Discussion Paper
Gulf of Alaska Trawl Bycatch Management

1 Introduction

1.1 History of this action

The Council has implemented Chinook salmon PSC limits and halibut PSC limit reductions for the GOA trawl fisheries in recent years. Those reductions have the potential to limit or reduce the amount of groundfish that is harvested with trawl gear. The prospect of lost revenue, due to groundfish closures before the TAC is taken, is a concern to harvesters, processors, communities, and other stakeholders.

In 2012, Amendment 93 established separate Chinook salmon PSC limits in the Western and Central GOA in the directed pollock fishery. The annual Chinook salmon PSC limits in the directed pollock fishery of 6,684 salmon in the Western GOA and 18,316 salmon in the Central GOA are set in regulation. These regulations do not apply to the West Yakutat area and no Chinook salmon PSC limit is set for that

area. The pollock fishery occurring in that area is not subject to closures resulting from attainment of a Chinook PSC limit. In addition, all salmon (regardless of species) taken in the pollock fisheries in the Western and Central GOA must be retained until an observer at the processing facility that takes delivery of the catch is provided an opportunity to count the number of salmon.

In June 2013, the Council recommended a Gulf of Alaska Chinook salmon bycatch cap for the non-pollock trawl fisheries of 7,500 Chinook salmon. The amendment is still in the regulatory development process and has not been implemented. The proposed limit would be divided between catcher vessel (CV) and catcher/processor (C/P) vessels, with the C/P limit being set at 3,600 Chinook salmon, annually, and the CV cap set at 3,900 Chinook salmon. In addition, the C/P sector, may not take more than 66% of the annual hard cap limit before June 1. The Central GOA CV Rockfish Program sector would be allocated 1,200 Chinook salmon from the CV sector's apportionment. All but 150 of the unused Chinook salmon PSC from the Rockfish Program CV sector's apportionment would be rolled over to the rest of the CV sector on October 1, and whatever remains from that 150 Chinook PSC at the end of the Rockfish Program season on November 15 would be similarly rolled over. The motion would also create an uncertainty pool of additional Chinook salmon PSC (in addition to the 7,500 cap) that could be accessed by the C/P sector and the non-Rockfish Program CV sector, if that sector's total GOA Chinook PSC in the previous year was less than the sector's proportional share of a 6,500 Chinook PSC cap. Numerically, the C/P sector could take up to 4,080 Chinook PSC if it had recorded fewer than 3,120 in the previous year (a 480 Chinook "buffer"), and the non-Rockfish Program CV sector could take up to 3,060 Chinook PSC if it had recorded fewer than 2,340 in the previous year (a 360 Chinook "buffer").

At its June 2012 meeting, the Council took final action to reduce halibut PSC limits in the GOA trawl and hook-and-line groundfish fisheries and the Final Rule implementing those reductions, starting in 2014, has been published. Halibut PSC limits will be established in Federal regulations and remain in effect until changed by a subsequent Council action to amend those regulations. Amendment 95 reduces the GOA halibut PSC limit for the groundfish trawl gear sector by 15 percent. The Council's proposed reduction would be phased in over 3 years: 7 percent in 2014, 5 percent in 2015 (to 12 percent), and 3 percent in 2016 (for a total of 15 percent). When all reductions are implemented, the annual halibut PSC limit for the GOA trawl fisheries will be reduced to 1,706 mt.

As a result of proposed and implemented PSC reductions, the Council began considering how it could provide a management structure that would better allow industry to adapt to the new PSC constraints. At its October 2012 meeting, the Council adopted a purpose and need statement identifying goals and objectives for such an action to provide tools for effective management of PSC in the Central Gulf of Alaska trawl groundfish fishery. To further its efforts in the development of the program, the Council requested staff to provide a discussion paper, in February 2013[1], outlining various catch share options to meet its objectives and describing other comparable programs that have been considered and applied the limited access privilege program (LAPP) provisions in the Magnuson Stevens Act (MSA). After reviewing that paper, the Council revised its problem statement and expanded the program to include trawl fisheries in the Western GOA. The Council also requested additional information from staff that was presented at the June 2013 Council meeting.[2] At the same time they requested that stakeholders provide input on tools that could be developed. Several proposals were presented to the Council by stakeholders at the June meeting. Preliminary trawl PSC management proposals presented by stakeholders are available on the Council's website.[3] The Council requested a third discussion paper that was presented at the October 2013 meeting that reviewed the stakeholder proposals and provided a more

[1] http://www.npfmc.org/wp-content/PDFdocuments/catch_shares/CGOATrawlCatchShare213.pdf
[2] http://www.npfmc.org/wp-content/PDFdocuments/catch_shares/GOAtrawl/GOATrawlDiscPaper513l.pdf
[3] http://www.npfmc.org/goa-trawl-bycatch-management

focused discussion of specific issues.[4] After reviewing the information, Council requested that staff develop this discussion paper that focuses on the program structure defined in its October 2013 motion.

1.2 Objectives of this paper

The objective of this paper is to review the structure of the Council's proposed trawl bycatch management program and evaluate whether it addresses the Council's purpose and need statement. The program review raises questions that the Council may wish to address, if it moves forward with the proposed structure. The document also provides data that is intended to equip the Council with additional information, but is not intended to provide sufficient detail to be considered a complete analysis of the programs. For reference, the Council's purpose and need statement and its goals and objectives are provided.

Council's 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 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, target, and secondary species. It will also have the added benefit of reducing the incentive to fish during unsafe conditions and improving 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, as well as 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.

Council's 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,*

[4] http://www.npfmc.org/wp-content/PDFdocuments/bycatch/GOATrawlDiscPaper913.pdf

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*

1.3 Summary of key issues for Council consideration

The following is a non-comprehensive list of points on which Council consideration or clarification might be needed to further advance the development of the program outlined in the October 2013 motion:

1. If a person or an entity holds multiple LLPs, each of which having a majority of qualifying landing history to different shorebased processors in different areas, does the Council intend for that person to have the option to join multiple cooperatives?
2. What are the alternatives for criteria used to establish the initial two-year linkage between catcher vessels and processors in a cooperative? How can these criteria be explicit, but flexible enough to account for cases where delivery patterns have shifted during the most recent analyzed years?
3. If target species quota is regionalized, is the Council concerned about a conflict with any delivery requirements that might be a part of the privately negotiated contract between the harvester and processor members of a CV cooperative?
4. Is there a minimum number of vessels that are required to form a cooperative? If not, is the Council concerned about the activity of a cooperative being treated as confidential information?
5. If PSC is allocated, should prohibited species quota (PSQ) use be limited by season and by fishery? If PSQ is allocated by season, are rollovers allowed?
6. Should AFA vessels that are exempt and non-exempt from limitations in the GOA be treated differently for PSQ allocations?
7. If target fisheries other than Pacific cod and pollock are allocated as part of the program, should the Council only consider species that have a TAC for the West Yakutat district, as opposed to a species with a TAC set for the entire Eastern GOA?
8. Should the Council set sideboard limits for Eastern GOA Pacific cod, or any other fishery?

9. Are persons required to hold PSQ for Chinook and halibut if they fish in the West Yakutat district with trawl gear?
10. Is target species catch history severable from the LLP on which it was earned? If so, and if the history is transferred to another eligible license, does the pro rata share of PSQ transfer with the target catch history? The Council may wish to consider the case where pollock and Pacific cod are the only allocated target species. If a license holder transfers all of his or her target quota, the license might not have any PSQ remaining to cover activity in rockfish or flatfish fisheries.
11. For the purpose of measures meant to promote fishery dependent communities, how are communities defined? How might a license or an individual seeking to buy or sell quota be deemed to have an association with a community?
12. If gear conversion is allowed, should the 100% observer coverage requirement also apply to vessels using longline gear? What type of license or endorsement(s) does a fixed gear vessel need to hold in order to fish trawl quota?
13. If the Council includes the measure to make the retention of a portion of target species allocation subject to a periodic bycatch performance review, how will the portion of quota that is not retained be managed? Who might have access to this quota, and for how long? Will issues of due process and appeals be more tractable if the incentive program is framed as a reward, as opposed to a penalty?

2 Review of Proposed Program Structure

2.1 Bycatch management relative to Council's purpose and need statement

Both the purpose and need statement and the goals and objectives for the action focus on the need to create a management environment in which harvesters are better able to avoid PSC and more efficiently use available PSC. This focus suggests that any catch share program that allocates PSC species would enable better management of those species by participating vessels. The Council intends PSC reductions and efficient utilization to arise from vessels fishing more slowly, strategically, and cooperatively. The elements and structure of the program will affect whether fishing is slowed, or whether fishing strategies are more cooperative among vessels. Slowing fishing to a more optimum level will contribute to the stability of volume and timing of landings to allow better planning by processors.

The allocation of PSC would create an individual incentive for each participant to obtain the greatest value from the PSC they use. Whether PSC allocations alone are sufficient to achieve the goals of the program will depend on whether other measures can be adopted that would allow these PSC allocations to be fished in a manner that provides for the slowing and coordination of fishing and stable timing and volume of landings as intended for the action.[5]

PSC allocations are intended to provide each holder with an exclusive and limiting share of the available PSC. The participant could then choose what species to target, when, where, and how, to attain the greatest value of catch subject to the constraint of the PSC allocation. The allocation of PSC based on historical target fisheries landings, but not linking PSC to those fisheries for use, will likely allow each participant to achieve the greatest value in the fishery, given a limited quantity of permitted PSC. Each vessel would need to balance the value of using their PSC for the target fisheries that are allocated versus saving quota to participate in lower profit margin fisheries for flatfish. Basically participants choose a PSC rate that sacrifices PSC quota at a rate that equalizes the difference between profit attained from the additional share of their target allocations and the profit derived from the use of PSC for harvest of less valuable species later. This incentive structure could affect the ability (or tendency) of the fleet to achieve

[5] Target species allocations have not been defined for the C/P sector at this time.

optimum yield. In other words, participants' ability to adjust effort to attain individual profits could lead to fish being unharvested because of relatively higher PSC usage. Whether optimum yield would be affected would depend on the structure of incentives for PSC savings in any reallocation, and the markets for fish that currently go unharvested.

To address this issue, the Council has considered developing a system for redistributing PSC quotas based on PSC performance. Under such a system, adjustments to PSC allocations could be based on a vessel's (or cooperative's) performance in a fishery.[6] So, a vessel (cooperative) that is less effective in achieving PSC rates in a defined time period to obtain greater profits may be allocated a smaller PSC share during the next review cycle. Whether such a program would function effectively would depend on the ability of the Council to fairly weigh PSC performance. Improperly weighting performance may create incentives for participants to deploy fishing effort (or withhold effort) simply to manipulate competitors' PSC apportionments. While developing specific methods of apportioning PSC will be needed to assess these effects, the potential for a system to be manipulated to ensure a person is viewed more favorably than another to a achieve a larger allocation must be considered. Additional complexity will arise when considering the number of fisheries, and seasons and interactions across fisheries and seasons. Developing a system that creates reasonable incentives to avoid PSC at all times could be challenging. In addition, any reapportionment based on performance will pose implementation challenges.

In summary, the proposed CV cooperative program contains provisions that could provide a stable and efficient operating environment for harvesters, processors, communities, and support industries in the wake of reduced GOA PSC limits. Elements of the program are discussed throughout this paper. However, the final structure of the program will ultimately determine how each sector and individuals within that sector are affected.

2.1.1 PSC Reductions

There are at least two potential ways to measure PSC reductions. The first is a reduction in the rate (PSC/groundfish harvest) at which PSC is utilized. This metric typically reports the amount of PSC used (metric ton for halibut or number of fish for salmon) per metric ton of groundfish harvested. When the fleet, or an individual under a catch share program that allocates PSC, decreases this rate, it allows more groundfish to be harvested with a given amount of PSC. The second PSC measure is the total amount used. Reductions in the total amount used could result from the Agency reducing the total amount available or from the fleet decreasing PSC rates to the point that they can harvest the available TAC without using all the available PSC.

Table 1 reports estimates of PSC used and PSC rates for the C/P sector; Table 2 reports estimates of PSC usage and PSC rates for the CV sector. Each table breaks the information down by FMP subarea, fishery, and year. The PSC estimates reported throughout this paper rely on the best information available. While the PSC information reported is assumed to be adequate for making comparisons at the sector level, low observer coverage rates in the GOA trawl fisheries during these years makes estimating PSC usage on a vessel-by-vessel basis unreliable. Because of this problem, the Council has recommended that 100% observer coverage levels should be included in this catch share program to monitor vessel or cooperative allocations in the future. Additional discussion of the proposed observer requirement is provided in Section 4.1. For this program to monitor PSC usage and determine whether cooperatives are meeting PSC reduction goals, increased observer coverage from current levels is necessary.

[6] The time frame for adjustments has not been defined, but linking those adjustments to quota duration may mitigate some due process concerns. This issue is further discussed in Section 2.1.3.

Table 1 Estimates of PSC usage and rates in the GOA trawl C/P sector by area, target fishery and year

	2008				2009				2010				2011				2012			
	CG	WG	WY	Total	CG	WG	WY	Total	CG	WG	WY	Total	CG	WG	WY	Total	CG	WG	WY	Total
Deep Water Flatfish																				
Halibut Mortality (mt)	269	46		316	288	22		310	306	10		316	360	18		378	250	25		275
Chinook Salmon (# of Fish)	2,193	125		2,318	1,758	0		1,758	2,700	840		3,540	1,998	1		1,998	1,013	0		1,013
Groundfish (mt)	7,230	1,790		9,020	6,335	776		7,111	6,271	427		6,699	12,390	993		13,383	8,719	529		9,248
Halibut Rate (mortality/groundfish)	0.037	0.026		0.035	0.045	0.028		0.044	0.049	0.023		0.047	0.029	0.018		0.028	0.029	0.047		0.030
Chinook Rate (fish/groundfish)	0.303	0.070		0.257	0.277	0.000		0.247	0.431	1.966		0.529	0.161	0.001		0.149	0.116	0.000		0.110
Pacific Cod																				
Halibut Mortality (mt)	cf	2		6	16	10		26		cf		cf		cf		cf	cf	cf		13
Chinook Salmon (# of Fish)	cf	0		4	0	0		0		cf		cf		cf		cf	cf	cf		0
Groundfish (mt)	cf	61		179	243	193		436		cf		cf		cf		cf	cf	cf		571
Halibut Rate (mortality/groundfish)	cf	0.033		0.031	0.066	0.051		0.059		cf		cf		cf		cf	cf	cf		0.023
Chinook Rate (fish/groundfish)	cf	0.004		0.024	0.000	0.000		0.000		cf		cf		cf		cf	cf	cf		0.000
Pollock																				
Halibut Mortality (mt)							cf	cf					cf	cf		cf	cf			cf
Chinook Salmon (# of Fish)							cf	cf					cf	cf		cf	cf			cf
Groundfish (mt)							cf	cf					cf	cf		cf	cf			cf
Halibut Rate (mortality/groundfish)							cf	cf					cf	cf		cf	cf			cf
Chinook Rate (fish/groundfish)							cf	cf					cf	cf		cf	cf			cf
Rockfish																				
Halibut Mortality (mt)	cf	63	cf	86	10	37	5	53	cf	36	cf	44	cf	22	cf	30	cf	34	cf	37
Chinook Salmon (# of Fish)	cf	49	cf	365	4	107	128	239	cf	292	cf	347	cf	225	cf	405	cf	385	cf	445
Groundfish (mt)	cf	6,964	cf	11,439	2,768	8,059	1,479	12,306	cf	6,959	cf	9,617	cf	4,923	cf	7,607	cf	5,336	cf	6,868
Halibut Rate (mortality/groundfish)	cf	0.009	cf	0.008	0.004	0.005	0.004	0.004	cf	0.005	cf	0.005	cf	0.004	cf	0.004	cf	0.006	cf	0.005
Chinook Rate (fish/groundfish)	cf	0.007	cf	0.032	0.001	0.013	0.086	0.019	cf	0.042	cf	0.036	cf	0.046	cf	0.053	cf	0.072	cf	0.065
Shallow-water Flatfish																				
Halibut Mortality (mt)	25	15		40	62	13		75	107	14		122	59	15		73	cf	cf		34
Chinook Salmon (# of Fish)	0	0		0	118	0		118	403	144		547	17	15		32	cf	cf		53
Groundfish (mt)	432	174		606	1,386	192		1,578	1,539	365		1,904	928	196		1,124	cf	cf		1,123
Halibut Rate (mortality/groundfish)	0.057	0.088		0.066	0.045	0.069		0.048	0.070	0.039		0.064	0.063	0.074		0.065	cf	cf		0.030
Chinook Rate (fish/groundfish)	0.000	0.000		0.000	0.085	0.000		0.075	0.262	0.394		0.287	0.018	0.077		0.028	cf	cf		0.047
All C/P Targets																				
CP Halibut Mortality (mt)	cf	127	cf	447	377	82	5	464	420	62	2	484	422	64	5	491	283	cf	cf	362
CP Chinook salmon (# of fish)	cf	174	cf	2,687	1,880	107	128	2,115	3,106	1,277	52	4,435	2,159	487	35	2,681	1,013	cf	cf	1,511
CP Target Landings (mt)	cf	8,989	cf	21,244	10,733	9,220	1,480	21,432	8,965	7,762	1,504	18,231	14,496	6,541	1,520	22,558	9,884	cf	cf	17,869
CP Halibut Rate (mortality/groundfish)	cf	0.014	cf	0.021	0.035	0.009	0.004	0.022	0.047	0.008	0.001	0.027	0.029	0.010	0.003	0.022	0.029	cf	cf	0.020
CP Chinook Rate (fish/groundfish)	cf	0.019	cf	0.127	0.175	0.012	0.086	0.099	0.346	0.164	0.035	0.243	0.149	0.074	0.023	0.119	0.102	cf	cf	0.085

cf denotes confidential data

Table 2 Estimates of PSC usage and rates in the GOA trawl CV sector by area, target fishery and year

	2008				2009				2010				2011				2012			
	CG	WG	WY	Total	CG	WG	WY	Total	CG	WG	WY	Total	CG	WG	WY	Total	CG	WG	WY	Total
Deep Water Flatfish																				
Halibut Mortality (mt)	311			311	254			254	344			344	521			521	382			382
Chinook Salmon (# of Fish)	278			278	159			159	2,764			2,764	2,351			2,351	279			279
Groundfish (mt)	14,754			14,754	13,864			13,864	12,926			12,926	18,091			18,091	9,323			9,323
Halibut Rate (mortality/groundfish)	0.021			0.021	0.018			0.018	0.027			0.027	0.029			0.029	0.041			0.041
Chinook Rate (fish/groundfish)	0.019			0.019	0.011			0.011	0.214			0.214	0.130			0.130	0.030			0.030
Pacific Cod																				
Halibut Mortality (mt)	474	98		573	214	43		257	229	6		235	389	37		426	365	112		477
Chinook Salmon (# of Fish)	262	107		370	101	10		111	435	0		435	1,009	96		1,105	393	1		394
Groundfish (mt)	11,892	4,421		16,312	5,339	1,804		7,144	14,005	1,833		15,838	10,336	2,099		12,434	11,552	5,775		17,327
Halibut Rate (mortality/groundfish)	0.040	0.022		0.035	0.040	0.024		0.036	0.016	0.003		0.015	0.038	0.018		0.034	0.032	0.019		0.028
Chinook Rate (fish/groundfish)	0.022	0.024		0.023	0.019	0.005		0.016	0.031	0.000		0.027	0.098	0.046		0.089	0.034	0.000		0.023
Pollock																				
Halibut Mortality (mt)	65	4	1	71	37	0	0	38	29	3	0	32	107	6	1	114	52	2	0	54
Chinook Salmon (# of Fish)	7,950	2,116	390	10,456	2,215	441	59	2,715	12,296	31,796	439	44,531	10,765	3,764	109	14,638	10,833	7,664	120	18,617
Groundfish (mt)	32,244	15,455	1,207	48,907	23,394	14,417	1,212	39,023	45,302	28,421	1,612	75,335	55,484	21,173	2,366	79,022	68,848	28,425	2,364	99,637
Halibut Rate (mortality/groundfish)	0.002	0.000	0.001	0.001	0.002	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.002	0.000	0.000	0.001	0.001	0.000	0.000	0.001
Chinook Rate (fish/groundfish)	0.247	0.137	0.323	0.214	0.095	0.031	0.049	0.070	0.271	1.119	0.272	0.591	0.194	0.178	0.046	0.185	0.157	0.270	0.051	0.187
Rockfish																				
Halibut Mortality (mt)	cf	cf	cf	0	1			1	2		2	4	0		1	2	cf	cf	cf	1
Chinook Salmon (# of Fish)	cf	cf	cf	7	0			0	0		15	15	6		0	6	cf	cf	cf	23
Groundfish (mt)	cf	cf	cf	696	565			565	596		674	1,270	551		594	1,145	cf	cf	cf	264
Halibut Rate (mortality/groundfish)	cf	cf	cf	0.000	0.002			0.002	0.004		0.003	0.003	0.001		0.002	0.002	cf	cf	cf	0.003
Chinook Rate (fish/groundfish)	cf	cf	cf	0.010	0.000			0.000	0.000		0.022	0.012	0.010		0.000	0.005	cf	cf	cf	0.087
Shallow-water Flatfish																				
Halibut Mortality (mt)	514			514	789			789	482			482	232			232	cf	cf	cf	349
Chinook Salmon (# of Fish)	208			208	1,749			1,749	952			952	86			86	cf	cf	cf	238
Groundfish (mt)	11,068			11,068	12,342			12,342	7,553			7,553	3,148			3,148	cf	cf	cf	4,342
Halibut Rate (mortality/groundfish)	0.046			0.046	0.064			0.064	0.064			0.064	0.074			0.074	cf	cf	cf	0.080
Chinook Rate (fish/groundfish)	0.019			0.019	0.142			0.142	0.126			0.126	0.027			0.027	cf	cf	cf	0.055
All CV Targets																				
CV Halibut Mortality (mt)	1,365	102	1	1,468	1,295	44	0	1,339	1,085	9	2	1,097	1,250	43	2	1,295	1,148	114	1	1,263
CV Chinook salmon (# of fish)	8,700	2,223	396	11,319	4,225	451	59	4,734	16,447	31,796	454	48,697	14,218	3,860	109	18,186	11,759	7,665	128	19,552
CV Target Landings (mt)	69,980	20,140	1,616	91,737	55,504	16,222	1,212	72,938	80,381	30,255	2,286	112,922	87,608	23,272	2,960	113,840	94,072	34,200	2,621	130,893
CV Halibut Rate (mortality/groundfish)	0.020	0.005	0.001	0.016	0.023	0.003	0.000	0.018	0.014	0.000	0.001	0.010	0.014	0.002	0.001	0.011	0.012	0.003	0.000	0.010
CV Chinook Rate (fish/groundfish)	0.124	0.110	0.245	0.123	0.076	0.028	0.049	0.065	0.205	1.051	0.199	0.431	0.162	0.166	0.037	0.160	0.125	0.224	0.049	0.149

2.1.2 PSC Overages and Underage Provisions

This document does not attempt to address overage and underage provisions for PSC under a catch share program. Some existing regulations allow PSC that is unused in one season to roll over into another season later in that year (e.g., halibut PSC). Other regulations set a directed fishery's PSC limits annually, while the target species is controlled by seasonal TAC apportionments (e.g., Chinook salmon PSC in the pollock trawl fishery). However, regulations do not permit unused PSC to be rolled over into the next fishing year.[7] If seasonal, fishery, or area[8] allocations of PSC are part of this program, the issue of rollovers will need to be defined. Until PSC allocations are better focused, the implications of allowing rollovers are not explored in detail.

The current motion does indicate that the analysts should assume that CGOA Rockfish Program would remain in place. Based on that assumption, the Rockfish Program is allocated 191.4 mt of halibut PSC. A portion of that allocation typically goes unused, and 55 percent of the amount that is unused is rolled over to the fifth trawl PSC season on November 15, or when the Rockfish Program cooperatives check-out of the fishery. If the fishery is being managed under allocations to cooperatives, the Council will need to address how the Rockfish Program rollover will be redistributed. Some potential options would be to roll over that halibut PSC equally or proportionally to *all* LLP holders that are allocated halibut PSC. Another

[7] The proposed Chinook salmon PSC amendment in the GOA non-pollock trawl fishery may allow some sectors of the non-pollock trawl fleet to be allocated a limited amount of additional Chinook salmon PSC allowances for the year after which the sector, in aggregate, stayed under a proposed PSC threshold. That provision is not strictly considered a rollover of unused PSC.

[8] This would limit Chinook salmon allocated to the CG to only be allowed to rolled-over for use in the CG. The same would apply to WG PSQ.

option would be to roll over the available amount to the persons in the Rockfish Program that realized the savings. Finally, the Council could choose not to roll over that PSC to LLP/quota holders.

The proposed rule for Chinook salmon PSC limits in the GOA non-pollock groundfish trawl fishery also includes a rollover provision. If the rule is implemented by the Secretary of Commerce, 3,900 Chinook salmon PSC would be allocated to the CV sector of that fishery. The CV sector of the Rockfish Program would receive 1,200 of those Chinook salmon PSC. On October 1, all but 150 of whatever Chinook PSC remains in the Rockfish Program CV sector's apportionment would be rolled over for use by CVs that are targeting non-pollock groundfish; then, on November 15, whatever remains from that 150 Chinook salmon PSC that remained with the Rockfish Program CV sector would be similarly rolled over. As with the Rockfish Program halibut PSC rollover described above, the Council will need to address how the Chinook rollovers will be redistributed. Unused Chinook salmon PSC could be distributed from the Rockfish Program CV sector to all other LLPs that are allocated Chinook PSC; it could be redistributed to all LLPs that are allocated Chinook PSC *and* that participated in the Rockfish Program; it could be redistributed to *all* LLPs that are allocated non-pollock (Pacific cod or other groundfish) quota; it could be redistributed to LLPs that are allocated non-pollock quota *and* that participated in the Rockfish Program; or the Council could choose not to roll over that PSC.

2.1.3 Duration of Shares

In general, the MSA includes a limitation on the term of shares, under which all privileges (or shares) must be issued for a limited period (not to exceed 10 years). Shares are required to be reissued at the end of the period unless revoked, limited, or modified. The Council is required to establish terms for the revocation, limitation, or modification of shares. The Council also may provide for the redistribution of any revoked shares, or for the reacquisition of shares limited under this provision (see §303A(f)). The Council could elect to define certain actions or violations as possible grounds for revocation, limitation, or modification of an allocation under the program.

The Council's motion proposes that a portion of target species share allocations would be "evaluated for retention based on achievement of performance targets relative to bycatch and other Council objectives after a set period of time (3 to 10 years)." This portion could be up to 25% of the share holdings on an LLP, though the amount is yet to be defined. Assuming that failure to meet the bycatch performance targets would trigger revocation and possibly re-allocation of some portion of Agency-issued quota share, such a provision would require that procedural due process be provided before revocation can be completed. The redistribution could be as simple as proportional redistribution to current shareholders, which would likely result in the reissuance of all allocations. The Council could also choose to reallocate to non-LLP holders – for example, to groups that organize as a fishing community non-profit, or into an adaptive management quota reserve that is held by the Agency. The Council has not expressed a preference for either of these structures to be a part of the program. The Council should clarify what happens to the quota if it the LLP holder (or cooperative) fails to meet the standard for retention. The loss of quota could be temporary (for a year, or set of years), or it could be permanently reallocated. If the Council moves forward with this type of incentive provision, it should be explicit as to how the forfeited quota will be used, by whom, and for how long.

Any change in the status of an allocation will occur only after notice and opportunity for a hearing. The license holder must also have an opportunity to correct the behavior that drew the sanction, if that is possible. The authority for deciding whether a revocation, limitation, or modification occurs will remain at the discretion of NOAA Office of Law Enforcement and NOAA General Counsel. **Reallocation based on bycatch performance could be considered, but administration of such a measure could be challenging and will depend on the degree to which bycatch performance is fully verifiable and whether a program can be developed to administer allocations in a timely manner**. The

administrative difficulty of taking a punitive action would be exacerbated if bycatch performance is measured based on observer data. In short, if the process for reaching a final decision on modifying an LLP holder's (cooperative) shares takes several years, the concept of revoking and/or redistributing quota for poor bycatch performance may not have the intended effect, or may create other unforeseen negative outcomes for the fishery at large.

Alternatively, the Council could consider quota-based bycatch management incentives in the form of a reward, rather than a penalty. If LLP holders who achieve a certain standard of bycatch performance were awarded quota from an Agency-held reserve, no other person's allocation would be necessarily diminished. The criteria for this reward would need to be explicit, objective, and measurable. If directed, Council and Agency staff may need to scope options for these criteria that are not based solely on observer data. The rewarded quota would not become part of the LLP holder's base quota allocation, and no expectation should be created that the additional quota would be re-awarded at the same level in the future. In addition to the complexity of this type of incentive tool, the Council should also consider whether or not competition for the chance to receive additional quota would have a significant impact on the amount of coordination and information sharing in the fishery. The negative impact on information sharing might be mitigated, somewhat, if this type of reward quota was earned and awarded at the cooperative-level. One drawback to cooperative-level incentives is that some cooperatives may have a coordination advantage by virtue of having more vessels on the water.

Effects on individuals, communities, and management

This section discusses the potential effect of limiting the duration of quota share, or a portion of quota share, on three types of individuals: those who receive an initial allocation in the program, those who do not receive an initial allocation, and individuals who are in the market to buy or lease quota. This paper focuses on the idea of using limited duration quota as a bycatch reduction incentive; refer to the June 2013 discussion paper[9] for a full discussion of limited duration quota share and its effects.

A license holder who received an initial quota allocation does not own that fishery privilege as property, but the harvester's expectation of continuing access strongly influences his business planning and investment in the fishery. Setting aside statutory issues of quota duration, the perceived value of quota is linked to predictability in future fishing opportunities and certainty in the management of the fishery. It follows that the downside of limiting quota duration is primarily experienced by initial quota recipients. The less that quota is perceived as durable, or quasi-permanent, initial allocation recipients will be less inclined to make long-term investments in the fishery. Limiting quota duration will also reduce the capitalized value of that asset. Capitalized value is the value of an asset, based on the total income expected to be realized over its economic life span. Limiting capitalized quota value based on how long quota is allocated may be considered a negative outcome for persons receiving initial allocations. However, it may be considered a positive outcome for stakeholders if they are not part of the initial allocations, receive a relatively small allocation, or lose market power as a result of quota being issued.

Individuals who are in the market to buy or lease quota share, whether or not they received an initial allocation, may find that the value of quota share is suppressed. Quota value is affected by many factors, but is generally linked to perceptions about the amount of harvest privilege that it provides (often a function of the TAC) and, key here, the security of receiving that annual privilege in the future. Bycatch events can be unpredictable, especially in a trawl fishery. As a result, a quota holder that recognizes the mere possibility of a future quota sanction would not have absolute certainty that his or her total quota holdings will be available for use at every point in the future. The individual looking to purchase quota may also find that the supply of available quota on the market is lower. If an LLP holder feels insecure in

[9] http://www.npfmc.org/wp-content/PDFdocuments/catch_shares/GOAtrawl/GOATrawlDiscPaper513l.pdf

his or her total amount of access, especially as up to 25% of his holdings is coming up for review and could be sanctioned in the case of a high bycatch event, that individual may be less inclined to put any of his quota on the market. The analysts assume that there would not be two classifications of quota (up for review/sanction, and secure subject to MSA limitations), so a quota holder who sells a portion of his quota share would then have a greater portion of his remaining holdings exposed to review and potential sanction. This would be a disincentive to putting quota on the market, and could increase transaction costs. The Council's motion contains a range of potential time intervals for the review of bycatch performance (3 to 10 years). Selecting a longer time period between reviews would mitigate some of the market suppressing impacts of limited duration quota; however, a longer time period could also push the review process far enough into the future that certain individuals would pay less attention to the incentive, thus reducing its effectiveness. In summary, the direction of the effect on the quota market is not clear – quota values might fall as the attractiveness of the good is reduced, but the amount of available quota on the market might also decline and thus what does hit the market would be more desired.

Individuals who do not receive initial allocations would certainly be part of the group seeking to acquire quota. Making a portion of quota holdings subject to review and sanction could provide a pathway to quota acquisition for new entrants, but only if the Council were to specify that forfeited quota will enter some sort of pool to which those new entrants have an access advantage. The Council has not expressed any such intent in the motion.

Making some portion of quota holdings subject to bycatch performance sanctions could make individuals more risk-averse when fishing in potential high-bycatch situations – in other words, PSC would become more costly. This has obvious benefits for bycatch reduction, but if the penalty is too steep then harvesters may prefer to accept a short-term loss by underharvesting their annual allocation versus a long-term loss of access to the fishery. In the extreme case, severe bycatch penalties may impact the fleet's ability to achieve optimum yield. The "risk-pooling" effect of fishing cooperatives may mitigate this potential negative effect.

As noted in the June 2013 discussion paper, limited duration quota provides the managing bodies with regular and transparent intervals at which they can make adjustments to the program, possibly responding to unforeseen consequences. Whether or not the limited duration quota provision described in the motion provides such an opportunity depends on what happens to the quota that was removed from an LLP that exhibited poor bycatch performance. If the quota is evenly distributed to other LLP holders, the effect of the proposed tool would be only to sanction poor behavior, and would possibly reduce cooperation among vessels. If the quota is held in a trust – permanently or for a period of years – then the Council and the Agency might be able to use it to address other management goals. If the Council frames performance-based bycatch incentives as a reward, as opposed to a sanction, the Council could periodically refine its performance criteria in order to keep the incentive aligned with management priorities.

The potential benefits of performance-based quota reallocation include incentives to avoid bycatch and opportunities to reallocate quota in pursuit of Council objectives. The costs include negative effects on the perceived value of quota (at least to initial allocation recipients), potentially making the cost of PSC greater than the benefit of full TAC utilization, and an increased management burden.

2.1.4 Cooperative Management

The use and structure of cooperatives are fundamental to the catch share program being considered. Cooperatives have been identified in the motion as a management structure that will provide the tools needed by industry to achieve bycatch reduction goals without causing undue negative impacts on any group of stakeholders. The motion identifies cooperative benefits to bycatch management such as real-time information sharing ("hot spots") and internally negotiated incentive plans. Cooperatives can also aid

harvesters by increasing TAC utilization in situations where individually allocated PSC limits might be constraining, as cooperatives can function as risk-pools to mitigate the risk of a few lightning strike bycatch events preventing a license holder from harvesting his or her allocation. At this point the motion focuses on CV cooperatives, but it is anticipated that a cooperative structure for C/Ps will be developed at future meetings and that the CV cooperative structure will be refined.

2.1.4.1 Voluntary participation

The Council recognizes that persons cannot be mandated to join a cooperative, and that a cooperative is by definition a voluntary association of persons. Each of the cooperative programs that have been developed by the Council includes a provision allowing persons to forgo cooperative membership and remain in a component of the fishery that is not part of any cooperative. This is sometimes referred to as remaining in "open access" fisheries. However, that description is not completely accurate because the fleets currently operate under the LLP program. Vessels would still be required to hold a GOA Groundfish LLP with the endorsements necessary to participate in a fishery, even if they are not a cooperative member.[10]

2.1.4.2 C/P Cooperatives

During the 2008 through 2012 time period, a total of 19 groundfish licenses were used to make GOA groundfish landings onboard 19 trawl C/Ps. In the Central GOA, six C/Ps participated in the shallow water flatfish fishery, but each of the top four vessels had substantially greater harvest than the other two. Three vessels reported landings in the deep-water flatfish fishery. The largest participant in the deep-water flatfish fishery was also one of the largest producers in the shallow-water flatfish fishery. The remaining C/Ps with participation in the Central GOA reported limited amounts of pollock, Pacific cod, and rockfish landings. Given the inshore/offshore and Central GOA rockfish limitations in that area, any allocations outside of those programs would be small.

A total of 17 trawl C/Ps reported rockfish landings in the Western GOA during the 2008 through 2012 time period. Six vessels participated in the shallow-water flatfish fishery, and all six vessels also participated in the rockfish fishery. Six vessels also reported landings in the deep-water flatfish fishery; five of these vessels also reported landings in the shallow-water flatfish fishery.

Amendment 80 vessels would likely continue to manage their GOA fisheries activity through the Amendment 80 cooperatives where they are currently members. Catcher/processors that fish exclusively in the GOA or are not members of the Amendment 80 cooperatives could fish outside of the cooperative structure, form their own cooperative, or join an Amendment 80 cooperative. Given that there is currently only one trawl C/P that meets this criterion, its choices would be narrowed to fishing outside a cooperative structure or joining an Amendment 80 cooperative. Based on these assumptions, the structure and number of C/P cooperatives are not expected to change under the proposed GOA program.

2.1.4.3 CV Cooperatives

The Council and NMFS may be limited in their authority under MSA to mandate provisions of the proposed CV cooperative structure. As a guide, provisions that are similar to those included in the structure of Central GOA Rockfish Program cooperatives are likely to be within Council and NMFS authority. Other provisions might need to be reviewed by NOAA General Counsel.

[10] A discussion of the endorsements necessary to fish under the potential gear conversion provisions is provided in Section 2.2 of this document.

A total of 89 GOA trawl CV LLPs were active during the 2008 through 2012 time period.[11] Holders of these LLPs would be eligible to join a cooperative that includes a processor as a member, based on the Council's motion. The motion states that harvesters must be in a cooperative with a processor by a specified date. The date is not defined in the motion, but under Amendment 88 (Central GOA Rockfish Program) the application deadline for cooperative quota applications is March 1 for a Rockfish Cooperative fishing season authorized from May 1 through November 15 of each year. Based on those dates, it is likely that the cooperative quota applications would be due sometime in the fall of the year prior to fishing, probably around November 1. The exact time will not be determined until additional cooperative formation structure is developed.

The motion states that an LLP holder shall join the cooperative (for at least the first two years of the program) that is associated with the processor that took delivery of the majority of the LLP holder's GOA trawl groundfish landings during the selected qualifying period. For a person holding more than one LLP, it is assumed that the motion intends for initial cooperative membership to be calculated on an LLP-by-LLP basis, and not aggregated for all LLPs held by that person or on a single vessel. For example, from 2007 through 2012 three CVs utilized multiple LLPs for which the majority of landings were credited to different processors in different regulatory areas; the analysts' assumption is that these vessels would initially join two different cooperatives, unless the LLP holder chose to remain in the "open access" fishery. The Council will need to clarify whether that assumption conforms to its intent. The requirement to partner in a cooperative with the processor that took a majority of the deliveries associated with an LLP (or LLP holder) raises both legal and economic questions, some of those questions are addressed in this paper but not formally analyzed or resolved.

Regarding the initial two-year linkage between an LLP holder and a processor in a cooperative, NOAA General Counsel has advised that the Council cannot *obligate* a CV to deliver to a particular shorebased processor for a period of time. A delivery obligation that creates a fixed linkage between a harvester and a processor has been determined to have the effect of allocating a processing privilege, which is not authorized under MSA. It may still be the case that harvesters and processors choose to include such a delivery requirement in their cooperative contract, but the Council is limited to *directing* cooperatives to do only the things that the Council itself has the authority to do under MSA.

In any given year from 2003 through 2013, between 13 and 18 processors reported receiving deliveries of GOA groundfish harvested by CVs with trawl gear. From 2008 through 2012, a total of 20 processors reported taking deliveries of GOA groundfish harvested with trawl gear. Eight of the 20 processors did not take the majority of deliveries associated with any LLP. Those eight processors accounted for slightly less than one percent of all GOA trawl groundfish deliveries (by weight) over that period, and thus would not be eligible to be part of a cooperative during the first two years of the program. Those eight processors would still be allowed to take groundfish deliveries from fixed gear vessels, trawl CVs whose owner elected not to enroll their LLPs in a cooperative, or trawl CV owners whose cooperative contracts allow them to deliver to another processor.

A total of 12 processors are reported to have taken the majority of deliveries from at least one GOA trawl catcher vessel during this time period, and thus would be eligible to join a cooperative during the first two years of the program. Therefore, based on the Council motion (and the assumption that 2008 through 2012 is the appropriate time period) a total of 12 cooperatives could be formed. These cooperatives could include a shorebased processor, an inshore floating processor, or a C/P as the processor member of the

[11] This time period is used as an example since the Council has not selected a suite of years, or other methodology, for determining catch history. However, because these represent the most consistent years for data, they are used to provide an example. This maintains the option of selecting different years based on the Council's goals and objectives. A description of the rationale for using these years is provided in Section 2.1.4.3.1 and Section 9.

cooperative. This raises the question of potential linkages between C/P cooperatives and CV cooperatives. Restrictions, if any, would need to be defined for a CV cooperative that formed around a C/P, and potential restrictions on the C/P's harvest of quota earned by a CV within the cooperative. One method would be to designate all quota as CV or C/P (or inshore and offshore) and prohibit quota from being harvested by the vessels designated for the other mode. Another method would be to allow for temporary transfers of quota across vessel designation types (CV or C/P) as long as the transfer is voluntary and between members of the same cooperative. Allowing the C/P to harvest some of its cooperative partners' quota could increase co-op level efficiency and would not affect employment opportunities at shorebased processors, but it could reduce the number of vessels that are active in the cooperative, thereby affecting CV crew labor.

Three of the 12 processors that could qualify to be members of a cooperative accounted for less than one percent of the trawl groundfish deliveries, by weight; five processors took deliveries of between one percent and 10 percent of the deliveries; four processors took deliveries of more than 10 percent of the groundfish deliveries.

Figure 1 shows the percentage of total catch associated with an LLP that was delivered to the processor where they made a majority of their deliveries (by weight) over the 2008 through 2012 period. The processor is the majority of delivery processor (MDP). One LLP was associated with deliveries of less than 40 percent of its catch to the MDP. At the other end of the spectrum, deliveries associated with 18 LLPs were all made to the same processor. The LLPs that were associated with GOA trawl deliveries to only one processor accounted for less than 6 percent of the total deliveries during the period. Deliveries associated with the 30 LLPs that delivered less than 85 percent of their GOA groundfish to the MDP accounted for 64 percent of total deliveries during the period. This indicates that LLPs with relatively larger amounts of landings associated with them were less consistent in their delivery to the MDP.

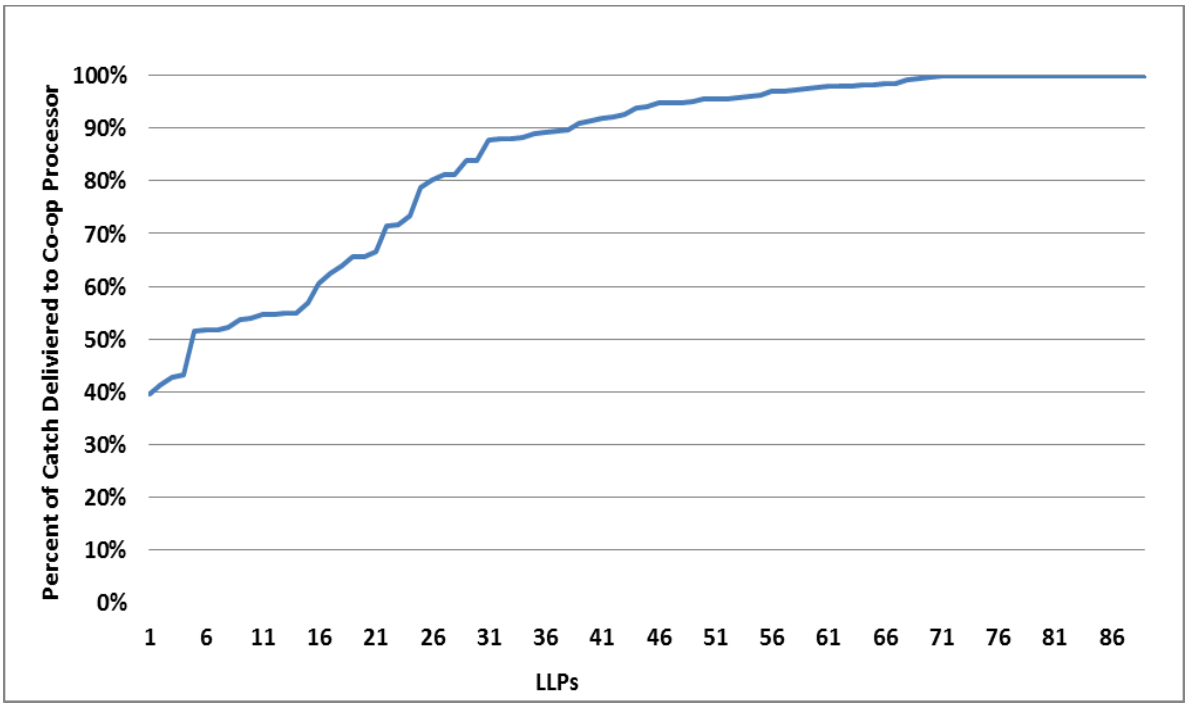

Figure 1 **Percentage of GOA trawl groundfish landings that were delivered to the processor (MDP) taking a majority of the landings associated with the LLP (2008 through 2012)**

2.1.4.3.1 Initial formation and membership limitations (first two years)

The proposed program requires persons wishing to assign their LLP's catch history to a cooperative to join the cooperative organized around the processor that took delivery of the majority of an LLP holder's historical GOA trawl gear landings (excluding landings harvested under the Central GOA Rockfish Program) – the MDP. The definition of historical landings is not provided by the Council. However, non-confidential information can be provided on the general distribution of vessels and cooperatives if the analysis assumes a time period that determines cooperative membership. The information presented in this paper will contain data for 2003 through 2012, but focuses on the 2007 through 2012 period.

The data presented in this paper are derived from the NMFS Catch Accounting System (CAS). CAS is the NMFS official data source of total catch (retained and discard), including Prohibited Species Catch (PSC) estimates. The reason for using CAS data in this document is the need to analyze total catch (including groundfish discards) and PSC estimates by target and by harvest sector. However, in the past, the official record of species-specific harvest for allocative programs has typically been landing reports (aka Fish Tickets) and Production Reports, for CVs and CPs respectively. Landing and Production Reports come directly from industry participants and provide a reliable source of retained catch. If the Council determines that the catch history for allocations is going to be based on retained catch, then future documents could show catch history from these sources.

This report uses data going back to 2007 in order to ensure consistency with the information through time. Landing reports that are incorporated into CAS were submitted through the eLandings system starting in 2007. Prior to 2007 Fish Ticket data was submitted to Alaska Department of Fish and Game (ADF&G) on paper. So using CAS to estimate retained CV catch in the years prior to 2007 would diverge from ADFG Fish Ticket catch records by a greater amount (however, it should be noted that even in the years since 2007, CAS and Fish Ticket records for CVs may differ slightly since the trip targets listed on Fish Tickets and those entered into Catch Accounting via AKFIN's targeting algorithm are not always identical). Other data management changes that have also occurred since 2008 could result in a greater divergence in the CP sector catch estimates found in CAS and the Production Reports for earlier years. Starting in 2009, record keeping and reporting regulations for Production Reports were modified and the reports required state statistical areas to be reported and the timeliness shifted from a weekly basis to a daily basis. Starting in 2008, with the implementation of Amendment 80, there was also an increase in the number of CPs with at least 100% observer coverage so the data sources used in CAS for CPs is more consistent between vessels than it was prior to that time.

The analysts looked at data going back to 2007 to get a sense for how the initial formation of processor-linked cooperatives might work out. The first issue to arise was that a number of LLPs would be initially grouped with a processor to which non-Rockfish Program groundfish catch associated with that LLP had not been delivered in the most recent two or three years. The Council may wish to consider whether using a strict majority rule to associate LLPs with processors would force together cooperative partners that have voluntarily disassociated themselves in the recent past. The vessels on which the LLPs were in use presumably changed their delivery patterns as part of a rational business decision, the motivation for which could not be known by the Council. Linking vessels to a processor with which they have a working relationship may be beneficial during the process of negotiating an operating cooperative contract. Being linked to a certain processor for the first two years of the program is a significant partnership. If the Council deviates from the current proposal of relying on a simple majority rule, the method for assigning initial cooperative associations must still be explicit.

In light of the issue described above, the analysts applied the majority rule to all qualifying CV LLPs for which the MDP still accounts for the majority of groundfish landings in the most recent year. For LLPs whose catch has not been delivered to the majority rule MDP for several years, the analysts considered

processor assignments based on the processor to which the majority of the LLP's catch was being delivered in the most recent analyzed year. The resulting mock-cooperatives for the qualifying CV LLPs – based on 2007 through 2012 activity – would break down as follows:

- 3 cooperatives with floating processor or C/P members, including 1, 2, and 3 CV members respectively;
- 5 cooperatives with Western GOA shorebased processor members, with harvester memberships of 1, 2, 2, 16, and 19 CVs; and
- 7 cooperatives with Central GOA shorebased processor members, with harvester memberships of 3, 4, 4, 5, 8, 9, and 14 CVs.

If the initial formation of cooperatives turns out to be similar to what is described above, the Council and NMFS should consider whether or not the activities of some of these cooperatives will be deemed confidential, and how that might affect the Council's ability to oversee activity in the fishery and to complete the periodic reviews that are required under MSA.

2.1.4.3.2 Allocations

The Council proposal is to allocate quota to the cooperative based on the catch history of the LLPs that are enrolled in the cooperative. The application process would likely be similar to the CGOA Rockfish Program.

Cooperative rules would then determine fishing within the cooperative. NMFS would allocate to the cooperative and monitor the harvest of the cooperative, not the individual activity of the member LLP holders. Any cooperative limits and vessel limits that are developed to limit consolidation would be monitored by NMFS.

An allocation to a cooperative where a processor is a member does not mean that the Secretary is requiring catcher vessels that are members of the cooperative to deliver to the member processor. However, the structure of the program does not limit private contracts that are developed during cooperative formation from requiring specific activity of catcher vessels in terms of delivery to the member processor, as long as those contractual obligations do not conflict with other regulations developed for the program – such as regionalization – or other federal laws.

2.1.4.3.3 Contract elements

Each cooperative would be required to have a private contract signed by all LLP holders and the processor that join the cooperative. The motion includes an option where the community in which the processor is located would also be required to sign the cooperative contract. If the Council were to move forward with that option, the Council would need to define the community entity that is required to sign the contract. The Council might also consider, for a community with more than one processor-linked cooperative, whether this community approval process should occur for each individual cooperative or at the inter-cooperative management level. Using Kodiak as an example, the community could be represented by the City Council, the Borough, the mayor, or some other entity determined by the community. In either case, it is critical to ensure that the community representative – a designated individual or a group – truly represents the broad spectrum of community members, and not a subset of the community that has a vested interest in a certain aspect of the regulated fishery. Explicitly defining the geographic region that constitutes a community is also important to avoiding conflicts. It is not clear how the community would be defined for a cooperative that includes a floating processor.

As mentioned before, the Council only has the authority under MSA to require contract elements that the Council itself could enact if it chose to do so. The contract may or may not include a requirement to deliver catch to the processor that is a member of the cooperative. That, however, is an element that the

Council could not require, and such a provision would be superseded by a regulation that regionalized target species quota (as discussed in Section 6.2). If quota is not regionalized, such a contractual term might have the impact of requiring catch taken in one management area to be delivered to another, regardless of where the qualifying catch history was recorded.

The contract should include clear provisions for how a signatory to the contract, likely an LLP holder, may exit the cooperative after two years. The exit strategy is a key element of the contract, as it could determine the extent to which landings might move from one shorebased processor or community to another after the initial two year period, thus impacting processor employment opportunities, local fish taxes, and other aspects of fishing community stability. The Council has previously received stakeholder proposals suggesting that a harvester that leaves its initially assigned processor-linked cooperative should leave behind a portion of its quota holdings; the proposal was not specific as to whether the relinquished quota would remain with the processor or with a community entity. While it is unclear whether or not the Council could weigh in on such a provision in the private contract, the Council may wish to consider how effectual this type of negotiation might be in the long-term achievement of the program's goals and objectives. The importance of the contracting process underlines the care with which the Council should consider the criteria by which harvesters and processors are linked in the initial formation of the program. Choosing the simplest means of harvester-processor association could increase the likelihood of a large shift in the program's landscape at the end of the initial two-year cooling off period.

Some contractual elements that the Council could require include PSC management goals, active participation requirements, and the provision of pathways for new entrants to access the resource.

2.1.4.3.4 Cooperative application

For a cooperative to be issued quota they must submit an annual application to NOAA Fisheries. Because the proposed cooperative structure is similar to the one defined in the Central GOA Rockfish Program, it is assumed that a similar application process would be developed. A copy of that form is available on the NOAA Fisheries website.[12] For the Rockfish Program cooperative application to be considered complete, the following documents must be attached to the application:

- A copy of the business license issued by the state where the Cooperative is registered as a business entity;
- A copy of the articles of incorporation or partnership agreement of the Cooperative;
    - The articles of incorporation or cooperative agreement must specify that the QS holders affiliated with processors cannot participate in price setting negotiations, except as permitted by general antitrust law and that the Cooperative has a monitoring program sufficient to ensure compliance with the program;
- A copy of the cooperative agreement signed by the members of the cooperative (if different from the articles of incorporation or partnership agreement);
- A copy of proposed fishing plan.

A cooperative that submits a complete application that NMFS approves will receive a CQ permit. The CQ permit will establish an annual amount of groundfish species and PSC species based on the collective quota share (QS) of the License Limitation Program (LLP) licenses assigned to the cooperative by its members. A CQ permit will list the amount of CQ, by fishery, held by the cooperative, the members of the cooperative, LLP licenses assigned to that cooperative, and the vessels that are authorized to harvest fish under that CQ permit.

[12] http://alaskafisheries.noaa.gov/ram/rockfish/cq_app.pdf

2.2 Gear Conversion

The Council has discussed the issue of allowing persons that hold groundfish quota, based on trawl gear catch history, to harvest that quota using fixed gear. The Council has not provided specific direction on the gear types that could be used to harvest the quota or the transfer/use provisions that would define the LLPs to which the quota could be assigned. This section will focus on issues that the Council may consider if this option is included in the program. An analysis of the option's various impacts is not provided. However, the Council has noted that allowing quota holders to utilize non-trawl gear may provide the sector greater flexibility to meet a primary objective of this action, to reduce PSC and to better utilize available PSC.

While this discussion does not exclude the possibility that groundfish quota other than Pacific cod could be subject to gear conversion, the primary focus is on the allocation of Pacific cod quota to the CV fleet and the inshore C/P that may receive an allocation. Additional discussion of these issues is provided in the discussion of the amendments that currently allocate groundfish between various sectors of the GOA groundfish industry (Section 5.1).

Pacific cod is the only groundfish species that would be allocated under the Council's October 2013 motion that is substantially harvested using both trawl and fixed gear. For that reason, the Council's motion focuses on the Pacific cod fishery and the decisions associated with allowing GOA Pacific cod quota to be harvested with fixed gear. If changes occur in the fisheries that provide incentives (resource and economic) to harvest pollock with fixed gear, the gear conversion regulations developed for the Pacific cod fishery may be extended, all or in part, to the GOA pollock allocations or any other target fisheries that are allocated.

Gear conversion could also have implications on where fishing occurs in terms of State or Federal waters. This paper does not attempt to address those issues. State water fishery interactions with the Federal program have been discussed in previous papers. The suggestions for dealing with catch accounting in those papers is assumed to be the most viable approach, but a final decision on all program linkages will not be made until the Council and Board of Fish have had sufficient time and stakeholder input to work through the issues.

2.2.1.1 Limitations on transfers

One issue that must be addressed is the transfer of harvest privileges in the context of gear conversion. If the groundfish quota that is originally attached to an LLP may be sold separately from that LLP, then the Council/NMFS will need to define what endorsements must be associated with the LLP that the buyer holds. The Council will also need to define its intent regarding how PSC associated with that catch is accounted for within the catch accounting system.

If groundfish quota may be sold without transferring the groundfish LLP to which it was originally assigned, the Council must define the LLPs that it could be attached to in the future. Because the program proposed by the Council is LLP-based, it is assumed that a person must hold a GOA groundfish LLP to be able to participate in the program. Under a program where gear conversion is not allowed, it is assumed that the groundfish quota holder would be required to have a GOA Groundfish LLP with a trawl endorsement for the areas they would fish. If gear conversion is allowed, and groundfish quota may be sold separately from the original LLP it was assigned, it opens the question of whether the person purchasing the quota must hold a GOA license with a trawl endorsement or whether the quota could be attached to a fixed gear LLP.

2.2.1.2 Prohibited species catch

As part of any gear conversion option, the Council must address how PSC will be deducted from accounts. It also raises the question of how an LLP that did not have PSQ attached during the initial allocation could be used to harvest Pacific cod with fixed gear. The PSC accounting issue is also dependent on how PSQ may be traded. This discussion assumes that the person harvesting groundfish must also hold sufficient PSQ to cover that groundfish harvest, whether it is harvested with trawl or hook-and-line gear. If allowed under the developed regulations, it is assumed that a person who holds Pacific cod quota could harvest those fish with pot gear or jig gear without acquiring additional PSC, since current PSC regulations exempt those gear types from PSC limits.

Without a requirement that Pacific cod quota harvested with hook-and-line gear have adequate PSQ, the PSC would need to be deducted from the hook-and-line allocation. If that PSC was not deducted from the fixed gear PSC limit, overall PSC limits would be increased as a result, which is contrary to the stated Council objectives for this program.

Assuming that allowing trawl quota to be harvested with hook-and-line PSC is not the intent of the Council, the only mechanism to access PSQ is through initial allocation or a purchase. The initial allocation, by definition means the person holds a trawl LLP for the GOA. Purchase is predicated on the transfer rules. The Council has not defined those rules, but it could consider requiring that the PSQ may only be transferred with the license to which it was originally assigned. This would simplify the decisions, but could be argued to reduce flexibility for buyers and sellers. Requiring that PSQ be sold with the LLP to which it was originally assigned means that a person would be required to have a trawl endorsement to fish groundfish quota. Persons holding a license that was originally assigned quota would be the only persons that could utilize groundfish quota with either trawl or hook-and-line gear. If persons could transfer PSQ in proportion to the target species (as it is assigned to the original LLP), it will require the Council to define the endorsements (areas and gear) that a license must have to have quota transferred. The Council may need to consider whether to maintain or to modify a number of existing PSC management regulations, such as seasonal and area apportionments; a list of these items for consideration is included at the beginning of Section 5.

2.2.1.2.1 Halibut

Recent halibut mortality rates in the hook-and-line fishery are presented in Table 3. Information in this table is provided so that halibut mortality rates in the hook-and-line fishery can be compared to the rates in the trawl fishery (Table 1 and Table 2). Based in the estimated PSC rates for 2012, allowing Pacific cod quota to be used in the fixed gear sector may provide some PSC savings. However, given the historic levels of observer coverage in these fisheries, it decreases the certainty regarding the precise amounts of savings that could be anticipated.

Table 3 Halibut PSC rates for hook-and-line vessels

Halibut PSC Mortality (mt)	2012	2013
CV	149	131
CP	57	37
Pacific cod (mt)		
CV	9,160	8,623
WG	195	460
CG	8,965	8,163
CP	4,863	3,386
WG	3,098	2,757
CG	1,765	629
Rates (Halibut Mortality / Pacific cod)		
CV	0.0163	0.0152
CP	0.0117	0.0109

2.2.1.2.2 Chinook salmon

There are no Chinook PSC limits for fixed gear in the GOA, though it does remain a prohibited species in the groundfish fishery. If gear conversion is allowed, most likely for targeting Pacific cod, the Council would need to clarify how Chinook salmon encountered while using trawl quota on a fixed gear vessel is accounted. It could be deducted from the PSQ that was transferred as part of the sale, or not be subject to Chinook salmon PSC limits. It is assumed that it would not be deducted from the longline PSC limit, since that would have impacts on vessels that do not benefit from the proposed management program.

Since the West Yakutat district does not have a Chinook PSC limit under existing or pending regulations, the Council could consider requiring fixed gear vessels using trawl quota to hold Chinook PSQ for another management area. Currently, Chinook PSC for the directed pollock fishery is allocated to the Inshore component by the Central and Western GOA areas. If a fixed gear fishery for pollock were to develop in the WY District, the Council would need to specify whether the LLP needed to have either (1) available Chinook PSQ for the Central GOA, or (2) available Chinook PSQ for the Central *or* Western GOA. Alternatively, any harvests made in the WY District could be exempt from PSC limits, as they are now.

3 License Reductions

Recall that in early 2007 the Council began reviewing the use of trawl-endorsed LLP licenses in the GOA and BSAI. The final rule for that action was implemented on August 14, 2009 (74 FR 41080).
Trawl gear designation recent participation requirements included the following changes for the GOA. Those regulations are provided at § 679.4(k)(vi) and state that NMFS will revoke any trawl gear designation on a groundfish license with an Aleutian Island, Bering Sea, Central Gulf, or Western Gulf regulatory area unless one of the following conditions apply: (1) A person made at least two legal landings using trawl gear under the authority of that groundfish license in that regulatory area during the period from January 1, 2000, through December 31, 2006; (2) designation with a Central Gulf or Western Gulf area endorsement on a groundfish license is exempt from the landing requirements in paragraph (k)(4)(vi) of this section provided that a person made at least 20 legal landings under the authority of that

groundfish license in either the Central Gulf or Western Gulf area using trawl gear during the period from January 1, 2005, through December 31, 2007.

Table 4 provides information on the number of groundfish LLPs that were issued as of March 2013, after the reduction was implemented, that include a trawl endorsement for either the Western GOA and/or the Central GOA. The GOA trawl LLP endorsement issued for the Central GOA allows the permit holder to use trawl gear in the West Yakutat District. The table shows that in 2013, 115 CV LLPs were issued with a trawl endorsement in for at least one area in the GOA; a total of 21 C/P LLPs were issued with a trawl endorsement. Comparing the number of LLPs that were issued with the active LLPs over the time periods considered indicates the number of LLPs that could have catch attached if the LLP receiving the quota must have a trawl endorsement for one of the GOA areas. The information in lower portion of the table shows the number of persons that could harvest GOA groundfish with trawl gear if PSQ is not separable from the LLP it was initially issued. If it could only be transferred to an LLP with a trawl endorsement, the maximum number of quota holders is reported in the top portion of the table (as of March 2013).

The LLPs issued in 2013 (the top portion of the table) can be compared to the number of vessels that were active over a given period of time to show the number of current GOA trawl endorsed LLPs that would not receive an allocation of groundfish or PSC. For example, a total of 115 CV LLPs were issued in 2013 with at least one GOA area trawl endorsement. Using 2003 through 2013 (partial year) for comparison, 5 LLPs would not be issued quota. Under the C/P column more vessels fished than currently hold an LLP. This is in part due to the implementation of the Amendment 80 program during this period. It is assumed that Amendment 80 vessels that are currently not eligible to fish in the GOA would not be given quota based on catch prior to the implementation of Amendment 80.

Table 4 Trawl groundfish LLPs (2013) and trawl LLPs used to harvest groundfish (through October 2013)

Central GOA	Western GOA	CV LLPs	C/P LLPs	Total
None	Non-trawl and Trawl	4		**4**
Non-Trawl and Trawl	None	27	1	**28**
Non-Trawl and Trawl	Non-Trawl	4	1	**5**
Non-Trawl and Trawl	Non-Trawl and Trawl	34	2	**36**
Non-Trawl	Non-Trawl and Trawl	15		**15**
Trawl	None	14	6	**20**
Trawl	Trawl	17	11	**28**
Total		**115**	**21**	**136**

Active Trawl LLPs in GOA	CV LLPs	C/P LLPs	Total
2003-2013	110	23	**133**
2007-2013	94	20	**114**
2008-2013	91	19	**110**
2009-2013	87	19	**106**

Source: RAM LLP data base from March 2013 and Catch Accounting data provided by AKFIN

It is also important to note that because catch history and the associated quota is attached to a groundfish license, the selection of qualifying years (prior to 2007) could result in some LLPs that were removed from the fishery having catch history. Because of the LLP reduction program, it is assumed that any catch history associated with licenses removed from the fishery would not be included in the calculation of quota for either groundfish quota or PSQ.

4 Observer Coverage

4.1 100 Percent Coverage for Trawl Vessels

The Council indicated that vessels harvesting GOA groundfish using quota allocated under this program would be required to have 100% observer coverage. The new program would be designed to reduce sources of bias that could jeopardize the reliability of catch and bycatch data collected by the Observer Program. The current groundfish observer program places all vessels into one of two observer coverage categories: (1) a full coverage category, and (2) a partial coverage category. The full coverage category applies to catcher vessels while participating in the Central Gulf of Alaska Rockfish Program because it is a LAPP. The Council and Agency have recognized the need for greater observer coverage to accurately monitor harvests in LAPPs. Catcher vessels currently operating in the GOA trawl fisheries with an FFP that are not fishing under a LAPP are placed in the partial coverage category. Because the cooperative program under consideration would be a LAPP, vessels harvesting groundfish under that program would be reclassified into the full coverage category. C/Ps are currently in the full coverage category.

Historical harvests from CVs fishing in the GOA groundfish fisheries have had limited observer coverage. Prior to the implementation of the new observer program in 2013, GOA trawl CVs operating outside of LAPPs and less than 60' LOA had no observer coverage. Larger CVs were placed in the 30% coverage category, but the percentage of harvest that was observed was often less than 30 percent. Because these low observer coverage levels existed during the time period that is being considered for catch history in this analysis, the PSC data at the vessel level is not reliable. Therefore, the Council's motion does not consider allocating PSC to vessels based on PSC rates attributed to each vessel. Instead, sectors will be allocated PSC and that PSC will be allocated to cooperatives based on LLP holder groundfish history.

4.2 Gear Conversion

The Council's motion is clear that all trawl vessels will be assigned to the full observer coverage category. However, the possibility exists that trawl quota could be obtained and used on longline vessels, through the gear conversion provision. The Council's motion does not specifically address this possibility. Using the standard that these vessels would be fishing in a LAPP, they could also be required to have full coverage. As the Council develops elements and options for this program it may need to address this issue.

5 Sector Allocations

Based on the Council's motion, PSC caps will be allocated between the CV and C/P sectors. CV sector allocations for target species (pollock and Pacific cod) could be issued based on Amendment 83 allocations and inshore and offshore requirements (see Sections 5.1.3 and 5.1.1, respectively). Inshore allocations may be harvested as part of a directed fishery. Offshore allocations may only be utilized as incidental catch in other directed fisheries. Based on the motion, it is assumed that the following sector allocations would be implemented. Finally, groundfish allocations to C/Ps are not defined in the Council's motion. C/Ps will likely be treated differently than CVs. C/Ps could be allocated only PSC or they could be allocated specific flatfish and/or rockfish species in addition to PSC. Those options must be developed.

The issue of what limitations are attached to PSC must also be defined as this program moves forward. The restrictions associated with PSC allocated to cooperatives will impact other components of the plan. Such restrictions include roll overs of unused PSC, catch accounting requirements, and PSC allocation

definitions. Because of the impacts that assigning PSC could have on the overall program, the Council could consider any of the following changes to PSC restrictions:

- Halibut PSC
    - Divide by CV and C/P;
    - Divided by deep-water and shallow-water fisheries and current seasons;
    - Eliminate seasonal apportionments;
    - Eliminate fishery complex apportionments;
    - Allocate halibut PSC for use in any fishery or season;
    - Require trawl PSC for use in harvesting Pacific cod taken with longline gear under the gear conversion provision.
- Chinook Salmon PSC
    - Maintain CV and C/P divisions
    - Maintain area allowances
    - Eliminate area allowances.

The impact of removing those limits or imposing additional limitations on how, where, and when PSC may be used will require additional analysis as this package is refined.

5.1 Existing Sector Allocations from Previous Amendments

This discussion focuses on two components of the motion that deal specifically with the allocation of total allowable catch (TAC) and prohibited species catch (PSC) to both industry sectors and individuals within those sectors. Sector level allocations within the Gulf of Alaska (GOA) trawl fishery are generally considered to be divided between the catcher/processor (C/P) and catcher vessel (CV) components of the fishing industry, but also include inshore/offshore allocations. In some cases allocations are already in place between the two sectors. In other cases, groundfish TACs and PSC limits are not divided between the two groups.

Division of catch among industry sectors currently occurs by regulation in the GOA. Part 4 of the Council's motion lists specific amendments that have been implemented to divide species catch limits and define eligible participants in fisheries. Amendments listed in the Council's motion and a description of the relevant information is presented in this section. The goal of this discussion is to identify how those amendments could be used as the basis for sector level allocations, and where those amendments may require additional clarification before they can be used as a basis for sector allocations.

5.1.1 Amendment 23: Inshore/Offshore for GOA Pacific cod and pollock

Currently, Eastern GOA Pacific cod and GOA pollock are apportioned on the basis of processor component (inshore and offshore) and season, as implemented under Amendment 23 to the GOA FMP (57 FR 23321, June 3, 1992). Harvesting vessels are classified as inshore or offshore based on the first processor of their catch. Processors are defined based on production levels and mode of operation. The resulting designation applies to both fixed and trawl gear, harvests, so it results in at least two considerations when discussing allocations for the GOA trawl fisheries.

1. The inshore – offshore allocation is not a division of catch between catcher vessels and catcher/processors. When developing the sector allocations it is appropriate to consider how closely this amendment links to sector allocations. Note that one Amendment 80 C/P (Defender – FFP number 4635) holds an inshore endorsement on their FFP and could qualify for an allocation. That vessel could be allowed to harvest pollock in the directed fishery from the inshore allocation. The

Golden Fleece also has an inshore endorsement, but is prohibited from directed fishing for pollock or Pacific cod.

2. Inshore – offshore applies to trawl and fixed gear vessels. Both freezer longline vessels and trawl C/Ps could be assigned to either the inshore or offshore component of the pollock and Eastern GOA trawl fishery. Their size and processing levels of pollock and Pacific cod determine their designation. The trawl C/P and CV allocations will need to account for the harvest of fixed gear vessels.

Pacific cod

Under inshore/offshore management, 90 percent of the Eastern GOA Pacific cod TAC is allocated for processing by the inshore component. Ten percent of the TAC is available to vessels catching Pacific cod for processing by the offshore component. The GOA inshore and offshore components are defined in §679.2. The inshore component in the GOA means the following three categories of the U.S. groundfish fishery that process pollock harvested in the GOA or Pacific cod harvested in the Eastern GOA:

(1) Shoreside processors.

(2) Vessels less than 125 ft (38.1 m) LOA that hold an inshore processing endorsement on their Federal fisheries permit, and that process no more than 126 mt per week in round-weight equivalents of an aggregate amount of pollock and Eastern GOA Pacific cod.

(3) Stationary floating processors that –

(i) Hold an inshore processing endorsement on their Federal processor permit;
(ii) Process pollock harvested in a GOA directed fishery at a single geographic location in Alaska state waters during a fishing year; and/or,
(iii) Process Pacific cod harvested in the Eastern GOA regulatory area at a single GOA geographic location in Alaska state waters during a fishing year.

Offshore component in the GOA means all vessels not included in the definition of "inshore component in the GOA" that process pollock harvested in the GOA, and/or Pacific cod harvested in the Eastern GOA.

Pollock

Inshore – offshore divided the GOA pollock TACs so that 90 percent is allocated to the inshore component and 10 percent to the offshore component. To implement that division of the TAC, regulations at 679.20(a)(6)(i) allocate 100 percent of the pollock TAC in all GOA regulatory areas to the inshore component after deducting the amount necessary for the offshore incidental catch amount (ICA). This division of the TAC also applies to all seasonal allowances. The ICA amounts are those projected by the Regional Administrator to be caught by, or delivered to, the offshore component incidental to directed fishing for other groundfish species. Thus, the amount of pollock available for harvest by vessels harvesting pollock for processing by the offshore component is that amount that will be taken as incidental catch during directed fishing for groundfish species other than pollock, up to the maximum retainable amounts allowed by § 679.20(e) and (f). These incidental catch amounts of pollock are unknown at the beginning of the year and have historically been determined during the fishing year. The Council could potentially take two paths in making pollock allocations. It could allocate pollock to the inshore sector for use in a directed fishery and for incidental catch in other fisheries. The offshore sector would be given an ICA that would not be allocated to individuals. Alternatively, it could allocate pollock to persons in both components of the fleet. **If pollock allocations are given to trawl C/Ps, the Council will need to determine whether the offshore trawl C/Ps are allocated pollock that may only be used as incidental catch (the allocation will remain closed to directed fishing). The Council will also**

need to determine whether the allocation to the inshore trawl C/P is treated differently from the offshore C/Ps. The overall trawl C/P allocation will depend on whether each cooperative is required to hold quota for its participant's incidental harvests of pollock and Eastern GOA Pacific cod. Perhaps the simplest solution would be to allocate the offshore C/Ps an amount to cover their incidental catch. The offshore C/P sector would need to decide how to stay within that allowance, but would not be allowed to participate in the directed pollock fishery. The one C/P that has reported trawl catch of pollock and holds an inshore designation could be treated the same as the catcher vessels in the inshore sector and be given an allocation or treated as an offshore vessel. Harvest amounts for the one inshore C/P cannot be reported due to confidentiality constraints. However, no inshore C/P reported pollock harvests in the directed pollock fishery during the 2008 through 2012 time period. Any pollock reported by trawl C/Ps in the directed pollock fishery was taken by vessels with an offshore designation on their FFP. Therefore, the directed pollock fishery was closed to those vessels and the target designation applied to that catch is a function of the targeting algorithm used by catch accounting (see data tables in Section 9.2).

5.1.2 GOA groundfish sideboard limits for AFA catcher vessels

5.1.2.1 AFA CVs exempt from groundfish sideboard limits

Sixteen American Fisheries Act (AFA) CVs that were members of cooperatives are exempt from GOA groundfish sideboards. A list of those vessels is presented in Table 5. That table also shows the cooperative membership of vessels in 2013. A total of 25 AFA CVs[13] have fished groundfish in the GOA from 1998 through 2012. GOA sideboard limits do not apply to AFA CVs that met specific size and catch history requirements. AFA catcher vessels less than 125 ft (38.1 m) LOA that harvested less than 5,100 mt of BSAI pollock and made 40 or more landings of GOA groundfish from 1995 through 1997 are exempt from GOA groundfish CV sideboard directed fishing closures.

Table 5 AFA CVs exempt from GOA groundfish sideboard limits

VESSEL NAME	ADFG	CG NUM	AFA PERMIT	COOP NAME
CAPE KIWANDA	61432	618158	1235	AKUTAN
PEGGY JO	9200	502779	979	AKUTAN
TOPAZ	40250	575428	405	PETER PAN
COLLIER BROTHERS	54648	593809	2791	NORTHERN
ELIZABETH F	14767	526037	823	PETER PAN
WALTER N	34919	257365	825	PETER PAN
HICKORY WIND	47795	594154	993	NORTHERN
OCEAN HOPE 3	48173	652397	1623	NORTHERN
MORNING STAR	70323	1037811	6204	UNISEA
GOLD RUSH	40309	521106	1868	NORTHERN
LESLIE LEE	56119	584873	1234	UNALASKA
LISA MELINDA	41520	584360	4506	AKUTAN
MARCY J	55	517024	2142	AKUTAN
EXCALIBUR II	54653	636602	410	AKUTAN
ARCTIC RAM	57117	592211	523	AKUTAN
PACIFIC RAM	61792	589115	4305	AKUTAN

[13] Thirty groundfish CV licenses that were derived from the history of an AFA CV have a trawl endorsement for at least one area in the GOA.

5.1.2.2 Non-exempt AFA CV groundfish sideboard limits

Nine AFA CVs that were active in the GOA are subject to the sideboard limitations. AFA CV sideboard limits have been in place since 2000. Given the limitations on catch during that time period, the catch history associated with these licenses under the proposed program would be within those sideboard limits. However, if shares can be traded and attached to a different license, it could be possible for non-exempt AFA CVs to purchase quota (pollock and Pacific cod) and exceed the sideboard limits. Holding adequate PSC could allow the non-exempt CVs to exceed sideboard limits for groundfish species that are not allocated under this program. This may result in negative impacts on non-AFA members. The impacts will be in part determined by whether these groundfish species are harvested up to their TAC in the future, and if AFA members can acquire PSC through their cooperative (or purchase it outside the cooperative) using wealth generated from the AFA quota holdings. The Council will need to determine what its policy will be for AFA sideboarded licenses and vessels under any catch share program. The AFA CV licenses that could be used to operate in the GOA must abide by the sideboard limits presented in Table 6. The Council's motion does not specify whether these sideboards would continue under the proposed program where quota is allocated to cooperatives based on the catch history of its members.

All targeted or incidental catch of sideboard species made by vessels or associated LLP licenses will be deducted from the sideboard limits. If NOAA Fisheries determines the sideboard limit, after deduction of the estimated ICA, will support a directed fishery for that species it could be opened. If the sideboard limit, after deduction of the estimated ICA would not support a directed fishery, the sideboard species is closed from the beginning of the year for that harvesting sector.

Table 6 Non-exempt AFA CV sideboard limits for GOA groundfish

Species	Season	Area	Ratio of non-exempt AFA CV catch to TAC (1995-1997)	2014 Proposed Non-exempt AFA CV Sideboard Limits (mt)
Pollock	A-season Jan 20 –Mar 10	Shumagin (610)	0.6047	2,371
		Chirikof (620)	0.1167	1,752
		Kodiak (630)	0.2028	1,112
	B-Season Mar 10 – May 31	Shumagin (610)	0.6047	2,371
		Chirikof (620)	0.1167	2,112
		Kodiak (630)	0.2028	485
	C-Season Aug 25 – Sep 15	Shumagin (610)	0.6047	5,384
		Chirikof (620)	0.1167	810
		Kodiak (630)	0.2028	1,738
	D-season Oct 1 – Nov 1	Shumagin (610)	0.6047	5,384
		Chirikof (620)	0.1167	810
		Kodiak (630)	0.2028	1,738
	Annual	WYK (640)	0.3495	1,081
		SE (650)	0.3495	3,766
Pacific Cod	A-Season Jan 1 – Jun 10	W	0.1331	1,765
		C	0.0692	1,599
	B-Season Sep 1 – Dec 31	W	0.1331	1,177
		C	0.0692	1,066
	Annual	E Inshore	0.0079	18
		E Offshore	0.0078	2
Sablefish	Annual Trawl Gear	W	0	0
		C	0.0642	67
		E	0.0433	11
Flatfish, Shallow-water	Annual	W	0.0156	207
		C	0.0587	1,057
		E	0.0126	68
Flatfish, Deep-water	Annual	W	0	0
		C	0.0647	149
		E	0.0128	34
Rex sole	Annual	W	0.0007	1
		C	0.0384	242
		E	0.0029	5
Arrowtooth flounder	Annual	W	0.0021	30
		C	0.028	2,100
		E	0.0002	3
Flathead sole	Annual	W	0.0036	31
		C	0.0213	328
		E	0.0009	6

(Table 6 Continued)

Species	Season	Area	Ratio of non-exempt AFA CV catch to TAC (1995-1997)	2014 Proposed Non-exempt AFA CV Sideboard Limits (mt)
Pacific ocean perch	Annual	W	0.0023	5
		C	0.0748	803
		E	0.0466	158
Northern Rockfish	Annual	W	0.0003	1
		C	0.0277	82
Shortraker rockfish	Annual	W	0	0
		C	0.0218	10
		E	0.011	6
Dusky rockfish	Annual	W	0.0001	0
		C	0	0
		E	0.0067	5
Rougheye rockfish	Annual	W	0	0
		C	0.0237	21
		E	0.0124	4
DSR	Annual	SEO	0.002	1
Thornyhead rockfish	Annual	W	0.028	4
		C	0.028	21
		E	0.028	21
Other rockfish	Annual	W	0.0034	0
		C	0.1699	103
		E	0	0
Atka mackerel	Annual	Gulfwide	0.0309	62
Big skates	Annual	W	0.0063	3
		C	0.0063	11
		E	0.0063	9
Longnose skates	Annual	W	0.0063	0
		C	0.0063	12
		E	0.0063	4
Other skates	Annual	Gulfwide	0.0063	13
Squids	Annual	Gulfwide	0.0063	37
Sharks	Annual	Gulfwide	0.0063	38
Octopuses	Annual	Gulfwide	0.0063	7
Sculpins	Annual	Gulfwide	0.0063	9

5.1.3 Amendment 83: Pacific cod sector allocations

Amendment 83 establishes sector allocations for each gear and operation type in the Western and Central GOA Pacific cod fisheries. In both regulatory areas, the sectors are jig, hook-and-line catcher/processor C/P), pot catcher vessel (CV) and C/P combined, trawl C/P, trawl CV, and hook-and-line CV. Currently, Pacific cod in the Eastern GOA is apportioned on the basis of processor component (inshore and offshore) and season, as implemented under Amendment 23 to the GOA FMP (57 FR 23321, June 3, 1992). Amendment 83 does not establish sector allocations in the Eastern GOA. In recent years, only a small proportion of the Eastern GOA TAC has been harvested, although effort and catch has increased. The lack of sector allocations in the Eastern GOA could encourage increased effort in that fishery. However, extensive trawl closures effectively prohibiting trawl fishing in the Southeast Outside district of the Eastern regulatory area. As a result, the Council recommended that the Eastern GOA Pacific cod TAC not be allocated among sectors under Amendment 83.

The Council could maintain the Amendment 83 allocations for the Western GOA and Central GOA, as shown in Table 7.

Table 7 GOA Pacific cod trawl allocations (percentage of overall Pacific cod TAC), by season

Area	Mode	A-season %	B-season %	% of TAC
WGOA	Trawl Catcher vessel	27.70	10.70	38.40
WGOA	Trawl Catcher/Processor	0.90	1.50	4.40
WGOA	Trawl Total	28.60	12.20	42.80
CGOA	Trawl Catcher vessel	21.13523	20.44888	41.58411
CGOA	Trawl Catcher/Processor	2.00334	2.19451	4.19785
CGOA	Trawl Total	23.13857	22.64339	45.78196
EGOA	Not allocated under Am 83 – Am 23: 10% offshore and 90% inshore			

5.1.4 Amendment 80: BSAI trawl C/P allocations and GOA sideboard limits

Section 679.92 establishes groundfish harvesting sideboard limits on all Amendment 80 program vessels, other than the F/V Golden Fleece, to amounts no greater than the limits shown in Table 8. Under regulations at § 679.92(d), the F/V Golden Fleece is prohibited from directed fishing for pollock, Pacific cod, Pacific ocean perch, dusky rockfish, and northern rockfish in the GOA.

Table 8 indicates groundfish sideboard limits are set for pollock, Pacific cod, Pacific ocean perch, Northern rockfish, and dusky rockfish. The column "Ratio of Am80 sector vessel's catch 1998-2004 to TAC" shows the portion of the TAC that is set as a sideboard limit each year. If the Council develops a program that only allocates pollock and Pacific cod under a catch share program, it could maintain the sideboard limits for Pacific ocean perch, northern rockfish, and dusky rockfish. Those sideboard limits would restrict the Amendment 80 C/P from exceeding their sideboard limits. However, the sideboard limits provide minimal constraints for the Pacific ocean perch fisheries in the Western GOA and West Yakutat areas. The sideboard limit for Northern rockfish is only set for the Western GOA[14] and the sideboard limit is set at 100 percent of the fishery. Therefore the sideboard limit has no effect on the amount of northern rockfish C/Ps may harvest in that area. Finally, dusky rockfish sideboards are set at 76.4 percent of the Western GOA TAC and 89.6 percent of the West Yakutat District TAC. Maintaining these sideboard limits could provide some protections for the other groundfish harvesters in the GOA. However, given the magnitude of the sideboard limits and the size of the TACs, maintaining the sideboards provide minimal opportunities for other harvesters.

[14] Northern rockfish" means *Sebastes polyspinous*. For management purposes the 2 mt apportionment of ABC to the WYK District of the Eastern GOA has been included in the other rockfish species group.

Table 8 Amendment 80 sideboards

Species	Season	Area	Ratio of Am80 sector vessel's catch 1998-2004 to TAC	2013 Am 80 Sideboard Limit (mt)
Pollock	A-season Jan 20 – Mar 10	Shumagin (610)	0.003	13
		Chirikof (620)	0.002	33
		Kodiak (630)	0.002	12
	B-Season Mar 10 – May 31	Shumagin (610)	0.003	13
		Chirikof (620)	0.002	40
		Kodiak (630)	0.002	5
	C-Season Aug 25 – Sep 15	Shumagin (610)	0.003	29
		Chirikof (620)	0.002	15
		Kodiak (630)	0.002	19
	D-season Oct 1 – Nov 1	Shumagin (610)	0.003	29
		Chirikof (620)	0.002	15
		Kodiak (630)	0.002	19
	Annual	WYK (640)	0.002	7
Pacific Cod	A-Season Jan 1 – Jun 10	W	0.020	255
		C	0.044	976
	B-Season Sep 1 – Dec 31	W	0.020	170
		C	0.044	651
	Annual	WKY	0.034	82
Pacific ocean perch	Annual	W	0.994	2,028
		WYK	0.961	1,577
Northern Rockfish	Annual	W	1.000	2,008
Dusky Rockfish	Annual	W	0.764	288
		WYK	0.896	444

To limit effort in the GOA flatfish fisheries by Amendment 80 participants, only those Amendment 80 vessels that fished more than 10 weeks in the GOA flatfish fisheries from 1998 through 2004 are allow to directed fish for GOA flatfish. Flatfish fisheries include arrowtooth flounder, deep-water flatfish, flathead sole, rex sole, and shallow-water flatfish. Amendment 80 vessels eligible to target flatfish in the GOA are listed in Table 9. If the flatfish limitations are maintained, a maximum of 11 Amendment 80 vessels would be allowed to participate in directed GOA flatfish fisheries. Since a total of 22 licenses have an Amendment 80 endorsement and are licensed to fish with trawl gear in at least one GOA area, a maximum of 11 vessels could be prohibited from fishing flatfish in the GOA by maintaining that restriction. However, because flatfish are not allocated to individuals or cooperatives under the Council's motion, licensed vessels could fish in the flatfish fishery even if they have not participated in those fisheries during the qualifying period.

Table 9 Amendment 80 vessels eligible to fish GOA flatfish

Vessel	License	Area
Alliance	LLG 2905 (124 ft)	CG
American No. 1	LLG 2028 (160 ft)	CG, WG
Defender	LLG 3217 (124 ft)	CG, WG
Golden Fleece*	LLG 2524 (124 ft)	CG
Legacy	LLG 3714 (132 ft)	CG, WG
Ocean Alaska	LLG 4360 (124 ft)	CG, WG
Ocean Peace	LLG 2138 (219 ft)	WG
Seafreeze Alaska	LLG 4692 (296 ft)	WG
U.S. Intrepid	LLG 3662 (185 ft)	CG, WG
Unimak	LLG 3957 (185 ft)	CG
Vaerdal	LLG 1402 (124 ft)	CG, WG

* The GOLDEN FLEECE is exempt from the GOA halibut PSC sideboard limits.

5.1.5 Prohibited Species Catch Limits

The Council's motion indicates that halibut and Chinook salmon PSC limits would be divided between the GOA trawl CVs and C/Ps. The amount available to each harvesting sector would then be allocated to cooperatives based on the participation history of qualified individuals. PSC regulations that are currently in place (or anticipated to be implemented) are discussed in this section. Methods to divide the available PSC between the sectors are also presented, based on those regulations.

5.1.5.1 Chinook salmon PSC

Amendment 93 to the FMP (77 FR 42629, July 20, 2012) established separate Chinook salmon PSC limits in the Western and Central GOA in the directed pollock fishery. These limits require NMFS to close the pollock directed fishery in the Western and Central regulatory areas of the GOA if the applicable limit is reached (§ 679.21(h)(6)). The annual Chinook salmon PSC limits in the pollock directed fishery of 6,684 salmon in the Western GOA and 18,316 salmon in the Central GOA are set in regulation at § 679.21(h)(2)(i) and (ii). Those regulations did not divide Chinook salmon between CVs and C/Ps. However, as discussed earlier, the GOA directed pollock fishery is only open for inshore harvest. Any Chinook salmon for exclusive use in the Central GOA or Western GOA pollock fisheries would be allocated to vessels in the inshore sector. Depending on the qualifying years selected, that could be an allocation to only the CV fleet. The Council will need to provide direction on how to account for Chinook salmon PSC that is taken in the Offshore component, where pollock is an incidental catch species that would likely not be allocated. Currently, if the CAS targeting algorithm records an offshore trip as having targeted pollock, Chinook salmon PSC that occurred on that trip is not deducted from the PSC limit. This is a very rare occurrence. If the Council considers alternatives to remove PSC restrictions by fishery, it could also consider deducting any Chinook salmon PSC taken from a cooperatives' overall PSQ limit.

The West Yakutat District pollock fishery is not subject to Chinook salmon PSC limits. Therefore, the Council could exempt pollock harvests in that district from requiring the person to hold quota for Chinook salmon. Alternatively, the Council could consider developing regulations that would extend the Central GOA (or also include Western GOA) PSC limits to the West Yakutat District. An example would be to require a person to hold sufficient Chinook salmon PSC for the Central GOA (or Western GOA) to cover any Chinook salmon catch in the West Yakutat District pollock fishery.

The Council has adopted an annual PSC limit of 7,500 Chinook salmon in the Western and Central GOA non-pollock trawl groundfish fisheries.[15] Chinook salmon PSC is apportioned by CV and C/P vessels, and the Council could utilize those sector allocations under the Trawl Bycatch Management Program. The details of the sector apportionments, the seasonal limit for C/Ps, the Rockfish Program rollover provision for the CV sector, and the "uncertainty pool" incentive program are each described in Section 1.1. The Council should consider whether the seasonal Chinook salmon PSC limit for non-pollock C/Ps needs to remain part of this program, since the purpose of that limit is to slow down the limited access fishery in the case of a high Chinook PSC event in the early part of the year; the answer to that question may depend on whether or not the Council decides to make vessel-level allocations to the C/P sector. The Council should also consider whether the Chinook PSC rollovers between the Rockfish and non-Rockfish Program portions of the CV sector should remain; if the rollovers are maintained, the options for how that PSQ could be reallocated are listed in Section 2.1.2. Finally, the Council should consider whether the "uncertainty pool" incentive mechanism should remain in the program – at least for the CV sector. The Chinook avoidance thresholds that would allow sectors to receive additional Chinook PSC in the next year are set at the sector-wide level. If the uncertainty pool does remain in the program, it is necessary to consider whether the additional Chinook PSC "buffer" is made available to all CVs (or CV cooperatives), or only to the ones that stayed under their proportional share of the uncertainty pool threshold.

5.1.5.2 Halibut PSC

Assuming that halibut PSC would be allocated between sectors based on historic PSC usage, estimates of sector limits can be provided. The estimates provided in Table 10 are shown as percentages of the total amount of GOA halibut PSC used by the sector. PSC usage in the CGOA Rockfish Program is excluded from the calculation, based the motion's directive that Amendment 88 allocations are to be maintained. Average sector usage is presented for three time periods. Based on those three time periods, the CV sector accounted for 71.84% to 74.86% of total trawl PSC. C/Ps accounted for 25.14% to 28.16%, depending on the time period. The table also provides information on the target fishery and management area where halibut PSC was used by each sector. That information shows which fisheries had the most PSC usage, but it is not necessary if the allocation is based only on the GOA-wide total usage by sector over a given period of years.

[15] This program has not been implemented by the Secretary.

Table 10 Percentage of halibut PSC used by sector, area, and target fishery

Designation /Area	Deep Water Flatfish	Rockfish/Other Deep Water Species	Pacific Cod	Pollock	Shallow Water Flatfish	Total
2008 through 2012						
CP	18.30%	2.87%	0.64%	0.04%	3.95%	25.81%
CG	16.91%	0.48%	0.25%	0.03%	3.22%	20.89%
WG	1.38%	2.21%	0.40%	0.01%	0.73%	4.73%
WY	0.00%	0.18%	0.00%	0.00%	0.00%	0.18%
CV	20.81%	0.11%	22.58%	3.55%	27.15%	74.19%
CG	20.81%	0.06%	19.18%	3.34%	27.15%	70.53%
WG	0.00%	0.00%	3.41%	0.18%	0.00%	3.59%
WY	0.00%	0.05%	0.00%	0.03%	0.00%	0.07%
Total	39.10%	2.98%	23.23%	3.59%	31.10%	100.00%
2007 through 2012						
CP	18.20%	2.86%	0.62%	0.04%	3.42%	25.14%
CG	15.93%	0.48%	0.20%	0.03%	2.65%	19.28%
WG	2.28%	2.18%	0.42%	0.01%	0.77%	5.65%
WY	0.00%	0.20%	0.00%	0.00%	0.00%	0.20%
CV	19.27%	0.14%	22.83%	3.66%	28.96%	74.86%
CG	19.27%	0.09%	19.65%	3.48%	28.96%	71.46%
WG	0.00%	0.00%	3.18%	0.15%	0.00%	3.34%
WY	0.00%	0.05%	0.00%	0.02%	0.00%	0.07%
Total	37.47%	3.01%	23.45%	3.70%	32.38%	100.00%
2003 through 2012						
CP	18.11%	3.67%	1.33%	0.02%	5.03%	28.16%
CG	15.27%	1.57%	0.83%	0.02%	3.74%	21.42%
WG	2.84%	1.91%	0.50%	0.00%	1.29%	6.54%
WY	0.00%	0.19%	0.00%	0.00%	0.00%	0.19%
CV	16.03%	3.29%	24.14%	2.51%	25.87%	71.84%
CG	15.94%	3.26%	21.42%	2.40%	25.83%	68.85%
WG	0.00%	0.00%	2.72%	0.09%	0.04%	2.86%
WY	0.08%	0.03%	0.00%	0.01%	0.00%	0.12%
Total	34.14%	6.96%	25.47%	2.53%	30.90%	100.00%

The overall GOA trawl PSC limit is divided by fishery complex and season. A summary of those limits are presented in Table 11. That table presents the status quo PSC limit as 1,973 mt. That amount (and each seasonal allocation) will be reduced if the proposed PSC reductions are implemented. Table 11, of the September 17, 2013 FR notice at page 57121, lists the reductions that would be implemented.

Table 11 GOA trawl halibut PSC limits from 2013 through 2016

GOA Trawl Halibut PSC Limits	Total	1st Season Jan 20 to Apr 1	2nd Season Apr 1 to Jul 1	3rd Season Jul 1 to Sep 1	4th Season Sep 1 to Oct 1	5th Season Oct 1 Through Dec 31
Annual		27.5%	20.0%	30.0%	7.5%	15.0%
2013	1,973	543	395	592	148	296
2014	1,848	508	370	554	139	277
2015	1,759	484	352	528	132	264
2016*	1,705	469	341	512	128	256
Deep-water		12.5%	37.5%	50.0%	0.0%	
2013	789	99	296	203 [395]		
2014	739	92	277	187 [370]		
2015	704	88	264	161 [352]		
2016*	682	85	256	150 [341]		
Shallow-water		50.0%	11.1%	22.2%	16.7%	
2013	888	444	99	197	148	
2014	832	416	92	185	139	
2015	791	396	88	176	132	
2016*	767	384	85	170	128	
Undesignated						100%
2013	296					296
2014	277					277
2015	264					264
2016*	256					256

2016* represents the years 2016 and beyond, because all of the reductions are implemented by then.
Note: Vessels participating in cooperatives in the Rockfish Program will receive 191.4 mt of the third season (July 1 through September 1) deep-water species fishery halibut PSC apportionment. The numbers in brackets in the table reflect the pre-reduction limits. CVs are allocated 117.3 mt and C/Ps are allocated 74.1 mt of the 191.4 mt total.

NMFS has published a final rule to implement Amendment 95 to the GOA FMP (Federal Register/ Vol. 79, No. 34 p. 9635/ Thursday, February 20, 2014). Amendment 95 would include GOA halibut PSC limits in Federal regulations and reduce halibut PSC limits in the GOA trawl and hook-and-line groundfish fisheries. For the trawl sector the proposed reductions would be phased-in over 3 years. The first year after implementation (2014) the trawl PSC limit would be reduced by 7 percent. The second year of the program (2015) the limit would be reduced an additional 5 percent (12 percent from the 2013 level). An additional 3 percent reduction would be implemented the third year of the program 2016 resulting in total reduction of 15 percent from the 2013 level.

Amendment 80 GOA halibut PSC sideboard limits for 2016 (after all reductions) are presented in Table 12. The 2016 information is used because those are the limits that are anticipated to be in place when this proposed action could be implemented. That table shows the seasonal PSC limits that are set for Amendment 80 vessels. The Golden Fleece is exempt from the GOA halibut PSC sideboard limits. The exemption was the result of the Council identifying those Amendment 80 vessels that are primarily dependent on the GOA flatfish fisheries. Any vessel that fished in GOA flatfish fisheries for at least 80 percent of all weeks that the vessel was used to fish during the 2000 through 2006 time period was

considered heavily dependent on the GOA flatfish fisheries by the Council. Therefore to prevent any adverse effects from GOA halibut sideboard limits on these GOA flatfish dependent Amendment 80 vessels, the Council recommended exempting these vessels from GOA halibut PSC sideboards. The Council recommended this exemption under the assumption that GOA halibut PSC used by the Amendment 80 exempt vessels is not expected to increase the amount of halibut PSC used by Amendment 80 vessels overall.

Table 12 Amendment 80 halibut PSC sideboard limits (2014 pre-reduction)

	Shallow-water		Deep-water		Total
Season	Ratio	mt (2016)	Ratio	mt (2016)	(mt)
January 20–April 1	0.0048	8	0.0115	20	28
April 1–July 1	0.0189	32	0.1072	183	215
July 1–September 1	0.0146	25	0.0521	89	114
September 1–October	0.0074	13	0.0014	2	15
October 1–December 3	0.0227	39	0.0371	63	102
Total					473

Note: Ratio is of 1,705 mt annual total for 2016 and beyond

The non-exempt AFA CV's halibut PSC usage in the GOA was limited by Amendment 23 sideboard regulations. The seasonal and total limits for these vessels are presented in Table 13. The information in that table shows that an annual AFA CV halibut PSC sideboard limit is 361 mt (about 21 percent of total available).

Table 13 Non-exempt Amendment 23 AFA CV halibut PSC sideboard limits (2016 post reduction)

	Shallow-water		Deep-water		Total
Season	Ratio	mt (2016)	Ratio	mt (2016)	(mt)
January 20–April 1	0.34	130	0.07	6	136
April 1–July 1	0.34	29	0.07	18	47
July 1–September 1	0.34	58	0.07	24	82
September 1–October 1	0.34	44	0.07	0	44
October 1–December 31	0.205 (all targets)				52
Total					361

Note: Ratio is of seasonal apportionment

Halibut PSC sideboard limits presented in Table 13 apply to non-exempt AFA CVs. AFA CVs that are exempt from sideboard limits are not bound by these limits and may utilize any PSC available to the trawl sector. **If the Council creates PSC allocations and assigns a percentage of the overall limit to licenses, it will need to determine whether the same limits applied to exempt and non-exempt AFA CVs.** If different limits are set for CVs, a starting point for determining the PSC limits could be the sideboard and non-sideboard CV limits. As discussed earlier, to maintain the integrity of sideboard limits, different ownership/use caps could be developed for different classes of vessels harvesting from the same sector allocation. Selecting different caps for CV fleets would reflect Council objectives that would need to be defined and how the different caps meet those objectives.

Rockfish program PSC limits were implemented as part of Amendment 88. The C/P sector is subject to halibut PSC sideboard limits for the trawl deep-water and shallow-water species fisheries from July 1

through July 31. C/Ps that opt-out of the Rockfish Program would be able to access that portion of the deep-water and shallow-water halibut PSC sideboard limit not assigned to C/P rockfish cooperatives. The sideboard provisions for C/Ps that elect to opt-out of participating in a rockfish cooperative are described in § 679.82(c), (e), and (f). Sideboards are linked to the catch history of specific vessels that may choose to opt-out. The applications for C/Ps electing to opt-out are due to NMFS on March 1 of each calendar year; therefore, NMFS cannot calculate proposed 2015 and 2016 allocations. Once opt-out applications (if any) are received, the ratios and amounts used to calculate opt-out sideboard ratios will be known. Implementation of Amendment 95 will also phase in a 15-percent reduction to the Rockfish Program halibut PSC sideboard limits. The 2016 sideboard limits are presented in Table 14.

Table 14 Amendment 88 Rockfish Program halibut PSC limits for C/Ps (2016)

Fishery	Ratio	Sideboard (mt)
Shallow-water	0.001	2
Deep-water	0.025	43
Total		45

No Rockfish Program halibut PSC sideboard limits apply to the CV sector. However, the CV and C/P vessels participating in a rockfish cooperative receive a portion of the annual halibut PSC limit. In total these vessels are allocated 191.4 mt of halibut PSC from the third season PSC allotment. CVs are allocated 117.3 mt of halibut PSC and C/Ps are allocated 74.1 mt of halibut PSC. Fifty-five percent of any halibut PSC (from the original 191.4 mt) that is unused is reallocated and made available for use in the fifth PSC season for any vessel.

If the Council wishes to implement allocation of the overall halibut PSC limit for CVs and C/Ps, the Council must determine how rollovers of halibut PSC from the Rockfish Program will be distributed. After the sector level allocation is made, the Council would need to define how allocations within sectors are made. Sector level allocations could be as simple as allocating any unused halibut PSC from the Rockfish Program to the sector that did not use it in the Rockfish Program. For example, the CV sector had 12 mt of halibut PSC to rollover (21.8 mt unused), that sector would receive 12 mt at the start of the fifth season. The C/Ps would get also 55 percent of the amount that they did not use in the Rockfish Program. Other methods could also be developed by the Council. These methods could include fixed percentages of the total available or fluctuating percentages that are determined based on fleet behavior relative to stated Council goals and objectives.

If Rockfish Program limits are maintained, the Council will still need to determine how the halibut PSC rolled-over to the sector is distributed among persons. It could be allocated several ways including proportional to all members of the sector, proportional to persons in a Rockfish cooperative, based on a reward system, or another method that could be defined. While the intent of this paper is not to define the alternatives for the reallocation of PSC to persons, it is an issue that will require additional consideration. Council deliberations could develop alternatives at this meeting or future meetings to address these types of issues.

5.2 Catcher Vessel Directed Fisheries

The CV directed fisheries are defined in the Council's motion as Pacific cod from the Central and Western GOA management areas and pollock from areas 610, 620, 630, and 640. No other target species would be allocated to CVs under the Council's October 2013 motion.

5.3 Catcher/Processor Directed Fisheries

The introduction to Section 4 states that the directed fishery allocations for the C/P sector still need to be defined and the Council is still seeking industry input. The Council could allocate only halibut and Chinook salmon PSC to the C/P sector. PSQ would then limit the amount of target species an individual or cooperative would be allowed to harvest. A second option would be selecting groundfish species to allocate in addition to PSC. Because regulations in the GOA limit the offshore C/Ps from being in the pollock and Pacific cod fisheries, it is anticipated that the groundfish species allocated to the C/P sector will differ from those allocated to the CV sector. Tables in Section 9.5 provide a summary of the percentage of the TAC harvested by fishery in the GOA. Those tables also provide information on the TAC relative to the ABC and OFL for a fishery.

The February 2013 paper[16] provides a discussion of issues associated with allocating target species. That paper concludes that as long as unlimited quantities of target species are available, PSC quotas may effectively allow participants to respond by a coordination of fishing effort. When target species are limiting, a person only holding PSC quota must determining a level of PSC avoidance relative to target catch. That decision is based on whether more rapidly harvesting the target species (and using more PSC quota in the process) will increase the participant's share of the available target species sufficiently to justify forgoing future fishing because of the potentially constraining PSC allocation. Potential target fishery allocations for the C/P sector include the following list, but it should not be considered the only species that could be allocated:

1. Deep-water flatfish
2. Shallow-water flatfish
3. Flathead sole
4. Atka mackerel
5. Arrowtooth flounder

Inclusion of target species allocations could create some of the following outcomes. Target allocations would allow vessels to determine when to fish within a season or year to achieve the greatest return from available PSC. Secure target species allocations would allow a share holder to decide when and where to fish based on a variety of factors (including target species catch rates, availability of incidental species, PSC rates, market conditions, and weather) without concern for others depleting the availability of the target species.

Species like sablefish, which have a high value but are not open to directed fishing in the GOA with trawl gear, could also be allocated. Allocating those species could eliminate any race that might develop to harvest those species under the MRA limits. These species allocations could include:

1. Sablefish
2. Skates
3. Shortracker rockfish
4. Rougheye rockfish
5. Thornyhead rockfish

[16] http://www.npfmc.org/wp-content/PDFdocuments/catch_shares/CGOATrawlCatchShare213.pdf.

5.4 Groundfish Species not allocated in Council's proposal

5.4.1 Eastern GOA Pacific Cod

In the EGOA regulatory area, Pacific cod TAC is allocated between the Inshore (90%) and Offshore (10%) processing components. The EGOA was not included in the Pacific cod sector allocation action (Amendment 83) because less than 20% of the area TAC was being harvested in each year, so the Council did not wish to dampen what effort did, or might, exist by further limiting effort. In addition to the low level of existing effort, a large portion of the EGOA area (the Southeast Outside district) is closed to fishing with trawl gear. In 2014, the EGOA Inshore Pacific cod TAC was set at 2,424 mt, after a deduction for the Prince William Sound guideline harvest level (GHL). That TAC is available to any legal gear type for the area being fished. No vessel has used trawl gear to target Pacific cod in WY during the analyzed period.

The Council's motion proposes the allocation of Pacific cod in the Western GOA, Central GOA, and West Yakutat areas. West Yakutat, which is the only EGOA subarea that is open to trawl fishing, is included in the Eastern GOA (EGOA) area, but WY does not have a separate Pacific cod allocation. Given the low levels of trawl effort in the area, the analysts interpret that the motion does not intend for Pacific cod to be allocated in WY. However, since Western GOA and Central GOA Pacific cod will be allocated under the proposed structure, the Council may wish state how the WY fishery will be managed in the future. If the WY area is the only unallocated trawl area with available Inshore Pacific cod TAC, an incentive to direct early season effort into the fishery could develop. If EGOA Pacific cod remains unallocated under the program, the Council might consider setting sideboard limits for LLPs that hold Pacific cod allocations in the Western and Central GOA. The remaining GOA groundfish species are not allocated under the proposed program. These species are taken as incidental catch in other target fisheries (they are closed to directed fishing all year) or are open to directed fishing. Many of the species that are opened to directed fishing harvests are limited by halibut PSC, but not all.

5.4.2 Other Species

It is not possible at this time to define the list of species that will not be allocated. As the Council develops and refines its list of alternatives the excluded list will also be defined.

6 Fishery Dependent Community Stability

The Council's October 2013 motion includes several elements that are intended to promote stability and resiliency in fishery dependent communities under the proposed new management structure. Those elements, discussed below, generally approach stability through measures that are intended to prevent negative impacts by placing limits on behavior such as quota transfers and altered delivery patterns. These are likely useful instruments for preserving historical opportunities, but, at their core, restrictive measures can sometimes prevent growth in one community's fishing economy because it might come at the expense of another's. It is important to consider that the program, in its larger context, promotes community stability by expanding the entire fishery's potential productivity by giving harvesters and processors the "tools" to land more fish by better managing constraining PSC limits, and by changing the nature of the existing limited access fishery to one where fish can be delivered at a higher quality and to more valuable product markets.

Among its goals and objectives for the program (see Section 1.2), the Council stated that access privileges should be determined with the dependency of communities taken into consideration, in addition to the dependency of harvesters and processors. One of the listed goals is to promote community stability by

limiting consolidation, providing employment and entry opportunities, and increasing the economic viability of groundfish harvesters, processors, and support industries. The Council's motion includes three elements that could address these objectives: (1) quota consolidation limits for harvester vessels and processing caps for processors, (2) "regionalization" of quota by management area based on historical shoreside delivery patterns, and (3) participation criteria thresholds that would define eligibility for the purchase of trawl licenses and their associated fishing history.

In relation to catch share programs, the most often discussed community stability issues relate to industry consolidation and quota migration. With no additional limitations, it is possible that LLPs and the associated catch history would become owned by those entities that can derive the greatest economic benefit from fishing.[17] Consolidation of permits onto fewer vessels is not expected to affect the total amount of harvest or the associated processing revenues and processing employment opportunities, but it would likely impact the number of available vessel crew jobs, the shares paid to crew members, and the amount of demand for shore-based vessel support services. Even if the distribution of LLP ownership is not greatly changed after implementation, the slower pace of a rationalized fishery may create opportunities for harvesters to change their pattern of shoreside deliveries to certain communities, thus relocating the associated economic activity. Harvesters' LLPs may be linked to a processor in a certain community – though this part of the program framework is not yet fully defined – but after a certain number of years it is likely that harvesters will have to ability to change their processor affiliation, again moving the economic impact of their harvest. In the near-term, either the slower pace of the fishery or the processor-linked cooperative system (see Section 2.1.4) would create incentives or requirements to deliver harvest to more centrally located processors, while processors in communities that received fewer groundfish during the qualifying period would face a diminished role in the fishery.

Community stability is also affected by whether or not local individuals have opportunities to enter the fishery or to grow their fishing business over a long-term time horizon. Whether or not the fishery consolidates, a community's ability to maintain a fishing culture and a working waterfront depends on maintaining pathways for those who do not receive initial allocations to access the resource. In the near-term, providing access to a quota-managed fishery could increase competition, meaning that new entrants gain access at the expense of those who already, or would otherwise, hold the quota. The Council may wish to clarify whether the reference to "entry opportunities" in the stated goals and objectives (Section 1.2) is focused on fishermen entering the present fishery – perhaps through the purchase of latent LLPs and quota transfers – or whether it is in reference to intergenerational transfer of access privileges as current license holders reduce their direct involvement in the fishery.

The following subsections discuss Council decision points related to each of the three items noted in the October motion. Regarding community stability in general, though, the Council has heard presentations on the community impacts of rationalization in other regions, and the message has often been that the spatial distribution of impacts is unpredictable. Two things that the Council can consider at this early stage are (1) how to maintain flexibility in response to community impacts where they do appear, and (2) how to provide avenues for community input into fishery operations. To the first point, the Council may consider whether tying community protection measures to behavior over a recent set of historical years is aligned with long-term socioeconomic stability. It may be the case that recent years in the fishery were exceptional for one reason or another, or it may be the case that best-use strategies for harvesting the resource will change throughout the course of the program. In either case, the Council may wish to consider the use of adaptive strategies, where the managing bodies have authority over some portion of the quota share pool to address community resiliency challenges, whether they be related to quota flight, intergenerational equity, or something else. To the second point, the Council is limited in its authority to

[17] As stated in Section 7.2, no person is allowed to hold more than ten licenses. However, this weak limit on consolidation could be circumvented by creative corporate formations or holdings by family members.

require that specific elements are included in cooperative contracts. However, the Council may be able to ensure that contracts between harvesters and processors receive input from a community representative. This process of review and input could be recommended to take place for each cooperative, individually, or at the inter-cooperative management level in communities where that structure exists. If the Council recommends community review of cooperative contracts, it should work toward a definition of who or what group constitutes a community representative. The Council would also need to state whether or not the community representative must actually sign off on the final contract, or if the harvester(s) and processor(s) in the cooperative could choose to disregard the community's input.

6.1 Consolidation Limits

The Council should be explicit about whether or not any amount of consolidation in the harvesting or processing sector is acceptable, and if so how much. Avoiding all consolidation could reduce the management efficiencies that are the heart of a cooperative structure. The MSA's requirements for LAPPs direct the Council to ensure that privilege holders do not acquire an excessive share of the fishery, and authorizes the use of ownership caps, use caps, and "any other limitations or measures necessary to prevent inequitable concentration" of privileges (Section 303A(c)(5)(D)). Concentration of ownership – excessive shares – could theoretically lead to market power problems such as monopoly influences over production. In reality, the likelihood of this outcome is very low for a groundfish fishery that produces product types that have many substitutes from other fisheries. In other words, it is not likely that an entity could acquire such a high percentage of the quota pool that it has an incentive to withhold production. The Council may also wish to consider the possibility that a privilege holder could gain market power in the market for transferable quota; that outcome would reduce the transferability of quota, affecting the efficiency of the fleet's overall operation as well as the availability of opportunities for new entrants. NOAA has produced technical memoranda on calculating the percentage of the quota pool that would be necessary to gain market power, concluding that it would require a concentration of quota far greater than what would result from an initial allocation strategy based on historical catch (NMFS 2007). The Council's greatest motivation for considering consolidation limits may instead relate to the management objective of maintaining current levels of diversity within the fleet. There is no formula for choosing a limit that meets management objectives. However, the Council should consider as a guiding principle the general trade-off between operational fleet efficiency (e.g., lower total harvest costs, lower management costs) and maintaining opportunities for participation and supporting industry employment, which provide both social and economic values. The Council should set objectives for this aspect of the program that are measurable and specific, perhaps setting a limit on how much the percentage distribution of harvest privileges can deviate from the initial allocation.

Table 15 Number of active catcher vessels, by area

	WG	CG	WY	Total CVs
2003	40	63	9	92
2004	33	57	6	77
2005	37	51	18	78
2006	34	47	7	73
2007	37	41	5	72
2008	29	46	5	73
2009	31	40	9	71
2010	29	43	19	67
2011	26	51	18	68
2012	32	62	15	70
2013	30	58	18	69

Note that 2013 is only for part of the fishing year

The Council's proposed framework allows for harvest quota consolidation limits in two forms: vessel caps and ownership caps. An ownership cap would limit concentration in the market for quota share (or for LLPs, if quota is non-severable from the license to which it was initially allocated). However, since annual harvest quota is only accessible through joining a cooperative, and since cooperatives have the ability to reallocate fishing privileges within the cooperative, merely limiting quota holdings would not necessarily prevent a reduction in overall fleet size. The most direct way to manage fleet size is through a vessel cap which limits the proportion of the fishery that can be harvested by a vessel in a given year. One potential drawback of low vessel caps could be that some of a cooperative's annual harvest quota goes unused if a number of vessels within the cooperative are unable to meet their defined PSC usage standards and vessel caps prohibited the cooperative from reassigning those vessels' target quota to other co-op vessels. In the extreme case that the Council wished to preclude any and all fleet consolidation, it may consider setting a very low vessel cap and grandfathering in the ability for LLP holders with a larger initial allocation to continue at their current level.[18] One trade-off to consider would be the maintenance of additional crew jobs and the utilization of capital boat investments versus the re-sizing of the fleet to a level that could possibly coordinate more effectively to avoid bycatch. The coordination benefit of reducing the overall fleet size may be small, considering that establishing cooperatives is already meant in large part to divide the fleet into subgroups where coordination is enhanced. If a reduction in fleet size is expected, analysts may need to examine what other opportunities exist for these vessels outside of the regulated fishery. It is generally assumed that ownership and use caps would be made for quota of each allocated species, and would not need to be made for PSQ since prohibited species are allocated pro rata in accordance with the amount of target quota allocated.

The framework also includes "processor caps" by area (WG and CG). The analysts assume that this is a cap on the amount of round (unprocessed) fish that processors in one area could purchase and process in a year, in aggregate. In the long-term, once LLP holders become able to exit the processor-linked cooperative to which they were initially assigned, area-based processor caps would reduce the likelihood that CV deliveries would migrate to port communities where processors might offer higher ex-vessel payments. This might be made possible, to some extent, by the slower pace of the rationalized fishery. Unless individual processors are capped, this provision would not necessarily prevent the migration of landings from one community to another community within the same management area, again once harvesters were able to exit from their initial processor-linked cooperative. This would be a consideration

[18] The maximum holdings of catch history by LLPs in each current fishery are reported in Section 7.3.

mainly for the Western GOA where, for example, deliveries could still migrate from Unalaska to Sand Point or King Cove. Setting processor caps on an area-basis may be redundant with the regionalization of landings, which is described below.

6.2 Regionalization of Landings

The Council's framework proposes the regionalization of target species quota as a measure to preserve historical delivery levels to shoreside processors in each management area. Regionalization would occur at the WG and CG/WY level, without separating reporting areas 620, 630 and 640. Regionalizing quota means that annual harvest allocations would have to be processed at a plant within the management area in which the qualifying catch history was processed. In other words, if an LLP had 100 quota share units for a given target species and 90 of those units were associated with qualifying catch delivered to the Western GOA, then 90% of the LLP's annual fishing allocation would have to be landed in a Western GOA community. The Council should clarify whether or not the corresponding 90% of the LLP's pro rata PSQ allocation would also be designated for activity on trips where harvest was delivered to a Western GOA processor.

The analysts reviewed CAS data on pollock and Pacific cod landings from 2007 through 2012 to illustrate the extent to which TAC is harvested in one region (WG or CG/WY) and processed in the other. This helps to understand the potential effect of regionalizing quota, because doing so would essentially freeze and perpetuate the historical behavior.

- For **pollock**, 97% of the harvest taken in Central GOA waters was processed in the Central GOA, while 3% was processed in the Western GOA; 97% of the harvest taken in Western GOA waters was processed in the Western GOA, while 3% was delivered to floating processors and less than 1% was processed in the Central GOA; 100% of the harvest taken in West Yakutat was processed in the Central GOA.
  As an exercise: by applying the historical percentage of the Western GOA pollock harvest that is processed by Western GOA shoreside processors (~97%) to the 2014 Western GOA pollock TAC (25,648 mt), and adding to that the percentage of the Central GOA pollock harvest that is processed by Western GOA processors (~3%) applied to the 2014 Central GOA pollock TAC (72,005 mt), one can anticipate that if regionalization was in place then Western GOA processors in aggregate would process 4.1% more pollock than the area's 2014 pollock TAC. Doing the same arithmetic from the Central GOA perspective, Central GOA processors would process 2.5% less than the combined 2014 pollock TAC for the CG/WY areas.
- For **Pacific cod**, 90% of the harvest taken in Central GOA waters was processed in the Central GOA, while 6% was processed in the Western GOA and 4% was delivered to floating processors. By contrast, virtually all Pacific cod caught in the Western GOA was delivered to Western GOA processors, with a small amount going to floating processors and none going to Central GOA processors.
  Repeating the same exercise: through regionalization of historical landings, Western GOA processors in aggregate could anticipate receiving around 10% more Pacific cod deliveries than the 2014 area TAC, while Central GOA processors could anticipate receiving around 10% less than the combined 2014 CG/WY TAC.[19]

Regardless of how historical processing activity compares to the TAC levels set for each area, regionalizing quota may indeed serve the purpose of maintaining processing levels and the associated employment opportunities at or near historical levels. The Council should carefully consider how the historical period is selected, as the analysts also noted that deliveries across area lines have fluctuated from year to year. For example, over the full 2007 through 2012 time period, 90% of Pacific cod caught

[19] TAC levels were adjusted for the Pacific cod that is allocated to the Central GOA Rockfish Program.

in the Central GOA was delivered to a processor in that area, but if only 2012 is considered then that figure falls to 69%. As stated before, regionalization can perpetuate delivery patterns; doing so is reflective of the chosen historical time period, but is not necessarily reflective of maximum social and economic benefits. For this reason, the clear statement of goals and objectives is important.

It is also important to consider whether or not the regionalization of quota can be implemented alongside the cooperative structure described in Section 2.1.4. The Council may or may not have the ability to direct harvesters and processors to include a delivery requirement in their cooperative contract (as discussed in Section 2.1.4.3.3), but if such a requirement did exist then there would be a direct conflict with regionalization. From 2007 through 2012, 31 CVs have delivered groundfish caught in the Central GOA or West Yakutat areas to shoreside processors in the Western GOA.[20,21] Under regionalization, the quota derived from those landings would have to be delivered to a Western GOA processor, but in many cases the CVs holding that WG-regionalized quota would be a part of a cooperative linked to a Kodiak plant. There are also simpler cases where vessels made qualifying landings to processors in both management areas, even without carrying the fish across the 610/620 line. In all cases, a program that only allows an LLP to be associated with one processor-linked cooperative would pose a problem for regionalization. The Council may wish to consider whether a vessel can be a member of a different cooperative in each area. The question is more straightforward if a vessel has two LLPs and its catch in each area was associated with a different license; however, most instances appear to be a case of a vessels fishing during the qualifying years under a single LLP that is endorsed for trawling in both areas.

The motion includes an option for a Kodiak port of landing requirement. Central GOA annual target species quota would have to be delivered to Kodiak if that quota was derived from qualifying landings delivered to shoreside processors in Kodiak. If the Council were to move forward with the CV cooperative structure described in the motion, where cooperatives form around a shoreside processor, this option may be unnecessary. Kodiak is the only community in the Central GOA and West Yakutat management areas in which processor-based cooperatives would exist – at least during the first two years of the program. However, if the program allows CVs the flexibility to deliver to a processor other than the one to which their cooperative is linked, then this option would have an effect and some portion of target species quota share holdings would have to be identified as Kodiak-only.

Regionalizing quota would preclude a processing company that owns plants in different management areas from redirecting deliveries to its plant in the other area during times of high product throughput. Doing so might provide some operational benefits to the company at peak delivery times, but would also decrease historical shoreside employment opportunities in the area that is no longer receiving the ex-vessel product. Given the difficulty and time lag in changing the elements of a broad and complicated management program after implementation, the Council should also consider whether regionalization of groundfish deliveries creates undesirable long-term inflexibility, in the case that stock distributions change over time.

6.3 Transfer Limitations

The motion proposes that the Council could develop fishery participation criteria to determine whether or not individuals or entities are eligible to purchase a trawl license and its associated fishing history. Given that this element was placed under the motion's "fishery dependent community stability" heading, the analysts assume that these criteria would relate to the individual or entity's ties to a community. It would be essential to clearly define how either a license or a potential purchaser is deemed to be associated with a community. Due to the nature of the trawl fleet, where many license holders are not Alaska residents,

[20] One CV delivered fish caught in the Western GOA to Kodiak.
[21] 21 of the CVs that displayed this behavior did so only in 2011 and/or 2012.

the home addresses of license holders may not be a good proxy. The homeport of the vessel on which the LLP is used might be more closely correlated to the community in which the vessel and its harvest contribute to fishery-supporting businesses, but homeport is self-reported and unverified. Defining community ties by the location of the processor to which the vessel or LLP is linked in a cooperative could be a good measure of where the fishing activity supports *some* supporting businesses such as food, fuel and ice, but the processing port is not necessarily where vessel owners purchase durable goods or make capital investments in ship work. The Council has not provided a preferred list of criteria, and the items listed below are neither exhaustive nor expressly preferred by the Council.

Transfer limitations could be structured as a right of first refusal (ROFR), where individuals or entities that are associated with the community where the LLP currently resides are given priority in acquiring the license once the intent to transfer it is made clear. This type of limitation could have a mitigating impact on quota flight, where some communities lose their access to the resource through the sale of LLPs. Even if quota is regionalized, or if landings are tied to a specific processor-linked cooperative, a community could be negatively impacted if the vessels delivering fish to the local plant are going elsewhere for other major onshore services.

If transfer limitations are part of the action, it may be desirable to include exemptions for new entrants to the fishery or for LLP holders who received a small initial quota allocation and need to acquire a license with additional history in order to remain in the fishery. If catch history is severable from an eligible LLP and can be put on an available latent license, the Council may wish to consider whether that license should remain tied to the community with which the purchased catch history was associated – however that is determined. In general, transfer limitations can strengthen the tie between a community and its historical fishery participation; however, increasing restrictions on license and quota use reduces opportunities for new entrants.

Though not explicitly part of the Council's motion, the fact that a CV can exit from the processor-linked cooperative to which it was initially assigned (after two years) means that the involved parties will have to negotiate terms for leaving the cooperative (an "exit strategy," as discussed in Section 2.1.4.3.3). It could be the case that the terms require a harvester to leave behind some of their quota share upon exit. Such a leave-behind might benefit the community in which the processor is located, as it raises barriers to quota migration out of the community. The Council may wish to weigh in on this eventuality before it occurs, defining how the processor would then "hold" that quota, and whether or not the quota is transferable in the future to other LLPs or to other processors.

Transfer limitations could be envisioned as a measure to maintain an owner-operated fleet. Examples of minimum sea-time requirements for eligibility to purchase quota in other programs are listed in Section 7.2 of this paper. Further requirements could be included to ensure that the license holder is actively involved in the fishing operation for a minimum proportion of the time that the license is in active use. The Agency would need to weigh in on its available capacity for monitoring active participation.

The Council's motion does not propose initial quota allocation to community or regional fishing associations. However, community non-profits could be authorized by the Council to acquire quota, similar to the structure of community quota entities (CQE) in the halibut and sablefish IFQ program. If such an authorization is made, the Council should define whether or not these entities are subject to the same transfer limitations and/or ownership caps as other entities (individuals, or LLP holders).

7 Tier Two Issues Not Addressed

7.1 Quota Holders' Limitations in Other Fisheries

Since the AFA program was developed, Council actions that implement LAPP programs have also considered appropriate limitations for LAPP recipients in other fisheries. These limitations are typically referred to as "sideboard limits." Since the proposed program would apply to all GOA trawl fisheries, other than the current LAPP designed for the Central GOA rockfish fishery, there may not be any need to consider additional sideboard limits for GOA trawl fisheries. However, depending on the program's goals and objectives, the Council may wish to consider limiting program participants' activity in fixed gear fisheries, underutilized GOA fisheries where trawling is permitted but does not currently take place, and perhaps trawl fisheries in the BSAI.

In February 2014, the Council reviewed a discussion paper describing recent activity in the GOA Pacific cod pot gear fishery, and the amount of trawl LLP holders that participated in that fishery. The Council did not take action on any protection measures at that time, but stated its interest in continuing to track activity in that fishery with an eye towards how this program might be impacted. If expanded effort into that fishery by persons that hold a GOA trawl license is a concern in the future, sideboard limits could be placed on GOA trawl LLP holders' in that fishery.

Section 5.4.1 of this paper notes that the Eastern GOA Pacific cod fishery is not allocated by Inshore/Offshore component, and that trawling is still permitted in the West Yakutat district of that area. The WY district does not have its own Pacific cod allocation. While no Pacific cod trawl activity took place in WY during the analyzed historical period, the Council may consider whether to limit program participants' activity, assuming that EGOA Pacific cod will not be allocated under this program.

Trawl fisheries in the BSAI are mostly allocated under existing programs, so opportunities for participants of this program to expand their activity are likely already limited. These fisheries include the pollock fisheries (AFA and CDQ) and Flatfish and Pacific cod (Amendment 80 and CDQ) fisheries.

7.2 Transferability

Transferability limitations define who may purchase groundfish licenses and/or use the associated catch history in the future. The February 2013 discussion paper provided a discussion of the holding and transferring of catch shares. While the MSA requires that persons who "substantially participate in the fishery" are authorized to hold and use shares, the criteria for substantial participation are not defined.[22] The Council has used several definitions of substantial participation. In the halibut and sablefish IFQ program, only persons receiving an initial allocation and individuals that meet a 150 day U.S. commercial fishery sea time requirement may acquire shares. Similarly, in the crab program, persons must meet a 150 day sea time requirement. Corporations also may acquire shares, provided those corporations have a 20 percent owner that meets the sea time requirement. In the Bering Sea pollock fishery, Amendment 80 cooperative program, and the rockfish cooperative program, shares are acquired through the license or vessel that carries the program harvest privilege. Generally, this qualifies any person who is eligible to document a fishing vessel to acquire the shares, as that is a requirement for vessel ownership or holding a license. The Council could also consider authorizing community entities to acquire shares, even if it elects not to make allocations to those entities. This eligibility to acquire shares could be extended to existing community entities in the Gulf, including the entity that represents the City of Kodiak and Kodiak Island Borough in the crab program or to small entities eligible to acquire halibut and sablefish quota shares.

[22] See §303A(c)(5)(E)

Foreign investment in the fisheries of the United States is limited by the American Fisheries Act which increased the amount of U.S. citizen ownership and control necessary for a vessel to be eligible for documentation with a fishery endorsement to 75 percent. In order to document a vessel with a fishery endorsement, the AFA requires that 75 percent of the ownership and control of the vessel be vested in United States citizens at each tier and in the aggregate. In addition, the MSA at §303A(c)(1)(D) prohibits "*any person other than a United States citizen, a corporation, partnership, or other entity established under the laws of the United States or any State, or a permanent resident alien, that meets the eligibility and participation requirements established in the program from acquiring a privilege to harvest fish, including any person that acquires a limited access privilege solely for the purpose of perfecting or realizing on a security interest in such privilege*." Any regulation that allows the purchase of quota will be limited to a person that meets these requirements. However, the Council may wish to include additional requirements beyond those listed, if they meet its objectives for the program.

Without modification to the current groundfish LLP program, no person may hold more than ten groundfish licenses at any one time, unless they were initially issued more than ten licenses. Analysis of this issue when the LLP was being developed indicated that creative corporate formation or holdings by family members or other individuals could be utilized to circumvent this limit. It is likely that the same arrangements could be utilized to purchase additional licenses and the associated quota in the future.

Other elements of a program are likely to interact with the structure defined for transfers. For example, in cooperative programs, annual allocations to cooperatives, which are then harvested by vessels registered to fish for the cooperative, often occur. Movement of shares among vessels within a cooperative occurs without agency documented transfers; rather, movement is undertaken through the cooperative's internal management of its members and their catches.

When considering transfers, the Council should consider both long term transfers (transfers of privileges that entitle the holder to receive annual allocations) and short term transfers (transfers of annual allocations).

7.2.1 Short Term (within cooperative)

Short term transfers (leasing) is limited to members of the same cooperative in the Rockfish Program, Amendment 80, and the AFA program. In addition, to protect shoreside interests, catcher vessel shares may not be transferred to a catcher processor cooperative. A process for monitoring transfers (including sale and lease of shares) is also required.[23]

When short term harvest privileges are transferred within a cooperative, cooperative membership requirements and defining structures (such as membership thresholds for formation, member liability for cooperative harvests, and cooperative reporting requirements) help define the Council's policy on share transfers. If the Council were to allow CVs and C/Ps (or inshore and offshore vessels) to be members of the same cooperative, additional limitations on quota usage within a cooperative may also be necessary.

In both the halibut and sablefish IFQ program and the crab program, the Council identified certain classes of shares that are subject to additional transfer constraints. Issuances of small amounts of shares are subject to a "block" provision, which prevents their division or consolidation with other share holdings. Under that program, a block must be transferred as a unit and any person holding a block may hold only two other blocks of halibut, one other block of sablefish, or any amount of unblocked share in the same regulatory area. In the crab program, 3 percent of the IFQ are issued as "C shares" or crew shares. C shares may be acquired only by persons meeting an active participation requirement and in the future will

[23] See §303A(c)(7) and its reference to §303A(c)(5)

be subject to an ongoing active participation requirement under which the holder must meet certain threshold activity requirements to receive IFQ allocations and maintain those holdings. Depending on the Council's goals for the program, the Council could include these types of provisions to address share divisibility and limits on fleet consolidation.

The proposed program structure assigns quota to a cooperative based on the history of the cooperative members. Because the quota is allocated to the cooperative and not to individual members of the cooperative, NOAA fisheries has not been required to approve inseason quota transfers between cooperative members. Transfers within a cooperative will be governed by the cooperative through contract terms and conditions approved by all signatories to the cooperative contract, as was done in the Rockfish Program. NOAA Fisheries will continue to monitor harvest and allocations at the cooperative level to determine whether the cooperative has exceeded its harvest limits.

While NOAA Fisheries will not monitor the catch of individuals (LLP holders or vessels) within a cooperative to determine whether their harvest amount exceeds the quota amount their LLP contributed to the cooperative, NOAA Fisheries will monitor vessel level harvest, if caps are placed on the amount of fish vessel may harvest. Vessel caps are not defined in the motion, but could be considered by the Council if one of its objectives is limiting consolidation of the fleet.

7.2.2 Long term (between or within cooperatives)

In the halibut and sablefish IFQ program and the crab rationalization program, long term share holdings (or quota shares) are divisible and transferable to eligible persons. The Central GOA Rockfish Program currently limits transfers of long term privileges through limitations on transfers of LLP licenses and the limits on excessive consolidation of shares. Rockfish Program quota may only be transferred with the LLP to which it was allocated[24] and LLP licenses may only be transferred to persons eligible to document a fishing vessel and may not cause the recipient to exceed the share limit or result in the person holding more than 10 LLP licenses. In addition, to protect shoreside interests, catcher vessel shares may not be transferred to a catcher processor cooperative. A process for monitoring transfers, including sale and lease of shares, is also required (see §303A(c)(7) and its reference to §303A(c)(5)).

LLP license transfers and leases of shares between cooperatives are monitored by the Restricted Access Management Division. It is assumed that they would monitor and approve any transfer provisions that the Council includes in this program.

Since the proposed structure presented in October would attach catch history to the LLP, the limitations on the number of LLPs that may be held and the share limits will also partially define long term transfers. **However, the Council may also wish to explicitly define whether catch history and the resulting quota may be separated from the LLP**. For example, the Council could develop different requirements for PSQ attached to a license and the groundfish quota attached to the license. If quota may be sold independent from the license to which it was originally attached, it could create additional questions that must be addressed. **For example, if groundfish quota may be sold independently of the groundfish license and there are conditions attached to the quota (e.g. regionalization), the Council will need to define how those restrictions are transferred to maintain the protections they were designed to provide**. It could also require NMFS to track individual quota units and not just the LLP level allocations.

[24] Rockfish QS assigned to an LLP license that exceeds a use cap specified in § 679.82 (a)(2) may be sold without the LLP it was initially attached. All other Rockfish QS is not severable from the LLP license to which it was initially allocated.

Applying different transfer limitations to groundfish quota and PSQ has also been discussed. Applying different transfer limitations may result in different catch accounting databases for the two types of quota. Allowing groundfish quota to be sold independent of the LLP may require NMFS to track the quota like halibut/sablefish IFQ. Under the same scenario, PSQ must be transferred with the LLP. Because the entire package must be transferred and cannot be subdivided, PSQ could be tracked by LLP, like the Rockfish Program quota that does not exceed the cap.

The structure of the Council's program and the cooperative contracts will determine whether transfers between cooperatives will be allowed or be likely in the future. Any transfers that do occur will need to be approved by NOAA Fisheries, so they will be able to track the amount of each species a cooperative is allowed to harvest. If quota may be transferred separately from the LLP, the structure of the transfer application could be patterned after the inter-cooperative transfer form developed for the CG Rockfish program.[25] That forms requires both parties to the transaction to sign the transfer application and identify the transferor, identify the transferee, and identify the quota to be leased/sold.[26] For the entire LLP to be sold to a member of another cooperative, the terms and conditions of those sales will need to be defined. Those conditions could be impacted by regionalized landings requirements associated with the quota, port of landing requirements, consolidation limits, or rights of first refusal that are defined in regulations or by the cooperative contracts. LLP transfers are currently approved by the RAM Division. It is assumed they would continue to approve LLP transfers, but would also need to monitor any new restrictions placed on the LLP transfer that results from having quota attached to the license.

7.3 Excessive Share Limits and Use Caps

The program must also ensure that no shareholder acquires an excessive share of harvest privileges by establishing a maximum share (or percent of the share pool that may be held or used by any person) and establishing any other limitation necessary to prevent an inequitable concentration of shares under the program (see §303A(c)(5)(D)). In addition, the Council is required to consider procedures to address concerns over any excessive consolidation of harvesting and processing in the fishery (see §303A(c)(5)(B)(ii)). Excessive shares were previously discussed in Section 6.1 under fishery dependent community stability and consolidation limits. One of the key points in that section was that the first part of the MSA requirement cited above directing the Council to prevent an entity from gaining monopolistic (or monopsonistic) power in the fishery. This would not likely require Council action, as the amount of shares it would take to reach that level of market power would be very large. However, the Council is also able to set excessive share limits in order to achieve other program goals and objectives, likely at a lower level than the limit it would take to prevent monopoly pricing or production. This second directive creates a grey area in which the Council can choose to set ownership and use caps according to its own clearly stated objectives.

In establishing its catch share programs, the Council has always set limits on share consolidation (or excessive shares). The halibut and sablefish program establishes separate shareholding limits for each species, each with limits on aggregate holdings of shares for Gulf management areas and aggregate holdings of shares for Bering Sea management areas. Separate limits are also established for share holdings of each species in Southeast. In addition to these limits on share holdings, the Council also set limits on the percentage of the share pool that may be fished from any vessel. The crab program also limits the percentage of the quota share pool in each fishery that may be held by any person and fished from any vessel. To increase the incentive for cooperative membership, vessel limits in the crab program do not apply to vessels fishing cooperative allocations. The caps in these two programs are applied using

[25] The CG Rockfish inter-cooperative transfer form is available on the NOAA Fisheries website at: http://alaskafisheries.noaa.gov/ram/rockfish/ictransferapp_readonly.pdf

[26] Identify the type and amount of Primary Species, Secondary Species, and/or PSC CQ to be transferred.

the "individual and collective rule," under which each shareholder is credited with 100 percent of direct holdings and any proportional interest in indirect holdings.[27] Both the Bering Sea pollock cooperative program created by the American Fisheries Act and the cooperative program created by Amendment 80 for non-pollock catcher processors in the Bering Sea and Aleutian Islands include limits on share holdings and vessel harvests. Share holdings limits under these programs are implemented using a "threshold rule," under which a person is credited with all direct holdings plus all indirect holdings of any entity in which the person has an interest above a specific threshold. The Central GOA Rockfish Program also includes limits on share holdings and vessel harvests, as well as a limit on the amount of CV quota that may be held by a single cooperative. Caps differ by species and sector in recognition of the different interests and historical harvest practices. Therefore, the Council could consider different caps for the sectors[28] and for the four species that are proposed to be allocated under this program (Chinook salmon, halibut, Pacific cod, and pollock).

The remainder of this section provides a brief summary of historical data, in terms of ownership and use caps. The provided information is intended to show the Council the trawl gear harvest associated with LLPs and persons holding LLPs aggregated to a level that allows public release of the data under the current confidentiality regulations. Table 16 shows the average landings associated with the three LLPs with the most catch history from 2007 through 2012. That information is reported by fishery and area. For example, the three LLPs with the most landings from the GOA pollock target fishery accounted for an average, per LLP, of 3.58% of the total GOA pollock fishery. The three LPPs with the most landings in the WG pollock target fishery accounted for 7.00% of the landings in that fishery. These WG LLPs may be different from the three with the most reported landings for the total GOA. This same process was repeated for each fishery and area. The "All Species" column reports the average of the three GOA LLPs that were associated with the most trawl landings of all groundfish species combined.

Table 16 Average of the three CV LLPs with the most catch history by fishery and area (percent of total), 2007 through 2012

	Pollock	Pacific Cod	Rockfish	Flatfish	Other Species	All Species
ALL GOA	3.58%	3.72%	6.12%	6.25%	5.91%	3.72%
CG-WY	4.61%	4.99%	6.17%	6.42%	5.95%	4.54%
WG	7.00%	7.02%	29.91%	6.95%	13.91%	6.86%

Table 17 uses the same process described for Table 16, but combines the trawl landings data by LLP holder. If a person holds more than one LLP, the landings associated with all the LLPs they hold were combined. Because of the limited information on ownership structures, outside that reported in the RAM License database and other well-known associations, the data does not reflect all LLP ownership linkages. If the Council moves forward with any option to limit consolidation based on quota attached to LLPs, additional research will be required to link ownership using the individual and collective rule.

The percentages reported in Table 17 are similar to those reported in Table 16. Combining catch history from LLPs results in LLP holders having slightly larger average percentages of the fishery for some species and area combinations and not for others.

[27] Indirect holding refers to a "person" owning a percentage of another "person" that owns quota.
[28] Sectors could be CV and C/P or inshore/offshore depending on the species being allocated and the objectives of the Council.

Table 17 Average of the three CV LLPs with the most catch history by fishery and area (percent of total), 2007 through 2012

	Pollock	Pacific Cod	Rockfish	Flatfish	Other Species	All Species
ALL GOA	4.74%	3.75%	7.11%	6.87%	6.70%	4.22%
CG-WY	5.80%	5.03%	7.17%	7.05%	6.74%	4.97%
WG	7.01%	7.02%	29.94%	7.15%	13.91%	6.87%

7.4 MSA Section 303A

7.4.1 5-year review (minimum of every seven years thereafter, conducted with FMP review)

The Council is required to undertake a formal detailed review of the program 5 years after implementation to determine the progress of the program in achieving the goals of the program. The review must also consider the program in the context of MSA requirements. For example, the required review could consider the extent to which the tools provided to the trawl fleet have improved the fleet's ability to manage PSC limits. Additional reviews must be conducted every 7 years thereafter, coinciding with the fishery management plan review. As a part of these reviews, the Council could assess whether management, data collection and analysis, and enforcement needs are adequately met.

7.4.2 Appeals process

The MSA at § 303A(c)(1)(I) states that NOAA fisheries must include an appeals process for administrative review of the Secretary's decisions regarding initial allocation of limited access privileges. The Council may wish to provide input on how that process would be developed, but the process is required for the Secretary.

7.4.3 Secretary of Commerce may revoke LAPPs

The MSA at § 303A(c)(1)(K) requires that LAP programs provide for the revocation, by the Secretary, of limited access privileges held by any person found to have violated the antitrust laws of the United States. The Secretary may also revoke LAP program allocations if the person does not meet the requirements for holding or using the quota issued. Such action would be subject to the appeals process described in part (I) of this section.

7.4.4 Cost recovery

The Council is required to include a cost recovery program to collect the incremental costs of a LAP program (including data collection, analysis, and enforcement costs) incurred by State and Federal Agencies. This charge is limited to 3 percent of the ex-vessel gross revenues from landings of species allocated under the program. Because the Council's proposed action would only allocate pollock and Pacific cod, only landings of those two species would be subject to cost recovery fees. The offshore sector would only be subject to cost recovery if they were issued pollock and Pacific cod quota to use as incidental catch in other directed fisheries, or if they were allocated flatfish or rockfish species in the GOA that are not currently covered under the CGOA Rockfish Program.

The cost recovery regulations require the Council to develop a methodology and means to identify and assess the management, data collection and analysis, and enforcement of the program. Any cost recovery fees are in addition to any other fees charged under the MSA.

Up to 25 percent 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. If the Council wishes to establish such a loan program, it is directed to recommend loan qualification criteria (defining small vessel participants and first-time purchasers), as well as the portion of fees to be allocated for loan guarantees.

7.4.5 State waters issues

The relationship between State and Federal management of groundfish fisheries has been discussed in detail in three earlier discussion papers. This paper does not expand on those discussions, as the previous papers noted that further development of these issues depends upon Board of Fisheries actions and the further refinement of the Council's proposed program.

This paper does highlight one potential state waters issue in Section 2.2, under the discussion of gear conversion. The Council may need to define whether vessels harvesting federal Pacific cod trawl quota with fixed gear can be allowed to fish in state waters, particularly when the state fixed gear cod fishery is closed.

8 Bycatch Reduction in Other Trawl Catch Share Programs

8.1 British Columbia Groundfish Trawl Program

British Columbia Groundfish Trawl Fishery

The British Columbia (BC) groundfish trawl fishery provides a relevant example of a management body implementing catch share measures to achieve explicit bycatch reduction objectives. The following overview describes the program's development, focusing on elements that contributed to reducing halibut bycatch mortality and features that seek to address the needs of non-fishing stakeholders facing rationalization.

Harvest efficiency (CPUE) and capacity increased in the BC trawl fishery after it transitioned to limited entry in the 1970s. With greater catching power, the amount of halibut prohibited species catch also increased. In 1993, Canada and the U.S. made a joint commitment through the IPHC to achieve a 50% reduction in trawl halibut bycatch mortality by 1997. Canada's DFO set a 1 million pound mortality limit in 1995. That cap became binding in October of that year, closing the groundfish fishery coastwide. DFO initiated the development of a new management plan that would include individual vessel quotas (IVQ) for target species and individual vessel bycatch caps (IVBC) for halibut, sablefish and Pacific cod, as well as 100% onboard observer coverage and comprehensive dockside monitoring. The program was implemented in 1997. The goal of the program was to make individual fishermen responsible for their actions. Accountability measures restrict vessels that are over their IVBCs to fishing with mid-water gear. In addition to minimizing incidental catch, the program aimed to generate more reliable information for future stock assessments, reduce discards, and avoid future premature fishery closures. In addition to promoting "cleaner" fishing practices, DFO anticipated a managed reduction in fleet size from the previous level of 142 active vessels, and also anticipated other outcomes of a rationalized fishery such as the end of derby style fishing and a more stable delivery pattern of product to shoreside processors.

The 1 million pound halibut mortality cap was allocated to each groundfish license holder using the same allocation formula that was used to allocate species TACs on an annual basis.[29] If a license received 1% of the groundfish quota, it would also receive 1% of the coastwide halibut mortality cap. IVQ and bycatch quota are fully transferable within the trawl fleet, but subject to accumulation limits. The ownership limit is 4% of the total species quota, and the use cap – including temporary transfers – is 8%. No vessel can temporarily transfer (lease) an additional amount of halibut IVBC greater than the amount of its permanent holdings, so if a vessel holds 1.5% of the coastwide quota it could not lease up to a temporary holding of more than 3% of the coastwide quota. A license holder may carry forward up to 15% of its unused halibut IVBC into the next fishing season. Halibut overages are not allowed and must be covered by the transfer of additional bycatch quota; the vessel is restricted to mid-water fishing until such an overage is covered. Inter-sector transfers (from the non-trawl fishery) of temporary quota are permitted, subject to specified caps. Accumulation limits were selected based on the desired level of fleet consolidation. The program design paid special attention to activity in the most recent non-qualifying years, and some vessels that received small initial allocations were given room to increase their holdings through acquisition.

Table 18 shows the estimated halibut bycatch mortality in the fishery before and after implementation of the program (1997). The decrease in bycatch is obvious, and DFO officials list a number of behavioral changes in the fishery that are causally related to the outcomes. Trawl vessels have redirected effort to lower bycatch species during the early portion of the season, in order to manage their IVBC more conservatively. Vessels have generally shortened their tow times, which reduces the rate of bycatch discard mortality after it has been brought on board and enumerated. Vessels also increased the practice of making shorter exploratory tows in an area to identify the presence of prohibited species. On deck, crews have prioritized the return of PSC to the water more quickly and in better condition, in order to reduce the assessed mortality rate. Each of these practices are made possible by changing the management of the target fishery to a quota-based regime, which reduces the race to fish and provides an incentive for fishermen to share information on bycatch hot spots with other vessels.[30] Overall, halibut bycatch mortality averaged only 31% of the 1 million pound cap over the 1997 through 2010 period. DFO officials note that performance is well below the cap in part because the fleet recognizes the value of their reputation when it comes to interacting with regulators, other fishermen, and the communities at large.

[29] The initial allocation formula was based on vessel length (30%) and catch history during a qualifying period (70%).

[30] Other management measures have been implemented to increase information sharing among fishery participants for other bycatch species. For example, an automatic sharing of fishing area and time is triggered when any tow records more than 20 kg of coral or sponge bycatch.

Table 18 Estimated halibut mortality (mt, round weight) for IPHC Area 2B

Year	Halibut Mort.	Year	Halibut Mort.	Year	Halibut Mort.	Year	Halibut Mort.
1962	709	1975	1,151	1987	995	*1999*	*116*
1963	649	1976	1,245	1988	971	*2000*	*139*
1964	667	1977	1,096	1989	904	*2001*	*107*
1965	866	1978	887	1990	1,013	*2002*	*147*
1966	1,005	1979	1,117	1991	1,202	*2003*	*147*
1967	996	1980	828	1992	1,053	*2004*	*151*
1968	1,184	1981	716	1993	1,002	*2005*	*209*
1969	1,317	1982	523	1994	735	*2006*	*177*
1970	886	1983	568	1995	918	*2007*	*193*
1971	1,052	1984	648	*1996*	*180*	*2008*	*86*
1972	1,056	1985	687	*1997*	*130*	*2009*	*128*
1973	910	1986	700	*1998*	*128*	*2010*	*128*
1974	1,043						

IPHC Technical Report No. 57, Report of the 2010 Halibut Bycatch Work Group. Seattle, WA. 2012.

Implementation of the IVBC program has not had a negative effect on the amount of groundfish that trawlers have been able to land. Dating back to 1990, non-hake groundfish harvest has been consistently in the range of 50,000 to 70,000 mt.[31] When hake are included, total groundfish landings fluctuate more due to the episodic nature of that fishery, but hake are generally a midwater species with very low halibut bycatch, so there is no strong link between hake harvest and the IVBC program – though when a vessel does encounter halibut on a hake trip the halibut is deducted from that vessel's IVBC.

The BC trawl program includes two groundfish quota set asides that are meant to protect or serve the interests of stakeholders without quota allocations, such as vessel crews and shorebased processors. The set asides are overseen by the Groundfish Development Authority (GDA) Board of Directors.[32] Eighty percent of groundfish quota is directly allocated to qualifying licenses. The other 20% is held by the management agency, and allocated in-season by the Minister of Fisheries according to recommendations by the GDA on two different sets of criteria. The first is a 10% quota set aside that is allocated based on meeting criteria set forth in a "code of conduct." The code of conduct quota (CCQ) is meant to ensure fair crew treatment in regards to quota movement and costs. This is *not* intended to enforce some minimum standard of crew shares. Rather, the code of conduct outlines that crews should not be asked to contribute to the cost of acquiring individual vessel quota. This 10% of the IVQ pool will be assigned to each licensed vessel in accordance with their IVQ holdings *unless* DFO has received a complaint about that vessel, it is then found that code of conduct principles have been breached, and a resolution cannot be

[31] DFO, Commercial Fisheries Landings: http://www.dfo-mpo.gc.ca/stats/commercial/sea-maritimes-eng.htm

[32] The GDA Board is made up of eight members: four community directors selected by the Coastal Community Network; three representatives of shore workers and vessel crew; and one representative of independent fishermen (a person with no vessel ownership or license holdings). Any change in the operation of the GDA would come as a proposal from the Groundfish Trawl Special Industry Committee, and would have to be accepted by the Minister.

achieved by other means. The GDA Board can recommend that the Minister withhold part or all of that vessel's CCQ for the following season.[33]

The GDA Board also makes recommendations on the use of a 10% set aside of groundfish development quota (GDQ). GDQ is meant to aid in regional development for coastal communities, the attainment of market and employment objectives, and the encouragement of sustainable fishing practices. On an agreed upon date, each vessel must commit the appropriate portion of its annual harvest quota to a certain processor. The harvester and the processor must make a "joint venture" application to the GDA to be eligible to access this quota (some vessels make joint venture applications with more than one processor). Around 12 to 14 applications are filed each year. Applicants submit a "proposal," which is a written response detailing how their fishing plan will be responsive to the seven criteria listed below:

- Market stabilization – eliminating a race for fish, allowing a stable pace of landings throughout the year;
- Maintaining existing processing capability – mitigating against sudden wholesale changes in the location of processing operations, while allowing for the evolution of a healthy processing sector;
- Employment stabilization – ensuring that the IVQ fishery generates more shore worker stability by spreading landings out more uniformly over the entire year and by providing more certainty for plant operations;
- Economic development and benefits in coastal communities – ensuring that economic benefits generated by the groundfish industries contribute to the viability and growth of all stakeholders, including processing companies, vessel owners, shore workers, vessel crews, and secondary service industries;
- Increasing the value of groundfish production – achieving the best possible rate of return for product through wise use of the resource;
- Industry training opportunities – ensuring that workforces are trained to work safely and efficiently;
- Sustainable fishing practices – encouraging operators to get the highest percentage of their holdings out of the water in a manner that makes best use of all fish caught, while adhering to practices designed to ensure long-term stock sustainability.

On a certain date, each applicant presents their proposal to the assembled GDA board and advisors, who consider the proposal based on its merits, what was promised by the applicant in previous years, and what was achieved. The board provides a written response, rating each criterion and providing reasoning for the rating. These responses are submitted to the DFO as a recommendation from the GDA. If the DFO accepts the proposal, the quota is placed on the applicant vessel licenses, and a fee of ¾ cents per pound is levied. The formula that attaches poundage to the vessel license considers the amount of catch that was actually delivered to the processor in the joint venture over the past three years, so there is a real benefit to building a partnership with a processor.

[33] In the GDA's 2013-2014 Operations Plan, it is noted that the Groundfish Trawl Special Industry Committee has concluded that the current CCQ process is ineffective in achieving its purpose. No crew complaints have been brought to the GDA so far. A new process is currently being considered.

8.2 West Coast Groundfish Trawl Program

The Pacific Fishery Management Council implemented a new groundfish trawl program in 2011. The program includes and IFQ system for the shorebased trawl fleet, and a cooperative program for the mothership and C/P sectors. The fishery includes over 90 managed species of groundfish. Seven of those species are in rebuilding status, and prior to the program the attainment of the low TACs for these choke species had prevented the fleet from harvesting the full amount of available catch of other groundfish.

Discard rates (for all species and for rebuilding species) and total catch of rebuilding species are among the metrics for analyzing the effectiveness of the new program. From comparing discard data for 2008 through 2010 to data for 2011 (the first year under the program), it appears that the program has significantly affected the amount of discards in the fishery. The average discard rate for all species from 2008 through 2010 was 18%, compared to a rate of 7.6% in 2011 – a decrease of 58%. The 2012 catch report notes that retention rates remained high in the second year of the program. Discard rates for rebuilding species fell from an average of 17% over the 2008 through 2010 period to 2% in 2011 – a decrease of 88%. Retention of rebuilding species actually increased from 2011 to 2012 for all but one stock. On average, catch of rebuilding species has been lower during the first two years of the IFQ program than the pre-implementation years. Overall target species utilization of non-whiting groundfish increased from 24% in 2011 to 29% in 2012, reflecting higher retention rates. Participants have also diversified their activity, increasing their effort in groundfish species that were previously underutilized because those species had high rates of rebuilding species bycatch and were thus difficult to target.

Allocating groundfish has had the effect of increasing individual accountability, and allowing harvesters to pool the risk of encountering constraining species has improved retention rates. Harvesters have also been observed to be more selective in the areas that they target, as the program now counts discarded fish against an individual vessel's quota, as opposed to only counting it against the fishery-wide catch limit as was the case in the past.

The program has also led to an increase in the use of fixed gear (pots and hook-and-line). Using fixed gear to catch sablefish, for example, has increased the value of the delivered product and decreased bycatch; in the program's first two years, fixed gear sablefish revenue increased from 48% of the fishery's value in 2011 to 58% in 2012.

The number of quota transfers occurring in the program roughly doubled from 2011 to 2012, possible indicating that participants were adjusting to their needs within the fishery. The total poundage transferred was 25% higher in 2012 than in 2011. Transfers also began taking place significantly earlier in the year during 2012, reflecting the fishermen's greater familiarity with the program in its second year.

The PFMC is still working to refine certain aspects of the program, including a 10% quota set-aside that could eventually be used for adaptive management purposes. That set-aside is funded from the shoreside sector's portion of the fishery. The quota could be used to provide incentives, support, or other compensation to offset adverse impacts of the program. The Council took an adaptive management strategy because it anticipated that negative impacts could emerge, but did not feel that it could forecast where or to whom the effects would accumulate.

The PFMC is also continuing to consider how non-fishing entities that hold quota – such as community-based non-profit organizations – should be treated; these groups did not receive initial allocations at the outset of the program. At present, these groups are treated as individual entities in regards to quota ownership or use caps.

9 GOA Trawl Fisheries Background Data

The catch data presented in this paper are derived from the NMFS Catch Accounting System (CAS). CAS is the NMFS official data source of total catch (retained and discard), including Prohibited Species Catch (PSC) estimates. The reason for using CAS data in this document is the need to analyze total catch (including groundfish discards) and PSC estimates by target and by harvest sector. However, in the past, the official record of species-specific harvest for allocative programs has typically been landing reports (aka Fish Tickets) and Production Reports, for CVs and CPs respectively. Landing and Production Reports come directly from industry participants and provide a reliable source of retained catch. If the Council determines that the catch history for allocations is going to be based on retained catch, then future documents could show catch history from these sources.

General information is provided for the 2003 through 2012 fishing years, since 2013 data had not been completed when the request for data for this paper was made. Some parts of this paper use data going back only to 2007, in order to ensure consistency with the information through time. Landing reports that are incorporated into CAS were submitted through the eLandings system starting in 2007. Prior to 2007 Fish Ticket data was submitted to Alaska Department of Fish and Game (ADF&G) on paper. So using CAS to estimate retained CV catch in the years prior to 2007 would diverge from ADFG Fish Ticket catch records by a greater amount (however, it should be noted that even in the years since 2007, CAS and Fish Ticket records for CVs may differ slightly since the trip targets listed on Fish Tickets and those entered into Catch Accounting via AKFIN's targeting algorithm are not always identical). Other data management changes that have also occurred since 2008 could result in a greater divergence in the CP sector catch estimates found in CAS and the Production Reports for earlier years. Starting in 2009, record keeping and reporting regulations for Production Reports were modified and the reports required state statistical areas to be reported and the timeliness shifted from a weekly basis to a daily basis. Starting in 2008, with the implementation of Amendment 80, there was also an increase in the number of CPs with at least 100% observer coverage so the data sources used in CAS for CPs is more consistent between vessels than it was prior to that time.

Information on LLPs and FFPs were taken from Restricted Access Management (RAM) web versions of those files. Ownership information was taken from AFA and Amendment 80 cooperative reports, in addition to the information reported on FFPs and LLPs.

9.1 LLPs

Because the Council's October motion states that a person's allocation would be based on the catch history associated with their LLPs, a brief summary of the LLPs that were active in recent years is presented in this section along with the general rules regarding groundfish LLPs. Permanent LLP licenses are transferable from the holder to another person, and/or for use on a different vessel. Transfer applications for a license must be submitted to, and approved by, NMFS. The transfer rules include restrictions that (1) licenses may only be transferred to U.S. citizens or businesses; (2) no person may hold more than 10 groundfish licenses at any one time, unless they were initially issued more than 10 groundfish licenses; (3) an LLP license may not be transferred voluntarily more than once in a calendar year; (4) an LLP license may be transferred for use on a vessel of length overall no greater than the maximum length overall of the license; (5) licenses may transfer by "operation of law" (foreclosure, inheritance, court order, etc.); such transfers (which may or may not include a vessel) will not be considered a "voluntary transfer" for purposes of allowable transfers in a calendar year; (6) endorsements on licenses are not severable from the license; and, (6) a person who receives both a groundfish license and a crab license derived from the qualifying history of one vessel may not transfer one without transferring both to the same recipient. The last transfer restriction was placed on licenses to control the amount of effort in the crab and groundfish fisheries. If the Council moves forward with this amendment

in the GOA the need for licenses to be linked may be reduced. Additional effort could not enter these fisheries without holding the appropriate quota.[34]

Table 19 provides a summary of the GOA LLPs with trawl endorsements that were issued in 2013 and the number that have been used to harvest GOA groundfish in recent years. Because the Council's program could allocate groundfish differently to CVs and C/Ps, those LLPs are reported separately. The table indicates that not all CV licenses have been active in the trawl fishery. Based on the qualifying years selected, from five to over 20 licenses that were issued in 2013 would not receive an initial allocation of PSC or groundfish.

Table 19 Summary of GOA trawl groundfish LLPs (active and issued)

GOA Groundfish	CVs	CPs	Total
Only active prior to 2007	18	3	21
Active 2007-2013	92	20	112
Active 2003 - 2013	110	23	133
LLPs Issued 2013	115	21	136
Only active after 2006	7	0	7

Table 20, Table 21, and Table 22 provide summaries of the number of LLPs that were used by vessels harvesting groundfish with trawl gear from the GOA. The information in Table 20 shows that 108 LLPs were identified on catch reports from 2008 through 2012. A total of 71 CV LLPs were used to fish in the Central GOA, with 46 of those LLPs only being used in the CG or WY District. A total of 43 LLPs were used to report catch in the WG, with 18 LLPs being used exclusively in the WG.

Table 20 GOA areas fished with trawl gear (by LLP), 2008 through 2012

Areas	CP	CV	Total
CG	1	21	22
CG and WG	4	21	25
CG and WY	2	25	27
CG, WY, and WG	2	4	6
WG	10	18	28
Total LLPs	19	89	108

Note: Excludes CG Rockfish program catch

Including 2007 data increases the number of LLPs reported in the data by one C/P and three CVs. Some LLPs increased the areas where they were used for landings. However, the overall number and distribution of LLPs used in these groundfish fisheries were similar to the numbers reported for the years 2008 through 2012.

[34] Any harvest of "minor species" (golden king crab from the Bering Sea) requires that the vessel be named on a valid Federal LLP crab license, unless exempt from that requirement.

Table 21 GOA areas fished with trawl gear (by LLP), 2007 through 2012

Areas	CP	CV	Total
CG	1	20	21
CG and WG	7	22	29
CG and WY	2	24	26
CG, WY, and WG	2	5	7
WG	8	21	29
Total LLPs	20	92	112

Note: Excludes CG Rockfish program catch

Table 22 expands the number of years to 2003 through 2012. Relative to 2008 through 2012, the number of CVs increased by 21 and the number of C/Ps increased by four. The vessels that were added have not been active since 2008, and may no longer be eligible to fish or may not qualify for an allocation, depending on the qualification years that the Council ultimately selects.

Table 22 GOA areas fished with trawl gear (by LLP), 2003 through 2012

Areas	CP	CV	Total
CG	2	25	27
CG and WG	10	27	37
CG and WY	2	27	29
CG, WY, and WG	2	6	8
WG	7	25	32
Total LLPs	23	110	133

Note: Excludes CG Rockfish program catch

9.2 Groundfish harvest history

All of the groundfish landings data presented in this paper excludes harvest taken as part of the Central GOA Rockfish LAPP. Those data were excluded based on the Council's direction that the sector allocations for Amendment 88 would be maintained. Previous discussions by the Council also indicated that its intent was to leave that program intact. The Council's motion also indicates that Amendment 83 (GOA Pacific cod allocations), Amendment 23, and Amendment 80 allocations would be maintained. Those allocations were discussed earlier in this paper. This section includes that catch data to provide information on the historical catch in those fisheries.

Table 23 provides information about groundfish harvest (in metric tons) that was taken by CVs and C/Ps over the years 2008 through 2012. Data are broken out by the combined Central GOA and West Yakutat areas, the Western GOA, and then all areas combined. The catch of each species is broken down by whether the catch was taken as the target species or as incidental catch. For example, a total of 22,317 mt of arrowtooth flounder was harvested by C/Ps in the Central GOA and West Yakutat districts combined. Arrowtooth flounder caught in the target fishery accounted for 20,224 mt, and arrowtooth flounder taken as incidental catch in other target fisheries was 2,093 mt.

Table 23 Metric tons of GOA trawl catch by vessel designation, species, and area (2008 through 2012)

Vessel Designation and	Central GOA and West Yakutat			Western GOA			GOA Total		
Species Landed	Incidental	Target	Total	Incidental	Target	Total	Incidental	Target	Total
C/P	**18,646**	**43,815**	**62,461**	**8,623**	**30,433**	**39,056**	**27,269**	**74,248**	**101,516**
Arrowtooth Flounder	2,093	20,224	22,317	428	2,837	3,265	2,521	23,061	25,582
Atka Mackerel	696		696	3,333		3,333	4,029	0	4,029
Deep Water Flatfish	27		27	10		10	37	0	37
Flathead Sole	2,864	1,583	4,447	429	541	970	3,293	2,123	5,417
Other Species	1,614		1,614	103		103	1,718	0	1,718
Pacific Cod*	3,344		3,344	1,569	614	2,183	4,914	614	5,527
Pollock*	2,451		2,451	1,416	7	1,423	3,867	7	3,874
Rex Sole	2,993	7,251	10,244	637	305	942	3,630	7,556	11,186
Rockfish	1,300	13,842	15,142	151	26,121	26,272	1,451	39,963	41,414
Sablefish	902	112	1,014	350		350	1,252	112	1,364
Shallow Water Flatfish	663	501	1,164	196	9	205	860	510	1,369
CV	**52,412**	**345,930**	**398,342**	**7,051**	**117,037**	**124,088**	**59,463**	**462,967**	**522,430**
Arrowtooth Flounder	8,305	48,506	56,811	2,805		2,805	11,110	48,506	59,616
Atka Mackerel	4		4	0		0	4	0	4
Deep Water Flatfish	521	311	831	4		4	524	311	835
Flathead Sole	7,783	1,050	8,833	605		605	8,389	1,050	9,439
Other Species	7,878	83	7,961	39		39	7,916	83	7,999
Pacific Cod	10,014	45,172	55,186	2,939	15,436	18,375	12,953	60,608	73,561
Pollock	6,486	224,697	231,183	506	101,371	101,877	6,992	326,068	333,060
Rex Sole	4,068	571	4,639	18		18	4,086	571	4,657
Rockfish	1,158	3,214	4,372	14	229	243	1,172	3,443	4,615
Sablefish	454	1	455	2		2	456	1	456
Shallow Water Flatfish	5,742	22,326	28,067	120		120	5,861	22,326	28,187
C/P and CV	**71,058**	**389,745**	**460,803**	**15,674**	**147,470**	**163,144**	**86,732**	**537,215**	**623,947**
Arrowtooth Flounder	10,398	68,730	79,128	3,233	2,837	6,070	13,631	71,567	85,198
Atka Mackerel	700	0	700	3,333	0	3,333	4,033	0	4,033
Deep Water Flatfish	548	311	859	13	0	13	561	311	872
Flathead Sole	10,647	2,632	13,280	1,035	541	1,575	11,682	3,173	14,855
Other Species	9,492	83	9,575	142	0	142	9,634	83	9,717
Pacific Cod	13,359	45,172	58,530	4,508	16,050	20,558	17,867	61,222	79,089
Pollock	8,937	224,697	233,634	1,922	101,378	103,300	10,859	326,075	336,934
Rex Sole	7,061	7,822	14,883	656	305	961	7,716	8,127	15,843
Rockfish	2,458	17,055	19,514	165	26,350	26,515	2,623	43,406	46,029
Sablefish	1,357	112	1,469	352	0	352	1,708	112	1,821
Shallow Water Flatfish	6,405	22,827	29,232	316	9	325	6,721	22,835	29,557

* Small amounts of target catch were taken by offshore vessels. Targeting pollock and Pacific cod is not opened at any time during the year for these vessels, so that catch was moved to the incidental catch category. Also, the trawl sablefish fishery is not opened to directed fishing and that catch should be considered incidental catch in another target fishery.

The information presented in Table 23 could be used to divide groundfish catch between the C/P and CV sectors. Allocations could be based historical catch by area or GOA-wide, and could be based on target catch or could include incidental catch.

Table 24 converts the information in Table 23 to percentages. The combined CV and C/P part of Table 23 is excluded, since all the calculations would equal 100 percent. It should also be noted that the table compares CV and C/P catch. Adding the corresponding CV and C/P cells in the table always equals 100 percent. For example, the GOA total C/P catch of arrowtooth flounder is 30.0 percent of the total; the GOA CV catch of arrowtooth flounder is 70.0 percent of the total.

Table 24 Percentage of GOA trawl catch by vessel designation, species, and area (2008 through 2012)

	Central GOA and West Yakutat			Western GOA			GOATotal		
	Incidental	Target	Total	Incidental	Target	Total	Incidental	Target	Total
C/P	**26.2%**	**11.2%**	**13.6%**	**55.0%**	**20.6%**	**23.9%**	**31.4%**	**13.8%**	**16.3%**
Arrowtooth Flounder	20.1%	29.4%	28.2%	13.2%	100.0%	53.8%	18.5%	32.2%	30.0%
Atka Mackerel	99.4%		99.4%	100.0%		100.0%	99.9%		99.9%
Deep Water Flatfish	5.0%	0.0%	3.2%	73.1%		73.1%	6.6%	0.0%	4.2%
Flathead Sole	26.9%	60.1%	33.5%	41.5%	100.0%	61.6%	28.2%	66.9%	36.5%
Other Species	17.0%	0.0%	16.9%	72.8%		72.8%	17.8%	0.0%	17.7%
Pacific Cod	25.0%	0.0%	5.7%	34.8%	3.8%	10.6%	27.5%	1.0%	7.0%
Pollock	27.4%	0.0%	1.0%	73.7%	0.0%	1.4%	35.6%	0.0%	1.1%
Rex Sole	42.4%	92.7%	68.8%	97.2%	100.0%	98.1%	47.0%	93.0%	70.6%
Rockfish	52.9%	81.2%	77.6%	91.6%	99.1%	99.1%	55.3%	92.1%	90.0%
Sablefish	66.5%	99.5%	69.1%	99.5%		99.5%	73.3%	99.5%	74.9%
Shallow Water Flatfish	10.4%	2.2%	4.0%	62.1%	100.0%	63.1%	12.8%	2.2%	4.6%
CV	**73.8%**	**88.8%**	**86.4%**	**45.0%**	**79.4%**	**76.1%**	**68.6%**	**86.2%**	**83.7%**
Arrowtooth Flounder	79.9%	70.6%	71.8%	86.8%	0.0%	46.2%	81.5%	67.8%	70.0%
Atka Mackerel	0.6%		0.6%	0.0%		0.0%	0.1%		0.1%
Deep Water Flatfish	95.0%	100.0%	96.8%	26.9%		26.9%	93.4%	100.0%	95.8%
Flathead Sole	73.1%	39.9%	66.5%	58.5%	0.0%	38.4%	71.8%	33.1%	63.5%
Other Species	83.0%	100.0%	83.1%	27.2%		27.2%	82.2%	100.0%	82.3%
Pacific Cod	75.0%	100.0%	94.3%	65.2%	96.2%	89.4%	72.5%	99.0%	93.0%
Pollock	72.6%	100.0%	99.0%	26.3%	100.0%	98.6%	64.4%	100.0%	98.9%
Rex Sole	57.6%	7.3%	31.2%	2.8%	0.0%	1.9%	53.0%	7.0%	29.4%
Rockfish	47.1%	18.8%	22.4%	8.4%	0.9%	0.9%	44.7%	7.9%	10.0%
Sablefish	33.5%	0.5%	30.9%	0.5%		0.5%	26.7%	0.5%	25.1%
Shallow Water Flatfish	89.6%	97.8%	96.0%	37.9%	0.0%	36.9%	87.2%	97.8%	95.4%

Table 25 and Table 26 provide information that is similar to Table 23 and Table 24, but summarizes data from 2003 through 2012. Information is broken out by C/P and CV vessels, GOA areas, and target fishery. The information could be used to identify the percentage of each target fishery that was harvested by the CV and C/P sectors over the time period.

Table 25 Metric tons of GOA trawl catch by vessel designation, species, and area (2003 through 2012)

Vessel Designation and	Central GOA and West Yakutat			Western GOA			GOA Total		
Species Landed	Incidental	Target	Total	Incidental	Target	Total	Incidental	Target	Total
CP	**32,867**	**98,136**	**131,002**	**17,438**	**60,958**	**78,396**	**50,304**	**159,094**	**209,398**
Arrowtooth Flounder	3,443	34,916	38,359	1,415	10,674	12,089	4,858	45,590	50,448
Atka Mackerel	1,401	37	1,438	5,320		5,320	6,721	37	6,759
Deep Water Flatfish	131		131	15		15	146	0	146
Flathead Sole	4,766	2,052	6,818	990	1,974	2,964	5,756	4,026	9,781
Other Species	2,636	92	2,729	362	10	372	2,998	102	3,101
Pacific Cod	6,137	1,360	7,497	2,789	1,237	4,025	8,926	2,597	11,523
Pollock	3,400		3,400	2,402		2,402	5,802		5,802
Rex Sole	5,157	13,266	18,423	2,342	1,061	3,403	7,499	14,327	21,826
Rockfish	2,296	44,905	47,201	550	45,858	46,408	2,846	90,764	93,609
Sablefish	2,711	203	2,915	882		882	3,593	203	3,797
Shallow Water Flatfish	835	1,256	2,091	378	138	515	1,213	1,394	2,606
CV	**99,313**	**660,153**	**759,466**	**9,087**	**244,505**	**253,592**	**108,400**	**904,658**	**1,013,058**
Arrowtooth Flounder	17,947	75,340	93,288	3,898	15	3,914	21,846	75,355	97,201
Atka Mackerel	40		40	46		46	87	0	87
Deep Water Flatfish	888	1,279	2,167	4		4	892	1,279	2,171
Flathead Sole	14,259	1,817	16,077	826	64	890	15,085	1,881	16,967
Other Species	14,585	978	15,563	73	0	73	14,658	978	15,636
Pacific Cod	21,193	83,942	105,135	3,424	31,550	34,974	24,617	115,492	140,109
Pollock	9,620	415,829	425,450	582	212,522	213,104	10,203	628,351	638,554
Rex Sole	5,971	581	6,552	27		27	5,998	581	6,579
Rockfish	1,976	37,312	39,288	62	315	377	2,038	37,627	39,665
Sablefish	2,497	59	2,556	2		2	2,500	59	2,559
Shallow Water Flatfish	10,335	43,016	53,350	142	39	181	10,477	43,054	53,531
C/P and CV	**132,179**	**758,289**	**890,468**	**26,525**	**305,463**	**331,988**	**158,704**	**1,063,752**	**1,222,456**
Arrowtooth Flounder	21,390	110,257	131,647	5,314	10,689	16,002	26,704	120,945	147,649
Atka Mackerel	1,441	37	1,478	5,367	0	5,367	6,808	37	6,845
Deep Water Flatfish	1,019	1,279	2,298	19	0	19	1,038	1,279	2,317
Flathead Sole	19,026	3,869	22,895	1,815	2,038	3,853	20,841	5,907	26,748
Other Species	17,221	1,070	18,292	435	10	446	17,657	1,080	18,737
Pacific Cod	27,330	85,303	112,633	6,213	32,787	38,999	33,543	118,089	151,632
Pollock	13,020	415,829	428,850	2,985	212,522	215,506	16,005	628,351	644,356
Rex Sole	11,128	13,846	24,974	2,369	1,061	3,430	13,497	14,908	28,404
Rockfish	4,272	82,217	86,489	611	46,173	46,785	4,883	128,390	133,274
Sablefish	5,209	262	5,471	884	0	884	6,093	262	6,355
Shallow Water Flatfish	11,169	44,272	55,441	520	176	696	11,689	44,448	56,138

Table 26 Percentage of GOA trawl catch by vessel designation, species, and area (2003 through 2012)

	Central GOA and West Yakutat			Western GOA			GOATotal		
	Incidental	Target	Total	Incidental	Target	Total	Incidental	Target	Total
C/P	**24.9%**	**12.9%**	**14.7%**	**65.7%**	**20.0%**	**23.6%**	**31.7%**	**15.0%**	**17.1%**
Arrowtooth Flounder	16.1%	31.7%	29.1%	26.6%	99.9%	75.5%	18.2%	37.7%	34.2%
Atka Mackerel	97.2%		97.3%	99.1%		99.1%	98.7%		98.7%
Deep Water Flatfish	12.9%	0.0%	5.7%	78.3%		78.3%	14.1%	0.0%	6.3%
Flathead Sole	25.1%	53.0%	29.8%	54.5%	96.9%	76.9%	27.6%	68.1%	36.6%
Other Species	15.3%	8.6%	14.9%	83.2%		83.5%	17.0%	9.5%	16.5%
Pacific Cod	22.5%	1.6%	6.7%	44.9%	3.8%	10.3%	26.6%	2.2%	7.6%
Pollock	26.1%		0.8%	80.5%		1.1%	36.3%		0.9%
Rex Sole	46.3%	95.8%	73.8%	98.9%	100.0%	99.2%	55.6%	96.1%	76.8%
Rockfish	53.7%	54.6%	54.6%	89.9%	99.3%	99.2%	58.3%	70.7%	70.2%
Sablefish	52.1%	77.6%	53.3%	99.7%		99.7%	59.0%	77.6%	59.7%
Shallow Water Flatfish	7.5%	2.8%	3.8%	72.7%	78.0%	74.0%	10.4%	3.1%	4.6%
CV	**75.1%**	**87.1%**	**85.3%**	**34.3%**	**80.0%**	**76.4%**	**68.3%**	**85.0%**	**82.9%**
Arrowtooth Flounder	83.9%	68.3%	70.9%	73.4%	0.1%	24.5%	81.8%	62.3%	65.8%
Atka Mackerel	2.8%		2.7%	0.9%		0.9%	1.3%		1.3%
Deep Water Flatfish	87.1%	100.0%	94.3%	21.7%		21.7%	85.9%	100.0%	93.7%
Flathead Sole	74.9%	47.0%	70.2%	45.5%	3.1%	23.1%	72.4%	31.9%	63.4%
Other Species	84.7%	91.4%	85.1%	16.8%		16.5%	83.0%	90.5%	83.5%
Pacific Cod	77.5%	98.4%	93.3%	55.1%	96.2%	89.7%	73.4%	97.8%	92.4%
Pollock	73.9%	100.0%	99.2%	19.5%	100.0%	98.9%	63.7%	100.0%	99.1%
Rex Sole	53.7%	4.2%	26.2%	1.1%	0.0%	0.8%	44.4%	3.9%	23.2%
Rockfish	46.3%	45.4%	45.4%	10.1%	0.7%	0.8%	41.7%	29.3%	29.8%
Sablefish	47.9%	22.4%	46.7%	0.3%		0.3%	41.0%	22.4%	40.3%
Shallow Water Flatfish	92.5%	97.2%	96.2%	27.3%	22.0%	26.0%	89.6%	96.9%	95.4%

9.3 Halibut PSC

The Council's motion indicates that the halibut PSC cap would be divided between CVs and C/Ps. Table 10 provided a summary of the percentage of halibut PSC that was used by each sector. The tables below provide a more detailed breakout of halibut PSC usage during the three periods discussed in this document. The information is also broken out by the five halibut PSC seasons, which may be useful if PSC allocations continue to be made by season under the program being considered.

Table 27 Halibut PSC mortality (as a percentage of total used) by vessel designation, area, halibut PSC season, and target fishery, 2003 through 2012

Desig/Area /Season	Deep Water Flatfish	Rockfish/ Other Deep	Pacific Cod	Pollock	Shallow Water Flatfish	Total
CP	18.11%	3.67%	1.33%	0.02%	5.03%	28.16%
CG	15.27%	1.57%	0.83%	0.02%	3.74%	21.42%
1	2.22%	0.01%	0.04%	0.02%	0.22%	2.51%
2	6.46%	0.04%	0.00%	0.00%	1.00%	7.50%
3	2.69%	1.49%	0.00%	0.00%	1.32%	5.51%
4	1.43%	0.00%	0.59%	0.00%	0.71%	2.73%
5	2.47%	0.01%	0.20%	0.00%	0.49%	3.17%
WG	2.84%	1.91%	0.50%	0.00%	1.29%	6.54%
1	0.51%	0.00%	0.22%	0.00%	0.48%	1.21%
2	1.76%	0.00%	0.04%	0.00%	0.58%	2.39%
3	0.44%	1.69%	0.00%	0.00%	0.07%	2.20%
4	0.04%	0.01%	0.24%	0.00%	0.00%	0.29%
5	0.09%	0.21%	0.01%	0.00%	0.15%	0.45%
WY	0.00%	0.19%	0.00%	0.00%	0.00%	0.19%
3	0.00%	0.17%	0.00%	0.00%	0.00%	0.17%
5	0.00%	0.02%	0.00%	0.00%	0.00%	0.02%
CV	16.03%	3.29%	24.14%	2.51%	25.87%	71.84%
CG	15.94%	3.26%	21.42%	2.40%	25.83%	68.85%
1	3.33%	0.00%	9.41%	0.61%	1.41%	14.77%
2	8.14%	0.16%	0.03%	0.01%	9.30%	17.63%
3	0.82%	3.05%	0.04%	0.03%	7.52%	11.47%
4	1.03%	0.02%	10.09%	0.18%	1.35%	12.66%
5	2.62%	0.03%	1.84%	1.58%	6.25%	12.32%
WG	0.00%	0.00%	2.72%	0.09%	0.04%	2.86%
1	0.00%	0.00%	2.72%	0.04%	0.00%	2.77%
2	0.00%	0.00%	0.00%	0.01%	0.04%	0.05%
3	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%
4	0.00%	0.00%	0.00%	0.02%	0.00%	0.02%
5	0.00%	0.00%	0.00%	0.02%	0.00%	0.02%
WY	0.08%	0.03%	0.00%	0.01%	0.00%	0.12%
1	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%
2	0.08%	0.00%	0.00%	0.01%	0.00%	0.09%
3	0.00%	0.03%	0.00%	0.00%	0.00%	0.03%
4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Grand Total	34.14%	6.96%	25.47%	2.53%	30.90%	100.00%

Table 28 Halibut PSC mortality (as a percentage of total used) by vessel designation, area, halibut PSC season, and target fishery, 2007 through 2012

Desig/Area /Season	Deep Water Flatfish	Rockfish/ Other Deep	Pacific Cod	Pollock	Shallow Water Flatfish	Total
CP	18.20%	2.86%	0.62%	0.04%	3.42%	25.14%
CG	15.93%	0.48%	0.20%	0.03%	2.65%	19.28%
1	2.06%	0.00%	0.07%	0.03%	0.32%	2.48%
2	8.04%	0.01%	0.00%	0.00%	1.25%	9.30%
3	2.36%	0.46%	0.00%	0.00%	0.20%	3.02%
4	1.30%	0.00%	0.01%	0.00%	0.01%	1.32%
5	2.16%	0.01%	0.12%	0.00%	0.87%	3.17%
WG	2.28%	2.18%	0.42%	0.01%	0.77%	5.65%
1	0.33%	0.00%	0.34%	0.00%	0.22%	0.89%
2	1.56%	0.00%	0.06%	0.01%	0.42%	2.05%
3	0.26%	1.99%	0.00%	0.00%	0.02%	2.26%
4	0.01%	0.01%	0.00%	0.00%	0.00%	0.02%
5	0.11%	0.19%	0.01%	0.00%	0.12%	0.43%
WY	0.00%	0.20%	0.00%	0.00%	0.00%	0.20%
3	0.00%	0.17%	0.00%	0.00%	0.00%	0.17%
5	0.00%	0.03%	0.00%	0.00%	0.00%	0.03%
CV	19.27%	0.14%	22.83%	3.66%	28.96%	74.86%
CG	19.27%	0.09%	19.65%	3.48%	28.96%	71.46%
1	3.30%	0.00%	10.77%	0.92%	1.08%	16.07%
2	8.97%	0.02%	0.03%	0.00%	8.39%	17.41%
3	1.23%	0.03%	0.00%	0.00%	9.16%	10.42%
4	1.59%	0.03%	5.78%	0.17%	1.29%	8.85%
5	4.19%	0.01%	3.06%	2.39%	9.05%	18.71%
WG	0.00%	0.00%	3.18%	0.15%	0.00%	3.34%
1	0.00%	0.00%	3.17%	0.07%	0.00%	3.24%
2	0.00%	0.00%	0.00%	0.03%	0.00%	0.03%
3	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%
4	0.00%	0.00%	0.00%	0.03%	0.00%	0.03%
5	0.00%	0.00%	0.01%	0.02%	0.00%	0.03%
WY	0.00%	0.05%	0.00%	0.02%	0.00%	0.07%
1	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%
2	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%
3	0.00%	0.05%	0.00%	0.00%	0.00%	0.05%
4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Grand Total	37.47%	3.01%	23.45%	3.70%	32.38%	100.00%

Table 29 Halibut PSC mortality (as a percentage of total used) by vessel designation, area, halibut PSC season, and target fishery, 2008 through 2012

Desig/Area /Season	Deep Water Flatfish	Rockfish/ Other Deep	Pacific Cod	Pollock	Shallow Water Flatfish	Total
CP	18.30%	2.87%	0.64%	0.04%	3.95%	25.81%
CG	16.91%	0.48%	0.25%	0.03%	3.22%	20.89%
1	1.86%	0.00%	0.08%	0.03%	0.39%	2.36%
2	9.15%	0.00%	0.00%	0.00%	1.52%	10.67%
3	2.72%	0.47%	0.00%	0.00%	0.24%	3.43%
4	0.86%	0.00%	0.01%	0.00%	0.01%	0.88%
5	2.32%	0.01%	0.15%	0.00%	1.06%	3.55%
WG	1.38%	2.21%	0.40%	0.01%	0.73%	4.73%
1	0.20%	0.00%	0.31%	0.00%	0.20%	0.71%
2	0.92%	0.00%	0.08%	0.01%	0.39%	1.40%
3	0.12%	1.98%	0.00%	0.00%	0.00%	2.10%
4	0.00%	0.01%	0.00%	0.00%	0.00%	0.01%
5	0.13%	0.23%	0.02%	0.00%	0.14%	0.52%
WY	0.00%	0.18%	0.00%	0.00%	0.00%	0.18%
3	0.00%	0.14%	0.00%	0.00%	0.00%	0.14%
5	0.00%	0.04%	0.00%	0.00%	0.00%	0.04%
CV	20.81%	0.11%	22.58%	3.55%	27.15%	74.19%
CG	20.81%	0.06%	19.18%	3.34%	27.15%	70.53%
1	3.67%	0.00%	10.10%	1.10%	0.79%	15.67%
2	8.78%	0.01%	0.04%	0.00%	8.55%	17.38%
3	1.48%	0.03%	0.00%	0.00%	8.56%	10.07%
4	1.90%	0.01%	5.46%	0.18%	0.60%	8.16%
5	4.98%	0.00%	3.57%	2.05%	8.65%	19.25%
WG	0.00%	0.00%	3.41%	0.18%	0.00%	3.59%
1	0.00%	0.00%	3.40%	0.08%	0.00%	3.48%
2	0.00%	0.00%	0.00%	0.03%	0.00%	0.03%
3	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%
4	0.00%	0.00%	0.00%	0.03%	0.00%	0.03%
5	0.00%	0.00%	0.01%	0.02%	0.00%	0.03%
WY	0.00%	0.05%	0.00%	0.03%	0.00%	0.07%
1	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%
2	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%
3	0.00%	0.05%	0.00%	0.00%	0.00%	0.05%
4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Grand Total	39.10%	2.98%	23.23%	3.59%	31.10%	100.00%

Table 30 Halibut PSC mortality (as a percentage of total used) by vessel designation, area, halibut PSC season, PSC complex, and range of years

	2003 through 2012			2007 through 2012			2008 through 2012		
Desig/Area /Season	Deep Water Complex	Shallow water Complex	Total	Deep Water Complex	Shallow water Complex	Total	Deep Water Complex	Shallow water Complex	Total
CP	21.78%	6.38%	28.16%	21.07%	4.07%	25.14%	21.17%	4.64%	25.81%
CG	16.84%	4.58%	21.42%	16.41%	2.88%	19.28%	17.39%	3.50%	20.89%
1	2.24%	0.28%	2.51%	2.06%	0.42%	2.48%	1.86%	0.51%	2.36%
2	6.50%	1.00%	7.50%	8.05%	1.25%	9.30%	9.15%	1.52%	10.67%
3	4.19%	1.32%	5.51%	2.82%	0.20%	3.02%	3.18%	0.25%	3.43%
4	1.44%	1.29%	2.73%	1.30%	0.02%	1.32%	0.86%	0.02%	0.88%
5	2.48%	0.69%	3.17%	2.17%	1.00%	3.17%	2.33%	1.22%	3.55%
WG	4.74%	1.80%	6.54%	4.46%	1.19%	5.65%	3.59%	1.14%	4.73%
1	0.51%	0.70%	1.21%	0.33%	0.56%	0.89%	0.20%	0.51%	0.71%
2	1.76%	0.63%	2.39%	1.56%	0.49%	2.05%	0.92%	0.47%	1.40%
3	2.12%	0.08%	2.20%	2.25%	0.02%	2.26%	2.10%	0.00%	2.10%
4	0.05%	0.24%	0.29%	0.02%	0.00%	0.02%	0.01%	0.00%	0.01%
5	0.30%	0.16%	0.45%	0.30%	0.13%	0.43%	0.36%	0.16%	0.52%
WY	0.19%	0.00%	0.19%	0.20%	0.00%	0.20%	0.18%	0.00%	0.18%
3	0.17%	0.00%	0.17%	0.17%	0.00%	0.17%	0.14%	0.00%	0.14%
5	0.02%	0.00%	0.02%	0.03%	0.00%	0.03%	0.04%	0.00%	0.04%
CV	19.32%	52.52%	71.84%	19.41%	55.45%	74.86%	20.91%	53.28%	74.19%
CG	19.20%	49.65%	68.85%	19.36%	52.10%	71.46%	20.87%	49.66%	70.53%
1	3.34%	11.43%	14.77%	3.30%	12.78%	16.07%	3.67%	12.00%	15.67%
2	8.29%	9.34%	17.63%	8.99%	8.42%	17.41%	8.79%	8.59%	17.38%
3	3.88%	7.60%	11.47%	1.26%	9.16%	10.42%	1.51%	8.56%	10.07%
4	1.05%	11.62%	12.66%	1.61%	7.23%	8.85%	1.91%	6.25%	8.16%
5	2.65%	9.67%	12.32%	4.20%	14.50%	18.71%	4.98%	14.27%	19.25%
WG	0.00%	2.86%	2.86%	0.00%	3.33%	3.34%	0.00%	3.59%	3.59%
1	0.00%	2.76%	2.77%	0.00%	3.24%	3.24%	0.00%	3.48%	3.48%
2	0.00%	0.05%	0.05%	0.00%	0.03%	0.03%	0.00%	0.03%	0.03%
3	0.00%	0.01%	0.01%	0.00%	0.01%	0.01%	0.00%	0.01%	0.01%
4	0.00%	0.02%	0.02%	0.00%	0.03%	0.03%	0.00%	0.03%	0.03%
5	0.00%	0.02%	0.02%	0.00%	0.03%	0.03%	0.00%	0.03%	0.03%
WY	0.11%	0.01%	0.12%	0.05%	0.02%	0.07%	0.05%	0.03%	0.07%
1	0.00%	0.01%	0.01%	0.00%	0.01%	0.01%	0.00%	0.01%	0.01%
2	0.08%	0.01%	0.09%	0.00%	0.01%	0.01%	0.00%	0.01%	0.01%
3	0.03%	0.00%	0.03%	0.05%	0.00%	0.05%	0.05%	0.00%	0.05%
4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total	41.10%	58.90%	100.00%	40.48%	59.52%	100.00%	42.08%	57.92%	100.00%

Table 31 Halibut PSC mortality (as a percentage of total used) by vessel designation, halibut PSC season, and PSC complex, and range of years

	2003 through 2012			2007 through 2012			2008 through 2012		
Desig/ Area/ Season	Deep Water Complex	Shallow water Complex	Total	Deep Water Complex	Shallow water Complex	Total	Deep Water Complex	Shallow water Complex	Total
CP	21.78%	6.38%	28.16%	21.07%	4.07%	25.14%	21.17%	4.64%	25.81%
1	2.74%	0.98%	3.72%	2.40%	0.97%	3.37%	2.06%	1.01%	3.07%
2	8.26%	1.63%	9.89%	9.61%	1.74%	11.35%	10.07%	1.99%	12.07%
3	6.49%	1.40%	7.88%	5.24%	0.22%	5.46%	5.42%	0.25%	5.67%
4	1.49%	1.53%	3.02%	1.32%	0.02%	1.34%	0.87%	0.02%	0.89%
5	2.80%	0.85%	3.65%	2.50%	1.13%	3.63%	2.74%	1.37%	4.11%
CV	19.32%	52.52%	71.84%	19.41%	55.45%	74.86%	20.91%	53.28%	74.19%
1	3.34%	14.20%	17.54%	3.30%	16.03%	19.33%	3.67%	15.49%	19.16%
2	8.38%	9.40%	17.77%	8.99%	8.46%	17.44%	8.79%	8.64%	17.43%
3	3.91%	7.60%	11.51%	1.31%	9.17%	10.48%	1.56%	8.57%	10.13%
4	1.05%	11.64%	12.68%	1.61%	7.26%	8.88%	1.91%	6.28%	8.19%
5	2.65%	9.69%	12.34%	4.20%	14.53%	18.73%	4.98%	14.30%	19.28%
Total	41.10%	58.90%	100.00%	40.48%	59.52%	100.00%	42.08%	57.92%	100.00%

9.4 Chinook Salmon PSC

This section of the document focuses on the Chinook salmon PSC usage by year (period), area, season, and fishery. Table 32 provides a summary of annual Chinook salmon PSC usage during each year from 2003 through 2012. The number of Chinook salmon taken as PSC in the WY District currently would not accrued against a PSC limit. That information shows the Chinook salmon PSC in that area was always less than 500 fish, and in half of the years considered was less than 100 fish.

Table 32 Chinook salmon trawl PSC in the GOA CV pollock fishery, 2003 through 2012 (# fish)

Area and Season	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
CG	**3,557**	**10,655**	**21,429**	**10,932**	**31,687**	**7,950**	**2,215**	**12,296**	**10,765**	**10,833**
Jan through May	942	4,952	14,735	4,815	28,112	6,500	1,372	4,751	2,283	2,614
June through December	2,616	5,703	6,694	6,116	3,574	1,451	843	7,545	8,482	8,219
WG	**738**	**2,327**	**5,951**	**4,529**	**3,357**	**2,116**	**441**	**31,796**	**3,764**	**7,664**
Jan through May	107	686	941	2,118	1,671	1,194	217	1,772	463	806
June through December	631	1,641	5,010	2,411	1,686	922	224	30,024	3,301	6,858
WY	**67**	**29**	**483**	**89**	**34**	**390**	**59**	**439**	**109**	**120**
Jan through May	67	29	483	89	34	390	59	215	109	120
June through December								224		0
Grand Total	**4,362**	**13,011**	**27,863**	**15,550**	**35,078**	**10,456**	**2,715**	**44,531**	**14,638**	**18,617**

Table 33 shows the average number of Chinook salmon taken as PSC in the GOA pollock fishery during the three time periods considered in this analysis. The information indicates that the large estimate of halibut PSC in the CG during 2007, tends to skew the percentage estimates when that year is included.

Table 33 Average Annual Chinook salmon PSC in the GOA CV pollock fishery

Area and season	2003 - 2012	2007 - 2012	2008 - 2012
Number of Fish			
CG	**12,232**	**12,624**	**8,812**
Jan through May	7,108	7,605	3,504
June through December	5,124	5,019	5,308
WG	**6,268**	**8,190**	**9,156**
Jan through May	998	1,021	890
June through December	5,271	7,169	8,266
WY	**182**	**192**	**224**
Jan through May	160	155	179
June through December	22	37	45
Percent			
CG	**65.5%**	**60.1%**	**48.4%**
Jan through May	38.0%	36.2%	19.3%
June through December	27.4%	23.9%	29.2%
WG	**33.6%**	**39.0%**	**50.3%**
Jan through May	5.3%	4.9%	4.9%
June through December	28.2%	34.1%	45.4%
WY	**1.0%**	**0.9%**	**1.2%**
Jan through May	0.9%	0.7%	1.0%
June through December	0.1%	0.2%	0.2%

Table 34 provides Chinook salmon PSC for GOA non-pollock trawl fisheries. The information is reported by time period, area, vessel designation, and target species. All data are presented in percentages so that the reader may easily compare the percentage of Chinook salmon PSC used when vessels were operating in those fisheries. In most cases the PSC percentage is similar across the various time periods.

Table 34 Chinook salmon PSC in the GOA non-pollock trawl fisheries

GOA non-pollock trawl Chinook PSC	2003 - 2012	2007 - 2012	2008-2012
Areas			
Western GOA	17.7%	10.6%	10.8%
Central GOA	80.7%	87.0%	86.5%
West Yakutat District	1.5%	2.2%	2.5%
CPs			
CP Total	**55.6%**	**52.6%**	**53.7%**
Pacific Cod CP Total	2.7%	3.7%	3.4%
Deep Water Flatfish CP Total	45.0%	41.9%	42.6%
Shallow Water Flatfish CP Total	4.3%	2.6%	3.0%
Rockfish CP Total	3.7%	4.6%	5.0%
CVs			
CV Total	**44.3%**	**47.2%**	**46.1%**
Pacific Cod CV Total	14.9%	10.0%	9.6%
Deep Water Flatfish CV Total	15.3%	23.9%	23.3%
Shallow Water Flatfish CV Total	10.0%	13.0%	12.9%
Rockfish CV Total	4.1%	0.3%	0.2%
Species			
Pacific Cod Total	17.6%	13.7%	13.0%
Deep Water Flatfish Total	60.3%	65.8%	65.9%
Shallow Water Flatfish Total	14.3%	15.6%	15.9%
Rockfish Total	7.7%	4.9%	5.2%

Information presented in Table 35 is a more detail breakout of the information presented in the previous table. The data are once again broken out by time period, area, vessel designation, and target fishery.

Table 35 Detailed summary of Chinook salmon in GOA non-pollock trawl fisheries

Area/Mode/Target Fishery	2003 - 2012	2007 - 2012	2008-2012
CG	**80.7%**	**87.0%**	**86.5%**
CP	**37.7%**	**40.7%**	**41.4%**
Pacific Cod	**0.3%**	**0.0%**	**0.0%**
Deep Water Flatfish	**35.1%**	**38.1%**	**38.6%**
Shallow Water Flatfish	**1.1%**	**1.9%**	**2.1%**
Rockfish	**1.2%**	**0.7%**	**0.6%**
CV	**42.9%**	**46.3%**	**45.1%**
Pacific Cod	**13.8%**	**9.2%**	**8.8%**
Deep Water Flatfish	**15.2%**	**23.9%**	**23.3%**
Shallow Water Flatfish	**10.0%**	**13.0%**	**12.9%**
Rockfish	**4.0%**	**0.1%**	**0.1%**
WG	**17.7%**	**10.6%**	**10.8%**
CP	**16.4%**	**9.8%**	**9.9%**
Pacific Cod	**1.2%**	**1.5%**	**1.0%**
Deep Water Flatfish	**9.9%**	**3.7%**	**3.9%**
Shallow Water Flatfish	**3.2%**	**0.7%**	**0.8%**
Rockfish	**2.1%**	**3.8%**	**4.2%**
CV	**1.3%**	**0.8%**	**0.9%**
Pacific Cod	**1.1%**	**0.8%**	**0.9%**
Deep Water Flatfish	**0.1%**	**0.0%**	**0.0%**
Shallow Water Flatfish	**0.0%**	**0.0%**	**0.0%**
Rockfish	**0.0%**	**0.0%**	**0.0%**
WY	**1.5%**	**2.2%**	**2.5%**
CP	**1.4%**	**2.1%**	**2.4%**
Rockfish	**1.4%**	**2.1%**	**2.4%**
CV	**0.1%**	**0.1%**	**0.1%**
Deep Water Flatfish	**0.0%**	**0.0%**	**0.0%**
Rockfish	**0.1%**	**0.1%**	**0.1%**

9.5 GOA OFLs, ABCs, TACs, catch, and Percent Caught

The data presented in Table 36, Table 37, and Table 38 report the GOA OFLs, ABCs, TACs, catch and percent caught by fishery. These tables provide information for the years 2008 through 2013. Information is these tables is presented to allow the reader to see how much of a species' TAC was harvested and how close the TAC was set to the ABC and OFL. This may be useful when discussing which species, if any, should be allocated to the C/P fleet as QS.

Table 36 GOA OFLs, ABCs, TACs, and percent caught 2012 through 2013

		2013					2012				
Species	Area	OFL	ABC	TAC	Catch	% Caught	OFL	ABC	TAC	Catch	% Caught
Pollock	Shumagin (610)	n/a	28,072	28,072	7,711	27%	n/a	30,270	30,270	27,893	92%
	Chirikof (620)	n/a	51,443	51,443	53,112	103%	n/a	45,808	45,808	45,095	98%
	Kodiak (630)	n/a	27,372	27,372	29,888	109%	n/a	26,348	26,348	25,987	99%
	WYK (640)	n/a	3,385	3,385	2,940	87%	n/a	3,244	3,244	2,381	73%
Pacific cod	W	n/a	28,280	21,210	19,077	90%	n/a	28,032	21,024	18,374	87%
	C	n/a	49,288	36,966	31,936	86%	n/a	56,940	42,705	37,776	88%
	Total	**97,200**	**80,800**	**60,600**	**51,012**	**84%**	**104,000**	**87,600**	**65,700**	**56,150**	**85%**
Sablefish	W	n/a	1,750	1,750	1,384	79%	n/a	1,780	1,780	1,397	78%
	C	n/a	5,540	5,540	5,207	94%	n/a	5,760	5,760	5,327	92%
	WYK	n/a	2,030	2,030	2,106	104%	n/a	2,247	2,247	2,033	90%
	Total	**14,780**	**12,510**	**12,510**	**8,697**	**70%**	**15,330**	**12,960**	**12,960**	**8,756**	**68%**
Shallow-water Flatfish	W	n/a	19,489	13,250	155	1%	n/a	21,994	13,250	153	1%
	C	n/a	20,168	18,000	5,357	30%	n/a	22,910	18,000	3,869	21%
	WYK	n/a	4,647	4,647	1	0%	n/a	4,307	4,307	0	0%
	Total	**55,680**	**45,484**	**37,077**	**5,513**	**15%**	**61,681**	**50,683**	**37,029**	**4,022**	**11%**
Deep-water Flatfish	W	n/a	176	176	20	11%	n/a	176	176	2	1%
	C	n/a	2,308	2,308	215	9%	n/a	2,308	2,308	284	12%
	WYK	n/a	1,581	1,581	3	0%	n/a	1,581	1,581	3	0%
	Total	**6,834**	**5,126**	**5,126**	**239**	**5%**	**6,834**	**5,126**	**5,126**	**289**	**6%**
Rex Sole	W	n/a	1,300	1,300	104	8%	n/a	1,307	1,307	215	16%
	C	n/a	6,376	6,376	3,603	57%	n/a	6,412	6,412	2,210	34%
	WYK	n/a	832	832	0	0%	n/a	836	836	0	0%
	Total	**12,492**	**9,560**	**9,560**	**3,707**	**39%**	**12,561**	**9,612**	**9,612**	**2,425**	**25%**
Arrowtooth Flounder	W	n/a	27,181	14,500	805	6%	n/a	27,495	14,500	1,233	9%
	C	n/a	141,527	75,000	20,561	27%	n/a	143,162	75,000	19,328	26%
	WYK	n/a	20,917	6,900	40	1%	n/a	21,159	6,900	28	0%
	Total	**247,196**	**210,451**	**103,300**	**21,406**	**21%**	**250,100**	**212,882**	**103,300**	**20,588**	**20%**
Flathead Sole	W	n/a	15,729	8,650	588	7%	n/a	15,300	8,650	277	3%
	C	n/a	26,563	15,400	2,228	14%	n/a	25,838	15,400	1,890	12%
	WYK	n/a	4,686	4,686	0	0%	n/a	4,558	4,558	0	0%
	Total	**61,036**	**48,738**	**30,496**	**2,816**	**9%**	**59,380**	**47,407**	**30,319**	**2,166**	**7%**
Pacific Ocean Perch	W	n/a	2,040	2,040	447	22%	2,423	2,102	2,102	2,452	117%
	C	n/a	10,926	10,926	11,199	102%	12,980	11,263	11,263	10,777	96%
	WYK	n/a	1,641	1,641	1,537	94%	n/a	1,692	1,692	1,682	99%
Northern Rockfish	W	n/a	2,008	2,008	2,175	108%	n/a	2,156	2,156	1,817	84%
	C	n/a	3,122	3,122	2,705	87%	n/a	3,351	3,351	3,246	97%
	Total	**6,124**	**5,130**	**5,130**	**4,880**	**95%**	**6,574**	**5,507**	**5,507**	**5,063**	**92%**
Shortraker Rockfish	W	n/a	104	104	35	34%	n/a	104	104	91	88%
	C	n/a	452	452	431	95%	n/a	452	452	309	68%
	Total	**1,441**	**1,081**	**1,081**	**466**	**43%**	**1,441**	**1,081**	**1,081**	**400**	**37%**
Dusky Rockfish (pelagic shelf rockfish)	W	n/a	377	377	217	57%	n/a	409	409	435	106%
	C	n/a	3,533	3,533	2,930	83%	n/a	3,849	3,849	3,567	93%
	WYK	n/a	495	495	4	1%	n/a	542	542	2	0%
	Total	**5,746**	**4,700**	**4,700**	**3,150**	**67%**	**6,257**	**5,118**	**5,118**	**4,004**	**78%**
Rougheye and Blackspotted Rockfish	W	n/a	81	81	15	19%	n/a	80	80	29	36%
	C	n/a	856	856	388	45%	n/a	850	850	376	44%
	E	n/a	295	295	177	60%	n/a	293	293	189	65%
	Total	**1,482**	**1,232**	**1,232**	**580**	**47%**	**1,472**	**1,223**	**1,223**	**594**	49%
Thornyheads	W	n/a	150	150	302	201%	n/a	150	150	186	124%
	C	n/a	766	766	540	70%	n/a	766	766	344	45%
	E	n/a	749	749	309	41%	n/a	749	749	218	29%
	Total (GW)	**2,220**	**1,665**	**1,665**	**1,151**	**69%**	**2,220**	**1,665**	**1,665**	**748**	45%
Other Rockfish	W	n/a	44	44	201	457%	n/a	44	44	255	580%
	C	n/a	606	606	475	78%	n/a	606	606	723	119%
	WYK	n/a	230	230	77	33%	n/a	230	230	38	17%
	Total	**5,305**	**4,045**	**1,080**	**753**	**70%**	**5,305**	**4,045**	**1,080**	**1,016**	**94%**
Atka Mackerel	**Total (GW)**	**6,200**	**4,700**	**2,000**	**1,277**	**64%**	**6,200**	**4,700**	**2,000**	**1,188**	**59%**
Big Skates	W	n/a	469	469	121	26%	n/a	469	469	66	14%
	C	n/a	1,793	1,793	2,300	128%	n/a	1,793	1,793	1,894	106%
	E	n/a	1,505	1,505	77	5%	n/a	1,505	1,505	37	2%
	Total	**5,023**	**3,767**	**3,767**	**2,498**	**66%**	**5,023**	**3,767**	**3,767**	**1,997**	**53%**
Longnose Skates	W	n/a	70	70	90	129%	n/a	70	70	35	50%
	C	n/a	1,879	1,879	1,258	67%	n/a	1,879	1,879	783	42%
	E	n/a	676	676	425	63%	n/a	676	676	79	12%
	Total	**3,500**	**2,625**	**2,625**	**1,773**	**68%**	**3,500**	**2,625**	**2,625**	**897**	**34%**
Other Skates	GW	**2,706**	**2,030**	**2,030**	**1,872**	**92%**	**2,706**	**2,030**	**2,030**	**1,170**	**58%**
Sculpins	GW	**7,614**	**5,884**	**5,884**	**1,716**	**29%**	**7,641**	**5,731**	**5,731**	**796**	**14%**
Sharks	GW	**8,037**	**6,028**	**6,028**	**2,168**	**36%**	**8,037**	**6,028**	**6,028**	**640**	**11%**
Squids	GW	**1,530**	**1,148**	**1,148**	**321**	**28%**	**1,530**	**1,148**	**1,148**	**18**	**2%**
Octopus	GW	**1,941**	**1,455**	**1,455**	**428**	**29%**	**1,941**	**1,455**	**1,455**	**415**	**28%**

Table 37 GOA OFLs, ABCs, TACs, and percent caught 2010 through 2011

		2011					2010				
Species	Area	OFL	ABC	TAC	Catch	% Caught	OFL	ABC	TAC	Catch	% Caught
Pollock	Shumagin (610)	n/a	27,031	27,031	20,594	76%	n/a	26,256	26,256	26,051	99%
	Chirikof (620)	n/a	37,365	37,365	37,223	100%	n/a	28,095	28,095	28,250	101%
	Kodiak (630)	n/a	20,235	20,235	19,704	97%	n/a	19,118	19,118	19,134	100%
	WYK (640)	n/a	2,339	2,339	2,271	97%	n/a	2,031	2,031	1,637	81%
Pacific cod	W	n/a	30,380	22,785	22,292	98%	n/a	27,685	20,764	21,001	101%
	C	n/a	53,816	40,362	39,511	98%	n/a	49,042	36,782	36,824	100%
	Total	**102,600**	**86,800**	**65,100**	**61,803**	**95%**	**94,100**	**79,100**	**59,563**	**57,826**	**97%**
Sablefish	W	n/a	1,620	1,620	1,396	86%	n/a	1,660	1,660	1,352	81%
	C	n/a	4,740	4,740	4,891	103%	n/a	4,510	4,510	4,514	100%
	WYK	n/a	1,990	1,990	1,895	95%	n/a	1,620	1,620	1,579	97%
	Total	**13,340**	**11,290**	**11,290**	**8,182**	**72%**	**12,270**	**10,370**	**10,370**	**7,445**	**72%**
Shallow-water Flatfish	W	n/a	23,681	4,500	124	3%	n/a	23,681	4,500	84	2%
	C	n/a	29,999	13,000	3,863	30%	n/a	29,999	13,000	5,448	42%
	WYK	n/a	1,228	1,228	0	0%	n/a	1,228	1,228	1	0%
	Total	**67,768**	**56,242**	**20,062**	**3,987**	**20%**	**67,768**	**56,242**	**20,062**	**5,533**	**28%**
Deep-water Flatfish	W	n/a	529	529	13	2%	n/a	521	521	2	0%
	C	n/a	2,919	2,919	444	15%	n/a	2,865	2,865	532	19%
	WYK	n/a	2,083	2,083	7	0%	n/a	2,044	2,044	7	0%
	Total	**7,823**	**6,305**	**6,305**	**464**	**7%**	**7,680**	**6,190**	**6,190**	**542**	**9%**
Rex Sole	W	n/a	1,517	1,517	131	9%	n/a	1,543	1,543	134	9%
	C	n/a	6,294	6,294	2,745	44%	n/a	6,403	6,403	3,500	55%
	WYK	n/a	868	868	1	0%	n/a	883	883	2	0%
	Total	**12,499**	**9,565**	**9,565**	**2,877**	**30%**	**12,714**	**9,729**	**9,729**	**3,636**	**37%**
Arrowtooth Flounder	W	n/a	34,317	8,000	1,684	21%	n/a	34,773	8,000	2,406	30%
	C	n/a	144,559	30,000	28,964	97%	n/a	146,407	30,000	21,605	72%
	WYK	n/a	22,551	2,500	144	6%	n/a	22,835	2,500	138	6%
	Total	**251,068**	**213,150**	**43,000**	**30,792**	**72%**	**254,271**	**215,882**	**43,000**	**24,148**	**56%**
Flathead Sole	W	n/a	17,442	2,000	393	20%	n/a	16,857	2,000	462	23%
	C	n/a	28,104	5,000	2,335	47%	n/a	27,124	5,000	3,379	68%
	WYK	n/a	2,064	2,064	0	0%	n/a	1,990	1,990	0	0%
	Total	**61,412**	**49,133**	**10,587**	**2,728**	**26%**	**59,295**	**47,422**	**10,441**	**3,841**	**37%**
Pacific Ocean Perch	W	3,221	2,798	2,798	1,819	65%	3,332	2,895	2,895	3,141	108%
	C	11,948	10,379	10,379	10,523	101%	12,361	10,737	10,737	10,550	98%
	WYK	n/a	1,937	1,937	1,870	97%	n/a	2,004	2,004	1,926	96%
Northern Rockfish	W	n/a	2,573	2,573	1,742	68%	n/a	2,703	2,703	2,038	75%
	C	n/a	2,281	2,281	1,698	74%	n/a	2,395	2,395	1,864	78%
	Total	**5,784**	**4,854**	**4,854**	**3,440**	**71%**	**6,070**	**5,098**	**5,098**	**3,902**	**77%**
Shortraker Rockfish	W	n/a	134	134	81	60%	n/a	134	134	80	60%
	C	n/a	325	325	240	74%	n/a	325	325	142	44%
	Total	**1,219**	**914**	**914**	**321**	**35%**	**1,219**	**914**	**914**	**222**	**24%**
Pelagic Shelf Rockfish	W	n/a	611	611	367	60%	n/a	650	650	533	82%
	C	n/a	3,052	3,052	2,111	69%	n/a	3,249	3,249	2,499	77%
	WYK	n/a	407	407	58	14%	n/a	434	434	75	17%
	Total	**5,570**	**4,754**	**4,754**	**2,536**	**53%**	**6,142**	**5,059**	**5,059**	**3,107**	**61%**
Rougheye and Blackspotted	W	n/a	81	81	25	31%	n/a	80	80	91	114%
	C	n/a	868	868	367	42%	n/a	862	862	216	25%
	E	n/a	363	363	148	41%	n/a	360	360	148	41%
	Total	**1,579**	**1,312**	**1,312**	**540**	**41%**	**1,568**	**1,302**	**1,302**	**455**	**35%**
Thornyheads	W	n/a	425	425	159	37%	n/a	425	425	140	33%
	C	n/a	637	637	302	47%	n/a	637	637	279	44%
	Total (GW)	**2,360**	**1,770**	**1,770**	**461**	**26%**	**2,360**	**1,770**	**1,770**	**419**	**24%**
Other Rockfish	W	n/a	212	212	300	142%	n/a	212	212	364	172%
	C	n/a	507	507	355	70%	n/a	507	507	420	83%
	WYK	n/a	276	276	191	69%	n/a	273	273	130	48%
	Total	**4,881**	**3,752**	**1,195**	**846**	**71%**	**4,881**	**3,749**	**1,192**	**914**	**77%**
Atka Mackerel	**Total (GW)**	**6,200**	**4,700**	**2,000**	**1,615**	**81%**	**6,200**	**4,700**	**2,000**	**2,417**	**121%**
Big Skates	W	n/a	598	598	94	16%	n/a	598	598	146	24%
	C	n/a	2,049	2,049	2,072	101%	n/a	2,049	2,049	2,214	108%
	E	n/a	681	681	90	13%	n/a	681	681	148	22%
	Total	**4,438**	**3,328**	**3,328**	**2,256**	**68%**	**4,438**	**3,328**	**3,328**	**2,508**	**75%**
Longnose Skates	W	n/a	81	81	62	77%	n/a	81	81	104	128%
	C	n/a	2,009	2,009	852	42%	n/a	2,009	2,009	848	42%
	E	n/a	762	762	64	8%	n/a	762	762	131	17%
	Total	**3,803**	**2,852**	**2,852**	**978**	**34%**	**3,803**	**2,852**	**2,852**	**1,083**	**38%**
Other Skates	GW	**2,791**	**2,093**	**2,093**	**1,193**	**57%**	**2,791**	**2,093**	**2,093**	**1,487**	**71%**
	Total (GW)						**9,432**	**7,075**	**4,500**	**1,877**	**42%**
Sculpins	GW	**7,328**	**5,496**	**5,496**	**699**	**13%**					
Sharks	GW	**8,263**	**6,197**	**6,197**	**499**	**8%**					
Squids	GW	**1,530**	**1,148**	**1,148**	**231**	**20%**					
Octopus	GW	**1,273**	**954**	**954**	**917**	**96%**					

Table 38 GOA OFLs, ABCs, TACs, and percent caught 2008 through 2009

		2009					2008				
Species	Area	OFL	ABC	TAC	Catch	% Caught	OFL	ABC	TAC	Catch	% Caught
Pollock	Shumagin (610)	n/a	15,249	15,249	15,079	99%	n/a	17,602	17,602	17,260	98%
	Chirikof (620)	n/a	14,098	14,098	14,000	99%	n/a	19,181	19,181	19,070	99%
	Kodiak (630)	n/a	11,058	11,058	12,469	113%	n/a	13,640	13,640	14,456	106%
	WYK (640)	n/a	1,215	1,215	1,222	101%	n/a	1,517	1,517	1,161	77%
Pacific cod	W	n/a	21,567	16,175	15,231	94%	n/a	25,932	19,449	14,868	76%
	C	n/a	31,521	23,641	23,556	100%	n/a	37,901	28,426	28,527	100%
	Total	**66,600**	**55,300**	**41,807**	**38,787**	**93%**	**88,660**	**66,493**	**50,269**	**43,395**	**86%**
Sablefish	W	n/a	1,640	1,640	1,421	87%	n/a	1,890	1,890	1,669	88%
	C	n/a	4,990	4,990	5,000	100%	n/a	5,500	5,500	5,544	101%
	WYK	n/a	1,784	1,784	1,824	102%	n/a	1,950	1,950	2,058	106%
	Total	**13,190**	**11,160**	**11,160**	**8,245**	**74%**	**15,040**	**12,730**	**12,730**	**9,271**	**73%**
Shallow-water Flatfish	W	n/a	26,360	4,500	97	2%	n/a	26,360	4,500	761	17%
	C	n/a	29,873	13,000	8,386	65%	n/a	29,873	13,000	8,957	69%
	WYK	n/a	3,333	3,333	1	0%	n/a	3,333	3,333	0	0%
	Total	**74,364**	**60,989**	**22,256**	**8,484**	**38%**	**74,364**	**60,989**	**22,256**	**9,718**	**44%**
Deep-water Flatfish	W	n/a	706	706	8	1%	n/a	690	690	13	2%
	C	n/a	6,927	6,927	454	7%	n/a	6,721	6,721	556	8%
	WYK	n/a	997	997	4	0%	n/a	965	965	1	0%
	Total	**11,578**	**9,168**	**9,168**	**466**	5%	**11,343**	**8,903**	**8,903**	**569**	**6%**
Rex Sole	W	n/a	1,007	1,007	342	34%	n/a	1,022	1,022	185	18%
	C	n/a	6,630	6,630	4,410	67%	n/a	6,731	6,731	2,522	37%
	WYK	n/a	513	513	1	0%	n/a	520	520	0	0%
	Total	**11,756**	**8,996**	**8,996**	**4,753**	**53%**	**11,933**	**9,132**	**9,132**	**2,707**	**30%**
Arrowtooth Flounder	W	n/a	30,148	8,000	1,504	19%	n/a	30,817	8,000	3,192	40%
	C	n/a	164,251	30,000	23,361	78%	n/a	167,936	30,000	26,192	87%
	WYK	n/a	14,908	2,500	57	2%	n/a	15,245	2,500	30	1%
	Total	**261,022**	**221,512**	**43,000**	**24,922**	**58%**	**266,914**	**226,470**	**43,000**	**29,414**	**68%**
Flathead Sole	W	n/a	13,010	2,000	303	15%	n/a	12,507	2,000	297	15%
	C	n/a	29,273	5,000	3,359	67%	n/a	28,174	5,000	3,149	63%
	WYK	n/a	3,531	3,531	1	0%	n/a	3,420	3,420	0	0%
	Total	**57,911**	**46,464**	**11,181**	**3,662**	**33%**	**55,787**	**44,735**	**11,054**	**3,446**	**31%**
Pacific Ocean Perch	W	4,409	3,713	3,713	3,804	102%	4,376	3,686	3,686	3,678	100%
	C	9,790	8,246	8,246	8,034	97%	9,717	8,185	8,185	7,683	94%
	WYK	n/a	1,108	1,108	1,148	104%	n/a	1,100	1,100	1,100	100%
Northern Rockfish	W	n/a	2,054	2,054	1,945	95%	n/a	2,141	2,141	1,903	89%
	C	n/a	2,308	2,308	2,007	87%	n/a	2,408	2,408	2,150	89%
	Total	**5,204**	**4,362**	**4,362**	**3,952**	**91%**	**5,430**	**4,549**	**4,549**	**4,053**	**89%**
Shortraker Rockfish	W	n/a	120	120	157	131%	n/a	120	120	131	109%
	C	n/a	315	315	203	64%	n/a	315	315	235	75%
	Total	**1,197**	**898**	**898**	**360**	**40%**	**1,197**	**898**	**898**	**366**	**41%**
Pelagic Shelf Rockfish	W	n/a	819	819	717	88%	n/a	1,003	1,003	566	56%
	C	n/a	3,404	3,404	2,176	64%	n/a	3,626	3,626	2,878	79%
	WYK	n/a	234	234	177	76%	n/a	251	251	195	78%
	Total	**5,803**	**4,781**	**4,781**	**3,070**	**64%**	**6,400**	**5,227**	**5,227**	**3,639**	**70%**
Rougheye and Blackspotted	W	n/a	125	125	77	62%	n/a	125	125	77	62%
	C	n/a	833	833	99	12%	n/a	834	834	192	23%
	E	n/a	326	326	101	31%	n/a	327	327	124	38%
	Total	**1,545**	**1,284**	**1,284**	**277**	**22%**	**1,548**	**1,286**	**1,286**	**393**	**31%**
Thornyheads	W	n/a	267	267	235	88%	n/a	267	267	273	102%
	C	n/a	860	860	277	32%	n/a	860	860	306	36%
	Total (GW)	**2,540**	**1,910**	**1,910**	**512**	**27%**	**2,540**	**1,910**	**1,910**	**579**	30%
Other Rockfish	W	n/a	357	357	403	113%	n/a	357	357	300	84%
	C	n/a	569	569	398	70%	n/a	569	569	439	77%
	WYK	n/a	604	604	82	14%	n/a	604	604	50	8%
	Total	**5,624**	**4,297**	**1,730**	**883**	**51%**	**5,624**	**4,297**	**1,730**	**789**	**46%**
Atka Mackerel	**Total (GW)**	**6,200**	**4,700**	**2,000**	**2,224**	**111%**	**6,200**	**4,700**	**1,500**	**2,112**	**141%**
Big Skates	W	n/a	632	632	73	12%	n/a	632	632	132	21%
	C	n/a	2,065	2,065	1,827	88%	n/a	2,065	2,065	1,241	60%
	E	n/a	633	633	97	15%	n/a	633	633	46	7%
	Total	**4,439**	**3,330**	**3,330**	**1,997**	**60%**	**4,439**	**3,330**	**3,330**	**1,419**	**43%**
Longnose Skates	W	n/a	78	78	78	100%	n/a	78	78	34	44%
	C	n/a	2,041	2,041	1,065	52%	n/a	2,041	2,041	965	47%
	E	n/a	768	768	230	30%	n/a	768	768	112	15%
	Total	**3,849**	**2,887**	**2,887**	**1,373**	**48%**	**3,849**	**2,887**	**2,887**	**1,111**	**38%**
Other Skates	GW	**2,806**	**2,104**	**2,104**	**1,347**	**64%**	**2,806**	**2,104**	**2,104**	**1,387**	**66%**

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