

Audio Tape #51, April 4, 2009, 2:55-3:21 pm

Eric Olson: Before we begin, I apologize, Mr. Balogh has a statement to make about the minutes he provided earlier in the meeting during the B reports.

Greg Balogh: Thank you Mr. Chairman. Yeah, I'd like to place into the record a slightly revised Fish and Wildlife Service B-5 Report. I was advised that some statements made in that B report about Fish and Wildlife Service trust responsibilities may not have been accurate and I have been unable to obtain advice from any ANILCA experts within my own agency. So in the interest of prudence, I have removed that trust responsibility language from the B report, but the report does maintain the agency's opinion that bycatch of chinook salmon needs to be 40,000 dollars...or 40,000 (laughter) that would be an easy fix, wouldn't it...40,000 fish or less for the reasons that are outlined in the Fish and Wildlife Service's February 9th letter to Regional Administrator Mecum, which you all received yesterday.

Eric Olson: Alright, any questions on the revised report. Commissioner Lloyd.

Denby Lloyd: Thank you, Mr. Chairman. It may seem an archaic issue to the Council but I appreciate the correction. There's a certain dynamic between the Service and the State of Alaska with regard to implementation of ANILCA and we believe that this correction is very important. We were grateful that the Service has decided to provide that correction. We do have some issues with their development of the 40,000 number but that's a technical issue and I won't bring it up any further.

Eric Olson: Alright, further questions or comments on the revised U.S. Fish and Wildlife Service report. Alright, thank you very much Mr. Balogh.

Audio File: 2009_4_6_636

Eric Olson: ...This is the deeming language; once we dispose of this amendment, we'll come back to you on annual reporting. [Sam Cotten: thank you, Mr. Chairman]. Alright, further comments or questions on Mr. Tweit's motion? Seeing none, is there objection? No objection, the motion passes. Mr. Cotten.

Sam Cotten: I've been convinced that the additional information that some of us had hoped to see in the annual reports, including values of salmon transfers, and values of pollock transfers should be made available. But I've been convinced after talking with staff that there's going to be some problems with confidentiality and some other hurdles that would have to be leaped over in order to get there, so I won't offer that amendment now, but I will ask at some point for the Chair or the Council to direct the Data Collection Committee, or whatever the name of that committee is that we have, to evaluate and pursue those issues. So, I'll wait...maybe the appropriate time would be Staff Tasking to give direction to a committee?

Eric Olson: Well, let's see...Mr. Mecum has some comments.

Doug Mecum: Well, yes, Mr. Chairman, Mr. Cotten I think has the right approach and I definitely would recommend that we take that up in Staff Tasking.

Eric Olson: Mr. Fields.

Duncan Fields: Mr. Chairman, in the initial discussion we had talked about a trailing amendment, it didn't catch up with the amendment package, it seems like our discussion has evolved into something that's a much more lengthy process and would almost be a subsequent amendment package. And much of my confidence in the savings...incentive plans were full transparency, Mr. Chairman. So I have levels of concern now that we're moving into a committee process with subsequent recommendations. What's your anticipation of timeframe for decision back at the Council regarding this item?

Eric Olson: Well, I guess it all depends...it depends on what we have the discussion at Staff Tasking, along with all the other items that the Council has. I think it's a question of where the Council collectively puts its priority on this. If we believe collectively as a Council that this needs to move faster, we pass that instruction on to the staff. But Mr. Mecum do you have anything else to add.

Doug Mecum: No, I concur; and we can have that discussion as well. I agree with your objectives and it could be although it may be a trailing, I think it should be a separate action, the timing of it is something we can discuss, yes.

Eric Olson: Mr. Cotten.

Sam Cotten: Thank you, Mr Chairman. Just ditto that, I'm interested in speed and expedient activity on this, so I'm certainly with you.

Eric Olson: Further comments? Are we ready to start speaking to the motion? Alright, I open it up to final comments. Commissioner Lloyd.

Denby Lloyd: Thanks Mr. Chairman. I guess I have some introductory final comments, if you'll indulge me. We came into this Council action on chinook salmon bycatch in the Bering Sea trawl fishery to lower bycatch rates in order to reduce impact on inriver uses of fully allocated salmon resource. A relatively high hard cap on chinook bycatch is not expected to achieve the goal of bycatch reductions in

most years, thus it is not expected to meet the purposes of this action. A lower hard cap level, that would have been restricted of a broad range of historic years is necessary if the hard cap on its own is expected to improve fishery bycatch reductions. The 10-year average number of chinook salmon taken in the fishery, which is the base level we have been revolving around at 47,591 fish would have been restrictive in six of the past 17, or if you include 2008, 18 years, in absence of changes in behavior. The Council anticipates that the industry will respond to that type of hard cap level will successful salmon avoidance measures in the years of high chinook salmon encounters. For example, if the 12% savings from actual annual bycatch levels were consistently achieved, this cap would have prevent full harvest of the pollock Total Allowable Catch in only the three highest years of chinook salmon bycatch. The increase in the use of salmon excluders in combination with time and area changes in fishing patterns, have the potential to achieve a substantial salmon savings once the entire fleet actively engages in salmon avoidance measures. The cap is likely to effectively limit chinook salmon bycatch in nearly every year if that were the only tool the Council chose. The disadvantage of a low hard cap on its own is the inability to accommodate high level of variability in chinook salmon encounters in the Bering Sea pollock trawl fishery and our lack of understanding of the condition that supports high encounter years. A moderate hard cap on it's own, in low encounter years, may not provide incentive for the fleet to minimize bycatch to the extent possible. The Council has heard from industry that variation in chinook salmon abundance across years and seasons makes a single hard cap level insufficient in addressing the entire problem that we're facing. We do not have sufficient information to determine whether these low bycatch years are due to low salmon abundance or other conditions. The cap, if not restricted in a year, will be perceived by a rational operation as a number the fleet could fish to, in order to maximize their economic returns in the target fishery, rather than serve to promote salmon savings. If low encounters are due to low salmon abundance in one or more stocks, a hard cap in a year that is not restraining would be unresponsive to biological concerns. Those considerations have lead us to the development of not just a hard cap, but to an incentive-based system coupled with a hard cap. The uncertainties surrounding conditions that drive chinook salmon encounters, annual variation, and inriver salmon returns and stock of origin by time and area in the pollock fishery, all support consideration of an alternate approach to a static hard cap alone, as a control in chinook salmon bycatch. We've recognized the high level of variability of chinook bycatch that has occurred prior to and since implementation of the American Fisheries Act. Variation in total number of chinook salmon taken annually and variation in the seasonal and sector distribution of those harvests are significant throughout the range of historic data provided for the analysis. It is in recognition of this uncertainty and variability that we here put forward an option for the industry to present incentive plan agreement, or IPAs, providing insurance to the Council that under conditions set out in the IPAs, all operations will have incentive to avoid chinook salmon through a systems of rewards or penalties or both. This option was developed with the intention of better meeting both National Standard 1, which supports full prosecution of the groundfish fishery, and National Standard 9, which requires minimization of bycatch to the extent practicable. A significant portion of the chinook salmon not taken as bycatch will remain in the ocean and return to inriver systems in order help achieve escapement goals or be available to inriver users to who salmon are already fully allocated. If the industry failed to provide such assurance in the IPAs, then a hard cap, set at the 10-year 1995-2006 average of 47,591 is thought to be the best approach until additional information becomes available supporting more sophisticated dynamic approach to chinook salmon bycatch restriction in the Bering Sea pollock trawl fishery. Thank you Mr. Chairman.

Eric Olson: Further comments. Mr. Merrigan.

Gerry Merrigan: I'm gonna support this motion. I think we have to back up a little and figure out how we got here. The previous council action occurred after several years of 50,000 plus bycatch in the mid 90s and that's when the Council established year-round accounting and it triggered closure areas of historic high abundance, and then the chinook bycatch went down and stabilized. And the numbers started increasing in 2004, and then industry, I think started then, with the voluntary rolling hot-spot on

their own in 2002. But the Council started taking this up again, because it was apparent that this closure area was not meeting its intent and rates were higher outside the area than they were inside. Then the VRHS was implemented comprehensively by EFP in 2006-2007, and in 2008 by EAFP in those two years and by an FMP in 2008. Then there're some very high years of bycatch culminating in 2007, which lead to the action today. And additionally there's been experimental work done on salmon excluders. It think just pointing out all these things is to realize that the Council's been taking action on this for a very long time, trying to minimize bycatch—it's not just our first action. There's also additional work being done on potential thermal clines and water temperatures that turn potential chinook distributions. The Council and the fishing industry has consistently, continually taken efforts to reduce bycatch in marine fisheries. It's difficult to determine the measureable effectiveness in the absence of controls, where you would allow all these things not to occur. Since then, bycatch has reduced considerably in 2008 and 2009 but it's hard to determine why that was—whether it's abundance, or the new closure area that was put in that was adopted by the industry—that can move much quicker than we can in establishing closures and during the closures in the A season, or was it a change in the behavior of the fleet, or the VRHS. But it's apparent that there's considerable variability from year to year for boats indicated that behavior can be attributed to lower and higher by catches on average over years. But then there always is the X factor for the boats. This action will set a hard cap in the pollock fishery that will shut it down if it is exceeded. This is unprecedented for this fishery for salmon bycatch having a hard cap but it's not without precedent in groundfish management to close down fisheries when the PSC limit has been reached. Purpose of this action is to minimize chinook salmon bycatch to the extent practicable. And that standard is "to the extent practicable" does not mean to what is all possible; and in this case we also looked at simple hard caps and there are some advantages to those—they're very easy to understand and communicate to people. But a very low hard cap does not provide any protection—and that's all you have without incentive plans—it provides no protection to chinook in low years of abundance that these incentive plans provide that we have in our preferred alternative. [difficulty deciphering] Also, in years that could be very.....years where we may not provide protection and also in other years enabling for pollock, and I think that again addresses the part where we minimize bycatch to the extent practicable and not to the extent possible.

The Council PPA has been out there since June. We received extensive public comment. Some people stayed very polarized and did not budge from their original positions and other people really came forward and recognized that, "no they didn't want to put the pollock fishery out of business."; and the pollock fishery stepped up and provided several different incentive plans and in the last two meetings we've had a large differentiation between the Legacy and the SSIP plan. And I think it's something to note there that in the Legacy plan everybody started out with two-thirds of what they were allocated, they were never zeroed out or got into a hole. Well they can dig themselves into a hole in this new plan and it's got some severe ramifications. In our motion I think we spoke to the number level, the upper limit is now 60,000 and that represents like a relatively near time period of like around six years about 2002 to 2008, and then we have, what the real performance standard is the real point of this action I think is the 47,579 number that we're trying not to just stay below that number, but we have the incentive plans to work at all abundances. We also have an opt out that's not real attractive to hopefully that people will stay in the incentive program. We also have provided some tools of allocating that across the sectors and I guess we didn't speak to this but to the 75/25, there's been comments that we're rewarding bad behavior by rewarding catch history of bycatch in the 75/25 and that is a compelling argument. But then when we looked at the public process and the testimony received, because of the 70/30 split, the CV sector was losing some additional percentage there, and there's also the factors that operational differences at least in the B season, and then finally you get down to the exempt boats that have some difficulties, the same...increased operational differences, and I guess finally when you get down to zeroing it down to the allocation at the individual vessel level, you get into some very small numbers and I think where people might wonder why are we allocating bycatch in part based on bycatch history...I think those are all extenuating circumstances of why we're doing that. We're gonna allow sector transfers in co-op

provisions, tradeable bycatch, and people may not like it but that's the way that this is going to work in a cap and trade system. We do have a performance standard that was put in to make sure that this fishery works on a longer term scenario—the three years from seven, that is also punitive, once you hit that, you will also be at the lower cap number. And that is always the two-part part of this program, that there will be that lower cap number always sitting there for people to realize. And that's why that 47,591 number is the real focus of this entire package. It might get reported in the press that we set a cap of 60,000, I think that would be doing a disservice to the [inaudible word] that developed the incentive plans and the 47,591 performance standard. This will have increased costs to 30% coverage boats that deliver...don't deliver codends and take the bag onboard will all be now at 100% coverage, and there may be additional coverage at the plant level.

Going on the effects of chinook stocks, we're looking at...we had several scale pattern analysis that were dated we used ... ~~Audio File: 2009-4-6-651~~ ...used the best available science; we used the Seeb study, the genetic data to kind of indicate the impact of the chinook we're looking over in large area, a portion of that's the western Alaska, a portion of that is the different stocks along the coast. By bringing the cap levels down, I think we will be helping all these stocks in the long run. The effect on Western Alaska communities was very interesting in the public testimony. There are some communities that are up rivers that are pleading with us to lower the cap, and there're others that want to raise it. So, the western Alaska communities both have benefits from...at least some communities from pollock and chinook and some from chinook only, and I think we've taken those into account. We also have communities like Dutch Harbor that also testified and I think we're trying to balance out all these sectors and all these communities. We're probably going to do a job by making everyone unhappy just a little bit, and then maybe we did a good job. In terms of NEPA, we've had comments that the draft EIS was not sufficient, but I think this draft analysis was sufficient for us to make an informed decision. The staff did an incredible job of turning around and responding to the comments and attached new appendices and tables and made corrections. We did not have economic revenue values, past first wholesale revenue value for the CP sector, we had some additional processing sector, but we did have some qualitative statements as to values. We also got some additional information on CDQ ownership and again it can be derived the effect on CDQ groups that also investments in the open access sector, it's not explicit in there but I think it is implicitly. In terms of the Salmon Treaty, I think listing all those things that the Council's done over a number of years to reduce bycatch in marine fisheries...and it goes all the way including this action and back, and the savings area, future work in excluders, I think that is consistent with the language of the Treaty to continue to minimize and reduce bycatch in marine fisheries. In terms of the ESA listed stocks, our incidental take statement was 87,500; we're setting a cap well below that. In terms of ANILCA, while we may have no legal requirement on that, as that does not apply to the outer continental shelf, there is a relationship with Fish and Wildlife Service and I think this action will deliver more fish to the western Alaska rivers. But given that, there's more going on with chinook stocks in western Alaska other than just salmon bycatch. There are things going on, we've had presentations looking at the effect of climate, and there may be diseases and other things so the idea that just to put a cap on this fishery is going to rebuild streams is not the expectation of this action. It may increase a small portion of chinook going back but it's going to take additional actions in additional environments that are outside of our control. So, if the stocks aren't rebuilding after bycatch is reduced, it's not just an A-B causal relationship, there are going to be other factors involved there. The National Standards, I think I addressed the first one...National Standard 1 we're trying to achieve OY, this will result in the pollock fishery having some reduced catches on high years of abundance, but I think we will be achieving OY in the aggregate and with hopeful response and change in behavior from the participants in the fishery that we still would be able to achieve the pollock TAC is the goal of the incentives plans. But in balancing out National Standard 9, again it's to minimize to the extent practicable, to minimize bycatch, and to the extent bycatch be avoided, it minimizes mortality. While they're dead fish so we're going to try to minimize the bycatch and I think we've taken actions to do that. In terms of National Standards for sustained participation in coastal communities, I think we're looking at a variety of communities, both

that are chinook and pollock dependent, and again we're trying to balance that action out. I'm sure other Council members can cover other national standards because I'm getting kind of lost here in my paperwork, but Mr. Chairman, I'd like to support, I think this action is consistent with our problem statement, and I think it was a tough balancing job, and again, in a way, I hope we made nobody happy, because then we did a good job.

Eric Olson: Alright, I have Mr. Dersham and then Mr. Tweit


Ed Dersham: Thank you Mr. Chairman. I'll be supporting this motion. I just want to make a few brief comments about my take on some of the national standards. Mr. Chairman, I think much of the discussion and debate that's taken place this afternoon, has been directly in relation to juggling the balls of National Standard number 1 and number 9, while also addressing National Standard 2 to use the best scientific information available. I think it's been a very good debate and discussion, and I think the Council has done its best with the information before us to adequately balance consideration of those two national standards while using number 2. Regarding number 4, I think this action is consistent with National Standard 4 to not discriminate between residents of different states. I think that it addresses National Standard 5 in that it definitely does not have economic allocation as its sole purpose. National Standard 7, it's a little difficult to take the action we're taking and address that, but I think some of the discussions about trying to find the numbers that gave the smaller vessels the best chance of not being driven out of the business, I think to some extent that does address National Standard 7. And I definitely think that the action favorably addresses National Standard 8, taking into account the importance of the fishery resources to the communities on both sides of this equation. Mr. Chairman, thank you.

Eric Olson: Mr. Tweit.

Bill Tweit: Thank you Mr. Chair. I echo the comments of Commissioner Lloyd, Mr. Merrigan and Mr. Dersham. I have been looking at this issue as well from the standpoint of salmon that originate from the lower 48 and understanding that throughout the rest of their migratory range, those salmon are subject to some form of management framework or another that provides upper limits. In most cases, we're able to...we know enough to actually key that to an abundance-driven approach, in this case we don't. But this is one of the few areas then in the ocean where we did not have a clearly defined management framework that provided a clear upper limit. Obviously, for salmon from the lower 48 as well as salmon from anywhere else, that's a problem. I'm convinced that this action provides that and sort of then fits this fishery into the full gauntlet that those...appropriately fits this end of the gauntlet those fish travel through. I've also been concerned about the pollock industry through this, for two reasons (1) because we've worked really hard to build a sustainable rationally-managed pollock fishery, and (2) because a destabilized pollock fishery in our experience, is not going to do a good job of dealing with salmon. The best preservation for salmon is a rationalized fishery and so one of my concerns has certainly been to avoid creating a race for fish again, with this fishery. I believe this motion, as it's constituted, does that and I appreciate that. I think it's important that we not rest with this. I think it's important that we begin evaluating and continue to think about how to continue to provide industry with tools to, as I've talked before, about providing a continuous downward pressure on chinook management. We don't need chinook in order to catch pollock. Unfortunately, there are times that they coexist in lesser or greater degrees, but certainly the optimal situation is the ability to harvest pollock with virtually no chinook and I think that argues for continued downward pressure. Doing it in a balanced fashion where we maintain the pollock industry's ability to meet national standards, and to approach the issue of minimizing chinook bycatch in as rationale approach as possible. Because ultimately, that is where we get the best benefits for chinook as well. I think there's a long-term expectation particularly with the choice that we've made here of a fairly complication program and one that might not always be intuitively understandable. There's definitely an expectation for transparency and I strongly support portions of this motion that call for

reporting. I would encourage industry, as well, to keep that issue of transparency foremost in their minds. I think that will help all parties involved here. And an aspect of that, that we've not discussed much at all in our deliberations today, but I think is extremely important and I would strongly encourage further work on, is the issue of developing sampling plans for that fishery. I'm disappointed that we don't have those plans in place for this year; although I understand that the sampling regime for this year is a significant improvement over last years. But we should, I would hope, by next year, have a formal well-developed, well-reviewed sampling plan in place for this fishery that we will carry forward into the future. And while that's not part of this motion, I thought it was important for the record to remind the folks who are working on that, that that is part of our expectation and certainly an underpinning of our ability to fully understand the impact on salmon and to evaluate the progress that we hoped to make under this motion and under this action to further reduce bycatch of salmon. Thank you, Mr. Chair.

Eric Olson: Mr. Henderschedt.

John Henderschedt: Thank you Mr. Chairman. I first of all want to thank staff and the agency industry for the incredible amount of work that has gone into this issue. It's really astounding to think about the amount of mental energy that's gone into this process since last June. I certainly don't want to overlook that. I need to state that while I will support the motion, it is with considerable reluctance. The Council has made two significant changes to the PPA at this meeting, that has lowered the cap from 68,000 to 60,000 fish and it has placed a performance standard of three of seven years, not to exceed the scenario to PPA2 number. And I really don't know exactly what the impact of these changes are, but I am fearful that in the case of lowering the cap as Mr. Tweit explained very earlier...what we have done, I think more than anything, is removed a lot of incentive from the process. And I am very concerned that we will...we've taken away some of the downward force on bycatch rates that might have been achieved under the original construct of the PPA. In regards to the performance standard, while I fully acknowledge the need for the Council and the public to have some reasonable expectation of the true outcome of the implementation of these programs, I don't know whether one or the other of the incentive plans that we have been presented can work within this framework, nor do I know what sort of changes might have to be made to these programs in order to make them work. I don't know how effective they will be if those changes can be made. And so, while I'm an eternal optimist, I really don't know that I can project any, with any certainty, that the FIP or the SSIP can really be implemented the way I would love to see them work. I would also like to refer to some discussion earlier regarding the notion of a contract between the Council and industry. I understand that PPA is just that—it's a suggestion of where the Council may be headed in its...toward its determining a final preferred alternative. But I also think in this case, the Council needs to take its actions very seriously. In my view, the Council did  File: 2009_4_6_706 in some respects enter into a contract. It set forth certain parameters, within which industry was asked to set up incentive programs and industry did that. I have a lot of appreciation for the iterative process that took place between the Council and industry in developing these programs and I'm disappointed that in the end we don't have a more certain result in regard to whether or not these plans can be implemented. But I do think that the Council needs to take its actions in this sort of interchange or exchange with industry very, very, seriously because a tremendous amount of work has gone into developing these programs in various sectors and amongst the Council and staff, etc. So I guess as I said, I am an optimist, and I am hoping very much that over the course of the next year or so that the best minds in industry can come together and look at this final result and make adaptations to the FIP and SSIP that can make them work, because in the end, I believe that these incentive programs are the best way to reduce salmon bycatch to the greatest extent possible at all levels of encounter. My involvement in this process has been toward that objective. And so, again I will support the motion, I thank everyone for a lot of work and I am hopeful that these programs can be put into place in a couple of years.

Eric Olson: Alright, thank you Mr. Henderschedt. Mr. Hyder then Mr. Fields.

Roy Hyder: Thank you Mr. Chairman. In the wake, and I match the eloquence of the Council members that have previously spoken, and I want to say that I support their comments in its entirety. I look at this in terms of a big step on the part of the Council. This action is going to reduce bycatch. Definitely, clearly it's going to reduce bycatch—we're not going to have the bycatch that we had in 2005, 2006, or 2007 because its above the hard cap. The incentive plans will further reduce bycatch and we hope that we will reach those kinds of levels of bycatch that everyone has spoken about for the last couple of days. And we'll get down in those areas where the folks from Western Alaska will feel comfortable and those bycatches will be—who knows how low we can go—maybe we can see something down around the lowest caps they recommended. So not to repeat Council members that have already spoken, I just want to talk very briefly about how I got to the point where I'm going to support this motion. I have some reservations about it, I think we're out on the edge of the envelope in a couple areas, but I certainly support the motion. When we started this discussion and the bycatch went way up—120,000 or something like that—it was real apparent that the Council was going to have to get on the stick and do something. And I was looking forward to a discussion that would allow me to understand in a scientific way if I could understand the science, but what is the appropriate conservation-based level of bycatch allocation of chinook salmon in the pollock fishery. Where is that? Is it 100,000, is 80,000, is it 60, is it 50, on a scientific level? And then I wanted to understand what's the appropriate level of river use commercial, subsistence, and the cultural values and the social values in the river. And certainly those two numbers are a long ways apart. Because the natural tension between those two, it's almost impossible to resolve. I wanted to understand those...so I was looking at this thing as "status quo" until we learned that. Then the Council just took a quick turn and went over and said we're going to start looking at a number and we'll start having our discussion towards that number. So, then I started thinking, well maybe a straight-forward prohibited species management is the way to go—maybe we just set a hard cap. I moved past Alternative 1, status quo, certainly and maybe we just set a hard cap and the pollock industry learns to live with season closures based on PSC as many other fisheries do. Conversation immediately started in to find there are huge costs involved with that. And we learned the last two days the tremendous impact that would have on people that live in Western Alaska. Incidentally, we're super appreciative of the public testimony that I've enjoyed at this meeting—it's just been tremendous. So, speaking to final action, I rejected the hard cap in Alternative 2 and considered briefly, is there any option...of course, this discussion moved real fast and although these alternatives are in our action to look at...we never did really get a good hard look and consideration of triggered closures, because we had moved past that. And I don't think Alternatives 1, 2 or 3 came up to snuff. I don't think that we could really have utilized any one of those, certainly Alternative 1 is not an option—to get where we need to get, and I think today we came pretty close. I have some reservations, because I think the downstream effects of our action, if we have those terrible years where salmon encounters are just out there, and those small independent vessels that have to drive out from town have a terrible time of avoiding those encounters, I think we're putting those folks at risk. I think we're putting them at risk economically. I think we're close to the point where we should take a real hard look at national standards relative to safety in this action, specifically as we talk about that sector. Given that concern, however, overall unbalanced I'm going to support the motion and I hope some day I can talk to Andy, or I can talk to one of the other folks up the Yukon River and they can say, "you know, you were completely wrong about that conservation on the Yukon River, and the bycatch limit did work, and it's put a lot of fish in the river." If that doesn't happen, then it would be my hope that collectively, the industry, the agencies, and the Council would make some maximum efforts in stimulating the kind of research towards actions that will concurrently move towards sustaining those runs and even recovery. Thank you, Mr. Chair.

Eric Olson: Alright, thank you very much, Mr. Hyder. I have Mr. Fields, Ms. Ricci, then Miss Benson. I'm sorry, Mr. Benson...[Laughter] that was...sorry, I really do apologize.

Duncan Fields: Thank you Mr. Chairman, I'll be brief. I've appreciated Mr. Hyder's comments and other Council members. Staff had asked that it would be helpful to identify the level of chinook salmon bycatch to which our action applies, and I'm hopeful that we'll see chinook savings at all levels of abundance in the Bering Sea pollock fishery, because I am hopeful that this motion and the incentive savings plans will change behavior, Mr. Chairman. I think we remember early in the analysis a lot of the projections said that they couldn't anticipate changes in behavior and changes in the operational mode of the fleet. And I am supporting this action today because I believe that the industry incentive plans will change behavior and at all levels of abundance we're going to see bycatch savings Mr. Chairman. I hope and trust that in the years ahead we'll see substantially reduced levels of bycatch. On the other hand, if bycatch remains close to the 47,500 over a period of time, I'll be disappointed because I don't think the industry incentive plans will get delivered what they've promised us today, and on that basis why I'm supporting this motion. Overall Mr. Chairman, most Council actions require difficult balancing. I've looked at National Standard 8, balancing conservation requirements and taking into account the importance of fishery resources to the communities, and then also provide for the sustained participation of such communities to the extent practicable, and to minimize adverse economic impacts. This is a struggle for me. I would like to have seen lower thresholds. I appreciate the concerns and the needs of many residents on the Yukon River, both in Alaska and Canada. But on balance, I think that we've taken a significant step towards limiting chinook bycatch and providing opportunity for some recovery in that area, Mr. Chairman. I also wanted to say how much I appreciated all those that testified. Particularly perhaps those that came a long way and those that aren't familiar with our process, and may have testified for the first time. Your heartfelt testimony was very persuasive to me and I appreciate your participation in our process. I think it strengthens our process, and Mr. Chairman, I think it strengthens my decision-making in terms of coming around to supporting this motion, thank you Mr. Chairman.

Eric Olson (Chairman): Alright, thank you Mr. Fields. I have Ms. Ricci, then Mr. Benson, then Mr. Balogh, then Mr. Cotten.

Nicole Ricci (State Dept): Thank you Mr. Chair. I wish that I could share this Council's view that this is a bycatch reduction. I don't see that...how this is a bycatch reduction at the motion that you have in front of you now. If you look at the past seven years... if you look at a seven-year clip of bycatch, ignoring the two egregious years, your performance standard would only have been triggered twice, which wouldn't be enough to bring bycatch down, and it would be enough to severely hurt the runs on the Yukon, which you've heard testimony after testimony of people that dipped into meager savings to come here and ask you to care about their resource, which you have failed to do. Sixty thousand (60,000), if hit two times, if it were to go up to the high cap, would take roughly 7,000 to 9,000 fish off of the Yukon who are already not meeting their escapement goals. At 47,000, it's roughly 7,000 to 8,000 fish off of the Yukon who are already not meeting their escapement goals. I don't understand how you can call this a reduction. I don't understand how you can say this meets the needs of the people of Alaska. Your allocation isn't based on a fair look at those people's needs. You have the two years...the highest year that you have if you count out your two egregious years, when the salmon savings and the rolling hot spot system was in place, when inshore boats were warned that if they went to a particular area there would be salmon, and they chose to go there. They chose to fish, the data shows, they chose to fish near the plant where the pollock was fat and the salmon existed. All you've done is cut out egregious acts. You've made savings of salmon an easy thing to avoid. You haven't rewarded salmon conservation in this motion. And I most thank Mr. Merrigan for his comments, who stated, that this motion in bycatch reduction is not to increase inriver runs, which is in direct conflict to the treaty which you have not chosen to take into account here. The State Department has contacted the Council and spoken with the Council numerous times to say that we have concerns on our treaty on the U.S. treaty obligation needs and that if you set a hard cap substantially over the 10-year average, which you have done, that you would not likely meet Treaty needs, which you will not. If you put this motion forward, then the Council is failing to take action that

they know will meet all of the applicable laws. I've been sitting here listening to you explain to me why setting a performance standard at 47,591 that has to be tripped three times, is something that's going to keep fish in the river, and I wish somebody would pass the Kool-Aid because I do not get that. I do not get that logic and I don't think that you've made fair cases for it. It's one thing to not take into account U.S. Treaty needs, but it's another thing to completely ignore the resources within this state that is available to you to protect to allow a fisheries that's been in existence for thousands of years, to be completely run over by one that's been around for less than a century, less than a quarter of a century even. This has been one of the most disappointing things I have sat through and to Mr. Hyder, I appreciate the fact that you say that you hope that it works. But I think that this was an historic decision and the time for hoping and not taking Audio File: 2009-06-721... precautionary measures and taking something into account that you knew would work was greatly missed here today.

Eric Olson: Thank you Ms. Ricci. I have Mr. Benson, Mr. Balogh, and then Mr. Cotten.

Dave Benson (Vice Chair): Thank you Mr. Chairman, I'll try to be brief, I know it's late in the day. I do support the motion. I think it's a reasonable compromise and does a pretty good balancing act between the National Standard 1 and National Standard 9. I think Mr. Merrigan provided us with a very good history of where we've been and where we've come, so I won't repeat that. But I will say, when I started in this process in... 16 years ago on the Advisory Panel, Harold Sparck was there and I heard Henry Mitchell today, former Council member, mention his name...and that's all Harold wanted to talk about at that time was salmon bycatch because he knew I had just come off the Bering Sea and I'd been fishing out there on large trawlers for some time and he really appreciated speaking to a captain. So we have come a long way since then, and I would remind the Council that there are other things that may have influenced increasing the bycatch, and just a couple I can think of are the Aleutian Island pollock closure, where I think the bycatch used to be a lot lower. We've been closed out of that for a long time and then long about year 2000 we started facing some pretty significant Steller sea lion restrictions that closed us out of many other areas. And so basically, tended to get squeezed so there's just a lot of unknowns out there. And I would also thank the public for the time to come up here. I know it's pretty scary for a lot of folks to get up in front of us to testify, and I'm sorry that we could only give them a couple minutes. But their testimony was heard loud and clear. Some of the testimony that I heard I think had high expectations that setting a cap of 32,000 was, as one gentleman I think from Dillingham put it, it would ensure subsistence needs are met. Well that's simply not the case. If you want a snapshot, and again I apologize to the public for the huge amount of paper that has been developed for this analysis... 750-page analysis, 250-page comment report, it's just overwhelming for most folks. But on page 285 of the EIS, you get a snapshot of the salmon saved and the adult equivalents, and under the PPA2 level, which is what this action's focused on, keeping everybody around that 47,000 number, we're looking at 40,851 adult equivalent salmon saved. Now that breaks down to 8,840 on the Yukon; 5,746 on the Kuskokwim; 7,514 in Bristol Bay; 11,135 in the Pacific Northwest, which we've heard really very little about those salmon here in this process; Cook Inlet 1,202; transboundary aggregate stocks 821, North Alaska Peninsula stocks 4,389; aggregate other stocks 1,203. So that gives you a quick snapshot of what this action should result in. And you flip over a couple pages to page 288 and you can see the tradeoffs between a reduction in bycatch at the highest level of 68,000, which we have now dropped down to 60,000, in the worst bycatch year of 2000, the 68,000 would have resulted in 46% reduction in bycatch and 23% foregone pollock catch; at the 47,000 number, which we're focusing on, from that highest year, it would have been a 62% reduction in salmon bycatch and a 32% foregone pollock catch. Now in the lowest year, in 2003, of this time series we're looking at, the actual bycatch was 46,993 and under 68,000, and again we're at 60 not 68, but just for comparison, there would have been a 1% reduction in bycatch and no foregone pollock revenue, but under the 47,000 number that we are focused on there would have been a 5% reduction in actual bycatch and a 4% reduction in the foregone pollock catch. And to me, now you're striking a balance there, and it is the intent to go...continue to go down below that 47,000 number. I

think we heard testimony from Mr. Gruver that, at least the SIP plan is designed more to, over time, result in something closer to 32,000 fish. Now having considered that, I would also warn people on the expectations as the SSC I think put it pretty well on page 4, it says, *"While it is clear that the PPA will contribute to both of these objectives relative to the status quo, the practicable extent to which Chinook bycatch can be reduced will only be seen upon implementation, and the extent to which reductions in Chinook bycatch will contribute to increased returns of Chinook to their rivers of origin is unknown."* And again in the EIS, page 647, it says, *"In terms of impacts on chinook salmon fisheries, it is impossible to make a direct connection between these AEQ estimates and commercial, subsistence, and sport fisheries that exist in the various regions of Western Alaska. Thus, the relative benefit of this alternative in terms of AEQ salmon saved, must be made on the basis of these overall impact estimates and not on specific impacts to specific fisheries."*

When Art Nelson testified he talked about the need for continued movement, and I totally agree with that. I think the industry has really, really gotten very serious about this. There's a lot of work going on on the excluder refinements; some vessels are even starting to use cameras now, I think you're going to see more of that in order to use all the tools they can to keep this bycatch down and be able to harvest their pollock. And Oceana in their testimony talked about the need for research—I think they called it gravel to gravel—I agree with that 100%. We have platforms in the Bering Sea, we have great sampling platforms and we're barely utilizing them. We do get good information, biological information from the observers, but I think there's certainly a lot more. I know that the offshore catcher-processors have been spending a fair amount of money on research, genetic research on salmon. I think more of that needs to be done. And finally, I'm glad to put some finality to this because this has been very stressful on everybody, on the other hand, it's just the beginning and I hope it's a beginning of cooperation on research and reduction in bycatch. Thank you.

Eric Olson: Thank you Mr. Benson. Mr. Balogh.


Greg Balogh (USFWS): Thank you Mr. Chair. I would also like to thank everyone in the audience for traveling far and wide to come and testify before us. All of your comments were heard loud and clear. I imagine there are many in the audience, however, that felt some were heard louder and clearer than others. I guess I'll just reference our February 8 letter from the Fish and Wildlife Service to Mr. Mecum, in which we stated that we advocated for a bycatch cap of 40,000, and while our letter did advocate for a simple hard cap of 40,000, I believe that a motion that resulted in a performance standard around 40,000 would have been responsive to Fish and Wildlife Service's comments. I think the motion, as it stands now, is not responsive to Fish and Wildlife Service's comments. I think that it doesn't go far enough to address the needs of the in-river users in the Central and Upper Yukon to which the Fish and Wildlife Service has trust responsibilities under ANILCA, and by that I mean federally-qualified users fishing in federal waters. The motion, as it stands, hinders us from fulfilling our responsibilities to these users and I don't believe that it adequately balances the cultural needs of the Central and Upper Yukon residents with those of industry.

Eric Olson: Thank you Mr. Balogh. I have Mr. Cotten and Mr. Merrigan.

Sam Cotten: Well, thank you Mr. Chairman and thanks to the Council. I thought that the debate was especially civil and everybody's contributions were very positive and constructive, I appreciate that. I especially appreciate the number of people that testified that came from a lot of different places. I know that some of the Council members visited other sites in Alaska and heard from people that would otherwise not have been able to come to meetings like this. I know I'm better informed, better educated on a range of subjects that have to do with this as a result of these meetings and from hearing people's comments. But the people who participated here and in other venues are also much better informed, have much more information than they've ever had before, and that as years go by and we see the numbers

come in, the reports of how many salmon are caught, where, when, by which sectors, there are a whole bunch more people in Alaska that are going to understand what that all means, and I think that's been a good benefit. Some people are probably disappointed that the numbers didn't come out the way they wanted, some people are probably pretty happy. I'm happy because I think that we have accomplished some things. This is a better effort than what we've seen in the past. I know there have been other efforts that were well intentioned, but were not successful. We all know the numbers, but this effort will prevent another occurrence of what happened in 2005, 2006, and 2007. The 60,000 hard cap will prevent those lightening strikes, or those high years, however you want to describe them. This effort and this amendment package should keep the average levels as a result of performance standards well under, or at least under, 47,000 every year. And this effort may result in averages, as some people have hoped for, in the low 30s, that remains to be seen. I'm looking forward to the annual reports, the other information that we will receive every year after this, so they'll let us know how we've done. It may well be that we're going to have to revisit this, and maybe those who were disappointed will be pleasantly surprised that the incentives really are going to work as promised, but that remains to be seen. But at the end of the day, I'm certainly going to vote for this, it's certainly much better than doing nothing and I think there's a lot of positive elements that have been accomplished in this amendment package.

Gerry Merrigan: I wasn't sure if I had mis-spoke earlier, or if I was misquoted, but I thought I said that this action will return fish to many streams including Western Alaska, but this action alone may not rebuild those stocks; that there were other activities, or other factors that aren't in our control that this alone wouldn't rebuild it but it would deliver fish to Alaska. I just wanted to make that clarification, and my batteries going, so I might not have heard correctly again, so.

Doug Mecum (NMFS-AKR): Thank you. I guess like Mr. Henderschedt, I want to give my heartfelt thanks to all the staff, Council staff, Fish and Game staff, the NMFS staff, General Counsel. You all know who you are and you've worked extremely hard to pull this together. I remember when we talked to the State Department, gosh, a year and a half ago, the main concern that they raised at that time was that the Council take action and that they do it in as expeditious fashion as possible. And the Council has done that. I want  Audio File: 2009_4_6_721... to thank Commissioner Lloyd for his leadership on this issue. I think that what we have passed here is a very innovative approach, and one that, as we all hope, will lead to reduce bycatch of chinook at all levels of abundance. And I'm confident that it will and I'm also confident that if it doesn't that we'll be back at this table revisiting it and making sure that we achieve those objectives. I also want to thank the industry for all their work. I sympathize with some of the comments by Mr. Hyder and Mr. Henderschedt with respect to the relationship we have with the industry. They worked extremely hard under duress to put together a proposal that was not easy at all. And I just hope that we don't lose any of the momentum that has been gained through this process. I too want to thank my fellow Council members for their diligence and their hard work on this issue. Otherwise, I would agree with many of the comments that have been made by my fellow Council members with respect to this action. Thanks.

Eric Olson: Thank you, Mr. Mecum. Ms. Ricci.

Nicole Ricci (State Dept): Thank you, Mr. Chair. Mr. Mecum, when we called your office on a conference call as you just...was what you were referring to, our main concern was not that you simply take immediate action or swift action. We asked you about the possibility of emergency action because of our concerns at which time your office told us that emergency action would not be faster than the Council process; and that the Council process would address this issue and include deference to the Treaty. Our concern was that the Treaty be considered in this action, which it has not likely... which this action will not likely achieve the Treaty concerns...so, and in addition to that phone call, we've written two letters to the Council clearly stating the position, and emails to you directly, which I would be happy to submit to

the record if it's still unclear what I'm saying, but that is not what the conference call had said.

Doug Mecum: I'm not going to debate that, but I wasn't really aiming that comment in your direction in any way, I was just saying that I think it was important for the Council to take action on this issue, and we moved as expeditiously as we possibly could have.

Lisa Lindeman (NOAA-GC): I just have one because in light of Ms. Ricci's comments, I need to just remind the Council and note...or have the Council note or be aware that when this action goes to the Secretary, when it's transmitted to the Secretary, he's going to review it under Section 304, which you're familiar with. He's going to determine that whether or not it's consistent with the National Standards, other provisions of the Magnuson Act, or other applicable law, and that includes the Pacific Salmon Treaty. And the State Department makes the determination whether or not something is in compliance with the Treaty, so when this gets to the Secretary and he's reviewing it, he's going to have to consult with the Secretary of State to get a determination on whether this action is in compliance with the Treaty, and we have not yet gotten a determination...formal determination on that. But if State determines that it's not in compliance with the Treaty, then I think the Secretary will be required to disapprove it. But I want the Council to be aware of that.

Eric Olson: Final comments? Commissioner.

Denby Lloyd (ADF&G-Commissioner): Thanks Mr. Chairman. I probably know better but the State Department representative was perilously close at making a determination on the record here at the Council meeting of the opinion with regard to whether or not this action is likely to achieve the demands of the Treaty. I would contend that actually we are well on our way to meeting those demands. Its certainly been a part of my conscious thinking in regard to the benefits of not only establishing a benchmark well below recent average but reaching back to previous bycatch levels that were quite low, and also adding the importance of the incentive program that keeps the industry looking at not only those benchmarks, but at opportunities and ways to alter their fishing behavior to get actual bycatch at levels even far lower. And in my mind, although I'm not going to be the determinate of whether or not this satisfies the Treaty, as a Council member, I believe this does satisfy parameters of the Treaty and that's part of the consideration that I've made in preferring the motion and part of the reason why I support final action.

Nicole Ricci: Thank you Mr. Chair. Thank you, Commissioner Lloyd, for your comments. It is not my role nor was it my intent to state compliance at this time on this action. I reiterate in our letter that we wrote to you that if you chose a hard cap substantially above the 10-year average, which you have, it would not likely meet Treaty obligations. So, what I'm saying is final action will not likely meet treaty action...Treaty obligations.

Eric Olson: Mr. Tweit.

Bill Tweit (WDF): Thank you, Mr. Chair. The responsibility of the council is to first and foremost, ensure that measures that it takes are the measures that truly most likely to address the range of challenges in front of it. The council, in taking this action is choosing a means that may not, to all parties, be as either understandable or intuitively simple as a hard cap. But I think what the Council has built is a simple hard cap. I think the Council has built a more than adequate record that the combination approach that the Council's chosen here of incentive programs, balanced by an upper limit provides actually a serious of hard caps, and further provides that the actions that are taken subsequent should actually be consistent with the three criteria that in my mind remain the most important attributes of this motion. And those three criteria are that it must include incentives for each vessel to avoid salmon bycatch under

any condition of pollock and salmon abundance in all years; describe rewards for salmon bycatch avoidance and penalties for failure to avoid; in addition, specify how those incentives are expected to promote reductions in actual vessel bycatch rates relative to what would have occurred in absence of the program. The combination of those measures with the series of prescriptive caps and performance measure fully addresses the State Department's admonition to us to take fully into account the commitment of the United States to reduce marine bycatch of Yukon River salmon, and that in fact, the method that we've chosen to accomplish that will accomplish it in a better fashion, in terms of on-the-grounds results, in terms of real results than some of the simple and arbitrary hard caps that have some relationship to past fishery performance but at best only speculative relationships to conservation benefits to individual rivers that we've been urged to take. That this is the one method...the method that's designed to drive salmon bycatch as low as it can go, is indeed the best method for actually addressing the challenge that the State Department has laid on us.

Eric Olson: Further comments? Mr. Merrigan.

Gerry Merrigan: I going to support Mr. Tweit's comments that this should help out more on years of lower abundance which may be more critical in rebuilding as well, and then just note that the upper cap would have been exceeded five times, not ignoring recent history in the last 15 years, and the performance standard would have been exceeded eight times if this action had been in place back then. It's always hard to pick since we don't have the method to estimate abundance and the admonition of the Treaty is to reduce bycatch. It's like from what level?...is it percentage of chinook out there? And that's the difficult spot we're in is we don't have an abundance way to set a cap and I think this approximates the best way to deal with reducing bycatch at all levels of abundance...we have the upper cap handling the limiting bycatch, we have a performance standard we're shooting for, and we have incentive plans that will relieve pressure. Hopefully, some of those incentive plans have the same financial incentive at the extreme low abundance as they do at the 47,591, and that should help at those lower abundances which are most critical at times of rebuilding stocks.

Eric Olson: Final comments? Alright, I'm going to be very brief. It's very difficult for me to accept this package with 60,000 at the high end on...in the PPA or annual scenario 1, but for very different reasons than some of the Council members said. I do agree that it pushes the envelope and again for a very different reason. We've heard very extensive comments from large portions of Western Alaska and representatives from the Canadian Yukon. I'm not going to repeat those. They spoke a lot better for themselves than I could speak for them. However, with the addition of the performance standard concept in this package, it gives me a little bit more comfort. This performance standard provides a much needed mechanism for the hard cap to decrease if the IPAs don't perform as advertised. Some have said that we entered into a contract. I see that as non-binding contract that the industry could change before they submit it to the agency, without any control, just as long as they check the boxes of some of the vague IPA requirements that are in there. The performance standard concept mitigates that to some extent. We've heard some comments that there may have been some simplistic statements from Western Alaska that this is going to solve all their problems. Well, I've heard statements from the pollock industry at this meeting that said this is the problem de jour. That it can't be proven that bycatch has an effect on the streams in Western Alaska. And then in the next breath they say, "trust me"...they say, "trust me." And then I look at the graph that was put up there on many of these other "trust me" moments that the Council bought off on that and I saw this graph go up. Granted some of that might not be at the full responsibility of the pollock industry. Some of that might have been climatic shifts, some of that might have been other factors, what have you. But I think the performance standard concept helps mitigate that at the outset of this action, not at a later date, not at a new amendment package that will take a lot of time. And so, when I look at the totality of this package that is before us, I think it strikes a balance. I think it strikes a balance as other Council members have mentioned, between National Standard 1 and National

Standard 9. It provides moving in the right direction towards improving recurrence to Western Alaska; it might not go far as some. It also attempts to address National Standard 1 that would allow the pollock industry an improved ability to catch their pollock. I was also really proud of the outreach effort that this Council endeavored on and traveling out to Western Alaska and listening to the concerns. I think that was a really good thing and in the end I'm going to support this package. With that being said, I don't think this is the end of the road, not by a long shot. And I think there needs to be improvements in research, I think there needs to be improvements in sampling protocols, I think there are a lot of things that...some of the things that Mr. Benson mentioned, some improved cooperation. But the attention that Western Alaska is going to have on salmon bycatch, the concern that they have that I've heard, is not going to diminish. It's not going to diminish. And they'll be keeping an eye on the performance of the pollock industry and their promises that they've made to keep this well below the 47[47,000]...the mathematical certainty that they have come before us and said, "this is golden." The performance standard is the piece that helps me support this package. ~~...[Audio File: 2009-4-6-739].~~ I appreciate some of the comments of the State Department and the Fish and Wildlife Service. While I may not go as far as they have, I appreciate the sentiment in their concern for this and I appreciate the concerns of all the stakeholders that are around this table and in this audience. And I'm no where near as eloquent as others, but I'll close in saying that when I look at the totality of this package I think that it is a balance and it moves closer to addressing the long-term health of the chinook resource and giving the pollock industry a chance to get closer to utilizing the allocations that are important, not only to them, but to Western Alaska as well. So with that I'll be support the motion. Mr. Oliver.

Chris Oliver (staff ED):

Mr. Cotten	Yes	Mr. Lloyd	Yes
Mr. Dersham	Yes	Mr. Mecum	Yes
Mr. Fields	Yes	Mr. Merrigan	Yes
Henderschedt	Yes	Mr. Benson	Yes
Mr. Hyder	Yes	Mr. Olson	Yes
Mr. Tweit	Yes		

Passes unanimously.

Eric Olson: Alright again, I really want to thank everyone. I want to concur with the kudos to staff, all the agency staff, all the public and I just want to...Mr. Mecum.

Doug Mecum: Well I just wanted to just say one last thing in that you may not be the most eloquent member of the Council, but you're giving Mr. Hyder a close run for his money.

Eric Olson: Alright, with that we are going to break until 9am tomorrow morning.

Apr '09

Public Testimony Sign-Up Sheet

page 1

Agenda Item C-2 Salmon Bycatch

Grea Rueranne, NKC

NAME (PLEASE PRINT)

AFFILIATION

NAME (PLEASE PRINT)	AFFILIATION
1 David Blanket	Azchorak inc.
2 Alexia Walters	City Council
3 Harry Wilde	Azchorak inc
4 William Beans	Asicarsarmiut Tribe
5 Nicholas C. Tucker, Sr.	Emmgnak, Alaska Tribal Council Subsistence / Commercial Fisherman
6 RICHARD JUNY	ESTP Napakiak
7 LORRAINE PETER	Vuntut Gwitchin First Nation Old Crow, Yukon, Canada
8 Dick Maroney	VUNTUT Gwitchin "GOUTI"
9 David O. David	Kwigillingok ANCP
10 TIM SAMSON	KIPNUK
11 Paul Tulik	Nightmute CVRF
12 Harry Tulik w/2 others (pg 2+3)	Toksook Bay
13 Felix Albert	Tununak
14 EVAN S. EVAN	Goodnews Bay
15 John O. Mark	Quinhagak, AK
16 Walter Tirchick	Chefnat
17 Helen Kaganak	Wapasiak Napasiak
18 ANDREW BOYSCOUT w/2 others (pg 2)	CHEVAK
19 Garrie OLICK	Tuntutuliak
20 Walter Brown	Eek
21 John Andy	Newtok
22 Henry Williams	Telatinan
23 Henry Williams Daniel	Albert Williams Ed Keelgan
24 Henry Williams Dan Hansen	Arctic Board
25 James U. Lewis James Lewis	Kongigarak Arctic Board Member

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

Public Testimony Sign-Up Sheet

Agenda Item C- Salmon Bycatch

Keith Haggis
Houma Mar
Simpson
Diby
MCC
NCO
April '09

	NAME (PLEASE PRINT)	AFFILIATION
1	Edgar Hoelscher ^{Hooper Bay}	Coastal Village Region Fed
2	Wendie Barille	Coastal Village Region Fed
3	Dwaine ^{see above} THEDA Ullsall	Cheruk - Coastal Village Region Fed
4	David Irvine	Coastal Village Region Fed
5	Thomas Kay ^{Thomas Kay} Doughoston	Toksook Bay ^{Pollock Fish Co.}
6	Daniel ^{Abel Kim}	Kongiganak
7	Jacob Rivers ^{Dave York} Oscar ^{Oscar} Heaven	Scammon Bay ^{Seattle Ent} Kodiak Ent
8	Chris Dock ^(+2 others p 7 #21 p.10 #5)	Kipruk
9	Laura Eran ^(w/Pg 1 #12)	Napastak ^{CVRF member}
10	JAMES ROBERTS	Goodnews Bay
11	Albert Tomuk ^(w/Pg 1 #18)	Goodnews Bay
12	Theodore Brown	Eek Alaska
13	Carla David ^{w/3r}	Eek AK
14	Michael ^{James S. pary} Stegan	Toksook Bay AK Nome, AK Kawerak
15	Jackie Larson	Napastak
16	Frank James	Platinum
17	Walter Ayojiuk	Goodnews Bay
18	Richard Brown	Eek, AK
19	William H. Mark, Jr	Goodnews Bay
20	Herman Beaver	Kwigillingok
21	Norman Pingayak ^(w/Pg 1 #18)	Cheruk
22	Richard ^{Tu Luk}	Cheruk
23	Clark ^{Wilde}	III Village AK
24	Felix Kusayak ^(w/P.7 #25)	Newtok
25	Abraham Rivers	Scammon Bay CVRF

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

Public Testimony Sign-Up Sheet

Agenda Item C-2 Salmon Bycatch

	NAME (PLEASE PRINT)	AFFILIATION
1	Lambert Kairaiuak ^{w/Pg 1 #12}	Chefornak AK AK
2	Vernon Burnett	Chefornak AK AK
3	STEVEN STONE	Hooper Bay AK AK
4	Paul Joe	Hooper Bay AK AK
5	Arthur Abalama	Quinhagak AK AK
6	Arthur Abalama ^{Austin Ammasuk}	Quinhagak AK ^{None Eskimo Comm.}
7	Donna Mesak ^{P.5 #17}	Kipruk, AK AK
8	Nellie Abraham ^{w/Darlene p.9 #11 Janice p.6 #9}	Chefornak AK AK
9	Mary Hui Hill	Quinhagak AK AK
10	Staci Igkurak	Kwigillingok, AK AK
11	SAM STAVINGS	Mekonguk, AK AK
12	John A John	Kwigillingok, AK AK
13	Amanda M Hoelscher ^{w/P.9 - Anna P.3 Janice}	Hooper Bay, AK AK
14	Lloyd G BIAK	NAPAKI AK, AK AK
15	Joe Joseph	Kongiganak AK AK
16	Albert Williams ^{in place of pg 1 #23 who is sick}	Mekonguk AK AK
17	Ed Kiokun	Mekonguk, AK AK
18	Adolph Paul	Kipruk, AK
19	Angelique Anderson	Chevak, AK
20	Janice Nanuk ^{w/#13 above}	Hooper Bay, AK
21	Sharilyn Fisher	Hooper Bay, AK
22	Della Carl ^{w/ Marianne Wms P.4 #4 Peter Daniel Sr. P.8 #7}	Newtok, AK AK
23	Bessie Lea Weston	Mekonguk AK
24	Bob ^{Frank Brown}	EER AK
25	Bob ^{w/P.7 #18} Roland Green	CZ AK

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

Apr '09 Public Testimony Sign-Up Sheet

Agenda Item C-2 Salmon Bycatch

	NAME (PLEASE PRINT)	AFFILIATION
X	Joseph Brown Sr.	KONGIGANAK AK @VRA
2 X	Robert Pannuli ^{Bonruk}	Chefornali AK
3 X	Patrick N Patrick	Cherak AK
4 X	Marianne Williams ^{w P3, #22}	Mekoryuk, AK
5 X	Mike Smith	TCC
6 X	Pidge Drobny	TCC
* 7 X	Dan Hanson ✓	Arctic Fjord
8 X	Seralee Kairaiuk	KWIGILLINGOK, AK / @VRA
9 X	Doug Forsyth	PHOENIX PARTNERSHIP
10 X	Chris Garbrick	Mark I, Inc. (5 cvs)
ppt 11 X	Julie Raymond-Yakoubian	Kaweah Inc.
12 X	Jon Warrenchuk	Oceana
13 X	XXXXXXXXXXXX Melvin Otton	XXXXXXXXXXXX Kouyuk IRA
X 14	Dwayne Johnson	Village of Unalakleet, AK
15 X	Tim Smith	Nome Fishermen's Association
earl 16 X	Myron P. Naneng Sr	AVCP - Bethel
17 X	Walter Angajak Sr	Alaska Federation of Natives
18 X	Walter Angajak Sr Mike Sloan	Quinhagak, AK Nome, AK
19 X	Randy Alvarez	Bristol Bay Regional Advisory Council
20 X	Ray Collins	Western Interior Reg. Adv. Council
21 X	Ralph Ivanoff (for Weaver) Ivanoff	Seward Peninsula Reg. Adv. Council
22 X	Andrew F...	Eastern Interior Reg. Adv. Council
23 X	Raymond Oney	Yukon-Kusk. Delta Regional Adv. Council
24 X	Mike Fleagle	Federal Subsistence Board
25 X	Morris Coffey	Stedbins Community Association

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

recall

Apr 09

Public Testimony Sign-Up Sheet

Agenda Item C-2 Salmon Bycatch

PG #22

	NAME (PLEASE PRINT)	AFFILIATION
1	Ishmael A. Smith	Mekoryuk
2	Viva & Ishmael Smith	Mekoryuk
3	XXXXXXXXXX Jack Fagerstrom	XXXXXXXXXX Nome XXXXXXXXXX
4	Donating Children	MUCC
5	Austin Anderson	Magnesian Community
6	Billy Chubbs	Y.D. Emmons Council
7	Larry Catter / ^{Everette} Anderson	APICDA
8	Dr. Wilen Prof. CUC Davis	hired by APICDA
9	Rose Fosdick	Nome
10	Sherry Wright (HO)	Lower Yukon Fish & Game Advisory Comm.
11	Frank Burger Sr ^{native} ^{Patric} ^{ck} ^{Cleveland} ^{translated} ^{tongue}	Oscarville Community
12	Muriel M AMOS ^{Muriel}	Mekoryuk, AK
13	Adolph Hawk	Eek, AK
14	Johnny Friend	Kwigillingok, AK
15	Roy J. Atchak ^(w/p. 9 #6) ^{2 others}	Chevak native village
16	Marlene Kiokun	Mekoryuk, AK
17	Ryan Bright ^(w/p. 3 #7)	Goodnews Bay ^{Elder's Actv}
18	ARTHUR J. LAKE	Kwigillingok / BSEAG ^{Group}
19	XXXXXXXXXX	XXXXXXXXXX
20	Joe Bersch	Supreme Alaska Seafood
21	Margaret Hall & George Hall	Flu's Alsea + Angosy
22	Jiffane Lara	Flu Progress
23	Bob Postley	Flu PACIFIC PRINCE
24	Bert Ashley	Flu GOLD RUSH
25	Vill K Storey	Flu PEGASUS

gone

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

Apr '09

Public Testimony Sign-Up Sheet

Agenda Item C-2 Salmon Bycatch

pg. 6

	NAME (PLEASE PRINT)	AFFILIATION
1	ROBERT SMITH	F/U PALM
2	THOMAS KAY	AMERICAN SEAFOODS
3	Robert Keith	Native Village of Elim
4	George Plethikoff	Greenpeace
5	Charles Bronson HO	F/U Great Pacific
6	Bill Lock	F/U VIKING
7	LLOYD JOHANNESSEN	F/U POSEIDON
8	LINDGREN MAT	
9	Jennifer Anthony (w/p. 3 #8)	Nightmute
10	Gene MAKARIN (HO)	Am. Fresh. Lines
11	Nick David Jr	Tunstutuliak
12	Moses Julius (w/#24 below)	Toksook Bay
13	Francis Thompson	Yukon River Pacific / ST. MARYS
14	Erik Weingarth	ST. MARYS
15	Timothy Gervais	Ruby resident , WTRAC East Side Bea
16	John Semewak	Elim Fisherman / EIG, Fisherie.
17	Jennifer Harper	Bethel
18	PATRICK CLEVELAND	QUINHAGAK Quinhagak
19	JOANNER BLACK	NAPAILAK
20	Bill ALSTROM	YRDEA - ST. MARYS
21	_____	Neper Bay
22	many Joe	Hoyer Bay
23	LINDGREN MATTLAW	MEKURYUK
24	Nick Therliak	Toksook Bay
25	George Bright Sr	Goodman Bay

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

APR 09

Public Testimony Sign-Up Sheet

Agenda Item C-2 Salmon Bycatch

X
X
X

NAME (PLEASE PRINT)	AFFILIATION
X Sharon Dull	TOKSOOK BAY
2 X Elena Anthony	Nightmute
3 X Jack Schultheis	Kwikpak Fisheries
X 4 Paul Manumuk	Nunan Igua
X 5 Frank Alstrom	Alakanuk
X 6 Simon Andrews	MT Village
7 X Emmanuel Keyes	Kotlik
8 X David Jimmy SR ^{Native tongue}	^{Translator Patrick Cleveland} Chetovak
9 X Tim Andrew	Marshall
10 X James Sipary	Nelson Island Toksook
11 X Theod Paul ^{Paul Paul + Carla David p#13}	Kwigillingok
12 X David O. David ^{OSCAR EVON}	Kwigillingok ^{Pres. CVRF}
13 X Dale Schwarzmiller	Peter Pan Seafoods
14 X Gary Chafflock Dawson Hoover	Kasiguk
15 X Larson Hunter	Anchorage Resident
16 X Frank Logusak	Togiak (BSFA)
17 X David Bill Jr.	Toksook Bay
18 X CARLIE BEESE ^{w/p3 #24+25}	EEK/AK
19 X Donna Parker	HSCC
20 X PIUS SAVAGE	Holy Cross
21 X Isadore Anthony ^{w/p2 #8}	Nightmute
22 X Neil Rodriguez & Morgan Cross ^{#2}	CVRF
23 X Shirley Margardt	City of Unalaska
24 X Dawn Annie Cleveland	Kasiguk Quinhagak
25 X DWIGHT KERNAL	TUNTUTUK

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

3 recall

Apr 09

Public Testimony Sign-Up Sheet

Agenda Item C-2 Salmon Bycatch

	NAME (PLEASE PRINT)	AFFILIATION
1	MORIEL	Koyuk
2	ANNAMAR	MALEVA
3	Oscar David	Kongigamok
4	Charlie Lean ^{Simon}	NS EDC
5	Simon Kiaren	
6	Art Nelson ^{Hmin.}	BSFA
7	Peter Daniel Sr. ^{w/p 3 #22}	Kongigamok, AK
8	Bob Childers	Indiza AK
9	Stephen Taufen	Groundswell Fisheries Movement
10	Stanley Ned	Allakaket AK
11	KARL HAELOOGE	Sea State
12	Fenny Wilson	Self - Bristol Bay
13	Hans Nicholson	AC - Nuhayk
14	Paul Peyton	BBEDC
15	BUBBA COOK ^{requested his testimony}	WWF
16	Art Ivanoff	Southern Norton Sound Adv. Comte. SNSAC
17	FRED PHILLIP	Kwigillingok
18	Verner Wilson	Bristol Bay fisherman
19	FRANK ALSTROM	YUKON FISHERMAN
20	Victoria Briggs	Ugashik / Food vs Fuel Food Drive
21	GLENN REEDS	PSPA
22	Karen Gillis ^{2m}	
23	Paul J. Manumik Sr.	YDFDA
24	Muriel Morse	Koyuk
25	Freddie Christiansen	Old Harbor AFN

Sun.
Mon.

X
X
X

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

April 2009

Public Testimony Sign-Up Sheet

Agenda Item C-2 Salmon Bycatch

	NAME (PLEASE PRINT)	AFFILIATION
1	Andy Bassich (HO)	Yukon River Ptne / Eagle AC
2	Ken Tippett	AK ISOTO CO.
3	Steve Luanoff	
4	Steve Luanoff	Unalakleet
5	Marg Spettens	CVRF Anchorage
6	Desiree Ulroen Thecla	Ulroen - Chevik
7	Darlene Daniel (w.p. 3#8)	Kongiganak
8	Jacob Rivers (w/p. 7#1+2)	Scammon Bay
9	Jorehe Joe	Hooper Bay
10	Darren Cleveland	Quinhagak, AK
11	Shaun C. Dochtermann	SELF - KODIAK FISHING
12	12	
13	Gusty Chythlock, Sr.	Aleknasik, AK Bristol Bay
14	William Mark Jr (did sum.)	Goodnews Bay
15	Mike Martin (4 min. HO)	Elizabeth F. Walter w
16	Anna John (w/p 3#13)	TOKSOOK Bay
17	GARY HICKLING	CHALISTA SHAREHOLDER
18	Julie Bonney (2 HO) request test.	IFDC
19	Henry Mitchell	self
20	Jed Whittaker	
21	JOE PLESNA	TRIDENT
22	Jack Faggestrom	Chuk Eskimo Comm - Golovin
23	Judith Rabin	Goodnews Bay
24	Chief Paul John (native tongue translator)	Toksook Bay AK Ex. Board AVCP
25	Frank Woods	Bristol Bay Native Assoc.

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

to recall

April
2009

\$10

Public Testimony Sign-Up Sheet

Agenda Item C-2 Salmon Bycatch

	NAME (PLEASE PRINT)	AFFILIATION
1	Stephanie Madsen	Pollock Conservation Cooperative
2	Marcos Alden	Westward Fishing Co
3	Ivan M, Ivan 4min	Akiak Native Community
4	Sam Jackson I 2min	Akiak Native Community
5	Thomas Julius (w/P. #8)	Toksok Bay
6	Nicholas C. Tucker, Sr ?	Emmonak, AK Indiv Fisherman
7	Mike Hyde	American Seafoods
8	BRENT PAINE	UCB
9	Pat Hardina	Iceberg Seafoods
10	Stev Starkey	AUCP - ANASCO
11	Becca Robbins Gisdair	Yukon River Drainage Fishermen Assoc.
12	Paul Macgregor	APA
13	Marg Speltens (Sr. p. #5)	CVRF Ancho
14		
15	+ 19 recalls	
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

Table 1. Chinook salmon mortality in BSAI groundfish fisheries.

Year	Annual	Annual	Annual	A season	B season	A season	B season	A season	B season
	with CDQ	without CDQ	CDQ only	With CDQ	Without CDQ	With CDQ	Without CDQ	With CDQ	Without CDQ
1991	na	48,880	na	na	na	46,392	2,488	na	na
1992	41,955	na	na	31,419	10,536	na	na	na	na
1993	46,014	na	na	24,688	21,326	na	na	na	na
1994	43,821	40,635	3,186	38,921	4,900	36,699	3,936	2,223	963
1995	23,436	21,430	2,006	18,939	4,497	18,284	3,146	655	1,351
1996	63,205	60,802	2,402	43,316	19,888	42,028	18,774	1,289	1,114
1997	50,530	48,050	2,481	16,401	34,129	14,905	33,144	1,496	985
1998	55,431	50,313	5,118	18,930	36,501	17,991	32,322	939	4,179
1999	14,599	12,937	1,662	8,794	5,805	8,205	4,732	589	1,073
2000	8,223	7,474	749	6,568	1,655	6,138	1,336	430	319
2001	40,547	37,986	2,561	24,871	15,676	23,093	14,893	1,778	783
2002	39,684	37,581	2,103	26,277	13,407	24,859	12,722	1,418	685
2003	53,571	50,858	2,713	40,044	13,527	38,249	12,609	1,795	918
2004	60,442	57,435	3,007	31,025	29,417	29,896	27,539	1,129	1,878
2005	74,281	72,239	2,042	33,651	40,630	32,346	39,893	1,305	737
2006	87,084	85,290	1,794	62,582	24,502	60,974	24,316	1,608	186
2007	129,534	123,881	5,653	77,108	52,426	74,004	49,877	3,104	2,549
2008	22,571	21,854	717	17,538	5,033	16,934	4,920	604	113
2009	10,630	10,260	370	10,630		10,260		370	

Notes: Retrieval done on 3/19/2009

Non-CDQ data from 1991-2002 found in bsahalx.dbf

Non-CDQ data from 2003-2009 found in AKFISH_V_GG_PSCNQ_ESTIMATE

CDQ data from 1999-2009 found in AKFISH_V_CDQ_CATCH_REPORT_TOTAL_CATCH

CDQ data for 1998 from boatrate.dbf

CDQ data from 1992-1997 found in bsahalx.dbf

A season - January 1 to June 10

B season - June 11 to December 31

Table 2. Chinook salmon mortality in BSAI pollock directed fisheries.

Year	Annual	Annual	Annual	A season	B season	A season	B season	A season	B season
	with CDQ	without CDQ	CDQ only	With CDQ	Without CDQ	With CDQ	Without CDQ	With CDQ	Without CDQ
1991	na	40,906	na	na	na	38,791	2,114	na	na
1992	35,950	na	na	25,691	10,259	na	na	na	na
1993	38,516	na	na	17,264	21,252	na	na	na	na
1994	33,136	30,593	2,543	28,451	4,686	26,871	3,722	1,580	963
1995	14,984	12,978	2,006	10,579	4,405	9,924	3,053	655	1,351
1996	55,623	53,220	2,402	36,068	19,554	34,780	18,441	1,289	1,114
1997	44,909	42,437	2,472	10,935	33,973	9,449	32,989	1,487	985
1998	51,322	46,205	5,118	15,193	36,130	14,253	31,951	939	4,179
1999	11,978	10,381	1,597	6,352	5,627	5,768	4,614	584	1,013
2000	4,961	4,242	719	3,422	1,539	2,992	1,250	430	289
2001	33,444	30,937	2,507	18,484	14,961	16,711	14,227	1,773	734
2002	34,495	32,402	2,093	21,794	12,701	20,378	12,024	1,416	677
2003	45,794	43,021	2,565	32,609	13,185	30,916	12,313	1,693	872
2004	51,696	48,733	2,963	23,093	28,603	21,964	26,769	1,129	1,834
2005	67,396	65,461	1,916	27,379	40,017	26,080	39,400	1,299	617
2006	82,694	80,953	1,741	58,438	24,256	56,853	24,100	1,585	156
2007	121,638	116,094	5,629	69,408	52,230	66,307	49,702	3,101	2,528
2008	19,928	19,288	640	15,162	4,766	14,558	4,730	604	36
2009	9,527	9,213	314	9,527		9,213		314	

Notes: Retrieval done on 3/19/2009

Non-CDQ data from 1991-2002 found in bsahalx.dbf

Non-CDQ data from 2003-2009 found in AKFISH_V_GG_PSCNQ_ESTIMATE

CDQ data from 1999-2009 found in AKFISH_V_CDQ_CATCH_REPORT_TOTAL_CATCH

CDQ data for 1998 from boatrate.dbf

CDQ data from 1992-1997 found in bsahalx.dbf

A season - January 1 to June 10

B season - June 11 to December 31

Chinook salmon seasonal and annual mortality (2003-2008, 2009 to March 19, 2009); Chinook (numbers of fish) and pollock (mt) catch for A season through the second week in March by year (note actual week-ending dates vary by year). Data are preliminary. (NMFS Catch Accounting)

Year	Chinook (through ~2 nd week in March)	Pollock (through ~2 nd week in March)	Bycatch rate (#salmon/mt pollock)	A season total Chinook #	Annual total Chinook #
2009	9,527	249,338	0.038	---	---
2008	14,843	376,622	0.039	15,162	19,928
2007	64,859	455,688	0.142	69,408	121,638
2006	51,480	517,164	0.100	58,438	82,694
2005	25,982	523,191	0.050	27,379	67,396
2004	19,352	517,971	0.037	23,093	51,696
2003	27,053*	432,899*	0.062	32,609	45,794

* does not include CDQ



Matt Macander
Senior Scientist
ABR Inc.—Environmental Research & Services
2842 Goldstream Rd.
Fairbanks, AK 99709
(907) 455-6777x112

To: Larry Cotter, Phillip Lestenkof, Robin Samuelson, Morgen Crow, Janis Ivanoff, Ragnar Alstrom, Bob Dooley, Donna Parker, Doug Christensen, Jeff Hendricks, Jim McManus, John Gruver, Mike Martin, Pat Hardina, Steve Olson, Karen Gillis, Jill Klein, Mike Smith, Jennifer Hooper, Becca Robbin Gisclair, David Witherell, Chris Oliver, Diana Stram, Eric Olson

From: Matt Macander

23 March 2009

An annual Intercooperative Agreement (ICA) compliance audit is required under 50 C.F.R. 679.21(g) (5) (vi). The National Oceanic and Atmospheric Administration (NOAA) Fisheries, Alaska Region, requires "an external audit designed to evaluate the accuracy of the approach used by Sea State to monitor compliance" be prepared for the pollock fishery. The audit, which NOAA required be based on an "[e]xamination of a randomly selected subset of vessel/days representing 10% of the catch" was conducted by ABR, Inc.—Environmental Research and Services (hereafter, ABR) for Sea State, Inc. ABR has conducted this audit annually for the 2006, 2007 and 2008 pollock fishing seasons.

The audit of the stipulated 10% subset of the 2008 pollock fishing season data has identified an instance where Sea State did not identify or report an apparent Savings Area violation to the cooperatives that are party to the Agreement. We identified three Vessel Monitoring System locations for *Vessel A* (PCC cooperative), between 18:00:00 and 18:47:00 on 3/14/2008, that occurred within the boundary of the "Chinook closure area west of 168" as referenced in the IC Salmon Closure memo of 3/13/2008. This closure was "[c]losed to all vessels in Tiers 2 and 3, effective 1800 hrs, 3/14/08 to 1800 hrs, 3/18/08" (IC_salmon_031308.doc, attached). The PCC Cooperative was in Tier Status 2 for this period and so *Vessel A* was subject to the closure. According to the observer records for this time period, *Vessel A* had fishing gear deployed from 09:15 to 18:50 on 3/14/2008.

The cause of the discrepancy between the ABR and Sea State results was most likely a data entry error by Sea State during creation of the polygon dataset used in the Sea State software to analyze the data for closure zone violations. We compared the Sea State polygon dataset to the closure memos as part of our audit, and noticed that four closure zones were missing, including the closure referenced here. We made Sea State aware of the problem, and Sea State has subsequently reviewed all of their closure polygons and corrected any discrepancies identified. Based on a review of the corrected data, they initiated an ICA enforcement action in the case described above. The vessel name has been redacted because this enforcement action is pending.

Attachments.

Copy to: Karl Haflinger, Joe Sullivan

Corporate Headquarters
P.O. Box 80410
Fairbanks, AK 99708
907.455.6777
907.455.6781 (fax)

Anchorage, Alaska
P.O. Box 240268
Anchorage, AK 99524
907.344.6777
907.770.1443 (fax)

Pacific Northwest
P.O. Box 249
Forest Grove, OR 97116
503.359.7525
503.359.8875 (fax)

Northeastern U.S.
15 Bank Street, Suite B
Greenfield, MA 01301
413.774.5515
413.774.5514 (fax)





Ph: (206)463-7370
 Fax: (206)463-7371
 Email: karl@seastateinc.com

March 13, 2008

Re: IC Salmon closure 3/13/08

Table 1. Catch and bycatch by sector

Sector	Pollock (mt)	Chinook (N)	Chinook rate (N/mt)	Other Salmon (N)	Other salmon rate (N/mt)
Shoreside	153,508	7,177	0.047	59	0.000
C/P	170,107	4,571	0.026	296	0.002
Motherships	40,274	1,271	0.031	6	0.000
Total	363,889	13,019	0.036	361	0.001

Although very low, rates in the mushroom (~0.04 salmon / mt) are over the new base rate of .018, so there will be a closure west of 168.

Regards,

Karl

Chinook closure area west of 168. Closed to all vessels in Tiers 2 and 3, effective 1800 hrs, 3/14/08 to 1800 hrs, 3/18/08.

Latitude		Longitude	
56	3	169	10
56	12	169	10
56	12	168	22
56	3	168	22

Chinook conservation area. Closed to all vessels for the entire "A" season.

Latitude		Longitude	
54	40	165	35
54	40	166	35
54	45	167	0
54	52	167	0
54	52	165	35

Table 2. Tier assignments and closure dates

WEEKLY SALMON BYCATCH UPDATE - Valid Friday 3/14/08 to Friday 3/21/08					
Coop	Bycatch Rate	Coop Tier Status	Savings Closure Start Date (1800 Hrs.)	Savings Closure End Date (1800 Hrs.)	Number of Closure Days
Akutan Coop	0.005	1	NA	NA	0
Arctic Coop	0.005	1	NA	NA	0
Mothership Coop	0.020	2	3/14/2008	3/18/2008	4
Northern Victor	0.009	1	NA	NA	0
Peter Pan Coop	0.007	1	NA	NA	0
PCC	0.016	2	3/14/2008	3/18/2008	4
Unalaska Coop	0.021	2	3/14/2008	3/18/2008	4
UniSea Coop	0.010	1	NA	NA	0
Westward Coop	0.011	1	NA	NA	0

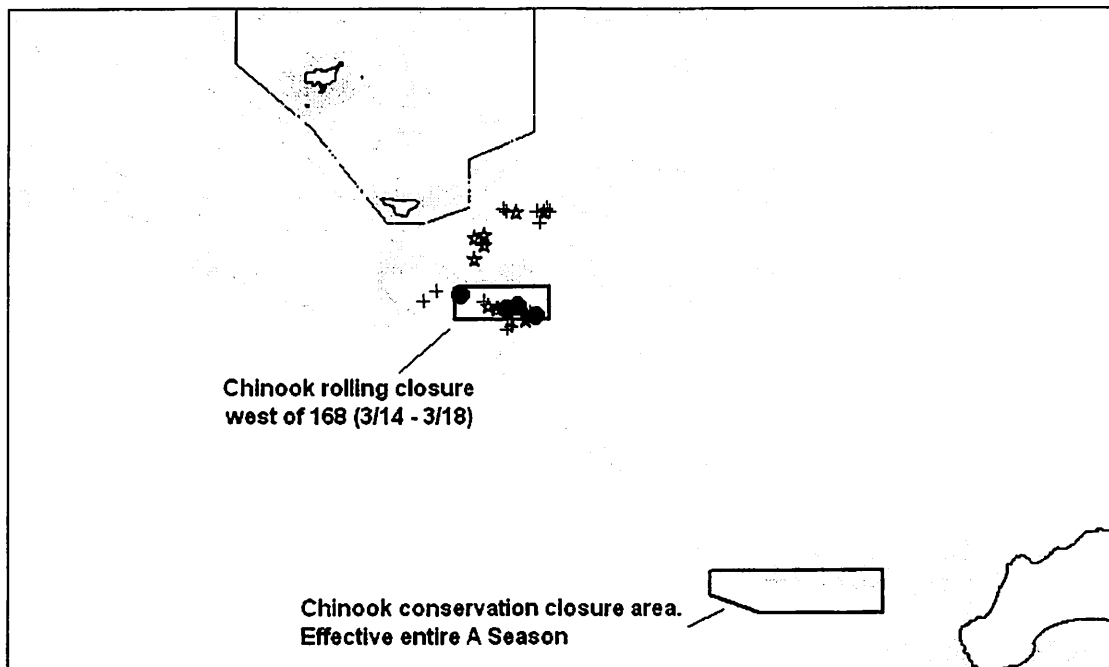
Tier 1: Less than .014 salmon per mt. Not affected by closures

Tier 2: Greater than .014 but less than .023 salmon per mt. Subject to 4-day closure

Tier 3: Greater than .023 salmon per mt. Subject to 7-day closure

Table 3. Chinook Bycatch rates for ADFG stat areas.

Bycatch rates by area for 3/13/08			
StatArea	Rate	StatArea	Rate
695600	0.040	685630	0.009
685600	0.037	635530	0.009
675630	0.033	705630	0.005
675600	0.010		



Dirty 20 Lists:

Weekly 2/24 - 3/1

Vessel Name	Chinook Rate
HIGHLAND LIGHT	0.042
ALSEA	0.040
OCEAN ROVER	0.037
ARCTIC FJORD	0.034
VANGUARD	0.033
NORTHERN HAWK	0.031
ALASKA ROSE	0.026
AMERICAN TRIUMPH	0.023
NORTHERN GLACIER	0.023
ALASKAN COMMAND	0.022
ARCTURUS	0.022
MORNING STAR	0.022
GREAT PACIFIC	0.021
OCEAN LEADER	0.019
CHELSEA K	0.019

Two week 2/24 - 3/8

Vessel Name	Chinook Rate
OCEAN ROVER	0.017
ARCTIC WIND	0.018
NORTHERN HAWK	0.039
HIGHLAND LIGHT	0.023
ARCTIC FJORD	0.028
NORTHERN JAEGER	0.002
VIKING EXPLORER	0.006
WESTERN DAWN	0.000
VANGUARD	0.020
AURORA	0.012
ANITA J	0.011
VESTERAALEN	0.024
DESTINATION	0.013
ALASKA ROSE	0.033
OCEAN LEADER	0.027
NORTHERN PATRIOT	0.016
GOLDEN DAWN	0.007
MORNING STAR	0.022
EXCALIBUR II	0.000
ALDEBARAN	0.018

Season

VesselName	Point Value	Chinook Rate
OCEAN ROVER	61	0.050
NORTHERN HAWK	54	0.040
ARCTURUS	53	0.070
AMERICAN TRIUMPH	49	0.040
ARCTIC EXPLORER	39	0.060
STARFISH	39	0.050
STARLITE	37	0.060
OCEAN LEADER	36	0.050
NORDIC STAR	35	0.060
DEFENDER	35	0.050
ALASKAN COMMAND	32	0.070
MORNING STAR	30	0.050
HIGHLAND LIGHT	30	0.020
CHELSEA K	29	0.050
ALDEBARAN	29	0.050
COLUMBIA	28	0.050
ALASKA ROSE	27	0.040
ARCTIC FJORD	26	0.030
GOLDEN DAWN	24	0.050
ISLAND ENTERPRISE	24	0.050

June 2008 Council motion on Bering Sea Chinook Salmon Bycatch EIS/RIR/IRFA

AGENDA C-2(c)
APRIL 2009

MOTION

The Council directs staff to provide analysis on the preliminary preferred alternative specified below in addition to those in the existing analysis and release the resulting EIS/RIR/IRFA for public review. For a complete description of alternatives in the existing analysis, see Chapter 2 of the BSAI Salmon Bycatch EIS Initial Review Draft (dated May 15, 2008).

Alternative 4: Preliminary preferred alternative

Alternative 4 would establish a Chinook salmon bycatch cap for each pollock fishery season which, when reached, would require all directed pollock fishing to cease for that season. Components 2-4 specify the allocation and transferability provisions associated with the cap.

Component 1: Hard cap with option for ICA regulated incentive system

Annual scenario 1: Hard cap with an ICA that provides explicit incentive(s) to promote salmon avoidance in all years

Hard cap if an ICA is in place that provides explicit incentive(s) for each participant to avoid salmon bycatch in all years:

Overall cap: 68,392, allocated by season and under Components 2-4 as described below

For those operations that opt out of such an ICA, the hard cap will be established as follows:

Overall cap: 32,482

CDQ allocation: 2,436

Non-CDQ cap: 30,046

All salmon bycatch attributed to the AFA pollock trawl fleet will accumulate against this lower cap, but only those operations not in the ICA will be required to stop fishing when the CDQ or non-CDQ cap has been reached. This backstop cap of 32,482 will not be allocated by sector, so all other components in Alternative 4 are not relevant to this backstop cap. (In absence of a sector allocation for this backstop cap a 7.5% allocation applies to the CDQ sector by default, and the remaining 92.5% is set as the non-CDQ cap.)

ICA requirements:

- An ICA must provide incentive(s) for each vessel to avoid salmon bycatch under any condition of pollock and salmon abundance in all years.
- Incentive measures must include rewards for salmon bycatch avoidance and/or penalties for failure to avoid salmon bycatch at the vessel level.
- The ICA must specify how those incentives are expected to promote reductions in actual individual vessel bycatch rates relative to what would have occurred in absence of the incentive program. Incentive measures must promote salmon savings in any condition of pollock and salmon abundance, such that they are expected to influence operational decisions at bycatch levels below the hard cap.

Annual reporting:

- The ICA must be made available for Council and public review.
- An annual report to the Council will be required and must include:
 - 1) a comprehensive explanation of incentive measures in effect in the previous year,
 - 2) how incentive measures affected individual vessels, and
 - 3) evaluation of whether incentive measures were effective in achieving salmon savings beyond levels that would have been achieved in absence of the measures.

Annual scenario 2: Hard cap in absence of an ICA with explicit incentive(s) to promote salmon avoidance

Hard cap in absence of an ICA that provides explicit incentive(s) to all participants to avoid salmon bycatch in all years:

Overall cap: 47,591, allocated by season and under Components 2-4 as described below

BS Chinook Salmon bycatch motion, as approved June 6, 2008

Seasonal distribution of caps

Any hard cap would be apportioned between the pollock A and B seasons. The seasonal distribution is 58/42 70/30, based on the average distributional ratio of salmon bycatch between A and B seasons in the 2000-2007 period.

Seasonal rollover of caps

Unused salmon from the A season would be made available to the recipient of the salmon bycatch hard cap in the B season within each management year at an amount up to 80% of the recipient's unused A season bycatch cap.

Component 2: Sector allocation

Separate sector level caps will be distributed within each season for the CDQ sector and the three remaining AFA sectors, the inshore catcher vessel (CV) sector, the mothership sector, and the offshore catcher processor (CP) sector, as follows:

A season: CDQ 9.3%; inshore CV fleet 49.8%; mothership fleet 8.0%; offshore CP fleet 32.9%

B season: CDQ 5.5%; inshore CV fleet 69.3%; mothership fleet 7.3%; offshore CP fleet 17.9%

This distribution is based on the 5-year (2002-2006) historical average of the annual proportion of salmon bycatch by sector within each season, adjusted by blending the bycatch rate for CDQ and non-CDQ partner sectors. It is also weighted by the AFA pollock allocation for each sector; in each season, the proportional allocation by sector comprises the adjusted 5-year historical average by sector weighted by 0.75 for the salmon bycatch history and the AFA pollock allocation by sector weighted by 0.25.

Component 3: Sector transfers

Allocate salmon bycatch caps to each sector and allow the entity representing each non-CDQ sector and the CDQ groups to transfer salmon bycatch ~~trigger~~ caps among the sectors and CDQ groups. (NMFS does not actively manage the salmon bycatch allocations).

Component 4: Cooperative provisions

Each inshore cooperative and the inshore open access fishery (if the inshore open access fishery existed in a particular year) shall receive a salmon allocation managed at the cooperative level. If the cooperative or open access fishery salmon cap is reached, the cooperative or open access fishery must stop fishing for pollock.

The initial allocation of salmon by cooperative within the shore-based CV fleet or to the open access fishery would be based upon the proportion of total sector pollock catch associated with the vessels in the cooperative or open access fishery.

Cooperative transfers

When a salmon cooperative cap is reached, the cooperative must stop fishing for pollock and may transfer salmon bycatch from other inshore cooperatives, CDQ groups, or entities representing non-CDQ groups (industry initiated).

EXECUTIVE SUMMARY

This Draft Environmental Impact Statement/Regulatory Impact Review/Initial Regulatory Flexibility Analysis (EIS/RIR/IRFA) provides decision-makers and the public with an evaluation of the environmental, social, and economic effects of alternative management measures to minimize Chinook salmon bycatch in the Bering Sea pollock fishery. The final preferred alternative would be Amendment 91 to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area (BSAI FMP). This EIS/RIR/RIFA is intended to serve as the central decision-making document for the North Pacific Fishery Management Council (Council or NPFMC) to recommend Amendment 91 to the Secretary of Commerce. The EIS/RIR/RIFA would also serve as the central decision-making document for the Secretary of Commerce to approve, disapprove, or partially approve Amendment 91, and for the National Marine Fisheries Service (NMFS or NOAA Fisheries) to implement Amendment 91 through federal regulations.

The proposed action is to amend the FMP and federal regulations to establish new measures to minimize Chinook salmon bycatch in the Bering Sea pollock fishery to the extent practicable while achieving optimum yield in the pollock fishery. The proposed action is focused on the Bering Sea pollock fishery because this fishery catches up to 95 percent of the Chinook salmon taken incidentally as bycatch in the Bering Sea and Aleutian Islands (BSAI) groundfish fisheries.

In selecting its preferred alternative, the Council must comply with the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) and all other applicable federal laws. With respect to the Magnuson-Stevens Act, the Council's preferred alternative must be consistent with all ten national standards. The most relevant for this action are National Standard 9, which requires that conservation and management measures shall, to the extent practicable, minimize bycatch; and National Standard 1, which requires that conservation and management measures prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry. The Magnuson-Stevens Act defines optimum yield as the amount of harvest which will provide the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities, and taking into account the protection of marine ecosystems. Therefore, the preferred alternative must minimize Chinook salmon bycatch in the Bering Sea pollock fishery to the extent practicable while achieving optimum yield from the pollock fishery. Minimizing Chinook salmon bycatch while achieving optimum yield is necessary to maintain a healthy marine ecosystem, ensure long-term conservation and abundance of Chinook salmon, provide maximum benefit to fishermen and communities that depend on Chinook salmon and pollock resources, and comply with the Magnuson-Stevens Act and other applicable federal law.

This EIS/RIR/RIFA examines four alternatives to minimize Chinook salmon bycatch in the Bering Sea pollock fishery. The EIS/RIR/IRFA evaluates the environmental consequences of each of these alternatives with respect to nine resource categories:

- Pollock
- Chinook salmon
- Chum salmon
- Other groundfish species
- Other prohibited species (steelhead trout, Pacific halibut, Pacific herring, and crab)
- Forage fish
- Marine mammals
- Seabirds
- Essential fish habitat
- Marine ecosystem

Three chapters of this document evaluate the social and economic consequences of the alternatives with respect to four major issues:

- economic impacts and net benefits to the Nation
- Alaska Native, non-native minority, and low income populations
- directly regulated small entities
- fisheries management and enforcement

Bering Sea Pollock Fishery

The pollock fishery in waters off Alaska is the largest U.S. fishery by volume. The economic character of the fishery centers on the products produced from pollock; roe, surimi, and fillet products. In 2007, total first wholesale gross value of retained pollock was estimated to be \$1.248 billion. The Bering Sea pollock fishery is divided into two seasons – the winter “A” roe (eggs) season (January 20 to June 10) and the summer/fall “B” season (June 10 to November 1), when pollock generally do not contain roe.

Until 1998, the Bering Sea pollock fishery was managed as an open access fishery, commonly characterized as a “race for fish.” In 1998, however, Congress enacted the American Fisheries Act (AFA) to rationalize the fishery by limiting participation and allocating specific percentages of the Bering Sea directed pollock fishery total allowable catch (TAC) among the competing sectors of the fishery. NMFS apportions the pollock TAC among the inshore catcher vessel (CV) sector, offshore catcher/processor (CP) sector, and mothership sectors after allocations are made to the Community Development Quota (CDQ) Program and incidental catch allowances. In this analysis, the inshore CV sector, offshore CP sector and mothership sector also are collectively referred to as the non-CDQ sectors.

The AFA also allowed for development of pollock fishing cooperatives in the non-CDQ sectors. Ten such cooperatives were developed as a result of the AFA: seven inshore CV cooperatives, two offshore CP cooperatives, and one mothership cooperative. Catcher vessels in the inshore CV sector deliver pollock to shorebased processors. Catcher/processors harvest and process pollock on the same vessel. Catcher vessels in the mothership sector deliver pollock to motherships, which are processing vessels.

The CDQ Program was created to improve the social and economic conditions in western Alaska communities by facilitating their economic participation in the BSAI fisheries, which had developed without significant participation from rural western Alaska communities. These fisheries, including the Bering Sea pollock fishery, are capital-intensive and require large investments in vessels, infrastructure, processing capacity, and specialized gear. The CDQ Program was developed to redistribute some of the BSAI fisheries’ economic benefits to adjacent communities by allocating a portion of commercially important fisheries to those communities as fixed shares of groundfish, halibut, crab, and prohibited species catch. These allocations, in turn, provide an opportunity for residents of these communities to

both participate in and benefit from the BSAI fisheries. Currently, NMFS allocates 10% of the pollock TAC and 7.5% of the Bering Sea Chinook salmon prohibited species catch limit to the CDQ Program.

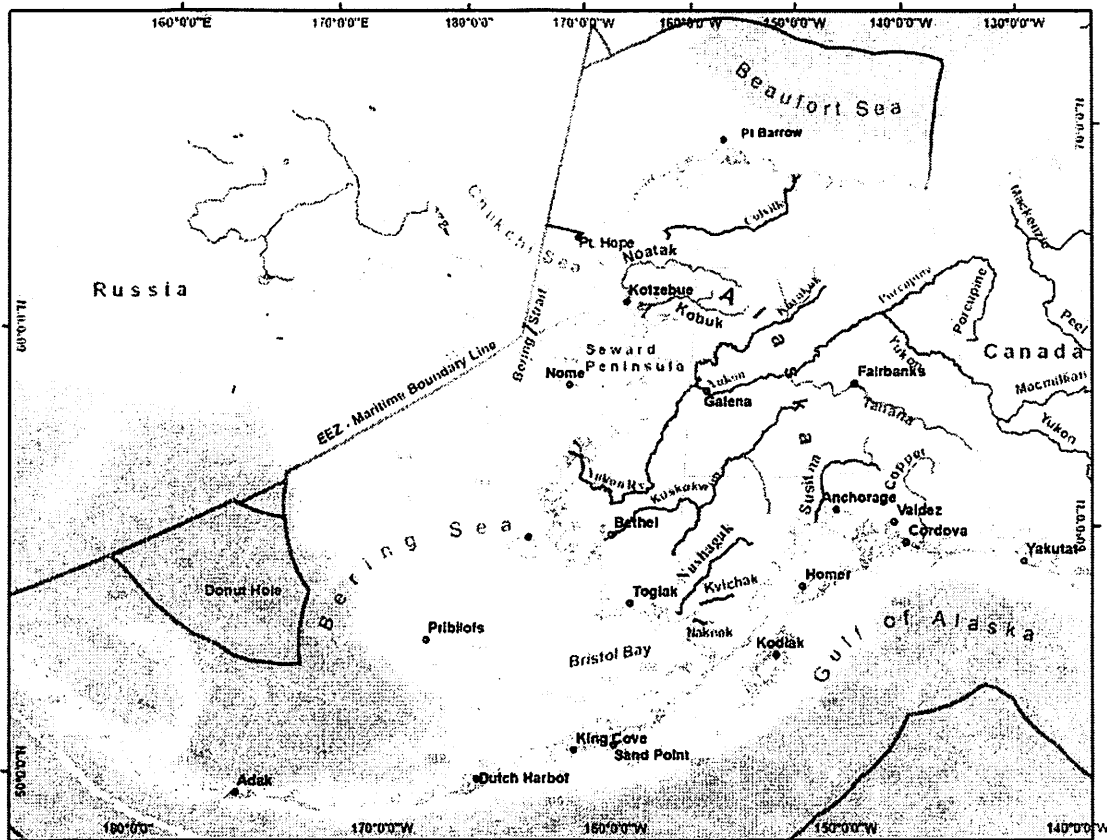


Fig.ES -1 Map of the Bering Sea and major connected salmon producing rivers in Alaska and Northwest Canada

Salmon Bycatch in the Pollock Fishery

Pacific salmon are caught incidentally in the Bering Sea pollock fishery. Of the five species of Pacific salmon, Chinook salmon (*Oncorhynchus tshawytscha*) and chum salmon (*O. keta*) are most often caught incidentally in the Bering Sea pollock fishery. Several management measures are currently used to reduce salmon bycatch in the Bering Sea pollock fishery. The Council and NMFS decided to limit the scope of this action to Chinook salmon, because Chinook salmon is a highly valued species that warrants specific protection measures. The Council will address non-Chinook salmon (primarily chum salmon) bycatch in the Bering Sea pollock trawl fishery with a separate future action. Until then, existing non-Chinook salmon bycatch reduction measures will remain in effect.

From 1992 through 2001, the annual average Chinook salmon bycatch in the pollock fishery was 32,482 Chinook salmon. Chinook salmon bycatch numbers increased substantially after 2002. The average bycatch from 2003 to 2007 was 74,067 Chinook salmon, with peak of approximately 122,000 Chinook salmon taken as bycatch in 2007. Table ES-1 shows the number of Chinook salmon taken as bycatch during the years used in this analysis, 2003 to 2007. Chinook salmon bycatch in the Bering Sea pollock

fishery decreased substantially in 2008. The preliminary Chinook salmon bycatch estimate after the fishery closed on November 1, 2008, was 19,477 Chinook salmon (NMFS Alaska Region estimate on 11/6/2008).

Table ES-1 The number of participating vessels in the Bering Sea pollock fishery, the pollock total allowable catch in metric tons (t), and the number of Chinook salmon taken as bycatch, for the years analyzed, 2003 to 2007.

Year	Number of pollock fishing vessels	Pollock TAC (t)	Chinook salmon bycatch (numbers of fish)
2003	112	1,491,760	46,993
2004	113	1,492,000	51,696
2005	109	1,478,000	67,363
2006	106	1,487,756	82,647
2007	109	1,394,000	121,638

Chinook salmon taken incidentally in groundfish fisheries are classified as prohibited species and, as such, must be either discarded or donated through the Prohibited Species Donation Program. In the mid-1990s, the Chinook Salmon Savings Areas, which are large closure areas, and year-round accounting of Chinook salmon bycatch in the trawl fisheries were implemented. After several amendments to the management measures since 1995, the current regulations require that once Chinook salmon bycatch in the Bering Sea pollock fishery reaches 29,000 salmon, the Chinook Salmon Savings Areas are closed to pollock fishing. The savings areas were adopted based on areas of high historic observed salmon bycatch rates and were designed to avoid areas and times of high salmon bycatch.

The Council started considering revisions to salmon bycatch management in 2004 when information from the fishing fleet indicated that it was experiencing increases in Chinook salmon bycatch following the regulatory closure of the Chinook Salmon Savings Area. Contrary to the original intent of the savings area closure, Chinook salmon bycatch rates appeared to be higher outside of the savings area than inside the area. To address this problem, the Council examined other means to minimize salmon bycatch that were more flexible and adaptive.

Since 2006, the pollock fleet has been exempted from regulatory closures of the Chinook Salmon Savings Areas if they participated in a salmon intercooperative agreement (ICA) with a voluntary rolling hotspot system (VRHS). The fleet started the VRHS for Chinook salmon in 2002. It was intended to increase the ability of pollock fishery participants to minimize salmon bycatch by giving them more flexibility to move fishing operations to avoid areas where they experience high rates of salmon bycatch. The exemption to area closures for vessels that participated in the VRHS ICA was implemented in 2006 and 2007 through an exempted fishing permit and subsequently, in 2008, through Amendment 84 to the BSAI FMP.

In light of the high amount of Chinook salmon bycatch in recent years, the Council and NMFS are considering new measures to minimize bycatch to the extent practicable while achieving optimum yield from the pollock fishery. While the VRHS ICA reports on Chinook salmon bycatch indicate that the VRHS has reduced Chinook salmon bycatch rates compared with what they would have been without the measures, concerns remain because of high amounts of Chinook salmon bycatch through 2007.

Description of Alternatives

Chapter 2 describes and compares four alternatives for minimizing Chinook salmon bycatch, including detailed options and suboptions for each alternative.

Alternative 1: Status Quo (No Action)

Alternative 2: Hard cap

Alternative 3: Triggered closures

Alternative 4: Preliminary Preferred Alternative (PPA)

The alternatives analyzed in this EIS/RIR/IRFA generally involve limits or “caps” on the number of Chinook salmon that may be caught in the Bering Sea pollock fishery and closure of all or a part of the Bering Sea to pollock fishing once the cap is reached. These closures would occur when a Chinook salmon bycatch cap is reached even if the entire pollock TAC has not yet been harvested. The Council has identified a preliminary preferred alternative (Alternative 4) which includes a choice between two different overall Chinook salmon cap levels (68,392 Chinook salmon or 47,591 Chinook salmon). The higher cap would be available if some or all of the pollock fishery participates in a private contractual arrangement called an intercooperative agreement (ICA) that establishes an incentive program to keep Chinook salmon bycatch below the 68,392 Chinook salmon cap. The combination of the higher cap and the bycatch reduction incentive program in the ICA is intended to provide a more flexible and responsive approach to minimizing salmon bycatch than would be achieved by a cap alone. The PPA would rely on the cap to limit Chinook salmon bycatch in all years and on the ICA to keep bycatch as far as possible below the cap.

Alternative 1: Status Quo (No Action)

Alternative 1 would retain the current Chinook Salmon Savings Area (SSA) closures and the exemption for vessels that participate in the VRHS ICA. Only vessels directed fishing for pollock are subject to the SSA closures and VRHS ICA regulations. Once the pollock fleet reaches the Chinook salmon prohibited species catch limit of 29,000 Chinook salmon, the SSA areas are closed for the remainder of the season. The Chinook salmon prohibited species catch limit is apportioned to the non-CDQ and CDQ fisheries. The pollock fishery can continue to harvest pollock outside of the closed areas. Pollock vessels participating in the VRHS ICA, under regulations implemented for BSAI FMP Amendment 84, are exempt from these closures.

Alternative 2: Hard cap

Alternative 2 would establish separate Chinook salmon bycatch caps for the pollock fishery A and B seasons which, when reached, would require all directed pollock fishing to cease for the remainder of that season.

Alternative 2 contains components, and options for each component, to determine (1) the total cap amount and how to divide the total cap between the A and B season, and (2) whether and how to allocate the cap to sectors, (3) whether and how salmon can be transferred among sectors, and (4) whether and how the cap is allocated to and transferred among cooperatives.

Setting the Hard Cap

Under this alternative, the Council would choose an annual hard cap from a specified range of eight caps from 29,323 Chinook salmon to 87,500 Chinook salmon (Table ES-2). These possible cap levels were selected because they represent a range of historical averages over specified years, as described in Chapter 2.

Table ES-2 Range of Chinook salmon hard cap options, in numbers of fish

Suboption	Overall fishery cap	CDQ cap	Non-CDQ cap (all sectors combined)
i)	87,500	6,563	80,938
ii)	68,392	5,129	63,263
iii)	57,333	4,300	53,033
iv)	47,591	3,569	44,022
v)	43,328	3,250	40,078
vi)	38,891	2,917	35,974
vii)	32,482	2,436	30,046
viii)	29,323	2,199	27,124

For the analysis, a subset of four caps that include the upper and lower endpoints of the range, and two equidistant midpoints, were used to understand the impacts of Alternative 2 (Table ES-3).

Table ES-3 Range of Chinook salmon hard caps, in numbers of fish, for use in the analysis

	Chinook	CDQ	Non-CDQ
i)	87,500	6,563	80,938
ii)	68,100	5,108	62,993
iii)	48,700	3,653	45,048
iv)	29,300	2,198	27,103

Seasonal distribution of the hard cap

The annual cap would then be divided between the A and B seasons based on one of four percentage splits (Table ES-4). The suboption would allow the “rollover” of unused Chinook salmon bycatch from the A season to the B season. Rollovers are management actions by NMFS to move Chinook salmon bycatch from one account to another. In this case, rollovers could occur when a sector or cooperative has harvested all of its pollock allocation, but has not reached its A season Chinook salmon bycatch cap. With this suboption, NMFS could move that sector’s or cooperative’s unused salmon bycatch from its A season account to that sector’s or cooperative’s B season account.

Table ES-4 Seasonal distribution of caps between the A and B seasons

Seasonal Distribution Options	A season	B season
1-1	70%	30%
1-2	58%	42%
1-3	55%	45%
1-4	50%	50%
Suboption	Rollover unused salmon from the A season to the B season, within a sector and a calendar year	

Apportioning the hard cap

The hard caps could be apportioned as:

- fishery level caps for the CDQ fishery and the non-CDQ fishery;
- sector level caps for the three non-CDQ sectors: the inshore CV sector, the mothership sector, and the offshore CP sector; and
- cooperative level caps for the inshore CV sector.

A fishery level cap would be managed by NMFS with inseason actions to close the fishery once the cap was reached. The CDQ fishery caps would be allocated and managed at the CDQ group level, as occurs under status quo. The hard caps could be apportioned to sectors as sector level caps based on the percentages in Table ES-5. Non-CDQ sector level caps would be managed by NMFS with inseason actions to close the fishery once the cap was reached.

The inshore CV sector level cap could be allocated to cooperatives and the inshore CV limited access fishery. The cooperative transferable allocation amounts would be based on the proportion of pollock allocations received by the cooperatives.

Table ES-5 Sector apportionment options for the Chinook salmon bycatch cap

Options	CDQ	Inshore CV	Mothership	Offshore CP
No sector allocation	7.5 %; allocated and managed at the CDQ group level	92.5 %; managed at the combined fishery-level for all three sectors		
Option 1 (AFA pollock allocations)	10 %	45 %	9 %	36 %
Option 2a (hist. avg. 04-06)	3 %	70 %	6 %	21 %
Option 2b (hist. avg. 02-06)	4 %	65 %	7 %	25 %
Option 2c (hist. avg. 97-06)	4 %	62 %	9 %	25 %
Option 2d (midpoint)	6.5 %	57.5 %	7.5 %	28.5 %

Transfers and Rollovers

To provide sectors and cooperatives more opportunity to fully harvest their pollock allocations, the ability to transfer sector and cooperative allocations and/or rollover unused salmon bycatch could be implemented as part of Alternative 2 (Table ES-6).

If sector level caps are issued as transferable allocations, then these entities could request NMFS to move a specific amount of a salmon bycatch allocation from one entity's account to another entity's account during a fishing season. Transferable allocations would not constitute a "use privilege" and, under the suboptions, only a portion of the remaining salmon bycatch could be transferred. If NMFS issues the sector level cap as a transferable allocation to a legal entity representing all participants in that sector, that entity would then be prohibited from exceeding its allocation and would be subject to an enforcement action if it exceeded its allocation.

With the sector rollover option, rollovers would occur when a sector has harvested all of its pollock allocation but has not reached its seasonal sector level Chinook salmon bycatch cap. NMFS would move the unused portion of that sector's cap to the sectors still fishing in that season.

Table ES-6 Transfers and rollovers options

	Option	Provision		
No transfer of salmon				
Sector transfers	Option 1	Caps are transferable among sectors in a fishing season		
	Suboption	Maximum amount of transfer limited to the following percentage of salmon remaining:	a	50 %
			b	70 %
c			90 %	
Sector rollover	Option 2	NMFS rolls over unused salmon bycatch to sectors still fishing in a season, based on proportion of pollock remaining to be harvested		
Cooperative transfers	Option 1	Lease pollock among cooperatives in a season or a year		
	Option 2	Transfer salmon bycatch in a season		
	suboption	Maximum amount of transfer limited to the following percentage of salmon remaining:	a	50%
	b		70%	
	c		90%	

Alternative 3: Triggered Closures

Alternative 3 would establish time and area closures that are triggered when specified cap levels are reached. The cap levels for triggered closures would be set in the same way as those described under Alternative 2 and may be apportioned to sectors. Also similar to Alternative 2, the caps may be allocated to sectors as transferable allocations. Closures would be of a single area in the A season and three areas in the B season. Once specified areas are closed, pollock fishing could continue outside of the closure areas until either the pollock allocation is reached or the pollock fishery reaches a seasonal (June 10) or annual (November 1) closure date.

Management

Triggered area closures would be managed either by NMFS or by the industry through a NMFS-approved ICA. Under NMFS management, once the single trigger cap for the non-CDQ pollock fisheries was reached, NMFS would close the trigger areas to directed fishing for pollock by all vessels fishing for the non-CDQ sectors. The trigger cap allocation to the CDQ Program would be further divided among the six CDQ groups as occurs under status quo. Each CDQ group would be prohibited from fishing inside the closure area(s) once the group’s trigger cap is reached.

A NMFS-approved ICA would allow the pollock industry to manage, through its contract, any subdivision of the seasonal trigger caps at the sector level, inshore cooperative, or individual vessel level. The ICA would close areas for the designated group or entity when subdivided caps established by the ICA are reached. The subdivision of the trigger caps under the ICA would not be prescribed by federal regulations. The ICA would decide how to manage participating vessels to avoid reaching the trigger closures as long as possible during each season.

Area Closures

One A season and three B season closures areas are proposed for Chinook salmon under Alternative 3. For the A season closure (Fig. ES-2), once the closure is triggered, the area would remain closed for the remainder of the season. For the B season closures (Fig. ES-3), all three areas close simultaneously. If the B season caps are reached before August 15th, the B season areas would not close until August 15th. If triggered anytime after August 15th, the area would close immediately and remain closed for the duration of the season.

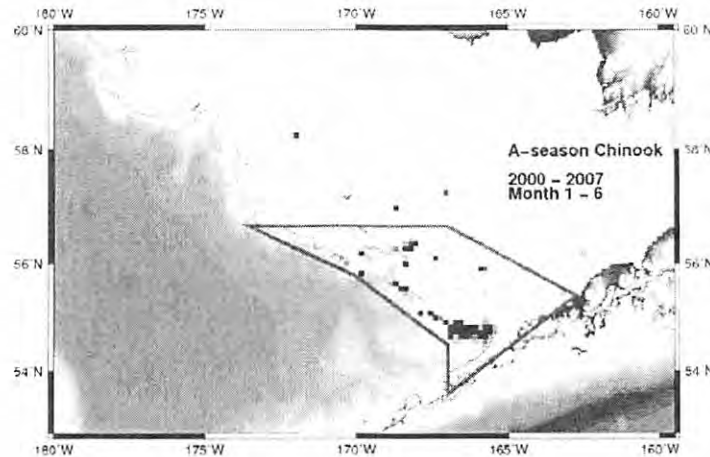


Fig. ES-2 Proposed A season area closure under Alternative 3.

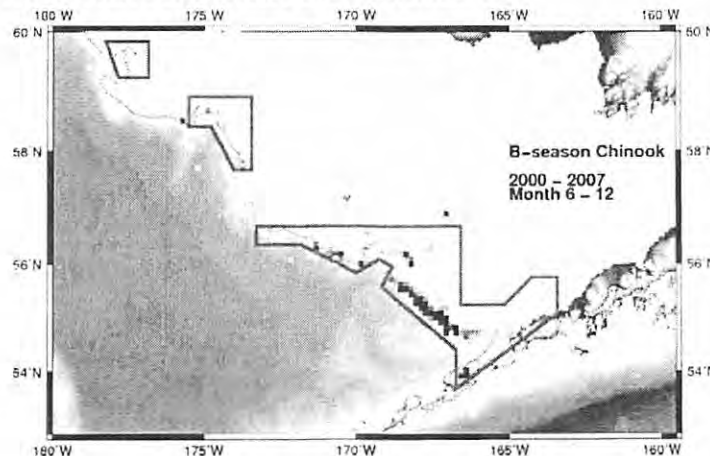


Fig. ES-3 Proposed B season area closures under Alternative 3. Note: all three areas would close simultaneously on or after August 15th.

Alternative 4: Preliminary Preferred Alternative

In June 2008, the Council developed Alternative 4 as its preliminary preferred alternative (PPA). This alternative consists of two different annual scenarios with different caps for each scenario. Under each scenario, a Chinook salmon bycatch cap is established for each pollock fishing season which, when reached, would require all directed pollock fishing to cease for the remainder of that season. Annual scenario 1 (PPA1) contains a dual cap system, with a high cap of 68,392 Chinook salmon for vessels that participate in the NMFS-approved salmon bycatch ICA which provides explicit incentives to avoid Chinook salmon bycatch ICA, and a “backstop” cap of 32,482 Chinook salmon for vessels that do not participate in the ICA. The primary purpose of the ICA is to keep Chinook salmon bycatch as far as practicable below the cap level. Annual scenario 2 (PPA2) contains a cap of 47,591 Chinook salmon and does not contain a provision for an ICA. The prescribed sector level caps (and provisions to allocate the caps as transferrable allocations and divide the sector level caps to the inshore CV cooperative level and among CDQ groups) are identical for both the PPA1 high cap and the PPA2 cap. Each cap would be apportioned seasonally 70 percent to the A season and 30 percent to the B season.

Annual Scenario 1 (PPA1)

If an ICA is in place that provides explicit incentives for each participant to avoid Chinook salmon bycatch in all years, then the overall cap would be 68,392 Chinook salmon. For each season, the high cap would be divided into separate sector level caps for the CDQ sector, the inshore CV sector, the mothership sector, and the CP sector. All Chinook salmon bycatch by vessels in these sectors that were party to the NMFS-approved ICA with incentives to reduce salmon bycatch would accrue against the sector's specific seasonal cap. If a sector forms the necessary legal entity, NMFS would issue that sector's cap as a transferable allocation. Cooperatives and CDQ groups would receive a transferable allocation. When a sector level cap or transferable allocation is reached, the sector, CDQ group, or cooperative would then be prohibited from exceeding its allocation and would be subject to an enforcement action if it exceeded its allocation..

The ICA must meet the following requirements:

- An ICA must provide incentive(s) for each vessel to avoid Chinook salmon bycatch under any condition of pollock and Chinook salmon abundance in all years.
- Incentive measures must include rewards for Chinook salmon bycatch avoidance or penalties for failure to avoid Chinook salmon bycatch at the vessel level.
- The ICA must specify how those incentives are expected to promote reductions in actual individual vessel bycatch rates relative to what would have occurred in the absence of the incentive program.
- Incentive measures must promote Chinook salmon savings in any condition of pollock and Chinook salmon abundance, such that they are expected to influence operational decisions at bycatch levels below the hard cap.
- The ICA must be available for Council and public review and an annual report to the Council would be required and must include:
 - 1) a comprehensive explanation of incentive measures in effect in the previous year,
 - 2) how incentive measures affected individual vessels, and
 - 3) evaluation of whether incentive measures were effective in achieving Chinook salmon savings beyond levels that otherwise would have been achieved in absence of the measures.

Sectors with transferable allocations, CDQ groups, and cooperatives could request NMFS to transfer a specific amount of a salmon bycatch allocation from that entity's account to another entity's account during a fishing season. Allocations would be fully transferable among entities.

Rollovers could occur when a sector, CDQ group, or cooperative has harvested all of its pollock allocation but has not reached its A season Chinook salmon bycatch cap. NMFS would move up to 80 percent of that sector's, CDQ group's, or cooperative's unused salmon bycatch from its A season account to that sector's, CDQ group's, or cooperative's B season account. No rollover would occur from the B season to the A season.

Table ES-7 provides the three cap amounts under Alternative 4 and the associated sector and seasonal allocations.

Table ES-7 A and B season caps, in numbers of Chinook salmon, for Alternative 4 under PPA1 and PPA2, showing both the sector allocation as a percentage and in numbers of Chinook salmon

	Annual scenario 1 (PPA1)				Annual scenario 2 (PPA2) Cap	
	High Cap		Backstop Cap			
Overall cap	68,392		32,482		47,591	
A season allocation (70%):	47,874		22,737		33,314	
CDQ	9.3%	4,452	7.5%	1,705	9.3%	3,098
Inshore CV	49.8%	23,841			49.8%	16,590
Mothership	8%	3,830			8%	2,665
Offshore CP	32.9%	15,751	92.5%	21,032	32.9%	10,960
B season allocation (30%):	20,518		9,745		14,277	
CDQ	5.5%	1,128	7.5%	731	5.5%	785
Inshore CV	69.3%	14,219			69.3%	9,894
Mothership	7.3%	1,498			7.3%	1,042
Offshore CP	17.9%	3,673	92.5%	9,014	17.9%	2,556

Operations that choose not to participate in the ICA would fish under the backstop cap of 32,482 Chinook salmon. The backstop cap would not be allocated to sectors or cooperatives. Instead, it would be divided between the CDQ (2,436) and non-CDQ (30,046) fisheries. Any AFA vessels or CDQ groups not participating in the ICA would be managed as a group under the backstop cap and prohibited by NMFS from directed fishing for pollock once the backstop cap is reached. Chinook salmon bycatch by the CDQ groups, including the CDQ groups participating in the ICA, would accrue against the CDQ portion of the backstop cap. Chinook salmon bycatch by all non-CDQ vessels directed fishing for pollock, including those vessels participating in the ICA, would accrue against the non-CDQ portion of the backstop cap. This means that salmon bycatch by the ICA vessels would accrue against both the high cap and the backstop cap, but the bycatch by non-ICA participants would only accrue against the backstop cap.

During the process of writing this EIS/RIR/IRFA and describing and analyzing the PPA, three issues arose that require either clarification by the Council or modification to the PPA. Chapter 2 describes the following issues and suggests possible options for resolving them:

- Two issues related to the formation and composition of the ICA.
- The potential for the 68,392 Chinook salmon hard cap to be exceeded because, under the PPA, Chinook salmon bycatch accrues to both the high cap and the backstop cap.

Annual Scenario 2 (PPA2)

Under PPA2, the Bering Sea pollock industry would be subject to a hard cap of 47,591 Chinook salmon, regardless of whether the industry operated under an ICA with incentives to avoid salmon bycatch. The PPA2 cap would be subject to the same seasonal apportionments, sector allocations, and rollover and transfer provisions described for the PPA1 cap of 68,392 Chinook salmon (Table ES-7).

Annual Scenario 1 combined with Annual Scenario 2

If the Council chose to combine PPA1 and PPA2, the Bering Sea pollock fleet would be subject to a cap of 47,591 Chinook salmon, unless industry submits and NMFS approves an ICA which provides explicit incentives for salmon avoidance. NMFS would increase the cap to 68,392 Chinook salmon if fishery

participant submits and NMFS approves an ICA meeting all of the applicable regulatory requirements. Vessels that choose not to participate in the ICA would be subject to the backstop cap.

Managing and Monitoring the Alternatives

Chapter 2 also describes how management of the pollock fisheries would change under each of the alternatives and how Chinook salmon bycatch would be monitored. Estimated costs and the impacts of these changes on enforcement of regulations governing the pollock fisheries are discussed in Chapter 10.

Each of the three alternatives to status quo include a cap on the amount of Chinook salmon bycatch that may be caught in the pollock fisheries. Under Alternatives 2 and 4, once this cap is reached, pollock fishing must stop. Under Alternative 3, reaching this cap closes certain areas important to pollock fishing. Each of the alternatives include options that would allocate Chinook salmon bycatch caps among the sectors, inshore cooperatives, and CDQ groups participating in the pollock fisheries. The use of transferable Chinook salmon bycatch allocations is a new aspect of managing the pollock fisheries that does not currently exist in these fisheries and represents the largest challenge for management and enforcement. Transferable bycatch allocations are used in other Bering Sea fisheries, such as the CDQ fisheries and the allocations to the non-AFA trawl catcher/processors under Amendment 80 to the BSAI FMP. These fisheries provide the model for NMFS's recommendations about the management and monitoring requirements that will be needed to implement the alternatives analyzed in this EIS/RIR/IRFA.

To ensure effective monitoring and enforcement of transferable Chinook salmon bycatch allocations, NMFS recommends that the following additional monitoring requirements be implemented for the inshore CV sector and the CDQ sector (if CVs that deliver to shorebased processors harvest pollock on behalf of CDQ groups in the future):

- Each CV, regardless of size, must have 100 percent observer coverage.
- Chinook salmon may be discarded at-sea only if first reported to, and recorded by, the vessel observer.
- Shorebased processor monitoring requirements may have to be adjusted to incorporate a higher standard for Chinook salmon bycatch accounting. This could include such changes as modifying observer sampling protocols, increasing the number of observers, or reducing the flow of pollock into the factory to ensure that Chinook salmon do not pass the observer's sampling area without being counted.
- Electronic (video) monitoring in lieu of observers on CVs would only be allowed after a successful, comprehensive assessment of the effectiveness of electronic monitoring to verify that Chinook salmon are not discarded before they were counted.

Existing observer coverage requirements and species composition sampling methods for catcher/processors and motherships participating in the AFA pollock fisheries, including the directed fisheries for pollock CDQ, represent NMFS's current method for estimating Chinook salmon and will be relied upon to account for and transfer allocations among industry sectors. However, the use of observer data to limit pollock fishing or to enforce overages of Chinook salmon bycatch allocations will place increased scrutiny on this bycatch estimation process and additional improvements or revisions may be needed in the future.

Alternative 4, the Council's PPA, is more complicated to manage and enforce than the other alternatives because PPA1 has two different Chinook salmon bycatch caps that could be operating at the same time, and it includes the requirement for an ICA agreement with incentives to reduce Chinook salmon bycatch below the cap levels. Under PPA1, NMFS would be required to identify which cap each of the

approximately 120 vessels participating in the pollock fishery is fishing under, prior to the start of each year's fishery, attribute the catch from that vessel to the appropriate sector level cap or transferable allocation account, and monitor compliance with Chinook salmon bycatch caps for up to 36 different groups of vessels fishing under different Chinook salmon bycatch allocations. In addition, NMFS would be required to review a proposed ICA submitted by the pollock industry and approve or disapprove this proposed ICA prior to the start of the pollock fisheries.

Consequences of the Alternatives

The specific components as prescribed in Alternative 1, Alternative 4, the subset of combinations under Alternative 2, and triggered closures under Alternative 3, were analyzed quantitatively for impacts on Chinook salmon, pollock, chum salmon, and the related economic analyses. Chapter 3 describes the methodology for the quantitative analysis. For the remaining resource categories considered in this analysis, marine mammals, seabirds, other groundfish, essential fish habitat, ecosystem relationships, and environmental justice, impacts of the alternatives were evaluated largely qualitatively based on results and trends from the quantitative analysis.

The impact of alternative Chinook salmon bycatch management measures is evaluated by using the actual bycatch of Chinook salmon, by season and sector, for the years from 2003 to 2007 to estimate when alternative cap levels would have been reached and closed the pollock fishery during those years. In some cases, the alternatives and options would not have closed the pollock fisheries earlier than actually occurred during these years and in other cases the alternative and options would have closed the pollock fisheries earlier than actually occurred. This is due to the fact that the inter-annual variability is such that in some years, a sector will close for a season, while other sectors remain open (all sectors within both seasons would need to reach their cap for the fleet to reach the total bycatch cap). When an alternative would have closed the pollock fishery earlier in a given season, an estimate is made of (1) the amount of pollock TAC that would have been left unharvested and (2) the reduction in the amount of Chinook salmon bycatch as a result of the closure. The unharvested or forgone pollock catch and the salmon saved by the reduction in Chinook salmon bycatch is then used as the basis for assessing the impacts of the alternatives.

Results presented in Chapter 5 include both overall changes in Chinook salmon mortality due to alternative management measures, as well as resulting estimates of adult equivalent Chinook salmon that would return to natal rivers as adult fish (AEQ bycatch). Additional information is provided on the relative Chinook salmon and pollock catch inside and outside proposed closures in Alternative 3, however discussion of salmon saved (overall and AEQ) is limited to the cap levels as analyzed in Alternatives 2 and 4. Additional AEQ estimates as a result of continued fishing outside of the triggered closures of Alternative 3 are not evaluated due to the difficulty in modeling the potential effect of displaced effort and the resulting bycatch of specific stocks.

The RIR in Chapter 10 examines the costs and benefits of the alternatives based on the analysis in Chapters 4 and 5 that estimates the likely dates of pollock fisheries closures and thereby retrospectively projects likely forgone pollock harvest, as well as the number of Chinook salmon that may be saved under each of the alternatives due to projected fishery closures. In this way, estimates of direct costs, in terms of potentially forgone gross revenue due to unharvested pollock, may be compared to the estimated benefits, in terms of the numbers of Chinook salmon that would not be taken as bycatch. Potentially forgone pollock fishery gross revenue is estimated by tabulating the amount of pollock historically caught after a closure date and applying established sector and seasonal prices. However, it is not a simple matter to estimate changes in gross revenues due to the changes in Chinook salmon bycatch predicted under the alternatives. The analysis instead relies on AEQ estimates of Chinook salmon saved as the measure of economic benefits of the alternatives and options.

Chinook Salmon

The Chinook salmon taken as bycatch in the pollock fishery originate from Alaska, the Pacific Northwest, Canada, and Asian countries along the Pacific Rim. Estimates vary, but more than half of the Chinook salmon caught as bycatch in the Bering Sea pollock fishery may be destined for western Alaska.

Therefore, this document primarily focuses on Chinook salmon bound for western Alaska. Western Alaska includes the Bristol Bay, Kuskokwim, Yukon, and Norton Sound areas, and the Nushagak, Kuskokwim, Yukon, Unalakleet, Shaktoolik and Kwiniuk rivers make up the Chinook salmon index stocks for this region. A general overview of stock status is contained in Table ES-8. Chapter 5 provides an overview of Chinook salmon biology, distribution, and stock assessments by river system or region.

Table ES-8 Overview of western Alaska Chinook salmon stock status for 2008

Chinook Stock	Total run estimated?	2008 preliminary run estimate above or below projected/forecasted	Escapement estimates?	Escapement goals met?	Stock of concern?
Norton Sound	No	NA	Yes	Infrequent	Yield concern (since 2004)
Yukon	Yes	Below	Yes	Most	Yield concern (since 2000)
Kuskokwim	Yes	Below	Yes	Yes	No Yield concern discontinued 2007
Bristol Bay	Yes	Below	Yes	Some	No

As discussed in Chapters 9 and 10, Chinook salmon support subsistence, commercial, personal use, and sport fisheries in their regions of origin. Chinook salmon serve an integral cultural, spiritual, nutritional, and economic role in the lives of Alaska Natives and others who live in rural communities. Many people in western Alaska depend on Chinook salmon as a primary subsistence food. In addition, commercial fishing for Chinook salmon may provide the only source of income for many people who live in remote villages.

Chapters 9 and 10 provide information on the major Chinook salmon fisheries that occur in the Norton Sound region, Kuskokwim area, the Yukon River, and in the Nushagak and Togiak districts of the Bristol Bay region. The State of Alaska Department of Fish & Game is responsible for managing commercial, subsistence, sport, and personal use salmon fisheries. The first priority for management is to meet spawning escapement goals to sustain salmon resources for future generations. Highest priority use is for subsistence under both State and Federal law. Surplus fish beyond escapement needs and subsistence use are made available for other uses. The Alaska Board of Fisheries adopts regulations through a public process to conserve fisheries resources and to allocate fisheries resources to the various users. Yukon River salmon fisheries management includes obligations under an international treaty with Canada. Subsistence fisheries management includes coordination with U.S. Federal government agencies where federal rules apply under the Alaska National Interest Lands Conservation Act. Subsistence salmon fisheries are an important culturally and greatly contribute to local economies. Commercial fisheries are also an important contributor to many local communities as well as supporting the subsistence lifestyle.

Chinook salmon savings

Chapter 5 analyzes the impacts of the alternatives on Chinook salmon. The first step was to predict the number of Chinook salmon saved under each alternative compared to Alternative 1, status quo. Note, these estimates are based on actual numbers of Chinook salmon taken as bycatch per year and do not represent the numbers of adult Chinook salmon expected to return to their rivers of origin (adult equivalents). The analysis of adult equivalents is the second step in the impact analysis. The third step was to analyze the adult equivalent Chinook salmon returns to rivers of origin.

Table ES-9 shows the predicted changes in the amount of Chinook salmon bycatch under each alternative in the highest (2007) and lowest (2003) bycatch years. For each year, the table indicates the projected fleetwide bycatch, by season and annually, for Alternative 4 (PPA1 and PPA2), and the highest and lowest bycatch combinations of sector and seasonal splits under Alternative 2. The table compares the projected bycatch totals for Alternatives 2 and 4 to the actual bycatch in that year under Alternative 1, and shows the percentage reduction under Alternative 2 and 4 from the actual bycatch. Note that this analysis does not capture changes in fleet behavior since 2007 or estimate changes in behavior expected to occur in response to a hard cap.

Table ES-9 Projected fleetwide Chinook salmon bycatch (in numbers of fish), by season and annually, under PPA 1, PPA2, and the lowest and highest bycatch sector and season combinations for Alternative 2, and percentage reduction from actual bycatch under Alternative 1, for highest (2007) and lowest (2003) bycatch years.

Bycatch year	Alternative	Bycatch cap level	Projected salmon bycatch			Reduction from actual bycatch in that year
			A season	B season	Annual Total	
2007	PPA1	68,392	46,130	20,193	66,323	46%
	PPA2	47,591	32,175	14,208	46,383	62%
Actual bycatch: 121,638	Lowest 2007 Alt. 2 bycatch	29,300	2,801	6,557	9,358	92%
	Highest 2007 Alt. 2 bycatch	87,500	40,415	36,828	77,243	37%
2003	PPA1	68,392	33,578	13,113	46,691	1%
	PPA2	47,591	31,520	13,113	44,633	5%
Actual bycatch: 46,993	Lowest 2003 Alt. 2 bycatch	29,300	11,550	11,084	22,634	52%
	Highest 2003 Alt. 2. bycatch	87,500	33,808	13,185	46,993	0

In 2007, the highest bycatch year analyzed (and the year of highest historical bycatch of Chinook salmon), PPA1 would have resulted in a 46% reduction overall in Chinook bycatch, from the actual amount caught. PPA2, with a lower cap but the same sector and seasonal partitions, would have resulted in a 62% reduction from the actual amount. For comparison against other scenarios analyzed under Alternative 2, a high of 92% reduction in Chinook salmon bycatch would have been estimated under the most restrictive cap of 29,300 Chinook salmon (with seasonal split of 70/30 and an option 2d sector split - the midpoint of historical average options and the AFA pollock allocations), while the least restrictive cap of 87,500 (with seasonal split of 50/50 and option 2a sector split - the historical average from 2004-2006) would have resulted in a 37% reduction from actual bycatch in that year.

In low bycatch years, the majority of caps under consideration have minimal impact on actual bycatch levels, as estimated annually. In 2003, the lowest bycatch year analyzed, PPA1 and PPA2 both result in small reductions from the actual bycatch in that year (1%–5% reduction, respectively), while under the

highest cap under consideration (87,500), no change is predicted from Alternative 1, status quo. The lowest cap under consideration of 29,300 (split seasonally 50/50 with an option 1 sector split based on the AFA pollock allocation) provides a 52% reduction in Chinook salmon bycatch from Alternative 1.

Adult Equivalent Chinook salmon savings

The second step in the analysis uses a simulation model to compute adult equivalent impacts (AEQ bycatch) from the hypothetical bycatch numbers calculated in the first step. AEQ bycatch takes into account the fact that some of the Chinook salmon taken as bycatch in each year would not have returned to their river of origin in that year. Based on their age and maturity, they might have returned from one to four years later. Some proportion of the bycatch would not have returned in any year due to ocean mortality. AEQ bycatch estimates provide a means to evaluate the impacts to spawning stocks and future mature returning Chinook salmon.

The pattern of bycatch relative to AEQ is variable. In some years, the actual bycatch may be below the AEQ estimates, due to the lagged impact of catches in previous years. For example, in 2000, actual bycatch is below the predicted AEQ bycatch (Fig. ES-4). This is because from 1996 to 1998, the actual bycatch was high. The impacts from those high bycatch years show up in the AEQ bycatch in subsequent years.

A similar situation is predicted for the AEQ model results for 2008, because of high bycatch in previous years, especially in 2007. Although 2008 Chinook salmon bycatch was very low, compared to previous years, the impacts from 2007 bycatch will continue to be experienced in river systems for several years to come. This impact analysis does not predict impacts past 2007, however authors acknowledge that bycatch during the years 2003-2007 will continue to influence adult equivalent salmon returning to river systems for several years into the future.

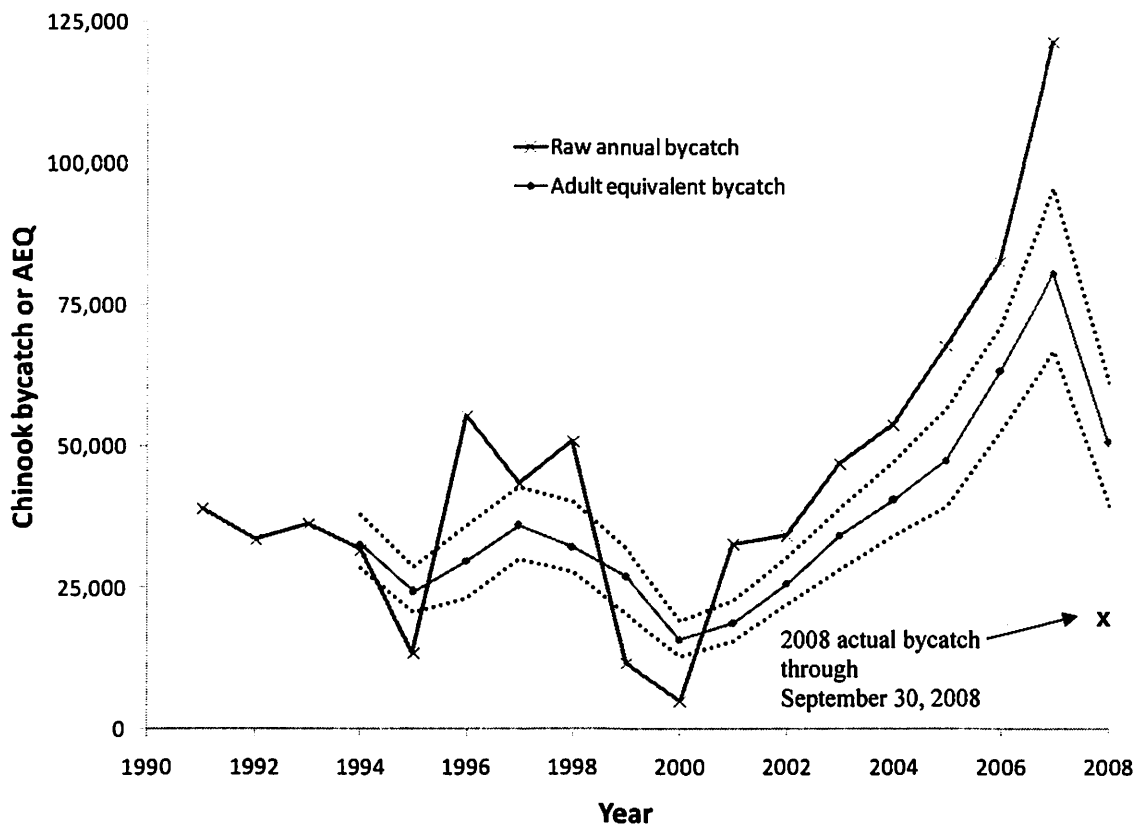


Fig. ES-4 Time series of Chinook actual and adult equivalent bycatch from the pollock fishery, 1991-2007 (2008 to date is also indicated). The dotted lines represent the uncertainty of the AEQ estimate, due to the combined variability of ocean mortality, maturation rate, and age composition of bycatch estimates.

For the PPA scenarios as well as each of the subsets (36 alternatives) analyzed under Alternative 2, if these measures had been in place (and assuming that fleet behavior in the past approximates future behavior), the results indicate that fewer Chinook salmon would have been removed from the system, except in years where bycatch level was already low, like in 2003. Table ES-10 compares the number of Chinook salmon that would have been saved in 2007, if PPA1, PPA 2, or the highest and lowest caps of comparable seasonal and sector combinations of Alternative 2 had been in place.

Table ES-10 Total projected reduction of Chinook salmon bycatch and adult equivalent salmon bycatch from the actual 2007 bycatch estimate of 121,638 Chinook salmon. Compares PPA1, PPA2, and the highest and lowest caps of comparable seasonal and sector combinations of Alternative 2.

	PPA1	PPA2	Alt2 cap 87,500 Opt2d 70/30	Alt2 cap 29,300 Opt2d 70/30
Number of Chinook salmon saved	55,307	75,306	46,766	112,647
Adult equivalent Chinook salmon saved	26,420	40,851	22,417	65,476

AEQ Chinook salmon returns to rivers of origin

The third step in evaluating Chinook salmon bycatch impacts is to relate the total AEQ salmon saved to particular river systems and regions where the Chinook salmon would returned to spawn. Applying available genetics and scale-pattern data showed that the clearest results were for western Alaska river systems. Since the genetics results are limited in the ability to distinguish among these stocks, this analysis uses the results from scale-pattern analyses to provide estimates to western Alaska rivers based on the proportional breakouts of western Alaska Chinook salmon derived from Myers et al. (2003). These values are based on medians from the simulation model and are applied to mean proportional assignments to regions within each stratum - A-season (all areas) and B-seasons (broken out geographically be east and west of 170°W long.). See Chapter 3 for methodology and Chapter 5 for detailed impacts by river system.

For the highest cap level, results suggest that over 3,000 western Alaska AEQ Chinook salmon would have been saved had those measures been in place in 2006 and 2007. Under the lowest cap level, the number of AEQ Chinook salmon saved to western Alaska rivers would have been over 26,000 in 2006 and over 33,000 in 2007. Table ES-11 shows the increases in AEQ Chinook salmon saved by river systems from the estimated AEQ returns under Alternative 1. PPA1 and PPA2 are compared against results from Alternative 2, using the option 2d sector allocations for the highest and lowest cap levels (87,500 and 29,300). The 70/30 seasonal split is used for all scenarios. Table ES-11 indicates the distribution of AEQ salmon saved to selected river systems. This shows an example for one year and a subset of caps only, additional scenarios for different caps, seasonal and sector splits, as compared against the PPA, are included in the analysis.

PPA1 provides neither the highest nor lowest reduction in adult equivalents to individual river systems, based on the range of caps under consideration. Relative impacts to individual river system are highly dependent upon where the fleet fished in a given year, as a river system's proportional contribution to bycatch varies spatially. Thus, comparative results for the same caps and rivers of origin will be highly variable by year.

In a high bycatch year such as 2007, some management options also result in higher AEQ salmon mortalities for some systems (e.g., for a number of options for the middle Yukon and Upper Yukon rivers). Given that Chinook from these rivers tend to be found most commonly in the northwest Bering Sea during the B season, and that the proportion attributed to that stratum increases from the estimated 8% to over 44% for some options, the relative stock composition of the AEQ bycatch as a whole can change. These complexities reveal the difficulty in predicting how any management action will affect specific stocks of salmon, particularly since their relative effects appears to vary in different years.

Table ES-11 2007 projected adult equivalent Chinook salmon saved, in number of salmon, by region of origin (based on genetic aggregations). Compares PPA1, PPA2, and the Alternative 2 highest and lowest caps with comparable seasonal and sector combinations. Higher numbers indicate a greater salmon "savings", compared to Alternative 1, status quo.

Stocks of Origin ¹	PPA1	PPA2	Alt2 cap 87,500 Opt2d 70/30	Alt2 cap 29,300 Opt2d 70/30
Yukon	5,228	8,840	3,299	14,938
Kuskokwim	3,398	5,746	2,144	9,710
Bristol Bay	4,443	7,514	2,804	12,697
Pacific Northwest aggregate stocks (PNW)	8,489	11,135	9,581	15,507
Cook Inlet stocks	1,042	1,202	1,010	1,284
Transboundary aggregate stocks (TBR)	699	821	670	909
North Alaska Peninsula stocks (N.AK)	2,318	4,389	2,264	8,594
Aggregate 'other' stocks	803	1,203	646	1,837

Benefits of Chinook salmon savings

Chapter 10 analyzes the benefits of the estimated changes in Chinook salmon savings under the alternatives. The AEQ estimates represent the potential benefit in numbers of adult Chinook salmon that would have returned to individual river systems and aggregate river systems as applicable in the years 2003 to 2007. These benefits would accrue within natal river systems of stock origin as returning adult fish that may return to spawn or be caught in subsistence, commercial, or sport fisheries. Exactly how those fish would be used is the fundamental, and exceedingly difficult, question to answer in order to provide a balanced treatment of costs and benefits.

Measuring the potential economic benefit of Chinook salmon saved, in terms of effects on specific subsistence, commercial, sport, and personal use fisheries is difficult. The proportion of AEQ estimated Chinook salmon that might be taken in each of the various fisheries is a function of many variables including overall run strength, subsistence management strategies, commercial management strategies, availability of commercial markets, the effect of weather on catch (e.g. high water), and potentially, on management of other salmon runs as well. Lacking estimates of the proportion of AEQ Chinook salmon that would be caught by each user group, it is not possible to estimate economic benefits in terms of gross revenues or other monetary values for those user groups due to changes in AEQ Chinook salmon under each alternative.

Without an estimate of changes in commercial catches, it is not possible to accurately estimate changes in gross revenue for the commercial Chinook salmon fishermen from changes in AEQ Chinook salmon under the alternatives. Estimating changes in commercial Chinook salmon gross revenues would require two unrealistic assumptions. First, the analysts would have to assume the portion of the AEQ Chinook salmon that would be caught by the commercial fisheries, such as the simple assumption that the commercial fishery would catch all of the returning AEQ Chinook salmon. This assumption would not be realistic because the subsistence use of Chinook salmon has priority over commercial use. Thus, in some river systems, increases in Chinook salmon returns might be caught wholly by subsistence fishermen.

¹ For specific information on stocks included in each stock of origin grouping, see Table 3-7 in Chapter 3.

Second, to estimate changes in gross revenues, one must also make an assumption of average weight per fish and determine an appropriate average price per pound by river system. In some rivers systems, directed commercial Chinook salmon fisheries have not occurred in recent years. Thus, average weight and average price proxy values from other areas would have to be used, which creates additional uncertainty in the estimates of potential commercial value.

Further, the total social and cultural value of subsistence Chinook salmon harvests cannot be evaluated in a way that is directly comparable to the monetary value of potential increases in commercial Chinook salmon catch or forgone gross revenues from the pollock fleet. Estimates of changes to the gross revenues to the commercial Chinook salmon fishery may mask the true subsistence value; tempting the reader to focus on the monetary estimates of commercial value when the non-monetary value of subsistence harvests is very important and not reflected in terms of gross revenues.

For these reasons, this analysis of potential economic benefits is in terms of AEQ estimated Chinook salmon saved and does not provided estimates of a monetary value of the salmon saved. The first step is to evaluate, by year, the overall AEQ salmon saved for the Alternative 2 and 4 cap levels, and season and sector options, as compared to Alternative 1, status quo. Table ES-12 provides this summary comparison by indicating the percentage change in aggregate AEQ estimates of benefits under the alternatives analyzed compared to the estimated historical AEQ by year (2003-2007). This comparison shows that the AEQ benefits of the PPA scenarios range from a less than 1% change in AEQ Chinook salmon estimated for 2003, to a high of 52% more AEQ Chinook salmon estimated for PPA2 in 2007.

Four cap options for Alternative 2 with the same 70/30 seasonal splits and sector divisions (Option 2d) are compared against PPA1 and PPA2. The Alternative 2 cap level considered closest to PPA1 is 68,100 Chinook salmon. Alternative 2 at this cap level would have a similar minor benefit in 2003 but in higher bycatch years, like 2007, it would have an estimated 64% increase in benefit compared with a 34% increase for PPA1. For comparison, the highest cap of 87,500 shows a 28% increase in benefits. As with the PPA scenarios, one can see the range of values that fall in between as bycatch levels generally increased from 2003 through 2007. The highest percentage change from status quo occurs with the lowest cap considered (29,300) in the highest bycatch year (2007) which results in an estimated 83% increase in the AEQ Chinook salmon savings in that year.

Table ES-12 Percentage change in adult equivalent Chinook salmon savings from Alternative 1, status quo, between Alternative 4 (PPA) caps and closely comparable management options in Alternative 2, for the years 2003 to 2007.

	2003	2004	2005	2006	2007
Alt. 1 AEQ Chinook salmon	33,215	41,047	47,268	61,737	78,814
PPA1	<1%	7%	16%	22%	34%
PPA2	2%	11%	24%	40%	52%
87,500 70/30 opt2d	1%	7%	19%	21%	28%
68,100 70/30 opt2d	<1%	18%	29%	51%	64%
48,700 70/30 opt2d	12%	18%	29%	51%	64%
29,300 70/30 opt2d	42%	45%	51%	67%	83%

These results are for the total AEQ Chinook salmon saved by year to give an overall impression of the relative magnitude of effects for all river systems to compare against the constraints on the pollock fishery. Individual benefits of AEQ Chinook salmon returning to specific river systems is evaluated next, with a particular focus on river systems in western Alaska because proportional break-outs were only possible for western Alaskan-origin Chinook. Our ability to provide results relating salmon saved to

specific rivers of origin is limited by the aggregate genetic data employed in this analysis. Further discussion of this is included in Chapter 3.

Table ES-11 provides an overview of the stocks of origin and the relative reduction of AEQ Chinook salmon bycatch by region of origin for a snapshot of one year (2007) for PPA1 and PPA2 compared to two caps options under Alternative 2. Results for aggregate groupings for the Pacific Northwest stocks, the North Alaska Peninsula stocks, Cook Inlet stocks, and Transboundary stocks are shown in the analysis for comparison of their relative trends by alternative. Absolute impacts of aggregate AEQ savings as noted to these rivers systems is not estimable at this time due to the genetic limitations. However results are shown for inference of trends to various regions and areas.

Thus AEQ Chinook salmon savings results are shown individually for the Yukon River, Kuskokwim River and Bristol Bay with comparison made as possible with relative catch by commercial, subsistence, and sport users over the analytical time period considered. Personal use catch is a very small component of the subsistence catch. Just as with estimating the total changes in catches in the commercial Chinook salmon fisheries from AEQ salmon saved discussed above, it is not possible, with presently available information, to determine the proportions of river specific AEQ estimates of returning adult Chinook salmon that would be caught in commercial, subsistence, and sport fisheries in these western Alaska river systems.

While it is very difficult to retrospectively assess the specific impacts or management implications of additional AEQ Chinook salmon to a given river system, it is reasonable to assume that any additional fish would benefit escapement and harvest according to the priorities outlined above. However, management decisions in the lower Yukon and Kuskokwim Rivers must be made long before adequate information on escapements is available and if additional AEQs of unknown stock origin were spread throughout the run, how management actions might specifically provide for greater stock-specific escapements is uncertain. Regardless, any additional fish in the run would presumably help to achieve escapement goals, and there is demonstrable benefit even from missing the escapement goal by a smaller amount of fish. Similarly, it is difficult to predict the impacts of additional fish to particular subsistence fishermen or even to the subsistence harvest as a whole. If escapement goals are projected to be met, it is logical that subsistence fishermen would directly benefit from increased run sizes of any magnitude.

Table ES-13 summarizes some management indices for the Yukon River, Kuskokwim River, and Bristol Bay, in conjunction with the restrictions that were imposed over the time period considered, and discusses what, if any, management changes could have been made given the projected changes in AEQ Chinook salmon returns indicated in this analysis. No subsistence fishery restriction occurred in the Kuskokwim, Yukon, or Bristol Bay from 2003 to 2007; however some fishermen reported that it took them longer to catch their needed number of Chinook salmon. There are direct cost increases associated with the need for increased time, effort, and resources (fuel, equipment wear and tear) necessary to approach individual subsistence needs. Where increases in run size contribute to achieving escapement goals and satisfying subsistence needs, one would expect some benefit to the commercial fishery as well. In the Yukon-Kuskokwim Delta, commercial fishing represents an important economic impact to local communities and in many respects, facilitates the pursuit of subsistence living with needed cash for supplies and equipment. The predicted benefits of additional AEQs to commercial fishermen may depend greatly on when the fish recruit to the fishery in relation to managers' assessments of escapement and subsistence harvest.

Table ES-13 Summary of Chinook salmon escapement goals obtained, restrictions imposed, and potential management changes with additional AEQ Chinook salmon returns to rivers over the time period from 2003 to 2007.

River	Escapement goals met from 2003-2007	Additional restrictions imposed from 2003-2007			Likely management changes if additional AEQ Chinook salmon had been available 2003-2007
		Subsistence	Commercial	Sport	
Yukon	2006-2007 some key goals not met	No	No	No	2006-2007 additional fish would accrue towards escapement; in all years increased potential for higher subsistence and commercial harvest
Kuskokwim	Most	No	No	No	Potential for increased commercial harvests within market constraints
Bristol Bay	2007 goals not met	No	No	2007	If additional Chinook salmon were sufficient to meet escapement then 2007 sport fish restriction would not have been imposed; In all years additional fish towards escapement, increased potential for higher subsistence and commercial harvest

Kuskokwim River

In the Kuskokwim River, most escapement goals were met during the period from 2003 to 2007 and there were no restrictions to subsistence or sport fisheries beyond those provided for in state regulation. If additional fish had returned in these years, the commercial harvest may have been higher in some years, though poor chum salmon markets and lack of buyer capacity may have precluded more commercial fishing. Processor capacity is expected to increase with completion of a large facility in the area in 2009, so future additional AEQ Chinook salmon returns could directly benefit commercial fishermen.

Table ES-14 provides Kuskokwim area specific catch, by harvesting sector and by year, compared to AEQ Chinook salmon estimates for PPA1, PPA2, and for high and low caps under Alternative 2. The Kuskokwim AEQ estimates for the PPA scenarios range indicates that the greatest benefit, in terms of numbers of returning adult Chinook salmon, would occur for the lower bycatch cap in years with the highest Chinook salmon bycatch. This also holds for the cap examples shown for Alternative 2. The greatest benefit, in the Kuskokwim areas, under Alternative 2 would be 9,710 more Chinook salmon returning, which occurs under the lowest cap of 29,300 and in the high bycatch years of 2006 and 2007.

Comparing these numbers to subsistence catches, which have priority over all other uses once escapements have been met, reveals that historic Kuskokwim area subsistence catches are much larger than the estimated increases in AEQ Chinook salmon returns under Alternatives 2 and 4. However, commercial and sport catches are smaller than many of the AEQ estimates, indicating potential benefits to commercial and sport fishermen in the area.

Table ES-14 Kuskokwim Area Annual Chinook Salmon Catch, by Sector, Compared to AEQ Chinook Salmon Savings Estimates for Alternatives 2 and 4 (2003-2007).

Kuskokwim Area					
Catch and AEQ Estimates	Year				
	2003	2004	2005	2006	2007
Commercial Catch	158	2,300	4,784	2777	179
Subsistence Catch	67,788	80,065	70,393	63,177	72,097*
Sport Catch	401	857	1,092	572	2,543*
Total Catch	68,347	83,222	76,269	66,526	74,819
PPA1	-214	384	1,269	2217	3,398
PPA2	-40	301	1,264	3,849	5,746
Alt. 2, 87,500, opt2d, 70/30	365	824	1,369	2,144	2,144
Alt. 2, 29,300, opt2d, 70/30	2,399	3,243	6,361	9,710	9,710

* 2007 data are preliminary

Note: in years when the actual bycatch was below a given cap level, this could have resulted in negative AEQ salmon savings (i.e., more, not fewer, salmon were prevented from spawning than actually occurred). This can happen when the combined cumulative effect from prior years bycatch levels are low in some seasons and sectors and high in others.

Yukon River

In the Yukon River, for the period from 2003 to 2005, most escapement goals were met and there were no restrictions to subsistence or sport fisheries. Due to generally low run sizes, commercial fisheries were managed conservatively. Any additional fish would have likely increased escapements and contributed to subsistence and commercial harvests. Sport fish harvest is fairly stable and the harvest may be impacted more by water conditions than abundance, unless restricted to meet escapement goals. In 2006 and 2007, some key escapement goals were not met, but there were no restrictions to subsistence or sport fisheries. Additional fish in these years would most likely have accrued to escapement and some additional subsistence harvest. Yukon River Chinook salmon command a high price in commercial markets, but their value to escapement and subsistence fishermen is inestimable.

Table ES-15 provides Alaska Yukon River specific catch, by harvesting sector and by year, compared to AEQ Chinook salmon estimates for PPA1, PPA2, and the Alternative 2 high and low caps. The Yukon AEQ estimates for the PPA scenarios indicates that the greatest benefit, in terms of numbers of returning adult Chinook salmon, would occur under the lower bycatch cap in years with the highest Chinook salmon bycatch. This also holds for the cap examples shown for Alternative 2. The greatest benefit, in the Yukon area, under Alternative 2 would be a savings of 14,938 Chinook salmon, which occurs under the lowest cap of 29,300 and in the high bycatch year of 2007.

Comparing Yukon AEQ numbers to subsistence catches, which have priority over all other uses once escapements have been met, reveals that historic Yukon area subsistence catches are much larger than the projected estimates of AEQ Chinook salmon returns under Alternatives 2 and 4. The same is true of historic Yukon commercial catches. However, both PPA scenarios would result in AEQ Chinook salmon estimates that are more than 10% of the commercial catch in 2007, and considerably larger than sport catch in that year. In 2006, a similar result is seen, although with a slightly smaller percentage. Thus, it is difficult to interpret the magnitude of the benefits from the projected changes to AEQ Chinook salmon.

Table ES-15 Alaska Yukon River Area Annual Chinook Salmon Catch, by Sector, Compared to AEQ Chinook Salmon Savings Estimates for Alternatives 2 and 4 (2003-2007)

Yukon River (Alaska)					
Catch and AEQ Estimates	Year				
	2003	2004	2005	2006	2007
Commercial Catch	40,438	56,151	32,029	45,829	33,634
Subsistence Catch	55,109	53,675	52,561	47,710	59,242
Sport Catch	2,719	1,513	483	739	960
Total Catch	98,266	111,339	85,073	94,278	92,876
PPA1	-329	591	1,952	3,409	5,228
PPA2	-61	463	1,944	5,921	8,840
Alt. 2, 87,500, opt2d, 70/30	561	-2	1,267	2,107	3,299
Alt. 2, 29,300, opt2d, 70/30	3,690	3,469	4,989	9,786	14,938

Note: in years when the actual bycatch was below a given cap level, this could have resulted in negative AEQ salmon savings (i.e., more, not fewer, salmon were prevented from spawning than actually occurred). This can happen when the combined cumulative effect from prior years bycatch levels are low in some seasons and sectors and high in others.

Bristol Bay

During the period from 2003 to 2006, escapement goals were achieved and no restrictions were placed on any subsistence, sport, or commercial fisheries in Bristol Bay. Though additional AEQ Chinook salmon returns would not have changed any management decisions made in those years, additional fish would have benefited all uses while providing additional escapement. In 2007, the sport fish bag limit was reduced to a single fish after July 7 for the Nushagak River. The in-river escapement goal was not achieved despite this restriction. Increased AEQ Chinook salmon returns to Bristol Bay would have mainly accrued towards achieving the in-river escapement goal, and probably would have made the Nushagak sport fish restriction unnecessary. These restrictions have immediate and lasting economic impacts due to continued perception of poor fishing and possible future restrictions. Additional fish might have provided benefits to commercial fishermen, though specific impacts are highly dependent upon the run timing of these fish.

Table ES-16 provides Bristol Bay area catch, by harvesting sector and by year, compared to AEQ Chinook salmon savings estimates for PPA1, PPA2, and Alternative 2 high and low caps. The Bristol Bay AEQ estimates for the PPA scenarios indicates that the greatest benefit, in terms of numbers of returning adult Chinook salmon, would occur under the lower bycatch cap in years with the highest Chinook salmon bycatch. This also holds for the cap levels shown for Alternative 2. The greatest benefit, in the Bristol Bay area, under Alternative 2 would be a estimate increase return of 12,697 Chinook salmon, which occurs under the lowest cap of 29,300 and in the high bycatch year of 2007.

In the Bristol Bay area, in contrast to the Yukon and Kuskokwim areas, commercial fishing takes the largest proportion of harvestable surplus of Chinook salmon, possibly due to the presence of a large sockeye fishery. Comparing Bristol Bay AEQ numbers to catches reveals that historic Bristol Bay area subsistence and sport catches are larger than the Bristol Bay AEQ estimates under Alternatives 2 and 4, but not by as great a margin as evident in the Kuskokwim and Yukon areas. In addition, historic Bristol Bay area commercial catches are considerably larger than the estimates of AEQ Chinook salmon returns to Bristol Bay. As was the case for the Yukon; however, both PPA scenarios would result in AEQ Chinook salmon estimates that approach (PPA1) or exceed (PPA2) 10% of the commercial catch in 2007, and that are considerably larger than sport catch in that year. Thus, it is difficult to interpret just how

much benefit the estimated changes in AEQ Chinook salmon returns to Bristol Bay would imply and it is variable by year and option.

Table ES-16 Bristol Bay Area Annual Chinook Salmon Catch, by Sector, Compared to AEQ Chinook Salmon Savings Estimates for Alternatives 2 and 4 (2003-2007).

Bristol Bay Area					
Catch and AEQ Estimates	Year				
	2003	2004	2005	2006	2007
Commercial Catch	46,953	114,280	76,590	106,962	62,670
Subsistence Catch	21,231	18,012	15,212	12,617	16,002
Sport Catch	9,941	13,195	13,036	10,749	15,200
Total Catch	78,125	145,487	104,838	119,579	78,672
PPA1	-280	503	1,659	2,898	4,443
PPA2	-52	394	1,653	5,033	7,514
Alt. 2, 87,500, opt2d, 70/30	477	-1	1,077	1,791	2,804
Alt. 2, 29,300, opt2d, 70/30	3,137	2,948	4,241	8,318	12,697

Note: in years when the actual bycatch was below a given cap level, this could have resulted in negative AEQ salmon savings (i.e., more, not fewer, salmon were prevented from spawning than actually occurred). This can happen when the combined cumulative effect from prior years bycatch levels are low in some seasons and sectors and high in others.

Western Alaska combined

Table ES-17 combines the AEQ and catch estimates discussed above for each of the three major western Alaska river systems for which AEQ estimates are available in order to compare the aggregate effect of the alternatives on western Alaska Chinook salmon runs. Note, however, that genetic data necessary to provide separate AEQ estimates for the Norton Sound area rivers are not presently available. Thus, these estimates do not include Norton Sound.

The western Alaska total (excluding Norton Sound) AEQ estimates for the PPA scenarios range from a negative 823 Chinook salmon under PPA1, in 2003, to 22,100 Chinook salmon under PPA2 in 2007. Under the Alternative 2 cap of 87,500, the smallest increase in returns would have been 821 Chinook salmon in 2004. The greatest benefit to western Alaska, under Alternative 2, would be an estimated increase in returns of 37,345 Chinook salmon under the lowest cap of 29,300 and in the high bycatch year of 2007.

Comparing the combined total of Chinook salmon catches for western Alaska with combined total AEQ estimates reveals that total catches, which are dominated by subsistence catches, are more than ten times larger than the largest estimate of AEQ Chinook salmon returns under Alternatives 2 and 4, in all years except 2007. However, these AEQ estimates, when compared to sector level commercial harvests, can range between 10% and 40% of the total commercial catch in the highest bycatch year of 2007. Similarly, the AEQ estimates are, in some cases, comparable to sport catches. Thus, while these AEQ estimates appear small relative to the total catch, they may, nonetheless, represent measurable benefit to harvesters. The extent of that benefit is, of course dependent on which option is chosen and what level of bycatch occurred, as well as on the in-season management of the western Alaska salmon fisheries. Further, the aggregate AEQ estimates of all river systems combined produce numbers of AEQ Chinook salmon returns that are much larger than the western Alaska estimates, which represent a subset of the aggregate estimates presented in Table ES-10.

Table ES-17 Total western Alaska (excluding Norton Sound) Annual Chinook Salmon Catch, by Sector, Compared to AEQ Chinook Salmon Estimates for Alternatives 2 and 4 (2003-2007).

Total Kuskokwim, Alaska Yukon, and Bristol Bay					
Catch and AEQ Estimates	Year				
	2003	2004	2005	2006	2007
Commercial Catch	87,549	172,731	113,403	155,568	96,483
Subsistence Catch	144,128	151,752	138,166	123,504	147,341
Sport Catch	13,061	15,565	14,6	12,060	18,703
Total Catch	244,738	340,048	266,180	280,383	262,527
PPA1	-823	1,478	4,880	8,524	13,069
PPA2	-153	1,158	4,861	14,803	22,100
A2, 87,500, opt2d, 70/30	1,403	821	3,713	6,042	8,247
A2, 29,300, opt2d, 70/30	9,226	9,660	15,591	27,814	37,345

Note: in years when the actual bycatch was below a given cap level, this could have resulted in negative AEQ salmon savings (i.e., more, not fewer, salmon were prevented from spawning than actually occurred). This can happen when the combined cumulative effect from prior years bycatch levels are low in some seasons and sectors and high in others.

However, according to the Alaska Department of Fish & Game, in general, the western Alaska Chinook salmon stocks declined sharply in 2007 and declined even further in 2008. In some of these areas, the 2008 Chinook salmon run was one of the poorest on record. The 2008 preliminary total run estimates from each of these river systems were below the projected or forecasted run sizes and despite conservative management, many of the escapement goals were not met. No directed Chinook salmon commercial fisheries occurred in the Yukon River or in Norton Sound, and only small commercial fisheries occurred in the Nushagak and Kuskokwim Rivers. Sport fisheries were restricted in the Yukon, Unalakleet, and Shaktoolik Rivers. More significantly, the subsistence fisheries in the Yukon River and in the Unalakleet and Shaktoolik subdistricts of Norton Sound were restricted.

Comparison of Chinook salmon saved and foregone pollock harvest

Selection of a final preferred alternative will involve explicit consideration of trade-offs between the potential Chinook salmon saved and the forgone pollock catch. Table ES-18 compares Alternative 2 cap levels (with the sector split options from Table ES-5 and season split options from Table ES-4) with PPA1 and PPA2 for both their estimated Chinook salmon saved and the forgone pollock over the highest bycatch year analyzed (2007) and the lowest bycatch year analyzed (2003). Note that this analysis considers changes in actual Chinook salmon bycatch, not changes in AEQ bycatch.

In a high bycatch year like 2007, an estimated 92% percent reduction in Chinook salmon bycatch would have occurred under the cap level of 29,300. However this would be achieved at a reduction of 46% of the annual total pollock catch. The highest cap under consideration (87,500) would have reduced overall salmon bycatch by an estimated 37%, but with only a 22% reduction in pollock catch. The PPA falls between these high and low levels, as indicated. PPA1 would indicate a higher percentage of salmon bycatch saved than the 87,500 cap for a similar reduction in pollock catch. However, in a lower bycatch year (such as 2003), the PPA results in limited reduction in salmon bycatch and limited reduced pollock catch. In low bycatch years, only the lowest cap considered (29,300) was estimated to achieve substantial bycatch reduction.

Table ES-18 Estimated percentage of Chinook salmon saved from actual bycatch compared with the percentage of forgone pollock catch from actual catch for 2003 and 2007.

Year	Bycatch Cap level (results for specific sector and seasonal allocations)	Reduction from actual bycatch in that year	Forgone pollock catch in that year
2007 (highest)	68,392 (PPA1)	46%	23%
	47,591 (PPA2)	62%	32%
Actual bycatch= 121,638	Alt. 2. 87,500 cap, Opt 2a, 50/50	37%	22%
	Alt. 2 29,300 cap, Opt 2d, 70/30	92%	46%
2003 (lowest)	68,392 (PPA1)	1%	0%
	47,591 (PPA2)	5%	4%
Actual bycatch= 46,993	Alt. 2 87,500 cap, all sector and season options	0%	0%
	Alt. 2 29,300 cap, Opt 1, 50/50	52%	22%

The analysis in Chapter 4 and 5 show that impacts of Alternatives 2 and 4, and the combination of sector and seasonal allocations under Alternative 2, on total bycatch numbers and forgone pollock would vary by year. The selection of a final preferred alternative, with specific seasonal and sector caps, will consider the tradeoffs between salmon saved and pollock forgone, understanding that the same option can have very different results in terms of forgone pollock and Chinook salmon saved in a given year compared to other years. This is due to the annual variability in the rate of Chinook salmon caught per ton of pollock and annual changes in Chinook salmon abundance and distribution in the Bering Sea.

Fig. ES-5 illustrates the relative impacts on Chinook salmon bycatch and pollock harvests had PPA1, PPA2, and the various options and suboptions of Alternative 2 been in effect from 2003 to 2007 and shows annual variability in Chinook salmon bycatch and forgone pollock for each cap level. The bottom left-hand corner represents what would be an ideal situation with zero bycatch and zero pollock "forgone" (that is, no amount of the pollock TAC left unharvested) by the commercial fishery. The higher a number or shape is on the vertical axis, the more pollock that the option would require fishermen to forgo because of the restriction on bycatch imposed by that option; the farther to the right a number's or shape's position, the greater the amount of Chinook salmon bycatch. Therefore, the optimal options are represented by those shapes nearest the bottom (less pollock forgone) and farthest to the left (less bycatch).

Each number represents the year in which a particular cap level (one of the four Alternative 2 hard cap scenarios in Table ES-3, with the option 2d sector split and the 70/30 season split, and assuming no transfers or rollovers), would have resulted in that level of forgone pollock and Chinook salmon bycatch.

In general, hard cap levels evaluated under Alternative 2 showed a large degree of variability in trade-offs between Chinook salmon bycatch and forgone pollock, with lower cap levels resulting in higher forgone pollock. For Alternative 2, due to other (e.g., sector allocation) constraints, the total annual bycatch caps are never reached.

The analysis shows that, overall, PPA1 (circles) resulted in lower levels of forgone pollock but higher levels of bycatch than PPA2 (triangles). For PPA1, the 68,392 cap would have only been taken in years of high bycatch, 2006 and 2007, and would have resulted in some forgone pollock in those years, although less than under PPA2 and Alternative 2 low cap combinations. In 2003 and 2004, the PPA1 cap would not have been reached, and no pollock would have been forgone. In 2005, the inshore CV sector would have reached its allocation and would have had forgone pollock. For PPA 2, the 47,591 cap resulted in bycatch levels at the hard cap in all years but had variable impact on industry's ability to catch the full pollock TAC. In years of low bycatch, PPA2 would have resulted in little or no forgone pollock. For PPA1 and PPA2, the retrospective examination shows that allowing for transferability among sectors and rollovers between seasons retains the feature of staying below the salmon bycatch cap while reducing the forgone pollock catch levels.

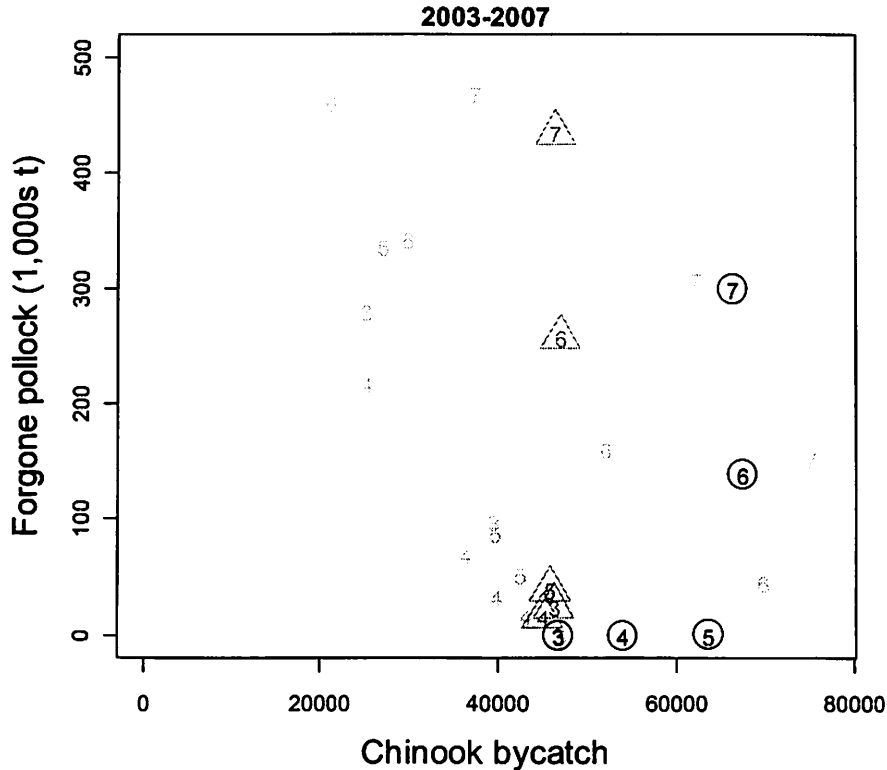


Fig. ES-5 Comparisons of hypothetical Chinook bycatch (numbers, horizontal axis) and forgone pollock (thousands of t, vertical axis) for PPA 1 (circles) and PPA 2 (triangles) assuming 80% rollover and transferability. Numbers represent the year (i.e., 6=2006, 7=2007 etc) and those not enclosed by symbols are from the four Alternative 2 hard cap options with 70/30 A-B season split and sector splits following Option 2d (CDQ=6.5 %, inshore CV=57.5 %, Motherships=7.5 %, and at-sea processors= 28.5 %).

Costs of forgone harvest in the pollock fishery

Chapter 10 provides an analysis of the costs of the alternatives to the pollock industry in terms of forgone pollock gross revenue. This analysis assumes that past fleet behavior appropriately approximates operational behavior under the alternatives and does not estimate changes in behavior. While it is expected that the fleet would change its behavior to mitigate potential losses in pollock gross revenue, explicitly predicting changes in fleet behavior in a reasonable way would require data and analyses that are presently unavailable.

Impacts by hard cap alternative (Alternatives 2 and 4) are summarized by the different components and options that define them (Table ES-19). The components and options projected to cause the greatest changes to the pollock fishery gross revenues are the overall cap level, the sector specific cap allocation, and the seasonal split. Rollovers and transfers are analyzed in conjunction with the PPA scenarios only but comparative information is provided for evaluating rollover impacts under Alternative 2.

Table ES-19 Summary of main options under Alternatives 2 and 4 and their relative scale of impact on pollock fishery gross revenues

Option	Relative economic impact on pollock industry
Cap level: 29,300-87,500	<ul style="list-style-type: none"> • Lowest cap leads to highest constraint on pollock fishery in all years. • In high bycatch years (e.g. 2007), even the highest cap (87,500) is constraining for the pollock fishery.
Sector allocation	<ul style="list-style-type: none"> • See Table ES-20 and Table ES-21
Seasonal allocation	<ul style="list-style-type: none"> • Higher forgone pollock revenue when seasonal allocations are lower in the A season (E.g. 50/50 and 58/42). • 70/30 seasonal split least constraining due to higher roe value in A season.
Rollover	<ul style="list-style-type: none"> • 80% rollover in PPA scenarios mitigates forgone revenue impacts in B season.
Transferability	<ul style="list-style-type: none"> • Full transferability mitigates forgone revenue impacts in the A season

Summarizing the relative impacts of sector allocations (comparing Alternative 2 with Alternative 4) is difficult due to the complexity of the sector allocation options in Alternative 2. In order to summarize some of the differences in the Alternative 2 sector splits options and the sector split in Alternative 4, a comparison is made with the Alternative 2 option 2d (midpoint between the AFA pollock allocations and the historical averages). Table ES-20 shows the different the sector split between the two alternatives.

Table ES-20 Comparison of sector allocations under Alternative 2, option 2d and Alternative 4 (PPA)

Alternative	CDQ	Inshore CV	Mothership	Offshore CP
Alternative 2: option 2d (midpoint)	6.5%	57.5%	7.5%	28.5%
Alternative 4 PPA:				
A season	9.3%	49.8%	8.0%	32.9%
B season	5.5%	69.3%	7.3%	17.9%

The Alternative 2 cap levels of 68,100 Chinook salmon and 48,700 Chinook salmon, with the 70/30 seasonal split and option 2d sector split, are compared with Alternative 4 PPA1 and PPA2. Full A season

transferability is assumed for Alternative 4. While transferability is an option under Alternative 2, for this comparison, it was assumed that transferability was not allowed. Impacts on forgone gross revenue (millions \$) by sector are shown for 2007 (Table ES-21, Table ES-22).

Table ES-21 2007 estimated forgone gross revenue by sector for Alternative 2, option 2d (70/30 season split, cap 68,100), compared with PPA1 (cap 68,392) (in millions of \$).

Sector		CDQ	Inshore CV	Mothership	Offshore CP	Total
Alternative 2: option 2d						
	A season	\$0	\$124.7	\$20.7	\$108.1	\$253.5
	B season	\$2.2	\$37.5	\$1.5	\$3.6	\$44.7
Total Alternative 2		\$2.2	\$162.2	\$22.2	\$111.7	\$298.2
Alternative 4: PPA1						
	A season	\$0	\$114.0	\$12.0	\$105.0	\$231.0
	B season	\$3.0	\$33.0	\$2.0	\$18.0	\$57.0
Total Alternative 4		\$3.0	\$147.0	\$14.0	\$123.0	\$288.0

Total forgone gross revenue is less under PPA1; however forgone gross revenue for the pollock fleet varies by sector between the two alternatives in terms of overall gains and losses. The CDQ sector has a higher forgone gross revenue under PPA1, due to the lower B season sector allocation. The inshore CV sector has a lower annual forgone gross revenue under PPA1 and lower seasonal forgone revenue in both A and B seasons as compared with Alternative 2, option 2d. The Mothership sector also has a lower annual forgone gross revenue under PPA1, driven substantially lower A season forgone gross revenue. The CP sector has a higher forgone gross revenue under PPA1, driven primarily by the lower B season allocation.

Table ES-22 2007 estimated forgone revenue for Alternative 2, option 2d (70/30 season split, cap 48,700) compared with PPA2 (cap 47,591) (in millions of \$).

Sector		CDQ	Inshore CV	Mothership	Offshore CP	Total
Alternative 2: option 2d						
	A season	\$22.2	\$185.6	\$34.5	\$142.4	\$384.7
	B season	\$3.9	\$50.2	\$3.1	\$11.3	\$68.4
Total Alternative 2		\$26.1	\$235.8	\$37.6	\$153.7	\$453.1
Alternative 4: PPA2						
	A season	\$12.0	\$160.0	\$29.0	\$141.0	\$341.0
	B season	\$4.0	\$42.0	\$3.0	\$26.0	\$76.2
Total Alternative 4		\$16.0	\$202.0	\$32.0	\$167.0	\$417.2

Total forgone gross revenue is less under PPA2 than Alternative 2 option 2d; however forgone gross revenue for the pollock fleet varies by sector between the two alternatives in terms of overall gains and losses. The CDQ sector has a lower forgone gross revenue under PPA2, due to the higher relative A season sector allocation. The inshore CV sector has a lower annual forgone gross revenue under PPA2 and lower seasonal forgone gross revenue in both A and B seasons as compared with Alternative 2, option 2d. The Mothership sector also has a lower annual forgone gross revenue under PPA2, driven by the lower A season forgone gross revenue under the PPA2. The CP sector has a higher forgone gross revenue under PPA2, driven primarily by the lower B season allocation under the PPA.

Effects of Alternative 3 on Chinook salmon savings and pollock fishery gross revenues

Alternative 3 closes a large scale area rather than the whole fishery when specified cap levels are reached. The relative impacts of the cap levels themselves on salmon saved and AEQ by river of origin are equivalent to those described in Alternatives 2 and 4. However, for Alternative 3, there is some potential for the levels of estimated bycatch to be higher than the cap given that once the cap is reached and the area closure is triggered, fishing may continue outside of the closure.

By design, the Alternative 3 trigger areas represent regions where on average (2000-2007) 90% or more of the bycatch by season was taken. In the A season, since 1991, the areas have comprised 72-100% of the bycatch. In the B season since 1991, with the exception of 2000 when there was an injunction on the pollock fishery, the areas have comprised between 68-98% of the Chinook salmon bycatch. In the most recent years evaluated (2006-2007), both A and B season areas have represented between 97-99% of the total Chinook salmon bycatch by season. Thus, while the fleet can continue to fish outside of the closed area and potentially continue to catch Chinook salmon as bycatch, based upon recent averages, it is not anticipated that there will be appreciable bycatch outside of the area following a closure.

To determine the effects of the triggered closure areas on Chinook salmon bycatch, the analysis in Chapter 5 estimates changes to pollock catch and Chinook salmon bycatch within and outside the trigger-closure area in each of the years 2003-2007. That methodology has estimated the numbers of Chinook salmon that are potentially saved by moving effort outside of the closure. These estimates are based on changed catch rates of Chinook salmon inside and outside the area closures. The AEQ analysis presented previously in the discussion of Alternatives 2 and 4 has not been specifically re-created for the trigger-closure analysis at this time, thus it is not possible to relate these savings in Chinook salmon to total AEQ estimates or to specific western Alaska River systems.

Salmon Savings under Alternative 3

The maximum Chinook salmon bycatch reduction under Alternative 3, of 40,311 fish, would come from the lowest cap in the highest bycatch year (2007) and occurs for all but the 70/30 split, which had 36,899 Chinook saved. Thus, the 70/30 split reduces estimated Chinook savings overall in all years under the 29,300 trigger. In the low bycatch year of 2004, the maximum Chinook savings under the trigger-closure with the 29,300 cap is 5,224 fish and is greatest under the 50/50 split option. In general, in the more moderate bycatch years the 50/50 split results in the greatest Chinook savings under both the 29,300 and 48,700 triggers. Note, however, that the 48,700 trigger level is not estimated to save any Chinook salmon in 2004. Further, the higher triggers are only expected to save salmon in the highest bycatch years of 2006 and 2007. Under the high trigger of 87,500, the maximum Chinook salmon saved would have come from the 50/50 split and would have been 12,098 and 15,088 in 2006 and 2007, respectively.

B season Chinook savings show a different pattern than in the A season. As expected, the maximum number of Chinook saved, 36,290 comes from the lowest trigger of 29,300 fish in the highest overall bycatch year (2007), and from the 70/30 split. However, even the 87,500 trigger with the 70/30 split is expected to save Chinook salmon with savings of 2,680, 11,300 and 20,322 expected for 2004, 2005, and 2007 respectively. There are some instances when the trigger closure is shown to produce a negative savings of Chinook salmon. That finding implies that in some years, the catch rate of Chinook outside the B season triggered closure area is actually higher than inside of it. In the 2005 season this would have been the case under a 48,700 trigger with either the 58/42 or 55/45 season splits and with a 70/30 season split under the 68,100 trigger.

Revenue at Risk under Alternative 3

While the hard caps of Alternative 2 have the potential effect of fishery closure and resulting forgone pollock fishery gross revenues, the triggered closures do not directly create forgone earnings, but rather, they place revenue at risk of being forgone. When the closure is triggered, vessels must be relocated outside the closure areas and operators must attempt to catch their remaining allocation of pollock TAC outside the closure area. Thus, the revenue associated with any remaining allocation is placed at risk of not being earned, if the fishing outside the closure area is not sufficiently productive to offset any operational costs associated with relative harvesting inefficiencies outside the closure area.

The data show that in the highest bycatch years and under the most restrictive trigger levels, gross revenue at risk for the pollock industry would be about \$485 million in the A season for all vessels combined. That represents 77% of the 2007 estimated total A season first wholesale gross revenue of the pollock fleet. As the trigger amount is increased, the impacts decrease; however, the least restrictive A season trigger (70/30 season split) of 87,500 Chinook salmon cap still results in \$125.2 million in gross revenue at risk, or about 21% of the overall first wholesale gross revenue of all pollock vessels combined. In lower bycatch years (e.g., 2003, 2004, and 2005), the larger triggers of 87,500 Chinook salmon cap and 68,100 Chinook salmon cap do not cause triggers to be hit, and thus, there is no gross revenue placed at risk. However, in the low bycatch year of 2004, the lowest trigger of a 29,300 Chinook salmon cap would place \$33.2 million (70/30 season split) to \$97.4 million (50/50s season split) of gross receipts at risk. These values are 11% and 31% of total pollock gross revenue, respectively.

The gross revenue placed at risk in the B season is greatest under the 70/30 season split and is as much as \$117.38 million in the worst case (2006, 29,300, 70/30), or 17% of total B season pollock gross revenue. At the 29,300 trigger, and 70/30 season split, the B season revenue at risk remains above 15% in all years except 2003. Even under the 87,500 trigger with a 70/30 season split, more than \$50 million, or 8% of total first wholesale gross revenue, would have been placed at risk in 2007. Ignoring the 2007 year, however, only the 29,300 trigger generates gross revenue at risk in excess of 10% of total first wholesale gross value in the pollock fishery.

Pollock stocks

Chapter 4 analyzes the impacts of the alternatives on pollock stocks. Analysis of Alternatives 2, 3, and 4 indicate that salmon bycatch management measures that would be implemented under each of these alternatives would make it more difficult to catch the full TAC for Bering Sea pollock. Catching less pollock than authorized under the TAC would reduce the total catch of pollock and reduce the impact of fishing on the pollock stock. However, these alternatives are likely to result in fishermen shifting where they fish for pollock to avoid Chinook salmon bycatch. Changes in where pollock fishing occurs may change the size or age of pollock caught which may, in turn, impact the pollock stocks.

Hard caps under Alternatives 2 or 4 may result in the fishery focusing on younger ages of pollock than otherwise would have been taken. Changes in fishing patterns could result in lower acceptable biological catch and TAC levels overall, depending on how the age composition of the catch changed. Seasonal data of the size at age of pollock caught show that early in the season, the lengths-at-age and especially the weights-at-age are smaller. Should the fishery focus effort earlier in the B season then the yield per individual pollock will be lower. Spatially, a similar tendency towards smaller pollock occurs as the fleet ventures further from traditional fishing grounds. However, these changes would be monitored and incorporated in future stock assessments. Conservation goals of maintaining pollock spawning biomass would remain central to the stock assessments that will be used as a basis for setting future pollock TACs. Any changes in the size or age of pollock caught would be eventually accounted for in the stock assessment analysis since updated mean weights-at-age are computed. Smaller fish-at-age would likely result in a lower acceptable biological catch and TAC in future years but this would be accounted for in

the present quota management system which is designed to prevent overfishing. Therefore, the risk to the pollock stock from changes in where pollock are caught as a result of any of the alternatives would be minor.

The impact of Alternative 3 (triggered closures) on pollock fishing was evaluated in a similar way. The assumption that the pollock TAC may be fully harvested depends on the difficulty in finding pollock after the closure areas are triggered. The data show that in some years, the catch rate is consistently higher outside of the trigger area whereas in other years it is consistently lower for at-sea processors and inshore CVs and for the fleet as whole. The impact of a triggered area closure depends on when the closure occurs, and the spatial characteristics of the pollock stock, which, based on this examination, appears to be highly variable between years. As with the evaluation of hard caps, under Alternatives 2 and 4, the same impacts under triggered closures (Alternative 3) would apply: it seems likely that the fleet would fish earlier in the summer season and would tend to fish in places further away from the core fishing grounds north of Unimak Island. Both of these effects likely would result in catches of pollock that were considerably smaller in mean sizes-at-age. This impact would, based on future assessments, likely result in smaller TACs since pollock harvests would not benefit from the summer-season growth period.

Chum salmon

Chapter 6 analyzes the impacts of the alternatives on chum salmon. As noted earlier chum salmon is also caught incidentally by the pollock fishery, and while additional management measures will be evaluated at a later time by the Council specific to chum salmon management, alternatives which close the pollock fishery for reaching Chinook salmon caps also potentially impact the amount of chum salmon taken by the fleet. Historical temporal and spatial trends in chum bycatch are described in Chapter 6. Chum salmon are caught almost exclusively in the B season.

As with the pollock and Chinook salmon analysis, chum salmon bycatch levels were tabulated on a fleetwide basis given estimated closure dates for the years from 2003 to 2007. Impacts were evaluated three ways: hard caps alone; caps in combination with triggered area closures; and the possible effect of concentrating effort earlier in the B season so that Chinook salmon bycatch could be minimized.

Alternative 2 and 4 cap levels resulted in some reduction in overall chum salmon catch by year. The overall estimated reduction ranged from 34% in some years under the lowest cap (29,300) to no impact (i.e. no reduction in chum salmon catch) under the highest cap (87,500) in some years. Often impacts of each alternative on actual chum bycatch levels by year and scenario are low due to the fact that the closure constraint on the fishery occurs after the time period in which most of the chum in that year had already been caught. Results for the PPA scenarios indicate that chum bycatch reduction would have been minimal in most years. Results from examinations of planned shortened season lengths were variable, but resulted in about the same overall amounts of bycatch than if the season had not been shortened. Information was not sufficient to carry the impact analysis of chum further than tabulating specific reduction in numbers, i.e. AEQ levels for chum were not estimated at this time.

Other groundfish

Chapter 7 analyzes the impacts of the alternatives on other species caught as bycatch in the pollock fishery; groundfish, prohibited species, and forage fish. Other groundfish species include Pacific cod, flathead sole, rock sole, squid, arrowtooth flounder, Atka mackerel, Pacific ocean perch, yellowfin sole, and rockfish species.

Neither of the hard cap alternatives considered (Alternative 2 or 4) would be expected to drastically change the impact of the pollock fishery on other groundfish as compared to status quo. Groundfish fishery management, which maintains harvests at or below the TAC and prevents overfishing, would

remain the same under any of the hard caps under consideration. The rate and type of incidentally caught groundfish are expected to vary largely in the same manner as the status quo. To the extent that the alternatives close the pollock fishery before the TAC is reached, the incidental catch of groundfish could diminish in relative amounts and perhaps in numbers of species. Under the PPA, the fleet would not be expected to fish for extended periods in areas marginal for pollock, and thus is not expected to incur radically different incidental catch. If a hard cap closes the pollock fishery especially early in the fishery year, the fleet may increase focus on alternate fisheries to attempt to make up for lost catch.

Under Alternative 3, assuming that closures are driven by an association of a high concentration of pollock and Chinook salmon, displacing the fleet from that area and allowing the fishery to continue elsewhere may shift incidental groundfish catch from the current patterns. The degree to which incidental groundfish catch will vary in relation to status quo depends on the selected closed areas and the duration of the closures. To the extent that Alternative 3 displaces the pollock fleet away from the center of pollock concentration and into the other groundfish preferred habitat, change would occur in incidental groundfish species catch.

Other prohibited species and forage fish

Chapter 7 also evaluates the impacts of the alternatives on other prohibited species (i.e. besides Chinook and non-Chinook salmon which are examined separately) and forage fish. The extent to which the alternatives would change the catch of steelhead trout, Pacific halibut, Pacific herring, red king crab, Tanner crab, and snow crab is unknown but existing prohibited species catch limits and area closures constrain the catch of these species in the pollock fishery and this limits the impacts on those species.

Forage fish (primarily capelin and eulachon) are not anticipated to be impacted adversely by these alternatives. If Alternatives 2, 3, and 4, constrain the pollock fishery, that would reduce fishing effort and the associated incidental catch of forage fish.

Other marine resources

Chapter 8 analyzes the impacts of the alternatives on marine mammals, seabirds, essential fish habitat, and ecosystem relationships. Potential impacts of the alternatives on marine mammals and seabirds are expected to be limited to incidental takes, effects on prey, and disturbance. Effects on prey could be direct effects by competing with seabirds and marine mammals that depend on pollock and salmon or indirect effects on the benthic habitat that may support benthic prey in areas where seabirds and marine mammals forage in the bottom habitat. The preferred alternative (Alternative 4) as well as other hard cap alternatives under consideration (Alternative 2), would potentially lead to a decrease in the incidental takes of marine mammals and seabirds due to relative constraints by season on the pollock fishery.

Alternative 3 could impact some marine mammals if the fishery were shifted northward outside of the large scale area closure. However, the current protection measures and area closures for marine mammals remain in place, and reduce the interaction with Steller sea lions, and northern fur seals and other marine mammals occurring in the closure areas. The overall effect of shifting the pollock fishery and the resulting incidental takes and disturbance of seabirds and marine mammal species such as ice seals, killer whales, Dall's porpoise, and whales is unknown given the lack of precise information in these regions. A northward shift in the pollock fishery outside of the triggered closure is not likely to affect the interaction with Steller sea lions as they are taken in both the southern and northern portion of the Bering Sea.

Potential impacts of the alternatives on seabirds are expected to be limited. Alternative 4 and Alternative 2 could potentially lead to a decrease in the incidental takes of seabirds if seasonal caps close the pollock fishery earlier than would have occurred with no cap. Under Alternative 3, the overall effect of shifting

the pollock fishery and the resulting incidental takes of seabirds is unknown given the lack of precise information about potential seabird bycatch in these regions.

The total amount of pollock harvested may decrease under the alternatives and options which restrict the pollock fishery. Under each alternative, the impact of the pollock fishery on Essential Fish Habitat is not expected to change beyond those previously identified in the Final Environmental Impact Statement for Essential Fish Habitat Identification and Conservation in Alaska (NMFS 2005).

The alternatives are not predicted to have additional impacts on ecosystem relationships beyond those identified in the Alaska Groundfish Harvest Specifications EIS (NMFS 2007a). The pollock fisheries, as prosecuted under Alternative 1, would have similar ecosystem impacts as analyzed in the Harvest Specifications EIS. Alternatives 2 and 4, to the extent that they prevent the pollock fleet from harvesting the pollock TAC and therefore reduce pollock fishing effort, would reduce the pollock fishery's impacts on ecosystem relationships from status quo. It is not possible to predict how much less fishing effort would occur under Alternatives 2 and 4 because the fleet will have strong incentives to reduce bycatch through other means, such as gear modifications and avoiding areas with high salmon catch rates, to avoid reaching the hard cap and closing the fishery. And, depending on the extent vessels move to avoid salmon bycatch or as pollock catch rates decrease, pollock trawling effort may increase even if the fishery is eventually closed due to a hard cap. Since the total amount of pollock harvested and the total effort would not change under Alternative 3, it is reasonable to conclude that the overall impacts on ecosystem relationships would be similar to Alternative 1. As with Alternative 2, fishing effort may increase as vessels move to avoid salmon bycatch or as pollock catch rates decrease.

Environmental Justice

Chapter 9 analyzes the Environmental Justice impacts of the alternatives. The key factor in an environmental justice analysis is the disproportionality of adverse impacts on identified minority or low-income populations in the U.S., whereas adverse impacts that fall more generally on all populations are not considered for an environmental justice analysis. Significant proportions of the populations in the impacted area are low income and Alaska Native. Minority populations work aboard factory trawlers and in on-shore processing plants. Native American tribes in Northwest Washington, coastal Oregon, and along the Columbia River may be adversely affected by Chinook salmon bycatch. Changes in salmon bycatch and returns may affect populations in western Alaska and the Pacific Northwest; changes in pollock harvests may affect minority populations working in the pollock industry and populations in western Alaska who benefit from CDQ group activities. Populations in western Alaska may also be affected if alternatives induce changes in the way pollock vessels interact with other resources, including chum (and other) salmonid species, marine mammals, seabirds, essential fish habitat, other groundfish species, forage species, and other prohibited species.

As discussed in Chapter 9, Chinook salmon are extremely important to subsistence and commercial fishermen. Alternatives 2 and 4 (hard caps) which restrict the seasonal and annual total removals of Chinook salmon (and resulting AEQ by river system) would benefit subsistence and commercial users on these river systems by increasing the proportion of fish that would have returned in some years and thus potentially increasing the amount available for subsistence and commercial harvest. Actual estimates of AEQ by river system vary by alternative (and by availability of appropriate genetic information). Some alternatives may actually increase the region-specific bycatch by river system in some years depending upon the spatial concentration of the fishing effort in that year.

Directly Regulated Small Entities

Chapter 11 contains an IRFA which evaluates the impacts of alternatives on directly regulated small entities. The IRFA is prepared to comply with the requirements of the Regulatory Flexibility Act (RFA),

as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA). The only small entities directly regulated by the action are the six western Alaska CDQ groups. This IRFA is preliminary until NMFS develops the implementing regulations for this action.

Areas of controversy and issues yet to be resolved

Chinook salmon bycatch in the Alaska groundfish fisheries has long been and will remain a highly controversial subject. Chapter 1 and the Scoping Report prepared for this EIS identify the issues with Chinook salmon bycatch in the pollock fishery raised by the public. The scoping report is summarized in Chapter 1 and available on the NMFS Alaska Region web site at:

<http://alaskafisheries.noaa.gov/sustainablefisheries/bycatch/default.htm>

Many of the issues highlight areas of on-going controversy which, though informed by analyses such as this one, are not totally resolved. Differences of opinion exist among various industry, Alaska Native, environmental, management, and scientific groups as to the appropriate levels of Chinook salmon bycatch. Areas of controversy primarily focus on the effects of Chinook salmon bycatch and the pollock fishery on the ten major resource components analyzed in this EIS. The most controversial of these are the effects of Chinook salmon bycatch on Chinook salmon stocks and the people, tribes, and communities that rely on Chinook salmon for their cultural and economic livelihoods.

The predominant area of controversy and issue yet to be resolved revolves around scientific uncertainty regarding the source of origin of Chinook salmon taken as bycatch in the Bering Sea pollock trawl fishery and the relationship of this bycatch to in-river salmon abundance. Chapter 3 describes the best available scientific information used to understand the impacts of the alternatives on Chinook salmon attributed to river or region of origin. Expanded data collection efforts are ongoing to improve the spatial and temporal extent of genetic information from Chinook salmon bycatch to understand how the bycatch composition changes over time and space. The ability to employ genetic methods rapidly to determine the river of origin is also improving. Chinook salmon bycatch data will continue be to collected and analyzed to improve understanding of the origins of this bycatch.

The declining returns of Chinook salmon to most regions of origin and the impacts of ocean survival on abundance are also issues yet to be resolved. The ocean environment is changing and the impacts of those changes on Chinook salmon abundance are unknown and the subject of on-going research and debate. The impacts of marine commercial fisheries on the abundance of Chinook salmon, both directed Chinook salmon fisheries and bycatch of Chinook salmon in other fisheries, are also under debate with some believing that marine fishery removals do not greatly impact Chinook salmon returns, while others believe that marine catches are the only human activity that we can directly control and therefore need to be controlled to mitigate the impacts of declining returns due to the changing environment.

Alaskan communities and communities throughout the Pacific coast of British Columbia, Washington, and Oregon depend on the marine resources for their livelihoods and lifestyles, whether as participants in commercial fisheries or tourism-related businesses or through subsistence or personal use fishing. Public comment expressed concern that the status quo levels of bycatch negatively impact the people and communities that rely on Chinook salmon. Chapters 9 and 10 discuss the social and economic impacts of the alternatives, particularly on Alaskan communities where the majority of the bycatch losses are believed to accrue.

Summary and Results of Outreach Plan for DEIS on Chinook Salmon Bycatch in the Bering Sea Pollock Fishery

April 2009

Genesis for outreach plan

As a result of one of the Council's policy priorities, it is developing a draft policy approach to focus on improving outreach and communications with rural communities and Alaska Native entities and developing a method for systematic documentation of Alaska Native and community participation in the development of fishery management actions.¹ Upon review of several suggestions to expand both ongoing communication and outreach specific to particular projects,² the Council initiated a small workgroup to further review potential approaches and provide recommendations. Upon review of the workgroup report in February 2009, the Council approved the workgroup's primary recommendation to initiate a standing committee to provide input to the Council on ways to improve outreach to communities and Alaska Native entities. The committee will have three primary tasks: 1) to advise the Council on how to provide opportunities for better understanding and participation from Native Alaska and rural communities; 2) to provide feedback on community impacts sections of specific analyses; and 3) to provide recommendations regarding which proposed Council actions need a specific outreach plan and prioritize multiple actions when necessary. The committee will likely be formed prior to the June 2009 Council meeting.

In addition to the stated Council policy priority, the need to improve the stakeholder participation process was highlighted during development of the Chinook bycatch EIS/RIR/IRFA. While it is NMFS' legal obligation to undertake formal tribal consultation with Federally-recognized tribes and ANCSA corporations,³ the Council made efforts to solicit and obtain as much input as possible on the proposed action from Alaska Natives, rural communities, and other affected stakeholders. This outreach effort, specific to Chinook salmon bycatch management, will likely dovetail with the Council's overall community and Alaska Native stakeholder participation policy.

As the Council chose a preliminary preferred alternative for the Chinook salmon bycatch issue at its June 2008 meeting, it was determined timely to undertake an outreach effort with affected community and Native stakeholders during the development of the draft EIS/RIR/IRFA (draft EIS) and prior to final Council action. The outreach plan for Chinook salmon bycatch management was developed by Council staff with input from NMFS and affected stakeholders. It is intended to improve the Council's decision-making processes on the proposed action, as well as enable the Council to maintain ongoing and proactive relations with Alaska Native and rural communities. Another of the objectives of the plan is to coordinate with NMFS' tribal consultation activities to prevent a duplication of efforts between the Council and NMFS, which includes not confusing the public with divergent processes or providing inconsistent information.

This report will be included, in part or in whole, in the Final EIS submitted to the Secretary of Commerce after the Council makes a final recommendation. A broad overview of the three primary steps of the Chinook salmon bycatch outreach plan follows.

¹This policy priority is identified in the Council's workplan resulting from the Programmatic SEIS.

²http://www.fakr.noaa.gov/npfmc/Tasking/community_stakeholder.pdf

³Section 161 of the Consolidated Appropriations Act of 2004 (P.L. 108-199), as amended by Section 518 of the Consolidated Appropriations Act of 2005 (P.L. 108-447), extends the tribal consultation requirements of E.O. 13175 to Alaska Native corporations formed under the Alaska Native Claims Settlement Act (ANCSA).

Direct mailings to stakeholders

In early September 2008, the Council provided a mailing to over 600 stakeholders, including community governments, regional and village Native corporations, tribal entities, and other community or Native entities in communities (e.g., regional non-profits). The mailing was also sent to previous contacts or individuals that have contacted the Council on this issue, and State legislature and Congressional representatives.

The mailing included a letter and a two-page flyer for posting in communities. The letter solicited input from stakeholders identified as being potentially affected by the proposed action, prior to the release of the public review draft analysis. The letter also provided a website reference to a Council brochure which explains the Council process and how to be involved in the Federal fisheries management process (*Navigating the North Pacific Council Process, 2007*)⁴. The flyer provided a summary of the proposed action, including a description of the Council's preliminary preferred alternative and its schedule for action. The flyer also outlined how individuals and communities can provide feedback on this action and a schedule of community outreach meetings planned for October 2008.

NMFS also sent a letter to the same broad group of stakeholders, announcing the release of the Draft EIS on December 5, 2008, and providing a copy of the executive summary. In addition to outlining the process for providing formal written comments to NMFS during the public comment period, this letter also included the Council's schedule for final action and ways to provide input to the Council.

Finally, the Council sent another letter in early March 2009, in order to ensure awareness of the schedule for final action, the preferred alternative, and opportunities to provide further feedback prior to or during the April 2009 Council meeting.

The Council website also posted the draft EIS, associated documents, outreach flyer,⁵ and the powerpoint presentation provided at regional meetings,⁶ prior to the Council's scheduled meeting for final action in April 2009. In addition, the Council newsletter reported upon progress and relevant meetings. The Council will also consider a follow-up mailing to potentially affected entities as to the results of the Council's final recommendation for Chinook salmon bycatch reduction measures to the Secretary of Commerce, if, at that point, the website and Council newsletter are not considered sufficient means to reach potentially affected stakeholders.

Community outreach meetings (late 2008 – early 2009)

Upon informal consultation with community and Native coordinators, staff determined that the most effective approach to community outreach meetings is to work with established community representatives and Native entities within the affected regions and attend annual or recurring regional meetings, in order to reach a broad group of stakeholders in the affected areas. It was determined that Council staff would convene individual outreach meetings only as necessary and appropriate, if a regional meeting was not scheduled in a particular area during a timeframe in which Council staff could attend or sufficiently prior to final action.

The outreach plan also directed Council staff to coordinate with NMFS, if NMFS conducts a formal consultation with a tribe or ANCSA corporation. Council staff could provide an overview or background

⁴http://www.fakr.noaa.gov/npfmc/misc_pub/Navigating_NPFMC.pdf

⁵http://www.fakr.noaa.gov/npfmc/current_issues/bycatch/salmonbycatch109/Chinookflyer_109.pdf

⁶http://www.fakr.noaa.gov/npfmc/current_issues/bycatch/salmonbycatch109/outreachPPT109.pdf. Note that the powerpoint presentation was modified slightly over several meetings.

presentation on the proposed action as part of the Council outreach plan, and NMFS could conduct the tribal consultation as a separate part of that meeting.

With regard to community and Native outreach meetings, Council staff consulted with the coordinators of the Federal Subsistence Regional Advisory Councils (RACs) and the Association of Village Council Presidents (AVCP) in order to schedule time on the agendas for their upcoming meetings. Council staff provided presentations on the Council process, overall outreach efforts, and the proposed action on Chinook salmon bycatch reduction measures, at six separate regional meetings. Two Council members attended five of the six meetings, and one to two Council staff analysts attended each meeting. The primary Council analyst on the project attended every regional outreach meeting. Council members could not attend the first regional meeting in Dillingham, as it conflicted with the end of the October 2008 Council meeting in Anchorage.

While the intent was to attend each of the appropriate Federal Subsistence RAC meetings in the fall, Council staff and members could not attend the Yukon Kuskokwim Delta Regional Advisory Council meeting (Bethel) or the Seward Peninsula Regional Advisory Council meeting (Nome) due to direct scheduling conflicts with the October 2008 Council meeting in Anchorage. However, the Council participated in the AVCP meeting in Bethel, in order to reach a broad group of communities and tribal representatives from the surrounding area. The Council also organized its own outreach meeting in Nome in January 2009, in order to reach the Bering Straits communities. An audio link was provided such that surrounding communities could listen in and follow the powerpoint presentation remotely, as well as provide direct feedback via telephone.

In sum, Council staff, Council members, and in some cases, NMFS staff, participated in the following regional meetings:⁷

Bristol Bay RAC	October 6 – 7, 2008	Dillingham
AVCP meeting	October 7 - 9, 2008	Bethel
Eastern Interior RAC	October 14 – 15, 2008	Nenana
Northwest Arctic RAC	October 16, 2008	Kotzebue
Western Interior RAC	October 28 – 29, 2008	McGrath
Nome Outreach Meeting	January 22, 2009	Nome

In addition to the above regional/community meetings, Council staff provided a lengthy presentation of the main EIS findings at the Yukon River Panel meeting on December 9, 2008 in Anchorage, as the EIS had recently been released for public review. The Yukon River Panel is an international advisory body established under the Yukon River Salmon Agreement⁸ for the conservation, management, restoration, and harvest sharing of Canadian-origin salmon between the U.S. and Canada. Nine Council members attended and responded to questions. In addition to specific clarifications on the presentation and Council intent, there was substantial time allotted for discussion between Yukon River Panel members and Council members on the forthcoming action.

Documenting Results

This summary report was prepared to document the outreach process and results of the regional meetings. This report will be presented to the Council, in conjunction with the Comment Analysis Report prepared for the draft EIS, in April 2009, when the Council is scheduled to take final action to recommend

⁷Note that NMFS staff also provided a presentation on the proposed action on BSAI Chinook salmon bycatch at the Southeast Regional Advisory Council meeting in late September 2008 in Juneau.

⁸This agreement constitutes Chapter 8 of the Pacific Salmon Treaty: www.psc.org/pubs/treaty.pdf.

Chinook salmon bycatch reduction measures. As stated previously, this report will also be included, in part or in whole, in the Final EIS submitted to the Secretary of Commerce after the Council makes a final recommendation.

Council staff documented comments provided at the regional meetings, including public testimony. A short summary of each meeting is provided below, as a brief reference. Note that the dates provided below refer to the date on which the Council presentation and comments occurred, recognizing that each meeting was typically two to three days. Details of the regional meetings attended, the participants, and the numerous comments provided (by category) are attached as **Appendix A**. Resolutions or motions resulting from these meetings are provided as **Appendix B**.

Bristol Bay Subsistence Regional Advisory Council, October 7, 2008, Dillingham

The Bristol Bay RAC meeting was comprised primarily of RAC members and State and Federal agency staff, with a few public participants (estimate of 25 total participants). The Bristol Bay RAC represents 31 Bristol Bay subsistence communities and rural residents. The RAC emphasized the importance of Chinook salmon as a subsistence food and noted lower returns (and smaller Chinook) in their region. The RAC was also very concerned about the lack of genetic information on which to base potential impacts to individual river systems. The RAC adopted a resolution to: request the Council adopt regulations to significantly minimize the bycatch of all salmon species in the Bering Sea pollock fishery; support a Chinook salmon bycatch hard cap not to exceed 38,000 fish annually; support hard caps and other regulations that are conservative and designed to preserve salmon stocks; and support State and Federal efforts to conduct additional data collection and analyses to refine regulations that minimize salmon bycatch in the Bering Sea trawl fisheries.

Association of Village Council Presidents 44th Annual Convention, October 8, 2008, Bethel

The AVCP is centralized in the Yukon-Kuskokwim Delta, along the Southwestern region of Alaska, and serves 56 Federally-recognized Alaska tribes. Approximately 200 participants attended, including representatives from member tribes, subsistence and commercial salmon fishermen, Federal and State agency staff, CDQ group representatives, and city and borough representatives. Translation services were provided to translate between Yupik and English. Comments were centered on the priority to protect the subsistence salmon fishery, both for cultural and traditional reasons, as well as a primary food source. Detailed comments were provided with regard to the preliminary preferred alternative and incentive plans linked to a higher cap of 68,000 Chinook. The AVCP submitted a resolution relevant to this issue at the 2008 Alaska Federation of Natives⁹ annual convention, which passed. The resolution encouraged the Council and NMFS to take emergency action to regulate the 2009 pollock fishery such that measures would ensure the conservation and rebuilding of western Alaska Chinook salmon stocks; to implement permanent regulations for the 2010 pollock fishery; and to establish a bycatch hard cap of no more than 30,000 Chinook.

Eastern Interior Subsistence Regional Advisory Council, October 15, 2008, Nenana

The Eastern Interior RAC meeting was comprised primarily of RAC members, community members, environmental groups, and some State and Federal agency staff (estimate of 40 total participants). The Eastern Interior RAC represents thirteen villages along the Yukon or Tanana rivers and an additional seventeen villages within the region. The RAC emphasized several concerns about the preliminary preferred alternative and its ability to meet a goal of reduced Chinook salmon bycatch and to increase in-river fisheries. While appreciative of the efforts to communicate with the RAC on this issue, the RAC

⁹The Alaska Federation of Natives (AFN) represents 178 Alaska villages (both Federally-recognized tribes and village corporations), 13 regional Native corporations and 12 regional nonprofit and tribal consortiums. Note that a separate resolution passed at AFN submitted by Kawerak, Inc., that requested that the Federal government fulfill their legal requirement to develop and institute a tribal consultation process and that consultation begin immediately between NMFS and any and all tribes affected by the salmon bycatch EIS.

also commented that ongoing, open dialogue with the Council is long overdue and that additional, non-commercial representation on the Council is necessary. The RAC adopted several motions, which were sent in the form of a letter to the Council (dated 1/30/09). The motions supported a Chinook salmon hard cap of 29,323 for immediate implementation; requested economic penalties on individual trawl vessels; recommended that the pollock industry bear the cost of improved sampling methods and genetic studies on the Chinook salmon stocks impacted by the industry's bycatch; recommended modification to the food bank program in order to distribute bycaught salmon to Western and Interior Alaska communities; and related concerns with the length of time it takes to have a management action implemented.

Northwest Arctic Subsistence Regional Advisory Council, October 16, 2008, Kotzebue

The Northwest Arctic RAC meeting was attended primarily by RAC members and Federal and State agency staff. The region the RAC represents encompasses 11 villages on the coast of Kotzebue Sound and along the Noatak and Kobuk Rivers. The RAC did not have a quorum under which it could conduct business, due to airline cancellations due to weather. However, members present did receive the presentation and comment on the proposed action. The primary comments and questions addressed the rationale for the various range of hard caps. The RAC noted some tentativeness in providing a recommendation on the proposed action, as Chinook salmon is less important to their region relative to chum and char. The RAC noted significant interest in future management measures for chum salmon.

Western Interior Subsistence Regional Advisory Council, October 28, 2008, McGrath

The Western Interior RAC meeting was comprised of RAC members, State and Federal agency staff, and community members (estimate of 25 total participants). The region the RAC represents encompasses 27 villages along the Yukon and Kuskokwim rivers. The RAC related concerns that several external factors, including fuel prices and unsustainable management measures, put increasing pressure on subsistence users. They had several questions about the rationale supporting the PPA and questioned the potential efficacy of the incentive plans and the transferability provisions. The RAC did not support the PPA hard cap of 68,000 Chinook, noting that it represents an average of the three highest bycatch years on record. The Western Interior RAC adopted several motions, which were sent in the form of a letter to the Council (1/30/09). The motion recommended a hard cap of 29,323 Chinook, which represents the long-term historic range of Chinook salmon bycatch, but that a hard cap within the 10-year average of 29,000 – 38,000 Chinook would be acceptable. While the RAC does not support the higher cap of 68,000 Chinook in the PPA, if a higher cap figure is adopted, selling or trading the caps should not be allowed. The motion also recommended that all salmon bycatch should be processed and returned to Alaskan communities within the rivers of origin, but not to replace subsistence activities. Finally, the RAC requested a review of the pollock quota and consideration of season reductions to protect the pollock stock, noting concern that as the pollock stock becomes less abundant, more fishing effort follows, which results in additional salmon bycatch.

Council Outreach Meeting, January 22, 2009, Nome

Due to the inability to attend the Seward Peninsula Subsistence RAC meeting, Council staff organized a separate outreach meeting in Nome, in order to reach the Bering Straits communities. The Alaska Sea Grant Marine Advisory Program (MAP) agent in Nome helped publicize the meeting and provided equipment, and the Nome Eskimo Community hosted the meeting at its tribal hall. This meeting was also coordinated with NMFS, in that NMFS conducted a tribal consultation with the Nome Eskimo Community subsequent to the Council's outreach meeting. The outreach meeting was also intended to provide background information to facilitate the tribal consultation.¹⁰

¹⁰NMFS related to Council staff that tribal letters NMFS receives in response to the Draft EIS during the formal comment period (Dec. 5, 2008 – Feb. 23, 2009) will be treated as public comments and responded to in the draft comment analysis report, as well as referenced under the tribal consultation part of Chapter 1 of the EIS. Tribal letters received after the end of the comment period will be responded to as possible and in the Final EIS. Comments resulting from tribal consultations, and a description of the tribal consultation process, are not included as part of the Council's general outreach report.

The meeting in Nome was publicized through the community's email list serve, which generally reaches the sector of Nome which attends events, meetings, and activities. The meeting was also advertised on two radio stations in Nome. A letter was also sent to thirty Bering Strait governments, IRAs, and village corporations in early January, which announced the meeting and the ability to set up remote audio/internet sites in several villages, which would allow nearby villages to listen to the meeting real-time and follow the powerpoint presentation on a host computer. In addition, the Nome MAP agent posted the Council outreach flyer at about 15 locations in Nome.

An estimated 50 people attended the meeting in Nome, with several additional people participating remotely from the communities of Stebbins, Brevig Mission, Elim, Unalakleet, and Kotzebue. A broad cross-section of individuals participated, including ADF&G staff, Board members¹¹ and staff of the Norton Sound Economic Development Corporation (NSEDC), members of the pollock industry, an environmental group, staff from the local radio and newspaper, subsistence and commercial salmon fishermen, tribal representatives from the Nome Eskimo Community, Elim, Stebbins, and Brevig Mission, and staff of Kawerak, Inc., which is the regional non-profit corporation organized by the Bering Straits Native Association to provide services throughout the Bering Straits Region.

Feedback provided at this meeting was also varied, but centered heavily on the cultural significance and traditional use value of Chinook to surrounding communities, and the lack of adequate analysis in the EIS on the impacts to and characterization of the subsistence fishery. Participants also provided several comments on the PPA, and the concept of the industry incentive plans. Overall, those who addressed a specific cap level supported a lower cap of 30,000 Chinook, noting that the starting place for such a measure should be conservative due to the lack of genetic data and uncertainty. Comments were also made noting that the local CDQ group, NSEDC, contributes heavily to the Norton Sound economy in terms of employment, community share payments, and fishery infrastructure projects, and that the majority of CDQ funding is directly related to the pollock fishery. Formal comments on the EIS have been provided from several of the tribes and organizations that attended this meeting.

¹¹NSEDC Board members included representatives from Savoonga, Teller, Elim, White Mountain, Koyuk, and Stebbins.

Appendix A
General Meeting Information

MEETING LOCATION	Meeting specifics	Estimated number of people in attendance & Council members/staff	Number of people that provided formal comments	Formal resolution or motion?
Dillingham	Bristol Bay Subsistence Regional Advisory Council meeting, October 7, 2008. Bristol Bay Native Association Family Resource Center, Dillingham.	25 Council staff: Stram and Kimball	6 of 10 RAC members: Randy Alvarez, Chair (Naknek), Dan O'Hara (Naknek), Dan Dunaway (Dillingham), Peter Abraham (Togiak), Alvin Boskofsky (Chignik Lake), Boris Kosbruk Sr. (Perryville).	Yes (attached in Appendix B). Support Chinook bycatch cap at lower (2002) level of 38,000 Chinook.
Bethel	Assn. of Village Council Presidents annual meeting, October 8, 2008. Y upiit Piciryarait Cultural Center, Bethel.	200 Council members: Olson (AK) and Tweit (WA); Council staff: Stram and Kimball	approximately 20	Yes (attached in Appendix B). Submitted by the AVCP (and passed) at the annual Alaska Federation of Natives convention, October 2008. Support cap of no more than 30,000 Chinook.
Nenana	Eastern Interior Subsistence Regional Advisory Council meeting, October 15, 2008. Nenana Tribal Hall, Nenana.	40 Council members: Fields (AK) and Merrigan (AK); Council staff: Stram	7 of 9 RAC members: Sue Entsminger, Chair (Mentasta Pass), Virgil Umphenour (North Pole), Andrew Firmin (Fort Yukon), William Glanz (Central), Andrew Bassich (Eagle), Richard Carroll, Jr. (Fort Yukon), Matthew Gilbert (Arctic Village)	Yes. Motions sent in the form of a letter (attached in Appendix B). Support Chinook bycatch hard cap of 29,323 Chinook.
Kotzebue	Northwest Arctic Subsistence Regional Advisory Council meeting, October 16, 2008. Nullaqvik Conference Room, Kotzebue.	20 Council staff: Stram; Council members: Fields (AK) and Merrigan (AK)	2 of 6 RAC members: Victor Karmun, Chair (Kotzebue), Enoch Shiedt (Kotzebue)	No.
McGrath	Western Interior Subsistence Regional Advisory Council meeting, October 28, 2008. McGrath City Hall, McGrath.	25 Council members: Benson (WA) and Cotten (AK); Council staff: Stram and Kimball	10 of 10 RAC members: Jack L. Reakoff, Chair (Wiseman), Raymond L. Collins (McGrath), Timothy P. Gervais (Ruby), Donald V. Honea Jr. (Ruby), Carl M. Morgan, Jr. (Aniak), Jenny K. Pelkola (Galena), Michael J. Stickman (Nulato), Robert A. Walker (Anvik), James L. Walker (Holy Cross), Eleanor S. Yatlin (Huslia)	Yes. Motions sent in the form of a letter (attached in Appendix B). Recommends a hard cap of 29,323, which represents the long-term historic range of Chinook salmon bycatch. A hard cap within the 10-year average 29,000 – 38,000 would be acceptable.
Nome	Council outreach meeting, Jan. 22, 2009. Nome Eskimo Community Tribal Hall, Nome.	50 - Additional communities that participated by phone: Stebbins, Brevig Mission, Elim, Unalakleet, Kotzebue - Council members: Olson (AK) and Tweit (WA); Council staff: Stram and Kimball	approximately 25	Not applicable.

Appendix A
Detailed comments by meeting

Comment Category	Dillingham	Bethel	Nenana	Kotzebue	McGrath	Nome
Salmon donation program	<ul style="list-style-type: none"> – Salmon from this program should go to Western AK, not the Seattle area. – Another comment that no chinook should be given away through foodbanks or educational projects. 	<ul style="list-style-type: none"> – Several comments that while residents would rather catch Chinook fresh in-river, bycaught salmon should be redistributed to Western AK communities (not Seattle). – Questions on whether it is a matter of applying for a distribution center in AK, and the need for industry to volunteer to provide this. 	<ul style="list-style-type: none"> – Comment that salmon donation program (foodbank) needs revision such that salmon are redistributed to western and interior AK communities, not Seattle (at industry cost). – Note that foodbank is not the solution to the bycatch problem, or substitute for additional restrictions on the pollock fleet. 		<ul style="list-style-type: none"> – Potential foodbank opportunities must not be viewed as a substitute for active subsistence, but would support a distribution center for western AK. – Headwater communities need the redistribution of salmon as a food source (many are using freezers). This would not help those doing strips. 	<ul style="list-style-type: none"> – Questions on proportion of salmon bycatch that goes to the donation program; concern that only distribution center is in Seattle. While we'd see a benefit from a western AK distribution center. – Higher concern on not catching salmon incidentally in the first place. While some benefit provided by receiving salmon through this program, the cultural, traditional, and personal pride in the ability to subsistence fish is lost.
Lack of genetic information	<ul style="list-style-type: none"> – Cap level must take into account the recent returns to the river systems. Concern that there is very little genetic information on which to base potential returns to individual river systems. 	<ul style="list-style-type: none"> – Need to prioritize river of origin genetic studies within the funding agencies. Yukon did not achieve escapement goal in 2007. – Need to refine the large, aggregate areas used to indicate impacts. 	<ul style="list-style-type: none"> – Comment that the Bering Sea pollock industry should pay for increased genetic studies and additional in-season genetic reporting. 			<ul style="list-style-type: none"> – Concern that we don't have enough genetic information to link bycaught salmon to a specific river system (e.g., Norton Sound river systems). Questions about whether individual river stocks run together as much as regional stocks, which the document cannot address. Important to assess the level of risk to an individual river system; without further genetic information, the analysis dilutes impacts to specific communities that have a significant dependence on an individual river system or stock.
Other		<ul style="list-style-type: none"> – Want to keep pollock fishery and other commercial fisheries farther offshore. Concern mentioned specific to keeping fishing zone outside Nunivak Island. – Concern with overall regulation that requires that Chinook bycatch is not retained (thrown away). – Questions about salmon excluder devices and potential effectiveness. – Concern about lack of fish buyers in lower Yukon (used to have 4, now only 2). With infrastructure disappearing, the government cannot delay implementing measures to reduce bycatch. – Concern with the method (trawling) for harvesting pollock, as it is wasteful. – Must ensure that the analysis accounts for the bycatch effect of one year on subsequent years. 	<ul style="list-style-type: none"> – Comment that pollock fishery needs to be more conservation-based. – NPFMC needs to include additional representation for non-commercial interests. – Overall and ongoing dialogue with the NPFMC is long overdue and appreciated; attempts to establish ongoing and open communication have been unsuccessful in past. Notes that the Upper Yukon and Lower Yukon communities are working collaboratively together, but not with NPFMC. – Meaningful to have Council members travel to villages most affected by the action. Even under limited resources, there is an ability to pool resources and communicate more effectively. – Severe concerns with the amount of time it takes for the Council/NMFS process to implement management regulations. 	<ul style="list-style-type: none"> – Questions on Chukchi Sea and future fishing opportunities. – Significant interest in future management measures for chum salmon. 	<ul style="list-style-type: none"> – Questions about salmon excluder devices and potential effectiveness. – Questions about where salmon are intercepted, why bycatch is highest in Sept/Oct, and whether we know whether/why average pollock and salmon sizes are declining. – Time, quota, and season reductions for pollock should be considered for at least the Aleutians and south AK peninsula. – As pollock stocks decline, more searching for pollock can lead to higher bycatch of salmon. – Chum bycatch measures should be expedited. 	<ul style="list-style-type: none"> – Need to keep individual skippers and companies motivated to treat salmon as its most valuable if its kept in the water. – Concern that transferability of bycatch would naturally induce vessels to increase salmon bycatch, and fish up to the maximum cap annually. – Comment that Glacier Fish Company has been involved in CDQ Program since 1992; a program which contributes heavily to the economy of Norton Sound in terms of employment, community share payments, salmon enhancement projects, infrastructure projects, etc. Concern that we need to find reasonable balance so that we provide for salmon runs and yet do not close down the pollock fishery. – Interest in having analysts identify a list of research needs and priorities specific to salmon, such that the public and funding agencies can understand research priorities.

Appendix A
Detailed comments by meeting

Comment Category	Dillingham	Bethel	Nenana	Kotzebue	McGrath	Nome
Observer coverage		<ul style="list-style-type: none"> Questions on the amount of Chinook bycatch and how well the pollock fishery is observed. Also questions regarding marine mammal bycatch/incidents. 	<p>Several comments about the precision of catch estimates and questions regarding the credibility of the observer program.</p>			<ul style="list-style-type: none"> Emphasis for the need for 100% observer coverage on vessels participating in the pollock fishery and subject to the cap. Concern with observer harassment and interest in training level of observers.
Other possible causes of salmon stock decline	<p>Questions regarding why bycatch has more than doubled in a short amount of time (2006 to 2007). Questions about whether the pollock fleet is fishing harder/longer than previous years.</p>	<ul style="list-style-type: none"> Questions about whether the number of pollock permits and participating vessels has changed since 2003. Others note that beavers are blocking salmon spawning areas. 	<p>The long term sustainability of Yukon Chinook salmon remains a major topic of concern for this area.</p>			
Hard cap	<ul style="list-style-type: none"> Appreciate consideration of a hard cap; but 68,000 is too high. Last two seasons, Chinook runs have been lower than forecasted by ADF&G on the Yukon. Cap level must take into account the recent poor returns to the river systems: the Naknek barely met the escapement goal, Nushagak met escapement. Concern that by the time the caps are implemented they are based on old data. Conservative approach would be to set minimal cap. The ability to rollover 80% of the cap from the A to the B season appears too high; need to provide same level of incentive during the entire year. 	<ul style="list-style-type: none"> If the average bycatch is 30,000 Chinook from 1990 - 2003, why is the Council proposing to double the average for a cap of 68,000? Strong support for hard cap of no more than 30,000, and strong opposition to the PPA of 68,000. Consider emergency closures in the pollock fishery. Emphasis that the burden of conservation of Chinook should not fall solely on lower Yukon and other rural AK residents. 	<ul style="list-style-type: none"> Support lowest cap possible. Comment that it is insulting (within the document/presentation) to compare cost of bycatch restrictions to the pollock fishery to in-river subsistence users/needs. Caution that when translating numbers and percentages to impacts on in-river fisheries, it has a much greater effect than numbers indicate. Support cap level of 29,300 Chinook. 	<ul style="list-style-type: none"> Questions about the rationale for the difference between the low and high bycatch cap alternatives. Difficult for the NW RAC to recommend a bycatch cap for Chinook, as chum and char are more important to their region. 	<ul style="list-style-type: none"> Concern with bycatch in general and management using a hard cap; the high bycatch of 2007 (122,000 Chinook) is more than double what is needed for subsistence in some river systems (50,000 Chinook). Need to implement hard cap, otherwise bycatch will continue to shift across areas of the Bering Sea. 	<ul style="list-style-type: none"> Comment on support of a tax and trade concept, but not hard cap. Vessels with lower bycatch would pay a lower tax. Tax funds could be used to enhance fisheries in western AK or subsidize village needs (e.g., food & fuel). Concern that a hard cap encourages a derby fishery driven by bycatch. Support for 30,000 hard cap. One comment that the Council should implement a lower cap (than the PPA) to start, and raise it if the impact is minimal. But with so many uncertainties, the starting point should be conservative (i.e., a low cap). Concern that the range of caps considered only represent one kind of number (averages), which would allow the fishery to continue as it has in the past. If the point of the EIS is to inform that process, we should have also analyzed truncations of numbers, different ranges of numbers, etc., in terms of options.

Appendix A
Detailed comments by meeting

Comment Category	Dillingham	Bethel	Nenana	Kotzebue	McGrath	Nome
Cultural, traditional and subsistence value of salmon	<p>– Emphasis on importance of Chinook as subsistence food. Studies of Y-K Delta and other western AK communities show that 80% of the local diet is fish. Other food sources (moose, caribou, musk ox) have seasons; it is important that subsistence fish do not have seasons.</p> <p>– Local people are frustrated that they are only harvesting smaller kings (Togiak, Scammon, Kuskokwim Rivers). Returns very low in 2007 and 2008.</p> <p>– Several more thousand returning Chinook make a big difference to all users (subsistence, recreational, commercial).</p>	<p>2008 was a bad year for the lower Yukon, and current effects will be cumulative over future years. Alaska has the highest subsistence reliance of any state (ISER study), and we need to prioritize subsistence use over commercial industry.</p>	<p>– Several comments on the reduced ability to meet commercial and subsistence salmon goals.</p> <p>– Reduced subsistence fish does not only harm the individual; it harms the entire community. The value of subsistence represents people's livelihoods.</p> <p>– Comment that the Upper Yukon is equally dependent on Chinook for livelihood as is pollock industry. Emphasis on the importance of Chinook salmon to the Tanana River, Canadian border passage and to salmon escapement in general. Also economic importance of bycatch to other drainages like the Nushagak River and its sportfish guiding industry.</p>		<p>Concern that external pressures like fuel prices, complex regulatory processes, and unsustainable management put increasing pressure on subsistence users. Subsistence users are incurring extreme expense. Fewer Chinook means increased subsistence regulations, even a few thousand fish has a huge impact. It currently costs a significant amount of money (compared to previous years) for each household to try and meet their subsistence needs.</p>	<p>– Several comments emphasized cultural significance and traditional use value of salmon, and that the analysis needs more focus on the impacts on subsistence users. Subsistence education for children of western AK.</p> <p>– Analysis does not adequately assess subsistence and cultural values, or impacts on communities. Means of describing the subsistence economy in the analysis is inappropriate and should be revised.</p> <p>– The Environmental Justice section is sufficient in explaining what it is and how it should be applied, but does not address impacts on coastal communities (unbalanced by comparison).</p> <p>– The analysis should address the slow moving process of tribal consultations, and emphasize its importance. Suggestion to hire a tribal liaison and/or social scientists at NMFS.</p>
Industry incentive plans		<p>Comment that the higher 68,000 Chinook cap is only in place with sufficient industry incentive program. This concept is somewhat counter-intuitive to several commenters. Uncertainty that this creates an incentive to reduce bycatch both in years of low and high abundance.</p>	<p>– Several comments that the credibility of pollock industry is questionable and on the incentives necessary to obtain the higher cap. The ability to transfer caps makes it more likely the fishery will reach the hard cap figure; if they take the cap and subdivide it, it is less likely that every sector will reach their cap.</p> <p>– Comment that the pollock industry should come up with severe economic penalties for individual vessels with high bycatch rates. It is not the responsibility of the people impacted by this fishery across the west coast to ensure the pollock fishery makes an extra profit or remains viable.</p>		<p>– RACs would like to have attendance at public meetings on incentive programs (Feb 09), as this is an integral part of the action's success.</p> <p>– No support for incentive program coupled with higher cap of 68,000, which averages the three highest years considered.</p> <p>– If higher caps are established, transfers of those caps (Chinook) within the pollock industry should be prohibited.</p>	<p>– Concept of incentive plans includes ability for increased adaptive management. Need incentive for skipper to avoid bycatch from beginning to the ending of the season. The industry needs to convince the Council at final action (April 2009) that the incentive plans will be effective.</p> <p>– Industry could make changes to the incentive programs voluntarily, but if the Council doesn't think the program is meeting its intent, changes (e.g., to performance measures) could only be made through rulemaking. An annual report from industry to the Council would help notice industry as to whether it is meeting the Council's intent.</p>

Appendix B.

Resolution from Bristol Bay Subsistence Regional Advisory Council (October 28, 2008)

Resolution from the Alaska Federation of Natives, submitted by the Association of Village Council Presidents (October 25, 2008)

Letter and motions from the Eastern Interior Subsistence Regional Advisory Council (January 30, 2009)

Letter and motions from the Western Interior Subsistence Regional Advisory Council (January 30, 2009)

Bristol Bay Alaska Subsistence Regional Advisory Council
c/o U.S. Fish & Wildlife Service
1011 East Tudor Road, MS 121
Anchorage, Alaska 99503
Phone: (907) 786-3888, Fax: (907) 786-3898
Toll Free: 1-800-478-1456

Eric A. Olson, Chair
North Pacific Fishery Management Council
605 West Fourth Avenue, Suite 306
Anchorage, Alaska 99501-2252

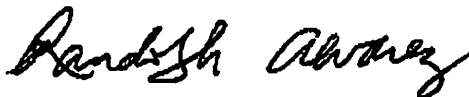
Dear Mr. Olson:

The Bristol Bay Subsistence Regional Advisory Council represents 31 Bristol Bay subsistence communities and rural residents. The Regional Council is authorized by the Alaska National Interest Lands Conservation Act and chartered under the Federal Advisory Committee Act. ANILCA in Section 805 and the Regional Council's charter recognize the Regional Council's authority to "initiate, review and evaluate proposals for regulations, policies, management plans, and other matters related to subsistence uses of fish and wildlife on public lands within the region" and to "provide a forum for the expression of opinions and recommendations ... (on) any matter related to the subsistence uses of fish and wildlife on public lands within the region."

The Regional Council, during its recent public meeting on October 6-7, 2008 in Dillingham, Alaska, addressed the agenda topic of Salmon By-catch Environmental Impact Statement, Bering Sea/Aleutian Islands Pollock Fishery which resulted in the enclosed Regional Council resolution. If you have any questions, please contact me or our regional coordinator, Donald Mike, at (907) 786-3629.

Thank you for your time and consideration.

Sincerely,



Randolph Alvarez, Chair

enclosure

cc: Eastern Interior Alaska Subsistence Regional Advisory Council
Western Interior Alaska Subsistence Regional Advisory Council
Yukon-Kuskokwim Delta Alaska Subsistence Regional Advisory Council
Northwest Arctic Alaska Subsistence Regional Advisory Council
Michael R. Fleagle, Chair, Federal Subsistence Board
Peter J. Probasco, Assistant Regional Director, Office of Subsistence Management

**Bristol Bay Alaska Subsistence Regional Advisory Council
c/o U.S. Fish & Wildlife Service
1011 East Tudor Road, MS 121
Anchorage, Alaska 99503
Phone: (907) 786-3888, Fax: (907) 786-3898
Toll Free: 1-800-478-1456**

A resolution from the Bristol Bay Alaska Subsistence Regional Advisory Council to the North Pacific Fishery Management Council regarding Chinook salmon by-catch in the Bering Sea pollock fisheries.

Whereas, In past years the Bristol Bay Alaska Subsistence Regional Advisory Council (BBRAC) has supported a by-catch limit of no more than 38,000 Chinook salmon in the Bering Sea pollock fisheries.

Whereas, The BBRAC recognizes that many of the communities in the Bristol Bay Region benefit from the Bering Sea pollock fisheries through the Community Development Quota system.

Whereas, The BBRAC requests the North Pacific Fisheries Management Council (NPFMC) and NOAA to note that in the 2007 and 2008 seasons, several Bristol Bay rivers did not achieve the Chinook salmon escapements forecasted by the Alaska Department of Fish and Game (ADF&G).

Whereas, Poor or reduced escapements of Chinook salmon into Bristol Bay rivers can have significant effects on the Region's subsistence, commercial and sport fisheries.

Whereas, The BBRAC is very appreciative of the work done to date by NOAA staff and the NPFMC to collect and analyze data, and actions taken to reduce salmon by-catch. The BBRAC thanks the staff for attending our fall 2008 meeting to explain the Bering Sea Chinook salmon by-catch issue.

Therefore be it resolved:

The BBRAC requests the NPFMC to adopt regulations designed to significantly minimize the by-catch of all salmon species in the Bering Seas pollock fishery.

The BBRAC continues to support a Chinook salmon by-catch not to exceed 38,000 fish annually.

The BBRAC supports hard caps and other regulations that are conservative and preserve the salmon stocks.

The BBRAC supports NPFMC, NOAA, and ADF&G efforts to conduct additional data collection and analyses to refine regulations that minimize salmon by-catch in the Bering Sea trawl fisheries.


Randolph Alvarez, Chair

10-28-08
Date

cc: Eastern Interior Alaska Subsistence Regional Advisory Council
Western Interior Alaska Subsistence Regional Advisory Council
Yukon-Kuskokwim Delta Alaska Subsistence Regional Advisory Council
Northwest Arctic Alaska Subsistence Regional Advisory Council
Michael R. Fleagle, Chair, Federal Subsistence Board
Peter J. Probasco, Assistant Regional Director, Office of Subsistence Management

ALASKA FEDERATION OF NATIVES, INC.

2008 ANNUAL CONVENTION

RESOLUTION 08-17

TITLE: REQUESTING THE NORTH PACIFIC FISHERY MANAGEMENT COUNCIL AND THE NATIONAL MARINE FISHERIES SERVICE TO TAKE EMERGENCY AND PERMANENT ACTION TO REGULATE SALMON BYCATCH IN THE BERING SEA POLLOCK FISHERY

WHEREAS: The Alaska Federation of Natives (AFN) takes an active role whenever the traditional Subsistence Way of Life and the economic stability of our Native villages are threatened; and

WHEREAS: The 2008 Chinook salmon returns on many river systems in Alaska, including the AVCP Region, were far below the number necessary for conservation, to meet international treaty requirements to provide for the needs of the Indigenous people in Canada, and far below the number of Chinook salmon necessary to meet the subsistence needs of Alaska Native families and to provide for commercial opportunities essential to meet the financial needs of the Alaska Native families; and

WHEREAS: Specifically, on the Yukon River, the Alaska Department of Fish & Game, in cooperation with the U.S. Fish & Wildlife Service, opened the 2008 subsistence salmon harvest season with window regulations in place for the entire Yukon River; for the AVCP region that meant two 36-hour open periods a week; and

WHEREAS: The return of the Yukon River Chinook salmon began fearfully slow and required even further restrictions placed on the Yukon in-river subsistence fishermen and their families (i.e., from the two 36-hour openers in the Lower River districts down to two 18-hour openers) for fear that the "run abundance would not support the customary subsistence harvests and meet escapement goals in Alaska and meet the interim management escapement goal of at least 45,000 fish into Canada agreed to by the Yukon River Panel," (taken from the ADFG/USFWS 2008 Yukon River Summer Salmon Fishery News Release #14, dated June 22, 2008), and, in the lower river districts, the mesh size was reduced to a maximum of 6-inch stretch mesh in order to conserve Chinook salmon; and

WHEREAS: By the end of the 2008 season, it was determined that the total Yukon River run was approximately 151,000 Chinook salmon (36% below the most recent 5-year average) and was not enough to satisfy all of the historical needs, including Subsistence; and

WHEREAS: Since 2001 to date, the minimum number of Chinook salmon intercepted and wasted by the Bering Sea Pollock fishery is over 450,000, most notably the 2007 record high bycatch amount of 122,000; and

WHEREAS: In the meantime, the Bering Sea Pollock fishery continues to fish without any regulatory restrictions, further endangering our future Chinook salmon resources and our ability to meet our subsistence and small scale in-river commercial fishery needs; and

WHEREAS: At their June meeting in Kodiak, the North Pacific Fishery Management Council (NPFMC) and the National Marine Fisheries Service (NMFS) determined that the NPFMC would likely not take final action regulating bycatch in the Pollock fishery until April 2009, and that the regulations will probably not be implemented until the start of the 2011 Pollock fishery season; and

WHEREAS: Subsistence and commercial Chinook users cannot wait until 2011 for effective management measures to be implemented, for fear of another season such as 2007, where 120,000+ Chinook salmon were wasted in the Bering Sea Pollock fishery, and for additional years of no commercial fishing and going without meeting subsistence needs; and

NOW THEREFORE BE IT RESOLVED by the delegates to the 2008 Annual Convention of the Alaska Federation of Natives that AFN encourage the NPFMC and the NMFS take action, through emergency authority, to regulate the 2009 Bering Sea Pollock fishery, and to implement permanent regulations applicable for the 2010 Pollock fishery, and that such regulations restrict the Chinook bycatch so as to ensure the conservation and rebuilding of Western Alaska Chinook salmon stocks and to ensure and prioritize the restoration of thriving subsistence and commercial Chinook salmon fisheries in Alaska; and

BE IT FURTHER RESOLVED that a hard cap of no more than 30,000 Chinook salmon be put in place in order to further protect our fully utilized salmon stocks.

SUBMITTED BY: ASSOCIATION OF VILLAGE COUNCIL PRESIDENTS

COMMITTEE ACTION: DO PASS

CONVENTION ACTION:

**Eastern Interior Alaska Subsistence
Regional Advisory Council**

**c/o Office of Subsistence Management
101 12th Avenue, Room 110
Fairbanks, Alaska 99701
Phone: 1-(907)-456-0277 or 1-800-267-3997
Fax: 1-(907)-456-0208
E-mail: Vince_Mathews@fws.gov**

January 30, 2009

Robert D. Mecum, Acting Administrator
Alaska Region, National Marine Fisheries Service
National Oceanic Atmospheric Administration
Post Office Box 21668
Juneau, Alaska 99802

Re: Comments and Recommendations on the Draft Environmental Impact Statement for the
Bering Sea Chinook Salmon Bycatch Management

Dear Mr. Mecum:

The Eastern Interior Alaska Subsistence Regional Advisory Council has a keen interest in the sustainability of the returning salmon to Western Alaska, especially the Yukon and Tanana rivers. The Regional Council represents thirteen villages along the Yukon or Tanana rivers and an additional seventeen villages within the Eastern Interior Region. All of these villages are heavily dependent on subsistence caught salmon for personal and community consumption and for their livelihoods. Every community within our Region, through sharing or trading, utilizes returning salmon as a significant part of their subsistence diet. The dramatic rise in salmon bycatch, especially the Chinook salmon with the Bering Sea/Aleutian Islands pollock fishery cannot continue to threaten the future sustainability of the Yukon River salmon stocks, as well as the continuation of a subsistence way of life in Interior and Western Alaska.

The Regional Council appreciated the presentation from Dr. Diana Stram and the discussions with North Pacific Fishery Management Council (NPFMC) members Gerry Merrigan and Duncan Fields during its public meeting on October 14, 2008 in Nenana, Alaska. Based on the presentation and discussions, past Regional Council discussions, and personal knowledge of the Regional Council members the Regional Council unanimously adopted the following recommendations for the DEIS:

1. A Chinook salmon hard cap of 29,323 should immediately be implemented to protect Western Alaska Chinook salmon. This is the only proposed bycatch cap that uses the average bycatch numbers in the years prior to the United States-Canada Yukon River Salmon Agreement of 2001, therefore, the cap which comes closest to complying with the international agreement. The parties to the Agreement are required to increase the in-

- river run of Yukon River origin salmon by reducing marine catches and by-catches of Yukon River salmon. They shall further identify, quantify and undertake efforts to reduce these catches and by-catches.
2. The economic penalties on the BSAI fishing industry must be implemented and strictly enforced to prevent high Chinook salmon bycatch. The penalties should apply to the individual trawler vessel and not across the fleet or industry.
 3. The North Pacific Fishery Management Council should recommend to the industry that it bear the cost of improved sampling methods and cost of analyzing these samples for genetic studies on the Chinook salmon stocks impacted by the industry's bycatch. This should also be tied to the economic incentives to improve the overall commercial fishery.
 4. The North Pacific Fishery Management Council should modify the food bank program to distribute the bycatch salmon to include the Western and Interior Alaska communities. The Regional Council wants it clearly understood that this Western and Interior Alaska distribution would by no means be considered a substitution or replacement of the active in-river subsistence fisheries.
 5. The Regional Council is very concerned about the length of time it takes to have a management action implemented when there are clear concerns regarding conservation and sustainability of the Chinook salmon stocks. The Regional Council will be submitting a letter to the Executive Director of the North Pacific Fishery Management Council on this concern for timely management actions.

The Regional Council is authorized by the Alaska National Interest Lands Conservation Act and chartered under the Federal Advisory Committee Act. Section 805 in ANILCA and the Regional Council's charter establish the Regional Council's authority to initiate, review and evaluate proposals for regulations, policies, management plans, and other matters related to subsistence uses of fish and wildlife on public lands within the region and to provide a forum for the expression of opinions and recommendations on any matter related to the subsistence uses of fish and wildlife on public lands within the region.

Thank you for the opportunity to present the Regional Council's recommendations on the DEIS. We and the residents of the Eastern Interior Region look forward to a substantial reduction in BSAI salmon bycatch. A substantial reduction would rebuild the Yukon and Tanana rivers salmon stocks so that, first and foremost, biological escapement needs would be met, the subsistence needs of Alaska and Canada would be met, and allow the Yukon and Tanana rivers' commercial fisheries to return. Continuation of a subsistence way of life and the economic underpinnings of our villages depend on viable and sustainable salmon stocks. If you have any questions or need additional information please, contact me or our council coordinator, Vince Mathews (contact information in letterhead). I can be reached directly at 1-907-883-2833.

Sincerely,



Sue Entsminger, Chair

cc: Eric Olson, Chair, North Pacific Fishery Management Council
Michael R. Feagle, Chair, Federal Subsistence Board
Peter J. Probasco, Assistant Regional Director, Office of Subsistence Management
Rod Campbell, Fisheries Liaison, OSM
Larry Buklis, Chief, Fisheries Division, OSM
Tim Jennings, Fisheries & Ecological Service, Fish and Wildlife Service
Ann Wilkinson, Chief, Council Coordination Division, OSM
Jill Klein, Executive Director, Yukon River Drainage Fisheries Association
David Bedford, Deputy Commissioner of Fisheries, ADF&G
Jack Reakoff, Chair, Western Interior Alaska Subsistence Regional Advisory Council
Lester Wilde, Chair, Yukon-Kuskokwim Delta Subsistence Regional Advisory Council
Eastern Interior Alaska Subsistence Regional Advisory Council members

**Western Interior Alaska Subsistence
Regional Advisory Council**
c/o Office of Subsistence Management
101 12th Avenue, Room 110
Fairbanks, Alaska 99701
Phone: 1-(907)-456-0277 or 1-800-267-3997
Fax: 1-(907)-456-0208
E-mail: Vince_Mathews@fws.gov

January 30, 2009

Robert D. Mecum, Acting Administrator
Alaska Region, National Marine Fisheries Service
National Oceanic Atmospheric Administration
Post Office Box 21668
Juneau, Alaska 99802

Re: Comments and Recommendations on the Draft Environmental Impact Statement for the
Bering Sea Chinook Salmon Bycatch Management

Dear Mr. Mecum:

The Western Interior Alaska Subsistence Regional Advisory Council has a keen interest in the sustainability of the returning salmon to Western Alaska, especially the Yukon and Kuskokwim rivers. The Regional Council again strongly recommends that the Bering Sea/Aleutian Islands pollock fishery salmon bycatch be reduced immediately. Rural subsistence and commercial fishermen across the Yukon and Kuskokwim river drainages are facing another difficult Chinook salmon fishing season in 2009 when the conservation burden to meet escapement needs in Alaska and Canada may result in subsistence families not meeting their Chinook salmon needs.

The twenty-seven villages along the Yukon and Kuskokwim rivers, within the Western Interior Region the Regional Council represents, heavily depend on subsistence caught salmon for personal and community consumption and for their livelihoods. Every community within our Region, through sharing or trading, utilizes returning salmon for a significant part of their subsistence diet. The dramatic rise in salmon bycatch, especially of Chinook salmon, by the Bering Sea/Aleutian Islands pollock fishery cannot be allowed to continue to threaten the future sustainability of the Yukon River salmon stocks and the continuation of a subsistence way of life in Interior Alaska. The continuing decline in the returning salmon stocks has to stop and a key component with reversing this decline is the immediate reduction in the BSAI Chinook bycatch.

The Regional Council appreciated the presentation from Dr. Diana Stram and Nicole Kimball, and the discussions with North Pacific Fishery Management Council members Sam Cotton and Dave Benson during our public meeting on October 27, 2008 in McGrath, Alaska. Based on the presentation and discussions, past Regional Council discussions, and personal knowledge of the

Regional Council members, the Regional Council unanimously adopted the following recommendations for the DEIS:

1. The Regional Council recommends a hard cap of 29,323, which represents the long-term historic range of Chinook salmon bycatch. A hard cap within the 10-year average 29,000 – 38,000 would be acceptable to the Regional Council.
2. The Regional Council does not support the high cap of 68,000 fish in the preferred alternative. This figure represents the average of the three highest bycatch years on record. This cap level is unacceptable.
3. If the higher cap figures are adopted, selling or trading the caps should not be allowed within the fishery. Such activity would result in reaching the higher cap figures instead of providing incentive for the fishing industry to have bycatch amounts below the caps.
4. All salmon bycatch should be processed and returned to the Alaskan communities within the rivers of origin by apportionment by percentage of the bycatch. This bycatch distribution to Alaska would not replace the subsistence activities of the people of Western and Interior Alaska.
5. The Regional Council requests a review of the pollock quota and consideration of season time reductions to protect the pollock fish stocks. Our concern is that as the desired commercial fish stock becomes less abundant more fishing effort follows, which results in additional salmon bycatch.

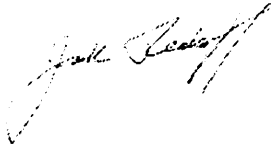
The subsistence and commercial in-river fishermen and their communities are incurring extreme expense from the increasing fishing restrictions, high fuel costs, and their decreasing catch per unit of effort from the pollock fishery's salmon bycatch. Rural villages are declining in population because of the increasing high cost of living in rural Alaskan communities. Couple these challenges with the declining size of the returning Chinook salmon and fewer large females reaching the spawning grounds and we may be looking at a serious conservation concern that may result in a serious burden on subsistence fishermen they are unable to withstand.

The Regional Council is authorized by the Alaska National Interest Lands Conservation Act and chartered under the Federal Advisory Committee Act. Section 805 of ANILCA and the Regional Council's charter establish the Regional Council's authority to initiate, review and evaluate proposals for regulations, policies, management plans, and other matters related to subsistence uses of fish and wildlife on public lands within the region and to provide a forum for the expression of opinions and recommendations on any matter related to the subsistence uses of fish and wildlife on public lands within the region.

Thank you for the opportunity to present the Regional Council's recommendations on the DEIS. We and the residents of the Western Interior Region look forward to a substantial reduction in the BSAI salmon bycatch. A substantial reduction would rebuild the Yukon River salmon stocks so that, first and foremost, biological escapement needs would be met, the subsistence needs of Alaska and Canada would be met, and the Yukon and Kuskokwim rivers' commercial fisheries would return. Continuation of a subsistence way of life and the economic underpinnings of our villages depend on viable and sustainable salmon stocks.

If you have any questions or need additional information please, contact me or our council coordinator, Vince Mathews (contact information in letterhead). I can be reached directly at 1-907-678-2007.

Sincerely,



Jack Reakoff, Chair

**cc: Eric Olson, Chair, North Pacific Fishery Management Council
Michael R. Feagle, Chair, Federal Subsistence Board
Peter J. Probasco, Assistant Regional Director, Office of Subsistence Management
Rod Campbell, Fisheries Liaison, OSM
Larry Buklis, Chief, Fisheries Division, OSM
Tim Jennings, Fisheries & Ecological Service, Fish and Wildlife Service
Ann Wilkinson, Chief, Council Coordination Division, OSM
Jill Klein, Executive Director, Yukon River Drainage Fisheries Association
David Bedford, Deputy Commissioner of Fisheries, ADF&G
Sue Entsminger, Chair, Eastern Interior Alaska Subsistence Regional Advisory Council
Lester Wilde, Chair, Yukon-Kuskokwim Delta Subsistence Regional Advisory Council
Western Interior Alaska Subsistence Regional Advisory Council members**

Council request for SSC review (April):

The Council requests the SSC review the final industry-proposed incentive programs for Chinook salmon bycatch reduction at their April 2009 meeting. The Council understands that this type of request is outside of the normal analytical review requests to the SSC but feels that guidance from the SSC on these proposed programs is critical in the Council's consideration of them at final action in April under its current PPA structure.

The Council has requested that industry representatives provide final documentation to the Council office by March 13 so that the SSC will have two weeks to review the proposals prior to the start of the March/April meeting. The Council notes that ideally these materials will be provided by industry in a single, comprehensive package. This final documentation provided by industry must include the following:

1. Description of the structure of the ICA agreement including information on the rules governing the inter-relationship of the different incentive programs and operation under these programs (transfers, other operational ground rules, etc) between sectors.
2. Clear description of each incentive program proposed under the ICA agreement. This description should include detailed explanation of how each incentive program will work and the mechanics of the specific programs by sector.
3. Analysis to demonstrate how well each incentive program will achieve the Council's goals of bycatch reduction.

In order to provide direction to the SSC in this endeavor, the Council provides the following general objectives in reviewing the programs:

1. Whether the elements of each incentive plan adequately address the Council's objectives in the PPA of:
 - Providing incentive(s) for each vessel to avoid salmon bycatch under any condition of pollock and salmon abundance in all years;
 - Including rewards for salmon bycatch avoidance and/or penalties for failure to avoid salmon bycatch at the vessel level
2. Whether the programs can be expected to promote reductions in actual individual vessel bycatch rates relative to what would have occurred in absence of the incentive program. Incentive measures must promote salmon savings in any condition of pollock and salmon abundance, such that they are expected to influence operational decisions at bycatch levels below the hard cap.

Council considerations for choosing a preferred alternative at final action

This worksheet provides some points of consideration for the Council when choosing a preferred alternative at final action. The worksheet is divided into three sections:

- Choosing the preliminary preferred alternative (PPA) or a modification of the PPA as the preferred alternative for final action
- Creating a new preferred alternative for final action that may contain elements of the current PPA or elements from Alternatives 1, 2, or 3.
- Issues for the Council to address in its recommendations for the preferred alternative.

Choosing the preliminary preferred alternative (PPA) as the preferred alternative for final action

If the Council chooses the PPA as the preferred alternative, the following issues need to be clarified.

A. Choose an option for setting the hard cap

Setting the hard cap (Component 1)	Annual scenario 1 (PPA 1)	High cap 68,392 Chinook salmon for vessels in a NMFS-approved ICA Backstop cap 32,482 Chinook salmon for vessels not in a NMFS approved ICA.
	Annual scenario 2 (PPA 2)	A cap of 47,591, with no ICA.
	PPA1 + PPA2	A fleet-wide cap of 47,591, unless industry submits and NMFS approves an ICA agreement which provides explicit incentive for salmon avoidance, then the cap increases to 68,392 Chinook salmon. Vessels not in the ICA would be subject to the backstop cap of 32,482.

Council needs to select one of these three options:

- PPA 1
- PPA 2
- PPA 1+PPA 2

Page 95 of the DEIS/RIR/IRFA describes how NMFS would manage PPA 1 alone or PPA 1 + PPA 2.

B. Clarify what happens if industry submits multiple ICAs, under PPA 1 or PPA 1+PPA2

At the February 2009 meeting, the Council again stated its intent that only one ICA would be approved under the PPA. In Section 2.4.3.1, page 61, the DEIS describes the need for further Council direction in its preferred alternative about what NMFS should do if more than one proposed ICA is submitted for review. Regulations could specify that only one ICA would be approved, but NMFS cannot prevent the submission or more than one ICA. It can only specify in the regulations what would occur if more than one ICA was submitted.

Option described in the DEIS/RIR/IRFA: If more than one ICA is received by NMFS by the specified deadline, all will be disapproved, and industry will be invited to resubmit a single ICA.

The Council also suggested the option of requiring that, to be approved, the ICA would have to be signed by a majority of the members of each sector. NMFS would then review only an ICA that met this requirement. The Council would need to specify what is meant by the members of each sector.

For example:

Mothership sector: a majority of the representatives of the catcher vessels permitted to deliver to AFA motherships under § 679.4(1)(3)(B).

Catcher/processor sector: a majority of the representatives of the permitted AFA vessels under 679.4(1)(2)(i) and (ii) (the catcher/processors) and 679.4(1)(3)(i)(A) (catcher vessels delivering to catcher/processors) combined.

Inshore sector: a majority of the representatives of the catcher vessels permitted to deliver to AFA inshore processors under § 679.4(1)(3)(C).

CDQ groups: the representative of a majority of the CDQ groups (at least four of the six).

C. Clarify the opt out provision, under PPA 1 or PPA 1+PPA 2

The DEIS describes the need for further Council direction on the opt-out provision in Section 2.4.3.1, pages 61-63. NMFS recommends that the Council adopt one of two options pertaining to the opt out provision:

- Option 1: require that the ICA must allow any AFA-eligible vessel, cooperative, or CDQ group to join the ICA (this prevents the involuntary exclusion of those willing to participate in the ICA)
- Option 2: remove the opt out provision and require 100% participation of the AFA-eligible vessel owners and CDQ groups in any submitted ICA.

D. Decide whether additional options are necessary under PPA 1 or PPA 1+PPA 2 to ensure that the 68,392 Chinook salmon cap is a “hard” cap

The DEIS notes that there are situations in which the PPA’s 68,392 Chinook salmon cap could be exceeded (although these situations are deemed to be unlikely to occur). A more full description of this potential is included in Sections 2.4.3.2 and 2.4.3.3, on pages 63-71 of the DEIS.

- Option 1: clarify that the high cap of 68,392 is not a hard cap (this option probably is not viable because, although extremely unlikely, it could result in total annual bycatch that exceeds any of the cap amounts analyzed in the DEIS/RIR/IRFA)
- Option 2: remove the opt-out provision and the backstop cap, and require 100% participation of AFA-eligible vessel owners and CDQ groups in any submitted ICA
- Option 3: revise the PPA to ensure that the 68,392 cap can be managed as a hard cap. Subtract from the 68,392 cap a proportion representing vessels opting out of the ICA¹, and create a backstop cap so that the sum of the caps does not exceed 68,392

¹ The proportion that is subtracted from the overall cap could be the proportion of either the 68,392 cap or the 32,484 backstop cap represented by vessels opting out of the ICA. The DEIS provides options of how the backstop cap could be created on page 66.

Creating a new preferred alternative for final action

If the Council chooses to create a new preferred alternative, the following series of considerations may be of assistance. Headings A through G, below, go through the various components that are currently part of the PPA. Each section also lists the options relative to that component that are included in Alternative 2, in the DEIS. Finally, each section also lists the range that was analyzed in depth in the DEIS.

A. Decide whether you still want a hard cap

Component 1	Options included in the PPA	Options included in Alternative 2	Range analyzed in the DEIS
Select a hard cap from a range of numbers for an annual cap for the entire pollock fishery	68,392/32,482 47,591	87,500 68,392 57,333 47,591 43,328 38,891 32,482 29,323	87,500 68,392 68,100 48,700 47,591 29,300

B. Does the preferred alternative involve requirements for an Intercooperative Agreement or industry incentive programs? If so, how does the ICA interact with the caps and what are the requirements for the ICA?

The PPA currently establishes multiple hard caps, depending on whether an ICA is submitted by industry and approved by NMFS. If the Council decides to modify the PPA, but retain the ICA as described in the PPA, NMFS has raised certain points of clarification about how the ICA should be treated. These are explained in the previous section (Choosing the PPA as the preferred alternative) under headings B, C, and D, and should be addressed by the Council if an ICA is included in the preferred alternative.

Component 1	Options included in the PPA	Options included in Alternative 2	Range analyzed in the DEIS
Selecting multiple hard caps depending whether an ICA is approved by NMFS	PPA 1 – High cap of 68,392 Chinook salmon for vessels in a NMFS-approved ICA, backstop cap of 32,482 Chinook salmon for vessels not in a NMFS approved ICA PPA 1+ PPA 2 – A fleet-wide cap of 47,591, unless industry submits and NMFS approves an ICA agreement which provides explicit incentive for salmon avoidance, then the cap increases to 68,392 Chinook salmon. Vessels not in the ICA would be subject to the backstop cap of 32,482.	No options for an ICA are included in Alternative 2. An ICA option is included in Alternative 3.	The PPA as described is analyzed in the DEIS

C. How should the cap to be divided between the A season and the B season?

Component 1	Options included in the PPA	Options included in Alternative 2	Range analyzed in the DEIS
Proportion of the annual cap that is assigned to the A and B seasons	70:30	70:30 58:42 55:45 50:50	70:30 58:42 50:50

D. Are rollovers allowed between the A and B seasons?

Component 1	Options included in the PPA	Options included in Alternative 2	Range analyzed in the DEIS
How much of the remaining A season bycatch cap can be rolled over to the B season	(80%) A → B	(100%) A → B (0%) A → B	(100%) A → B (80%) A → B (0%) A → B

E. Decide whether the cap will be allocated to sectors

Component 2		CDQ	Inshore CV	Mothership	Offshore CP	
How will the hard cap be allocated among sectors	Options included in the PPA	A season	9.3%	49.8%	8.0%	32.9%
		B season	5.5%	69.3%	7.3%	17.9%
	Options included in Alternative 2	Annual	3% - 10%	45% - 70%	6% - 9%	21% - 36%
			7.5%	92.5% (all non-CDQ sectors)		
	Range analyzed in the DEIS (based on combination of seasonal/sector allocations)	A season	1.5% - 9.3%	22.5% - 49.8%	3% - 8%	10.5% - 32.9%
		B season	0.9% - 5.5%	13.5% - 69.3%	1.8% - 7.3%	6.3% - 18%

F. Are voluntary transfers allowed among sectors?

Component 3	Options included in the PPA	Options included in Alternative 2	Range analyzed in the DEIS
Are voluntary transfers among sectors allowed	yes, unlimited	yes, unlimited yes, but limit transfer to a maximum of 50%, 70%, or 90% of salmon remaining no, but NMFS can reapportion unused salmon to other sectors based on their proportion of remaining pollock (except not from CDQ groups)	yes, unlimited yes, but limit transfer to a maximum of 50%, 70%, or 90% of salmon remaining no, but NMFS can reapportion unused salmon to other sectors based on their proportion of remaining pollock (except not from CDQ groups)

C. How should the cap to be divided between the A season and the B season?

Component 1	Options included in the PPA	Options included in Alternative 2	Range analyzed in the DEIS
Proportion of the annual cap that is assigned to the A and B seasons	70:30	70:30 58:42 55:45 50:50	70:30 58:42 50:50

D. Are rollovers allowed between the A and B seasons?

Component 1	Options included in the PPA	Options included in Alternative 2	Range analyzed in the DEIS
How much of the remaining A season bycatch cap can be rolled over to the B season	(80%) A → B	(100%) A → B (0%) A → B	(100%) A → B (80%) A → B (0%) A → B

E. Decide whether the cap will be allocated to sectors

Component 2			CDQ	Inshore CV	Mothership	Offshore CP
How will the hard cap be allocated among sectors	Options included in the PPA	A season	9.3%	49.8%	8.0%	32.9%
		B season	5.5%	69.3%	7.3%	17.9%
	Options included in Alternative 2	Annual	3% - 10%	45% - 70%	6% - 9%	21% - 36%
			7.5%	92.5% (all non-CDQ sectors)		
	Range analyzed in the DEIS (based on combination of seasonal/sector allocations)*	A season	3% - 12%	45% - 84%	6% - 10.8%	21% - 43.2%
		B season	2.4%-10%	36% - 70%	4.8%-9.0%	16.8%-36%

* ranges analyzed are specific to individual sector and seasonal allocations and are not analyzed in conjunction with other sectors

F. Are voluntary transfers allowed among sectors?

Component 3	Options included in the PPA	Options included in Alternative 2	Range analyzed in the DEIS
Are voluntary transfers among sectors allowed	yes, unlimited	yes, unlimited yes, but limit transfer to a maximum of 50%, 70%, or 90% of salmon remaining no, but NMFS can reapportion unused salmon to other sectors based on their proportion of remaining pollock (except not from CDQ groups)	yes, unlimited yes, but limit transfer to a maximum of 50%, 70%, or 90% of salmon remaining no, but NMFS can reapportion unused salmon to other sectors based on their proportion of remaining pollock (except not from CDQ groups)

G. Should the inshore CV cap be subdivided among cooperatives

Component 4	Options included in the PPA	Options included in Alternative 2	Range analyzed in the DEIS
Allocate inshore CV allocation to cooperatives, based on pollock proportions	yes, allocations would be transferable	yes, with unlimited transferability yes, with limited transferability (maximum of 50%, 70%, or 90% of salmon remaining) yes, but no transferability no allocations to inshore CV cooperatives	yes, with unlimited transferability yes, with limited transferability (maximum of 50%, 70%, or 90% of salmon remaining) yes, but no transferability no allocations to inshore CV cooperatives

H. Do you want to include a triggered closure in the preferred alternative (currently analyzed in Alternative 3)

The following decision points must be clarified if the Council wishes to include a new triggered closure in the preferred alternative. The DEIS analyzes the effects of establishing a triggered closure (differing from the trigger closures currently in regulation) under Alternative 3.

Setting the trigger cap (Component 1)	How to formulate cap	Select a cap from a range of numbers, 29,323 - 87,500 (same range as Alternative 2)				} Choose an annual cap and a proportion for seasonal apportionment
	How to apportion cap by season	Apportion cap A season : B season from range 70:30 to 50:50 (same range as Alternative 2)				
Managing the cap (Component 2)	NMFS closes areas to pollock fishing when cap is reached.					} Decide whether the cap may be managed under an ICA
	Option 1: An ICA will set in place a system to allow vessels to avoid bycatch, and will close areas when cap is reached, for vessels managed under the ICA					
Allocating the hard cap to sectors (Component 3)		CDQ	Inshore CV	Mothership	Offshore CP	} Choose whether the cap will be allocated to sectors, and in what proportion
	By sector (same range as Alternative 2)	3% - 10%	45% - 70%	6% - 9%	21% - 36%	
	Default, if no sector allocation	7.5%	92.5% (all three sectors combined)			
Sector transfers (Component 4)	Voluntary transfers among sectors are allowed					} Are sector transfers allowed?
	NMFS can reapportion unused salmon to other sectors based on their proportion of remaining pollock (except not from CDQ groups)					
Area closures (Component 5)	A season closure area (Fig. 2-2 in DEIS)	Once triggered, area would close for the rest of the A season				} Which closures is the Council adopting: • A season only • B season only • both
	B season closure area (Fig. 2-3 in DEIS)	If the trigger was reached before August 15, all three areas would close on August 15 th for the rest of the B season. If the trigger was reached after August 15 th , all three areas would close immediately for the rest of the B season.				

Issues for the Council to address in its recommendations for the preferred alternative

A. Consistency with MSA National Standards

Section 301(a) of the MSA requires that fishery management plans and regulations to implement fishery management plans shall be consistent with the national standards (listed below). Therefore, the Council must explain how its preferred alternative is consistent with the national standards. Specifically, the Council should explain how it considered and balanced the various national standards to develop its preferred alternative for managing Chinook salmon bycatch in the Bering Sea pollock fishery. The Council's action must be consistent with all of the national standards, but an explanation of how the Council balanced national standards 1 and 9 appear most relevant for this action. In addition, national standards 4, 5, 7, and 8 also may be important considerations in the Council's rationale.

The ten national standards are listed below:

1. Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.
2. Conservation and management measures shall be based upon the best scientific information available.
[Responses to comments in the CAR on Chapter 3 re: AEQ methodology and genetics and response to comments 10-81 address this national standard.]
3. To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.
4. Conservation and management measures shall not discriminate between residents of different States. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.
[Page 62 of the DEIS discusses a national standard 4(A) concern with the PPA]
5. Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.
6. Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.
7. Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.
8. Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities by utilizing economic and social data that meet the requirements of paragraph (2), in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.

9. Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.
10. Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

[Section 10.5.4 of the DEIS (page 697) provides information about the safety impacts of the alternatives.]

B. Addressing the Council's Problem Statement

The preferred alternative should address the problems and objectives that the Council identified in its problem statement for this action (page 1 of the DEIS/RIR/IRFA and reproduced below). Therefore, the Council should review its problem statement to confirm that it still reflects the problems that led the Council to recommend new Chinook salmon bycatch management measures and that it still reflects an accurate description of the objectives that the Council hopes to achieve with its preferred alternative.

An effective approach to salmon prohibited species bycatch reduction in the Bering Sea pollock trawl fishery is needed. Current information suggests these harvests include stocks from Asia, Alaska, Yukon, British Columbia, and lower-48 origin. Chinook salmon are a high-value species extremely important to western Alaskan village commercial and subsistence fishermen and also provide remote trophy sport fishing opportunities. Other salmon (primarily made up of chum salmon) harvested as bycatch in the Bering Sea pollock trawl fishery also serve an important role in Alaska subsistence fisheries. However, in response to low salmon runs, the State of Alaska has been forced to close or greatly reduce some commercial, subsistence and sport fisheries in western Alaska. Reasons for reductions in the number of Chinook salmon returning to spawn in western Alaska rivers and the Canadian portion of the Yukon River drainage are uncertain, but recent increases in Bering Sea bycatch may be a contributing factor.

Conservation concerns acknowledged by the Council during the development of the Salmon Savings Areas have not been resolved. Continually increasing Chinook salmon bycatch indicates the VRHS [Voluntary Rolling Hotspot System] under the salmon bycatch intercooperative agreement approach is not yet sufficient on its own to stabilize, much less, reduce the total bycatch. Hard caps, area closures, and/or other measures may be needed to reduce salmon bycatch to the extent practicable under National Standard 9 of the MSA [Magnuson-Stevens Act]. We recognize the MSA requires use of the best scientific information available. The Council intends to develop an adaptive management approach which incorporates new and better information as it becomes available. Salmon bycatch must be reduced to address the Council's concerns for those living in rural areas who depend on local fisheries for their sustenance and livelihood and to contribute towards efforts to reduce bycatch of Yukon River salmon under the U.S./Canada Yukon River Agreement obligations. The Council is also aware of the contribution that the pollock fishery makes in the way of food production and economic activity for the country as well as for the State of Alaska and the coastal communities that participate in the CDQ [Community Development Quota] program; and the need to balance tensions between National Standard 1 to achieve optimum yield from the fishery and National Standard 9 to reduce bycatch.

[emphasis added to identify what appear to be specific Council objectives for this action.]

The Council's specific objectives appear to be:

- balance national standard 1 to achieve optimum yield from the pollock fishery and national standard 9 to reduce bycatch to the extent practicable (recognizing that national standard 9 refers to *minimizing* bycatch to the extent practicable);
- reduce bycatch to address concerns for those who depend on salmon;
- reduce bycatch to contribute towards efforts to reduce bycatch of Yukon River salmon under the U.S./Canada Yukon River Agreement obligations;
- develop an adaptive management approach which incorporates new and better information as it becomes available.

In its rationale, the Council should address how the preferred alternative accomplishes the objectives identified in the problem statement for its action. If, as a result of information presented in the DEIS/RIR/IRFA or provided to the Council through public comment, the problem statement no longer accurately describes the Council's objectives, the Council should modify the problem statement and clarify its objectives.

Because the Council's objectives focus specifically on reducing bycatch, it would be helpful for the Council to identify the level of Chinook salmon bycatch from which it hopes reductions to occur (e.g., from the highest level of bycatch 2007, from average levels of bycatch over a certain period of years, or from some other level or benchmark). Specifically identifying this benchmark would help the Council explain how its preferred alternative will accomplish its goal of reducing Chinook salmon bycatch.

The response to comment 1-9 through 1-11 in the Comment Analysis Report may assist the Council in addressing its objectives with respect to the Pacific Salmon Treaty.

Where possible and relevant, it would be helpful for the Council to identify specific information in the DEIS/RIR/IRFA, the public comment, or the comment analysis report that it relied on to develop its preferred alternative.

C. Recommend removing current regulations for Chinook salmon bycatch management

The Council's final action should clarify that it intends for NMFS to remove current regulations governing Chinook salmon bycatch management in the Bering Sea and replace those regulations with the preferred alternative. Revisions to current regulations would involve the following:

- Regulations at 679.21(e) (1)(vi) for the current BS Chinook salmon PSC limit of 29,000 salmon that triggers closure of the Chinook salmon savings area for the BS pollock fishery would be removed. Chinook salmon savings area closures for the BS at 679.21(e)(7)(viii) would be removed.
- Exemptions to closure of the BS Chinook salmon savings areas for those cooperatives and CDQ groups participating in the ICA described in paragraph (g) would be removed from regulations. Related prohibitions in 679.7 would be removed.
- All elements of the current voluntary rolling hot spot (VRHS) ICA regulations at 679.21(g) addressing Chinook salmon would be removed from the regulations. New Chinook salmon

bycatch management measures, including any ICA requirements, would be added to the regulations in a separate paragraph (probably as the currently reserved paragraph (f)). Paragraph (g) would then include only the non-Chinook salmon components of the current VRHS ICA.

- The current approved salmon bycatch ICA (VRHS) would have to be amended upon implementation of Amendment 91 to remove the portions addressing Chinook salmon.
- The Chinook salmon PSC limit for the AI (700 salmon) and Chinook salmon savings areas closures for the AI would remain in effect.

E. Recommend Amendment 91

The Council's final action should recommend that it is approving Amendment 91 to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area (FMP), which would add the Council's preferred alternative for Bering Sea Chinook salmon bycatch management measures to the FMP and remove text describing existing Bering Sea Chinook salmon bycatch management measures.

**Proposed Amendment 91 to the Fishery Management Plan
for Groundfish of the Bering Sea and Aleutian Islands Management Area (FMP)**

Text related to Chinook salmon bycatch in the BSAI groundfish FMP is attached. Notes are made where amendments could be made for the Council's recommended Chinook salmon bycatch management measures.

Additional amendments would need to be made in the Executive Summary and Appendices and minor edits would be needed throughout the FMP for consistency (e.g., Section 3.7. 4.6 would be revised if Chinook salmon bycatch allocations to the CDQ Program change).

In its final action, the Council should include a recommendation that the preferred alternative would be incorporated as Amendment 91 to the FMP. The majority of the Council's recommendations would be added to a new Section 3.6.2.4, Bering Sea Chinook Salmon Bycatch Management Measures, unless otherwise directed by the Council.

BSAI Amendment 91

Proposed Sections and Figures to amend.

2. potential impacts on halibut stocks and fisheries;
3. potential impacts on groundfish fisheries;
4. estimated bycatch mortality during prior years;
5. expected halibut bycatch mortality;
6. methods available to reduce halibut bycatch mortality;
7. the cost of reducing halibut bycatch mortality; and
8. other biological and socioeconomic factors that affect the appropriateness of a specific bycatch mortality limit in terms of FMP objectives.

3.6.2.1.5 Pacific Herring

The annual PSC limit of Pacific herring caught while conducting a trawl fishery for groundfish in the BSAI management area is one percent of the annual biomass of herring in the eastern Bering Sea.

3.6.2.1.6 Chinook Salmon

PSC limits for Chinook salmon are established for the Bering Sea and Aleutian Islands subareas in regulations implementing the FMP.

Revise

3.6.2.1.7 Other Salmon

When the Regional Administrator determines that 42,000 non-Chinook salmon have been caught by vessels using trawl gear during the time period of August 15 through October 14 in the catcher vessel operational area (see Section 3.5.2.1.6), NMFS will prohibit directed fishing for pollock with trawl gear for the remainder of the period September 14 through October 14 in the chum salmon savings area (see Section 3.6.2.2.4), unless the vessel is operating under a salmon bycatch reduction inter-cooperative agreement. Accounting for the 42,000 fish PSC limit will begin on August 15.

3.6.2.2 PSC Limitation Zones

Restrictions within the following areas are triggered by the attainment of bycatch limits as described in the FMP (Section 3.6.2.1) or specified in regulations implementing the FMP. Annual area closures that may also serve to limit the bycatch of prohibited species are listed in Section 3.5.2.

3.6.2.2.1 Zones 1 and 2

Zones 1 and 2 close to directed fishing when crab bycatch limits, as specified in regulations, are attained in specific fisheries. The areas are described in Appendix B and **Error! Reference source not found.**

3.6.2.2.2 C. *Opilio* Bycatch Limitation Zone

Upon attainment of the C. *Opilio* Bycatch Limitation Zone (COBLZ) bycatch allowance of C. *opilio* crab specified for a particular fishery category, the COBLZ will be closed to directed fishing for each category for the remainder of the year or for the remainder of the season. The area is described in Appendix B and Figure 3-9.

3.6.2.2.3 Herring Savings Areas

If the Regional Administrator determines that the PSC limit of herring is attained, the herring savings areas may be closed for the remainder of the year or season. The herring savings areas are any of the three areas described in Appendix B and Figure 3-10. Summer Herring Savings Area 1 applies from June 15 through July 1 of a fishing year. Summer Herring Savings Area 2 applies July 1 through August 15 of a fishing year. Winter Herring Savings Area applies from September 1 through March 1 of the succeeding fishing year. Openings and closures begin and end at noon local time.

3.6.2.2.4 Chum Salmon Savings Area

Upon attainment of the limit described in Section 3.6.2.1.7, NMFS will prohibit directed fishing for pollock with trawl gear for the remainder of the period September 14 through October 14 in the chum salmon savings area (described in Appendix B and Figure 3-4), unless the vessel is operating under a salmon bycatch reduction inter-cooperative agreement. This area is also closed to vessels directed fishing for pollock and not operating under a salmon bycatch reduction inter-cooperative agreement from August 1 through August 31, as described in Section 3.5.2.1.3.

3.6.2.2.5 Chinook Salmon Savings Areas

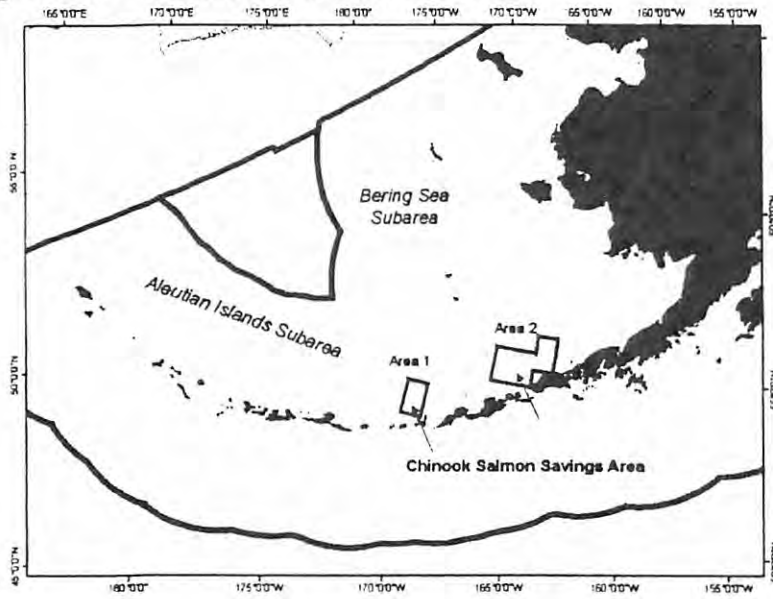
~~If the Regional Administrator determines that the Bering Sea subarea PSC limit of Chinook salmon is caught while harvesting pollock with trawl gear in the Bering Sea subarea between January 1 and December 31, NMFS will prohibit directed fishing for pollock with trawl gear in Chinook salmon savings areas 1 and 2 (described in Appendix B and Figure 3-11) during time periods specified in regulations. Vessels operating under a salmon bycatch reduction inter-cooperative agreement may participate in directed fishing for pollock by trawl gear in area 2.~~

*Remove
or revise
if Amd 91
adds new
areas*

If the Regional Administrator determines that the Aleutian Islands subarea PSC limit of Chinook salmon is caught while harvesting pollock with trawl gear in the Aleutian Islands subarea between January 1 and December 31, NMFS will prohibit directed fishing for pollock with trawl gear in Chinook salmon savings area 1 (described in ~~Appendix B and Figure 3-11~~), during time periods specified in regulations.

15

Figure 3-15 Chinook Salmon Savings Areas.



Revise to include only AI area or to include any new areas under Amd 91

Figure 3-16 Bering Sea Habitat Conservation Area



3.6.2.3 Apportionment of Prohibited Species Catch Limits

3.6.2.3.1 Target Fishery Categories

Trawl fisheries: The Pacific halibut PSC limit for trawl gear and the PSC limits for *C. bairdi* crab, *C. opilio* crab, red king crab, and herring apply to trawl fisheries for groundfish that are categorized by target species or species groups.

Non-trawl fisheries: The Pacific halibut PSC limit for non-trawl gear applies to non-trawl groundfish fisheries that may be categorized by target species or species groups, gear type, and area.

Fishery categories will be implemented by regulations that implement the goals and objectives of the FMP, the Magnuson-Stevens Act, and other applicable law. Fishery categories will remain in effect unless amended by regulations implementing the FMP. When recommending a regulatory amendment to revise fishery categories, the Council will consider the best information available on whether recommended fishery categories would best optimize groundfish harvests under the PSC limits established under Section 3.6.2.

3.6.2.3.2 Apportionments and Seasonal Allocations

Apportionments of PSC limits to target fishery categories established in Section 3.6.2.3.1 and seasonal allocations of those apportionments may be determined annually by the Secretary of Commerce, after consultation with the Council, using the following procedure:

1. Prior to the October Council meeting. The Plan Team will provide the Council the best available information on estimated prohibited species bycatch and mortality rates in the target groundfish fisheries, and estimates of seasonal and annual bycatch rates and amounts.
2. October Council meeting. While recommending proposed groundfish harvest levels under Section 3.2.3, the Council will also review the need to control the bycatch of prohibited species and will recommend appropriate apportionments of PSC limits to fishery categories as bycatch allowances. Fishery bycatch allowances are intended to optimize total groundfish harvest under established PSC limits, taking into consideration the anticipated amounts of incidental catch of prohibited species in each fishery category. The Council may recommend exempting specified non-trawl fishery categories from the non-trawl halibut bycatch mortality limit restrictions after considering the same factors (1) through (8) set forth under Section 3.6.2.1.4. The Council will also review the need for seasonal apportionments of fishery bycatch allowances.

The Council will consider the best available information when recommending fishery apportionments of PSC limits and seasonal allocation of those apportionments. Types of information that the Council will consider relevant to seasonal allocation of fishery bycatch quotas include:

- a. seasonal distribution of prohibited species;
 - b. seasonal distribution of target groundfish species relative to prohibited species distribution;
 - c. expected prohibited species bycatch needs on a seasonal basis relevant to changes in prohibited species biomass and expected catches of target groundfish species;
 - d. expected bycatch rates on a seasonal basis;
 - e. expected changes in directed groundfish fishing seasons;
 - f. expected start of fishing effort; and
 - g. economic effects of establishing seasonal halibut allocations on segments of the target groundfish industry.
3. As soon as practicable after the Council's October meeting, the Secretary will publish the Council's recommendations as a notice in the *Federal Register*. Information on which the recommendations are based will also be published in the *Federal Register* or otherwise made

available by the Council. Public comments will be invited by means specified in regulations implementing the FMP.

4. Prior to the December Council meeting. The Plan Team will prepare for the Council a final SAFE report under Section 3.2.3 which provides the best available information on estimated prohibited species bycatch rates in the target groundfish fisheries, recommendations for halibut PSC limits and apportionments thereof among the target fisheries and gear types, and also may include an economic analysis of effects of the apportionments.
5. December Council meeting. While recommending final groundfish harvest levels, the Council reviews public comments, takes public testimony, and makes final decisions on apportionments of PSC limits among fisheries and seasons, using the factors (a) through (g) set forth under (2) above. The Council also makes final decisions on the exemption of any non-trawl fishery category from halibut bycatch mortality restrictions using the factors (1) through (8) set forth under Section 3.6.2.1.4.
6. As soon as practicable after the Council's December meeting, the Secretary will publish the Council's final decisions as a notice in the *Federal Register*. Information on which the final recommendations are based will also be published in the *Federal Register* or otherwise made available by the Council.

NEW > 3.6.2.4 Bering Sea Chinook Salmon Bycatch Management Measures

3.6.3 Retention and Utilization Requirements

3.6.3.1 Utilization of Pollock

Roe-stripping of pollock is prohibited, and the Regional Administrator is authorized to issue regulations to limit this practice to the maximum extent practicable. It is the Council's policy that the pollock harvest shall be utilized to the maximum extent possible for human consumption.

3.6.3.2 Improved Retention/Improved Utilization Program

Minimum retention requirements

All vessels participating in the groundfish fisheries are required to retain all catch of Improved Retention/Improved Utilization Program (IR/IU) species, pollock and Pacific cod, when directed fishing for those species is open, regardless of gear type employed and target fishery. When directed fishing for an IR/IU species is prohibited, retention of that species is required only up to any maximum retainable amount in effect for that species, and these retention requirements are superseded if retention of an IR/IU species is prohibited by other regulations.

No discarding of whole fish of these species is allowed, either prior to or subsequent to that species being brought on board the vessel except as permitted in the regulations. At-sea discarding of any processed product from any IR/IU species is also prohibited, unless required by other regulations.

Minimum utilization requirements

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

3.6.4 Bycatch Reduction Incentive Programs

3.6.4.1 Prohibited Species Catch

The Secretary of Commerce, after consultation with the Council, may implement by regulation measures that provide incentives to individual vessels to reduce bycatch rates of prohibited species for which PSC limits are established under Section 3.6.2. The intended effect of such measures is to increase the opportunity to harvest groundfish TACs before established PSC limits are reached.



United States Department of State

*Bureau of Oceans and International
Environmental and Scientific Affairs
Washington, D.C. 20520*

Mr. Eric Olson
Chairman, North Pacific Fisheries Management Council
605 West 4th Street, Suite 306
Anchorage, Alaska 99501

MAR 25 2009

Dear Chairman Olson:

I am writing to convey the continued interest of the U.S. Department of State in the efforts of the North Pacific Fisheries Management Council to reduce indirect catches of salmon in the U.S. Exclusive Economic Zone. I also wish to inform the NPFMC that the Department has received new correspondence from the Government of Canada, including a letter to the Secretary of State, expressing Canada's continued concerns regarding by-catch of Yukon River Chinook salmon in the Bering Sea-Aleutian Island (BSAI) groundfish fishery and the pending decision before the NPFMC.

As the Council considers final action to address the problem of salmon by-catch in the BSAI pollock fishery at its upcoming April meeting, the Department renews its request that the Council take into account provisions of the Yukon River Agreement (Agreement) and the desirability of meeting the spawning escapement objectives set forth in that Agreement.

To review, paragraph 12 of the Agreement provides that the Parties "shall maintain efforts to increase the in-river run of Yukon River origin salmon by reducing marine catches and by-catches of Yukon River salmon. They shall further identify, quantify and undertake efforts to reduce these catches and by-catches." The United States, as a Party to the Agreement, has bound itself to this provision and thus has a commitment to implement it, including through actions of bodies such as the Council.

The Department is aware that there is uncertainty in the science regarding the composition of salmon in the by-catch of the BSAI groundfish fishery. We understand, however, that by-catch levels have been at record highs for three years in a row, while the returns of in-river runs to western Alaska (including the Yukon River runs) have remained consistently low.

We recognize that the Council must balance the need to reduce by-catch with that of achieving other fishery management objectives. We nevertheless remain concerned that a hard cap on by-catch substantially greater than the ten-year average or equivalent to one of the highest years on record would, if adopted, be unlikely to achieve the desired result. We thus urge the Council, in making a final decision, to take fully into account the commitment of the United States to reduce marine by-catch of Yukon River salmon.

Sincerely,



Ambassador David Balton
Deputy Assistant Secretary for
Oceans and Fisheries

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME ALASKA BOARD OF FISHERIES

SARAH PALIN, GOVERNOR

ADF&G, Boards Support Section
P.O. BOX 115528
JUNEAU, AK 99811-5528
PHONE: (907) 465-4110
FAX: (907) 465-6094

March 25, 2009

Mr. Eric Olson, Chairman
North Pacific Fishery Management Council
605 W. 4th Avenue, Suite 306
Anchorage, Alaska 99501-2252

Dear Chairman Olson and members of the Council,

We are writing to provide our comments regarding Chinook salmon bycatch in the Bering Sea pollock fishery. As you are well aware, the Board of Fisheries is responsible for managing the fishery resources in the waters of the State of Alaska. We are encouraged that the Council is attempting to take action to resolve the issue of Chinook salmon bycatch, including the consideration of a hard cap on the bycatch.

The Board has followed the issues associated with salmon bycatch for some time and has received considerable public comment about the negative impacts on salmon fisheries in western Alaska and along the Yukon and Kuskokwim rivers. During a February 2007 Arctic-Yukon-Kuskokwim finfish meeting, the Board heard concerns by the public over reduced Chinook runs, as well as hearing an industry report on the efficacy of rolling hotspots. Last April during the Joint BOF/Council meeting Council staff provided an overview of the status of the environmental impact statement for salmon bycatch. More recently at the Joint Protocol committee meeting in September 2009, an update was provided that described actions being considered such as area closures and applying a hard cap. It is our understanding that the Council is also reviewing alternatives developed by industry for voluntary cooperative measures to control bycatch.

The Board is concerned that the Chinook salmon bycatch rose throughout most of this decade and to unprecedented levels, reaching an all-time high of almost 122,000 Chinook salmon in 2007. Typically, Chinook salmon are fully allocated in the subsistence, commercial and sport salmon fisheries throughout Alaska. Any significant level of bycatch in the offshore groundfish fisheries is likely to result in reduced available harvests to the inshore and inriver users.

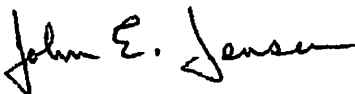
Undoubtedly, the Council is also aware of the extreme management measures that the State of Alaska has taken recently in an attempt to meet minimum escapement objectives in western Alaska. In 2008, there was no directed commercial harvest of Chinook salmon in the Yukon River and in Norton Sound. Subsistence fishing opportunity was reduced by half in the Yukon River for most of the Chinook salmon run and in the Unalakeet River, all Chinook salmon caught by subsistence fishers were required to be released. Despite these restrictions, the agreed upon border passage into Canada for the Yukon River was missed by a significant amount and the minimum escapement goal into the Unalakeet River was not met.

Our recommendation for a hard cap of 32,482 Chinook salmon is tied, in part, to the Yukon River Salmon Agreement which was ratified by the United States in 2002. A part of the Agreement pledged to "increase the in-river run of Yukon River origin salmon by reducing marine catches and bycatches of Yukon River salmon." The 32,482 hard cap option represents the 10-year average bycatch prior to the Agreement, when this pledge to reduce bycatch was made.

Our recommendation for a low hard cap is also based on the frustration that many Alaska residents have felt regarding the high bycatch of late. Since the passage of the Magnuson Act in 1976, the Council has made several attempts to control salmon bycatch in the groundfish fisheries, yet none of these has seemed to provide any long-term protection. The Council needs to take decisive action that provides the needed protection for Chinook salmon that Alaska has been expecting for decades.

We would urge the Council to take forceful actions, either through the adoption of a hard cap of 32,482 Chinook salmon or some other combination of measures to insure that the needs of residents of Western and Interior Alaska are met.

Thank you for your attention in this matter.



John Jensen, Chairman, Alaska Board of Fisheries

cc: Governor Palin
Commissioner Lloyd, Alaska Department of Fish and Game



U.S. FISH and WILDLIFE SERVICE
BUREAU of LAND MANAGEMENT
NATIONAL PARK SERVICE
BUREAU of INDIAN AFFAIRS

FWS/OSM/9023/DR

Federal Subsistence Board

1011 E. Tudor Rd., MS 121
Anchorage, Alaska 99503-6199



U.S. FOREST SERVICE

FEB 18 2009



Robert D. Mecum, Acting Administrator
Alaska Region, National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802

Dear Mr. Mecum:

The Federal Subsistence Board (Board) appreciates the opportunity to provide its comments on the Bering Sea Chinook Salmon Bycatch Management Draft Environmental Impact Statement/Regulatory Impact Review/Initial Regulatory Flexibility Analysis (DEIS/RIR/IRFA). The Board's composition and its responsibilities under Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA) were provided in a February 8, 2008 letter to your agency.

Bycatch is of concern to the Board because Western Alaska Chinook salmon stocks, which comprise an estimated 56% of the bycatch¹, are extremely important subsistence resources for Federally-qualified subsistence users in the Norton Sound, Yukon, Kuskokwim, and Bristol Bay areas. Along the Yukon and Kuskokwim rivers alone, the bycatch negatively affects the residents of nearly 6,800 households in 80 villages. The Board commends your agency's recognition of this importance and the need to reduce Chinook salmon bycatch, as noted in the last sentence, page 531 of the DEIS/RIR/IRFA, namely (that) "... *any substantial reduction in losses of salmon, but particularly Chinook salmon, would make a very significant contribution to the economic, social, cultural and quality of life of (in particular, but not exclusively) western Alaska's salmon subsistence users, families, villages and social communities.*"

The Board recommends that a hard cap of 29,323 --- Alternative 2.2.1.1(iv), as listed on page 28 of the DEIS/RIR/IRFA --- be adopted. This alternative would best ensure that enough Chinook salmon are returning to Western and Interior Alaska rivers to meet spawning escapement and subsistence needs, and comes closest to the stipulation in the U.S./Canada Yukon River Salmon Agreement, signed in 2002, which requires the U.S. to increase in-river returns of Yukon River origin salmon by reducing marine catches and bycatches of Yukon River salmon. The 29,323 amount is the five-year average (1997-2001) of Chinook salmon bycatch, just prior to the signing of the U.S./Canada Yukon River Salmon Agreement.

¹ Myers, K.W., R.V. Walker, J.L. Armstrong, and N.D. Davis. 2004. Estimates of the Bycatch of Yukon River Chinook Salmon in the U.S. Groundfish Fisheries in the Eastern Bering Sea, 1997-1999. Final Report to the Yukon River Drainage Fisheries Association, Contribution No. 04-001. SAFS-UW-0312, School of Aquatic and Fishery Sciences, University of Washington, Seattle, WA. 59 p.

Robert D. Mecum, Acting Administrator

2

The Board continues to urge the National Marine Fisheries Service and North Pacific Fishery Management Council to significantly reduce the amount of Chinook salmon bycatch in the BSAI pollock fishery. It is the Board's judgment that neither of the hard cap amounts in the Preliminary Preferred Alternative (68,392 and 47,591) represents a reduction in Chinook salmon bycatch, but rather an allowance for higher bycatch. Therefore, the Preliminary Preferred Alternative should not be adopted, as subsistence users would likely continue to experience difficulty meeting their Chinook salmon needs with its adoption into regulation.

For the past six years in the Yukon River drainage, the Board and subsistence users have struggled with regulatory issues on gillnet mesh size and net depths intended to redirect subsistence and commercial harvests to younger and smaller Chinook salmon. This is viewed as a way to provide conservation protection for the larger most productive run component that appears to be declining in abundance. However, many fishers are reluctant to consider in-river regulatory gear changes when they see that, in 2007, approximately 29,000 Yukon River-bound Chinook salmon were estimated to have been harvested as bycatch in the BSAI pollock fishery. That bycatch amount equates to about 57% of the total U.S. Chinook salmon subsistence harvest in the Yukon River, and exceeds the 2007 Canadian border passage mark/recapture estimate of 24,000 Chinook salmon. In 2008, the spawning escapement goal in Canada of not less than 45,000 Chinook was not met. The 2009 Yukon River Chinook salmon run is projected to be very low, with restrictions on subsistence fishing and no commercial fishing likely.

Finally, the Board would like to correct the phrase "Because subsistence enjoys a 'priority use' privilege..." used in the DEIS/RIR/IRFA, first sentence of last paragraph, page 531. ANILCA requires that non-wasteful subsistence uses of fish and wildlife resources shall be the priority consumptive use on the public lands of Alaska. Therefore, use of the words "privilege" and "enjoy" is a misrepresentation of the subsistence priority. These words should be deleted. The correct phrase should be "because subsistence is the priority use, superseded only by escapement needs, under both Federal and State regulations, ..."

Thank you for the opportunity to comment on the DEIS/RIR/IRFA. If the Board can be of further assistance, please contact Peter J. Probasco, Assistant Regional Director, Office of Subsistence Management, at (907) 786-3888. The Board will continue to monitor developments on this important issue and look forward to the results of your efforts to significantly reduce Chinook salmon bycatch in the BSAI Pollock fishery.

Sincerely,



Michael R. Fleagle
Chair, Federal Subsistence Board

Robert D. Mecum, Acting Administrator

3

cc: Federal Subsistence Board members

Ron McCoy, Department of the Interior, Alaska

Jack Reakoff, Chair, Western Interior Alaska Subsistence Regional Advisory Council

Lester Wilde, Chair, Yukon-Kuskokwim Delta Subsistence Regional Advisory Council

Sue Entsminger, Chair, Eastern Interior Alaska Subsistence Regional Advisory Council

Ralph Lohse, Chair, Southcentral Alaska Regional Advisory Council

Speridon Simeonoff, Sr., Chair, Kodiak/Aleutians Regional Advisory Council

Randolph Alvarez, Chair, Bristol Bay Regional Advisory Council

Michael Quinn, Chair, Seward Peninsula Alaska Regional Advisory Council

Bert Adams, Chair, Southeast Alaska Regional Advisory Council

Denby Lloyd, Commissioner, Alaska Department of Fish and Game

Eric Olson, Chair, North Pacific Fishery Management Council

David Balton, Deputy Assistant Secretary, Oceans and Fisheries, U.S. Department of State

Apr '09

page 1

Public Testimony Sign-Up Sheet

Agenda Item C-2 Salmon Bycatch

Greg Rieraonne, NKC

	NAME (PLEASE PRINT)	AFFILIATION
1	David Blanket	Azchorak inc.
2	Alexis Walter	City Council
3	Harry Wilde	Azchorak inc
4	William Boams	Isaacarsarmut Tribe
5	Nicholas C. Tucker, Sr.	Emmonak, Alaska Tribal Council Subsistence & Commercial Fisherman
6	RICHARD JUNG	EVER Napakiak
7	LORRAINE PETER	Vuntut Gwitchin First Nation Old Crow, Yukon, Canada
8	Dick Manoveg	Vuntut Gwitchin "GOUT"
9	Oscar Egan David O. David	Kwigillingok
10	TIM SAMSON	KIPNUK
11	Paul Tulik	Nightmute
12	Harry Tulik	Toksoot Bay
13	Felix Albert	Tununak
14	EVAN S. EDAN	Goodwoods Bay
15	John O. Mark	Quinhagak, AK
16	Walter Tirchick	Chevak
17	Allen Kaganak	WALTON Napakiak
18	ANDREW BOYSCOUT	CHEVAK
19	GARRIE OLICK	Tuntutuluk
20	Walter Brown	Eek
21	John Andy	Newtok
22	Henry Williams	Talitiavik
23	Paul Williams ^{Henry} Williams	Mitavuk
24	Walter Brown Don Hansen	WALTON Arctic Bford
25	James W. Lewis James Lewis	^{King Island} Currier Board Member

Ed
Dan Hansen, Arctic Bford

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

Public Testimony Sign-Up Sheet

Agenda Item C-2 Salmon Bycatch

Glacier Fish Group
 Keith Hoag
 Home Manager
 April '09
 2009
 2009

	NAME (PLEASE PRINT)	AFFILIATION
1	Edgar Hoelscher Hooper Bay	Cook Inlet Alaska Region and
2	Wendie Barville	Goodnews Bay Alaska
3	Devin mean Thecla Hoall	Cherak - Glacier Fish
4	David Irvine	Steward
5	Thomas Kay Doughreston	TAKSOOK BAY Pollock Fish Co.
6	Daniel Anymia for Abel Ken	Kongiganak
7	Jacob Rivers ^{Dave York} Oscar Hauven	Scammon Bay Seattle Ent Ketchikan
8	Chris Dock	Kipnuk
9	Laura Fran	Napastak ak
10	JAMES ROBERTS	GOODNEWS BAY
11	Albert Tunick	Goodnews Bay
12	Theodore Brown	Eek Alaska
13	Carla David	Eek AK
14	Michael Sloan ^{James S. pary}	Totsook Bay AK Nome, AK Kawerak
15	Jackie Larson	Napastak
16	Frank James	Platinum
17	Walter Ayojiak	Goodnews Bay
18	Richard Brown	Eek, AK
19	William M. Mark Jr	Goodnews Bay
20	Hermann Beaver	Kwigillingok
21	Norman Pingayak	Cherak
22	Richard Tukuk	Cherak
23	CHARLEY OWIPE	MITKILLAGE AK
24	Felix Kusayak	Newtok
25	Abraham Rivers	Scammon Bay AK

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

Public Testimony Sign-Up Sheet

Agenda Item C-2 Salmon Bycatch

	NAME (PLEASE PRINT)	AFFILIATION
1	Lambert Kairaiwak	Chefornak AK
2	Vernon Burnett	Chefornak AK
3	STEVEN STONE	Hooper Bay AK
4	Paul [unclear]	Hooper Bay AK
5	Arthur Abalama	Quinhagak AK
6	Arthur Abalama Arthur Abalama	Quinhagak AK
7	Donna Mosak	Kipnuk, AK
8	Nellie Abraham	Chefornak AK
9	Mary Hin	Quinhagak AK
10	Staci Takurak	Kwigillingak, AK
11	Sam SHAVINGS	Mekonguk, AK
12	John A John	Kwigillingak, AK
13	Amanda M Hoelscher	Hooper Bay, AK
14	Cloud G BIAK	NAPAKI AK
15	Joe Joseph	Kongiganak AK
16	Albert Williams	Mekonguk AK
17	Ed Kiokun	Mekonguk, AK
18	Adolph Paul	Kipnuk, AK
19	Angelique Anderson	Chevak, AK
20	Tanice Nanuk	Hooper Bay, AK
21	Sharilyn Fisher	Hooper Bay, AK
22	Della Carl	Newtok, AK
23	Bessie Lea Weston	Mekonguk, AK
24	Mc [unclear] Brown	EEK AK
25	Roland Green	CEK AK

None
ESKIMO
COMM.

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

Apr '09 **Public Testimony Sign-Up Sheet**
Agenda Item C-2 Salmon Bycatch

needs to go early

head go out

None AK

	NAME (PLEASE PRINT)	AFFILIATION
1	Joseph Brown	Kanigaalik Air covered
2	Robert Pauwuli	Chefornalek Air
3	Patrick N Patrick	Cherak AK
4	Marianne Williams	Mekoryuk, AK
5	Mike Smith	TCC
6	Dave Drobny	TCC
7	Dan Hanson	Arctic Egoil
8	Serallee Kairaiualak	KWIGILLINGOK, AK / COVERED
9	Doug Forsyth	PHOENIX PARTNERSHIP
10	Chris Garbrick	Mark I, Inc.
11	Julie Raymond-Yakobian	Kaweah Inc.
12	Jon Warrenchuk	Oceana
13	XXXXXXXXXX Melvin Otton	XXXXXXXXXX Koyuk IRA
14	Dwayne Johnson	Village of Unalakleet, AK
15	Tim Smith	Nome Fishermen's Association
16	Myron P. Naneng Sr	AVCP - Bethel
17	Walter A. J. ...	Alaska Federation of ...
18	Walter A. J. ... Mike Skan	Quinhagak, AK None AK
19	Randy Alvarez	Bristol Bay Regional Advisory Council
20	Ray Collins	Western Interior Reg. Adv. Council
21	Ralph Ivanoff (for Weaver) Janoff	Seward Peninsula Reg. Adv. Council
22	Andrew ...	Eastern Interior Reg. Adv. Council
23	Raymond Oney	Yukon-Kuskokwim Delta Regional Adv. Council
24	Mike Fleagle	Federal Subsistence Board
25	Morris Coffey	Stebbins Community Association

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

Apr'09

Public Testimony Sign-Up Sheet

Agenda Item C-2 Salmon Bycatch

	NAME (PLEASE PRINT)	AFFILIATION
1	Ismael A. Smith	Mekoryuk
2	Viva & Ismael Smith	Mekoryuk
3	XXXXXXXXXX Jack Fagerstrom	XXXXXXXXXX None XXXXXXXXXX
4	Donating Children	MUCC
5	XXXXXXXXXX	XXXXXXXXXX
6	Billy Charles	Y.D. Emuok Council
7	Larry Cotter / ^{Everette} Anderson	ADICDA
8	Dr. Wilen	
9	Rose Fosdick	None
10	Sherry Wright	Lower Yukon Fish & Game Advisory Comm.
11	Frank Berfer Sr	Oscarville, Community
12	Tim M Amos	Mekoryuk, AK
13	Adolph Hawk	Eek, AK
14	Johnny Friend	Kwigillingok AK
15	Roy J. Atchak	Chevak Native Village
16	Marlene Kiohun	Mekoryuk, AK
17	Ryan Bright	Greenview Bay
18	ARTHUR J. LAKE	Kwigillingok / BSEAG
19	XXXXXXXXXX	XXXXXXXXXX
20	Joe Bersch	Supreme Alaska Seafood
21	Margaret Hall & George Hall	F/V's Alsea + Argosy
22	Juffane Lara	F/V Progress
23	Bob Dosley	F/V Pacific PRINUS
24	Bert Ashley	F/V GOLD RUSH
25	Will K Storey	F/V Pegasus

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

Apr 09

A 7

Public Testimony Sign-Up Sheet

Agenda Item C-2 Salmon Bycatch

	NAME (PLEASE PRINT)	AFFILIATION
1	Sharon Dull	TOKSOOK BAY
2	ELENA ANTHONY	NIGHTMUTE
3	Jack Schultheis	Kwikpak Fisheries
4	Paul Manumilk	Nunan Igua
5	Frank Alstrom	Alakawak
6	Simon Andrews	MT Village
7	Emmanuel Keyes	Kotlik
8	David Jimmyson	Chefounak
9	Tim Andrew	Marshall
10	James Sipang	Nelson Island Toksook
11	Theod Paul	Kwigillingak
12	David O. David ^{OSCAR} ^{EVON}	Kwigillingak
13	Dale Schwarzmilller	Peter Pan Seafoods
14	Barty Chafflock & Dawson Hoover - Kasighik	
15	Larson Hunter	Anchorage Resident
16	Frank Logusak	Tociak
17	David Biel Jr	Toksook Bay
18	Carlie Beebe	EEKIAK
19	Donna Parker	HSCC
20	PILUS SAVAGE	Holy Cross
21	Isadore Anthony	Nightmute
22	Neil Rodriguez + Morgan Crow	CVRF
23	Shirley Margaret	City of Unalaska
24	David Annie Cleveland	Kwikpak Quinhagak
25	DIVOUS KERNAL	TUNUTUAK

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

Apr '09

P. 8

Public Testimony Sign-Up Sheet

Agenda Item C-2 Salmon Bycatch

	NAME (PLEASE PRINT)	AFFILIATION
1	MORRIS COFFEY	Kotzebue Sound
2	ANNAMAR KIM	MALEVA
3	Oscar David	Kongigamok
4	Charlie Lean / Simon	NS EDC
5	Simon Kinneen	
6	Art Nelson	BSFA
7	Peter Daniel Sr.	Kongigamok, AK
8	Bob Childers	Indiza AK
9	Stephen Taufen	Groundswell Fisheries Movement
10	Stanley Ned	Allakalek AK
11	KARL HAPLOOZER	SEA STATE INC
12	Kenny Wilson	Self - Bristol Bay
13	Hana Nicholson	AC - Unalakleet
14	Paul Peyton	BS EDC
15	BURBA COOK	WWF
16	Art IVANOFF	SNSAC
17	FRED PHILLIP	Kwigillingok
18	Verner Wilson	Bristol Bay fisherman
19	FRANK ALSTROM	YUKON FISHERMAN
20	Victoria Briggs	Ugashik / Food vs Fuel Food Drive
21	GLENN REARD	O PSTA
22	Karen Gillis	
23	PAUL S. MANUMIK SR.	VD FDA
24	Muriel Morse	Koyuk
25	Freddie Christiansen	OLD Harbor AK

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

April
2009

(p.9)

Public Testimony Sign-Up Sheet

Agenda Item C-2 Salmon Bycatch

	NAME (PLEASE PRINT)	AFFILIATION
1	Andy Bassich	Yukon ^{ELRAC} River Park / Eagle AC
2	Ken Tippett	AK. Kato Co.
3	XXXXXXXXXX	
4	Steve Iwanoff	Unalakleet
5	Mary Spellens	AKRF Anchorage
6	Desiree Ulroen, Thecla	Ulroen - Chevik.
→ 7	Darlene Daniel	Kongiganak
8	Jacob Rivers	Scammon Bay
9	Jorehe Joe	Hooper Bay
10	Darren Cleveland	Quinhagak, AK
11	Simon C. DOCHTERMANN	SELF - KODIAK ^{ISSUES} _{WATER}
12	XXXXXXXXXX	
13	Gasty Chytkook, Sr.	Aleknasik, AK Bristol Bay
14	William Mark Jr	Goodnews Bay
15	Mike Martin	Elizabeth F. Walter W
16	Anna John	TOKSOOK Bay
17	GARY HICKLING	CHALISTIA ^{SHARE} _{OLDER}
18	Julie Benney	AGDB
19	Henry Mitchell	self
20	Jed Whittaker	
21	JOE PLESHA	TRIDENT
22	Jack FAGERSTROM	Chuk Eskimo Comm - Golovin
23	Adolph Rabeck	Goodnews Bay
24	Chief Paul John	TOKSOOK Bay AK
25	Frank Woods	Bristol Bay Native Assoc.

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

April
2009

p.10

Public Testimony Sign-Up Sheet

Agenda Item C-2 Salmon Bycatch

	NAME (PLEASE PRINT)	AFFILIATION
1	Stephanie Madsen	Pollock Conservation Cooperative
2	Marcos Acedo	Westward Fishing Co
3	IVAN M. IVAN	AKIAK NATIVE Community
4	SAM JACKSON I	AKIAK NATIVE Community
5	Thomas Julius	Tuksot Bay
6	Nicholas C. Tucker, Sr	Emmonak, AK Indiv Fisherman
7	Mike Hyde	American Seafoods
8	BRENT PAINE	UCB
9	Pat Harding	Trade Seafoods
10	Shirley Starkey	AVCP - ANKSAIG
11	Beeha Robbins Gisclair	Yukon River Drainage Fisheries Assoc
12	Paul Macgregor	APA
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

Chinook salmon bycatch - April Council staff presentation

1. **Overview of briefing books information, schedule of presentations, action by Council**
 1. **Overview of the draft EIS/RIR/IRFA**
 - A. Purpose and need
 - B. Review of alternatives
 - C. Methodology for impact analysis
 - D. Resource assessment update
 - E. Treatment of Subsistence:
 - F. Impact assessment of alternatives on salmon stocks
 - G. Assessment of economic impacts
 - H. Summary of CAR
 2. **Outreach report**
 3. **Constructing the preferred alternative**
 - A. advice, guidance to Council on its final action
 - B. Rationale, record building
 - C. FMP amendment text: current FMP text and what would be removed and revised by action
 4. **ICA report by industry representatives**

If more than one ICA is submitted (DEIS, page 61)

The PPA specifies that:

- only one ICA may be approved,
- no minimum participation requirements are specified for the ICA,
- if no ICA is approved, then the cap will be 47,591 Chinook salmon

If only one ICA is submitted, then NMFS could review and approve that ICA regardless of how many industry members participated in that ICA. However, if more than one ICA is submitted, NMFS needs guidelines about how to choose among the ICAs submitted.

NMFS cannot require that only one ICA be submitted because it cannot prevent someone from submitting or mailing a proposed ICA to NMFS. NMFS can only specify how it will decide which ICA to review, if more than one ICA is submitted.

One option, suggested on page 61 of the DEIS, is to not approve any ICA if more than one is submitted. However, this option would allow one or more industry members to fish under the 47,591 Chinook salmon cap to submit a second proposed ICA so that NMFS could not approve either proposed ICA. Without an approved ICA, the 47,591 cap under PPA2 would be in effect.

Options for choosing which ICA to review if more than one ICA is submitted

1. Review the proposed ICA that represents the most participants (majority) among those represented by the two ICAs submitted. The majority among those represented by the ICAs submitted could be determined by:

- the number of sectors represented by the proposed ICA,
- the number of permitted AFA vessels or CDQ groups represented by the proposed ICA,
- the percent of the pollock TAC represented by the proposed ICA.

These options do not include minimum participation requirements and do not require that a majority of participants participate in the ICA selected for review. These options wouldn't allow a selection if the both ICAs submitted represent exactly the same number of participants or percent of pollock.

Percent pollock allocated to each sector:

- CDQ (10%)
- inshore (45%)
- offshore C/P (36%)
- mothership (9%)

Number of vessels in each sector (page 74 of DEIS).

Percent pollock by vessels within sector (pages 67 - 70 of DEIS).

2. Review the proposed ICA that represents a majority of the participants in the BS pollock fishery. These options could be used as long as enough industry members participate in an ICA that meets these requirements. The majority among participants in the BS pollock fishery could be determined by:

- Vessels that represent 51% or more of pollock overall,
- Sectors that represent 51% or more of pollock overall,
- Representatives of 4 of 4 sectors and 51% or more of the AFA eligible vessels or CDQ groups in each sector,
- Representatives of 4 of 4 sectors and 51% or more of the pollock allocated to each sector,
- Representatives from 3 of 4 sectors and 51% or more of the AFA eligible vessels or CDQ groups in each sector.
- Representatives from 3 of 4 sectors and 51% or more of the pollock allocated to each sector represented by the parties to the ICA.

Options that require participation by a majority of participants constitute minimum participation requirements for an ICA, and could result in no ICA being approved. If enough industry members decide to opt out of the ICA and more than one ICA is submitted, but each of the ICAs submitted do not meet the minimum participation requirements, then no ICA would be approved.

(revised 4/3/09)

April 4, 2009

**North Pacific Fishery Management Council
605 West 4th Ave., Ste. 306
Anchorage, AK 99501**

Eric Olsen, Chairman

Re: D-3 Staff Tasking

Concerning the issue of GOA sector split for Pacific Cod

After final action in the LLP endorsement action we took a breath and realized we are now going to be faced with the sector split and possibly in June.

We are asking you now if you can schedule GOA sector split later in the year and not for initial action at the June meeting. Summer is a very busy time for us as fishermen, we have other competitive fisheries to deal with and it would be a more accessible process for us if the initial action was to be scheduled later in the year.

Thank you for all your time and attention to P. Cod in the CGOA

Sincerely,

Ken Holland
Chris Holland

**Chris and Ken Holland
F/V POINT OMEGA
PO Box 608
Kodiak, AK 99615
Ph 907-486-3764
pomega@gci.net**

Harry Wilde Sr's. Testimony

March 27, 2009

Mr. Chairman and Council Members

My name is Harry Wilde Sr. I am a Subsistence fisherman in Mountain Village, Alaska.

Mr. Chairman, the high salmon bycatch numbers of recent years threaten our salmon and our way of life. Salmon serves an important role to my community and throughout the Yukon River and to Western Alaska.

Chinook salmon serves and provides a primary source of food for us, and the commercial salmon harvest provides the only means of income for many who live in the remote villages of the Lower Yukon River.

In 2008, Chinook salmon returns were very poor on the Yukon River and throughout the Western Alaska.

Mr. Chairman, this coming summer is no better, the Alaska Department of Fish and Game and U.S. Fish and Wildlife are saying 2009 for Yukon River Chinook salmon run is expected to be a poor run in Yukon River.

Once again for the second time, it will be asked to reduce our traditional Subsistence Harvest and already stated that it is unlikely that commercial fishery will not be allowed for Chinook salmon.

Mr. Chairman, we subsistence fishers we asked the North Pacific Councils to cut back on the bycatch of Chinook salmon at Bering Sea. I highly recommend Chinook salmon hard cap of 29,300. Thank you Mr. Chairman and Council Members.

Gusty R. Chythlook Sr.

PO BOX 986

Dillingham, Alaska 99576

Ph. 842-5960

My name is Gusty R. Chythlook, Sr. of Aleknagik, Alaska. I am a commercial fisherman for salmon in Bristol Bay for over 50 years.

In early 1960s, commercial fishing for Chinook salmon used to be real good. Chinook fishing use to start about a week or two before regular salmon season starts.

It used to open around the first of June every year. And we used to have commercial fishing openings for Chinook a whole week at the time. There were several number of kings then. I used to make my first \$10,000.00 from king fishing alone. It was a good fishing season every year until around early 1990s, or shortly after. That's when the trawl fishery for pollock enter the Bering Sea. The trawl fishery is known to have a high number of bycatch, or incidental catch of other fish, that they are not targeting on. The by catch ~~estory~~ includes the Chinook. The high bycatch of Chinook is one of the cause reduction of our king runs today per reports. This is what is being addressed today.

back to present
Today we are lucky to have a 12 hour, or less commercial fishing opening for kings. All this is due to the low return of our Chinook salmon. We have been sitting on the beach in Bristol Bay until the adequate numbers of kings have passed the counting towers, or until the escapement goal is reached. It is becoming a hassle that delays our commercial fishing for sockeye salmon as well.

Our subsistence king fishing also used to be real good, too. We use 50 fathom of gear to go after our kings. Today our subsistence fishing is regulated. We are not allowed to fish until there is a subsistence fishing opening. And we are allowed to use 10 fathom of gear. It takes several days to catch enough kings to put away for winter with 10 fathom of net. And we are required to have a subsistence permit to fish. We get citation if caught without.

We are here today to address the cause of all this low return. I think its up to our federal managers to help us to resolve this problem. You have several management options to choose from. Please do so that would best help build up our Chinook stocks up again to its original sustainable level for all of Alaska and all the user groups.

Thank you.

Gusty C,

**Statement of Nelson N. Angapak, Sr.
Vice President, Alaska Federation of Natives,
North Pacific Fisheries Management Council
On Chinook Salmon By-catch
April 2, 2009**

Good afternoon Mr. Chairman and the honorable members of the North Pacific Fisheries Management Council. It is a privilege and honor to be testifying in front of you.

For the record, my name is Nelson N. Angapak, Sr., Vice President, Alaska Federation of Natives (AFN). AFN is a statewide Native organization formed in 1966 to represent Alaska's 120,000+ Eskimos, Indians and Aleuts as an advocate on behalf of the Alaska Natives. AFN's membership is composed of 178 villages (village corporations and federally recognized tribes), 13 regional Native corporations and 12 regional nonprofit and tribal consortiums.

On behalf of AFN, its Board of Directors and membership, thank you very much for allowing me, on behalf of AFN, to submit my statement on Chinook salmon by-catch in the Bering Sea harvest of the bottom fish. For the record, AFN supports them concept of a hard and fixed limit of the Chinook salmon by-catch.

First, please allow me to express AFN supports the CDQ programs and the economic development opportunities that this program has brought to the areas where such opportunities are in the greatest need. These economic development opportunities also have brought opportunities for training by the community members whose communities are part of this program. These training opportunities in turn have brought meaningful employment opportunities for the Alaska Natives where the need for these opportunities is needed the most in rural Alaska. We believe that these accomplishments demonstrate that this program has succeeded as was initially intended.

Our statement will address the concern we have on the Chinook salmon by-catch that is occurring with the execution of the trawl Pollock Fisheries. As you may all know, Chinook salmon is one of the most important salmon species that is harvested by the Alaska Native villages located, for example, along the banks of the Yukon and Kuskokwim Rivers and other river systems for subsistence purposes and when its number allows, for commercial fishing purposes. As other witnesses may state, at times, because of the low numbers of Chinook salmon that is escaping to their spawning grounds, commercial fishing for Chinook salmon, one of the most important economic opportunities that can be accomplished when allowed has been limited and even closed at times because of the low number of them escaping to their spawning grounds. For the first time in 2008, subsistence harvest of the Chinook salmon species was prevented because of the concern for the low escapement of these fish to their spawning grounds.

As stated earlier, AFN supports them concept of a hard and fixed limit of the Chinook salmon by-catch. Some of the reasons for this position include:

- An uncontrolled, unregulated by-catch of Chinook has been and is devastating our village economies. (for example, see Nick Tucker article in the ADN, Unalakleet River Chinook in Norton Sounder, Nushagak River Chinook in Bristol Bay Times, Dennis Zhaki story on CNN, et. al.)
- The current uncontrolled by catch of Chinook salmon is threatening the very existence of our villages on the Yukon, Unalakleet, and the Nushagak Rivers and their subsistence way of life. Salmon is an important component of the Alaska Native fish diet (contributes to over 80% of our fish diet - Source: ADF&G Subsistence Division). Families flock to outlying fish camps to dry salmon in preparation for the coming winter. Every man, woman and child in our Indigenous societies help in one way or the other, in a common effort to store away enough salmon for the winter.

With the forecast being extremely dismal at best for the Yukon River where families, from the mouth to the interior communities, depend on the Chinook salmon, we are concerned that the North Pacific Fisheries Management Council is considering an industry proposal that would decimate our subsistence dependent communities and their small commercial fisheries by increasing the by-catch of the Chinook salmon. The subsistence fishing opportunities for the Yukon River are forecasted to be extremely limited and the sale of Yukon River Chinook may be made illegal throughout the entire river. For a period of ten years or more, Yukon River subsistence fishermen/women started the season with severe windows regulation where opportunities were limited to two-36 hour periods a week, then two- 18 hour periods, then an outright closure. 2009 is expected to be worse and the BSAI Pollock Trawl Fishery keeps going on as business as usual. We are told that they discarded or donated to food banks, in 2007, 122,000 Chinook salmon; this is the only recorded number we were told.

AFN recommends that the by-catch of Chinook salmon in the Bering Sea Pollock Trawl Fishery be set at 30,000 consistent with the attached AFN Resolution 08-17, entitled: "REQUESTING THE NORTH PACIFIC FISHERY MANAGEMENT COUNCIL AND THE NATIONAL MARINE FISHERIES SERVICE TO TAKE EMERGENCY AND PERMANENT ACTION TO REGULATE SALMON BYCATCH IN THE BERING SEA POLLOCK FISHERY. This resolution was passed unanimously by the AFN Convention delegates who attended the 2008 Annual Convention of the Alaska Federation of Natives and it as sponsored by the Association of Village Council Presidents. A copy of this resolution is attached for your ready reference.

Thank you for giving this opportunity to present this testimony on behalf of AFN.

I ask that my written statement and comments be incorporated into record of this meeting. Thank you.

ALASKA FEDERATION OF NATIVES, INC.

2008 ANNUAL CONVENTION

RESOLUTION 08-17

TITLE: REQUESTING THE NORTH PACIFIC FISHERY MANAGEMENT COUNCIL AND THE NATIONAL MARINE FISHERIES SERVICE TO TAKE EMERGENCY AND PERMANENT ACTION TO REGULATE SALMON BYCATCH IN THE BERING SEA POLLOCK FISHERY

WHEREAS: The Alaska Federation of Natives (AFN) takes an active role whenever the traditional Subsistence Way of Life and the economic stability of our Native villages are threatened; and

WHEREAS: The 2008 Chinook salmon returns on many river systems in Alaska, including the AVCP Region, were far below the number necessary for conservation, to meet international treaty requirements to provide for the needs of the Indigenous people in Canada, and far below the number of Chinook salmon necessary to meet the subsistence needs of Alaska Native families and to provide for commercial opportunities essential to meet the financial needs of the Alaska Native families; and

WHEREAS: Specifically, on the Yukon River, the Alaska Department of Fish & Game, in cooperation with the U.S. Fish & Wildlife Service, opened the 2008 subsistence salmon harvest season with window regulations in place for the entire Yukon River; for the AVCP region that meant two 36-hour open periods a week; and

WHEREAS: The return of the Yukon River Chinook salmon began fearfully slow and required even further restrictions placed on the Yukon in-river subsistence fishermen and their families (i.e., from the two 36-hour openers in the Lower River districts down to two 18-hour openers) for fear that the "run abundance would not support the customary subsistence harvests and meet escapement goals in Alaska and meet the interim management escapement goal of at least 45,000 fish into Canada agreed to by the Yukon River Panel," (taken from the ADFG/USFWS 2008 Yukon River Summer Salmon Fishery News Release #14, dated June 22, 2008), and, in the lower river districts, the mesh size was reduced to a maximum of 6-inch stretch mesh in order to conserve Chinook salmon; and

WHEREAS: By the end of the 2008 season, it was determined that the total Yukon River run was approximately 151,000 Chinook salmon (36% below the most recent 5-year average) and was not enough to satisfy all of the historical needs, including Subsistence; and

WHEREAS: Since 2001 to date, the minimum number of Chinook salmon intercepted and wasted by the Bering Sea Pollock fishery is over 450,000, most notably the 2007 record high bycatch amount of 122,000; and

WHEREAS: In the meantime, the Bering Sea Pollock fishery continues to fish without any regulatory restrictions, further endangering our future Chinook salmon resources and our ability to meet our subsistence and small scale in-river commercial fishery needs; and

WHEREAS: At their June meeting in Kodiak, the North Pacific Fishery Management Council (NPFMC) and the National Marine Fisheries Service (NMFS) determined that the NPFMC would likely not take final action regulating bycatch in the Pollock fishery until April 2009, and that the regulations will probably not be implemented until the start of the 2011 Pollock fishery season; and

WHEREAS: Subsistence and commercial Chinook users cannot wait until 2011 for effective management measures to be implemented, for fear of another season such as 2007, where 120,000+ Chinook salmon were wasted in the Bering Sea Pollock fishery, and for additional years of no commercial fishing and going without meeting subsistence needs; and

NOW THEREFORE BE IT RESOLVED by the delegates to the 2008 Annual Convention of the Alaska Federation of Natives that AFN encourage the NPFMC and the NMFS take action, through emergency authority, to regulate the 2009 Bering Sea Pollock fishery, and to implement permanent regulations applicable for the 2010 Pollock fishery, and that such regulations restrict the Chinook bycatch so as to ensure the conservation and rebuilding of Western Alaska Chinook salmon stocks and to ensure and prioritize the restoration of thriving subsistence and commercial Chinook salmon fisheries in Alaska; and

BE IT FURTHER RESOLVED that a hard cap of no more than 30,000 Chinook salmon be put in place in order to further protect our fully utilized salmon stocks.

SUBMITTED BY: ASSOCIATION OF VILLAGE COUNCIL PRESIDENTS

COMMITTEE ACTION: DO PASS

CONVENTION ACTION: PASSED




North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, AK 99501-2252
Fax: (907) 271-2817


Dear Mr. Olson and Council Members:

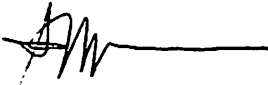
I am a commercial salmon fisherman and processor in St. Marys on the Yukon River. I am writing to comment on salmon bycatch reduction measures in the Bering Sea pollock fishery. The high salmon bycatch numbers of recent years threaten our salmon and therefore our business. Chinook salmon are the high value commercial fish on the Yukon River, and the reductions in recent years have greatly impacted our business. We are a family operated company of four fishermen/processors collaborating with other fishermen in the community of Pitkas Point. Income from commercial fishing is one of the only sources of cash income for people in this region, and the lack of a Chinook commercial fishery has caused great hardship, not only to our business, but to all of the Yukon's fishermen as well. This lack of income has a multiplier effect as well, impacting other businesses within the community, and those that service Yukon River communities. The weak Chinook runs have also impacted our growing chum fishery. In 2008, because of the low Chinook run, the commercial chum fishery was delayed, causing a much smaller chum salmon harvest than would have otherwise been possible.

While bycatch is not the sole cause of these poor runs, it is vital that we all bear the burden of sacrifice to recover our majestic salmon runs. Therefore, I recommend that the Council and NMFS should set a permanent hard cap of no more than 29,000 Chinook salmon immediately to protect Western Alaska Chinook salmon.

Sincerely,


Bruce Bowman, owner and fisherman


Ellie Bowman, fisherman


Shawneen Bowman, owner and fisherman


Kegan Bowman, fisherman



HC60 Box 2271
Copper Center, AK 99573
Phone Number (907)822-5392



RESOURCE DEVELOPMENT COUNCIL

Growing Alaska Through Responsible Resource Development

March 30, 2009

Mr. Eric Olson, Chairman
North Pacific Fishery Management Council
605 W. 4th Avenue, Suite 306
Anchorage, Alaska 99501

Re: Salmon Bycatch in the Bering Sea

Dear Chairman Olson:

The Resource Development Council for Alaska (RDC) appreciates the opportunity to submit comments to the North Pacific Fishery Management Council on salmon bycatch in the Bering Sea.

RDC is a statewide, non-profit, membership-funded organization founded in 1975. The RDC membership is comprised of individuals and companies from Alaska's oil and gas, mining, timber, tourism, and fisheries industries, as well as Alaska Native corporations, local communities, organized labor, and industry support firms. RDC's purpose is to link these diverse interests together to encourage a strong, diversified private sector in Alaska and expand the state's economic base through the responsible development of our natural resources.

The pollock fishery provides needed jobs and economic opportunities to many coastal communities in Alaska. RDC urges the Council to consider the impact a hard cap could potentially have on these coastal communities through decreased employment and revenues. Mitigating options, such as salmon exclusion equipment should be carefully considered.

RDC requests the Council remain cautious when making a final decision on salmon bycatch regulations, and encourages ongoing assessment of this very sensitive and important issue.

Thank you for the opportunity to provide comment.

Sincerely,

Marleanna Soto
Projects Coordinator

Founded 1975
Executive Director
Jason W. Brune
2008-2009 Executive Committee
Rick Rogers, President
Wendy Lindskoog, Sr. Vice President
Phil Cochrane, Vice President
Stephanie Madsen, Secretary
Tom Maloney, Treasurer
John T. Shively, Past President
Patty Bielawski
Allen Bingham
Marilyn Crockett
Steve Denton
Eric Fjelstad
Jeff Foley
Stan Foo
Paul S. Glavinovich
Craig A. Haymes
Len Horst
Teresa Imm
Eric Isaacson
Tom Lovas
Ethan Schutt
Scott Thorson
Cam Toohey
Directors
Greg Baker
Jason Bergerson
Bob Berto
John Binkley
Frank M. Brown
Al Burch
Patrick Carter
James L. Cloud
Stephen M. Connelly
Bob Cox
Paula P. Easley
Ella Ede
Mark Eliason
Joe Everhart
Carol Fraser
Becky Gay
Charles J. Greene
Scott Habberstad
Mark Hanley
Karl Hanneman
Rick P. Harris
Tom Henderson
Becky Hultberg
Bill Jeffress
Mike Jungreis
Diane Keller
Frank V. Kelly
Kip Knudson
Thomas G. Krzewinski
John MacKinnon
David L. Matthews
Karen Matthias
Mary McDowell
Ron McPheters
James Mery
Denise Michels
Lance Miller
Jim Palmer
Tom Panamaroff
Lisa Parker
Judy Patrick
Debbie Reinwand
Elizabeth Rensch
Ralph Samuels
Keith Sanders
Lorna Shaw
Kenneth Sheffield
Keith N. Silver
Tiel Smith
Robert Stiles
Jeanine St. John
John L. Sturgeon
Jim Taro
John Williams
John Zager

Ex-Officio Members
Senator Mark Begich
Senator Lisa Murkowski
Congressman Don Young
Governor Sarah Palin



UNIVERSITY of ALASKA ANCHORAGE

College of Business & Public Policy
Computer Information Systems • Economics • Public Administration

March 26, 2009

Glenn Reed, Pacific Seafood Processors Association
John Gruver, United Catcher Boats Association
4005 20th Ave W - Suite 116
Seattle, WA 98199

Dear Glenn and John:

You asked me to review the proposed Salmon Savings Incentive Plan (SSIP) as described in the review document dated March 19, 2009. The specific question you asked me to address was whether it is possible for the fleet-wide average bycatch to exceed the 47591 performance standard in any five year interval, or to exceed the 68392 hard cap in any single year. I did not compare the SSIP to any alternatives, or evaluate the cost-effectiveness of this program. All of my comments assume perfect compliance with the rules of the program. I did not receive any compensation for these comments and I have no stake in the outcome.

The answer to the latter question is straightforward. The rules are structured such that no individual vessel would ever be allowed to harvest more than its share of the hard cap under any conditions. This is true even with a significant amount of transfers in, or with the use of credits saved from previous periods. Therefore, I am quite confident that in every year, the total bycatch will never exceed the 68392 hard cap.

Technically, the answer to the question about the performance standard is not as straightforward. It is mathematically possible to construct five-year bycatch sequences that average greater than 47591, but I also find this special case somewhat misleading. This is possible if I select a five-year interval that includes the year in which the performance standard was exceeded, but I exclude the low bycatch in prior periods that generated the necessary credits. Consider the example in Table 1 (attached). In years 7 and 8, the five-year average bycatch (485 and 517) do exceed the 476 base cap. However, for a bycatch of 485 to be possible in year 7, the bycatch in years 1-3 (317) were well below the base cap in order to generate the necessary credits. A more appropriate five-year interval would include both the year(s) that generated the credits (years 1-3 in this example) and the year(s) in which the credits were used (year 4). Whenever this is the case, the program is designed such that the five-year average will always be no more than the 476 performance standard—in year 5, the average is 422, and the ten-year average in this example is 448. Over the long-run life of the SSIP, the program is designed such that the average bycatch will not exceed the performance standard.

UNIVERSITY OF ALASKA ANCHORAGE

Glenn Reed, Pacific Seafood Processors Association
John Gruver, United Catcher Boats Association
Page 2
March 26, 2009

While it is clear that over the long run, average bycatch will not exceed the performance standard (the aforementioned special case aside), from the information in the review document, it is impossible to determine whether the program's incentives will lead to an average bycatch that is significantly below the performance standard, or whether the average bycatch will essentially equal the standard. Examples of factors that will play a role in determining the strength of the bycatch avoidance incentives include the extent to which bycatch avoidance is within control of the harvesters, the costs of avoidance, and the price of transfers.

If you have any questions about my comments, feel free to contact me.

Best regards,



James Murphy
Rasmuson Chair of Economics
Department of Economics

Table 1.

Year	1	2	3	4	5	6	7	9	8		five-year avg
	Base Cap	Upper Limit	Available Cap	Bycatch (including Transfers In)	Transfers In	Over / Under Available Cap	Salmon Saved Under Base Cap	Running Total Salmon Saved Under Base Cap	Credits Generated		
									Year	Savings Balance	
1	476	684	684	317	n/a	367	159	159	69	69	
2	476	684	545	317	0	228	159	317	69	139	
3	476	684	614	317	0	297	159	476	69	208	
4	476	684	684	683	0	1	-207	269	0	1	
5	476	684	476	475	0	1	1	269	0	1	422
6	476	684	477	475	0	2	1	270	0	1	453
7	476	684	476	475	0	1	1	271	0	1	485
8	476	684	477	475	0	2	1	271	0	1	517
9	476	684	477	475	0	2	1	272	0	1	475
10	476	684	477	475	0	2	1	273	0	1	475

**Yukon-Kuskokwim Delta Subsistence Regional Advisory
c/o Yukon Delta National wildlife Refuge
Office of Regional Council Coordinator
Post Office Box 346
Bethel, Alaska 99559**

March 20, 2009

Eric A. Olson, Chairman
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, Alaska 99501-2252

Dear Mr. Olson:

The Yukon-Kuskokwim Delta Subsistence Regional Advisory Council was established in 1993 under Alaska National Interests Lands Conservation Act Title VIII Section 805(a) (3). One of the Regional Council's authorities under ANILCA is "provision of a forum for the expression of opinions and recommendations by persons interested in any matter related to the subsistence uses of fish and wildlife within the region."

The Regional Council met on October 2-3, 2008 in Bethel, Alaska to hear reports and updates on salmon and related fisheries issues in the Yukon-Kuskokwim Delta region. The North Pacific Fishery Management Council and its staff were invited to attend the Regional Council meeting and provide updates on salmon bycatch by the Bering Sea/Aleutian pollock fishery; however, they were unable to attend due to scheduling conflicts. The Regional Council also met on February 25-26, 2009 in Bethel. During these meetings the Regional Council heard updates on Bering Sea pollock fishery Chinook bycatch and discussed possible resolutions for Chinook salmon bycatch concerns with staff, organization representatives, and other interested meeting participants. Interested participants from Mountain Village provided their local organization's joint resolution regarding salmon bycatch issues (enclosed).

The Council learned that the bycatch in 2005 was reported to be approximately 67,000 salmon. In 2007, salmon bycatch numbers reached a record high when approximately 122,000 salmon were harvested in the Bering Sea pollock fishery. Although information indicated that the salmon bycatch numbers in the pollock fishery dropped to approximately 16,000 in 2008, an approximate 77 percent reduction from the previous year, agency and organization reports indicated that over 50 percent of salmon caught in the Bering Sea pollock fishery are of Western Alaska origin. These numbers are alarming to the Yukon-Kuskokwim Delta subsistence salmon fishers.

Although the North Pacific Fishery Management Council adopted by regulation "Savings Areas" and "Voluntary Rolling Hot Spots", these management tools apparently did not effectively reduce salmon bycatch numbers in this fishery to an acceptable level.

The Regional Council learned through agency and organization reports and updates that in late 2008 the Alaska Department of Fish and Game representative to the NPFMC recommended a hard cap of approximately 68,000 salmon.

The Federal Subsistence Board provided its comments on the Bering Sea Chinook Salmon Bycatch Management Draft Environment Impact Statement/Regulatory Impact Review/Initial Regulatory Flexibility Analysis to the Alaska Region, National Marine Fisheries Service on February 18, 2009. The Board commended your agency's recognition of the importance of this issue and recommended that a hard cap of 29,323 be adopted (Alternative 2.2.1 (iv), as listed on page 28 of the DEIS/RIR/IRFA). This alternative would best ensure sufficient escapement of Chinook salmon that are returning to the Western and Interior Alaska rivers to meet spawning escapement and subsistence needs.

The Association of Village Council Presidents and YRDFA recently recommended a hard cap of 32,500. Neighboring subsistence regions have also made their recommendations: The Bristol Bay Regional Advisory Council recommended a hard cap not to exceed 38,000 annually; the Western Interior Alaska and Eastern Interior Alaska Subsistence Regional Advisory Councils both recommended a hard cap of 29,323.

The salmon bycatch has negatively affected approximately 6,800 families in about 80 communities along the Yukon and Kuskokwim rivers. For thousands of years, people of the Yukon-Kuskokwim Delta have harvested salmon for food. Subsistence-caught salmon is very important sustenance for the people of the Yukon and Kuskokwim rivers in fall and spring seasons and is most important for their sustenance and nourishment during the long winter. When returning salmon numbers drastically decline in the Yukon-Kuskokwim drainages, subsistence users are adversely affected. Subsistence users are voluntarily and involuntarily restricted from harvesting their much needed winter food supply.

The Yukon-Kuskokwim Delta Subsistence Regional Advisory Council hereby recommends a Chinook salmon bycatch hard cap of 29,323. The Regional Council supports the recommendations of the Federal Subsistence Board and the Western Interior and Eastern Interior Alaska Subsistence Regional Advisory Councils. Yukon River bound Chinook salmon are of stocks of concern. Therefore, the Regional Council further recommends that, if the Bering Sea /Aleutian Islands pollock fishery continues to harvest Chinook salmon beyond 29,323, a seven-year salmon bycatch moratorium should be imposed on this fishery.

The Regional Council respectfully and formally requests the North Pacific Fishery Management Council to seriously consider these recommendations. It is the opinion of the Council that the North Pacific Fishery Management Council, as a Federal agency committee, shares the same obligation to protect these valuable subsistence salmon fisheries resources in the Bering Sea.

On behalf of the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council, thank you for your interests in the Yukon-Kuskokwim Delta salmon fisheries issues and your continued efforts toward resolving salmon bycatch issues in the Bering Sea pollock fishery. Should you have any questions, please contact Alex Nick, Council Coordinator, at (907) 543-1037. He will provide any additional information on salmon fisheries issues in the Yukon-Kuskokwim Delta as the need for information arises.

Sincerely,


Lester Wilde, Chair

cc: Peter J. Probasco, ARD, OSM
Polly Wheeler, DARD, OSM
Larry Buklis, OSM
Eastern Interior Alaska SRAC Chair
Western Interior Alaska SRAC Chair
Seward Peninsula SRAC Chair
Nicole Kimball, NPFMC



IN REPLY REFER TO

United States Department of the Interior

FISH AND WILDLIFE SERVICE

1011 E. Tudor Road
Anchorage, Alaska 99503-6199



FWS/AFES

FEB 9 2009

Mr. Robert D. Mecum, Acting Administrator
Alaska Region, National Marine Fisheries Service
National Oceanic and Atmospheric Administration
P.O. Box 21668
Juneau, Alaska 99802

Re: Bering Sea Chinook Salmon Bycatch Management Draft Environmental Impact Statement/Regulatory Impact Review/Initial Regulatory Flexibility Analysis


Dear Mr. Mecum:

The U.S. Fish and Wildlife Service (Service) has reviewed the Draft Environmental Impact Statement/Regulatory Impact Review/Initial Regulatory Flexibility Analysis (DEIS/RIR/TRFA) to evaluate salmon bycatch reduction measures for the Bering Sea and Aleutian Islands (BSAI) Management Area. Bycatch is of concern to the Service because it may affect salmon populations we are responsible for managing in accordance with U.S. laws and international agreements. Below, we offer our perspectives and recommendations for establishing measures to minimize Chinook salmon bycatch in the Bering Sea Pollock fishery and we raise some technical issues in our Specific Comments. Background on our trust responsibilities as identified in the Alaska National Interests Lands Conservation Act, the Yukon River Salmon Act of 2000, and the U.S./Canada Yukon River Salmon Agreement of 2002, was provided in a February 7, 2008 letter to your agency commenting on the Notice of Intent for this DEIS.

General Comments

We appreciate that BSAI pollock fishery bycatch is not the only impact to Western Alaska Chinook salmon stock returns, but it has been shown to contribute significantly to mortality.¹ We support responsibly managed, sustainable fisheries and recognize that nearly every fishery has some level of bycatch. Based on our experience with the Yukon River fishery, a BSAI bycatch near 40,000 Chinook salmon appears to allow in-river escapement, subsistence harvest, and Canadian border passage goals to be achieved, while also providing for in-river commercial fishing opportunities. It appears when bycatch levels exceed 40,000, some segment of in-river

¹ Myers, K.W., R.V. Walker, J.L. Armstrong, and N.D. Davis . 2004. Estimates of the bycatch of Yukon River Chinook Salmon in U.S. Groundfish Fisheries in the Eastern Bering Sea, 1997-1999. Final Report to the Yukon River Drainage Fisheries Association, Contr. No. 04-001. SAFS-UW-0312, School of Aquatic and Fishery Sciences, University of Washington, Seattle. 59p.

TAKE PRIDE
IN AMERICA 

escapement or harvest is likely reduced. Therefore, based on our review of the alternatives presented in the DEIS, a hard-cap bycatch threshold of 38,891 Chinook salmon, beyond which the Bering Sea Pollock fishery would close, would be most consistent with our management responsibilities. We do not advocate combining an industry incentive program with a cap level higher than 38,891 because this would increase the likelihood of greater Chinook salmon mortality, thereby decreasing the in-river returns and negatively impacting escapements and harvest opportunities. Among the alternatives presented in the DEIS/RIR/IRFA, we believe the hard cap of 38,891 Chinook salmon is the most likely to provide for the long-term conservation of Federal in-river Chinook salmon trust resources.

Specific Comments

- We are concerned that the current genetic analysis and the adult savings calculations were based on an insufficient number of opportunistically collected samples which inadequately represent the actual stock contributions being harvested by the BSAI pollock fishery. This appears to be substantiated by Tables 5-47 to 5-51 on pages 297-301. These tables purport to show the adult reductions in equivalent numbers under various scenarios. Using the last row of Table 5-51, as an example, the bycatch for Chinook salmon bound for western coastal Alaska (column 3) would be reduced by 37,492. However, the bycatch reduction to the middle and upper Yukon (columns 5 and 9) would only be reduced by 449 and 389, respectively. This appears to be at odds with our general understanding of run magnitudes in Western Alaska, considering that the Yukon run tends to be the largest in western Alaska and that the middle and upper Yukon stocks typically comprise greater than 75% of the Yukon run in most years. For example, if the Yukon run was of average magnitude of 250,000 and 75% were middle or upper Yukon origin, this would mean that the western coastal abundance of Chinook salmon would be nearly 8.4 million, which seems exceptionally high. While we realize the stock composition estimates being used are the only ones available, that does not mean they are representative of the entire bycatch. Certainly, the samples were not collected for the purpose of supporting an analysis of such broad scope. The likely inadequacy of the existing samples to represent the entire bycatch seriously undermines the apparent conclusion that few Yukon River Chinook salmon occur in the bycatch.
- The DEIS indicates in Chapter 8, Section 8.2.4.1 on page 414 that "*the USFWS has been working with Dr. Paul Sievert and Dr. Javier Arata of the U.S. Geological Survey (USGS) to develop a status assessment of Laysan and Black-footed Albatrosses. This assessment is in response to growing concerns regarding the current status and population trends of these two north Pacific albatrosses, particularly the black-footed.*" The final EIS would be enhanced if findings from this assessment could be incorporated into the final analyses and appropriately cited.

Mr. Robert D. Mecum

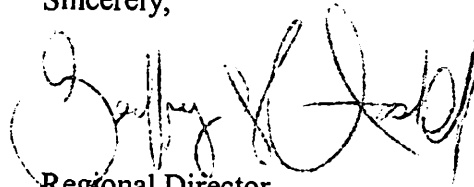
3

In conclusion, reductions in BSAI salmon bycatch to a level below 40,000 should provide for the long-term sustainable health of salmon populations, allow subsistence harvest priorities to be met consistent with ANILCA, and allow international border passage obligations to be met consistent with the Pacific Salmon Treaty.

We believe the best way to achieve these goals is to implement a hard-cap threshold, based on the best available information, beyond which additional BSAI Chinook salmon bycatch would be prohibited.

We appreciate this opportunity to comment. Please contact Russ Holder (907-455-1849 or russ_holder@fws.gov) if you have any questions concerning these comments.

Sincerely,



Regional Director

Bering Sea/Aleutian Islands Chinook Salmon Bycatch Management



Purpose and Need

- National Standards
 - The Council's final action must be consistent with all MSA National Standards
 - 10 National Standards listed in C-2(h)
 - The Final EIS will explain how the preferred alternative addresses the National Standards

Alternatives

- Alternative 1: Status Quo (No Action)
- Alternative 2: Hard cap
- Alternative 3: Triggered closures
- Alternative 4: Preliminary Preferred Alternative (PPA)

Overview of the draft EIS/RIR/IRFA

Outline

- Purpose and need
- Review of alternatives
- Methodology for impact analysis
- Resource assessment update
- Treatment of subsistence
- Impact assessment of alternatives on salmon stocks
- Assessment of economic impacts
- Summary of Comment Analysis Report (CAR)

Purpose and Need: Problem Statement

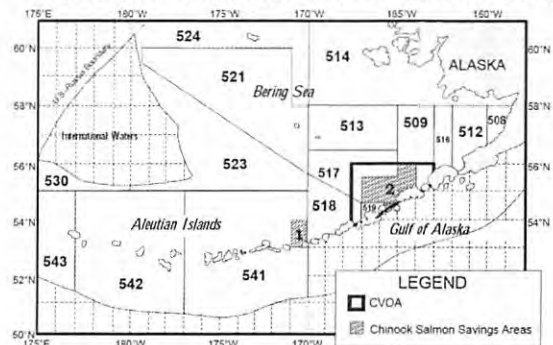
(DEIS p. 2)

- Council should address how preferred alternative addressed objectives in problem statement
- Problem statement objectives:
 - Balance National Standard 1 (achieve optimum yield from the pollock fishery) and National Standard 9 (minimize bycatch to the extent practicable)
 - Develop an adaptive management approach which incorporates new and better information as it becomes available
 - Reduce bycatch to address concerns for those who depend on salmon and
 - Contribute towards efforts to reduce bycatch of Yukon River salmon under the U.S./Canada Yukon River Agreement obligations

Review of alternatives:

Alternative 1

- Status quo: Chinook Salmon Savings Area closure (#2 only) and amendment 84 exemption



Review of alternatives: Alternative 2: Hard Cap

Component 1: Setting the hard cap

Option 1: Select from a range of numbers	I) 87,500
	II) 68,392
	III) 57,333
	IV) 47,591
	V) 43,328
	VI) 38,891
	VII) 32,482
	VIII) 29,323
<u>Suboption</u> adjust periodically based on updated bycatch information	
Divide cap between A and B season	Option 1-1: 70/30 (A season/B season)
	Option 1-2: 58/42 (A season/B season)
	Option 1-3: 55/45 (A season/B season)
	Option 1-4: 50/50 (A season/B season)
<u>Suboption</u> rollover unused salmon from the A season to the B season, with in a sector and calendar year.	

Review of alternatives: Alternative 2

Component 2: Allocating the hard cap to sectors

	CDQ	Inshore CV	Mothership	Offshore CP
No allocation	7.5%; allocated and managed at the CDQ group level			
Option 1 (AFA)	10%	45%	9%	36%
Option 2a (hist. avg. 04-06)	3%	70%	6%	21%
Option 2b (hist. avg. 02-06)	4%	65%	7%	25%
Option 2c (hist. avg. 97-06)	4%	62%	9%	25%
Option 2d	6.5%	57.5%	7.5%	28.5%

Review of alternatives: Alternative 2

Component 3: Sector transfers

No transfers			
Option 1	Caps are transferable among sectors in a fishing season.		
	<u>Suboption</u> : Maximum amount of transfer limited to:	a	50%
		b	70%
		c	90%
Option 2	NMFS rolls over unused salmon bycatch to sectors still fishing in a season, based on proportion of pollock remaining to be harvested.		

Review of alternatives: Alternative 2

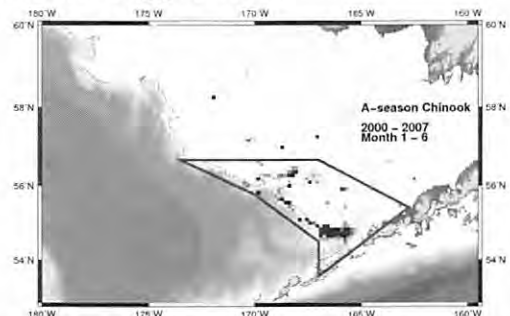
Component 4: Allocation to the inshore cooperative level

No allocation	Allocation managed at the inshore CV sector level.		
Allocation	Allocate cap to each cooperative based on that cooperative's proportion of pollock allocation.		
Cooperative Transfers	Option 1	Lease pollock among cooperatives in a season or a year	
	Option 2	Transfer salmon bycatch	
	<u>Suboption</u> Maximum amount of transfer limited to the following percentage of salmon remaining:	a	50%
		b	70%
c		90%	

Review of alternatives: Alternative 3: Triggered closures

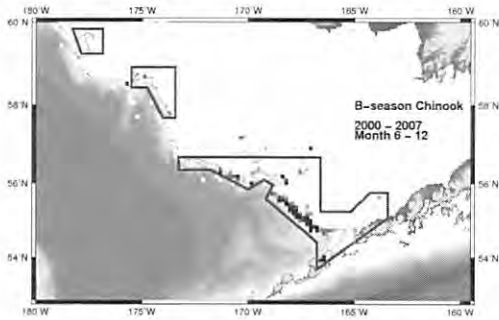
Setting the cap (Component 1)	Same as Alternative 2, Component 1			
Managing the cap (Component 2)	NMFS closes areas to pollock fishing when cap is reached	No allocation	7.5% to CDQ	92.5%; managed at the combined fishery-level for all three sectors
	Option 1: ICA manage vessels to avoid the cap and close areas when cap is reached			
Allocating the hard cap to sectors (Component 3)	Same as Alternative 2, Component 2			
Sector transfers (Component 4)	Same as Alternative 2, Component 3			
Area Closures (Component 5)	A season closure area (Fig. 2-2)	Once triggered, area would close for the rest of the A season		
	B season closure areas (Fig. 2-3)	If the trigger was reached before August 15, all three areas would close on August 15 th for the rest of the B season. If the trigger was reached after August 15 th , all three areas would close immediately for the rest of the B season.		

Review of alternatives: Alternative 3 A season trigger area



Area represents 90% of the A season bycatch over years 2000-2007

Review of alternatives: Alternative 3 B season trigger areas



Area represents 90% of the B season bycatch over years 2000-2007

Review of alternatives: Alternative 4 preliminary preferred alternative (PPA)

Setting the hard cap (Component 1)	Annual scenario 1 (PPA 1)	High cap 68,392 Chinook salmon for vessels in a NMFS-approved ICA Backstop cap 32,482 Chinook salmon for vessels not in a NMFS approved ICA.
	Annual scenario 2 (PPA 2)	A cap of 47,591, with no ICA.
	PPA1 + PPA2	A fleet-wide cap of 47,591, unless industry submits and NMFS approves an ICA agreement which provides explicit incentive for salmon avoidance, then the cap increases to 68,392 Chinook salmon. Vessels not in the ICA would be subject to the backstop cap of 32,482.
	A season/B season division	PPA1 high cap and PP2 cap would be divided 70/30 between the A and B season
	Seasonal rollovers	NMFS would rollover up to 80 percent of a sector's or cooperative's unused salmon bycatch from its A season account to that sector's or cooperative's B season account. No rollover would occur from the B season to the A season.

Review of alternatives: Alternative 4 (PPA)

Sector and seasonal allocations

	PPA1				PPA2 cap	
	High Cap		Backstop cap			
Overall cap	68,392		32,482		47,591	
A season allocation	47,874		22,737		33,314	
CDQ	9.3%	4,452	7.5%	1,705	9.3%	3,098
Inshore CV	49.8%	23,841			49.8%	16,590
Mothership	8%	3,830			8%	2,665
Offshore CP	32.9%	15,751	92.5%	21,032	32.9%	10,960
B season allocation (30%):	20,518		9,745		14,277	
CDQ	5.5%	1,128	7.5%	731	5.5%	785
Inshore CV	69.3%	14,219			69.3%	9,894
Mothership	7.3%	1,498			7.3%	1,042
Offshore CP	17.9%	3,673	92.5%	9,014	17.9%	2,556

Review of alternatives: Alternative 4 preliminary preferred alternative (PPA)

Sector transfers (Component 3)	If sector level caps are issued as transferable allocations, then these entities could request NMFS to move a specific amount of the transferable allocation from one entity's account to another entity's account during a fishing season.
Allocating the hard cap to cooperatives (Component 4)	Each inshore cooperative and the inshore limited-access fishery would receive a transferable allocation of the inshore CV sector level cap and must stop fishing once the allocation is reached.
	Inshore cooperative allocations would be based on that cooperative's AFA pollock allocation percentage. Inshore limited access allocation would be based on the pollock history of those vessels participating in the limited access fishery.
Cooperative Transfers	Cooperatives could request NMFS to move a specific amount of the transferable allocation from one cooperative's account to another cooperative's account during a fishing season.

- Refer to document
 - description of PPA
 - issues for clarification

Alternatives considered and not carried forward for analysis: Draft EIS and Comment Analysis Report

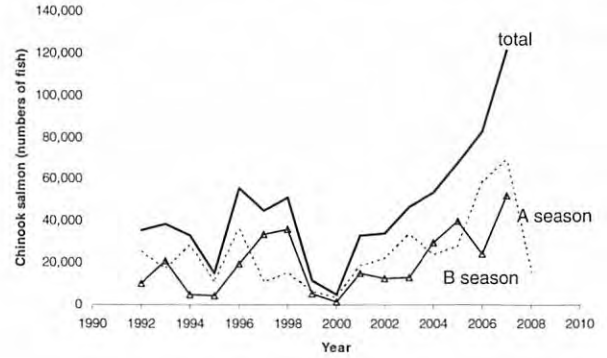
Section 2.6 DEIS and CAR comments

- Cap levels: higher and lower than range
- Stepdown provision
- Chum salmon measures
- Additional area closures
- Modified PSC accounting period (B+A)
- Pollock fishery modifications
- Index cap
- Fee per salmon, fund research program
- Prohibited species donation modifications

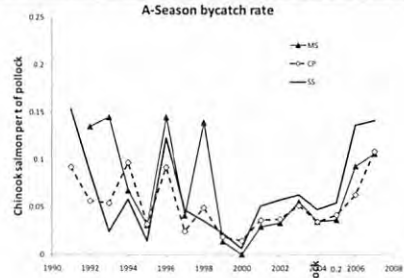
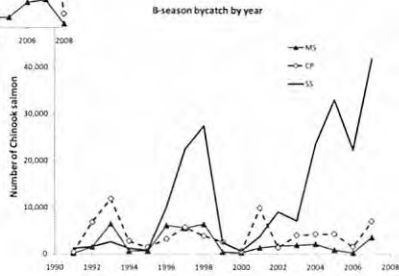
Bycatch trends

Annual and seasonal bycatch trends 1992-2007

note information updated through 3/19/09 in notebooks C-2(a)

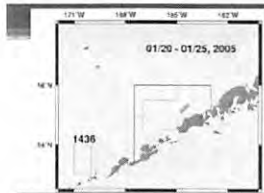
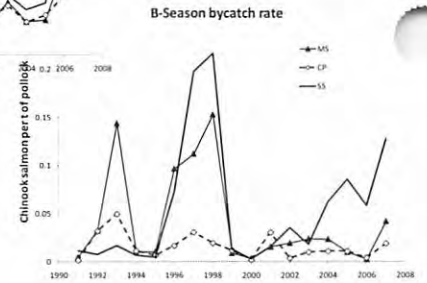


Bycatch by sector

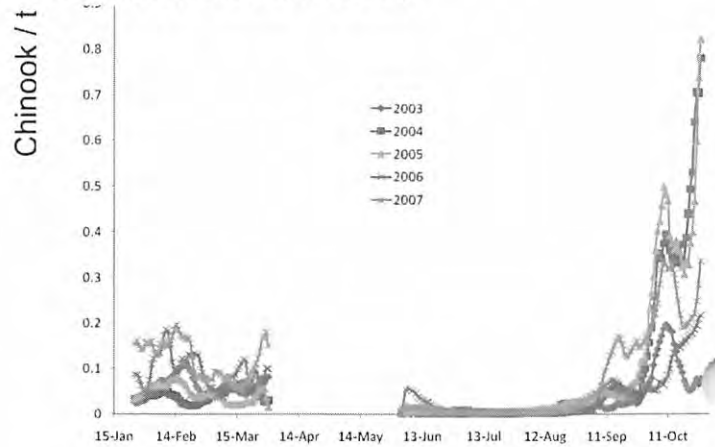


Bycatch rates by sector

Revised section 5.3.1.1 (Appendix 4 CAR)



Chinook catch rates



Methodology for impact analysis

Methodology overview

- Background
 - Justification for years analyzed in DEIS
- Bycatch data—source and estimation
- AEQ methodology
 - Genetic information used
 - Model procedure for estimating AEQ
- Application to alternatives

Background: Time frame issues

Historical bycatch data for cap range (1992-2003)

- Baseline for analysis of alternatives 2003-2007
 - Best consistent time series available (especially by sector)

Seasonal bycatch 2003-2007

Data components for impacts

Bycatch

- Season/Area
- Age composition
- Stock origin

In River

- Run strengths
- Maturation rates (at age)

Bycatch estimation

Approximately 70% of all tows are observed

- Of these, the fraction of catch sampled exceeds 50%

Critique of procedure for estimation of bycatch (Comment 3-21, CAR p. 55)

- Dissertation study on catch-estimation
 - Error in accessing sampling effort data
 - Inadvertently left out sets with no salmon (big effect)
 - Also assumed 30% of 60-125' vessels were observed
 - Closer to 50% for this group (lesser effect)
 - These resulted in biased (high) estimates of bycatch

Estimation of bycatch procedure

- NMFS approach uses rates by strata for unobserved operations
 - I.e., salmon per t of pollock per week and area and vessel class
 - Observer data for rates
 - Observer and fish-ticket data for pollock
- Statistical estimates of variance being developed

AEQ methodology overview

- Bycatch-at-age estimation methods
- Estimating adult equivalents
- Bycatch stock composition (using genetics)

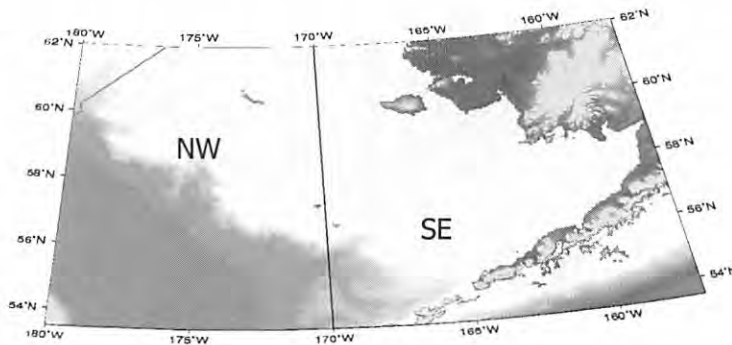
Bycatch data layout

All data minimally resolved to 3 strata:

- 1) A-season all areas
- 2) B-season east of 170°W
- 3) B-season west of 170°W

Length and age data resolved also by sex

Area-strata



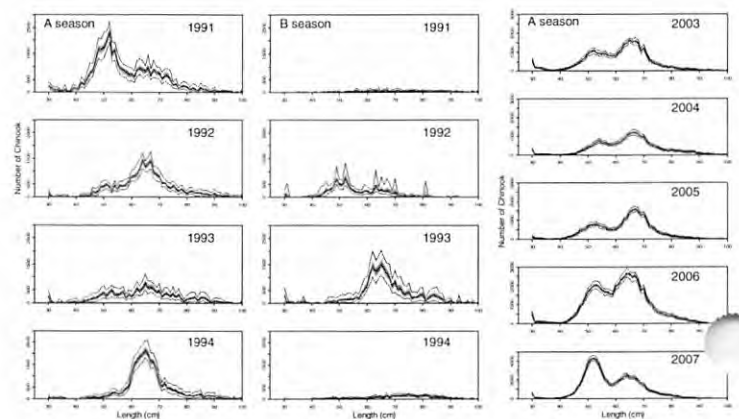
Bycatch sampling

- Since 1996, 45% of all Chinook from observed tows were measured
- Explicit accounting for uncertainty
 - For length and age samples
 - Weighted by stratum-specific catch levels

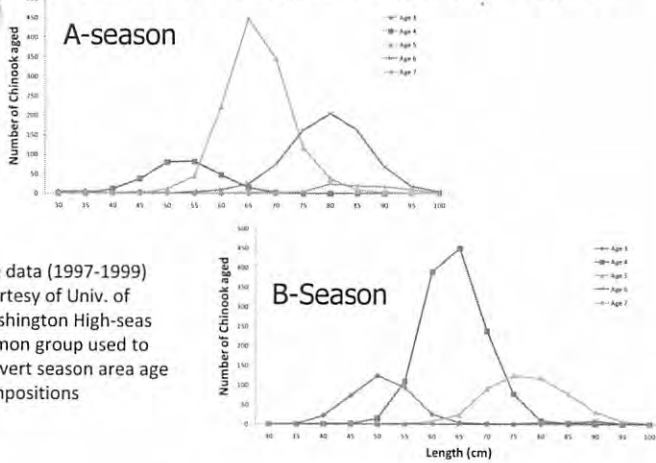
Numbers of salmon measured by observers

Area Sector	A-season			B-season						Annual All areas Total
	Combined areas			W of 170°W			E of 170°W			
	S	M	CP	S	M	CP	S	M	CP	
1991	2,227	302	2,569		25	87	221	10	47	5,488
1992	2,305	733	889	2	4	14	1,314	21	673	5,955
1993	1,929	349	370	1	11	172	298	255	677	4,062
1994	4,756	408	986	3	93	276	781	203	275	7,781
1995	1,209	264	851		8	31	457	247	305	3,372
1996	9,447	976	2,798		17	161	5,658	1,721	493	21,271
1997	3,498	423	910	12	303	839	12,126	370	129	18,610
1998	3,124	451	1,329		38	191	8,277	2,446	1,277	17,133
1999	1,934	120	1,073		1	627	1,467	97	503	5,822
2000	608	17	1,388	4	40	179	564	3	120	2,923
2001	4,360	268	3,583		25	1,816	1,597	291	1,667	13,607
2002	5,587	850	3,011		23	114	5,353	520	494	15,952
2003	9,328	1,000	5,379	258	290	1,290	4,420	348	467	22,780
2004	7,247	594	3,514	1,352	557	1,153	8,884	137	606	24,044
2005	9,237	694	3,998	4,081	244	1,610	10,336	45	79	30,324
2006	17,875	1,574	5,716	685	66	480	12,757	3	82	39,238
2007	16,008	1,802	9,012	881	590	1,986	21,725	2	801	52,807

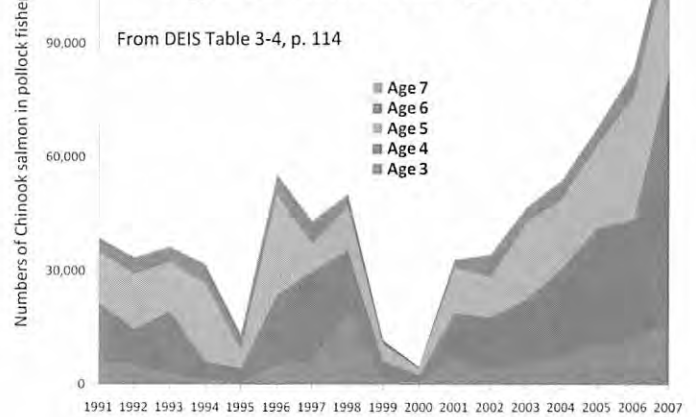
Example Chinook length frequencies



Conversions of length samples to ages



Age of Chinook bycatch



AEQ basics

- Need to correct for year bycatch would have returned
 - Simplified with age estimates
- Bycatch
 - Some would have stayed in the ocean and died
 - Others would have returned to spawn at some point
 - And contribute to spawning escapement, in-river fisheries
- Accounting over time required to understand impacts
 - Delayed effects

Model procedure for estimating AEQ

- Assumptions
- Data used
- Caveats

AEQ model

$$AEQ_t = \sum_{a=3}^7 c_{t,a} \gamma_a +$$

$$\gamma_4 (1 - \gamma_4) s_3 c_{t-1,3} +$$

$$\gamma_5 (1 - \gamma_4) (1 - \gamma_5) s_3 s_4 c_{t-2,3} +$$

$$\gamma_6 (1 - \gamma_5) (1 - \gamma_4) (1 - \gamma_5) s_3 s_4 s_5 c_{t-3,3} +$$

$$\gamma_7 (1 - \gamma_6) (1 - \gamma_5) (1 - \gamma_4) (1 - \gamma_5) s_3 s_4 s_5 s_6 c_{t-4,3} +$$

$$\gamma_5 (1 - \gamma_4) s_4 c_{t-1,4} +$$

$$\gamma_6 (1 - \gamma_5) (1 - \gamma_4) s_4 s_5 c_{t-2,4} +$$

$$\gamma_7 (1 - \gamma_6) (1 - \gamma_5) (1 - \gamma_4) s_4 s_5 s_6 c_{t-3,4} +$$

$$\gamma_6 (1 - \gamma_5) s_5 c_{t-1,5} +$$

$$\gamma_7 (1 - \gamma_6) (1 - \gamma_5) s_5 s_6 c_{t-2,5} +$$

$$\gamma_7 (1 - \gamma_6) s_6 c_{t-1,6}$$

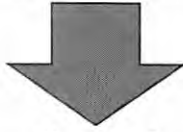
Fig. 3-7

AEQ pieces: ocean survival

Ocean natural mortality scenarios

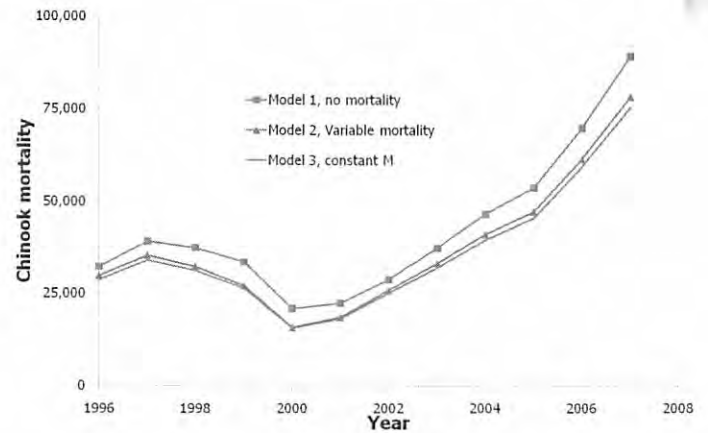
M_a	3	4	5	6	7
None	0.0	0.0	0.0	0.0	0.0
Variable	0.3	0.2	0.1	0.1	0.0
Constant	0.2	0.2	0.2	0.2	0.0

$$S_a = e^{-M_a}$$



Age	3	4	5	6	7
S_a	0.741	0.819	0.905	0.905	1.000

AEQ results—sensitivity to ocean survival

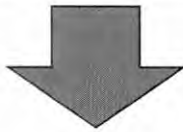


AEQ Pieces: maturity

(DEIS Table-3-13, p. 140)

Brood-year Maturation	Age 3	Age 4	Age 5	Age 6	Age 7
Weighted mean	1%	15%	36%	44%	5%

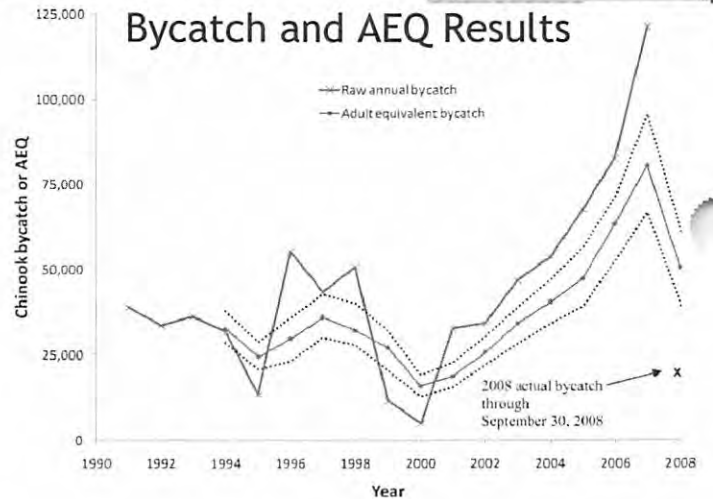
$$g_a$$



Conditionally solved
given survival rates

Age	3	4	5	6	7
Maturation probability (γ_a)	0.059	0.273	0.488	0.908	1.000

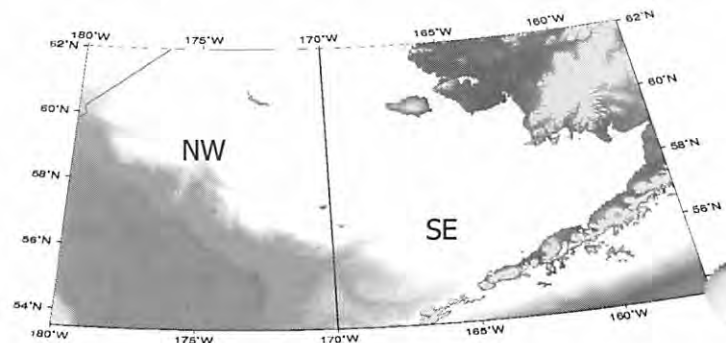
Bycatch and AEQ Results

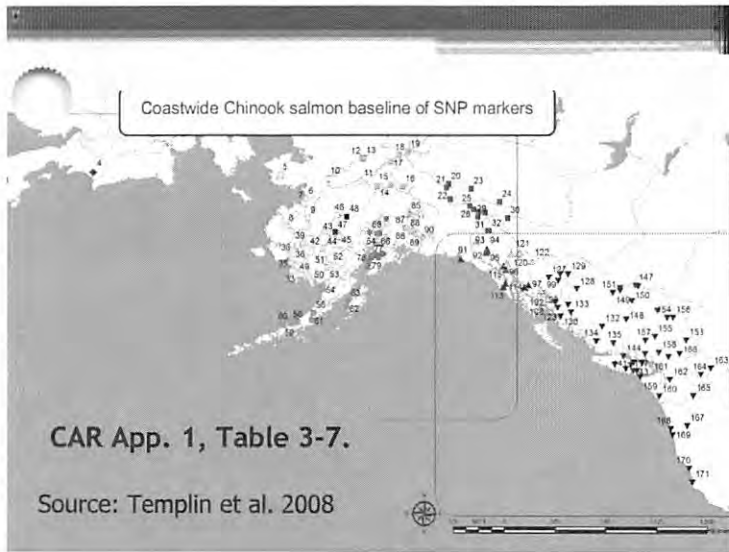


Incorporating Genetics information

- ADFG SNP study
 - As presented to the Council at the February meeting
 - Publication in preparation
 - Generally consistent with previous studies
 - SNP baseline data used for BASIS juvenile studies
- Sampling stratified
 - Proportionality desirable
 - But not essential

Area-strata—also used for genetics



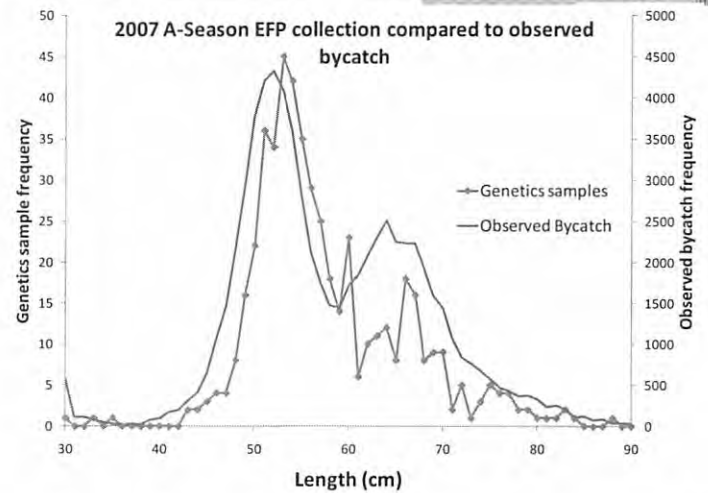


Genetics results—sample weighting

Yr/Seas/Area	
2005 B SE	1/3 weight
2005 B NW	
2006 B SE	2/3 weight
2006 B NW	
2007 A All	4/5 weight
2007 A All	1/5 weight

Page 154 CAR Appendix 1,
Revised section 3.3

Slide 49
312 Added data weighting component
3/11/2005



Results of stock composition from parametric bootstrap

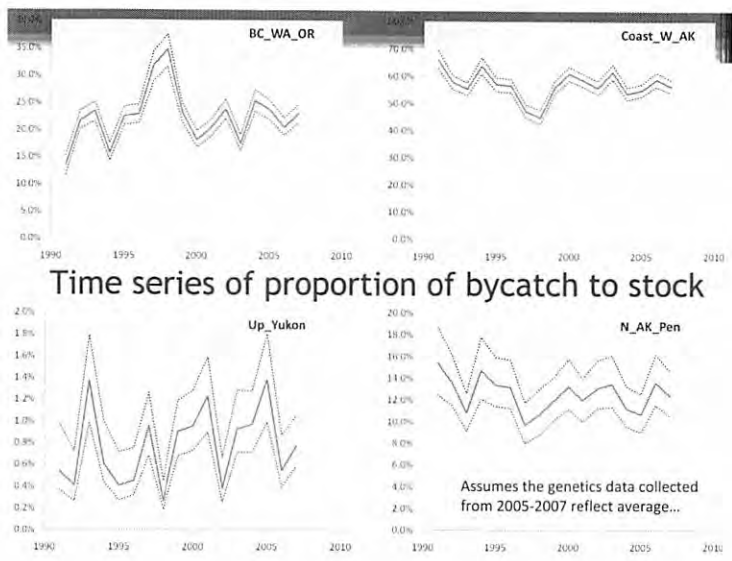
Season / Area	PNW	Coast WAK	Cook Inlet	Middle Yukon	N AK Penin	Russia	TBR	Upper Yukon	Other
B SE	45.0% (0.025)	34.7% (0.024)	5.1% (0.017)	0.1% (0.002)	8.6% (0.016)	0.6% (0.004)	3.4% (0.014)	0.0% (0.001)	2.4% (0.014)
B NW	6.4% (0.010)	68.9% (0.023)	2.6% (0.012)	6.6% (0.011)	4.4% (0.019)	2.7% (0.007)	1.8% (0.006)	5.6% (0.012)	1.0% (0.008)
A All	12.1% (0.012)	67.7% (0.021)	0.1% (0.003)	0.6% (0.004)	16.0% (0.019)	0.4% (0.002)	0.2% (0.002)	0.6% (0.003)	2.3% (0.010)

(Coefficient of Variation)

Results of stock composition from parametric bootstrap

Season / Area	PNW	Coast WAK	Cook Inlet	Middle Yukon	N AK Penin	Russia	Trans Bdry R	Upper Yukon	Other
B SE	45%	35%	5.1%	0.1%	8%	0.6%	3%	0.0%	2%
B NW	6%	69%	3%	7%	4%	3%	2%	6%	1%
A All	12%	68%	0.1%	0.6%	16%	0.4%	0.2%	0.6%	2%



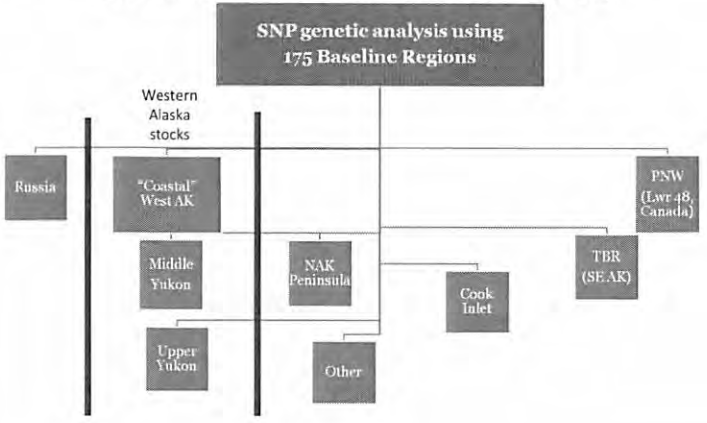


Genetics samples

- Aggregation considerations
 - Scale pattern analysis for Yukon, Kuskokwim, Bristol Bay

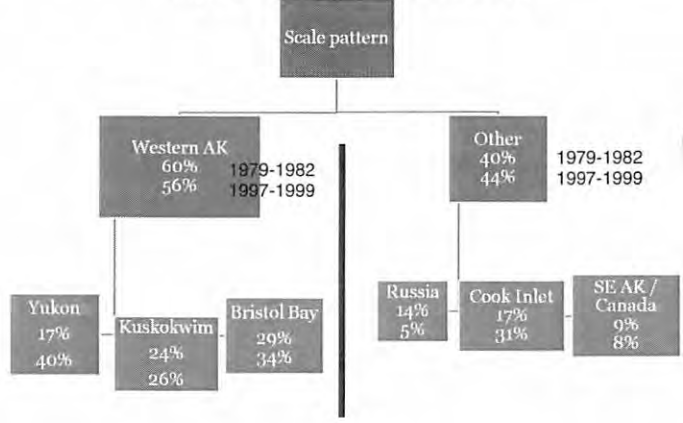
Bycatch stock composition

ADFG Genetics, 2005-2007 (Table 3-12)



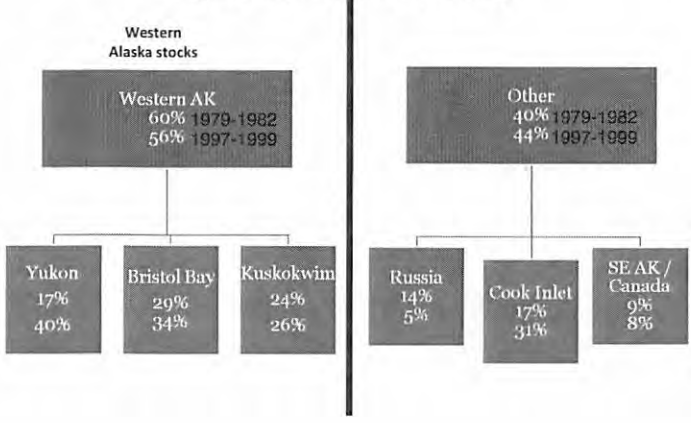
Bycatch stock composition

Myers' scale pattern stock ID



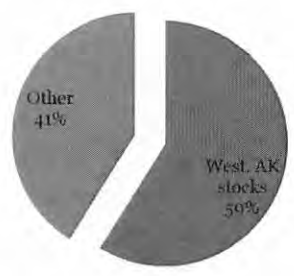
Bycatch stock composition

Myers' two studies (scales)

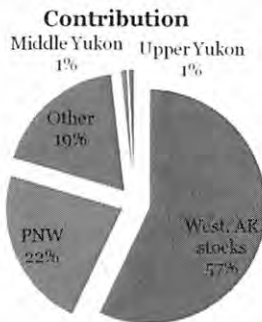


Genetics samples (2005-2007)

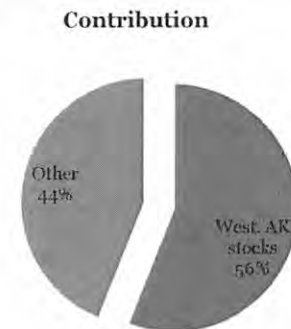
Contribution



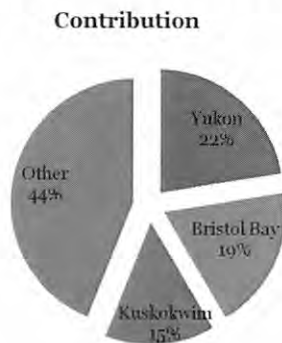
Genetics samples (2005–2007)



Scale pattern samples (1997–1999)



Scale pattern samples (1997–1999)



Genetics samples

- Split between to Middle and Upper Yukon, lower Yukon pooled with “Coastal Western Alaska”
 - Presumably due to higher mixing levels
- Sampling levels reasonably high
- Evidence of biased sampling potential lacking
 - Same genetic analyses used for BASIS samples
 - Found substantial numbers of juvenile Upper Yukon Chinook salmon N of Nunivak Island (~44%)

2007 A-season samples and Upper Yukon

- Opportunistic, based on one trip
 - Downweighted considerably in the analysis
 - Minor effect on estimate of Upper Yukon proportion (Table 3-9)
 - 2.6% without the 2007 samples
 - 2.2% with the 2007 samples included

Upper Yukon continued

- Most prevalent in B-season W of 170°W
- 2006 and 2007 had abnormally high proportions of bycatch in A season and in SE region during B-seasons
 - Other sources of potential bias (e.g., under-representation of some size groups in genetic samples) likely to play a small role

Application of method to alternatives

- How to evaluate alternatives?
- Impose proposed caps historically
 - Season- and sector-specific caps
 - Options for transfer and rollovers (for PPAs)

Fleet-wide retrospective cap-closure dates

Table 2-38 Hypothetical closure dates by year and season under Chinook bycatch cap options for fleet-wide caps (CDQ receives 7.5% of the Chinook cap)

Fleet-wide caps			A season					B season				
A/B Split	Cap	Sect.	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
50/50	87,500	CDQ	---	---	---	---	---	---	---	---	---	---
		NonCDQ	---	---	---	22-Feb	9-Feb	---	---	---	---	25-Oct
	68,100	CDQ	---	---	---	---	5-Mar	---	---	---	---	---
		NonCDQ	26-Mar	---	---	14-Feb	2-Feb	---	---	21-Oct	---	18-Oct
		CDQ	---	---	---	---	22-Feb	---	---	---	---	17-Oct
58/42	87,500	CDQ	---	---	---	---	---	---	---	---	---	---
		NonCDQ	23-Feb	24-Mar	2-Mar	7-Feb	28-Jan	---	20-Oct	6-Oct	25-Oct	8-Oct
	68,100	CDQ	1-Mar	17-Mar	5-Mar	3-Mar	15-Feb	---	19-Sep	---	---	10-Oct
		NonCDQ	12-Feb	28-Feb	11-Feb	3-Feb	24-Jan	---	30-Sep	23-Sep	6-Oct	26-Sep
		CDQ	---	---	---	---	---	---	---	---	---	---
70/30	87,500	CDQ	---	---	---	---	---	---	---	---	---	---
		NonCDQ	---	---	---	28-Feb	14-Feb	---	24-Oct	---	---	20-Oct
	68,100	CDQ	---	---	---	---	14-Mar	---	---	---	---	19-Oct
		NonCDQ	---	---	---	19-Feb	6-Feb	---	27-Oct	10-Oct	---	12-Oct
		CDQ	---	---	---	---	26-Feb	---	---	---	---	15-Oct
58/42	87,500	CDQ	---	---	---	---	---	---	---	---	---	---
		NonCDQ	7-Mar	---	22-Mar	9-Feb	30-Jan	---	12-Oct	2-Oct	17-Oct	4-Oct
	68,100	CDQ	---	---	---	---	15-Mar	---	---	---	---	8-Oct
		NonCDQ	15-Feb	4-Mar	15-Feb	4-Feb	25-Jan	13-Oct	25-Sep	16-Sep	30-Sep	19-Sep
		CDQ	---	---	---	---	---	---	---	---	---	---
70/30	87,500	CDQ	---	---	---	---	---	---	---	---	---	---
		NonCDQ	---	---	---	22-Mar	25-Feb	---	24-Oct	---	---	10-Oct
	68,100	CDQ	---	---	---	---	---	---	---	---	---	---
		NonCDQ	---	---	---	24-Feb	12-Feb	---	12-Oct	2-Oct	17-Oct	4-Oct
		CDQ	---	---	---	---	---	---	---	---	---	---
58/42	87,500	CDQ	---	---	---	---	---	---	---	---	---	---
		NonCDQ	15-Mar	---	---	17-Mar	19-Feb	---	19-Sep	9-Sep	---	2-Oct
	68,100	CDQ	---	---	---	---	---	---	---	---	---	---
		NonCDQ	18-Feb	12-Mar	21-Feb	6-Feb	26-Jan	4-Oct	11-Sep	3-Sep	18-Sep	12-Sep
		CDQ	---	---	---	---	---	---	---	---	---	---

Sum of the parts...

- Don't equal the cap:
- In evaluation, the cap levels always specified seasonally by sector
- Only in years where all season-sectors reached cap would total cap attained
 - For 2003-2007, it never happened
 - Hence, "effective cap" always lower than specified cap
 - Less so with rollovers and transfers

Tables road map

Numbers are "cap" levels
 Ratios are A-B season splits
 Sector splits:
 opt 1: AFA-like
 opt 2a: 2004-2006 history
 opt 2d: Intermediate

Cap, A/B, sector
87,500 50/50 opt1
87,500 50/50 opt2a
87,500 50/50 opt2d
87,500 58/42 opt1
87,500 58/42 opt2a
87,500 58/42 opt2d
87,500 70/30 opt1
87,500 70/30 opt2a
87,500 70/30 opt2d
68,100 50/50 opt1
68,100 50/50 opt2a
68,100 50/50 opt2d

Sector specific "closure" dates

Table 2-41 Hypothetical closure dates, by year and season, under Chinook salmon hard cap sector allocation Option 1 (Chinook bycatch allocated to sector proportional to pollock allocation)

opt(AFA)	AB Split	Cap	Sect.	A					B					
				2003	2004	2005	2006	2007	2003	2004	2005	2006	2007	
50/50	87,500	CDQ	M	---	---	---	23-Feb	15-Feb	---	---	---	---	---	---
			P	---	---	---	21-Mar	13-Feb	---	---	---	---	---	
			S	---	---	---	10-Feb	2-Feb	---	23-Oct	8-Oct	22-Oct	10-Oct	
			M	---	---	---	---	---	---	---	---	---	---	---
			P	15-Mar	---	---	11-Mar	8-Feb	---	---	---	---	---	---
	68,100	CDQ	M	---	---	---	---	---	---	---	---	---	---	---
			P	23-Mar	---	---	7-Feb	29-Jan	---	---	---	---	---	
			M	---	---	---	18-Feb	2-Feb	---	---	---	---	---	
			P	---	---	---	---	---	---	---	---	---	---	
			S	---	---	---	---	---	---	---	---	---	---	
	48,700	CDQ	M	15-Mar	---	---	8-Feb	28-Jan	---	---	---	---	---	
			P	19-Feb	---	1-Mar	21-Feb	4-Feb	---	---	---	---	---	
			S	27-Feb	17-Mar	24-Feb	5-Feb	25-Jan	---	2-Oct	27-Sep	2-Oct	29-Sep	
			M	---	---	---	---	---	---	---	---	---	---	
			P	13-Feb	26-Feb	17-Feb	3-Feb	24-Jan	9-Oct	23-Oct	---	---	18-Oct	
29,300	CDQ	M	11-Feb	1-Mar	11-Feb	8-Feb	26-Jan	---	---	---	---	23-Oct		
		P	12-Feb	24-Feb	10-Feb	30-Jan	23-Jan	14-Oct	16-Sep	10-Sep	17-Sep	14-Sep		
		M	---	---	---	---	---	---	---	---	---	---		
		P	---	---	---	---	---	---	---	---	---	---		
		S	---	---	---	---	---	---	---	---	---	---		
58/42	87,500	CDQ	M	---	---	---	28-Feb	28-Feb	---	---	---	---	---	
			P	---	---	---	---	18-Feb	---	---	---	---	---	
			S	---	---	---	16-Feb	7-Feb	---	14-Oct	5-Oct	16-Oct	6-Oct	
			M	---	---	---	---	---	---	---	---	---	---	
			P	---	---	---	---	---	---	---	---	---	---	
	68,100	CDQ	M	---	---	---	21-Feb	10-Feb	---	---	---	---	---	
			P	---	---	---	15-Mar	11-Feb	---	---	---	---	---	
			S	---	---	---	9-Feb	31-Jan	---	7-Oct	1-Oct	8-Oct	2-Oct	
			M	---	---	---	---	---	---	---	---	---	---	
			P	---	---	---	---	---	---	---	---	---	---	
	48,700	CDQ	M	27-Mar	---	---	10-Feb	30-Jan	---	4-Nov	---	---	18-Oct	
			P	---	---	---	---	---	---	---	---	---	---	
			S	---	---	---	---	---	---	---	---	---	---	
			M	---	---	---	---	---	---	---	---	---	---	
			P	---	---	---	---	---	---	---	---	---	---	

Proportion variability

Table 5-44 Proportions of the bycatch occurring within each stratum under the different PPA scenarios in Alternative 4, and management options in Alternative 2 for 2003-2007. The actual observed proportion of the bycatch in each year is shown in the shaded top row. Two other rows are shaded (68,100 70/30 Opt2d and 48,700 70/30 Opt2d), representing the Alternative 2 scenarios that are most similar to the PPA).

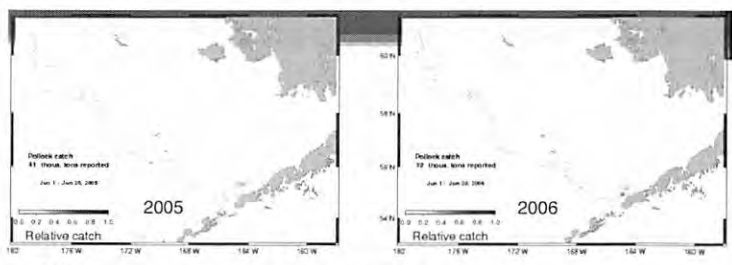
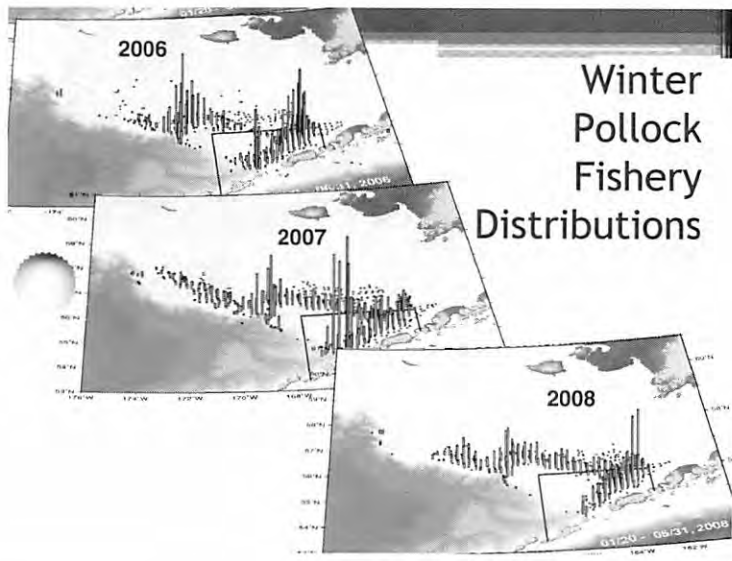
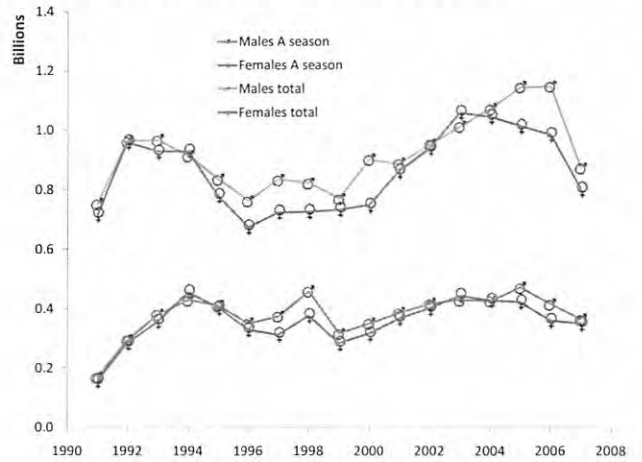
No. Cap	Stratum 1, A-season					Stratum 2, B-season NW					Stratum 3, B-season SE				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
PPA Scen 1	86%	54%	49%	72%	79%	3%	6%	13%	1%	2%	11%	40%	37%	27%	20%
PPA Scen 2	86%	66%	69%	73%	78%	3%	5%	9%	1%	2%	11%	30%	23%	26%	20%
87,500 70/30 opt2d	72%	56%	61%	80%	73%	2%	13%	17%	7%	15%	26%	31%	23%	13%	12%
87,500 70/30 opt2a	72%	52%	61%	75%	68%	3%	5%	22%	10%	16%	25%	42%	17%	15%	15%
87,500 50/50 opt1	72%	59%	65%	80%	71%	4%	8%	9%	7%	16%	24%	33%	26%	13%	13%
87,500 58/42 opt2d	72%	48%	53%	66%	63%	7%	11%	21%	6%	11%	25%	31%	24%	15%	16%
87,500 58/42 opt2a	70%	45%	47%	67%	59%	8%	16%	24%	10%	10%	21%	28%	21%	12%	12%
87,500 50/50 opt2a	67%	45%	44%	59%	52%	6%	11%	12%	4%	7%	11%	18%	14%	7%	7%
87,500 50/50 opt1	72%	48%	53%	58%	56%	7%	8%	17%	4%	7%	11%	18%	14%	7%	7%
68,100 70/30 opt2d	72%	60%	65%	72%	71%	4%	3%	14%	---	---	---	---	---	---	---
68,100 70/30 opt2a	70%	59%	60%	77%	73%	6%	7%	10%	---	---	---	---	---	---	---
68,100 50/30 opt1	72%	62%	68%	80%	72%	7%	5%	13%	---	---	---	---	---	---	---
68,100 58/42 opt2d	70%	55%	61%	66%	57%	6%	13%	15%	---	---	---	---	---	---	---
68,100 58/42 opt2a	67%	49%	51%	62%	59%	2%	16%	22%	---	---	---	---	---	---	---
68,100 50/50 opt1	72%	59%	61%	65%	61%	4%	5%	15%	---	---	---	---	---	---	---
68,100 50/50 opt2d	67%	48%	52%	51%	49%	4%	11%	11%	18%	20%	28%	41%	37%	30%	20%
68,100 50/50 opt2a	66%	42%	49%	57%	45%	9%	13%	18%	9%	14%	22%	45%	33%	35%	18%
68,100 50/50 opt1	70%	55%	61%	65%	55%	5%	13%	12%	12%	18%	35%	32%	27%	23%	28%
48,700 70/30 opt2d	69%	66%	68%	73%	66%	5%	7%	7%	11%	13%	26%	27%	25%	15%	21%
48,700 70/30 opt2a	71%	64%	64%	73%	69%	8%	9%	13%	7%	18%	22%	27%	23%	20%	13%

Proportions of "where and when" bycatch would have occurred

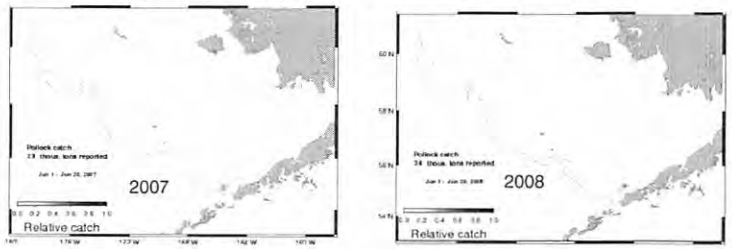
Chapter 4 pollock update



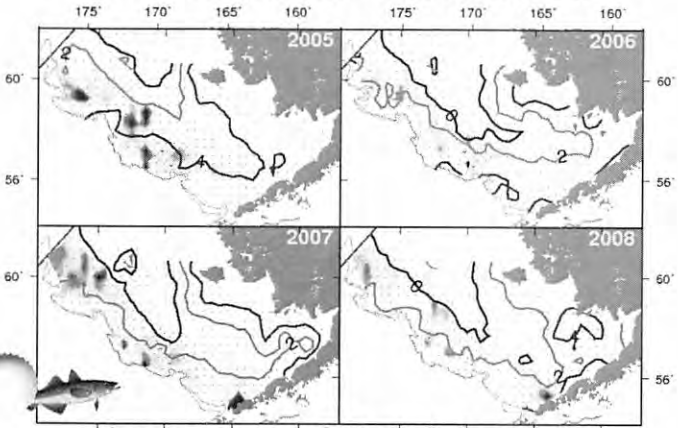
Catch trends (by sex and season)



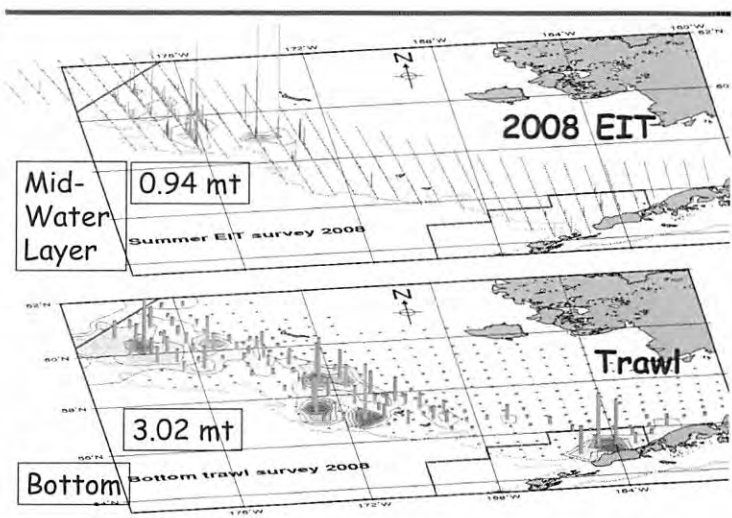
Fishery catch patterns--summer



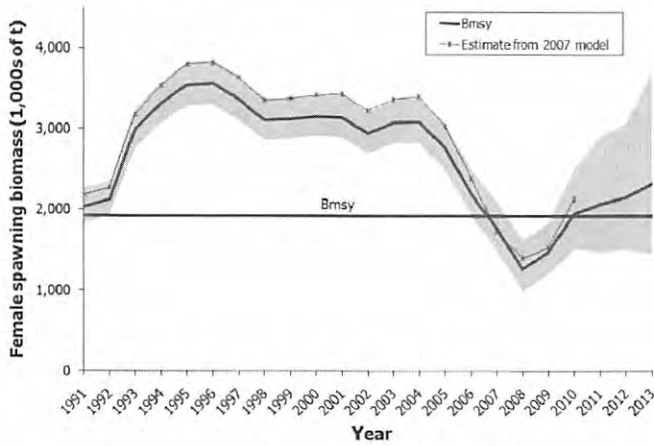
Bottom temperature affect pollock?



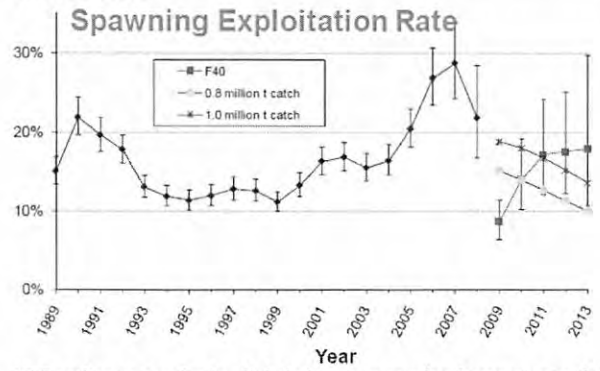
1 warm and 3 cold years



EBS pollock then and now

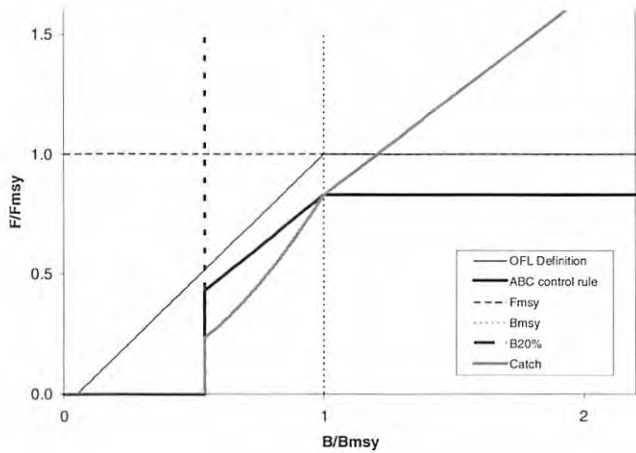


Outlook



- ABC estimate results in slightly lower spawning harvest rate than in 2008
 - Mainly due to revised population estimates (survey data)

Rate declines, catch declines faster...



Chapter 5 Chinook salmon

Chinook Salmon stock status update

- Western Alaska Chinook stocks:
 - Norton Sound
 - Yukon
 - Kuskokwim
 - Bristol Bay
- ESA-listed stocks
- Southeast AK stocks
- Cook Inlet stocks

Source for updated information : Volk et al. 2009 *Run Forecasts and Harvest Projections for 2009 Alaskan Salmon Fisheries and Review of the 2008 Season*



Chinook projected catch vs Actual

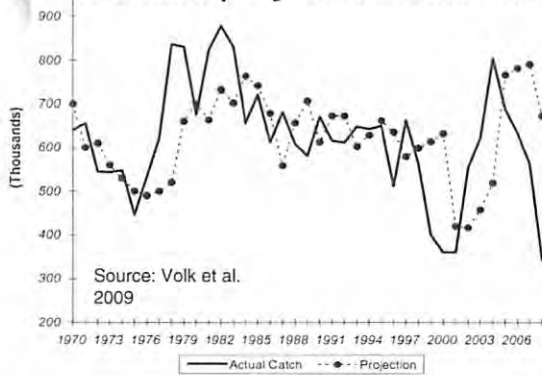


Figure 2—Relationship between actual catch and projected catch in thousands, for Alaskan Chinook salmon fisheries from 1970 to 2008. No 2009 projection is provided because Southeast Alaska Chinook harvest projections are not available until April.

Norton Sound

- 2008 run poorest return on record
- Chum fishery opening (S. Norton Sound) delayed due to poor Chinook returns
- Subsistence closures in Shaktoolik and Unalakleet
- North River tower (Unalakleet tributary) had lowest tower count in project history

Kuskokwim Area:

Kuskokwim River and Kuskokwim Bay Districts

- 2008 runs low to below average
 - Harvest and escapement estimates lower in 2008 than 2007
- Kuskokwim River
 - Aerial surveys 13 index streams and 7 weir projects
 - Kongrukluok: within escapement goal range
 - Kwethluk, Tukluksak, George Rivers did not achieve lower end of escapement goal range
 - Escapement timing ~2 weeks late
 - 2008 harvest (8,865 Chinook) above recent 10 year average
- Kuskokwim Bay
 - Kanektok River (District 4)
 - weir escapement estimates incomplete
 - Aerial surveys within escapement goals (lower end of range)
 - Commercial harvest 27% below recent 10 year average
 - Goodnews Bay (District 5)
 - Escapement (Middle Fork weir) within escapement goal range
 - Aerial survey (North Fork) within escapement goal range
 - Commercial harvest 49% below recent 10 year average

Overview of western Alaska stock status 2008

Revised Table 5-3 (appx 5 CAR)

Chinook Stock	Total run estimated?	2008 preliminary run estimate above or below projected/forecasted	Escapement estimates?	Escapement goals met?	Stock of concern?
Norton Sound	No	Below	Yes	No	Yield concern (since 2004)
Yukon	Yes	Below	Yes	Most in Alaska No-Canadian treaty goal	Yield concern (since 2000)
Kuskokwim	Yes	Below	Yes	Some ¹	No Yield concern discontinued 2007
Bristol Bay	Yes	Below	Yes	Some	No

¹ For the Kuskokwim: 3 of 4 weir goals were below while 3 of 5 aerial goals were below.

Yukon River

- 2008 Chinook total run ~65-75,000 less than anticipated
 - Substantial subsistence fishing reductions implemented due to returns much lower than pre-season forecasts
 - No directed commercial fishery for Chinook in 2008
 - Restricted mesh sizes and modified timing for chum fishing due to concerns of Chinook incidental catch
- High water hampered efforts to quantify individual tributary escapements thus most escapement goals could not be assessed
- Based on available data however lower end of BEGs for Chena and Salcha met (largest producing tributaries in AK portion of drainage)
- Management assumes ~36% of Chinook production occurs in Canada (previously assumed 50-60%)
 - US/Canada YRP agreement for 1 year interim goal of 45,000 fish to Canada
 - 2008 only 32,000 fish (prelim estimated escapement) therefore only 28% of goal (~Canadian harvest~3,600 :all directed fisheries closed, harvest only by restricted aboriginal fishery)
 - 2009 projecting 61-72,000 total run estimate (ca origin) with ca portion ~23% (after escapement met) = 3,700-6,200 Canadian harvest

Bristol Bay

- Overall commercial harvest (~24,000 fish) in 2008 =36% of average harvest for last 20 years
 - Primarily in directed sockeye fishery
- Well below preseason expected harvest of 85,000
- Harvests below average in every district
- Runs in every district below average and late run timing
- Final escapement estimate above in-river goal in Nushagak Mulchatna area management plan and exceeded SEG range

Other Stocks

- Southeast:
 - 2008 all-gear treaty Chinook quota = 170,000 (PST)
 - No directed fishery on Taku due to low returns
 - Stikine River harvest 9,150 per harvest sharing agreement with Canada (PST)
- Cook Inlet:
 - Lower Cook Inlet harvest (<200 fish) lowest catch since 1975
 - Generally not commercially important species in region
 - Upper Cook Inlet harvest (12,917) 25% below long and short-term harvests
 - Late-run Kenai River Chinook runs relatively stable and escapement objectives met or exceeded

Subsistence



Impact analysis: salmon

ESA-listed Chinook

- 9 ESA-listed Chinook stocks: only 2 ever recovered in BSAI groundfish fishery
 - Upper Willamette River (UWR) Chinook
 - Lower Columbia River (LCR) Chinook
- Biological opinion based on most recent range of observations based on CWT recoveries
 - Increase in bycatch through 2007 has not resulted in increase in CWT recoveries of ESA-listed UWR or LCR species
 - Additional section 7 consultation will be required prior to implementation of new Chinook bycatch management measures.

Treatment of Subsistence:

- overview of new subsistence chapter
- Treatment of RIR Background Information Sections: overview of revisions and expanded community effects information
- Environmental Justice sections and plans for revision

Impact assessment of alternatives on salmon stocks

Three steps to assess alternatives relative to status quo:

1. Total salmon savings in bycatch
 - Overall bycatch reduction
2. Conversion to adult equivalents (AEQ)
 - Overall increase in salmon returning to spawn
3. AEQ salmon returns to specific river systems
 - Region-specific increases in salmon returning to spawn

Analysis and comparison with other alternatives

- Same methodology as with Alt2 and Alt3 cap analyses
- Differences in structure b/w Alt2 and Alt4 in specific options selected:
 - Sector splits (seasonally specified %s)
 - Full transferability available
 - Note analytical assumption of variable transferability
 - 80% rollover provision
- Comparison with other alternatives in forgone pollock and salmon saved
 - Assist in demonstrating some of the trade-offs in decision making for preferred alternative

Total salmon savings by PPA scenario: Options and assumptions in PPA analysis (Fig. 5-40, p 274)

Scenario	A-season Transferability assumption	Rollover	(B-season with full transferability)	Total salmon savings by PPA scenario													
				Year	CDQ	M	P	S	A total	A-B Roll over	CDQ	M	P	S	B total	Annual Total	
1	No	No	No	2003	1,810	2,494	12,867	16,107	33,578		889	1,812	2,259	7,112	13,113	46,691	
				2004	1,167	1,843	8,773	12,732	23,955		1,160	1,802	2,611	14,946	19,633	43,539	
				2005	1,294	1,858	10,481	14,079	27,612		560	889	3,922	14,947	20,119	47,736	
				2006	1,294	1,858	15,048	23,159	43,919		157	164	1,431	18,172	19,921	65,742	
				2007	3,634	3,891	15,117	21,957	44,110		3,109	3,496	3,568	13,772	19,955	65,966	
	Yes	No	No	No	2003	1,810	2,494	12,867	16,107	33,578							46,691
					2004	1,167	1,843	8,773	12,732	23,955							43,539
					2005	1,294	1,858	10,481	14,079	27,612							47,736
					2006	1,294	1,858	15,048	23,159	43,919							65,742
					2007	3,634	3,891	15,117	21,957	44,110							65,966
2	No	No	No	2003	1,810	2,494	13,008	16,107	34,520		889	1,800	3,259	7,112	12,971	44,491	
				2004	1,167	1,843	8,773	12,732	25,955		743	981	2,551	8,411	14,685	38,843	
				2005	1,294	1,858	10,381	14,079	27,612		560	889	2,608	10,040	13,897	41,509	
				2006	1,294	1,858	13,819	16,451	34,732		157	164	1,431	12,277	14,028	45,746	
				2007	3,058	2,856	10,911	15,650	32,478		768	1,029	2,538	9,633	14,168	46,345	
	Yes	No	No	No	2003	1,810	2,494	12,817	16,107	34,119							46,120
					2004	1,167	1,843	8,773	12,732	23,955							38,843
					2005	1,294	1,858	10,381	14,079	27,612							41,509
					2006	1,294	1,858	11,488	17,021	32,571							45,746
					2007	3,058	2,856	10,911	15,650	32,478							46,345

Tables 5-31-5-37

- Comparison of cap levels
 - Compare with highest, lowest cap and closest cap and sector split to PPA1 and PPA2
- Assumptions of transferability
 - Note Alt 2 assumes no transferability
- Evaluation of rollover
 - Comparison with 100% and 0% (note Alt 2 assumed 0% rollover)

Comparison of salmon bycatch

Table ES-9 / 5-38

Bycatch year	Alternative	Bycatch cap level	Projected salmon bycatch			Reduction from actual bycatch in that year
			A season	B season	Annual Total	
2007 Actual bycatch: 121,638	Highest 2007 bycatch alternative ^[1]	87,500	40,415	36,828	77,243	37%
	PPA1 ^[1]	68,392	46,130	20,193	66,323	46%
	PPA2	47,591	32,175	14,208	46,383	62%
	Lowest 2007 bycatch alternative ^[2]	29,300	2,801	6,557	9,358	92%
2003 Actual bycatch: 46,993	Highest 2003 bycatch alternative ^[3]	87,500	33,808	13,185	46,993	0
	PPA1 ²	68,392	33,578	13,113	46,691	1%
	PPA2	47,591	31,520	13,113	44,633	5%
	Lowest 2003 bycatch alternative ^[4]	29,300	11,550	11,084	22,634	52%

[1] Assumes no A season transferability
 [2] Option 2d sector split, 70/30 seasonal split
 [3] Option 2a sector split, 50/50 seasonal split
 [4] Option 1 sector split, 50/50 seasonal split
 [5] The following sector and seasonal splits all produced similar results: Option 1 sector split (all seasonal splits equivalent); Option 2a, (58/42); Option 2d, (58/42, 70/30)

Impact assessment of alternatives on salmon stocks

Three steps to assess alternatives relative to status quo:

1. Total salmon savings in bycatch
 - Overall bycatch reduction
2. Conversion to adult equivalents (AEQ)
 - Overall increase in salmon returning to spawn
3. AEQ salmon returns to specific river systems
 - Region-specific increases in salmon returning to spawn

Adult equivalent salmon savings

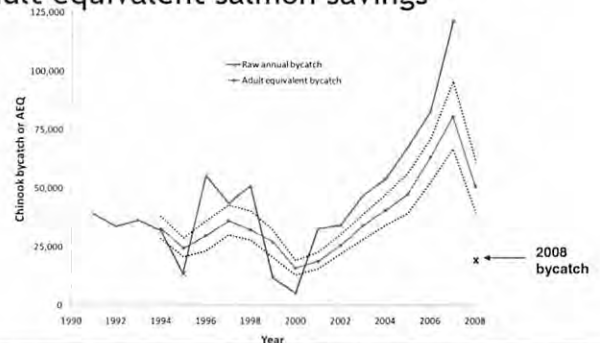


Table ES-10 / 5-39 (Based on 2007)	PPA1	Alt2 cap 87,500 Opt2d 70/30	Alt2 cap 29,300 Opt2d 70/30
Number of salmon bycatch saved	55,307	75,306	112,647
Adult equivalent salmon saved	26,420	40,851	65,476

Chinook salmon AEQ change

Table ES-12/10-57

	2003	2004	2005	2006	2007
Actual AEQ	33,215	41,047	47,268	61,737	78,814
PPA annual Scenario 1	<1%	7%	16%	22%	34%
PPA annual Scenario 2	2%	11%	24%	40%	52%
87,500 70/30 opt2d	1%	7%	19%	21%	28%
68,100 70/30 opt2d	<1%	18%	29%	51%	64%
48,700 70/30 opt2d	12%	18%	29%	51%	64%
29,300 70/30 opt2d	42%	45%	51%	67%	83%

Chinook AEQ by PPA

Table 5-46 Hypothetical adult equivalent Chinook bycatch levels attributed to river system, under the two PPA scenarios with A-B split equal to 70:30, 80% rollover from A to B season, and between sector transferability, 2003-2007.

	Coast		Cook Inlet	Middle Yukon	N AK Penin		Russia	TBR	Upper Yukon	Other	Total
	PNW	W AK									
PPA1											
2003	5,229	21,558	244	244	4,990	165	202	230	764	33,625	
2004	9,556	20,928	863	291	4,734	237	604	253	867	38,335	
2005	9,251	21,722	899	470	4,582	304	628	404	848	39,107	
2006	10,038	28,208	708	252	6,661	229	518	234	1,110	47,958	
2007	9,696	32,066	597	325	7,496	254	453	304	1,202	52,394	
PPA2											
2003	5,070	20,903	236	236	4,838	160	196	223	741	32,603	
2004	7,924	21,271	627	275	4,855	210	451	246	831	36,690	
2005	6,936	21,914	531	371	4,827	236	389	330	802	36,338	
2006	7,675	22,034	531	197	5,202	177	391	184	862	37,253	
2007	7,050	23,209	437	235	5,425	185	331	220	871	37,963	

Impacts of increased AEQ to river systems

- How would improved returns have changed inseason salmon management?

Tables ES-13(rev)/10-59, Appx 8 CAR

Impact assessment of alternatives on salmon stocks

Three steps to assess alternatives relative to status quo:

- Total salmon savings in bycatch
 - Overall bycatch reduction
- Conversion to adult equivalents (AEQ)
 - Overall increase in salmon returning to spawn
- AEQ salmon returns to specific river systems
 - Region-specific increases in salmon returning to spawn

Increases in AEQ salmon returns to river of origin relative to status quo (2007)

Table ES-11 / 5-40

Stock Origin	PPA1	PPA2	Alt2 cap 87,500 Opt2d 70/30	Alt2 cap 29,300 Opt2d 70/30
Yukon	5,228	8,840	3,299	14,938
Kuskokwim	3,398	5,746	2,144	9,710
Bristol Bay	4,443	7,514	2,804	12,697
Pacific Northwest aggregate stocks (PNW)	8,489	11,135	9,581	15,507
Cook Inlet stocks	1,042	1,202	1,010	1,284
Transboundary aggregate stocks (TBR)	699	821	670	909
North Alaska Peninsula stocks (N.AK)	2,318	4,389	2,264	8,594
Aggregate 'other' stocks	803	1,203	646	1,837

Summary of escapement goals and possible management changes with additional AEQ (Tables ES-13(rev)/10-59) Appx 8 CAR

River	Escapement met from 2003-2007	Additional restrictions imposed from 2003-2007			Likely management changes if additional AEQ salmon had been available 2003-2007
		Subsistence	Commercial	Sport	
Yukon	2006 some key goals not met	More conservative management plan imposed since 2001			2006-2007 additional fish would accrue towards meeting escapement; in all years increased potential for higher subsistence and commercial harvest
	2007 Treaty goal not met	2007 Canada	Below average 2005-2007	2007 Canada	
Kuskokwim	Most	More conservative management plan imposed 2001-2006			Potential for increased commercial harvests within market constraints
	2007 Most	No	No	No	
Bristol Bay (Nushagak)	2007 goals not met	No	No	2007	If sufficient additional to meet escapement then 2007 sport fish restriction would not have been imposed; In all years additional fish towards escapement, increased potential for higher subsistence and commercial harvest
Norton Sound subdistricts 5 and 6	2003-2006 Unalakleet goal not met	2003-2004; 2006-2007	2003-2007	2003-2004; 2006-2007	Additional fish would accrue to escapement

Cumulative effects

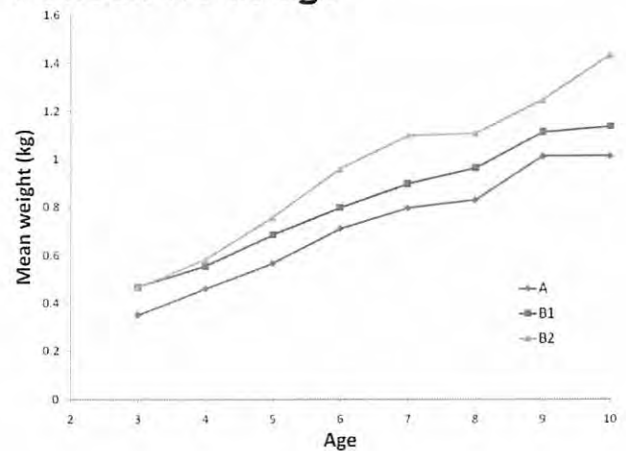
- Revised section 5.4 Consideration of future actions (CAR appendix 6); Section 3.4 (revised CAR appendix 2): impacts in context of other activities:
 - Climate change
 - Chum measures
 - Salmon excluders
 - Changes in state salmon management
 - Pollock and salmon fishing (domestic and foreign)
 - Hatchery releases
 - Other actions

Impact analysis: other resources categories

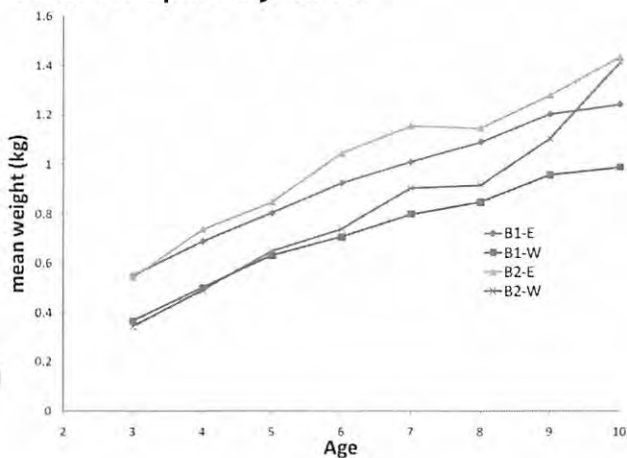
Pollock Review

- As abundance decreases below target, pollock quotas decrease due to reductions in allowable harvest rates (hence moderating effort)
 - Below-average stock levels in recent few years
 - Increase expected due to signs of incoming year class
- Patterns by area and season concentration
 - Result in shift towards smaller pollock
 - Anticipation that data would drive assessment
 - E.g., selectivity revisions etc.
- Generally, Chinook bycatch measures proposed result in lower pollock catches

Pollock wt-at-age



B-season split by area



Other direct and indirect impacts

- Chum salmon
- Other groundfish
- Other PSC species
- Marine Mammals
- Seabirds
- Habitat

Cumulative effects

- Revised section 4.3 Consideration of future actions (pollock) (CAR appendix 3)
 - Chum measures
 - SSL measures
 - Climate change
 - Salmon excluders
 - Other actions
- Revised section 6.6 Consideration of future actions (chum) (CAR appendix 7)
 - Chum measures
 - Climate change
 - Salmon excluders
 - Other actions

Assessment of economic impacts



Economic Impacts outline

- Focus on PPA
 - Compare information with other alternatives
- Impacts on salmon users
- Impacts by pollock fishery sector
- Additional information included to augment economic analysis in response to public comments (appendices to CAR)
 - updated price information (CAR Appendix 10)
 - CDQ royalty section (CAR Appendix 11)
 - shoreside impacts (CAR Appendix 12)

Impacts on salmon users

- The AEQ estimates represent the potential benefit in numbers of adult Chinook salmon that would have returned to individual river systems and aggregate river systems as applicable over the years from 2003 to 2007.
- Analysis is data limited
- Attribution to Natal Stream and resulting estimation of escapement and/or capture by harvesting sector is not possible.

AEQ Chinook Salmon Savings by River System Under the PPA (Alternative 4)

Table 10-70 Difference (reduction) in AEQ mortality (i.e., added salmon due to alternative and year relative to observed). (DEIS page 647)

	Total WAK	Yukon	Kuskokwim	Bristol Bay
PPA 1				
2003	-823	-329	-214	-280
2004	1,478	591	384	503
2005	4,879	1,952	1,269	1,659
2006	8,525	3,410	2,217	2,898
2007	13,069	5,228	3,398	4,444
PPA 2				
2003	-153	-61	-40	-52
2004	1,158	463	301	394
2005	4,860	1,944	1,264	1,653
2006	14,804	5,922	3,849	5,033
2007	22,100	8,840	5,746	7,514

AEQ Chinook Salmon Savings Comparison for Kuskokwim Area

Table 10-60 Kuskokwim Area Annual Chinook Salmon Catch, by Sector, Compared to AEQ Chinook Salmon Estimates for Alternatives 2 and 4 (2003-2007). * Some 2007 data are preliminary (DEIS page 633)

Catch and AEQ Estimates	Kuskokwim Area				
	Year				
	2003	2004	2005	2006	2007
Commercial Catch	158	2,300	4,784	2777	179
Subsistence Catch	67,788	80,065	70,393	63,177	72,097*
Sport Catch	401	857	1,092	572	2,543*
Total Catch	68,347	83,222	76,269	66,526	74,819
PPA1	-214	384	1,269	2217	3,398
PPA2	-40	301	1,264	3,849	5,746
Alt. 2, 87,500, opt2d, 70/30	365	824	1,369	2,144	2,144
Alt. 2, 29,300, opt2d, 70/30	2,399	3,243	6,361	9,710	9,710

AEQ Chinook Salmon Savings Comparison for The Alaska Yukon

Table 10-61 Alaska Yukon River Area Annual Chinook Salmon Catch, by Sector, Compared to AEQ Chinook Salmon Estimates for Alternatives 2 and 4 (2003-2007) (DEIS page 634)

Catch and AEQ Estimates	Yukon River (Alaska)				
	Year				
	2003	2004	2005	2006	2007
Commercial Catch	40,438	56,151	32,029	45,829	33,634
Subsistence Catch	55,109	53,675	52,561	47,710	59,242
Sport Catch	2,719	1,513	483	739	960
Total Catch	98,266	111,339	85,073	94,278	92,876
PPA1	-329	591	1,952	3,409	5,228
PPA2	-61	463	1,944	5,921	8,840
Alt. 2, 87,500, opt2d, 70/30	561	-2	1,267	2,107	3,299
Alt. 2, 29,300, opt2d, 70/30	3,690	3,469	4,989	9,786	14,938

AEQ Chinook Salmon Savings Comparison for The Bristol Bay Area

Table 10-62 Bristol Bay Area Annual Chinook Salmon Catch, by Sector, Compared to AEQ Chinook Salmon Estimates for Alternatives 2 and 4 (2003-2007). (DEIS page 635)

Catch and AEQ Estimates	Bristol Bay Area				
	Year				
	2003	2004	2005	2006	2007
Commercial Catch	46,953	114,280	76,590	106,962	62,670
Subsistence Catch	21,231	18,012	15,212	12,617	16,002
Sport Catch	9,941	13,195	13,036	10,749	15,200
Total Catch	78,125	145,487	104,838	119,579	78,672
PPA1	-280	503	1,659	2,898	4,443
PPA2	-52	394	1,653	5,033	7,514
Alt. 2, 87,500, opt2d, 70/30	477	-1	1,077	1,791	2,804
Alt. 2, 29,300, opt2d, 70/30	3,137	2,948	4,241	8,318	12,697

AEQ Chinook Salmon Savings Comparison for The Total western Alaska (excluding Norton Sound)

Table 10-63 Total western Alaska (excluding Norton Sound) Annual Chinook Salmon Catch, by Sector, Compared to AEQ Chinook Salmon Estimates for Alternatives 2 and 4 (2003-2007). (DEIS page 636)

Catch and AEQ Estimates	Total Kuskokwim, Alaska Yukon, and Bristol Bay				
	Year				
	2003	2004	2005	2006	2007
Commercial Catch	87,549	172,731	113,403	155,568	96,483
Subsistence Catch	144,128	151,752	138,166	123,504	147,341
Sport Catch	13,061	15,565	14,6	12,060	18,703
Total Catch	244,738	340,048	266,180	280,383	262,527
PPA1	-823	1,478	4,880	8,524	13,069
PPA2	-153	1,158	4,861	14,803	22,100
A2, 87,500, opt2d, 70/30	1,403	821	3,713	6,042	8,247
A2, 29,300, opt2d, 70/30	9,226	9,660	15,591	27,814	37,345

Table 10-65 Hypothetical Chinook salmon savings under Alternative 4 PPA1 and PPA2, with and without transfers and rollovers. (DEIS page 644)

PPA	Transf-er-Ability	Year	A-Season					total	Roll over	B-Season				B Total	Ann. Total	
			CDQ	M	P	S	CDQ			M	P	S				
1	No	2003	0	0	0	0	0	0	0%	0	0	0	0	0	0	0
		2004	0	0	0	0	0	0		675	547	0	9,085	10,307	10,307	
		2005	0	0	0	0	0	0		0	0	0	18,076	18,076	18,076	
		2006	0	829	1,145	12,822	14,796	0		0	0	0	4,109	4,109	18,906	
		2007	0	824	10,617	11,901	23,341	0		1,401	457	2,562	27,942	32,362	55,704	
	Yes	2003	0	0	0	0	0	0		0	0	0	0	0	0	0
		2004	0	0	0	0	0	0		675	547	0	9,085	10,307	10,307	
		2005	0	0	0	0	0	0		0	0	0	18,076	18,076	18,076	
		2006	0	646	0	11,038	11,683	0		0	0	0	4,109	4,109	15,793	
		2007	0	764	10,617	11,901	23,282	0		1,401	457	2,562	27,942	32,362	55,644	
2	No	2003	0	0	2,059	0	2,059	0	0	142	0	0	142	2,200		
		2004	0	0	0	0	0	0	1,112	966	60	13,764	15,902	15,902		
		2005	0	0	0	0	0	0	0	0	1,314	22,983	24,297	24,297		
		2006	0	1,980	5,375	19,529	26,883	0	0	0	10,004	10,004	36,887			
		2007	576	2,069	14,843	19,808	37,296	0	1,743	834	3,593	31,881	38,050	75,346		
	Yes	2003	0	0	430	0	430	0	0	142	0	0	142	571		
		2004	0	0	0	0	0	0	1,112	966	60	13,764	15,902	15,902		
		2005	0	0	0	0	0	0	0	0	1,314	22,983	24,297	24,297		
		2006	0	1,980	4,806	18,959	25,744	0	0	0	10,004	10,004	35,749			
		2007	576	2,069	14,843	19,808	37,296	0	1,743	834	3,593	31,881	38,050	75,346		

Effects of Rollovers and Transfers on Chinook Savings Under the PPA.

Table 10-66 Reduction in Chinook Salmon Savings Due to Transferability by PPA Scenario. (DEIS page 645)

PPA	Year	A-Season				A total
		CDQ	M	CP	S	
1	2003	0	0	0	0	0
	2004	0	0	0	0	0
	2005	0	0	0	0	0
	2006	0	183	1,145	1,784	3,113
	2007	0	60	0	0	59
2	2003	0	0	1,629	0	1,629
	2004	0	0	0	0	0
	2005	0	0	0	0	0
	2006	0	0	569	570	1,139
	2007	0	0	0	0	0

Comparison of B Season Effects of Rollovers and Transfers Under the PPA.

Table 10-67 Reduction in B Season Chinook Salmon Savings Due to Rollovers Under PPA Scenarios with no A season Transfers. (DEIS page 646)

PPA	Rollover Percent	Year	CDQ	M	CP	S	total
1	80%	2003	0	0	0	0	0
		2004	675	547	0	9,085	10,307
		2005	0	0	0	15,845	15,845
		2006	0	0	0	627	627
		2007	133	0	204	0	337
2	80%	2003	0	0	0	0	0
		2004	1,112	966	60	4,679	6,817
		2005	0	0	915	3,286	4,201
		2006	0	0	0	0	0
		2007	0	40	0	0	40

Comparison of B Season Effects of Rollovers and Transfers Under the PPA.

Table 10-68 Reduction in B Season Chinook Salmon Saved Due to Rollovers Under PPA1 and PPA2, with A season Transfers(DEIS page 646)

PPA	Rollover Percent	Year	CDQ	M	P	S	total
1	80%	2003	0	0	0	0	0
		2004	675	547	0	9,085	10,307
		2005	0	0	0	15,845	15,845
		2006	0	0	0	627	627
		2007	133	0	204	0	337
2	80%	2003	0	142	0	0	142
		2004	1,112	966	60	4,679	6,817
		2005	0	0	915	3,286	4,201
		2006	0	0	0	0	0
		2007	0	40	0	0	40

2007 Price Update for Estimating Potential Effects on Pollock Fishery Revenue

Percentage Increase in 2007 prices versus 2006 prices (See Appendix 10 of the CAR) Note: Conf: Confidential due to fewer than three entities reported and/or the reporting of a sector split and the total for the category would violate confidentiality, thus the total is reported but not the sector data.

Sector		Season		Percentage Difference	
				2007 versus 2006	
				CDQ	non-CDQ
CP	A			Conf	9.5%
	B			Conf	16.5%
	Total			Conf	12.5%
M	A			Conf	-2.5%
	B			Conf	20.0%
	Total			Conf	8.3%
S	A			n/a	8.0%
	B			n/a	9.0%
	Total			n/a	9.2%
All	A			6.7%	7.4%
	B			16.5%	13.3%
	Total			11.4%	10.6%

Potentially Forgone Pollock Fishery Gross Revenue Under Alternatives 2 and 4 (The PPA)

Table 10-85: 2007 estimated forgone gross revenue by sector for Alternative 2, option 2d (70/30 season split, cap 68,100), compared with PPA1 (cap 68,392) (in millions of \$) (see CAR appendix 10)

Sector	CDQ	Inshore CV	Mothership	Offshore CP	Total
Alternative 2: option 2d					
A season	\$0.0	\$134.8	\$20.1	\$118.3	\$273.2
B season	\$2.5	\$40.9	\$1.8	\$4.2	\$49.3
Total Alternative 2	\$2.5	\$175.7	\$21.9	\$122.5	\$322.5
Alternative 4: PPA1					
A season	\$0	\$123	\$12	\$115	\$249
B season	\$4	\$36	\$2	\$22	\$64
Total Alternative 4	\$4	\$159	\$14	\$137	\$313

Impacts by pollock fishery sector

- Potentially forgone pollock fishery revenue
- Breakout by sector, CDQ separated
- Annual price data, updated for 2007
- Direct Effects Estimation Methodology
- Indirect Effects: Qualitative, due to data limitations.
- Potential Tax Revenue Effects
- CDQ Royalty Effects
- Potential Shoreside Processing Value Added Effects Breakout.

Prices Used to Estimate Potential Effects on Pollock Fishery Revenue

Table 10-81: Round weight Equivalent First Wholesale value of retained pollock by sector, 2003-2007 (\$/mt) (See appendix 10 to the CAR for updated Table)

Sector	Season	2003		2004		2005		2006		2007	
		CDQ	non-CDQ	CDQ	non-CDQ	CDQ	non-CDQ	CDQ	non-CDQ	CDQ	non-CDQ
CP	A	\$1,180	\$921	\$1,126	\$1,145	\$1,089	\$1,284	\$1,165	\$1,172	Conf	\$1,283
	B	\$712	\$533	\$591	\$591	\$766	\$768	\$748	\$748	Conf	\$871
	Total	\$899	\$689	\$804	\$818	\$893	\$979	\$915	\$920	Conf	\$1,035
M	A	\$716	\$706	\$806	\$850	\$1,101	\$552	\$963	\$982	Conf	\$957
	B	\$428	\$412	\$403	\$429	\$566	\$304	\$514	\$550	Conf	\$660
	Total	\$543	\$529	\$564	\$598	\$777	\$402	\$693	\$720	Conf	\$780
S	A	\$0	\$797	\$0	\$849	\$0	\$1,018	\$0	\$947	0	\$1,023
	B	\$0	\$633	\$0	\$596	\$0	\$700	\$0	\$700	0	\$763
	Total	\$0	\$698	\$0	\$699	\$0	\$827	\$0	\$800	0	\$874
All	A	\$1,116	\$839	\$1,081	\$972	\$1,090	\$1,083	\$1,144	\$1,043	1,221	\$1,120
	B	\$672	\$570	\$565	\$577	\$745	\$688	\$723	\$704	842	\$798
	Total	\$849	\$677	\$771	\$738	\$881	\$847	\$892	\$842	994	\$931

Potentially Forgone Pollock Fishery Gross Revenue Under Alternatives 2 and 4 (The PPA)

Table 10-86: 2007 estimated forgone revenue for Alternative 2, option 2d (70/30 season split, cap 48,700) compared with PPA2 (cap 47,591) (in millions of \$) (See CAR appendix 10)

Sector	CDQ	Inshore CV	Mothership	Offshore CP	Total
Alternative 2: option 2d					
A season	\$23.7	\$200.6	\$33.7	\$155.9	\$413.7
B season	\$4.5	\$54.7	\$3.7	\$13.1	\$76.0
Total Alternative 2	\$28.20	\$255.30	\$37.40	\$169.00	\$489.70
Alternative 4: PPA1					
A season	\$13	\$154	\$28	\$172	\$367
B season	\$5	\$46	\$4	\$30	\$86
Total Alternative 4	\$18	\$200	\$32	\$202	\$453

Table 10-99: Hypothetical forgone pollock revenue by year and season under 1 and PPA2. (\$ Millions) (see CAR appendix 10)

PPA	Transfer-Ability	A-Season					Roll over	B-Season				B Total	Annual Total			
		Year	CDQ	M	P	S		CDQ	M	P	S					
1	No	2003	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
		2004	\$0	\$0	\$0	\$0	\$0	\$9	\$0	\$0	\$10	\$20	\$20	\$20		
		2005	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20	\$20	\$20	\$20		
		2006	\$0	\$8	\$8	\$122	\$138	\$0	\$0	\$0	\$11	\$11	\$149	\$149		
		2007	\$0	\$15	\$115	\$123	\$252	\$4	\$2	\$22	\$36	\$64	\$317	\$317		
		Yes	2003	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
			2004	\$0	\$0	\$0	\$0	\$0	\$9	\$0	\$0	\$10	\$20	\$20	\$20	
	2005		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20	\$20	\$20	\$20		
	2006		\$0	\$4	\$0	\$116	\$120	\$0	\$0	\$0	\$11	\$11	\$131	\$131		
	2007		\$0	\$12	\$115	\$123	\$249	\$4	\$2	\$22	\$36	\$64	\$314	\$314		
	2		No	2003	\$0	\$0	\$56	\$0	\$56	\$0	\$1	\$0	\$0	\$1	\$57	\$57
				2004	\$0	\$0	\$0	\$0	\$0	\$21	\$1	\$1	\$18	\$41	\$41	\$41
		2005		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$29	\$27	\$57	\$57	\$57	
		2006		\$0	\$15	\$60	\$169	\$244	\$0	\$0	\$0	\$27	\$27	\$272	\$272	
2007		\$13		\$28	\$154	\$172	\$367	\$5	\$4	\$30	\$46	\$86	\$452	\$452		
Yes		2003		\$0	\$0	\$22	\$0	\$22	\$0	\$1	\$0	\$0	\$1	\$22	\$22	
		2004		\$0	\$0	\$0	\$0	\$0	\$21	\$1	\$1	\$18	\$41	\$41	\$41	
		2005	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$29	\$27	\$57	\$57	\$57		
		2006	\$0	\$15	\$39	\$162	\$216	\$0	\$0	\$0	\$27	\$27	\$243	\$243		
		2007	\$13	\$28	\$154	\$172	\$367	\$5	\$4	\$30	\$46	\$86	\$452	\$452		

Effects of Rollovers and Transfers on Chinook Savings Under the PPA

Table 10-101 Reduction in Potentially Forgone Pollock Revenue Due to Transferability by PPA Scenario (\$ millions) (DEIS page 677, updated for 2007 prices)

PPA	Year	A-Season				A total
		CDQ	M	P	S	
1	2003	\$0	\$0	\$0	\$0	\$0
	2004	\$0	\$0	\$0	\$0	\$0
	2005	\$0	\$0	\$0	\$0	\$0
	2006	\$0	\$4	\$8	\$6	\$18
	2007	\$0	\$3	\$0	\$0	\$3
2	2003	\$0	\$0	\$35	\$0	\$35
	2004	\$0	\$0	\$0	\$0	\$0
	2005	\$0	\$0	\$0	\$0	\$0
	2006	\$0	\$0	\$21	\$8	\$29
	2007	\$0	\$0	\$0	\$0	\$0

Comparison of B Season Effects of Rollovers and Transfers Under the PPA.

Table 10-102 Reduction in B Season Potentially Forgone Pollock Revenue Due to Rollovers Under PPA Scenarios with no A season Transfers (\$ millions) (DEIS page)

PPA	Rollover Percent	Year	CDQ	M	P	S	total
1	80%	2003	\$0	\$0	\$0	\$0	\$0
		2004	\$9	\$0	\$0	\$10	\$20
		2005	\$0	\$0	\$0	\$20	\$20
		2006	\$0	\$0	\$0	\$2	\$2
		2007	\$0	\$0	\$2	\$0	\$2
2	80%	2003	\$0	\$1	\$0	\$0	\$1
		2004	\$21	\$1	\$1	\$8	\$31
		2005	\$0	\$0	\$22	\$6	\$28
		2006	\$0	\$0	\$0	\$0	\$0
		2007	\$0	\$0	\$0	\$0	\$0

Table 10-100: Hypothetical forgone pollock revenue, in percent of total forgone pollock revenue, by sector and scenario (% of total wholesale revenue) (See CAR Appendix 10)

PPA	Transfer-Ability	A-Season					Roll over	B-Season				B Total	Annual Total		
		Year	CDQ	M	P	S		CDQ	M	P	S				
1	No	2003	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
		2004	0%	0%	0%	0%	0%	18%	1%	0%	4%	4%	2%		
		2005	0%	0%	0%	0%	0%	0%	0%	0%	7%	3%	2%		
		2006	0%	16%	3%	49%	22%	0%	0%	0%	4%	2%	12%		
		2007	0%	31%	46%	49%	41%	6%	4%	9%	14%	10%	26%		
		Yes	2003	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
			2004	0%	0%	0%	0%	0%	18%	1%	0%	4%	4%	2%	
	2005		0%	0%	0%	0%	0%	0%	0%	0%	7%	3%	2%		
	2006		0%	8%	0%	47%	19%	0%	0%	0%	4%	2%	10%		
	2007		0%	25%	46%	49%	41%	6%	4%	9%	14%	10%	25%		
	2		No	2003	0%	0%	28%	0%	11%	0%	2%	0%	0%	0%	6%
				2004	0%	0%	0%	0%	0%	41%	4%	0%	8%	8%	4%
		2005		0%	0%	0%	0%	0%	0%	0%	12%	10%	9%	5%	
		2006		0%	30%	23%	68%	39%	0%	0%	0%	10%	4%	22%	
2007		18%		60%	61%	69%	60%	7%	8%	12%	18%	14%	37%		
Yes		2003		0%	0%	11%	0%	4%	0%	2%	0%	0%	0%	2%	
		2004		0%	0%	0%	0%	0%	41%	4%	0%	8%	8%	4%	
		2005	0%	0%	0%	0%	0%	0%	0%	12%	10%	9%	5%		
		2006	0%	30%	15%	65%	34%	0%	0%	0%	10%	4%	19%		
		2007	18%	60%	61%	69%	60%	7%	8%	12%	18%	14%	37%		

Regional Tax Implications of Alternative 4 (The PPA)

Table 10-115: Hypothetical forgone pollock state tax revenue under Chinook bycatch options under PPA1 and PPA2. (See CAR Appendix 10)

PPA	A-season Transferability	Year	A-B Rollover	Annual Total	A/P Tax Impact		
1	No	2003	0%	0%	\$0		
		2004		2%	\$173,346		
		2005		2%	\$175,671		
		2006		12%	\$1,346,659		
		2007		26%	\$2,685,310		
		Yes		2003	0%	\$0	
				2004	2%	\$173,346	
	2005			2%	\$175,671		
	2006			10%	\$1,183,035		
	2007			25%	\$2,659,598		
	2			No	2003	6%	\$512,115
					2004	4%	\$362,425
		2005			5%	\$492,139	
		2006			22%	\$2,455,520	
2007		37%	\$3,835,410				
Yes		2003	2%		\$201,303		
		2004	4%		\$362,425		
		2005	5%	\$492,139			
		2006	19%	\$2,196,496			
		2007	37%	\$3,835,410			

Shoreside Processing Value Added Estimation Methodology

- Ex-vessel versus total shoreside sector value from COAR reporting.
- Estimation of processing value, by port group, season, and year, as a percent of total processed product value.
- Estimation of value added processing by port group, season, and year using observed proportions of total processing value.
- Approximation of Shoreside Processing effects.

Shore side Value Added Processing Effects

Bering Sea Pollock Ex-Vessel Value by Port Group and Year (\$millions)
(See CAR appendix 12)

Port Group	Season	2003	2004	2005	2006	2007
AKU/DUT	A	\$68	\$73	\$85	\$85	\$78
	B	\$82	\$75	\$88	\$92	\$78
Total		\$149	\$148	\$173	\$177	\$156
All Others	A	\$4	\$5	\$7	\$6	\$6
	B	\$5	\$6	\$7	\$7	\$6
Total		\$9	\$11	\$13	\$13	\$12
Grand Total		\$158	\$159	\$186	\$190	\$168

Shore side Value Added Processing Effects

Bering Sea Pollock Shoreside Processing Value by Port Group and Year
(See CAR appendix 12) (\$millions)

Port Group	Season	2003	2004	2005	2006	2007
AKU/DUT	A	\$132	\$141	\$167	\$154	\$160
	B	\$160	\$144	\$175	\$166	\$161
Total		\$292	\$285	\$342	\$319	\$322
KCO/KOD/SPT/FLD	A	\$3	\$2	\$4	\$4	\$5
	B	\$3	\$2	\$4	\$4	\$5
Total		\$6	\$3	\$8	\$8	\$9
Grand Total		\$297	\$288	\$350	\$327	\$331

Shore side Value Added Processing Effects

Bering Sea Pollock Total Shoreside Sector Value (Ex-Vessel Value plus Shoreside Processing Value Added) by Port Group and Year (\$millions)
(See CAR appendix 12)

Port Group	Season	2003	2004	2005	2006	2007
AKU/DUT	A	\$200	\$214	\$252	\$239	\$238
	B	\$241	\$218	\$263	\$257	\$239
Total		\$441	\$432	\$515	\$496	\$478
All Others	A	\$7	\$7	\$10	\$10	\$10
	B	\$8	\$7	\$11	\$11	\$10
Total		\$15	\$14	\$21	\$20	\$21
Grand Total		\$456	\$446	\$536	\$517	\$498

Shore side Value Added Processing Effects

Bering Sea Pollock Processing Value as a Percent of Total First Wholesale Value (See CAR appendix 12)

Port Group	Season	2003	2004	2005	2006	2007
AKU/DUT	A	43.83%	47.93%	47.03%	46.22%	47.80%
	B	52.97%	48.90%	49.03%	49.82%	48.01%
Total		96.80%	96.83%	96.07%	96.05%	95.84%
All Others	A	1.45%	1.57%	1.92%	1.90%	2.07%
	B	1.75%	1.60%	2.01%	2.05%	2.08%
Total		3.20%	3.17%	3.93%	3.95%	4.16%

Shoreside Value Added Effects

- CAR appendix 12, page 270 and 271
- Table 10-XX: Hypothetical forgone value added processing revenue by year, season, and aggregated port group under PPA1 and PPA2. (\$ Millions)
- Table 10-XX: Hypothetical forgone pollock value-added first wholesale revenue, in percent of total forgone pollock revenue, by port group, season, year, for PPA1 and PPA2. (% of total wholesale revenue).

Table 10-XX: Hypothetical forgone value added processing revenue by year, season, and aggregated port group under PPA1 and PPA2. (\$ Millions) (CAR App. 12, p. 270)

PPA	A-season Transferability	A-Season					A-B Roll over	B-Season				Processing Annual Total	Shorside Annual Total		
		Year	A/D	Other	Proc. Total	S Total		A/D	Other	Proc. Total	S Total				
1	No	2003	\$0	\$0	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0		
		2004	\$0	\$0	\$0	\$0		\$5	\$0	\$5	\$10	\$5	\$10		
		2005	\$0	\$0	\$0	\$0		\$10	\$0	\$10	\$20	\$10	\$20		
		2006	\$56	\$2	\$59	\$122		\$5	\$0	\$6	\$11	\$64	\$133		
		2007	\$59	\$3	\$61	\$123		\$17	\$1	\$18	\$36	\$80	\$159		
		2003	\$0	\$0	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0		
		2004	\$0	\$0	\$0	\$0		\$5	\$0	\$5	\$10	\$5	\$10		
	Yes	2005	\$0	\$0	\$0	\$0		\$10	\$0	\$10	\$20	\$10	\$20		
		2006	\$54	\$2	\$56	\$116		\$5	\$0	\$6	\$11	\$61	\$127		
		2007	\$59	\$3	\$61	\$123		\$17	\$1	\$18	\$36	\$80	\$159		
		2	No	2003	\$0	\$0	\$0	\$0	0%	\$0	\$0	\$0	\$0	\$0	\$0
				2004	\$0	\$0	\$0	\$0		\$9	\$0	\$9	\$18	\$9	\$18
				2005	\$0	\$0	\$0	\$0		\$13	\$1	\$14	\$27	\$14	\$27
				2006	\$78	\$3	\$82	\$169		\$14	\$1	\$14	\$27	\$96	\$197
2007	\$82			\$4	\$86	\$172		\$22	\$1	\$23	\$46	\$109	\$215		
2003	\$0			\$0	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0		
2004	\$0			\$0	\$0	\$0		\$9	\$0	\$9	\$18	\$9	\$18		
Yes	2005	\$0	\$0	\$0	\$0		\$13	\$1	\$14	\$27	\$14	\$27			
	2006	\$75	\$3	\$78	\$162		\$14	\$1	\$14	\$27	\$92	\$189			
	2007	\$82	\$4	\$86	\$172		\$22	\$1	\$23	\$46	\$109	\$218			

Table 10-XX: Hypothetical forgone pollock value-added first wholesale revenue, in percent of total forgone pollock revenue, by port group, season, year, for PPA1 and PPA2 (% of total wholesale revenue). (CAR Appendix 12, page 271)

Season Transferability	Year	A-Season					A-B Roll over	B-Season				Processing Annual Total	Shorside Annual Total
		A/D	Other	Proc. Total	S Total	A/D		Other	Proc. Total	S Total			
1	No	2003	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		2004	0%	0%	0%	0%	0%	3%	10%	4%	4%	2%	2%
		2005	0%	0%	0%	0%	0%	6%	10%	6%	7%	3%	4%
		2006	37%	62%	37%	49%	0%	3%	5%	3%	4%	20%	26%
		2007	37%	56%	37%	49%	0%	11%	17%	11%	15%	24%	32%
	Yes	2003	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		2004	0%	0%	0%	0%	0%	3%	10%	4%	4%	2%	2%
		2005	0%	0%	0%	0%	0%	6%	10%	6%	7%	3%	4%
		2006	35%	59%	35%	47%	0%	3%	5%	3%	4%	19%	25%
		2007	37%	56%	37%	49%	0%	11%	17%	11%	15%	24%	32%
2	No	2003	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		2004	0%	0%	0%	0%	0%	6%	18%	6%	8%	3%	4%
		2005	0%	0%	0%	0%	0%	8%	14%	8%	10%	4%	5%
		2006	51%	86%	52%	68%	0%	8%	14%	8%	10%	29%	38%
		2007	51%	79%	52%	69%	0%	14%	21%	14%	18%	33%	44%
	Yes	2003	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		2004	0%	0%	0%	0%	0%	6%	18%	6%	8%	3%	4%
		2005	0%	0%	0%	0%	0%	8%	14%	8%	10%	4%	5%
		2006	49%	82%	49%	65%	0%	8%	14%	8%	10%	28%	37%
		2007	51%	79%	52%	69%	0%	14%	21%	14%	18%	33%	44%

Regulatory Impact Review Summary

- EO 12866 Requirements for Cost-Benefit Analysis
- Importance of qualitative information
- Limitations of available Data in the Cost-Benefit framework.
- Contrast of CBA with Multiplier Analysis
- Net National Benefit Construct
- Reasoned Consideration of Potential Effects

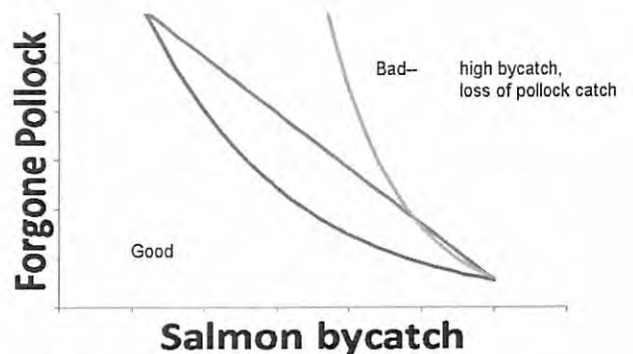


Summary of additional comments

- Balancing national standards
- New alternative suggestions (discussed previously)
- PSD program changes
- Support and reject certain alternatives
- Passive use/non-market evaluation
- Market considerations
- Legal comments on adequacy of analysis
- Treaty requirements



Policy tradeoffs



Detailed in Fig. ES-5, and 5-41, 5-42.

Salmon saved and forgone pollock

Table ES-18 / 5-43

Year	Bycatch Cap level (results for specific sector and seasonal allocations)	% salmon reduction (compared to actual)	% pollock catch foregone (compared to actual)
2007 (highest) Actual bycatch= 122,000	87,500	37%	22%
	68,392 Council Pref. Alt (high)	46%	23%
	47,591 Council Pref. Alt (low)	62%	32%
	29,300	92%	46%
2003 (lowest) Actual bycatch= 47,000	87,500	0%	0%
	68,392 Council Pref. Alt (high)	1%	0%
	47,591 Council Pref. Alt (low)	5%	4%
	29,300	52%	22%

Science. Service. Stewardship



SSC Evaluation of the Salmon Bycatch ICA

Alan Haynie, PhD
NOAA Fisheries
Economist, Alaska Fisheries Science Center

March 30, 2009

**NOAA
FISHERIES
SERVICE**

**NOAA
FISHERIES
SERVICE**



Outline of Presentation

- **Council Request of the SSC**
- Overview and discussion of incentive mechanisms to reduce salmon bycatch
- Salmon Savings Incentive Plan (SSIP)
- Financial Incentive Plan (FIP)
- Trades and vessel movement between plans
- Rolling Hotspot (RHS) Program
- Data collection requirements for monitoring



“This final documentation provided by industry must include the following:

- Description of the structure of the ICA agreement including information on the rules governing the inter-relationship of the different incentive programs...
- Clear description of each incentive program proposed under the ICA agreement...
- Analysis to demonstrate how well each incentive program will achieve the Council’s goals of bycatch reduction.”



Council SSC Request Summary

1. Do these incentive programs provide incentives for each vessel to avoid salmon bycatch under any condition of pollock and salmon abundance in all years, including at levels below a hard cap?
2. Can these programs be expected to promote reductions in actual individual vessel bycatch rates *relative to what would have occurred in absence of the incentive program.*



Outline of Presentation

- Council Request of the SSC
- **Overview and discussion of incentive mechanisms to reduce salmon bycatch**
- Salmon Savings Incentive Plan (SSIP)
- Financial Incentive Plan (FIP)
- Trades and vessel movement between plans
- Rolling Hotspot System
- Data collection requirements for monitoring

5



Will incentive systems be effective?

- Are incentives sufficient to "change behavior"?
- Hard cap will change behavior – vessels will make the least expensive choices available to them to reduce bycatch.
 - A hard cap alone without individual allocation would recreate a race for bycatch and eliminate benefits of rationalization.
- Beyond (below) the hard cap, various mechanisms could potentially provide incentives for bycatch reduction
 - Direct payment to vessel/company, or avoidance of a fee
 - Any system which allows savings now to be used in periods of higher avoidance costs.
 - Dynamic means of adjusting available salmon (e.g., dynamic salmon savings provision)

6



Will incentive systems be effective?

- Can fishers make choices to reduce bycatch?
 - SeaState provides real-time information about high bycatch areas
 - Bycatch has a predictable components seasonally and spatially
 - Choices that vessel operators can make to reduce bycatch
 - Choices about where to fish
 - When to start and end the season
 - Excluders

7



Different vessels are clean and dirty in part because of vessel characteristics

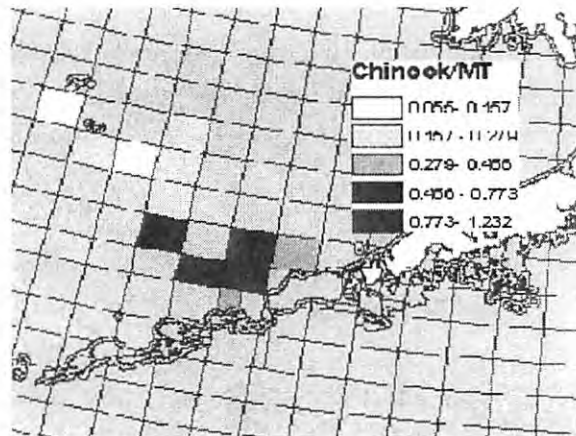
- Some vessels use more fuel/hour so it's more expensive for them to travel further to avoid salmon
- Because many CPs can profitably fish in areas with lower pollock CPUE because of greater horsepower, they can economically fish in a larger number of clean areas.
- CPs and Motherships can travel further north, which can be cleaner.
- The value of roe is higher to the offshore sector, so they are potentially more willing to pay for salmon rights during roe season than the inshore sector.

8



October 2007 inshore average bycatch rates by ADFG Area

- For areas with >10 hauls per area, considerable variation exists among areas, with cleaner areas being more distant
- Important question remains: can this bycatch be predicted and avoided?



9



While bycatch may be random, that doesn't mean that it's not predictable!

- For example, in October 2007, large correlation in CV ln(bycatch rates) in ADF&G statistical areas
 - From Week 2 to Week 3 in areas with > than 1 haul per week, the correlation is 0.91.
 - From the first half of the month to the second, the correlation is 0.61.
- For CPs, 2001-2007, the correlation is 0.47 from one day to the next in any given area.
- This gives some evidence of predictability, but further analysis can much better define these relationships to develop an efficient predictive model of expected bycatch across space.

10



Standard environmental externality problem

- Action of a person or company produces a negative impact (i.e., externality) on the environment.
 - Negative effect may be pollution (e.g., smog, noise, etc.) or bycatch
- Damage from action not borne solely by actor generating the pollution but by society or other groups
- Limited or no benefit from “good behavior” of reducing pollution or bycatch
 - Costs of any “good behavior” solely borne by actor, while benefits are experienced by society or others.

11



Standard approach to “internalizing the externality”

- Require polluting actors to bear the full social costs of their actions, which will create the efficient level of resource consumption
- Decisions are made at the margin
- Reduce pollution until Marginal Abatement Cost (MAC) = Marginal Damage (MD)
 - This is the socially efficient level of pollution.

12



Fees and Quotas can both be used to internalize environmental externalities

- If an additional unit of pollution will be very harmful (e.g., mercury), quotas provide more certainty on how much pollution (or bycatch) occurs because we know that the total will not be exceeded.
- If the costs of pollution control may be excessive and we do not have a strong reason to fix the total quantity, fees provide a certain per-unit cost and a maximum cost for any given level of pollution (or bycatch). Don't know what level of pollution will occur, however.
 - If fee is too low, pollution will be too high ($MD > MAC$)
 - If fee is too high, pollution too low ($MD < MAC$)

13



Bycatch is an environmental externality but...

it can't be accurately internalized with a standard quota or fee system.

- Not with a fixed quota because the optimal level of bycatch is variable – the right cap is not the same each year
- Not with a standard fee system because the Council's PPA implies that there is a level (i.e., hard cap) over which bycatch is excessive, regardless of what the pollock industry is willing to pay for it.
- Because MAC and MD vary with abundance fee will be *both* too high and too low at different times.

14



Socially efficient level of bycatch

- Socially efficient level of bycatch is where marginal abatement cost (MAC) = marginal damage (MD)
 - i.e., the cost of pollock fishery avoiding that salmon (MAC) = impact of the salmon loss on its other uses/users (MD)
 - We don't know exactly how many salmon this is
 - The Council approximates this point with the hard cap, but PPA recognizes that the point where this is the case is not fixed though time.
- Social efficiency can only be achieved through a hybrid system, such as both of the programs evaluated here.

15



Socially optimal bycatch level (2)

An optimal system will adjust with changes in abundance

- When salmon abundance is lower than average, it is easier to avoid salmon but the marginal damage of catching a salmon at any given level of total bycatch is higher than average
- When salmon abundance is higher than average, it is harder to avoid salmon but the marginal damage of catching a salmon at any given level of total bycatch is lower than average

16



Two reasons why salmon bycatch may increase

- Salmon abundance increases
 - If this is case, the marginal damage from additional bycatch is lower at any given amount of bycatch
- Salmon abundance is constant, but those salmon have moved onto the pollock fishing grounds
 - If this is the case, bycatch is high but the marginal damage from additional salmon will still be high
- Because high encounters may imply either of these states of nature, a hybrid system that combines a cap (at some level) with incentives at lower levels of abundance will provide protection under each possibility.

17



Key Features of a good incentive system

- Actors must be able to respond to incentives
- Response to the incentives meets the intent of the rule-makers
- System allows salmon savings to occur where and when it is least expensive
 - Allowing flexibility across time when there is not a biological reason to restrict one period vs. another.
 - Actions which restrict *how* an actor reduces bycatch add cost to the system.

18



Why is tradability important?

- Ensures that we are not wasting resources – trade maximizes the amount of salmon that is saved per dollar of avoidance costs and minimizes the cost of avoidance for every salmon saved.
- Different vessels have different abilities to avoid bycatch. A trading system provides incentives for vessels that can cost-effectively reduce bycatch so that they can trade allocations to others.
- The option to trade reduces the risk to vessels of searching for lower bycatch areas (that may be expected to be lower on average but could produce higher bycatch on a given haul).

19



What are restrictions to trade?

- Prohibiting vessels that reach an individual cap from purchasing additional salmon.
- Restricting the trade of salmon bycatch allocations between co-ops or sectors.
- Restricting the transfer of “saved” salmon in the SSIP is one example.

20



What are the impacts of restrictions on trade?

- Reduction in incentive for clean vessels to save because sales to vessels that reach their limit will be restricted and salmon prices lower.
 - Pollock can be transferred from dirty to clean vessels, which may mitigate the loss in incentive if the clean vessels are able to increase effort but it creates a loss from the inefficiency in the pollock fishery that it creates.
- Inefficient, high-bycatch vessels are likely to be distributional winners from trade restrictions (because prices will be lower for them), not clean vessels.

Reducing trade restrictions would increase salmon quota prices, which will encourage innovation in bycatch reduction.

21



Outline of Presentation

- Council Request of the SSC
- Overview and discussion of incentive mechanisms to reduce salmon bycatch
- **Salmon Savings Incentive Plan (SSIP)**
- Financial Incentive Plan (FIP)
- Trades and vessel movement between plans
- Rolling Hotspot System
- Data collection requirements for monitoring

22



Description of SSIP

- After first year of the program, vessels can only exceed their share of the 47K "performance standard" by
 - Using savings that was achieved over the previous 3 years (at a significant discount rate – 1 unit of salmon savings requires 2.29 salmon avoided below 47K)
 - Transferring salmon from another vessel that is saving below 47K for the year, in which case the transferee will be forced to conserve or transfer in that amount the following year
- The first year of the program allows vessels to go up to their share of 68K, but if they do they must conserve over the next two years so that the 3-year average bycatch will be under 47K.

23



Important features of the SSIP

- Provides incentives for all vessels to reduce bycatch
 - Insurance incentive present in the system that will encourage bycatch savings in low-bycatch years.
- No vessel can catch more than its share of 68K in any year
 - i.e., There can be no really "bad" actors under this system
- System is arguably less competitive in nature than the FIP or the Legacy Plan
 - This encourages sharing of bycatch information and avoidance strategies
 - Trade-off is reduced competition among vessels, which is most important at low bycatch levels.

24



Key Control Variables of System

- Discount rate for salmon savings
 - This is the rate at which savings earned today is savings in the future
 - Discount rate is large: must forgo 2.29 salmon this year to earn a saved salmon to use in future years
- Banked salmon expiration or decay
 - Saved salmon expires in 3-years
 - Could have a smoother decay, or allow further discounted sale of the 3rd year savings
- Vessels may not exceed total cap.
- Trading of savings not permitted.



Sample Scenario 1: Three years of low bycatch, then 3 years of higher bycatch

- Assume bycatch was 24,000 per year for the first 3 years—roughly half of the performance standard.
- After 3 years of this low bycatch, vessels could fish three years at 57,092. The following year (Year 7) would have to be back to performance standard.
- 6-year average bycatch would be 14 percent below performance standard.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Annual Bycatch	24,000	24,000	24,000	57,902	57,902	57,902
3-year mean	24,000	24,000	24,000	35,301	46,601	57,902
6-year mean	24,000	24,000	24,000	32,476	37,561	40,951



Sample Scenario 2: How would we see the highest 3-year rolling average?

- Highest possible 3-year average would follow 3 years of no bycatch.
- After 3 years of no bycatch, vessels could fish three years at 68,392. The following year would have to be back to the performance standard.
- 6-year average bycatch would be 28 percent below 47K average.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Annual Bycatch	0	0	0	68392	68392	68392
3-year mean	0	0	0	22797.333	45594.667	68392
6-year mean	0	0	0	17098	27356.8	34196



Sample Scenario 3: Upper limit fishing in all years

- Startup Loan used in Year 1
—Paid back over next 2 years
- Fishing at performance standard after this
- Unlikely to occur unless salmon extremely abundant on grounds in year 1; extremely financially risky for pollock fleet to have 37K cap for years 2 & 3.
- 3-yr and 6-yr averages are 47K.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Annual Max	68,392	37,191	37,191	47,591	47,591	47,591
3-year mean	68,392	52,791	47,591	40,657	44,124	47,591
6-year mean	68,392	52,791	47,591	47,591	47,591	47,591



Does SSIP Satisfy Provisions of PPA?

1. Does the SSIP provide incentives for each vessel to avoid salmon bycatch under any condition of pollock and salmon abundance in all years, including at levels below a hard cap?
— Yes.

2. Can the SSIP be expected to promote reductions in actual individual vessel bycatch rates *relative to what would have occurred in absence of the incentive program*.
 - Average of 1st 3 years will be at or below 47K.
 - If average of 1st 3 years is below 47K, 2nd 3 years could be above 47K, but 6-year average will be below 47K. After year 1, any salmon in excess of 47K for any year will be compensated by 2.29 salmon below 47K for another year.

29



Possible Improvements

- Third year salmon savings is “use it or lose it” and this could be improved.
 - This would only matter in the case that a vessel exceeds its base cap and has 3-year-old savings that it couldn’t trade
 - Doesn’t eliminate insurance incentive behavior beforehand, but creates an inefficiency in the system and reduces the incentive to save
 - Will occur infrequently & not dramatically affect the system.
- Trade restrictions could be relaxed.
- Discount rate could be made a decreasing function of savings within a year to sharpen incentives to save in low bycatch years.

30



Outline of Presentation

- Council Request of the SSC
- Overview and discussion of incentive mechanisms to reduce salmon bycatch
- Salmon Savings Incentive Plan (SSIP)
- **Financial Incentive Plan (FIP)**
- Trades and vessel movement between plans
- Rolling Hotspot System
- Data collection requirements for monitoring

31



Description of FIP

- Hard cap (68K) enforces upper bound of bycatch
- FIP mechanism provides per-salmon bycatch reduction incentive that increases as total bycatch declines and complements the salmon quota which increases in price as vessels approach the cap
 - Each vessel contributes a \$22.05/ton of pollock "ante" to a pool that is divided according to relative bycatch
 - Pool of contributions is divided based on relative "undercatch" of salmon.
- Ante to pool increases by \$11.03/yr when 3-year average bycatch is above 47K performance standard.

32



Key Features of FIP

- Tournament or pool mechanism of FIP uses competition to provide incentives to reduce bycatch.
 - At low levels of salmon bycatch, there are increased incentives for conservation
- Plan provides larger per-salmon marginal values when it is most biologically important, as bycatch goes towards zero (and therefore salmon abundance is low and marginal damage is high)
- Increasing “ante” to the tournament mechanism provides a strong mechanism to bring companies below 47K standard.

33



Undercatch calculation

- “Dirty Harry Problem” solved by basing the undercatch on the median vessel
- Undercatch is based on how many salmon are saved relative to bycatch, which is call the ‘performance reference.’ Currently set at 2.5 times the median bycatch.
- Interaction of the performance reference and the ante amount determine the strength of the plan’s incentives.
 - Both the size of the pie and how it’s divided are important.

34



Company Adjustment

- Adjusts pay-outs so that the marginal value per salmon is similar for each company
 - In previous version large companies faced lower marginal values of salmon & this adjustment corrects for this issue.
- How do the company adjustment and the escalating ante interact?

35



Control Variables of the FIP

- Ante and performance reference of under-catch to median interact to determine marginal value of salmon & payout
 - Smaller performance reference leads to a larger incentive for avoidance.
- How steep does the ante increase with a 3-year average above the performance standard?
- # of players is important to functioning of the program
 - Ante could be increased and/or performance reference could be decreased with smaller groups to provide stronger incentives.

36



What is the possibility for collusion or gaming in the FIP?

- Formal conspiracy to collude would be very difficult, as described by Kochin et al. (2008)
- Tacit collusion is possible, particularly with very small groups. It would be better for companies to have a higher bycatch, lower avoidance cost strategy if everyone would do that.
- The possibility of collusion in this system is reduced by several factors:
 - The ante increases if vessels are above a 3-year mean of 47K
 - Other vessels can enter this program and get a significant share of the antes if existing vessels are colluding and not attempting to minimize bycatch
 - It's sometimes hard to tell whether vessels are trying to aggressively minimize bycatch or are just lucky, which it makes it more difficult to observe deviation from any possible collusion.

37



Scenario 1: What are payouts and marginal values with the current ante and performance reference?

- The relationship between the ante and marginal value of salmon is direct – double the ante leads to double the marginal value for salmon.
- The difference between a performance reference of 2.0 and 2.5 is significant.
 - Marginal value would be approx. 1.5 times higher in 2007 with a 2.0 performance reference – approx. \$360 instead of \$240.
 - Total marginal values much higher than this in low bycatch years.
- While everyone in the FIP faces positive marginal values for salmon, the net payment is positive for those above the median and negative for those below.

38



Scenario 2: Can a vessel have a high bycatch year and pay its way out with increasing ante over three years?

- A vessel could choose to go to its share of 68K in Year 1 and then stay at its share of 47K for three years, paying increased antes for 3 years before the ante returns to normal. How much would this cost and would it be worth it?
- The vessel would pay approximately \$4,000 per salmon extra as a result of the increasing ante, plus additional costs in the first year that will depend on other vessels' performance.
 - The large per-salmon cost to this strategy makes it unlikely.

39



Scenario 3: What are the incentives for dirty and clean vessels to form their own pools?

- Clean vessels would like to be in an FIP with dirty vessels, but dirty vessels would like to be in their own FIP
- For 2007, compare what happens if the vessels above and below the median both form a separate FIP
 - Approximately \$1.5 million in ante is divided among dirty vessels rather than transferring it to clean vessels.
 - Marginal value of salmon for clean vessels increases from approx \$240 to \$270, while it declines to approx \$190 for the dirty vessels.
- This implies that we would expect dirty vessels to form a separate FIP.

40



Possible Improvements

- If additional certainty to model is desired, add escalation of ante until all-time average goes below 47K. The high costs of a vessel accepting the costs of an increasing ante for multiple years makes it unlikely that this is necessary.
- Consider restricting exit or requiring a larger size for the program.
- Ante and/or ratio can be tuned to increase avoidance incentives at lower levels depending on policy preferences or new biological information.

41



Council SSC Request Summary

1. Does the FIP provide incentives for each vessel to avoid salmon bycatch under any condition of pollock and salmon abundance in all years, including at levels below a hard cap?
— Yes.
2. Can the FIP be expected to promote reductions in actual individual vessel bycatch rates *relative to what would have occurred in absence of the incentive program*.
— Yes.

42



Outline of Presentation

- Council Request of the SSC
- Overview and discussion of incentive mechanisms to reduce salmon bycatch
- Salmon Savings Incentive Plan (SSIP)
- Financial Incentive Plan (FIP)
- **Trades and vessel movement between plans**
- Rolling Hotspot System
- Data collection requirements for monitoring

43



Comparison of Key Program Features

SSIP

- After 1st year, vessels can only exceed 47K by trading with vessels who catch less than 47K or by using savings.
 - Savings is discounted at rate of 1 unit of savings per 2.29 salmon avoided under performance standard.
- No vessel can exceed its share of 68K cap in any year.
- Discount rate and 3-year savings window could be adjusted to increase incentives for salmon conservation.

FIP

- Competitive structure has increasing incentives at low bycatch levels that works in conjunction with salmon quota that becomes more expensive near the hard cap.
- No restrictions on quota trading
- Increasing ante for vessels above 47K performance standard
- Some potential for tacit collusion in small groups.
- Ante and undercatch ratio can be adjusted to increase incentives.

44



Interaction of SSIP & FIP

- Plans both contain measures that require vessels to be below 47K to leave incentive plan.
- Trading of salmon between plans permissible.
- No Issues with the SSIP plan being small. One vessel could operate under the plan.
- Possible issues with FIP being small, but it's not possible to say how small is "too small"
 - If there is a sector-level performance standard, then this problem only applies to how well the mechanism will work at low bycatch levels.

45



Performance standard issues

- Performance standard sets a level (e.g., 47K Chinook) that will not be exceeded under most years or an average of years.
- In different ways, both the SSIP and FIP provide significant salmon savings below the performance standard, but with the trade-off of inter-annual variation.
- Determining how much variation is acceptable is an important part of considering a performance standard.

46



Outline of Presentation

- Council Request of the SSC
- Overview and discussion of incentive mechanisms to reduce salmon bycatch
- Salmon Savings Incentive Plan (SSIP)
- Financial Incentive Plan (FIP)
- Trades and vessel movement between plans
- **Rolling Hotspot (RHS) System**
- Data collection requirements for monitoring

47



Overview of Rolling Hotspot (RHS) Program

- Will include fixed Chinook Conservation Area.
- Closures will apply at the vessel level (rather than coop).
- Weekly "core" closures closed to vessels above 75% of base rate
 - Base rate will use 3-week rolling average.
- "Dirty 20" list will be replaced by a comprehensive report card.

48



Rolling Hotspot (RHS) Program

- Key value of RHS is the sharing of bycatch information, which is essential for vessels to respond to incentives.
- Several impacts of having an RHS
 - Additional incentive to have low bycatch at the vessel level (to be able to fish inside closures)
 - Additional restriction in periods of low salmon abundance when quota is inexpensive
 - Will prevent people from fishing in high roe areas whether or not they are willing to pay for it with quota purchases
 - If we believe that someone will be able to bid up the value of salmon bycatch, we can restrict this (for distributional reasons).

The RHS is not the most efficient means to reduce bycatch because it doesn't maximize the pollock revenue per salmon caught, but does provide additional salmon reduction incentives & protection. This should be weighted against the costs of the system; it's possible that the same protection could be achieved more efficiently by slightly lowering the hard cap or increasing other program incentives in the future.



Outline of Presentation

- Overview and discussion of incentive mechanisms to reduce salmon bycatch
- Council Request of the SSC
- Salmon Savings Incentive Plan (SSIP)
- Financial Incentive Plan (FIP)
- Trades and vessel movement between plans
- Rolling Hotspot System
- **Data collection requirements for monitoring**



Data collection and reporting requirements for monitoring

- Observing total salmon bycatch tells us whether any performance standard is met.
- Observing all salmon bycatch transactions and incentive payments is vital to assessing the performance of the bycatch incentive systems.
 - Prices, quantities, dates, and parties of transfers
 - Payments made in the FIP
 - Banked salmon in the SSIP.
- Having a fully functioning market with observable prices is one of the most valuable things for the Council to be able to determine the value of salmon bycatch to the pollock fleet for future decision making.
- Annual Report from ICA should be peer-reviewed.

51



Potential mechanisms to improve price information

- Require true third-party exchange to monitor transactions.
- Mandatory auction of a portion of each vessel or sector's salmon bycatch allocation (e.g., 10%)
 - Makes prices true arms-length transactions
 - Insures market is available (i.e., makes market thick)
 - Prevents vessels/companies from exercising market power on other companies.
- While near real-time bycatch rate information is essential for bycatch reduction, consideration could be given to whether constraining information on vessels' aggregate bycatch would reduce the possibility of in-season collusion.

52



Information to observe how fishermen take action to reduce bycatch

Possible categories of information that could be recorded in log books:

- When excluders are operating
- Moved to a different statistical area
- Moved to a slightly different location
- Altered fishing depth
- Reduced duration of haul
- Did you return to port early? How early?
- How many people did you consult about bycatch rates before this haul?



The End

