

Chinook bycatch in the GOA pollock fisheries WORKPLAN

In December 2010, the Council initiated an analysis to address Chinook salmon bycatch in the GOA pollock fisheries. The proposed analysis examines amending the GOA Groundfish FMP either to create a PSC limit for western/central GOA pollock fisheries that would close the fishery once reached, and/or require all vessels participating in the western/central GOA pollock fisheries to be a member of a salmon bycatch conservation cooperative, with contractual requirements to retain all salmon until counted by an observer, and other salmon bycatch reduction measures. The Council requested that this action be completed on an expedited timeframe, ideally to be implemented within twelve months, and indicated that this action was an extremely high priority. The Council's December 2010 motion is included as an appendix at the end of this workplan (pages 13-15).

This workplan addresses some outstanding issues on which staff is requesting Council direction:

- Timing of this action, given that implementation for the beginning of the 2012 fishing year is not possible
- Expectations for outreach
- Factors to consider in adopting a hard Chinook salmon bycatch cap for the W/C GOA pollock fisheries
- Clarifications on the range of options included for apportioning the cap under alternative 2 between the Western and Central regulatory areas

1. Timelines

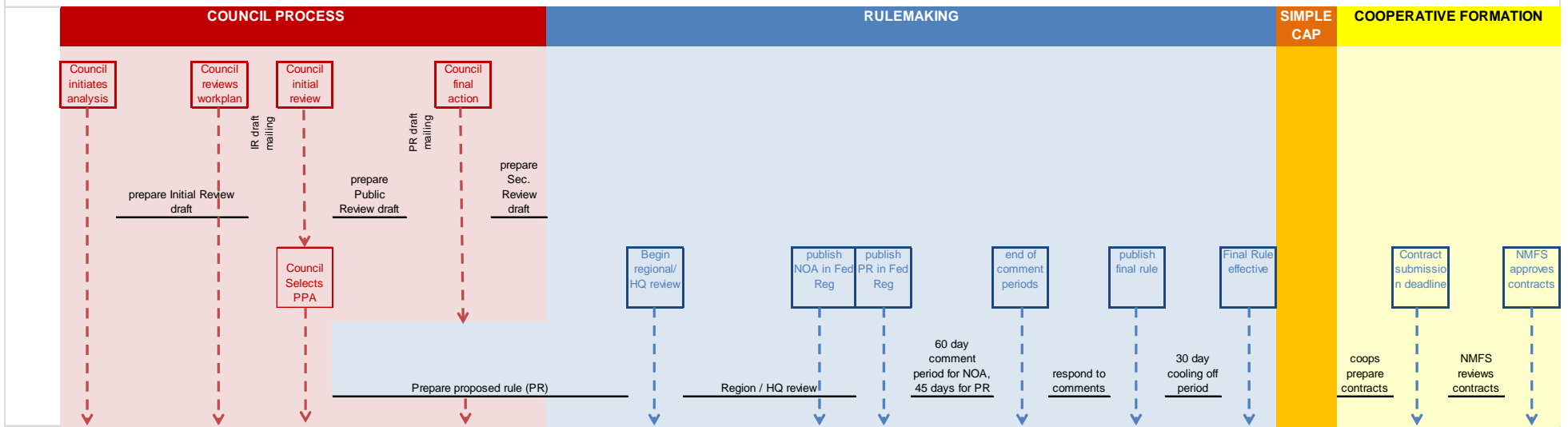
Figure 1 illustrates the major milestones for Council/NMFS adoption and implementation of this amendment package. Two draft timelines are provided, associating dates with the major milestones. The most expedited timeline identifies final action in June 2011, which means that the final rule could potentially be in place by April 2012 (assumptions and caveats associated with the timelines are discussed below). Whether the Council chooses a hard cap (alternative 2), a mandatory cooperative provision (alternative 3), or both, the earliest these could be effective would be for GOA pollock fishing in the fall of 2012, the C and D pollock seasons. Considerations related to midyear implementation of either of these alternatives are discussed in a separate section below.

A second timeline identifies final action in October 2011. In this case, if the Council chose a hard cap, it could also be in effect for the C and D pollock seasons. A mandatory cooperative, however, could not be approved until the end of the year, and thus would not be operational until the beginning of the 2013 fishing year¹.

Staff is requesting feedback from the Council as to whether it is advisable to continue to adhere to the most expedited timeline, given that implementing this action for the beginning of the 2012 fishing year is not possible.

¹ Although not required, it is possible that participants in the fishery will develop cooperative-type arrangements to control Chinook salmon bycatch prior to implementation of any mandatory cooperative system. If cooperatives are mandated, participants are likely to begin development of cooperative measures as a part of their preparation for the requirement. Particularly if subject to a binding Chinook salmon bycatch cap, participants may be compelled to develop such measures.

Figure 1 Draft timelines for GOA Chinook action



OPTIMISTIC TIMELINE with final action in June

Assumptions: 1. this is the highest of the high priorities for Council, NMFS, ADFG, GC, HQ; 2. key staff are available; 3. regs are simple (e.g., if a hard cap is chosen, it is simple with very limited changes to monitoring, enforcement, and catch accounting); 4. Council has a preferred alternative in April; 5. no hiccups

Dec 6-14 2010	Jan 31-Feb 8 2011	Mar 28-Apr 5 2011	Jun 6-15 2011	Sep 15 2011	Nov 1 2011	Nov 15 2011	Jan 1 2012	Mar 1 2012	Apr 1 2012	Apr 1 2012	May 15 2012	July 1 2012	
Initial Review mailing: March 11th 10 weeks to prepare analysis		Public Review mailing: May 6th 4 weeks to revise analysis		Prop. Rule prep: 5 months		Reg review: 4 weeks; HQ, Dept. of Comm., and Fed Reg. review: 2 months		Comment response and review: 2 months		Pollock fishing under cap can start	coop contracts: 6 weeks	NMFS review: 6 weeks	Pollock fishing under coop can start

OPTIMISTIC TIMELINE with final action in October

Assumptions: 1. this is the highest of the high priorities for Council, NMFS, ADFG, GC, HQ; 2. key staff are available; 3. regs are simple (e.g., if a hard cap is chosen, it is simple with very limited changes to monitoring, enforcement, and catch accounting); 4. Council has a preferred alternative in June; 5. no hiccups

Dec 6-14 2010	Jan 31-Feb 8 2011	Jun 6-15 2011	Sep 27-Oct 5 2011	Jan 15 2012	Mar 1 2012	Mar 15 2012	May 1 2012	Jul 1 2012	Aug 1 2012	Aug 1 2012	Sep 15 2012	Nov 1 2012	
Initial Review mailing: May 13 18.5 weeks to prepare analysis		Public Review mailing: Aug 26th 10.5 weeks to revise analysis		Prop. Rule prep: 7 months		Reg review: 4 weeks; HQ, Dept. of Comm., and Fed Reg. review: 2 months		Comment response and review: 2 months		Pollock fishing under cap can start	coop contracts: 6 weeks	NMFS review: 6 weeks	Pollock fishing under coop can start

Assumptions under either timeline, to accommodate the 'expedited' nature of this action

Under either timing scenario, various assumptions are made in order to keep the amendment on an expedited timeline. The Council has already indicated that this action is a very high priority; in order to meet these timelines, **this action would also have to be a very high priority for all agencies:** for NMFS and ADFG staff (whose input is necessary for the analysis), and for those participating in the NMFS and NOAA GC regional and headquarters review process. Key staff, who might be tasked on other issues, would need to be available at the appropriate times in order to meet these timelines.

Another major assumption is that **the Council will select a preliminary preferred alternative at initial review.** This will allow the agency to begin preparations for the proposed rule prior to final action. The timelines also assume that the preferred alternative will be one or both of the alternatives in the analysis. Adding additional complexity to the preferred alternative may impact the simplicity of the implementing regulations, and consequently the timeline.

The timelines also assume that **an EA is the appropriate NEPA document.** In order to proceed with an EA, the preferred alternative(s) in the analysis would have to support a Finding of No Significant Impact.

Final action in June versus October

June final action

- most expedited – allows for implementation of either a cap or a cooperative prior to the GOA pollock C and D seasons (note, see caveats with midyear implementation below)
- initial review in April will likely produce a document that is less polished, and may still have gaps and placeholders that will need to be addressed

October final action

- allows for implementation of a hard cap prior to the pollock C and D seasons, but fishing under an approved cooperative would not be feasible until the start of the 2013 fishing year
- more time for staff to put together a polished initial review draft
- more time for public input/ opportunity for outreach prior to Council final action

Rulemaking for a hard cap

The timelines assume that if the hard cap under alternative 2 is chosen as preferred alternative by the Council, the structure of the cap would be simple – an annual, fixed threshold for the WGOA or CGOA. Once reached, inseason management would close the fishery to the directed pollock fishery in that management area. This simple cap timeline also assumes that we are not incorporating a sophisticated management and enforcement protocol, such as has been implemented under Amendment 91 in the Bering Sea. If the Council recommended, for example, that all vessels be subject to 100% observer coverage and all salmon be censused, then the proposed timeline could not be met. The infrastructure for sophisticated catch accounting does not exist in the GOA to the same degree as it did in the Bering Sea when the Council recommended Amendment 91. Similarly, allocating a cap among cooperatives would add substantially to the implementation timing.

Rulemaking for mandatory cooperatives

The timeline for the cooperative alternative assumes that NMFS would have a limited role in reviewing the cooperative formation standard contracts (e.g., ensuring that the terms and conditions are in the contract). Presumably, a person could join any cooperative subject to the same terms and conditions as any other member. This timeline assumes that NMFS would not have to provide an appeal right if a

person does not join a cooperative. The Council will need to provide some guidance as to how it would like NMFS to approve a cooperative application. If only 1 or 2 cooperatives can form in a regulatory area, the Council will need to define the terms for authorizing a cooperative. Note, a discussion paper evaluating specific issues with respect to alternative 3, mandatory cooperatives, is being presented separately as part of this agenda item at the February 2011 Council meeting.

Midyear implementation

Midyear implementation of either the hard cap or the cooperative is possible. The Council will, however, need to describe clearly how it intends that midyear implementation should work, particularly with respect to the hard cap. The cap cannot be applied retroactively to bycatch that has already occurred in the year (e.g., if the cap was implemented in August 2012, only bycatch accrued during the C/D seasons would accrue to the cap). The Council may choose to specify that for the implementation year only, a smaller cap would be implemented (for example, proportionate to the amount of pollock fishing remaining in the year). If the Council intends to consider recommending a proportionately smaller hard cap that would only be in place for part of the implementation year, the analysis needs evaluate the impacts of a seasonal cap (which is not currently anticipated based on the suite of alternatives). **As this will add considerably to the analysis, and given the expedited nature of this action, the Council would need to indicate at the February 2011 Council meeting that such an option should be evaluated in the analysis.**

Effect on projects currently under rulemaking

Many of the NMFS staff that could have a role in this project are also working on other issues. If the Council continues to expedite this action, then staffing may need to be reconsidered. For example, if the Council chooses a mandatory cooperative preliminary preferred alternative, the development of the proposed rule would likely involve staff currently working on rulemaking for GOA Pacific cod sector splits, GRS revisions, WAG regional exemption, Crab ACL, and Salmon FMP revisions. All of these issues have been previously identified as high, or relatively high, priority issues by either the Council or NMFS. A more detailed assessment of the effect on existing projects could be provided once the Council reviews this workplan, but current projects will slip.

2. Expectations for outreach

The timeline has been developed without consideration of additional time allocated for outreach. Should the Council be interested in conducting outreach specific to this project beyond the normal public process, it is currently envisaged that such activities would have to be worked in around the existing schedule, in order to allow for expedited completion of this analysis. The Council's outreach committee will likely discuss outreach needs for this action at their next committee meeting, tentatively targeted for March 2011.

It is worth noting that this is the first of two amendments that the Council has initiated to address GOA Chinook salmon bycatch. This first action evaluates reducing Chinook salmon in the GOA pollock fishery either through a hard cap or a mandatory cooperative requirement; the second amendment analysis will include management measures for all the trawl fisheries that catch Chinook salmon as bycatch, and will evaluate a broader suite of management measures to reduce bycatch.

The Council already has a comprehensive outreach effort underway by staff and Council members, in February and March, for the Bering Sea chum salmon bycatch analysis. The intention of the chum bycatch outreach effort is to engage stakeholder input early in the process, prior to finalizing the

Council's alternatives for that analysis, so that stakeholders have an opportunity to influence the scope of the analysis, in addition to providing feedback prior to selection of a preferred alternative. In contrast, the scope of the alternatives for the current GOA Chinook salmon bycatch in the pollock fishery analysis has already been defined, and has purposefully been streamlined in order to expedite the analysis and implementation of management measures. While public input on the Council's ultimate decision on this package is always important and solicited, it is staff's understanding that the objective here is to implement a management measure as quickly as possible to limit the possibility of excessive bycatch occurring in the GOA target fishery that catches the most Chinook salmon. Consequently, it may instead be appropriate for the Council to focus any outreach efforts on the second GOA Chinook salmon bycatch analysis that will begin after the current analysis specific to the pollock fishery is finished. This forthcoming analysis offers more comprehensive solutions to Chinook salmon bycatch across all GOA trawl fisheries, and offers an opportunity for stakeholders to engage with the Council early on in the analytical development process.

Regardless of the Council's decision as to the extent of its outreach activities for this action, the agency will respond to requests for tribal consultation throughout the Council and NMFS decision-making and rulemaking process.

3. Factors to consider in adopting a hard Chinook salmon bycatch cap for the W/C GOA pollock fisheries

Adopting a hard cap in the GOA pollock fishery may involve a number of difficult decision points for the Council. Available data to analyze historical bycatch by area in the western and central GOA are limited. The GOA pollock fishery is a very fast-paced fishery, which complicates the monitoring of catch to ensure that the cap is not exceeded. Some of the issues of concern are highlighted below.

Apportionment of the cap between the western and central GOA

As has been described in the discussion paper preceding the initiation of this analysis, the limitations of observer data in the GOA need to be recognized by the Council in apportioning the hard cap between the western and central GOA. The level of observed catch, which is used for calculating historic GOA salmon bycatch estimates by area, is far lower in the GOA than in the Bering Sea. Consequently, there is greater uncertainty about historic bycatch estimates for the GOA compared to estimates for the Bering Sea.

Additionally, most prohibited species data in the GOA is based on CGOA fishing vessel observer data. Chinook salmon bycatch rates from fishing vessels in the CGOA are frequently applied to vessels fishing in the WGOA, because often there are not any observed vessels fishing in the WGOA. The CGOA and WGOA pollock fisheries have distinct characteristics, and Chinook salmon bycatch patterns are spatially variable on an annual, and possibly seasonal, basis. These factors may affect the Council's ability to determine an equitable distribution of a hard cap between the areas on the basis of the historic average bycatch (number or rate) by area.

With respect to apportionment based on the historic pollock distribution, there are also annual and seasonal fluctuations in pollock distribution between the western and central GOA. Historic apportionment between the areas would be based on average pollock distribution between the areas, and would need to recognize that actual pollock distribution in each year may vary from the historical average.

Analyzing the impacts of the cap on salmon fisheries and communities dependent on salmon resources

With respect to impacts of reducing salmon bycatch in groundfish fisheries, there are limitations on the extent the analysis will be able to evaluate effects on salmon populations, and fisheries and communities that depend on those salmon. As described in the discussion paper used to initiate this analysis, we do not have bycatch composition information in the GOA, so we do not have any information that allows us to speculate from which regions the bycaught salmon originated. In the Bering Sea analysis, an adult equivalent (AEQ) model was used to estimate a) how many of the bycaught salmon were likely to have returned to their streams as adults, and b) to which river system or region they would likely have returned. This meant that the Bering Sea analysis could include a quantitative impact analysis of salmon savings on salmon fisheries or communities. This analysis was not without controversy since the underlying data was largely obtained from relatively small sample sizes, collected opportunistically. For this GOA pollock analysis, we do not have sufficient data to develop an AEQ model. Therefore our ability to assess the impacts of reducing salmon bycatch on salmon populations is constrained.

Given that we do not know the Chinook stock composition of GOA trawl bycatch, we will assume that the pollock fishery could be catching Chinook that originate from anywhere in Alaska or elsewhere. We are summarizing available information from limited tagging studies to show what Chinook stocks may be present in the GOA, but it is not possible to estimate the proportion any stock has contributed to the bycatch, and even data from a systematic sampling plan may not allow us to eliminate any particular area from consideration.

The State is compiling background material on the status of Chinook salmon stocks around the state, which will include general status and trends, and for 2010, will indicate whether the status of Chinook stocks was such that fishing restrictions on the commercial, sport, or subsistence fisheries were put in place. In order to keep this analysis on its expedited timeframe, however, we are not planning to include background material on the performance of each Chinook salmon fishery (commercial, recreational, personal use, or subsistence) across the state. This background information is not directly necessary for the analysis, because we are not able to use it to draw conclusions about the impacts of reduced salmon bycatch on salmon fisheries, given that we do not have an AEQ model or estimate of bycatch composition. Also, we will be including only a limited qualitative discussion of impacts of salmon reduction on communities dependent on salmon resources for the same reason.

Management of the cap inseason

The GOA pollock fishery is a fast-paced fishery that is generally completed within days during each season. The participating vessels are either subject to 30% observer coverage, or are unobserved. Even if the Council requires, under component 2 of alternative 2, that all participating vessels be subject to a minimum of 30% observer coverage, the overall level of observed catch remains low.

Under these conditions, there may not be adequate time to respond to high incidental catch data before a cap is exceeded. For example, in 2010 in the western GOA, catch accounting data indicates that 21,064 salmon were caught as bycatch within a single weekly recording period. Even discounting the single week bycatch high that occurred in 2007 in the central GOA², each year there are consistently individual weeks in the central GOA when the accrued bycatch exceeds 2,000 Chinook salmon. It is not likely, under the

² In 2007, catch accounting data indicates that 24,673 salmon were caught in a single reporting week. The calculation of the estimate is consistent with NMFS' established protocol for using observer data to extrapolate salmon numbers in observed portions of catch to total catch estimates for the catch accounting system. NMFS has, however, acknowledged that the majority of the salmon estimated in this week was extrapolated from a small observed haul (with very few salmon and a very small amount of groundfish) to a large unobserved haul.

current monitoring program, that NMFS would have the ability to estimate bycatch in real-time with precision, and close the fishery when a bycatch cap is reached inseason. Given the fast past of the fishery, it will be difficult for the agency to inform vessels of current bycatch levels in such a way that vessels can use that information to prevent them from exceeding the cap. As described in the discussion paper used to initiate this action, it is the practice in the GOA pollock fishery for vessels to bring their pollock catch onboard without sorting it to remove bycatch or incidental catch at sea. Vessels are unlikely to be able to know how much salmon is caught as bycatch until they offload and deliver their catch to the plant. The Council will need to consider and provide guidance about what the appropriate consequence should be if the cap is exceeded before the fishery can be closed.

An additional complication in the western GOA is that many vessels deliver their harvest to tenders. There is currently no monitoring of transferred catch, nor are there observers on tenders. If the salmon bycatch in these deliveries is not observed until the tender offloads at the plant, this may represent an additional delay in the catch information that will increase the difficulty of monitoring and enforcing a hard bycatch cap. In addition, lack of monitoring on tenders could provide an opportunity for salmon discards at sea, and reduce the reliability of salmon bycatch data collected at the plant.

The hard cap may result in changed fishing practices that raise other management issues, as well. For example, hard caps may incentivize and increase discard, which will be difficult to track with the low levels of observer coverage.

4. Clarifications to the range of options in the Council motion for apportioning the hard cap under Alternative 2

The Council's motion includes the following options for apportioning the hard cap under Alternative 2:

Alternative 2: Chinook salmon PSC limit and increased monitoring.

Component 1: 15,000, 22,500, or 30,000 Chinook salmon PSC limit (hard cap).

Option: Apportion limit between Central and Western GOA

- a) proportional to the pollock TAC.
- b) proportional to historic average bycatch rate of Chinook salmon (5 or 10-year average).
- c) proportional to historic average bycatch number of Chinook salmon (5 or 10-year average).

For reference, the data that is being used to calculate the apportionments under Alternative 2 is provided in Table 1, at the end of this discussion paper. Also provided, in Table 2 and Table 3, is a retrospective application of the various caps, as identified in the options, to the western and central GOA pollock fisheries, indicating in which week (listed by week-ending date) the fishery would have closed.

Allowing a single GOA-wide cap

As written, the Council's motion leaves open the possibility that a hard cap might be applied to the central and western areas combined. It would be helpful for the Council to identify at this meeting whether it intends to consider adopting a cap that would not be apportioned by regulatory area. At the December 2010 Council meeting, there was Council discussion and public testimony indicating that the pollock fisheries of the western and central areas involve different participants, fishing practices, and timing, and also that the pattern of Chinook salmon encounters differs between the areas. If the option for a GOA-wide cap remains in the analysis, a discussion of the impacts of how a GOA-wide cap may change dynamics across these fisheries would need to be included. **If the Council does not intend to consider a**

GOA-wide bycatch cap, it would simplify the analysis to be able to remove this possibility from the table.

Option A – proportional to the pollock TAC

Under option A (and potentially also option B), it is unclear whether the Council intended to choose an apportionment based on historic TAC proportionate to the western and central areas, or whether the Council intended that the apportionment between the areas would vary annually based on what proportion of the pollock TAC is allocated to each area. **It would be helpful for the Council to clarify whether it intends an historic or an annual floating apportionment for this option.**

For both the 5- and 10-year average, the proportion of the pollock TAC allocated to the western GOA is 37%, and 63% for the central GOA. If it is intended that a fixed apportionment is to be determined based on historical allocation between the areas, the analysis will use the 37/63% western/central split. If the Council intends that the apportionment float annually, based on the exact proportion of the pollock TAC for each area, the analysis will also need to look at the high and low points of the range of pollock TAC distribution. In the last ten years, the allocation to the western GOA has varied between 35% and 41% of the total western/central pollock TAC.

There are other considerations that must be taken into account if the apportionment of the bycatch cap is left to float on an annual basis. Presumably, the calculation of the cap apportionment would need to occur as part of the harvest specifications process. Given the way our specifications process works, a cap would need to be calculated annually for the next two years. The fishery would open on the bycatch cap as calculated the previous year, and would be superseded in mid-March/April with a revised cap based on the most recent pollock TAC allocation. There may be management ramifications for this process that will be brought forward in the analysis, if the Council chooses to retain the option of an annually floating apportionment.

OPTION A: apportion limit between C/W GOA proportional to the historic pollock TAC (based on 5 and 10 year average)

	15,000 GOA cap		22,500 GOA cap		30,000 GOA cap	
	average		average		average	
Western: 37%	5,550		8,325		11,100	
Central: 63%	9,450		14,175		18,900	

OPTION A: apportion limit between C/W GOA proportional to the annual pollock TAC

	15,000 GOA cap		22,500 GOA cap		30,000 GOA cap	
	low end	high end	low end	high end	low end	high end
Western: 35%-41%	5,250	6,150	7,875	9,225	10,500	12,300
Central: 65-59%	8,850	9,750	13,275	14,625	17,700	19,500

Option B – proportional to the historic average bycatch rate of Chinook salmon, applied to the pollock TAC

It is assumed that the Council intended that Option B not only apportion the limit based on the historic average bycatch rate of Chinook salmon, but that the bycatch rate also be applied proportionally to the

pollock TAC between the two areas³. In this case, the discussion included above under Option A also applies here, namely that **it would be helpful to clarify whether the Council would like to see this calculation based on the historic pollock allocation between areas, or whether it is intended that this should be an annual calculation to be made during the harvest specifications process.**

OPTION B: apportion limit between C/W GOA proportional to historic average bycatch rate of Chinook salmon (5 or 10 year average) and historic pollock TAC (5 and 10 year average)

	15,000 cap		22,500 cap		30,000 cap	
5 / 10 year average	5 yr avg	10 yr avg	5 yr avg	10 yr avg	5 yr avg	10 yr avg
Western (.33 / .22): 36% / 31%	5,400	4,650	8,100	6,975	10,800	9,300
Central (.35 / .28): 64% / 69%	9,600	10,350	14,400	15,525	19,200	20,700

OPTION B: apportion limit between C/W GOA proportional to historic average bycatch rate of Chinook salmon (5 or 10 year average) and annual pollock TAC

	15,000 cap		22,500 cap		30,000 cap	
	low end	high end	low end	high end	low end	high end
Western (5 yr ave .33): 34% - 40%	5,100	6,000	7,650	9,000	10,200	12,000
Western (10 yr ave .22): 29% - 35%	4,350	5,250	6,525	7,875	8,700	10,500
Central (5 yr ave .35): 60% - 66%	9,000	9,900	13,500	14,850	18,000	19,800
Central (10 yr ave .28): 65% - 71%	9,750	10,650	14,625	15,975	19,500	21,300

Option C – proportional to the historic average bycatch number of Chinook salmon

Option C bases the apportionment of the cap on the average bycatch number of Chinook salmon attributed to each area.

OPTION C: apportion limit between C/W GOA proportional to historic average bycatch number of Chinook salmon (5 or 10 year average)

	15,000 cap		22,500 cap		30,000 cap	
	5 yr avg	10 yr avg	5 yr avg	10 yr avg	5 yr avg	10 yr avg
Western: 30% / 27%	4,500	4,050	6,750	6,075	9,000	8,100
Central: 70% / 73%	10,500	10,950	15,750	16,425	21,000	21,900

Total range of options under consideration for apportioning the cap between the western and central GOA

As currently understood by staff, and unless further modification is made by the Council at the February 2011 meeting, there are eleven different options for apportioning the cap between the western and central areas that would be included in the analysis. Under these options, the western GOA would receive between 27% and 41% of the GOA-wide cap that is adopted by the Council. This provides a range in the analysis of between 4,050 and 12,300 salmon based on a cap that is either 15,000, 22,500, or 30,000 GOA-wide. For the central GOA, then, the range would vary between 59% and 73% of the GOA-wide cap. The option resulting in the lowest apportionment of the cap to the western GOA is the 10-year historical average of bycatch under Option C; the option resulting in the highest apportionment is Option A, using the highest allocation of pollock TAC to the western GOA, which occurred in 2007. The full ranges for the western and central GOA are listed below.

³ Note, this has also been confirmed with the maker of the Council's December 2010 motion.

TOTAL RANGE OF OPTIONS under consideration for apportioning the cap, ordered from lowest to highest

Western GOA	Option C - 10yr	Option B - 10yr low	Option C - 5yr	Option B - 10yr avg	Option B - 5yr low	Option B - 10yr high	Option A - low	Option B - 5yr avg	Option A - avg	Option B - 5yr high	Option A - high
15,000 cap:	4,050	4,350	4,500	4,800	5,100	5,250	5,250	5,400	5,550	6,000	6,150
22,500 cap:	6,075	6,525	6,750	7,200	7,650	7,875	7,875	8,100	8,325	9,000	9,225
30,000 cap:	8,100	8,700	9,000	9,600	10,200	10,500	10,500	10,800	11,100	12,000	12,300

Central GOA	Option A - low	Option B - 5yr low	Option A - avg	Option B - 5yr avg	Option A - high	Option B - 10yr low	Option B - 5yr high	Option B - 10yr avg	Option C - 5yr	Option B - 10yr high	Option C - 10yr
15,000 cap:	8,850	9,000	9,450	9,600	9,750	9,750	9,900	10,200	10,500	10,650	10,950
22,500 cap:	13,275	13,500	14,175	14,400	14,625	14,625	14,850	15,300	15,750	15,975	16,425
30,000 cap:	17,700	18,000	18,900	19,200	19,500	19,500	19,800	20,400	21,000	21,300	21,900

Table 1 Data for apportioning caps between western and central GOA

Year	Western GOA (610)						Central GOA (620 and 630)					
	pollock TAC	TAC as % of total pollock TAC for W/C	Chinook bycatch	Bycatch as % of total bycatch for W/C	Pollock catch	Bycatch rate, # salmon/ mt pollock	pollock TAC	TAC as % of total pollock TAC for W/C	Chinook bycatch	Bycatch as % of total bycatch for W/C	Pollock catch	Bycatch rate, # salmon/ mt pollock
2001	31,056	38%	1,072	12%	21,302	0.05	50,261	62%	8,239	88%	40,081	0.21
2002	17,730	35%	2,548	51%	17,281	0.15	32,895	65%	2,482	49%	31,926	0.08
2003	16,788	36%	738	17%	16,299	0.05	30,024	64%	3,557	83%	32,416	0.11
2004	22,930	36%	2,327	18%	23,420	0.10	40,530	64%	10,655	82%	40,363	0.26
2005	30,380	36%	5,951	22%	31,282	0.19	53,122	64%	21,429	78%	50,089	0.43
2006	28,918	37%	4,529	29%	25,001	0.18	48,940	63%	11,138	71%	48,335	0.23
2007	25,012	41%	3,359	10%	18,069	0.19	35,830	59%	31,647	90%	34,973	0.90
2008	17,602	35%	2,116	21%	15,497	0.14	32,821	65%	7,971	79%	33,336	0.24
2009	15,249	38%	441	17%	14,674	0.03	25,156	62%	2,123	83%	24,070	0.09
2010	26,256	36%	31,581	72%	28,593	1.10	47,213	64%	12,334	28%	45,782	0.27
range	35-41%						59-65%					
5 yr average	37%		30%		0.33 (49%)		63%		70%		0.35 (51%)	
10 yr average	37%		27%		0.22 (44%)		63%		73%		0.28 (56%)	

Table 2 Retrospective application of the caps to the western GOA pollock fishery, indicating in which week (listed by week-ending date) the fishery would have closed. Fields that are left empty indicate that the fishery would not have been affected in those years.

Year	15,000 GOA cap										22,500 GOA cap										30,000 GOA cap													
	C - 10yr	B - 10yr low	C - 5yr	B - 10yr avg	B - 5yr low	B - 10yr high	A - low	B - 5yr avg	A - avg	B - 5yr high	A - high	C - 10yr	B - 10yr low	C - 5yr	B - 10yr avg	B - 5yr low	B - 10yr high	A - low	B - 5yr avg	A - avg	B - 5yr high	A - high	C - 10yr	B - 10yr low	C - 5yr	B - 10yr avg	B - 5yr low	B - 10yr high	A - low	B - 5yr avg	A - avg	B - 5yr high	A - high	
	4,050	4,350	4,500	4,800	5,100	5,250	5,250	5,400	5,550	6,000	6,150	6,075	6,525	6,750	7,500	7,650	7,875	7,875	8,100	8,325	9,000	9,225	8,100	8,700	9,000	9,600	10,200	10,500	10,500	10,800	11,100	12,000	12,300	
2001																																		
2002																																		
2003																																		
2004																																		
2005	Oct 15	Oct 15	Oct 15	Oct 15	Oct 15	Oct 15	Oct 15	Oct 15	Oct 15																									
2006																																		
2007																																		
2008																																		
2009																																		
2010	Oct 2	Oct 2	Oct 2	Oct 2	Oct 2	Oct 2	Oct 2	Oct 2	Oct 2	Oct 2	Oct 2	Oct 2	Oct 2	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	

Table 3 Retrospective application of the caps to the central GOA pollock fishery, indicating in which week (listed by week-ending date) the fishery would have closed. Fields that are left empty indicate that the fishery would not have been affected in those years.

Year	15,000 GOA cap										22,500 GOA cap										30,000 GOA cap												
	A - low	B - 5yr low	A - avg	B - 5yr avg	A - high	B - 10yr low	B - 5yr high	B - 10yr avg	C - 5yr	B - 10yr high	C - 10yr	A - low	B - 5yr low	A - avg	B - 5yr avg	A - high	B - 10yr low	B - 5yr high	B - 10yr avg	C - 5yr	B - 10yr high	C - 10yr	A - low	B - 5yr low	A - avg	B - 5yr avg	A - high	B - 10yr low	B - 5yr high	B - 10yr avg	C - 5yr	B - 10yr high	C - 10yr
	8,850	9,000	9,450	9,600	9,750	9,750	9,900	10,200	10,500	10,650	10,950	13,275	13,500	14,175	14,400	14,625	14,625	14,850	15,300	15,750	15,975	16,425	17,700	18,000	18,900	19,200	19,500	19,500	19,800	20,400	21,000	21,300	21,900
2001																																	
2002																																	
2003																																	
2004	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 9	Oct 30																							
2005	Feb 26	Feb 26	Feb 26	Feb 26	Feb 26	Feb 26	Feb 26	Mar 5	Mar 5	Mar 5	Mar 19	Mar 19	Mar 19	Mar 19	Mar 19	Mar 19	Mar 19	Sep 10	Sep 24	Oct 1	Oct 1	Oct 8	Oct 8	Oct 8	Oct 22	Oct 22	Oct 22	Oct 22	Oct 22	Oct 22	Oct 22	Oct 29	Oct 29
2006	Sep 23	Sep 23	Oct 7	Oct 7	Oct 14	Oct 14	Oct 14	Oct 21	Oct 21	Oct 21																							
2007	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24	Mar 24
2008																																	
2009																																	
2010	Oct 2	Oct 2	Oct 2	Oct 2	Oct 2	Oct 2	Oct 9	Oct 9	Oct 9	Oct 9																							

APPENDIX

GOA Chinook salmon bycatch - FINAL Council motion – DECEMBER 2010

The Council adopts the following problem statement and moves the following alternatives for initial review.

Problem statement:

Chinook salmon bycatch taken incidentally in GOA groundfish fisheries is a concern, and no salmon bycatch control measures have been implemented to date. Current observer coverage levels and protocols in some GOA groundfish trawl fisheries raise concerns about bycatch estimates and may limit sampling opportunities. Limited information is available on the origin of Chinook salmon taken as bycatch in the GOA; it is thought that the harvests include stocks from Asia, Alaska, British Columbia, and lower-48 origin. Despite management actions by the State of Alaska to reduce Chinook salmon mortality in sport, commercial, and subsistence fisheries, minimum Chinook salmon escapement goals in some river systems have not been achieved in recent years. In addition, the level of GOA Chinook salmon bycatch in 2010 has exceeded the incidental take amount in the Biological Opinion for ESA-listed Chinook salmon stocks. The sharp increase in 2010 Chinook bycatch levels in the GOA fisheries require implementing short-term and long-term management measures to reduce salmon bycatch to the extent practicable under National Standard 9 of the Magnuson-Stevens Act. In the short term, measures focused on the GOA pollock fisheries are expected to provide the greatest savings. In the long term, comprehensive salmon bycatch management in the GOA is needed.

Alternatives for expedited review and rule making:

The below alternatives apply to directed pollock trawl fisheries in the Central and Western GOA.

Alternative 1: Status quo.

Alternative 2: Chinook salmon PSC limit and increased monitoring.

Component 1: 15,000, 22,500, or 30,000 Chinook salmon PSC limit (hard cap).

Option: Apportion limit between Central and Western GOA

- a) proportional to the pollock TAC.
- b) proportional to historic average bycatch rate of Chinook salmon (5 or 10-year average).
- c) proportional to historic average bycatch number of Chinook salmon (5 or 10-year average).

Component 2: Expanded observer coverage.

Extend existing 30% observer coverage requirements for vessels 60'-125' to trawl vessels less than 60' directed fishing for pollock in the Central or Western GOA.

Alternative 3: Mandatory salmon bycatch control cooperative membership.

In order to fish in the Central or Western GOA pollock fisheries a vessel must be a member of a salmon bycatch control cooperative for the area where they are participating. Cooperative formation will be annual with a minimum threshold (number of licenses).

Cooperative contractual agreements would include a requirement for vessels to retain all salmon bycatch until vessel or plant observers have an opportunity to determine the number of salmon and collect any scientific data or biological samples. Cooperative contractual agreements would also include measures to control Chinook salmon bycatch, ensure compliance with the contractual full retention requirement, promote gear innovation, salmon hotspot reporting, and monitoring individual vessel bycatch performance.

Annual cooperative reports to the Council would include the contractual agreements and successes and failures for salmon bycatch controls by season and calendar year. The Council requests staff explore options related to the following aspects of mandatory cooperative formation:

- Minimum number of licenses required to promote meaningful exchange of information and cooperation to avoid bycatch under the current directed fishery management structure. (Minimum threshold for cooperative formation should be set to ensure all eligible licenses have a reasonable opportunity to participate).
- Evaluate the costs and benefits of minimum thresholds of cooperative membership that would allow for no more than 1 or 2 cooperatives in each region.
- Options to ensure participants outside of a bycatch control cooperative would be subject to regulatory bycatch controls if it is determined mandatory cooperative membership is not possible.
- Appropriate contract elements and reporting requirements.

Alternatives for regular review and rule making track:

The below alternatives apply to non-pollock trawl fisheries in the Central and Western GOA.

Alternative 1: Status quo.

Alternative 2: 5,000, 7,500, or 10,000 Chinook salmon PSC limit (hard cap).

Option 1: Apportion limit between Central and Western GOA.

Option 2: Apportion limit by directed fishery.

Applies to both options: Apportion proportional to historic average bycatch of Chinook salmon (5 or 10-year average).

Alternative 3: Mandatory salmon bycatch control cooperative membership.

In order to fish in the Central or Western GOA trawl fisheries a vessel must be a member of a salmon bycatch control cooperative for the area where they are participating. Cooperative formation will be annual with a minimum threshold (number of licenses).

Cooperative contractual agreements would include measures to control Chinook salmon bycatch, promote gear innovation, salmon hotspot reporting, and monitoring individual vessel bycatch performance. Annual cooperative reports to the Council would include the contractual agreements and successes and failures for salmon bycatch controls by season and calendar year.

The below alternatives applies to all trawl fisheries in the Central and Western GOA.

Alternative 4: Full retention of salmon.

Vessels will retain all salmon bycatch until the number of salmon has been determined by the vessel or plant observer and the observer's collection of any scientific data or biological samples from the salmon has been completed.

Option: Deploy electronic monitoring or observers to monitor for discards in order to validate salmon census data for use in catch accounting.

The Council also requests staff to provide the following:

- Chinook salmon bycatch rate data for each GOA groundfish fishery by month and area.
- Correlation between bycatch rates and time of day (based on observer data or anecdotal information).

- Correlation between bycatch rates and time of year (based on observer data or anecdotal information).
- Information on the flexibility under Steller sea lion measures to adjust season dates.
- Current trip limit management and implications of lowering GOA pollock trip limits.
- Information on current excluder use, effectiveness of salmon excluders, and deployment of excluders on smaller trawl vessels.
- A discussion of potential benefits, with respect to available bycatch measures and salmon savings, of a cooperative management structure for the GOA pollock fisheries. The discussion should assume a cooperative program for the Central and Western GOA directed pollock catcher vessels. Licenses qualifying for the program would annually form cooperatives that would receive allocations based on the catch histories of members. Catcher vessel cooperatives would be required to associate with a shore-based processor in the GOA, but members may change cooperatives and cooperatives may change processor associations annually without penalty.
- Analysis of management alternatives should include potential impacts of those actions on subsistence users.