human observer, the analysis has broadened to address a regulatory change applying to all fixed gear vessels. The EM program design elements and sampling techniques are conceptually similar on all fixed gear vessels, although distinct from those of trawl vessels.

The analysis identifies how each element of the EM program will be implemented. While some aspects of EM require a regulatory change, other components are implemented through the Annual Deployment Plan, through a contract with an EM service provider, or through agency administration. The regulations need to identify operator responsibilities for fixed gear vessel operators using EM. On an annual basis, the Council has the flexibility, through the Annual Deployment Plan, to go through the two stage process (field-testing and operational-testing) to ensure that new sectors can be brought into the EM program. The Workgroup is developing a pre-implementation program for pot vessels for 2017, and is considering

expanding the longline pre-implementation pool to any size longline vessel. The Workgroup is also interested in starting work on developing EM systems appropriate to the under-40 foot longline vessels, which are currently not required to carry observers. New technology can also be tested through pilot implementation programs within the EM pool through the Annual Deployment Plan, and use of specified systems will likely be implemented through the contact to the EM service provider.

The proposed timeline for the development of EM for small fixed gear vessels has been an aggressive one, requiring considerable workload by Council and agency staff and the Workgroup, and the Council has prioritized this work above other projects at many stages. At this point, the intention is for the Council to take final action on the EM analysis in December 2016, with regulations implemented by the beginning of 2018. Figure 17 provides milestones in the development process, for fieldwork work, the Council process, and the intersection of EM development with the Observer Annual Deployment Plan.

Figure 17 Timeline for implementation of EM for fixed gear vessels

Year	Fieldwork / Pre-implementation (Pre-Imp)	Council process, regulations	Observer Program/ Annual Deployment Plan (ADP)
2014	*Fieldwork*	*EMWG develops 2015 Cooperative Research Plan (CRP), discusses alternatives for analysis*	*Oct – 2015 ADP places 10 vessels that are participating in EM research into the no selection pool*
2015	*Feb – SSC reviews CRP* *Jan-Jul – operational longline, stereo camera, pot cod field research*	*Feb – SSC, Council review CRP* *Oct – propose a 2016 Pre-Implementation plan to Council*	*Oct – 2016 ADP proposes all EM Pre-Imp vessels in no selection pool*
2016	Jan-Dec – Pre-implementation on 58 longline vessels 40-57.5'. Jan-Apr – pot cod field work Jan-Jul – Stereo camera research on 3-5 longline vessels, and pot vessels	Oct – initial review for EM analysis to integrate EM into obs program. Dec – final action on EM analysis	Oct – 2017 ADP proposes all EM Pre-Imp vessels in no selection pool
2017	Jan-Dec – Second pre-implementation year for longline vessels >40', and proposed pre-implementation for pot vessels. Potential research on other technology.	Jan-Aug – Develop proposed and final regulations for integrating EM, hold MSA-required hearings in AK, WA, OR	June – Annual Report provides prelim analysis on allocating observer fee between observer and EM deployment Oct – 2018 ADP allocates funding to observers and EM deployment
2018	**Integrated observer/EM monitoring program**		

6 Pollock and Pacific Cod Season Dates

Both Alternative 2 and Alternative 3 include options to modify the pollock and Pacific cod season dates so that they could potentially remain open to directed fishing from January 20 to November 1. As part of that change, the pollock fishery could be reduced from four seasons to two. Both alternatives also include an option to change the percentage of the pollock TAC assigned to each of

the four fishing seasons. While the options are not worded the same in both alternatives, they have the same effect. The three options considered are presented below.

In the EIS, the analysts will provide additional data describing whether the historically active pollock and Pacific cod vessels tended to be active in other fisheries and areas during the period of time that would be newly opened to directed pollock and cod fishing. The EIS would identify any market or other factors that might limit the efficacy of this season data change as a PSC minimization tool; in other words, the analysts would be looking to see whether vessels might shift their effort into newly unrestricted times of year in order to avoid times of high PSC rates, or whether this option serves mainly as a tool to reduce regulatory discards of a species that has not been placed on prohibited status. The Council might wish to speak to intent for this option at the June 2016 meeting.

Option 1. Revise the GOA-wide pollock apportionments to 30% (A); 30% (B); 20% (C); 20% (D). None of the options change the distribution of GOA pollock among Areas 610, 620, or 630 as established through the specifications process.

The GOA pollock TAC was first apportioned across four seasons in the western and central GOA beginning in 1990 to prevent the rapid harvest of the pollock TAC early in the year (55 FR 37907, September 14, 1990). Steller sea lion protection measure emergency and final rules implemented from 1999 through 2003 maintained the importance of the seasonal pollock TAC allocations to reduce the potential for the pollock fishery to compete with Steller sea lions for prey. Under the Council's Steller sea lion protection measures implemented in January 2003 (68 FR 204, January 2, 2003) and modified in 2004 (69 FR 56384, September 21, 2004), pollock TACs are currently allocated equally by season (25%) across the combined 610, 620, and 630 regulatory areas. The West Yakutat and SEO Districts pollock TACs are not allocated by season and are not included in the proposed change. Therefore that portion of the total pollock TAC is not included in this discussion. Seasonal allocations to each regulatory area are determined by the estimated seasonal pollock biomass distribution. That distribution methodology will continue regardless of the proposed changes in the total seasonal allocation. Table 40 shows the final GOA pollock allocations for the Western and Central GOA regulatory areas.

Table 40 Pollock allocations for the Western and Central GOA regulatory areas in 2015

	Shumagin (Area 610)		Chirikof (Area 620)		Kodiak (Area 630)		W & C GOA	
Season	mt	%	mt	%	mt	%	mt	%
A (Jan 20–Mar 10)	3,632	7.99%	30,503	67.11%	11,316	24.90%	45,452	25.00%
B (Mar 10–May 31)	3,632	7.99%	37,820	83.21%	4,000	8.80%	45,452	25.00%
C (Aug 25–Oct 1)	12,185	26.81%	14,628	32.18%	18,639	41.01%	45,452	25.00%
D (Oct 1–Nov 1)	12,185	26.81%	14,628	32.18%	18,639	41.01%	45,452	25.00%
Annual Total	31,634	17.40%	97,579	53.67%	52,594	28.93%	181,806	100.00%

Source: NMFS Table 3 at https://alaskafisheries.noaa.gov/sites/default/files/15_16goatable3.pdf
Note: The table does not include further distributions of the TACs (inshore/offshore). All seasons open and close at 1200 hours A.l.t.

Table 41 shows how the 2015 pollock TACs in the Western and Central GOA would be redistributed by changing the seasonal allocation percentages. All of the changes in that table are driven by the change in

percentages in the far right column (the Council's proposed amendment). To the extent biomass distribution varies and the total TAC changes in the future, the reported numbers will vary. These estimates are based on a snapshot using the 2015 fishery.

Table 41 Proposed pollock allocations for the Western and Central GOA regulatory areas with revised apportionments (based on 2015)

	Shumagin (Area 610)		Chirikof (Area 620)		Kodiak (Area 630)		W & C GOA	
Season	mt	%	mt	%	mt	%	mt	%
A (Jan 20–Mar 10)	4,358	7.99%	36,603	67.11%	13,581	24.90%	54,542	30.00%
B (Mar 10–May 31)	4,358	7.99%	45,384	83.21%	4,800	8.80%	54,542	30.00%
C (Aug 25–Oct 1)	9,748	26.81%	11,701	32.18%	14,912	41.01%	36,361	20.00%
D (Oct 1–Nov 1)	9,748	26.81%	11,701	32.18%	14,912	41.01%	36,361	20.00%
Annual Total	28,213	15.52%	105,389	57.97%	48,204	26.51%	181,806	100.00%

Note: All seasons open and close at 1200 hours A.l.t.

Table 42 shows the changes in the TAC apportionments by area and season that would have resulted using the 2015 data. Increasing the seasonal apportionment to the A and B seasons to 30% increased the total annual pollock TAC in area 620, while decreasing the 610 and 630 annual apportionments. All areas were apportioned more pollock in the A and B seasons, but the amounts were greatest in area 620. The reason is the pollock biomass distribution is currently relatively greater in 620 during those seasons. Because 610 has the smallest percentage of biomass in those seasons, the increase in that area was the smallest.

Table 42 Change in amount of pollock assigned to each season and regulatory area (based on 2015)

Season	Shumagin (Area 610)	Chirikof (Area 620)	Kodiak (Area 630)	W & C GOA
A (Jan 20–Mar 10)	726	6,100	2,265	9,090
B (Mar 10–May 31)	726	7,564	800	9,090
C (Aug 25–Oct 1)	-2,437	-2,927	-3,727	-9,091
D (Oct 1–Nov 1)	-2,437	-2,927	-3,727	-9,091
Annual Total	-3,421	7,810	-4,390	0

Note: Reported numbers in rows and columns may not add to the totals due to rounding errors. All seasons open and close at 1200 hours A.l.t.

Assuming that pollock harvested during the roe season continues to provide greater value than pollock harvested later in the year, changing the allocation percentages will benefit the trawl sectors and the processors. The 2015 Economic SAFE Report (Fissel, et al., 2015) states that Alaska pollock roe accounted for 11 percent of the species' wholesale value in 2014. Prior to 2007, roe often accounted for one-third to one-fifth of the total first wholesale value of Alaskan pollock. This indicates that while pollock roe is still valuable, the relative value has decreased as a result of declining Japanese consumption patterns and the weakness of the yen relative to the U.S. dollar.

Based on 2015 data, changing the seasonal apportionments would benefit persons that hold a trawl endorsement for the Central GOA more than persons in the Western GOA, because of the current

biomass distribution. The amount of pollock allocated to that area increased by 3,421 mt, while the amount allocated to persons that hold only a Western GOA license would decrease by an equal amount.

Changes in the seasonal apportionments of pollock TAC affect not only harvesters, processors, crew and support industry it also potentially impacts other users of the resources. Steller sea lions prey on pollock and fishery removals may reduce availability of pollock to Steller sea lions.

The overall change in the amount of pollock that could be removed during the winter months is relatively modest in the areas 610 (726 mt) and 630 (2,265 mt). The greatest potential for any negative impact would be in area 620 (an increase of 6,100 mt), the impacts of this potential increase in harvest on the human environment and ESA-listed species will be addressed in more detail in the EIS and as appropriate in a Section 7 consultation.

In terms of reducing Chinook PSC rates, the number of Chinook caught per metric ton of groundfish in the pollock target fisheries is typically greater after August. Table 43 shows the number of Chinook salmon caught per metric ton of groundfish in the GOA pollock target fisheries. The highlighted cells indicate the value is greater than the annual average. Only February in area 620 is above the average in the first half of the year. Almost all of the cells are above the annual average in October and November.

Table 43 Chinook salmon per mt of groundfish in the pollock fishery (2010-2015)

Month	610	620	630	W & C Areas
01	0.000111	0.000047	0.000012	0.000059
02	0.000071	0.000074	0.000038	0.000066
03	0.000028	0.000016	0.000049	0.000023
04	0.000049	0.000011	0.000024	0.000019
05	0.000010	0.000010		0.000010
06				
07				
08	0.000029	0.000039	0.000009	0.000029
09	0.000064	0.000077	0.000035	0.000055
10	0.000451	0.000157	0.000082	0.000200
11	0.004942	0.000082	0.000042	0.000184
12				
Annual	0.000177	0.000054	0.000054	0.000078

Source: AKFIN summary of NMFS Catch Accounting data

Option 2. Modify the pollock fishery to two seasons: January 20 to June 10 and June 10 to November 1. (If selected with Option 1, the seasonal split would be 60%/40%).

This option would combine the A and B seasons and extend the B season closing date from May 31 to June 10; it would also combine the C and D seasons and move the C season opening date ahead from August 25 to June 10 (Table 44). The fishery would remain closed to directed fishing from November 1 through January 20 of the following year. The proposed season date changes would provide the opportunity for the pollock fishery to remain open from January 20 through November 1.

Table 44 Current and proposed GOA pollock season dates for the Western and Central area.

Current Seasons	Proposed Seasons
A: January 20 through March 10	A: January 20 through June 10
B: March 10 through May 31	
C: August 25 through October 1	B: June 10 through November 1
D: October 1 through November 1	

Note: All seasons open and close at 1200 hours A.l.t.

When the race to fish is eliminated, combining the A and B seasons allows for better timing for harvesting pollock roe at its peak. In years when the roe peaked early or late, the apportionment of TAC to the current A and B seasons would not provide the opportunity for participants to time the fishery to harvest the majority of the roe at its peak value under Alternative 2 or under a management structure that does not allocate pollock to cooperatives. When the roe quality is best earlier in the year, vessels could harvest pollock assigned to the A season, but B season pollock would not be available until March 10. Fishing on the B season TAC may not be complete until after the roe is overly mature or the fish have already spawned and are of lower quality. During years that the pollock roe is slower to mature, harvesters could delay pollock fishing until it has a higher value without forgoing some of the A season TAC. Under the current Steller sea lion protection measures at 50 CFR 679.20(iv)(B), a maximum of 20% of a seasonal GOA pollock allocation may be added to or subtracted from remaining seasonal apportionments, provided that any revised seasonal apportionment does not exceed 20% of the seasonal TAC apportionment for the statistical area. Note that under the current equal seasonal allocations 20% is an equivalent number of metric tons in all seasons. If the percentages are changed, as discussed above, 20% of the early season(s) could not be rolled over to a later season, because it would be greater than 20% of that season's initial TAC.

Eliminating the closed period from May 31 to August 25 could allow pollock harvested in excess of the MRA to be retained. Current management measures require any pollock harvested in excess of the MRA to be discarded because pollock is not open to directed fishing. Keeping the fishery open during the summer months, especially when cooperatives have their own allocation of pollock, could reduce pollock discards. During 2015, about 0.6% of GOA pollock harvests were discarded. Fishing patterns are expected to change under a catch share program, with more mixed species trips, as people try to harvest their allocations. If fisheries are closed to directed fishing, the ability to take mixed trips could result in unintended impacts on discards as the competing goals of the MRA and IR/IU regulations interact. Because pollock directed fishing has not been allowed between May 31 and August 25 in the GOA, relieving this restriction could also provide greater flexibility for vessels to target pollock during this time period, provided that directed fishing pollock during this time could be accommodated by processors active in other fisheries (e.g., salmon).

Consolidating the current four pollock seasonal apportionments into two contiguous seasons would provide additional flexibility to harvesters to spread their harvests throughout the year. Experience with catch share programs indicates that harvest patterns tend to become more evenly distributed throughout the year as vessels seek to harvest fish in accordance with more individualized harvest plans and are not participating in a race for fish. The impacts of potential changes in pollock harvest

patterns on the human environment and ESA-listed species under Alternative 2 and Alternative 3 will be addressed in more detail in the EIS and as appropriate in an ESA Section 7 consultation.

Option 3. Modify the trawl Pacific cod fishery to two seasons: January 20 to June 10 and June 10 to November 1. (The seasonal split for trawl gear would be maintained per Am 83).

Directed fishing for Pacific cod with trawl gear in the Western and Central Regulatory Areas of the GOA is authorized during two seasons, as shown in Table 45. The proposed action would move the start date of the B season from September 1 to June 10. Changing the B season start date would eliminate the regulatory closure that is now in place from June 10 through September 1. Allowing the fishery to remain open would allow harvesters to retain Pacific cod in excess of the MRA during that period, potentially reducing regulatory discards.

Table 45 Current and proposed Western and Central GOA Pacific cod fishing season with trawl gear

Current Seasons	Proposed Seasons
A: January 20 through June 10	A: January 20 through June 10
B: September 1 through November 1	B: June 10 through November 1

Note: All seasons open and close at 1200 hours A.l.t.

Less than 2% of the Pacific cod harvested by catcher vessels was discarded in 2015. As discussed under the season changes for pollock, keeping the fishery open during the summer months eliminates regulatory discards that could result from catches exceeding the MRA when Pacific cod is closed to directed fishing. IR/IU regulations require Pacific cod to be retained with the fishery is open, so eliminating the regulatory closure under a cooperative structure would allow the IR/IU regulations to remain in effect while the cooperative is fishing. Unlike the Rockfish Program, checking out of the program is not assumed to allow the member vessels to fish in other GOA open access trawl fisheries. When a cooperative (or a member of a cooperative) catches their limit of an allocated species they are required to stop fishing with trawl gear in the GOA. Other options associated with the overall amendment package will determine their options in GOA non-trawl fisheries and the BSAI groundfish fisheries.

Because the Pacific cod directed fishery has been closed to fishing with trawl gear from June 10 through September 1 data are not available to study PSC rates during that time period. However, Table 46 shows the average monthly Chinook salmon PSC rates in the Pacific cod fishery from 2010 through 2015. Information in that table shows the PSC rates were generally higher in September and October, but it is not possible to determine whether rates in July and August would be closer to those reported May and June or those reported in September and October.

Table 46 Chinook salmon per mt of groundfish in the Pacific cod fishery (2010-2015)

Month	610	620	630	W & C Areas
01	0.000049	0.000006	0.000008	0.000014
02	0.000012	0.000005	0.000032	0.000015
03	0.000049	0.000005	0.000010	0.000014
04	0.000000	0.000003	0.000018	0.000012
05	0.000000	0.000000	0.000000	0.000000
06		0.000000	0.000000	0.000000
07				
08				
09	0.000000	0.000035	0.000017	0.000020
10		0.000026	0.000057	0.000045
11			0.000164	0.000164
12				
Annual	0.000022	0.000011	0.000018	0.000017

Source: AKFIN summary of NMFS Catch Accounting data

Table 47 reports the average monthly halibut PSC rates in the Pacific cod fishery from 2010 through 2015. As discussed for the Chinook salmon PSC rates, the early year rates are generally lower than the later months. The closures during July and August prevent a more detailed review of when the rates would begin to increase.

Table 47 Kilograms of halibut per mt of groundfish in the Pacific cod fishery (2010-2015)

Month	610	620	630	W & C Areas
01	0.005837	0.006213	0.008764	0.007814
02	0.006428	0.006941	0.009468	0.006944
03	0.002507	0.007744	0.007790	0.006943
04	0.085854	0.005870	0.008736	0.007674
05	0.108785	0.006000	0.009531	0.007455
06		0.007977	0.008316	0.008142
07				
08				
09	0.010445	0.010852	0.016266	0.015289
10		0.014329	0.022015	0.019175
11			0.018505	0.018505
12				
Annual	0.005850	0.008445	0.011712	0.009360

Source: AKFIN summary of NMFS Catch Accounting data

6.1 Management Issues

Alternatives 2 and 3 include options to modify the directed pollock and Pacific cod season dates. Modifying the directed pollock and Pacific cod seasons must be considered in relation to the impacts on temporal fishing concentration in the GOA groundfish fisheries. Based on previous experience with cooperative management programs in the GOA and BSAI, it might be possible to craft a management structure that disperses groundfish catch over time while providing greater flexibility in season dates for the fleet to maximize the value of groundfish and minimize PSC use to the extent practicable.

Revising the season dates for pollock and Pacific cod could promote harvest efficiency and reduce regulatory discards under either Alternative 2 or Alternative 3. Currently, when directed fishing has been closed at the end of the A/B season, vessels are required to discard any pollock and Pacific cod catch over the maximum retainable amount (MRA) until directed fishing is open for the B/C season. Although the total amount of discards in pollock and Pacific cod fisheries is limited (about 0.6% of GOA pollock harvests and less than 2% of Pacific cod harvests), revising the seasons would reduce regulatory discards and provide additional directed fishing opportunities.

Under Alternative 2, a voluntary cooperative structure would provide cooperatives with tools to manage their pollock and Pacific cod allocations to meet the requirement for 100% retention of these species throughout the fishing year. Under this structure, all pollock and Pacific cod harvest, including discards and incidental catch in other fisheries, would be deducted from the cooperative allocation regardless of the time of year it is harvested. Consistent with other management programs like the Central GOA Rockfish Program and Amendment 80, a cooperative would be prohibited from exceeding its groundfish allocations and would be required to stop fishing if the cooperative allocations are reached. Therefore, revising the season dates likely would not result in more pollock and Pacific cod harvest compared to the status quo under Alternative 2, but would provide the trawl sector with more flexibility for harvesting pollock and Pacific cod during the months the seasons are currently closed (June 1 – August 24 for pollock, and June 11 – August 31 for Pacific cod).

Under Alternative 3, NMFS would continue to open and close directed fishing for pollock and Pacific cod. Revising the season dates would promote harvesting efficiencies and reduce regulatory discards compared to the status quo only if sufficient pollock or Pacific cod TAC remained to keep directed fisheries open through the new season end date.

The option to consolidate pollock seasons from four to two is primarily intended to simplify management and establish season dates that reflect how fishing is likely to occur under the proposed voluntary cooperative programs. Consolidating the pollock seasons likely would not change when and how the fishery is prosecuted because it corresponds to the way the fishery is conducted under the status quo, especially when the fleet has voluntarily organized to slow down the fishery. When organized, the fleet typically chooses to delay the A season pollock fishery to maximize the economic value with timing of roe quality and to maximize product quality by allowing plants to slow down processing operations. As a result, the fleet begins fishing at the end of the A season in late February through the start of the B season without having to stop in between. This practice would likely continue under Alternative 2 whether or not the A and B seasons are consolidated into one regulatory season.

The benefits of combining pollock seasons are less clear under Alternative 3. Alternative 3 is likely to result in a race for fish similar to the status quo, particularly in the spring pollock fisheries when the roe quality is high and PSC is low. Vessels are likely to participate in fisheries that typically have lower PSC to ensure they have sufficient PSC to prosecute groundfish fisheries for the remainder of the year. Pollock fishing in the A/B season is one of the few fishing opportunities that has a low risk of PSC early in the year. Maintaining the current A and B season pollock season dates has the benefit of spreading out catch,

which would provide more fishing opportunity to participants in the pollock fishery and temporally disperse catch as intended by the Steller sea lion protection measures.

Assuming that the fleet continues to operate as it has in the past, the daily catch rate is 5,000 mt per day. Any seasonal apportionment of less than 5,000 mt might not allow for a fishery to open without 100% agreement by all cooperative and Limited Access sector participants to operate under a voluntary catch share plan. These voluntary agreements to organize have been tenuous in the past, and require a significant amount of trust both within the fleet and between the fleet and NMFS. Small seasonal apportionments also have created situations where 100% agreement has been difficult to ensure because individual participants have a strong economic incentive to begin fishing when the season opens and sufficient TAC is available to maintain their historical harvest levels. This incentive likely would not change under Alternative 3 because participants would continue to compete to harvest groundfish before the seasonal TAC is reached.

Shifting from four pollock seasons to two could allow larger quotas, which could, to some degree, alleviate the risk that small seasonal apportionments would prevent NMFS from opening the fishery. However, NMFS anticipates that it would have to continue to conservatively manage the GOA pollock and Pacific cod fisheries under Alternative 3 given the potential effort in the fleet and the limited incentives for the fleet to cooperatively slow harvest rates and limit harvests to the seasonal allocations.

One benefit of the current pollock season summer break (between then B season end date of May 31 and the C season start date of August 25) is the avoidance of conflict with salmon fisheries. Under Alternative 2, vessels would be able to work with processors to avoid this conflict and organize fishing to benefit both the processor and the catcher vessel. This coordination may be more challenging under Alternative 3. If the B season end date is removed and the seasons are combined, the fall fishery would begin on June 10 and might create production conflicts with salmon fisheries.

In Section 5.1, NMFS explained that revising the season dates for the pollock fishery would be consistent with a monitoring program to account for Chinook salmon PSC at offload. The management structure under Alternative 2 could allow for offload monitoring of Chinook salmon PSC if the program is structured to maximize pollock retention and control discards to the extent possible. If the current pollock B season end date is retained under Alternative 2, vessels would be required to discard groundfish catch in excess of the MRA and Chinook salmon PSC. In developing the monitoring requirements for Alternative 2, NMFS would need to evaluate whether the amount of regulatory discards from June 1 to August 24 would eliminate the option of using offload monitoring of Chinook salmon PSC because it would not maximize pollock retention. If offload sampling is not feasible, NMFS would continue to use at-sea sampling to estimate Chinook salmon PSC for trawl catcher vessels. The challenges of management with at-sea sampling and small PSC limits are further discussed in Section 5.1.

7 Appendix 1 – GOA Trawl Bycatch Management Purpose & Need Statement, Goals & Objectives, and Alternatives

The following statements and alternatives are presented as amended by the Council in February 2016.

Purpose and Need Statement:

Management of Gulf of Alaska (GOA) groundfish trawl fisheries has grown increasingly complicated in recent years due to the implementation of measures to protect Steller sea lions and reduced Pacific halibut and Chinook salmon Prohibited Species Catch (PSC) limits under variable annual total allowable catch (TACs) limits for target groundfish species. These changes complicate effective management of target and non-target resources, and can have significant adverse social and economic impacts on harvesters, processors, and fishery-dependent GOA coastal communities.

The current management tools in the GOA Groundfish Fishery Management Plan (FMP) do not provide the GOA trawl fleet with the ability to effectively address these challenges, especially with regard to the fleet's ability to best reduce and utilize PSC. As such, the Council has determined that consideration of a new management regime for the GOA trawl fisheries is warranted.

The purpose of the proposed action is to create a new management structure which allocates prohibited species catch limits and/or allowable harvest to individuals, cooperatives, or other entities, which will mitigate the impacts of a derby-style race for fish. It is expected to improve stock conservation by creating vessel-level and/or cooperative-level incentives to eliminate wasteful fishing practices, provide mechanisms to control and reduce bycatch, and create accountability measures when utilizing PSC and/or target and secondary species. It will also increase at-sea monitoring in the GOA trawl fisheries, have the added benefit of reducing the incentive to fish during unsafe conditions, and improve operational efficiencies.

The Council recognizes that GOA harvesters, processors, and communities all have a stake in the groundfish trawl fisheries. The new program shall be designed to provide tools for the effective management and reduction of PSC and bycatch, and promote increased utilization of both target and secondary species harvested in the GOA. The program is also expected to increase the flexibility and economic efficiency of the GOA groundfish trawl fisheries and support the continued direct and indirect participation of the coastal communities that are dependent upon those fisheries. These management measures could apply to those species, or groups of species, harvested by trawl gear in the GOA, and/or to PSC. This program will not modify the overall management of other sectors in the GOA, or the Central GOA rockfish program, which already operates under a catch share system.

Goals and Objectives:

1. Balance the requirements of the National Standards in the Magnuson Stevens Act
2. Increase the ability of the groundfish trawl sector to avoid PSC species and utilize available amounts of PSC more efficiently by allowing groundfish trawl vessels to fish more slowly, strategically, and cooperatively, both amongst the vessels themselves and with shore-based processors
3. Reduce bycatch and regulatory discards by groundfish trawl vessels

4. Authorize fair and equitable access privileges that take into consideration the value of assets and investments in the fishery and dependency on the fishery for harvesters, processors, and communities
5. Balance interests of all sectors and provide equitable distribution of benefits and similar opportunities for increased value
6. Promote community stability and minimize adverse economic impacts by limiting consolidation, providing employment and entry opportunities, and increasing the economic viability of the groundfish harvesters, processors, and support industries
7. Improve the ability of the groundfish trawl sector to achieve Optimum Yield, including increased product retention, utilization, landings, and value by allowing vessels to choose the time and location of fishing to optimize returns and generate higher yields
8. Increase stability relative to the volume and timing of groundfish trawl landings, allowing processors to better plan operational needs as well as identify and exploit new products and markets
9. Increase safety by allowing trawl vessels to prosecute groundfish fisheries at slower speeds and in better conditions
10. Include measures for improved monitoring and reporting
11. Increase the trawl sector's ability to adapt to applicable Federal law (i.e., Endangered Species Act)
12. Include methods to measure the success and impacts of all program elements
13. Minimize adverse impacts on sectors and areas not included in the program
14. Promote active participation by owners of harvest vessels and fishing privileges

Alternatives for Analysis (as amended in February 2016):

ALTERNATIVE 1. No action. Existing management of the Central and Western Gulf of Alaska trawl fisheries under the License Limitation Program.

ALTERNATIVE 2. Gulf of Alaska Trawl Bycatch Management Program for the Western Gulf, Central Gulf and West Yakutat areas. The following elements apply to the program:

1. Observer Coverage and Monitoring

All trawl vessels in the GOA will be in the 100% observer coverage category, whether they participate in the voluntary cooperative structure or the limited access fishery with trawl gear. NMFS will develop monitoring and enforcement provisions necessary to track quota, harvests, and use caps for catcher vessels and catcher processors, including those necessary for gear conversion. The Council authorizes NMFS to report weekly vessel-level bycatch information as authorized under MSA Sec 402(b)(2)(A). Full retention of allocated target species is required.

The Council request staff to evaluate the ability/challenges for the fleet to meet the full retention requirement for allocated species if the prohibition for directed fishing for Pollock and cod remains in effect for the time period of Nov 1 to Dec 31.

2. Sector eligibility

Inshore sector: Shoreside processors with an eligible FPP and harvesters with an eligible FFP and LLP endorsed for GOA trawl. Allocations are based on trawl landings during the qualifying years with a CV trawl LLP or a CP trawl LLP that did not process catch onboard. Any CP LLP not used to process catch offshore during the qualifying years will be converted to a CV LLP at the time of implementation.

Offshore sector: Am 80 vessels defined in Table 31 CFR Part 679 and their replacement vessels, and their current GOA trawl LLP. Allocations are based on trawl landings during the qualifying years with a CP trawl LLP that processed catch onboard.

3. Allocated species (more than one option can be selected)

a. Target species:

Option 1. Pollock (610/620/630/640) and Pacific cod (WG/CG)

Option 2. WGOA rockfish (northern, dusky, and Pacific ocean perch) and WY rockfish (dusky and Pacific ocean perch)

b. Secondary species:

Option 1. Sablefish (WG, CG, WY). Allocations of CG sablefish under the CG Rockfish Program are maintained.

Option 2. Thornyhead rockfish, shortraker rockfish, rougheye/blackspotted rockfish, other rockfish (WG, CG). Allocations of CG rockfish under the CG Rockfish Program are maintained.

Suboption: Big skates and longnose skates

Option 3. (*Mutually exclusive with Options 1 and 2*) Cooperative measures are required to manage secondary species under maximum retainable amounts (MRAs), as opposed to cooperative allocations.

c. PSC species: Halibut and Chinook salmon

4. Sector allocations of target and secondary species

Allocations to the trawl CV sector for WG and CG Pacific cod (Am 83), CGOA rockfish program (Am 88), and GOA pollock (Am 23) are maintained. Allocations to the trawl CP sector for the CGOA rockfish program are maintained. GOA flatfish eligibility for the trawl CP sector under Am 80 is maintained.

a. Pollock and Pacific cod:

Pollock and Pacific cod TACs would be allocated to the inshore sector; the offshore sector would receive an incidental catch allowance (ICA) for Pacific cod and pollock and be managed under maximum retainable amounts.

Option 1. Revise the GOA-wide pollock apportionments to 30% (A); 30% (B); 20% (C); 20% (D)

Option 2. Modify the pollock fishery to two seasons: Jan 20 to June 10 and June 10 to Nov 1. (If selected with Option 1, the seasonal split would be 60%/40%).

Option 3. Modify the Pollock trip limit from 136 mt (300,000 lbs.) to 159 mt (350,000 lbs.).

None of the options change the distribution of GOA pollock among Areas 610, 620, or 630 as established through the specifications process.

Option 4: Modify the trawl Pacific cod fishery to two seasons: Jan 20 to June 10 and June 10 to Nov 1. (The seasonal split for trawl gear would be maintained per Am 83).

b. Other target species and secondary species: Sector allocations would be based on each sector's retained catch (Option: total catch for secondary species) from:

Option 1. 2008 – 2012

Option 2. 2007 – 2012

Option 3. 2003 – 2012

c. In addition to the options based on catch history above, options for establishing WG and WY rockfish sector allocations include:

Option 1. Allocate based on Am 80 sideboards

Option 2. Allocate to the CP sector only. The CV sector is prohibited from directed fishing and managed under MRAs.

Option 3. Establish a CV sector allocation of WG rockfish of 2% - 5%. Any unharvested rockfish (by a specified date) is reallocated to the CP cooperatives.

5. Sector allocations of PSC

a. Chinook salmon:

The Chinook salmon PSC limit allocated pro rata based on pollock trawl landings is a CV allocation only of:

Option 1. 25,000 (status quo based on Am 93)

Option 2. 18,750 (25% reduction)

Chinook salmon PSC allocated pro rata based on trawl CV and CP non-pollock landings (excluding CG rockfish program for the CV sector) are based on GOA Amendment 97. Any Chinook salmon PSC caught in WY comes off the cooperative's Chinook salmon PSC limit.

b. Halibut:

i. The halibut PSC limit allocated pro rata based on CV and CP trawl landings (excluding the CG rockfish program) is:

Option 1. 1,515 mt (status quo under Am 95 by 2016, with full 15% reduction in place)

Option 2. 1,364 mt (additional 10% reduction relative to 2016, phased in over a two-year period)

Option 3. 1,288 mt (additional 15% reduction relative to 2016, phased in over a three-year period)

Option 4. 1,212 mt (additional 20% reduction relative to 2016, phased in over a three-year period)

Option 5. 1,136 mt (additional 25% reduction relative to 2016, phased in over a three-year period)

ii. Halibut PSC apportionment between the CP and CV sectors will be based on halibut PSC use during:

Option 1. 2008 - 2012

Option 2. 2007 - 2012

Option 3. 2003 - 2012

c. Rockfish Program PSC:

Any Rockfish Program PSC that would roll over for use in other fisheries under the current rules (after the set aside for halibut savings) can be transferred to the Gulf program cooperatives through inter-cooperative transfer.

d. Gear modification. Option: gear modifications for crab protection.

6. Voluntary inshore cooperative structure

a. Annually allocate species to the cooperative, based on aggregate retained catch histories associated with member vessels' LLPs during the qualifying years:

Option 1. 2008 – 2012
Option 2. 2007 – 2012
Option 3. 2003 - 2012

b. Apportion halibut PSC and Chinook salmon PSC limits to each cooperative on a pro rata basis relative to target fisheries of vessels in the cooperative [such as, pollock Chinook salmon PSC cap divided by area and then based on pollock landings; non-pollock Chinook salmon cap divided by area and then based on non-pollock landings (excluding CG rockfish); halibut PSC apportioned by area and then in proportion to target landings associated with cooperative members' LLPs.] Once in the cooperative, PSC can be used to support any target fisheries within the cooperative at any time (no seasonal PSC apportionments).

Option: Each processor controls a portion of the annual PSC within a cooperative [options: 10% - 40%]. Each processor would assign the incremental PSC to vessels in the cooperative under the terms of the cooperative agreement. PSC made available by these agreements cannot be used by vessels owned by the processor (a vessel with more than 10% ownership by a processor using individual and collective rules for determining ownership).

Suboption: No prohibition on processor-owned vessels using processor-controlled PSC. Processor-owned vessels cannot access an amount of the cooperative's PSC greater than the amount they brought into the cooperative.

Suboption: Alternatives for distribution of PSC quota to processors:

1) NMFS holds the PSC and distributes the PSC quota upon the processor's request.
2) Distribute to processors using the same method as harvester's portion of the PSC quota is distributed.

c. Participants can choose to either join a cooperative or operate in a limited access fishery [sector- level, non-transferable target allocations and PSC]. Harvesters would need to be in a cooperative with a processor by November 1 of the previous season to access a transferable allocation.

d. Initial (2 years) cooperative formation (suboption: in the first two years of each harvester's participation in a cooperative) would be based on the majority of each license's historical landings (aggregate trawl groundfish deliveries, excluding Central GOA rockfish harvested under a rockfish cooperative quota allocation) to a processor during:

Option 1. The qualifying years for determining target species allocations.
Option 2. 2011 – 2012, or the two most recent qualifying years they fished.

If a license has qualifying landings in both regions (WG and CG/WY), initial cooperative formation would be based on the majority of the license's historical landings to a processor in each region (the license holder would join a cooperative in each region). After the initial cooperative formation period, a license holder can choose to be in one cooperative per region on an annual basis.

e. Each cooperative would be required to have an annual cooperative contract filed with NMFS. Formation of the cooperative would require a cooperative contract signed by (options: 33%, 51%, or 80%) of the license holders eligible for the cooperative and the processor (option: and

community in which the processor is located). If a license does not have any qualifying landings, it could still join a cooperative but the license holder does not count toward the cooperative formation threshold. Cooperative members shall internally allocate and manage the cooperative's allocation per the cooperative contract. Cooperatives are intended only to conduct and coordinate harvest activities of the members and are not FCMA cooperatives.

f. The annual cooperative contract must include:
   - Bylaws and rules for the operation of the cooperative
   - Annual fishing plan
   - Operational plan for monitoring and minimizing PSC, with vessel-level accountability, as part of the annual fishing plan
   - Clear provisions for how a harvester and processor may dissolve their contract after the cooling off period of two years. If a harvester wants to leave that cooperative and join another cooperative or the limited access sector, they could do so if they meet the requirements of the contract
   - Specification that processor affiliated harvesters cannot participate in price-setting negotiations except as permitted by general anti-trust law

g. Cooperative members are jointly and severally responsible for cooperative vessels harvesting in the aggregate no more than their cooperative's allocation of target species and PSC allowances, as may be adjusted by annual inter-cooperative transfers.

h. Cooperatives will submit a written report annually to the Council and NMFS. Specific criteria for reporting shall be developed by the Council and specified by NMFS as part of the program implementing regulations.

i. Permit post-delivery transfers of annual allocations among cooperatives. All post-delivery transfers must be completed by December 31.

7. Voluntary catcher processor cooperative structure

e. Annually allocate species to the cooperative. For an eligible CP, the CP history of the vessel in the qualifying years will be assigned to the LLP on the vessel at the time of implementation of the program. Qualifying years:

   Option 1. 2008 – 2012
   Option 2. 2007 – 2012
   Option 3. 2003 – 2012

f. Apportion halibut PSC and Chinook salmon PSC limits to each cooperative on a pro rata basis relative to target fisheries of vessels in the cooperative [such as, non-pollock Chinook salmon cap divided by area and then based on non-pollock landings (excluding CG rockfish); halibut PSC apportioned by area and then in proportion to target groundfish landings associated with cooperative members' LLPs.] Once in the cooperative, PSC can be used to support any target fisheries within the cooperative at any time (no seasonal PSC apportionments).

g. Participants can choose to either join a cooperative or operate in a limited access fishery [sector- level, non-transferable target allocations and PSC]. No later than November 1 of each year, an application must be filed with NMFS by the cooperative with a membership list for the year. In order to operate as a cooperative, membership must be comprised of:

   Option 1: at least 2 separate entities (using the 10% individual and collective rule) and/or

Option 2: at least [2 – 4] eligible LLP licenses. An LLP must have associated catch history to count toward the threshold.

h. Cooperative members shall internally allocate and manage the cooperative's allocation per the cooperative contract. Cooperatives are intended only to conduct and coordinate harvest activities of the members and are not FCMA cooperatives.

i. The contract would require signatures of all LLP holders in the cooperative. The annual cooperative contract must include:
   - Bylaws and rules for the operation of the cooperative
   - Annual fishing plan
   - Operational plan for monitoring and minimizing PSC, with vessel level accountability, as part of the annual fishing plan

j. Cooperative members are jointly and severally responsible for cooperative vessels harvesting in the aggregate no more than their cooperative's allocation of target species, secondary species, and PSC, as may be adjusted by annual inter-cooperative transfers.

k. Cooperatives will submit a written report annually to the Council and NMFS. Specific criteria for reporting shall be developed by the Council and specified by NMFS as part of the program implementing regulations.

l. Permit post-delivery transfers of annual allocations among cooperatives. All post-delivery transfers must be completed by December 31.

m. No person may hold or use more than the following percentage of allocated target species CP cooperative quota in each region, using the individual and collective rule:
   Option 1. 30%
   Option 2. 40%

8. Fishery dependent community stability (applies to inshore cooperatives)

a. Consolidation limits

Option 1. Harvest use (ownership) caps in each region (WG and CG/WY). Harvesters that exceed these percentages are grandfathered into the program. No person may hold or use more than the following percentage of individual target species CV cooperative quota, using the individual and collective rule:

Suboption 1. 3%
Suboption 2. 5%
Suboption 3. 7%

Option 2. Vessel use caps are also applicable within the cooperatives. A vessel may not be used to harvest more than the following percentages of individual target species cooperative quota issued to the CV sector:

Suboption 1. 3%
Suboption 2. 10%
Suboption 3. 15%

Option 3. Processor use caps (facility-based) in each region (WG and CG/WY). Processors that exceed these percentages during the qualifying years are grandfathered into the program. No processor shall receive or process more than the following percentage of individual target species issued to the CV sector:

Suboption 1. 10%

Suboption 2. 20%
Suboption 3. 30%

b. Regionalization of target species quota

Target species cooperative quota would be required to be landed in the region in which it is designated (WG or CG/WY designation) based on historical delivery patterns during the following years:

Option 1. The qualifying years for determining target species allocations.
Option 2. 2011 - 2012.
Option 3. Target species CG quota that has historically been landed in Kodiak would have a port of landing requirement to be delivered to Kodiak; CG quota not historically landed in Kodiak would be regionalized (WG or WY/CG).

c. Active participation criteria

To be eligible to purchase a GOA trawl CV license or catch history severed from a license, a person must be eligible to document a fishing vessel in the U.S. (status quo) and must:

Option 1. Hold at least (options: 20% - 30%) ownership of a trawl vessel; or provide documentation of participation as a captain or crew in the GOA trawl groundfish fishery for 150 days (verified by a signature on a fish ticket or crew members' affidavit) for at least (options: 1, 2, or 4) fishing trips in the GOA groundfish trawl fishery in the most recent two years previous to purchase.
Option 2. Communities do not need to meet the criteria under Option 1.

Suboption (applies to Option 1 or 2):
To retain catch history, a person must be eligible to purchase catch history.

9. Transferability

n. (Annually) Full transferability of cooperative quota, including PSC separately, for annual use within the cooperative. Cooperatives can engage in inter-cooperative transfers of annual allocations to other cooperatives on an annual basis. CP annual cooperative allocations may be transferred to inshore cooperatives; inshore annual cooperative allocations cannot be transferred to CP cooperatives. Inter-cooperative transfers must be processed and approved by NMFS.

o. (Long-term) The LLP is transferable, with the associated history of the target species (which, when entered into a cooperative, brings with it a pro rata share of PSC).

Allocated species history is severable from a CV trawl license and transferable to another eligible CV trawl license (which, when entered into a cooperative, target species history brings with it a pro rata share of PSC). Transferred history retains the regional delivery designation. PSC cannot be permanently transferred separately from the license.

Option: (Cooling off provision) License transfers (sale) and the severability provisions are prohibited for CV licenses in the first two years of the program.

10. Gear conversion

Pacific cod allocations associated with a trawl CV license may be fished with pot gear; a pot endorsement is not necessary but the license must have the appropriate area endorsement. Harvest would continue to be deducted from the vessel's annual trawl quota account and would not affect the pot gear Pacific cod sector allocations. Similar to status quo, PSC taken with pot gear does not accrue to a PSC limit or cooperative PSC allocation.

11. Limited access trawl fisheries (CV and CP)

If a license holder chooses not to join a cooperative, it may fish in the limited access fishery with an eligible FFP and LLP endorsed for GOA trawl. Under the limited access fishery, the LLP's historic share of (non-transferable) target species will be fished in a competitive fishery open to all trawl vessels in the sector who are not members of a cooperative. The catcher vessel limited access fishery will be subject to all current regulations and restrictions of the LLP and MRAs.

PSC limits in the limited access fishery will retain status quo apportionments by area, season, and/or fishery. Halibut and Chinook salmon PSC limits are annually apportioned to the limited access fishery on a pro rata basis relative to groundfish catch histories associated with LLPs that are not assigned to a cooperative, as reduced by:

Option 1. 10%
Option 2. 20%
Option 3. 30%

12. Sideboards

Sideboards that apply under the Rockfish Program for the CV and CP sectors, GOA non-exempt AFA CV sideboard limits, non-AFA crab vessel groundfish sideboards that apply to GOA trawl, and Amendment 80 groundfish and halibut PSC sideboard limits in the GOA, are removed for species allocated under the GOA trawl bycatch management program.

The Council requests further discussion of sideboards on directed fishing for Pacific cod with pot gear in the WG and CG (harvest that accrues to the Pacific cod pot sector allocations), as well as further information to consider whether CV sideboards are necessary for the BSAI Pacific cod and yellowfin sole fisheries.

13. Program review

Per the Magnuson Stevens Act, a program review would be conducted five years after implementation and every seven years thereafter.

14. Cost recovery and loan program

Per the Magnuson Stevens Act, a cost recovery program would be implemented to recover the incremental agency costs of the program related to data collection, analysis, and enforcement, up to a maximum of 3% of the ex-vessel value from landings of species allocated under the program. Up to 25% of cost recovery fees may be set aside to support a loan program for purchase of shares by fishermen who fish from small vessels and first-time purchases of shares under the program. Loan qualification criteria would need to be defined.

ALTERNATIVE 3. PSC Only Apportionments to Cooperatives

This alternative would apportion Chinook salmon and halibut prohibited species catch (PSC) limits to voluntary inshore trawl cooperatives, based on their member vessels. The following elements comprise **Alternative 3** for a Gulf of Alaska Trawl Bycatch Management Program for trawl catcher vessels in the Western Gulf, Central Gulf and West Yakutat areas:

1. Observer Coverage and Monitoring

All trawl vessels in the GOA will be in the 100% observer coverage category (or carry electronic monitoring at such time it is a regulated option for trawl vessels), whether they participate in the voluntary cooperative structure or the limited access fishery with trawl gear. The Council authorizes NMFS to report weekly vessel-level bycatch information as authorized under MSA Sec 402(b)(2)(A). NMFS will develop monitoring and enforcement provisions necessary to track cooperative allocations of PSC.

2. Sector allocations of target species

Allocations to the trawl sectors for WG and CG Pacific cod (Am 83), CGOA rockfish program (Am 88), and GOA pollock (Am 23) are maintained. GOA flatfish eligibility for the trawl CP sector under Am 80 is maintained.

Pollock and cod apportionments:

Option 1. Revise the GOA-wide pollock apportionments to 30% (A); 30% (B); 20% (C); 20% (D).

Option 2. Modify the pollock fishery to two seasons: Jan 20 to June 10 and June 10 to Nov 1. (If selected with Option 1, the seasonal split would be 60%/40%.)

None of the options change the distribution of GOA pollock among Areas 610, 620, or 630 as established through the specifications process.

Option 3. Modify the trawl cod fishery seasons: Jan 20 – June 10 and June 10 – Nov 1. No change to the A and B seasonal allocations.

3. Sector allocations of PSC

a. Chinook salmon:

The pollock trawl CV Chinook salmon PSC limit is:

Option 1. 25,000 (status quo based on Am 93)

Option 2. 18,750 (25% reduction)

The non-pollock/non-rockfish trawl CV Chinook salmon PSC limit is 2,700 (status quo based on GOA Am 97). Any Chinook salmon PSC caught in WY comes off of the (cooperative or limited access fishery) Chinook salmon PSC limit. The CG rockfish program Chinook PSC limit for the trawl CV sector is 1,200 (status quo based on Am 97). The Chinook salmon PSC limit for the trawl CP fishery is 3,600 (status quo based on Am 97); any Chinook salmon PSC caught by CPs in the GOA accrues to this limit.

b. Halibut:

i. The apportionment of the halibut PSC limit between the CP and CV sectors will be based on halibut PSC use by each sector during:

Option 1. 2008 – 2012

Option 2. 2007 – 2012

Option 3. 2003 – 2012

ii. The halibut PSC limit (excluding the CG rockfish program) for each (CP and CV) sector is reduced by:

Option 1. 10% (phased in over a two-year period)
Option 2. 15% (phased in over a three-year period)
Option 3. 20% (phased in over a three-year period)
Option 4. 25% (phased in over a three-year period)

Different percentage reductions can be applied to the CP and CV sectors.

iii. All CPs operating in the GOA are subject to the CP halibut PSC limit. The CP halibut PSC limit is not further divided by area (CG/WG). Vessels can only be in one sector (i.e., vessels with CP licenses that have delivered shoreside during the selected years can elect to be in the CV sector and deliver their catch shoreside).

c. Rockfish Program PSC:

Option: Any Rockfish Program halibut or Chinook salmon PSC that would roll over for use in other trawl CV fisheries under the current rules (after the set aside for halibut savings) can be transferred to the trawl CV cooperatives through inter-cooperative transfer.

4. Voluntary inshore cooperative structure

a. Cooperative eligibility**:** Shoreside processors with an eligible FPP and harvesters with an eligible FFP and a CV trawl LLP or a CP trawl LLP that did not process catch onboard during the years selected above. Eligible harvesters must have the applicable area endorsement to use PSC apportioned to the cooperative in that area.

b. PSC species allocated to the cooperative are halibut and Chinook salmon, divided first by area (WG and CG/WY) based on historical PSC use (*options: 2003 – 2012; 2007 – 2012; 2008 - 2012*). Once in the cooperative, PSC can be used to support any target fisheries within the cooperative in that area at any time (no seasonal PSC apportionments). PSC would be apportioned to the cooperatives as follows (a different option may be selected for each area, WG and CG/WY):

Option 1. Equal shares. Annually apportion PSC limits to each cooperative on an equal share basis relative to the number of member vessels in the cooperative.

Suboption: The non-pollock Chinook salmon PSC limit and halibut PSC limit would first be divided between cod and flatfish landings, before allocating equal shares per vessel to each cooperative.

Option 2. Vessel dependency. Apportion (Option: 10% - 50%) halibut PSC and Chinook salmon PSC limits to each cooperative on a pro rata basis relative to the dependency on GOA trawl groundfish by species (pollock, flatfish, and Pacific cod) and area (WG and CG/WY) of the vessel assigned to the cooperative member's LLP the 3 prior years. The remaining PSC would be distributed based on equal shares. The vessel's dependency on GOA trawl groundfish, by species and area, is established by affidavit at the time of filing intent to join a cooperative or participate in the Limited Access fishery. Dependency on GOA groundfish is based on a threshold of (Option:

25% - 75%) of total pounds landed, by species and area, in GOA trawl groundfish fisheries.

Option 3 (can be selected with Option 1 or 2 above). Each processor controls a portion of the annual PSC [options: 5% - 20%] within a cooperative associated with its member vessels. Each processor would assign the incremental PSC to vessels in the cooperative under the terms of the cooperative agreement. PSC made available by these agreements cannot be used by vessels owned by the processor (a vessel with more than 10% ownership by a processor using individual and collective rules for determining ownership).

Suboption 1: Cooperatives that consist exclusively of processor-owned vessels are exempt from this prohibition.

Suboption 2: No prohibition on processor-owned vessels using processor-controlled PSC. Processor-owned vessels cannot access an amount of the cooperative's processor-controlled PSC greater than the amount they brought into the cooperative.

c. Participants can choose to either join a cooperative or operate in a limited access fishery on an annual basis. Harvesters would need to indicate by affidavit their intent to participate in the GOA trawl pollock, Pacific cod, or flatfish fisheries in the upcoming year and be in a cooperative with a processor by November 1 of the previous season to access a transferable PSC allocation. A trawl CV license holder can be in one cooperative per region (WG and CG/WY) on an annual basis.

Option: Cooperative formation requires at least [options: 2 – 5] vessels with a CV trawl LLP.

d. Each cooperative would be required to have an annual cooperative contract filed with NMFS by November 1 of the previous year. Cooperative members shall internally allocate and manage the cooperative's PSC allocation per the cooperative contract. Cooperatives are intended only to conduct and coordinate harvest activities of the members and are not FCMA cooperatives.

e. Allocate (Options 5% - 20%) of the PSC limits (halibut and Chinook salmon) to cooperatives that sign an inter-cooperative agreement to share member vessel bycatch rates on a tow-by-tow basis and provide bycatch reduction incentives at the vessel level. Allocation of PSC is contingent upon agreement to the terms of information sharing within the inter-cooperative agreement. PSC is allocated by area on a pro-rata basis relative to the number of member vessels (Option: the number of member vessels that meet the active participation requirements) within each cooperative.

f. The annual cooperative contract must include:
   - Bylaws and rules for the operation of the cooperative
   - Annual fishing plan
   - Operational plan for monitoring and minimizing PSC, with vessel-level accountability
   - Provisions that prohibit, on a species or species group basis (pollock, cod, flatfish), an LLP holder/vessel that has had PSC allocated to the cooperative for that species or species group from receiving economic benefits from the cooperative, cooperative members, or persons acting on behalf of the cooperative members for PSC quota use

unless both parties meet the active participation requirements in the fishery for which the cooperative was awarded PSC. Active participation shall be determined by the cooperative agreement but shall not be less than 3 annual deliveries per species or species group (pollock, cod, flatfish).

- Provisions that prohibit the cooperative, cooperative members and/or persons acting on behalf of the cooperative members from using or transferring PSC, or otherwise receiving economic benefits from PSC allocated to the cooperative, received on behalf of a vessel unless the vessel actively participates in the fishery for which the cooperative was awarded PSC. Active participation shall be determined by the cooperative agreement but shall not be less than 3 annual deliveries per species or species group (pollock, cod, flatfish).
- Specification that processor affiliated harvesters cannot participate in price-setting negotiations except as permitted by general anti-trust law

g. Cooperative members are jointly and severally responsible for cooperative vessels harvesting in the aggregate no more than their cooperative's PSC allowances, as may be adjusted by annual inter-cooperative transfers.

h. Cooperatives will submit a written report annually to the Council and NMFS. Specific criteria for reporting shall be developed by the Council and specified by NMFS as part of the program implementing regulations.

i. Permit post-delivery transfers of annual PSC among cooperatives. All post-delivery transfers must be completed by December 31.

5. Transferability and consolidation limits

(Annually) Allow transferability of PSC cooperative quota for annual use within the cooperative. Limit the amount of each species of annual PSC cooperative quota a person can use in the cooperative to (options: 110% - 150%) of what they brought into the cooperative.

Cooperatives can engage in inter-cooperative transfers of PSC to other cooperatives on an annual basis. Inter-cooperative transfers must be processed and approved by NMFS. Limit the amount of annual PSC cooperative quota a cooperative can transfer to another cooperative to no more than (option: 10% - 50%) of the initial cooperative allocation.

(Long-term) LLPs are transferable. PSC cannot be permanently transferred separately from a license or vessel.

6. Limited access trawl CV fishery

If a license holder chooses not to join a cooperative, it may fish in the limited access fishery with an eligible FFP and LLP endorsed for GOA trawl. Vessels must pre-register to operate in the limited access fishery by November 1 of the previous year.

Option 1. Sector-level PSC limits. PSC limits in the limited access fishery will retain status quo apportionments by area, season, and/or fishery. Halibut and Chinook salmon PSC limits are annually apportioned to the limited access fishery (sector-level) based on the number of vessels that are not assigned to a cooperative, using the same method selected for the cooperatives, as reduced by:

Suboption 1. 10%
Suboption 2. 20%
Suboption 3. 25%

Option 2. Individual PSC limits. Non-transferable halibut and Chinook salmon PSC limits are annually apportioned to the limited access fishery participants using the same method selected for the cooperatives, as reduced by:

Suboption 1. 10%
Suboption 2. 20%
Suboption 3. 25%

7. Program review

A program review would be conducted five years after implementation and every seven years thereafter.

ALTERNATIVE 4. Gulf of Alaska Trawl Bycatch Management Program (Alternative 2 and Alternative 3) with a Community Fisheries Association allocation or Adaptive Management Program. *(Options 1 and 2 are mutually exclusive.)*

Option 1. Community Fisheries Association (CFA)

Element 1. Allocate 5% - 15% of the fishing quota for all species allocated to CVs under the program to a Community Fishing Association established under §303A(c)(3) of the MSA.

Element 2. Number of CFAs
Option 1. One GOA CFA
Option 2. One CFA for the WG and one for the CG

Element 3. Goals and objectives for a Community Fishing Association:
- Provide for the sustained participation of fishing communities and to the extent practicable minimize adverse economic impacts on such communities
- Assist entry-level and small vessel owner-operators, captains, crew and fishing communities

Element 4. Communities eligible for participation via the CFA
- Located in the WG, CG, WY
- Consist of residents who conduct commercial fishing, processing, or fishery-dependent support businesses within the GOA
- A high potential for economic and social impacts associated with a LAPP program on harvesters, captains, crew, processors, and other businesses substantially dependent upon the fishery
- Have submitted a community sustainability plan through the CFA

Element 5. The CFA must provide a community sustainability plan which includes:
a. Description of board, governance structure;
b. Description of quota allocation process;
c. Goals and objectives for the CFA, and explanation of how the CFA intends to meet those goals and objectives;
d. Description of how the CFA will meet the goals of sustaining community participation in the fishery, providing for new entry/inter-generational transfer, and encouraging active participation; and
e. Description of how the plan will address the social and economic development needs of coastal communities

Element 6. Require an annual report to the Council and communities

Element 7. CFA Cooperative Program Integration
- Annual quota allocated to the CFA may not be sold
- The CFA will operate within the cooperative structure of the main program. Quota leased from the CFA must be utilized on a license and accessed through a cooperative
- CFA quota will be subject to the same set of rules as other quota in the program such as bycatch management, observer coverage and monitoring, sector allocations, cooperative structure, and gear conversion
- If selected by the Council, regionalization and port of landing requirements will apply to CFA quota (option: do not apply port of landing requirements)
- Quota leased from a CFA counts toward any vessel and ownership use caps

Option 2. **Adaptive Management Program**. Set-aside 5% - 15% of fishing quota for all species allocated to CVs under the program for adaptive management.

Element 1. Goals and objectives for adaptive management quota
Option 1. Same as those identified in the CFA option; and/or
Option 2.
a. Community stability
b. Processor stability
c. Captain and crew entry and advancement
d. Conservation measures
e. To address other unintended outcomes

Element 2. Process for allocating adaptive management quota
- The Council shall develop criteria for eligibility, a process for adaptive management proposals to meet the goals and objectives, and a regulatory mechanism for allocating quota to program participants.
- The Council could allocate any amount up the total adaptive management set-aside to one or more proposals. Unallocated quota will pass through to the annual allocations to cooperatives.

Element 3. Program review and evaluation
- Entities receiving adaptive management quota shall provide annual reports to the Council and NMFS describing outcomes associated with the use of the quota and progress toward objectives described in their proposal.
- The Council shall periodically review its adaptive management goals and objectives.
- The five-year overall program review should evaluate the Council's effectiveness in achieving its goals and objectives through the use of the adaptive management program and identify potential improvements to the program design.

The Council directs staff to include a discussion of the effects of the GOA trawl bycatch management program alternatives on the management and implementation of the Central GOA Rockfish Program. At a minimum, this analysis should review the implications on quota allocations, sideboard management, and catch accounting under the Central GOA Rockfish Program.

8 Appendix 2 – Comparison of Alternatives Table

Program Element	**Alt. 1:** (No Action)	**Alt. 2:** Cooperatives with PSC, primary, and secondary species allocations	**Alt. 3:** Cooperatives with only PSC allocations	**Alt. 4:** Alt. 2 or 3 cooperatives with CFA or AM	**Notes and issues to be resolved**
Observer Coverage	CPs: full coverage, with 2 observers required when in Rockfish Program (RP) CVs: full coverage when in RP. All other trawl CVs: partial coverage, trawl trip-selection pool with a 28% selection rate in 2016 Observers are not required on CVs delivering unsorted codends to motherships.	All trawl vessels will be in full coverage category NMFS recommends 2 observers on all trawl CPs, as required in RP. Observers would not be required on CVs delivering unsorted codends to motherships.	Same as Alt. 2, but also notes that electronic monitoring could be used if regulations provide that option	Same as under Alt 2 or Alt 3	See other proposed management, monitoring, and enforcement provisions described below under "Additional Elements."
Eligibility	CPs: Must hold valid FFP and LLP license with a CP endorsement and other applicable endorsements for the fisheries in which they participate. CVs: Must hold valid FFP and LLP license with a CV endorsement and other applicable endorsements for the fisheries in which they participate..	**Inshore:** CVs with an FFP and an LLP endorsed for GOA trawl, CPs with an FFP and an LLP endorsed for GOA trawl that did not process catch onboard during qualifying years, and shoreside processors with an FPP **Offshore:** Am. 80 vessels (and their replacements) and their LLPs at the time of implementation	Same as Alt 2 (Inshore only)	Communities eligible to participate in CFA • Located in WG, CG, WY • Residents with fishing related businesses • High potential for economic and social impacts from LAPP program • Submitted a community sustainability plan Council shall develop criteria for eligibility for AM Program	Note: for reference the current inshore/offshore definitions, so would these be unnecessary or conflict under the Alt 2 definition if pollock and cod are allocated to cooperatives because it would eliminate the option for inshore CPs. Inshore: All CVs with a valid FFP and GOA Groundfish License with a trawl endorsement making deliveries to the processors listed under 1 or 3 and CPs defined under 2: (1) Shoreside processing operations; (2) Vessels with an inshore endorsement on their FFP that are less than 125 ft LOA

Program Element	**Alt. 1:** (No Action)	**Alt. 2:** Cooperatives with PSC, primary, and secondary species allocations	**Alt. 3:** Cooperatives with only PSC allocations	**Alt. 4:** Alt. 2 or 3 cooperatives with CFA or AM	**Notes and issues to be resolved**
					that process no more than 126 mt per week in round-weight equivalents of an aggregate amount of pollock and Pacific cod; and (3) Vessels that process pollock or Pacific cod, harvested in a directed fishery for those species, at a single geographic location in Alaska State waters during a fishing year. Offshore: CVs that do not deliver to a processor defined in 1, 2, or 3 above and CPs that do not meet the criteria under 2, their replacements, and their LLPs at the time of implementation
Allocated Species	No allocations except under the Rockfish Program	**Primary Species:** Option 1 *Pollock* (610, 620, 630, and 640) *Pacific Cod* (WG and CG) Option 2 *WGOA rockfish* (northern, dusky, and Pacific ocean perch) *WY rockfish* (dusky and Pacific ocean perch) **Secondary Species:** maintain Rockfish Program allocations Option 1 *Sablefish* (WG, CG, and WY)	**PSC species:** *Chinook salmon* *halibut*	Same as selected under Alt 2 or Alt 3	

Program Element	**Alt. 1:** (No Action)	**Alt. 2:** Cooperatives with PSC, primary, and secondary species allocations	**Alt. 3:** Cooperatives with only PSC allocations	**Alt. 4:** Alt. 2 or 3 cooperatives with CFA or AM	**Notes and issues to be resolved**
		Option 2 *Thornyhead rockfish, shortraker rockfish, rougheye/blackspotted rockfish, other rockfish (CG and WG)* Suboption to Option 2 *Big skates, longnose skates* **PSC species:** *Chinook salmon* *Halibut*			
Primary and Secondary Species Elements					
Season Dates	**Pollock:** (4 seasons) Jan. 20 to Mar. 10 Mar. 10 to May 31 Aug. 25 to Oct. 1 Oct. 1 to Nov. 1 **Pacific cod:** (2 seasons) Jan. 20 to June 10 Sept. 1 to Nov. 1	**Pollock:** Option 1: same as Alt 1. Option 2: (2 seasons) Jan. 20 to June 10 June 10 to Nov 1 **Pacific cod:** (2 seasons) Jan. 20 to June 10 June 10 to Nov 1	Same as Alt 2	Same as Alt 2 and Alt 3	
Seasonal Apportionments	**Pollock:** (4 seasons) 25%/25%/25%/25% **Pacific cod:** Gear, sector, and area apportionments listed in final GOA harvest specifications and regulations at 679.20(a)(12)	**Pollock:** Option 1: (4 seasons) 30%/30%/20%/20%, Option 2: (2 seasons) 60%/40% **Pacific cod:** Same as Alt. 1 (status quo A/B season allocations defined under Am 83)	Same as Alt 2	Same as Alt 2 and Alt 3	
Sector Allocations of Primary and Secondary Species	Apportionments listed in final GOA harvest specifications and closures and regulations at 679.81-83	Pollock - Am. 23 Pacific Cod - Am. 83 Rockfish Program - Am. 88 CP flatfish eligibility - Am. 80 All other allocated groundfish species (except possibly WG and WY rockfish) would be	Same as Alt 1	For Alt 2, allocate 5% - 15% of the CV sector primary and secondary species as CFA quota For Alt 3, allocate 5% - 15% of the CV sector	Is the allocation of 5-15% to CFA from the sector allocation or the CQ?

Program Element	**Alt. 1:** (No Action)	**Alt. 2:** Cooperatives with PSC, primary, and secondary species allocations	**Alt. 3:** Cooperatives with only PSC allocations	**Alt. 4:** Alt. 2 or 3 cooperatives with CFA or AM	**Notes and issues to be resolved**
		based on sector's retained catch: Option 1: 2008 through 2012 Option 2: 2007 through 2012 Option 3: 2003 through 2012		PSC as CFA quota Allocations to AM program are to be determined.	
Additional Sector Allocations Considered only for WG and WY rockfish	N/A	Option 1 Allocate based on Am 80 sideboards Option 2: Allocate only to the CP sector Option 3: Establish a CV sector allocation of WG rockfish of 2% - 5%. Any unharvested rockfish would be reallocated to CP cooperatives by (define date).	N/A	N/A	
Pollock Trip Limits	136 mt (300,000 lbs.)	Alt 1. or 159 mt (350,000 lbs)	Alt 1	Same as Alt 2 or Alt 3	
Cooperative Quota for Primary and Secondary Species	N/A	Annual allocations based on the aggregate retained catch histories associated with cooperative member vessel's GOA trawl groundfish LLP licenses during the qualifying years: Option 1: 2008 through 2012 Option 2: 2007 through 2012 Option 3: 2003 through 2012 Element 3, Option 3: Cooperatives manage secondary species under MRAs	N/A	For Alt 2, allocate 5% - 15% to CFA quota for primary and secondary species to eligible communities For Alt 3, allocate 5% - 15% to CFA quota for PSC to eligible communities (Reduces amount allocated to cooperatives by 5% - 15%)	Is the allocation of 5-15% to CFA from the PSC limit or the PSC CQ?

PSC Management Elements					
Chinook Salmon PSC limits	*Pollock fishery* based on Am 93 25,000 total (18,316 WG, 6,684 CG) *Non-pollock/non-Rockfish Program:* based on Am 97 CVs: 2,700, CPs: 3,600 (no more than 66% taken before June 1), Rockfish Program CVs: 1,200	*Pollock fishery* based on Am 93, but any Chinook salmon PSC in the WY district would be deducted from the cooperative's allocation. *Option 1*: No change – 25,000 total (18,316 WG, 6,684 CG) *Option 2:* 25% reduction 18,750 total (13,737 WG, 5,013 CG) *Non-pollock/non-Rockfish Program:* same as Alt 1	Same as Alt 2	Same as Alt 2 Allocate 5% - 15% of the CV sector PSC limit as CFA quota. Allocations to AM program are to be determined.	Is full retention of salmon also required in WY district? Is the allocation of 5-15% to CFA from the PSC limit or the PSC CQ?
Halibut PSC limit (excludes Rockfish Program)	1,705 mt includes non-trawl (year 2016 and beyond), includes 191 mt allocation for Rockfish Program. Seasonal limits. Sideboard limits for Amendment 80 CPs and Non-Exempt AFA CVs	Option 1: Status Quo (1,515 mt) Option 2: 10% reduction (1,364 mt) Option 3: 15% reduction (1,288 mt) Option 4: 20% reduction (1,212 mt) Option 5: 25% reduction (1,136 mt) Options 2 (2-year) and 3 (3-year) would be phased in using 5% reductions of status quo per year. Options 4 and 5 would be phased in over a 3-year period. PSC limit allocated between CV and CP sectors based on sector's halibut PSC usage: Option 1: 2008 through 2012 Option 2: 2007 through 2012 Option 3: 2003 through 2012	Option 1: 10% reduction (1,364 mt) Option 2: 15% reduction (1,288 mt) Option 3: 20% reduction (1,212 mt) Option 4: 25% reduction (1,136 mt) Note: Option 1 would be phased in over 2-year period. Options 2 through 4 would be phased in over a 3-year period.	For Alt 2, allocate 5% - 15% of the CV sector PSC limit to CFA. For Alt 3, allocate 5% - 15% of the CV sector PSC limit to CFA. Allocations to AM program are to be determined.	

Cooperative Quota for PSC Species	N/A	**PSC:** Allocate cooperative quota for PSC species to each cooperative on a pro rata basis relative to the percentage of primary species landings during the qualifying period. **Option**: Each processor that is a member of a cooperative controls 10% - 40% of the PSC allocated to their cooperative. Processor controlled PSC cannot be used by vessels in the cooperative that have more than 10% processor ownership based on the individual and collective rule. **Suboption**: no prohibition on use of processor controlled PSC by processor owned vessels, but processor owned vessels cannot use more PSC than the amount they brought into the cooperative. Suboptions for distributing processor controlled PSC: **Suboption 1:** NMFS holds the PSC and distributes on the processor's request. **Suboption 2:** Distribute to the processor using the same method as the harvester's portion of the PSC limit.	First divide PSC by area (WG and CG/WY) based on historical PSC usage: Option 1: 2003-2012 Option 2: 2007-2012 Option 3: 2008-2012. Then allocate cooperative quota for PSC to cooperatives **Option 1:** Equal shares based on the number of eligible vessels in the cooperative (**Suboption:** First divide the non-pollock sector PSC limits between Pacific cod and flatfish before making equal allocations to each vessel in each cooperative. NOTE: Harvesters must indicate by affidavit their intent to participate in pollock, Pacific cod, or flatfish fisheries in the upcoming year and be in a cooperative by Nov. 1 of the previous year.) **Option 2:** Allocate (suboption 10-50%) PSC based on the dependency on GOA trawl groundfish by species (pollock, cod, flatfish) and area (WG, CG/WY) of the vessels assigned to the cooperative members' groundfish LLP licenses for the 3 prior years. The remaining PSC is distributed based on equal shares. NOTE: Dependency is established by affidavit when	For Alt 2, same as Alt 2 (Reduces amount allocated to cooperatives by 5% - 15%) For Alt 3, same as Alt 3 (Reduces amount allocated to cooperatives by 5% - 15%)	

			filing intent for joining a cooperative or participating in limited access. Dependency is based on a threshold of (suboption: 25-75%) total pounds landed by species and area in GOA trawl groundfish fisheries. **Option 3**: Each processor controls 5% to 20% of the cooperative's PSC. Processor controlled PSC cannot be used on vessels in the cooperative that have more than 10% processor ownership based on the individual and collective rule. **Option 4:** Allocate (5-20%) of PSC limits to cooperatives that sign inter-cooperative agreement to share member vessel bycatch rates on tow-by-tow basis and provide bycatch reduction incentives at vessel level. Allocation of PSC contingent upon agreement to information sharing within agreement. PSC is allocated by area on pro-rata basis based on number of vessels in coop.		
Cooperative quota for PSC Usage Limitations	N/A	Cooperative quota for PSC may be used in any primary species fishery or fishing season.	Same as Alt 2	Same as Alt 2, also applies to CFA quota.	

Cooperative and Limited Access Fisheries Elements					
Limited Access Fisheries	N/A	GOA trawl groundfish LLP license holders may choose to join a cooperative or continue to operate in the limited access fishery. If a participant is not in a cooperative with a processor by Nov. 1, they are assigned to the limited access fishery. TAC and PSC limits in the limited access fishery would be based on the catch history of the members of that sector, determined using the same method as defined for the cooperative, with options for reducing PSC apportionments by: Option 1: 10% Option 2: 20% Option 3: 30%	Eligible participants may choose to join a cooperative or have an individual allocation in the limited access fishery. Participants must pre-register for the limited access fishery by Nov. 1. PSC limits in the limited access fishery would be determined using the same method as defined for the cooperative(s), with options for reducing limited access PSC apportionments to either **Option 1** existing sectors/areas or **Option 2** individuals (non-transferable IBQ) by: Option 1: 10% Option 2: 20% Option 3: 25%	Same as Alt 2 or Alt 3	Could members of a CFA form their own cooperative?
Voluntary Inshore Cooperative Structure	N/A	Holders of valid GOA groundfish LLP licenses with a trawl endorsement for the appropriate area must join a cooperative by Nov. 1 for their catch history to count towards cooperative allocations for the upcoming year; Cooperative contracts must be signed by processor and 33%, 51%, or 80% of LLP license holders (option to require signature of a community rep.); *Option* to place harvesters and processors in cooperatives based on historical delivery pattern for the first 2 years	Holders of a valid GOA groundfish LLP licenses with a trawl endorsement would need to indicate by affidavit their intent to participate in the GOA trawl pollock, Pacific cod, or flatfish fisheries in the upcoming year and be in a cooperative with a processor by Nov. 1 of the previous season to access a transferable PSC allocation. A trawl CV LLP license holder can be in one cooperative per region (WG and CG/WY) on an annual basis.	Same as Alt 2 or Alt 3	Clarify if "2 most recent years they fished" under Alt 2 Option 2 means 2 most recent years prior to Council final action. Or prior to implementation of program? Can more than one cooperative of vessels be associated with a processor?

		after implementation (an LLP license holder would be in different cooperatives in WG/CG if they have history in both); **Option 1:** Using qualifying years for primary species allocations. **Option 2:** 2011-2012 or the 2 most recent years they fished.	**Option 1:** Cooperative formation requires at least [options: 2 – 5] vessels with a CV trawl LLP license.		
Required Elements of Inshore Cooperative Contract	N/A	Each cooperative would be required to have an annual cooperative contract filed with NMFS and must include: • Bylaws and rules for the operation of the cooperative • Annual fishing plan • Operational plan for monitoring and minimizing PSC, with vessel-level accountability, as part of the annual fishing plan • Clear provisions for how a harvester and processor may dissolve their contract after the cooling off period of two years. If a harvester wants to leave that cooperative and join another cooperative or the limited access sector, they could do so if they meet the	Each cooperative would be required to have an annual cooperative contract filed with NMFS and must include: • Bylaws and rules for the operation of the cooperative • Annual fishing plan • Operational plan for monitoring and minimizing PSC, with vessel-level accountability • Provisions that prohibit, on a species or species group basis (pollock, Pacific cod, flatfish), an LLP license holder/vessel that has had PSC allocated to the cooperative for that species or species group from receiving economic benefits from the cooperative,	N/A	

		requirements of the contract. • Specification that processor affiliated harvesters cannot participate in price-setting negotiations except as permitted by general anti-trust law.	cooperative members, or persons acting on behalf of cooperative members for cooperative quota for PSC use unless both parties meet the active participation requirements in the fishery for which the cooperative was awarded PSC. Active participation shall be determined by the cooperative agreement but shall not be less than 3 annual deliveries per species or species group (pollock, Pacific cod, flatfish). • Provisions that prohibit the cooperative, its members, or persons acting on behalf of coop members from using or transferring PSC, or otherwise receiving economic benefits from PSC, unless the vessel that brought the PSC actively participates in the fishery for which the cooperative was awarded PSC.		

			Active participation shall be determined by cooperative agreement, but shall not be less than 3 annual deliveries per species or species group (pollock, cod, flatfish). • Specification that processor affiliated harvesters cannot participate in price-setting negotiations except as permitted by general anti-trust law.		
Voluntary Offshore Cooperative Structure	N/A	**CP**: Must join a cooperative by Nov. 1; Minimum of either 2 entities or (Options) 2 to 4 LLPs with catch history required to form a cooperative.	N/A	N/A because CFA only applies to inshore cooperatives	
Required Elements of Offshore Cooperative Contract	N/A	All LLP holders in the cooperative must sign the contract. The contract must include: • Bylaws and rules for the cooperative operation • Annual fishing plan • Operational plan for monitoring and minimizing PSC, with vessel level accountability			Does the offshore cooperative need to file the contract with NMFS?

Cooperative Liability	N/A	Cooperative members are jointly and severally responsible for ensuring the members harvest no more than their cooperative quota	Same as Alt 2	Same as Alt 2	Issues related to vessel-level accountability when delivering to tender vessels
Cooperative Reports	N/A	Cooperatives must submit a written report annually to the Council and NMFS. At a minimum the report must contain the required elements (to be defined) and be submitted in a timely manner.	Same as Alt 2	Each CFA must submit an annual report to the Council and communities. Elements of the report are to be defined. The CFA must provide a community sustainability plan which includes: • Description of board, governance structure; • Description of quota allocation process; • Goals and objectives for the CFA, and explanation of how the CFA intends to meet those goals and objectives; • Description of how the CFA will meet the goals of sustaining community participation in the fishery, providing for new entry/inter-generational transfer, and encouraging active participation; and • Description of how the plan will address the social and economic development needs of coastal communities	

Cooperative Quota Limit Elements						
Cooperative Quota Ownership/Use Limits for persons	N/A	**CVs** No person may hold or use more than: Option 1: 3% Option 2: 5% Option 3: 7% of individual inshore cooperative primary species cooperative quota based on the individual and collective rule. Persons whose initial allocation is above the limit are grandfathered. **CPs** No person may hold or use more than: Option 1: 3% Option 2: 5% of allocated primary species CP cooperative quota based on the individual and collective rule.	N/A	Same as Alt 2 or Alt 3		

Cooperative Quota Use Limits for Vessels	N/A	No vessel may be used to harvest more than: Option 1: 3% Option 2: 10% Option 3: 15% of individual primary species allocated to the inshore cooperative sector.	N/A	Same as Alt 2 or Alt 3	
Cooperative Quota Use Limits for Processors	N/A	No processor (facility) may be used to process more than: Option 1: 10% Option 2: 20% Option 3: 30% of individual primary species allocated to the inshore cooperative sector.	N/A	Same as Alt 2 or Alt 3	
Cooperative quota for PSC Use Limits	N/A	N/A	Limit the amount of each species of annual PSC cooperative quota a person can use in the cooperative to (options: 110% - 150%) of what they brought into the cooperative.	Same as Alt 2 or Alt 3	

Processor Elements					
Processor Protections	N/A	See Cooperative PSC Allocations. Also harvester/processor linkages, but would need additional authority to implement.	See Cooperative PSC quota Allocations	Same as Alt 2 or Alt 3	
Regionalization of Cooperative Quota	N/A	Primary species cooperative quota must be landed in the region it is designated based on historical delivery patterns: **Option 1:** qualifying years for determining primary species allocations **Option 2:** 2011 through 2012 **Option 3:** CG quota historically landed in Kodiak must be delivered to Kodiak, all other cooperative quota would be regionalized as WG or CG/WY.	N/A	Same as Alt 2, but may have the option of not including the port of landing requirement for Kodiak for CFA Or same as Alt 3	

Additional Elements					
Active Participation Requirements to Purchase Catch History or CV LLP license	N/A	To purchase a CV LLP license or catch history severed from a CV LLP license a person must be eligible to document a fishing vessel in the U.S. and **Option 1a:** hold a minimum level of ownership in a trawl vessel, **Suboption**s: 20% through 30%. **Option 1b:** have participated as a captain or crew in the GOA groundfish trawl fishery for 150 days or **suboptions** 1, 2, or 4 fishing trips in the GOA trawl groundfish fishery in the two most recent years prior to purchase of the LLP license or catch history. **Option 2:** Communities do not need to meet the criteria under Option 1.	LLPs are transferable. PSC cannot be permanently transferred separately from an LLP license or vessel.	Same as Alt 2 or Alt 3	
Active Participation Requirements for Cooperative/Individual to Receive Quota	N/A	Applies to Option 1 and 2 above, to retain catch history used to determine annual allocations a person must be eligible to purchase catch history.	See bullet #4 under Required Elements of Inshore Cooperative Contract. Also, Harvesters would need to indicate by affidavit their intent to participate in the GOA trawl pollock, Pacific cod, or flatfish fisheries in the upcoming year and be in a cooperative with a processor by November 1 of the previous season to access a transferable PSC allocation.	Same as Alt 2 or Alt 3	
General Transferability	Licenses are transferable as allowed under 50 CFR	**Option 1:** Licenses are transferable as under Alt 1.,	(Annually) Allow transferability of cooperative	Annual quota allocated to the CFA cannot be	

Provisions	679.4(k)(7)	Catch history that results in an annual cooperative allocation of primary species or secondary species may be separated from the groundfish license it is initially attached. Cooperative quota is fully transferable within the cooperative. Inter cooperative transfers of cooperative quota must be processed and approved by NMFS. Inshore quota may not be transferred to a CP cooperative; Post-delivery transfers are permitted but must be completed by Dec. 31 **Suboption:** Prohibit sale of inshore cooperative LLP licenses and catch history for the first 2-years of the program. Does not apply to annual transfers of cooperative quota within a cooperative	quota for PSC for annual use within the cooperative. Cooperatives can engage in inter-cooperative transfers of PSC to other cooperatives on an annual basis. Inter-cooperative transfers must be processed and approved by NMFS. The amount of annual PSC cooperative quota a cooperative can transfer to another cooperative cannot be greater than (option: 10% - 50%) of the initial cooperative allocation (Long-term) LLPs are transferable. PSC cannot be permanently transferred separately from a license or vessel. Rockfish Program cooperatives may transfer any PSC that would be available to rollover under the terms of the Rockfish Program to an inshore trawl cooperative through an inter-cooperative transfer approved by NMFS.	sold. Leased quota may only be used on a qualified license through a cooperative.	

Gear Conversion	N/A	No requirement to use a specific gear; Vessels would be allowed to use pot gear to harvest trawl allocations of Pacific cod and those harvests would be deducted from the cooperative's quota limit. Any PSC taken with pot gear does not count against the PSC limit	N/A. Any PSC taken with pot gear does not count against the PSC limit	Same as Alt 2 or Alt 3	Need to ensure that the catch accounting issues are resolved
Program Review	N/A	5 years after implementation and every 7 years after initial review	Same as Alt 2	Same as Alt 2	
Sideboard Limits	Maintained for AFA, Crab Rationalization, Amendment 80, and Rockfish Program	Remove status quo sideboard limits for species that are allocated	Same as Alt 1	Same as Alt 2 or Alt 3	
Cost Recovery	N/A	A cost recovery program would be implemented based on Magnuson Stevens Act requirements. A fee of up to 3% of the ex-vessel value of the primary and secondary species allocated to a cooperative would be collected. Up to 25% of cost recovery fees may be set aside to support a loan program for purchase of shares by fishermen who fish from small vessels and first-time purchases of LLP licenses or catch history under the program. Loan qualification criteria would need to be defined.	N/A. Cost recovery fees are assessed against the ex-vessel value of allocated species. PSC are the only species allocated and halibut PSC and Chinook salmon PSC do not generate an ex-vessel value.	Same as Alt 2 or Alt 3	Do cost recovery fees apply to offshore, would only be secondary species and non-rockfish program rockfish if they do…

Management, monitoring, and enforcement provisions	Section 2.6 and Table 12 in the October 2014 discussion paper describe current requirements for observer coverage; equipment and operations; catch monitoring and control plans (CMCPs); catch accounting; recordkeeping and reporting; observer data entry and transmission; and VMS for CPs, CVs, shoreside processors, and tenders in the GOA RP and non-RP trawl fisheries.	Section 2.6 and Table 13 in the October 2014 discussion paper describe NMFS's initial proposed requirements for equipment and operations; catch monitoring and control plans (CMCPs); catch accounting; recordkeeping and reporting; and observer data entry and transmission for CPs, CVs, shoreside processors, and tenders under the proposed alternatives. The primary driver for these proposed measures is the inclusion of transferable PSC limits in the alternatives. These proposed measures are similar to measures in effect in the RP.	Same as Alternative 2	Same as Alternative 2	NMFS will refine proposed management, monitoring, and enforcement provisions for the alternatives in the June 2016 discussion paper.

9 Appendix 3 – Additional Data

This appendix provides additional data that will likely be utilized in the EIS. These tables are provided now because they might be useful to the Council as it finalizes the alternatives and options that will be analyzed. The tables are generally self-explanatory, and at this point are provided without a lot of accompanying text. Text that is presented is only designed to help the reader understand the information in the table and not as an analysis of the information provided.

The following is a brief roadmap of this appendix to aid the reader in finding information and grouping tables by similar content when appropriate. The first group of tables/figures presents general background information on active processing plants by company, area and year, percentage of GOA trawl shoreside deliveries by AFA and non-AFA vessels, a pie chart that shows the total groundfish catch by FMP area and gear type over the 2008 through 2015 time period, and a line chart that provides some information on GOA dependence relative to other North Pacific federal trawl fisheries.

1. Table 48 Count of plant by area and processing company taking deliveries of trawl caught GOA groundfish (2003 through 2015)
2. Table 49 Percentage of species delivered to shoreside processors by AFA and non-AFA vessels (excludes harvests made under the Rockfish Program)
3. Figure 18 Total groundfish and directed halibut fishery catch by FMP area from 2008 through 2015
4. Figure 19 Percentage of Alaska federal fishery trawl catch taken in the GOA, by GOA trawl LLP license from 2008 through 2012.

The second group of tables reports Chinook salmon taken in the directed Chinook salmon fishery, and as PSC in groundfish fisheries.

1. Table 50 Chinook salmon taken in the GOA commercial salmon fisheries and as PSC in the GOA groundfish fisheries
2. Table 51 Chinook salmon taken in the BSAI commercial salmon fisheries and as PSC in the BSAI groundfish fisheries
3. Table 52 Chinook salmon taken in the BSAI/GOA commercial salmon fisheries and as PSC in the BSAI/GOA groundfish fisheries

The third group of tables reports retained and discarded catch in GOA and BSAI groundfish fisheries by gear type. All of the tables in this section *exclude* pollock.

1. Table 53 Retained and discarded catch in the GOA trawl fisheries (excluding pollock), 2008 through 2015
2. Table 54 Retained and discarded catch in the BSAI trawl fisheries (excluding pollock), 2008 through 2015
3. Table 55 Retained and discarded catch in the GOA hook-and-line fisheries (excluding pollock), 2008 through 2015

4. Table 56 Retained and discarded catch in the BSAI hook-and-line fisheries (excluding pollock), 2008 through 2015
5. Table 57 Retained and discarded catch in the GOA pot fisheries (excluding pollock), 2008 through 2015
6. Table 58 Retained and discarded catch in the BSAI pot fisheries (excluding pollock), 2008 through 2015
7. Table 59 Retained and discarded catch in the GOA and BSAI jig fisheries (excluding pollock), 2008 through 2015

The fourth group of tables reports the retained and discarded catch in GOA and BSAI groundfish fisheries by gear type. All of the tables in this section *include* pollock.

1. Table 60 Retained and discarded catch in the GOA trawl fisheries (including pollock), 2008 through 2015
2. Table 61 Retained and discarded catch in the BSAI trawl fisheries (including pollock), 2008 through 2015Table 62 Retained and discarded catch in the GOA hook-and-line fisheries (including pollock), 2008 through 2015
3. Table 63 Retained and discarded catch in the BSAI hook-and-line fisheries (including pollock), 2008 through 2015
4. Table 64 Retained and discarded catch in the GOA pot fisheries (including pollock), 2008 through 2015
5. Table 65 Retained and discarded catch in the BSAI pot fisheries (including pollock), 2008 through 2015
6. Table 66 Retained and discarded catch in the GOA and BSAI jig fisheries (including pollock), 2008 through 2015

The final figure in this section provides a summary of the discard rates in groundfish fisheries by year and gear type. All of the information in this figure *includes* pollock catches when calculating discard rates.

1. Figure 20 Percentage of groundfish discarded from 2008 through 2015 (including pollock), by FMP area and gear type

Table 48 Count of plant by area and processing company taking deliveries of trawl caught GOA groundfish (2003 through 2015)

Year/Processor Company	CG	WG	WY	Total
2003	**13**	**7**	**5**	**17**
Alyeska Seafoods Inc		1		1
Deep Creek Custom Packing Inc	1			1
Global Seafoods North American	1			1
Icicle Seafoods Inc		1		1
Isa-Twfa	1			1
North Pacific Processors Inc	2	1	2	2
Ocean Beauty Seafoods Inc	1		1	1
Peter Pan Seafoods Inc King Cove	1	1		1
Salamatof Seafoods Inc	1			1
Stellar Seafoods Inc		1		1
The Auction Block Co	1			1
Trident Seafoods Corporation	3	2	1	4
Western Alaska Fisheries Inc	1		1	1
2004	**10**	**9**	**3**	**17**
Alaska Fresh Seafoods Inc	1			1
Alaska Pacific Seafood Division	1			1
Alyeska Seafoods Inc		1		1
Global Seafoods North America	1	1		1
Icicle Seafoods Inc		1		1
Island Seafoods	1			1
Ocean Beauty Seafoods Inc	2		1	2
Peter Pan Seafoods Inc		1		1
Stellar Seafoods Inc		1		1
Trident Seafoods Corporation	2	3	1	4
True World Foods - Alaska	1			1
Western Alaska Fisheries Inc	1		1	1
Westward Seafoods Inc		1		1
2005	**8**	**7**	**5**	**15**
Alyeska Seafoods Inc		1		1
Global Seafoods North America	1			1
Icicle Seafoods Inc		1		1
North Pacific Processors Inc	1		1	1
Ocean Beauty Seafoods Inc	1		2	2
Peter Pan Seafoods Inc		1		1
Stellar Seafoods Inc		1		1
Trident Seafoods Corporation	2	3	1	4
True World Foods - Alaska	1			1
Western Alaska Fisheries Inc	1			1
Westward Seafoods Inc	1		1	1
2006	**11**	**5**	**4**	**14**
Alaska Fresh Seafoods Inc	1			1
Alyeska Seafoods Inc		1		1
Deep Creek Custom Packing Inc	1			1
Global Seafoods North America	1			1
Island Seafoods	1		1	1
North Pacific Seafoods Inc	1		1	1
Ocean Beauty Seafoods Inc	1		1	1
Peter Pan Seafoods Inc	1	1		1
Stellar Seafoods Inc		1		1
Trident Seafoods Corporation	2	2		3
True World Foods Alaska	1			1
Westward Seafoods Inc	1		1	1
2007	**11**	**6**	**3**	**15**
Alaska Fresh Seafoods Inc	1			1
Alaska Seafood Systems	1			1
Alyeska Seafoods Inc		1		1
Global Seafoods North America	1			1
Island Seafoods	1			1
North Pacific Seafoods Inc	1	1	1	1
Ocean Beauty Seafoods Inc	1			1
Ocean Beauty Seafoods LLC	1			1
Peter Pan Seafoods Inc		1		1
Trident Seafoods Corporation	2	3	1	4
True World Foods Alaska	1			1
Westward Seafoods Inc	1		1	1
2008	**12**	**5**	**3**	**14**
Alaska Fresh Seafoods Inc	1			1
Alaska Seafood Systems	1			1
Alyeska Seafoods Inc		1		1
Global Seafoods North America	1		1	1
Icicle Seafoods Inc	1	1		1
International Seafoods Of Alaska Inc	1			1
Island Seafoods	1			1
North Pacific Seafoods Inc	1		1	1
Ocean Beauty Seafoods LLC	1			1
Peter Pan Seafoods Inc		1		1
Trident Seafoods Corporation	3	2		3
Westward Seafoods Inc	1		1	1
2009	**10**	**5**	**4**	**14**
Alaska Fresh Seafoods Inc	1			1
Alaska Seafood Systems	1			1
Alyeska Seafoods Inc		1		1
Global Seafoods North America	1			1
Icicle Seafoods Inc		1		1
International Seafoods Of Alaska Inc	1		1	1
Island Seafoods	1			1
North Pacific Seafoods Inc	1			1
Ocean Beauty Sfds LLC	1		1	1
Peter Pan Seafoods Inc		1		1
Trident Seafoods Corporation	2	2	1	3
Westward Seafoods Inc	1		1	1
2010	**11**	**5**	**8**	**15**
Alaska Fresh Seafoods Inc	1			1
Alaska Seafood Systems	1			1
Alyeska Seafoods Inc		1		1
Global Seafoods North America	1		1	1
Icicle Seafoods Inc			1	1
International Seafoods Of Alaska Inc	1		1	1
Island Seafoods	1		1	1
North Pacific Seafoods Inc	1	1	1	1
Ocean Beauty Sfds LLC	1		1	1
Peter Pan Seafoods Inc		1		1
Trident Seafoods Corporation	3	2	1	4
Westward Seafoods Inc	1		1	1
2011	**14**	**6**	**7**	**18**
Alaska Fresh Seafoods Inc	1			1
Alaska Pacific Seafoods	1		1	1
Alaska Seafood Systems	1			1
Alyeska Seafoods Inc		1		1
Global Seafoods North America LLC	1			1
Icicle Seafoods Inc	1	1	1	2
International Seafoods Of Alaska Inc	1		1	1
Ocean Beauty Seafoods LLC	1		1	1
Pacific Seafood	1		1	1
Peter Pan Seafoods Inc	1	1		1
Polar Seafoods	1			1
Trident Seafoods Corporation	3	2	1	4
Unisea Inc		1		1
Western Alaska Fisheries	1		1	1
2012	**12**	**6**	**7**	**16**
Global Seafoods North America LLC	1		1	1
Icicle Seafoods Inc	1	1		2
International Seafoods Of Alaska Inc	1		1	1
North Pacific Seafoods Inc	1		1	1
Ocean Beauty Seafoods LLC	1			1
Pacific Seafood	1			1
Peter Pan Seafoods Inc	1	1		1
Polar Seafoods	1		1	1
Silver Bay Seafoods LLC			1	1
Trident Seafoods Corporation	3	3	1	4
Western Alaska Fisheries	1	1	1	2
2013	**14**	**4**	**6**	**14**
Global Seafoods North America LLC	1			1
Icicle Seafoods Inc	1	1		1
International Seafoods Of Alaska Inc	1		1	1
North Pacific Seafoods	1		1	1
Ocean Beauty Seafoods LLC	1		1	1
Pacific Seafood	1			1
Peter Pan Seafoods Inc	1	1		1
Polar Seafoods	1		1	1
Trident Seafoods Corporation	4	2	1	4
Western Alaska Fisheries	1		1	1
Wildsource	1			1
2014	**12**	**5**	**6**	**14**
Alaska Pacific Seafoods	1		1	1
Global Seafoods North America LLC	1		1	1
Icicle Seafoods Inc		2		2
International Seafoods Of Alaska Inc	1		1	1
Ocean Beauty Seafoods LLC	1			1
Pacific Seafood	1			1
Peter Pan Seafoods Inc	1	1		1
Polar Seafoods	1		1	1
Trident Seafoods Corporation	4	2	1	4
Western Alaska Fisheries	1		1	1
2015	**9**	**6**		**12**
Alaska Pacific Seafoods	1			1
Bering Pacific Seafoods LLC		1		1
Global Seafoods North America LLC	1			1
Icicle Seafoods Inc		2		2
International Seafoods Of Alaska Inc	1			1
Ocean Beauty Seafoods LLC	1			1
Pacific Seafood	1			1
Peter Pan Seafoods Inc	1	1		1
Trident Seafoods Corporation	3	2		3
Total Unique Plants	**25**	**13**	**14**	**32**

Table 49 Percentage of species delivered to shoreside processors by AFA and non-AFA vessels (excludes harvests made under the Rockfish Program)

		CG			WG			WY		
TAC Species	AFA	2003 through 2012	2007 through 2012	2008 through 2012	2003 through 2012	2007 through 2012	2008 through 2012	2003 through 2012	2007 through 2012	2008 through 2012
Arrowtooth Flounder	N	71.92%	69.37%	67.98%	95.56%	95.54%	95.52%	20.78%	0.00%	0.00%
	Y	28.08%	30.63%	32.02%	4.44%	4.46%	4.48%	79.22%	100.00%	100.00%
Atka Mackerel	N	13.43%	100.00%	100.00%	1.67%	0.68%	0.00%	0.00%	0.00%	0.00%
	Y	86.57%	0.00%	0.00%	98.33%	99.32%	0.00%	0.00%	0.00%	0.00%
Deep-water Flatfish	N	79.40%	79.34%	78.94%	100.00%	100.00%	0.00%	3.07%	100.00%	100.00%
	Y	20.60%	20.66%	21.06%	0.00%	0.00%	0.00%	96.93%	0.00%	0.00%
Dusky Rockfish	N	63.34%	72.49%	69.86%	100.00%	100.00%	100.00%	97.85%	99.97%	99.96%
	Y	36.66%	27.51%	30.14%	0.00%	0.00%	0.00%	2.15%	0.03%	0.04%
Flathead Sole	N	76.99%	74.54%	72.71%	88.72%	84.62%	82.09%	100.00%	100.00%	100.00%
	Y	23.01%	25.46%	27.29%	11.28%	15.38%	17.91%	0.00%	0.00%	0.00%
Northern Rockfish	N	65.91%	73.01%	70.07%	95.80%	100.00%	100.00%	99.96%	99.96%	99.95%
	Y	34.09%	26.99%	29.93%	4.20%	0.00%	0.00%	0.04%	0.04%	0.05%
Other Rockfish	N	91.46%	12.80%	8.48%	0.00%	0.00%	0.00%	58.79%	32.85%	32.85%
	Y	8.54%	87.20%	91.52%	0.00%	0.00%	0.00%	41.21%	67.15%	67.15%
Other Skates	N	85.04%	97.36%	96.65%	80.04%	39.09%	38.53%	0.00%	0.00%	0.00%
	Y	14.96%	2.64%	3.35%	19.96%	60.91%	61.47%	100.00%	0.00%	0.00%
Pacific Cod	N	62.82%	64.86%	62.74%	94.94%	95.23%	95.03%	4.96%	55.59%	55.59%
	Y	37.18%	35.14%	37.26%	5.06%	4.77%	4.97%	95.04%	44.41%	44.41%
Pacific Ocean Perch	N	48.73%	84.31%	84.84%	69.15%	78.78%	0.60%	79.33%	92.08%	90.46%
	Y	51.27%	15.69%	15.16%	30.85%	21.22%	99.40%	20.67%	7.92%	9.54%
Pollock	N	53.38%	51.78%	52.56%	84.07%	90.28%	90.55%	40.31%	40.62%	40.67%
	Y	46.62%	48.22%	47.44%	15.93%	9.72%	9.45%	59.69%	59.38%	59.33%
Rex Sole	N	75.42%	74.12%	72.55%	80.54%	83.29%	76.00%	98.76%	100.00%	100.00%
	Y	24.58%	25.88%	27.45%	19.46%	16.71%	24.00%	1.24%	0.00%	0.00%
Rougheye Rockfish	N	61.82%	64.78%	65.22%	100.00%	100.00%	100.00%	45.20%	49.34%	49.38%
	Y	38.18%	35.22%	34.78%	0.00%	0.00%	0.00%	54.80%	50.66%	50.62%
Sablefish	N	57.89%	66.19%	66.41%	99.65%	68.14%	0.00%	46.83%	100.00%	100.00%
	Y	42.11%	33.81%	33.59%	0.35%	31.86%	100.00%	53.17%	0.00%	0.00%
Shallow-water Flatfish	N	72.19%	70.30%	68.64%	99.99%	99.59%	97.74%	31.84%	0.00%	0.00%
	Y	27.81%	29.70%	31.36%	0.01%	0.41%	2.26%	68.16%	0.00%	0.00%
Shortraker Rockfish	N	56.10%	40.77%	48.98%	0.00%	0.00%	0.00%	38.85%	28.02%	27.67%
	Y	43.90%	59.23%	51.02%	0.00%	0.00%	0.00%	61.15%	71.98%	72.33%
Thorntheads	N	63.85%	64.39%	63.81%	100.00%	100.00%	0.00%	82.12%	100.00%	100.00%
	Y	36.15%	35.61%	36.19%	0.00%	0.00%	0.00%	17.88%	0.00%	0.00%

Source: AKFIN summary of Catch Accounting data
Note: The “Y” in the AFA column indicates that “yes” it was an AFA landing; the “N” indicates that “no” it was not an AFA landing.

Figure 18 Total groundfish and directed halibut fishery catch by FMP area from 2008 through 2015

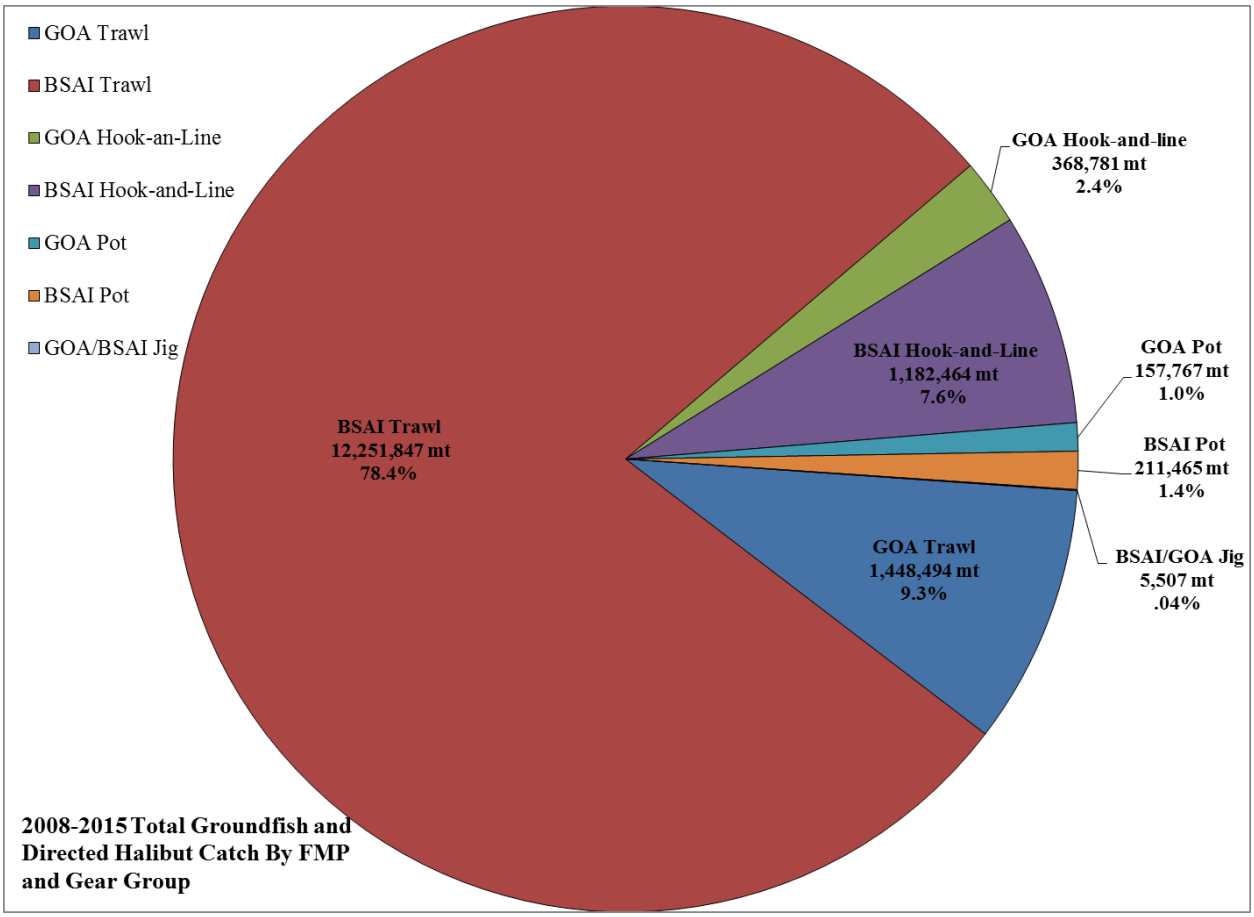
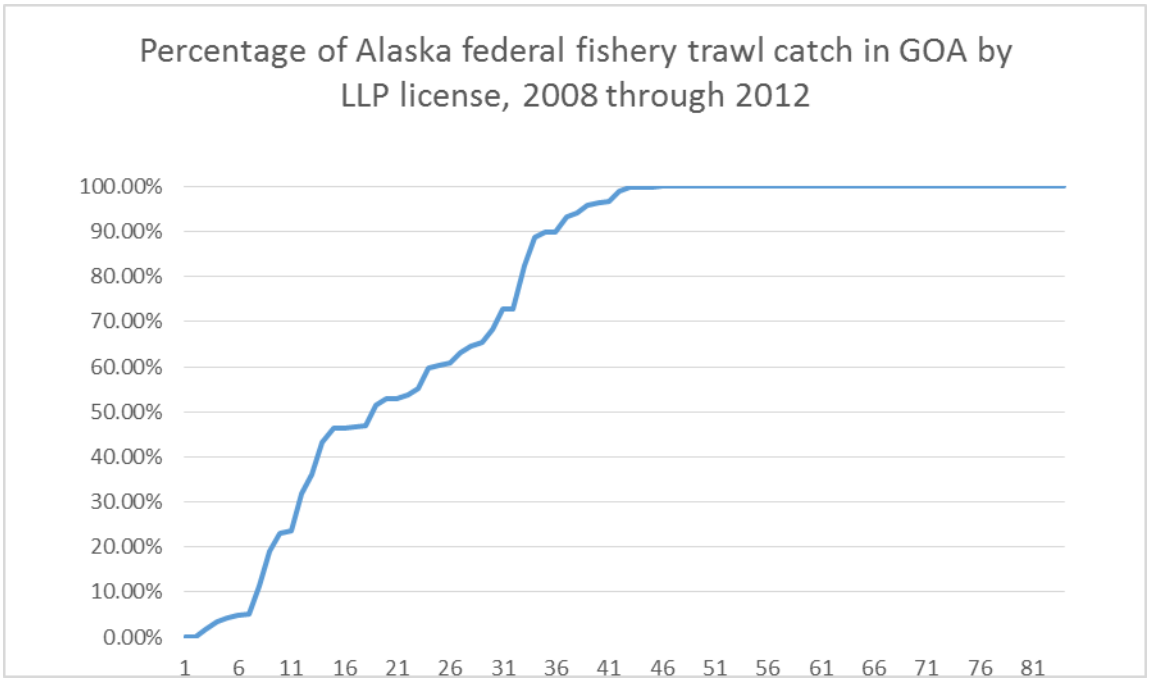


Figure 19 Percentage of Alaska federal fishery trawl catch taken in the GOA, by GOA trawl LLP license from 2008 through 2012.



Source: AKFIN Summary of NMFS Catch Accounting Data

The tables in this section report retained and discarded groundfish. These tables do not include estimates of discarded salmon, crab, or herring. Excluding those species has a minimal impact on the amounts reported because the weight of discards of these species is minimal relative to the total weight of groundfish discards.

Tables for the hook-and-line fisheries (BSAI and GOA) include retained halibut in the IFQ fishery. No tables include estimates of discarded halibut in the groundfish fisheries, or estimates of discarded halibut (wastage) in the IFQ hook-and-line directed halibut fishery. Prior to the expanded observer program there were no estimates of at-sea discard halibut for most of the GOA hook-and-line fleet. There is currently no estimate of IFQ halibut fishery wastage calculated by the Catch Accounting System. Unlike other species, halibut is assigned a discard mortality rate (DMR). Estimates of halibut bycatch in the BSAI and GOA groundfish fisheries with the DMR applied are available on the Alaska region website.

Table 50 Chinook salmon taken in the GOA commercial salmon fisheries and as PSC in the GOA groundfish fisheries

GOA	2008	2009	2010	2011	2012	2013	2014	2015
Southeast	271,000	267,000	260,000	344,000	278,000	200,000	423,000	307,000
Prince William Sound	12,000	10,000	10,000	19,000	12,000	10,000	10,000	24,000
Cook Inlet	13,000	9,000	10,000	11,000	3,000	5,000	5,000	11,000
Kodiak	17,000	7,000	15,000	18,000	15,000	34,000	9,000	9,000
Chignik	1,000	3,000	9,000	6,000	4,000	3,000	9,000	10,000
Southern AK Peninsula	4,000	6,000	8,000	7,000	8,000	7,000	7,000	51,000
Total GOA commercial Chinook	**318,000**	**302,000**	**312,000**	**405,000**	**320,000**	**259,000**	**463,000**	**412,000**
Western GOA Chinook PSC	2,397	555	33,075	4,156	6,385	1,750	4,520	5,208
Central GOA Chinook PSC	13,690	7,440	21,304	17,244	13,373	21,556	11,007	13,286
Total GOA Chinook PSC	**16,088**	**7,995**	**54,379**	**21,399**	**19,758**	**23,306**	**15,527**	**18,494**

Table 51 Chinook salmon taken in the BSAI commercial salmon fisheries and as PSC in the BSAI groundfish fisheries

BSAI	2008	2009	2010	2011	2012	2013	2014	2015
Bristol Bay	53,000	13,000	19,000	19,000	36,000	32,000	31,000	25,000
Kuskokwim	9,000	2,000	3,000	8,000	18,000	19,000	23,000	24,000
Yukon	-	-	-	-	500	10,000	500	5,000
Norton Sound	1,000	500	-	-	500	500	-	500
Kotzebue	-	-	-	-	-	-	-	-
Northern AK Peninsula	3,000	1,000	1,000	1,000	2,000	3,000	3,000	2,000
Total BSAI commercial Chinook	**66,000**	**16,500**	**23,000**	**28,000**	**57,000**	**64,500**	**57,500**	**56,500**
Total BSAI Chinook PSC	**23,914**	**14,171**	**12,430**	**26,609**	**12,930**	**16,007**	**18,096**	**25,254**

Table 52 Chinook salmon taken in the BSAI/GOA commercial salmon fisheries and as PSC in the BSAI/GOA groundfish fisheries

	2008	2009	2010	2011	2012	2013	2014	2015
GOA/BSAI Commercial Chinook	384,000	318,500	335,000	433,000	377,000	323,500	520,500	468,500
GOA/BSAI Chinook PSC	40,002	22,166	66,809	48,008	32,688	39,313	33,623	43,748

Table 53 Retained and discarded catch in the GOA trawl fisheries (excluding pollock), 2008 through 2015

GOA Trawl (no pollock)							
	Retained	Discard	TOTAL	% Discard	CV % of Catch	CP % of Catch	All Catch as % of GOA/BSAI Total
2008	75,717	17,518	93,235	19%	68.0%	32.0%	13.1%
2009	64,762	19,362	84,123	23%	60.0%	40.0%	12.5%
2010	73,247	16,652	89,899	19%	62.3%	37.7%	12.8%
2011	73,138	11,676	84,815	14%	59.2%	40.8%	10.8%
2012	70,589	9,614	80,203	12%	61.9%	38.1%	10.1%
2013	71,451	11,952	83,403	14%	63.5%	36.5%	10.6%
2014	94,210	11,419	105,629	11%	55.8%	44.2%	13.5%
2015	73,778	7,147	80,925	9%	58.8%	41.2%	11.2%
2008-2015	**596,892**	**105,340**	**702,232**	**15%**	61.1%	38.9%	**11.8%**
Top 5 Species Retained for 2008-2015: Arrowtooth Flounder (152,596 mt), Pacific Cod (147,011 mt), Pacific Ocean Perch (112,675 mt), Shallow-water Flatfish (42,267 mt), Northern Rockfish (32,339 mt), All Others Species (110,004 mt)							
Top 5 Species Discarded for 2008-2015: Arrowtooth Flounder (51,577 mt), Pacific Cod (16,411 mt), Pacific Ocean Perch (7,087 mt), Atka Mackerel (5,247 mt), Skates (5,107 mt), All Other Species (19,911 mt)							

Table 54 Retained and discarded catch in the BSAI trawl fisheries (excluding pollock), 2008 through 2015

BSAI Trawl (no pollock)							
	Retained	Discard	TOTAL	% Discard	CV % of Catch	CP % of Catch	All Catch as % of GOA/BSAI Total
2008	368,199	44,406	412,605	11%	11.0%	89.0%	58.0%
2009	345,938	39,341	385,279	10%	11.8%	88.2%	57.1%
2010	371,264	37,044	408,307	9%	9.0%	91.0%	58.0%
2011	411,514	33,581	445,094	8%	12.8%	87.2%	56.9%
2012	427,268	30,754	458,022	7%	15.4%	84.6%	57.8%
2013	416,752	34,174	450,925	8%	14.9%	85.1%	57.5%
2014	402,018	24,018	426,036	6%	14.3%	85.7%	54.3%
2015	371,383	16,855	388,237	4%	15.5%	84.5%	53.6%
2008-2015	**3,114,334**	**260,173**	**3,374,507**	**8%**	13.1%	86.9%	**56.6%**
Top 5 Species Retained for 2008-2015: Yellowfin Sole (1,077,572 mt), Pacific Cod (559,115 mt), Rock Sole (417,289 mt), Atka Mackerel (393,314 mt), Arrowtooth Flounder (148,477 mt), All Other Species (330,984 mt)							
Top 5 Species Discarded for 2008-2015: Alaska Plaice (45,000 mt), Yellowfin Sole (35,115 mt), Sculpins (31,922 mt), Rock Sole (29,113 mt), Skates (28,935 mt), All Other Species (64,998 mt)							

Table 55 Retained and discarded catch in the GOA hook-and-line fisheries (excluding pollock), 2008 through 2015

GOA Hook-and-Line (no pollock)							
	Retained	Discard	TOTAL	% Discard	CV % of Catch	CP % of Catch	All Catch as % of GOA/BSAI Total
2008	49,471	3,787	53,257	7%	86.5%	13.5%	7.5%
2009	46,604	5,983	52,587	11%	85.9%	14.1%	7.8%
2010	48,265	3,589	51,855	7%	79.6%	20.4%	7.4%
2011	41,875	4,229	46,105	9%	78.4%	21.6%	5.9%
2012	39,044	2,580	41,625	6%	85.6%	14.4%	5.2%
2013	34,091	10,581	44,672	24%	89.8%	10.2%	5.7%
2014	32,169	7,613	39,782	19%	81.2%	18.8%	5.1%
2015	31,132	6,283	37,415	17%	79.9%	20.1%	5.2%
2008-2015	**322,651**	**44,646**	**367,297**	**12%**	83.5%	16.5%	**6.2%**
Top 5 Species Retained for 2008-2015: Halibut (123,919 mt), Pacific Cod (107,041 mt), Sablefish (78,090 mt), Skates (5,901 mt), Thornyheads (3,143 mt), All Other Species (4,559 mt)							
Top 5 Species Discarded for 2008-2015: Skates (17,057 mt), Pacific Cod (6,935 mt), Sharks (6,663 mt), Sablefish (3,960 mt), Sculpins (2,929 mt), All Other Species (7,101 mt)							

Table 56 Retained and discarded catch in the BSAI hook-and-line fisheries (excluding pollock), 2008 through 2015

BSAI Hook-and-Line (no pollock)							
	Retained	Discard	TOTAL	% Discard	CV % of Catch	CP % of Catch	All Catch as % of GOA/BSAI Total
2008	103,034	15,969	119,003	13%	5.3%	94.7%	16.7%
2009	109,947	15,028	124,975	12%	3.5%	96.5%	18.5%
2010	98,356	13,210	111,567	12%	3.8%	96.2%	15.8%
2011	126,296	18,954	145,249	13%	3.1%	96.9%	18.6%
2012	141,267	19,638	160,905	12%	2.3%	97.7%	20.3%
2013	132,419	22,707	155,126	15%	2.8%	97.2%	19.8%
2014	134,140	24,236	158,377	15%	3.5%	96.5%	20.2%
2015	138,588	26,228	164,816	16%	2.0%	98.0%	22.7%
2008-2015	**984,048**	**155,970**	**1,140,018**	**14%**	3.2%	96.8%	**19.1%**
Top 5 Species Retained for 2008-2015: Pacific Cod (903,381 mt), Skates (38,838 mt), Halibut (19,002 mt), Greenland Turbot (10,507 mt), Sablefish (7,588 mt), All Other Species (4,732 mt)							
Top 5 Species Discarded for 2008-2015: Skates (104,728 mt), Pacific Cod (17,678 mt), Sculpins (10,962 mt), Yellowfin Sole (8,050 mt), Arrowtooth Flounder (6,974 mt), All Other Species (7,578 mt)							

Table 57 Retained and discarded catch in the GOA pot fisheries (excluding pollock), 2008 through 2015

GOA Pot (no pollock)							
	Retained	Discard	TOTAL	% Discard	CV % of Catch	CP % of Catch	All Catch as % of GOA/BSAI Total
2008	11,402	239	11,641	2%	100.0%	*na*	1.6%
2009	11,962	282	12,244	2%	100.0%	*na*	1.8%
2010	20,362	288	20,650	1%	100.0%	*na*	2.9%
2011	29,280	876	30,156	3%	100.0%	*na*	3.9%
2012	21,437	378	21,815	2%	100.0%	*na*	2.8%
2013	17,107	363	17,470	2%	100.0%	*na*	2.2%
2014	20,257	1,092	21,349	5%	100.0%	*na*	2.7%
2015	20,785	1,034	21,818	5%	100.0%	*na*	3.0%
2008-2015	**152,593**	**4,551**	**157,144**	**3%**	100.0%	*na*	**2.6%**
Top 3 Species Retained for 2008-2015: Pacific Cod (150,478 mt), Octopuses (2,507 mt), Sculpins (15 mt), All Other Species (9 mt)							
Top 3 Species Discarded for 2008-2015: Octopuses (1,907 mt), Sculpins (1,466 mt), Pacific Cod (900 mt), All Other Species (278 mt)							

Table 58 Retained and discarded catch in the BSAI pot fisheries (excluding pollock), 2008 through 2015

BSAI Pot (no pollock)							
	Retained	Discard	Total Catch	% Discard	CV % of Catch	CP % of Catch	All Catch as % of GOA/BSAI Total
2008	20,189	763	20,952	4%	82.2%	17.8%	2.9%
2009	15,008	312	15,321	2%	76.6%	23.4%	2.3%
2010	20,881	349	21,230	2%	83.9%	16.1%	3.0%
2011	28,542	755	29,296	3%	89.2%	10.8%	3.7%
2012	29,214	305	29,519	1%	81.7%	18.3%	3.7%
2013	30,651	877	31,528	3%	77.3%	22.7%	4.0%
2014	31,446	1,105	32,551	3%	75.2%	24.8%	4.1%
2015	30,051	915	30,966	3%	72.8%	27.2%	4.3%
2008-2015	**205,983**	**5,380**	**211,363**	**3%**	79.7%	20.3%	**3.5%**
Top 3 Species Retained for 2008-2015: Pacific Cod (201,586 mt), Sablefish (3,989 mt), Octopuses (363 mt), All Other Species (45 mt)							
Top 3 Species Discarded for 2008-2015: Sculpins (1,528 mt), Octopus (1,489 mt), Yellowfin Sole (1,189 mt), All Other Species (1,175 mt)							

Table 59 Retained and discarded catch in the GOA and BSAI jig fisheries (excluding pollock), 2008 through 2015

GOA and BSAI Jig (no pollock)							
	Retained	Discard	TOTAL	% Discard	CV % of Catch	CP % of Catch	All Catch as % of GOA/BSAI Total
2008	261	*na*	261	*na*	100.00%	*na*	0.04%
2009	232	*na*	232	*na*	100.00%	*na*	0.03%
2010	789	*na*	789	*na*	100.00%	*na*	0.11%
2011	1,247	*na*	1,247	*na*	100.00%	*na*	0.16%
2012	824	*na*	824	*na*	100.00%	*na*	0.10%
2013	518	*na*	518	*na*	100.00%	*na*	0.07%
2014	1,073	*na*	1,073	*na*	100.00%	*na*	0.14%
2015	471	*na*	471	*na*	100.00%	*na*	0.06%
2008-2015	**5,415**	*na*	**5,415**	*na*	**100%**	*na*	**0%**
Top 3 Species Retained: Pacific Cod (5,240 mt), Dusky Rockfish (59 mt), Pelagic Shelf Rockfish (45 mt), All Other Species (70 mt)							
No estimated of at-sea discards available due to lack of observer coverage on jig boats							

Table 60 Retained and discarded catch in the GOA trawl fisheries (including pollock), 2008 through 2015

GOA Trawl							
	Retained	Discard	TOTAL	% Discard	CV % of Catch	CP % of Catch	All Catch as % of GOA/BSAI Total
2008	123,848	21,122	144,970	15%	79.0%	21.0%	8.3%
2009	104,812	21,906	126,718	17%	71.9%	28.1%	8.3%
2010	147,034	17,602	164,636	11%	78.7%	21.3%	10.3%
2011	150,869	13,653	164,521	8%	77.8%	22.2%	8.0%
2012	169,829	11,540	181,369	6%	82.3%	17.7%	8.6%
2013	162,636	14,325	176,960	8%	81.4%	18.6%	8.2%
2014	232,815	12,804	245,619	5%	80.1%	19.9%	11.0%
2015	235,390	8,310	243,701	3%	85.8%	14.2%	11.0%
2008-2015	**1,327,232**	**121,262**	**1,448,494**	**8%**	80.2%	19.8%	**9.3%**
Top 5 Species Retained for 2008-2015: Pollock (730,340 mt), Arrowtooth Flounder (152,596 mt), Pacific Cod (147,011 mt), Pacific Ocean Perch (112,675 mt), Shallow-water Flatfish (42,267 mt), All Others Species (142,343 mt)							
Top 5 Species Discarded for 2008-2015: Arrowtooth Flounder (51,577 mt), Pacific Cod (16,411 mt), Pollock (15,922 mt), Pacific Ocean Perch (7,087 mt), Atka Mackerel (5,247 mt), All Other Species (25,019 mt)							

Table 61 Retained and discarded catch in the BSAI trawl fisheries (including pollock), 2008 through 2015

BSAI Trawl							
	Retained	Discard	TOTAL	% Discard	CV % of Catch	CP % of Catch	All Catch as % of GOA/BSAI Total
2008	1,347,978	51,233	1,399,211	4%	40.7%	59.3%	79.7%
2009	1,148,125	45,098	1,193,223	4%	40.3%	59.7%	78.0%
2010	1,175,560	40,111	1,215,671	3%	37.9%	62.1%	76.4%
2011	1,602,426	37,606	1,640,032	2%	42.0%	58.0%	79.5%
2012	1,623,717	35,713	1,659,429	2%	42.5%	57.5%	79.0%
2013	1,680,559	39,036	1,719,595	2%	42.5%	57.5%	79.9%
2014	1,682,324	37,935	1,720,259	2%	42.6%	57.4%	77.3%
2015	1,678,594	25,832	1,704,426	2%	43.9%	56.1%	77.1%
2008-2015	**11,939,282**	**312,565**	**12,251,847**	**3%**	41.8%	58.2%	**78.4%**
Top 5 Species Retained for 2008-2015: Pollock (8,824,948 mt), Yellowfin Sole (1,077,572 mt), Pacific Cod (559,115 mt), Rock Sole (417,289 mt), Atka Mackerel (393,314 mt), All Other Species (667,045 mt)							
Top 5 Species Discarded for 2008-2015: Pollock (52,392 mt), Alaska Plaice (45,000 mt), Yellowfin Sole (35,115 mt), Sculpins (31,922 mt), Rock Sole (29,113 mt), All Other Species (119,023 mt)							

Table 62 Retained and discarded catch in the GOA hook-and-line fisheries (including pollock), 2008 through 2015

GOA Hook-and-Line							
	Retained	Discard	TOTAL	% Discard	CV % of Catch	CP % of Catch	All Catch as % of GOA/BSAI Total
2008	49,608	3,846	53,454	7%	86.6%	13.4%	3.0%
2009	46,754	5,990	52,744	11%	85.9%	14.1%	3.4%
2010	48,444	3,723	52,167	7%	79.5%	20.5%	3.3%
2011	41,973	4,252	46,225	9%	78.4%	21.6%	2.2%
2012	39,181	2,608	41,789	6%	85.6%	14.4%	2.0%
2013	34,186	10,621	44,807	24%	89.8%	10.2%	2.1%
2014	32,309	7,683	39,993	19%	81.2%	18.8%	1.8%
2015	31,272	6,332	37,604	17%	79.8%	20.2%	1.7%
2008-2015	**323,727**	**45,054**	**368,781**	**12%**	83.5%	16.5%	**2.4%**
Top 5 Species Retained for 2008-2015: Halibut (123,919 mt), Pacific Cod (107,041 mt), Sablefish (78,090 mt), Skates (5,901 mt), Thornyheads (3,143 mt), All Other Species (5,634 mt)							
Top 5 Species Discarded for 2008-2015: Skates (17,057 mt), Pacific Cod (6,935 mt), Sharks (6,663 mt), Sablefish (3,960 mt), Sculpins (2,929 mt), All Other Species (7,509 mt)							

Table 63 Retained and discarded catch in the BSAI hook-and-line fisheries (including pollock), 2008 through 2015

BSAI Hook-and-Line							
	Retained	Discard	TOTAL	% Discard	CV % of Catch	CP % of Catch	All Catch as % of GOA/BSAI Total
2008	107,427	16,824	124,252	14%	5.1%	94.9%	7.1%
2009	113,922	15,611	129,534	12%	3.4%	96.6%	8.5%
2010	101,747	14,042	115,789	12%	3.6%	96.4%	7.3%
2011	130,934	19,795	150,729	13%	3.0%	97.0%	7.3%
2012	145,602	20,141	165,744	12%	2.3%	97.7%	7.9%
2013	136,918	23,319	160,238	15%	2.7%	97.3%	7.4%
2014	139,505	24,853	164,358	15%	3.4%	96.6%	7.4%
2015	144,960	26,861	171,821	16%	1.9%	98.1%	7.8%
2008-2015	**1,021,017**	**161,447**	**1,182,464**	**14%**	3.1%	96.9%	**7.6%**
Top 5 Species Retained for 2008-2015: Pacific Cod (903,381 mt), Skates (38,838 mt), Pollock (36,969 mt), Halibut (19,002 mt), Greenland Turbot (10,507 mt), All Other Species (12,319 mt)							
Top 5 Species Discarded for 2008-2015: Skates (104,728 mt), Pacific Cod (17,678 mt), Sculpins (10,962 mt), Yellowfin Sole (8,050 mt), Arrowtooth Flounder (6,974 mt), All Other Species (13,055 mt)							

Table 64 Retained and discarded catch in the GOA pot fisheries (including pollock), 2008 through 2015

GOA Pot							
	Retained	Discard	TOTAL	% Discard	CV % of Catch	CP % of Catch	All Catch as % of GOA/BSAI Total
2008	11,502	242	11,744	2%	100.0%	*na*	0.7%
2009	12,114	284	12,398	2%	100.0%	*na*	0.8%
2010	20,367	303	20,669	1%	100.0%	*na*	1.3%
2011	29,447	882	30,329	3%	100.0%	*na*	1.5%
2012	21,468	388	21,856	2%	100.0%	*na*	1.0%
2013	17,119	371	17,490	2%	100.0%	*na*	0.8%
2014	20,290	1,100	21,390	5%	100.0%	*na*	1.0%
2015	20,834	1,056	21,890	5%	100.0%	*na*	1.0%
2008-2015	**153,141**	**4,626**	**157,767**	**3%**	100.0%	*na*	**1.0%**
Top 3 Species Retained for 2008-2015: Pacific Cod (150,478 mt), Octopuses (2,507 mt), Pollock (133 mt), All Other Species (24 mt)							
Top 3 Species Discarded for 2008-2015: Octopuses (1,907 mt), Sculpins (1,466 mt), Pacific Cod (900 mt), All Other Species (353 mt)							

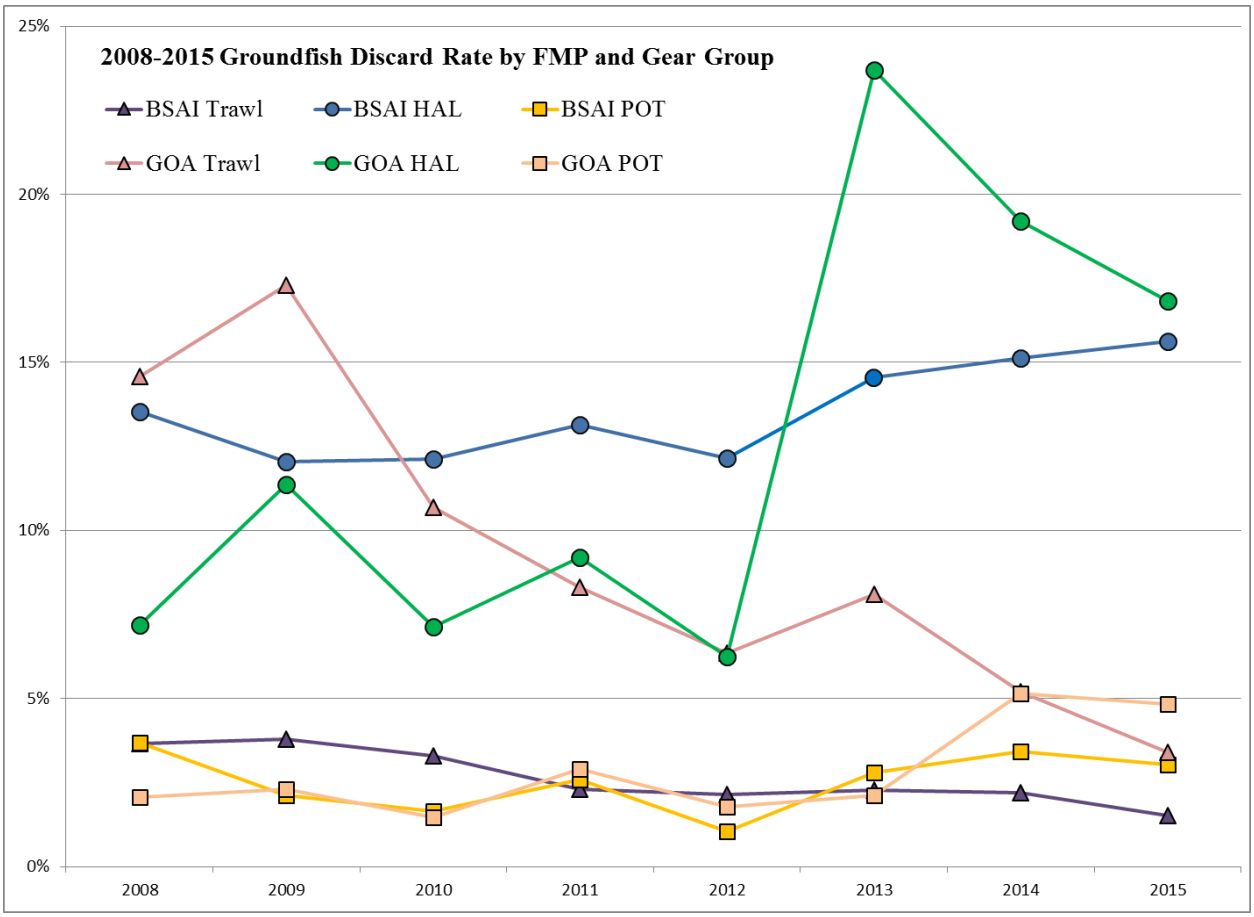
Table 65 Retained and discarded catch in the BSAI pot fisheries (including pollock), 2008 through 2015

BSAI Pot							
	Retained	Discard	Total Catch	% Discard	CV % of Catch	CP % of Catch	All Catch as % of GOA/BSAI Total
2008	20,191	772	20,963	4%	82.2%	17.8%	1.2%
2009	15,014	324	15,338	2%	76.6%	23.4%	1.0%
2010	20,885	353	21,238	2%	83.9%	16.1%	1.3%
2011	28,543	760	29,303	3%	89.2%	10.8%	1.4%
2012	29,216	307	29,523	1%	81.7%	18.3%	1.4%
2013	30,652	883	31,535	3%	77.3%	22.7%	1.5%
2014	31,451	1,116	32,568	3%	75.2%	24.8%	1.5%
2015	30,058	940	30,998	3%	72.8%	27.2%	1.4%
2008-2015	**206,010**	**5,455**	**211,465**	**3%**	79.7%	20.3%	**1.4%**
Top 3 Species Retained for 2008-2015: Pacific Cod (201,586 mt), Sablefish (3,989 mt), Octopuses (363 mt), All Other Species (72 mt)							
Top 3 Species Discarded for 2008-2015: Sculpins (1,528 mt), Octopus (1,489 mt), Yellowfin Sole (1,189 mt), All Other Species (1,250 mt)							

Table 66 Retained and discarded catch in the GOA and BSAI jig fisheries (including pollock), 2008 through 2015

GOA and BSAI Jig							
	Retained	Discard	TOTAL	% Discard	CV % of Catch	CP % of Catch	All Catch as % of GOA/BSAI Total
2008	262	*na*	262	*na*	100.00%	*na*	0.01%
2009	242	*na*	242	*na*	100.00%	*na*	0.02%
2010	792	*na*	792	*na*	100.00%	*na*	0.05%
2011	1,254	*na*	1,254	*na*	100.00%	*na*	0.06%
2012	833	*na*	833	*na*	100.00%	*na*	0.04%
2013	535	*na*	535	*na*	100.00%	*na*	0.02%
2014	1,089	*na*	1,089	*na*	100.00%	*na*	0.05%
2015	499	*na*	499	*na*	100.00%	*na*	0.02%
2008-2015	**5,507**	*na*	**5,507**	*na*	**100%**	*na*	**0.04%**
Top 3 Species Retained: Pacific Cod (5,240 mt), Pollock (92 mt), Dusky Rockfish (59 mt), All Other Species (116 mt)							
No estimated of at-sea discards available due to lack of observer coverage on jig boats							

Figure 20 Percentage of groundfish discarded from 2008 through 2015 (including pollock), by FMP area and gear type



10 Appendix 4 – Community Fisheries Association: Stakeholder proposal for structure of Alternative 4, Option 1

Analysts' note: This material was provided by a stakeholder group, and has not been altered by NMFS, ADF&G, or Council staff.

Introduction:
This alternative presents an initial allocation process to apply if the Council proceeds with development of a LAPP program for the Gulf of Alaska Trawl Bycatch Management Program. In the North Pacific, the Council has over 20 years of direct experience with LAPP programs. The greatest challenge facing fishery managers and communities to date has been how to adequately protect communities and working fishermen from the effects of fisheries privatization, notably excessive consolidation and concentration of fishing privileges, crew job loss, rising entry costs, absentee ownership of quota and high leasing fees, and the flight of fishing rights and wealth from fishery dependent communities. Collectively, these impacts are altering and in some cases severing the connection between Alaska coastal communities and fisheries (see for example Reedy and Maschner 2014; Carothers 2010). For example, since the implementation of the halibut and sablefish IFQ program in 1995 the number of fishermen in small, rural Gulf of Alaska fishing communities holding quota in these fisheries has declined by 50 percent.[93] The Gulf of Alaska Trawl Bycatch Management Program represents an opportunity for policy innovation in the North Pacific to address community concerns through initial allocation of quota to a Community Fishing Association (CFA). A CFA allocation allows for a more equitable distribution of the benefits wrought from the public resource of our fisheries.

CFA Allocation – Need and Benefit in the Gulf of Alaska:
National Standard 8 requires that "[c]onservation and management measures shall . . . (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities."[94] CFAs provide the Council with an opportunity to fulfill National Standard 8's dual mandate.

A CFA ensures sustained fishing community participation by providing an alternative point of access and viable entry opportunity to the fishery for fishing communities in Gulf of Alaska communities. This is particularly vital for new entrants, community-based fishermen, and current harvesters who may be small quota holders or lack the history needed to qualify for a viable quota allocation. A community allocation provides a clear mechanism to retain local access and protect coastal communities by bolstering locally based vessels and locally based ownership through affordable access to more quota.

The need for such a mechanism is supported by fisheries data. The current average age of CV owners in the GOA trawl fishery is 57 years and highlighting the need to ensure that clear and affordable entry opportunities are included in the initial program design. A new management structure which fails to

[93] NOAA Fisheries Service, "Report on Holdings of Individual Fishing Quota (IFQ) by Residents of Selected Gulf of Alaska Fishing Communities 1995–2014," November 2015, https://alaskafisheries.noaa.gov/sites/default/files/reports/ifq_community_holdings_95-14.pdf (accessed December 30, 2015).
[94] 16 U.S.C. 1851(8)

include a clear and affordable entry opportunity in the initial design will likely result in succession processes which exacerbate the loss of local fisheries access in Alaska. Coastal Alaska provides many bleak examples of fishery dependent communities experiencing drastic declines in levels of local fisheries participation, including local vessel ownership and locally held fishing rights, due in part to the high cost to entry. Kodiak City has fared better than many rural villages across the Gulf of Alaska in this regard, but still shows concerning signs of loss of local participation. Between 2000 and 2010, Kodiak experienced declines in locally held (CFEC) permits (1646 to 1279); halibut quota holders (304 to 224), active crew licenses (1263 to 884), and locally owned vessels (719 to 452).[95] The need for a carefully designed management program which addresses social and community concerns through initial design becomes more apparent and imperative when couched in the cumulative effects of other limited access and rights based management programs which have contributed to severe hardship and loss of local opportunity in Gulf of Alaska rural and fishery dependent communities (see for example Knapp 2006; Knapp and Lowe 2007; Carothers 2010, 2015).

A CFA also helps to reduce adverse economic impacts associated with LAPP programs. This includes impacts associated with initial allocation processes and especially the 'transitional gains trap' where the "value of the quota is a windfall conferred upon initial allocation recipients, and paid for by future generations who must purchase the privilege to harvest fish from these recipients" (Copes 1986:287). This also includes adverse economic impacts associated with lease prices of market driven transfers, which may rise beyond the means of many smaller and locally-based vessels (Pinkerton 2013).

The well-documented concentration of quota ownership and wealth, and related to this, declines in ownership of small quota holders around the globe, is a central concern for the GOA trawl fishery for two primary reasons: 1) the rise in corporate ownership of trawl vessels in the Central Gulf of Alaska since the most recent move toward privatization of the groundfish trawl fishery; and 2) the particular vulnerabilities of smaller trawl vessels and fishing communities in the Western Gulf of Alaska (Olson 2011; Stewart et al. 2006; Copes and Pálsson 2000; Reedy 2015). The Western Gulf in particular will be greatly impacted by shifts in the restructuring of harvesting and seafood processing opportunities in the region.

Overarching all of these concerns is the challenges the Council has faced when attempting to address or improve the shortcomings of catch share programs after implementation and money has changed hands through quota transfers and fishery investments. In practice, when quota is distributed and takes on a financial value upon which people make business decisions, it has proven extremely challenging to make subsequent changes to a catch share program (Copes and Pálsson 2000). An initial allocation to a CFA can protect and enhance the role of fisheries in GOA communities and regional economies and maximize opportunities to keep community-based fishing access and livelihoods viable into the future. It allows for flexibility and integration of social and community concerns into initial program design.

The CFA also provides an important nexus between the resource and the fishing community. A community with some "skin in the game" has a vested interest in resource conservation, management, and long term protections. Allocation of quota to the CFA also has an education component. Because a CFA

[95] NOAA Community Profiles for North Pacific Fisheries – Alaska, November 2013. Available at: http://www.afsc.noaa.gov/REFM/Socioeconomics/Projects/communityprofiles/Regional_Kodiak_Island_Archipelago.pdf (accessed April 20, 2016).

would engage elected officials and others involved in the business of managing a community, it will force those community members to better understand fishery economics and resource dynamics. As a result, for individuals living in a CFA community, the fishing industry moves from being viewed as a "them" to being understood as an "us." This important psychological shift to align individual community member's interests with those of the fishing industry should not be underestimated and contributes to strengthening the fabric of the CFA community.

The proposal presented here represents a conceptual framework for this type of design feature. We expect that further details and options will be refined as the Council moves forward with developing a management program. Thank you for your consideration of this proposal.

Proposal:
ALTERNATIVE 4. Gulf of Alaska Trawl Bycatch Management Program (Alternative 2 and Alternative 3) with a Community Fisheries Association allocation or Adaptive Management Program. *(Options 1 and 2 are mutually exclusive.)*

Option 1. Community Fisheries Association (CFA)

The CFA program would distribute target species of Pacific cod and pollock, secondary species (to mirror Council's allocation of species under Alternative 2, Element 3.b), and halibut and Chinook PSC quota to qualified applicants representing eligible Gulf communities, in order to provide benefits to communities. The intent of the CFA program is to mitigate the potential economic impacts and undesirable social costs of the GOA Trawl Bycatch Management Program on GOA communities with a historical dependence on groundfish. Further, it is the intent of the program to sustain current participation and access to groundfish fisheries by community-based vessels.

This provision would allocate the annual federal total allowable catch (TAC) for trawl target species and associated prohibited species catch (PSC) to a CFA, a non-profit entity described in more detail in below. The CFA would be established under the Fishing Communities provisions of the Magnuson Stevens Act (MSA)[96], and would be required to comply with the provisions of that section. The CFA would determine how to distribute the annual harvest privileges according to criteria consistent with the goals and objectives, which will be approved by the Council and set in federal regulation. Annual reporting to the Council would be required. The intent of the CFA is to ensure that quota is anchored in GOA communities and that community concerns, including sustained community participation, entry opportunities, equitable crew compensation, bycatch reduction, among others are addressed in the initial program design. CFA quota would be anchored to GOA eligible communities as defined by the Council and would not be available for purchase by individuals or corporations.

Element 1. Allocate 5% - 15% of the fishing quota for all species allocated to CVs under the program to a Community Fishing Association established under §303A(c)(3) of the MSA. Quota allocated to the Community Fishing Association may not be sold.

[96] U.S.C. § 1853A(c)(3)

Element 2. Number of CFAs

Option 1. One GOA CFA

Suboption 1. The CFA will be a single Gulf-wide administrative entity with two divisions, one for the CG and one for the WG. Each division will establish their own contract terms and criteria for distributing quota.

Option 2. Two CFAs (one for the WG and one for the CG)

Element 3. Goals and objectives for a Community Fishing Association:

a. Council-established Goals and Objectives for the CFA (in regulation and/or the FMP):

1. Provide for the sustained (current and historical) participation of fishing communities (MSA National Standard 8).
2. Minimize adverse economic impacts on fishing communities (MSA National Standard 8).
3. Assist entry-level and small vessel owner-operators, captains and crew and fishing communities (MSA §303A(c)(5)(C)).
4. Incentivize additional bycatch savings beyond standard requirements by rewarding those willing to adopt additional measures to reduce bycatch with access to additional CFA quota.

b. The CFA may respond to several of the Council's established Goals and Objectives for the program (numbers refer to Council Goals and Objectives):

4. Authorize fair and equitable access privileges that take into consideration the value of assets and investments in the fishery and dependency on the fishery for harvesters, processors, and communities.
6. Promote community stability and minimize adverse economic impacts by limiting consolidation, providing employment and entry opportunities, and increasing the economic viability of the groundfish harvesters, processors, and support industries.
13. Minimize adverse impacts on sectors and areas not included in the program.
14. Promote active participation by owners of harvest vessels and fishing privileges.

c. Possible CFA goals and objectives adopted by the CFA within Council objectives:

1. Maintain the historical number of active trawl vessels home-ported in CFA communities.
2. Maintain the historical number of active trawl skippers that are resident in CFA communities.
3. Maintain the historical number of GOA trawl vessel crewpersons that are resident in CFA communities.
4. Maintain the amount of quota owned and/or operated by CFA community residents.
5. Maintain crew compensation at levels established prior to the rationalization program.
6. Enable fishermen to transition into the GOA trawl fishery under the new management program.
7. Facilitate gear conversion within provisions of main program.

Element 4. Communities eligible for participation via the CFA

In order to be eligible for participation, a community must meet the following criteria:

- Adjacent to saltwater located within the Western, Central, or West Yakutat regulatory areas of the GOA coast of the North Pacific Ocean;
- Population of less than 6,500 (based on 2000 census);
- Consists of residents having any Gulf (WG, CG, WY) groundfish commercial permit and/or fishing or processing activity as documented by CFEC in the last ten years (2004-2014);
- Have a high potential for economic and social impacts associated with a LAPP program on harvesters, captains, crew, processors, and other businesses substantially dependent upon the fishery, or the potential for improving economic conditions in remote coastal communities lacking resources to participate in harvesting or processing activities in the fishery; and
- Have submitted a community sustainability plan through the CFA.

Element 5. The CFA must provide a community sustainability plan which includes:

a. Description of board, governance structure:

The administrative entity shall be comprised of a Board of Directors as follows:

Option 1. (applies to Element 2, Option 1 Suboption 1 or Option 2)

The Board of Directors will be selected via a nomination process in which each interest group submits nominations to the relevant borough government (Kodiak Island Borough for the Central Gulf and Aleutians East Borough for the Western Gulf). Board members will serve 4-year terms. The relevant borough assembly will then appoint a representative from the nominees in a public meeting. The Boards will be structured as follows:

Central Gulf (9 seats)
Kodiak City/Borough government (2 seats)
Kenai Borough government (1 seat)
At-large community seat (1 seat)
Trawl sector (1 seat)
Processors (1 seat)
Fixed gear sector (1 seat)
Crew (1 seat)
Rural Community Member (1 seat)

Western Gulf (9 seats)
AEB/ City of King Cove and Sand Point (3 seats)
At-large community seat (1 seat)
Trawl sector (1 seat)
Processors (1 seat)
Fixed gear sector (1 seat)
Crew (1 seat)

Option 2. (Applies to Element 2, Option 1 without the suboption)

The Board of Directors will be selected via a nomination process in which each interest group submits nominations to the relevant city or borough government (crew will apply to the borough government within which they reside). Board members will serve 4-year terms. The relevant borough assembly will then appoint a representative from the nominees in a public meeting. The Board will be structured as follows:

Aleutians East Borough (3 reps)
Lake and Peninsula Borough (1 rep)
Kodiak Borough (2 reps)
Yakutat Borough (1 rep)
Kenai Borough (2 reps)
City of Kodiak (2 reps)
Crew (1 seat)
Trawl sector (1 seat)

The CFA will be governed by an Executive Committee with administrative and oversight responsibilities for the organization.

Option 1: (applies to Option 1 above)

The Board of Directors will vote on the Executive Committee, which consists of members from the Board of Directors for the Central and Western Gulf of Alaska regions. Executive Committee members will serve 4-year terms. Executive Committee will consist of:

Kodiak Island Borough/City Government (1 seat)
Aleutians East Borough (1 seat)
Trawl sector (1 seat)
Fixed gear sector (1 seat)
Processor (1 seat)
Crew (1 seat)

Option 2: (applies to Option 2 above)

The Board of Directors will vote on the Executive Committee, which consists of members from the Board of Directors. Executive Committee members will serve 4-year terms. It will consist of:

Aleutians East Borough (1 rep)
Lake and Peninsula Borough (1 rep)
Kodiak Borough (1 rep)
Yakutat Borough (1 rep)
Kenai Borough (1 rep)
City of Kodiak (1 rep)
Trawl sector (1 seat)

b. Description of quota distribution process:

Quota will be leased on an annual (option: every 3 years) basis according to distribution criteria established by the Board which meet the goals and objectives for the CFA established by the Council in regulation. To ensure that quota leased from the CFA achieves the goals and objectives established by the Council, quota will be leased subject to specific contract terms which meet the goals and objectives adopted by the Council.

Eligibility to receive quota distribution on an annual basis will be tied to owning a qualified LLP/vessel or fishing that quota on a qualified LLP/vessel. (Option: A qualified LLP is defined as any GOA endorsed groundfish LLP.) The vessel must be active in the fishery (to be defined by CFA Board of Directors). The Board of Directors will develop specific scoring criteria to provide benchmarks and distribution relative to meeting the performance standards.

Quota may be distributed based on a combination of fishing history, code of conduct, GOA dependence, entry level needs and bycatch performance standards. For instance, quota distribution could be based 20% on history, 20% code of conduct (including but not limited to limits on lease rates, equitable crew compensation, community hire preference) 20% GOA dependence, 20% entry level needs,20% bycatch performance.

Contract terms may include:

- Delivery/landing requirements based on historical delivery patterns.
- Membership in a co-op/risk pool and compliance with bycatch avoidance measures.
- Active participation in the fishery – either owner-onboard or significant ownership interest in a vessel.
- Crew share standards.
- Contract terms will be developed by the CFA in accordance with goals and objectives set out by the Council.

The CFA's lease rates will be capped at a level which will cover administrative costs for the quota entity and will not exceed reasonable administrative costs as audited by NMFS (not to exceed 5-10%).

To receive quota, harvesters must join a cooperative. Vessels must also comply with a set list of contract terms via a contract with the CFA. Contract terms will be phased in over the initial 2-year period to allow time for the fleet to adapt.

An appeal/redress mechanism will need to be established for community members to express disagreement with how the quota is being leased. This appeals process must include NMFS since the agency is charged with providing due process and fair, impartial hearings.

Processor Cooperatives. Vessels must be part of a cooperative to have access to quota distributions from the CFA. The co-op must be consistent with the harvester/processor structure required and defined by the Council for the fishery overall.

New Entrants. When a new entrant joins the fishery by purchasing a vessel or permit, they will be eligible to lease quota for primary, secondary and PSC species based on the distribution criteria established by the CFA.

Consolidation limits. Limit the amount of CFA quota that a lessee can use:

Option 1: 5-25% of the CFA's quota.

Processors would also be limited by a cap to ensure that all processing is not consolidated into too few processors in each area (Western and Central GOA).

Option 1: 10-30%

Use of Lease Proceeds by CFA. Use of lease proceeds is restricted to operational and administrative expenses.

c. Goals and objectives for the CFA, and explanation of how the CFA intends to meet those goals and objectives

d. Description of how the CFA will meet the goals of sustaining community participation in the fishery, providing for new entry/inter-generational transfer, and encouraging active participation

e. Description of how the plan will address the social and economic development needs of coastal communities

Element 6. Require an annual report to the Council and communities

Element 7. CFA Cooperative Program Integration

- Annual quota allocated to the CFA may not be sold.
- The CFA will operate within the cooperative structure of the main program. Quota leased from the CFA must be utilized on a license and accessed through a cooperative, and is subject to that cooperatives' exit provisions.
- CFA quota will be subject to the same set of rules as other quota in the program such as bycatch management, observer coverage and monitoring, sector allocations, cooperative structure, and gear conversion.
- If selected by the Council, regionalization and port of landing requirements will apply to CFA quota (option: do not apply port of landing requirements).
- Quota leased from a CFA counts toward any vessel and ownership use caps.

11 Social Impact Assessment: Annotated Outline

To be posted as a separately.

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