AGENDA C-7
FEBRUARY 2005

MEMORANDUM

TO: Council, SSC and AP Members

FROM: Chris Oliver
Executive Director

ESTIMATED TIME
4 HOURS

DATE: February 1, 2005

SUBJECT: BSAI Salmon Bycatch

ACTION REQUIRED

(a) Receive update on salmon excluder EFP.
(b) Review Discussion Paper and refine alternatives.

BACKGROUND

A cooperative research study by NMFS scientists and industry, has been testing salmon excluder devices in the pelagic trawl pollock fishery, through the use of an exempted fishing permit (EFP). Researchers will be on hand to report the results of their study.

In December 2004, the Council developed a problem statement and draft alternatives to address salmon bycatch management issues in the BSAI following reports of an increasing problem with both chum and Chinook salmon bycatch, possibly exacerbated by existing regulatory measures. The Council directed staff to evaluate the analytical components and the timeline for analysis associated with the draft alternatives. A discussion paper is attached which reviews the existing salmon bycatch time and area closure regulations for Chinook and chum salmon in the BSAI, the increasing problems with salmon bycatch in 2003 and 2004, and reviews the analytical requirements and timeline for analysis of the draft alternatives (Item C-7(b)).

At this meeting, the Council may wish to refine their alternatives and the associated draft problem statement and initiate a plan amendment to evaluate these alternative mechanisms for controlling salmon bycatch in the BSAI.

Bering Sea Aleutian Islands Salmon Bycatch

February 2005 Staff Discussion Paper

In December 2004, the Council approved a draft problem statement and preliminary alternatives to address an increasing problem with salmon bycatch in the Bering Sea and Aleutian Islands trawl fisheries. The Council directed staff to produce a discussion paper addressing the analytical components and timeline for analysis associated with the various alternatives approved by the Council.

Considerations and Decisions for this Council meeting

The Council needs to clarify the following during this Council meeting:

1. Clarify alternatives: after reviewing the discussion paper the Council may choose to bifurcate the intended analysis into short-term immediate solutions and longer-term solutions. Some of the draft alternatives would require more extended analysis and therefore would not be able to be in place for the following fishing year.
2. Review and revise Problem Statement as necessary: to ensure it is in agreement with any change to the draft suite of alternatives
3. Determine a timeline and prioritization for the analysis

Current Regulations

Regulatory salmon closure areas were established in the Bering Sea to reduce the incidental take of Chinook and chum salmon in the trawl fisheries. The Chum Salmon Savings Area was established in 1994 (Figure 1). This area is closed to all trawling from August 1 through August 31. The area remains closed if 42,000 'other" salmon are caught in the CVOA during the period August 15-October 14.

The Chinook Salmon Savings areas were established in 1996 (Figure 2). These areas close to pollock trawling if 29,000 Chinook salmon are taken. The timing of the closure depends upon when the limit is reached:

1. If the limit is triggered before April 15, the areas close immediately through April 15. After April 15, the areas re-open, but are again closed from September 1-December 31.
2. If the limit is reached after April 15, but before September 1, the areas would close on September 1 through the end of the year.
3. If the limit is reached after September 1, the areas close immediately through the end of the year.

Background

The regulations for chum and Chinook salmon established these closures in areas and at times when salmon bycatch had been highest based upon the best available historical observer data at

the time of the analysis. Unfortunately these closures did not appear to have been effective in 2003 and 2004 when high amounts of both chum and Chinook salmon were taken.

Representatives of the pollock trawl fleet testified to the Council in the fall of 2003 to indicate that the closure of the Chum Salmon Savings Area in August 2003 had forced the fleet into areas with higher chum salmon bycatch rates. Representatives again approached the Council in both October 2004 and December 2004 to testify that record high numbers of both Chinook and chum salmon were being caught (despite cooperatively managed 'hot spot' measures by the fleet). The pollock trawl representatives also indicated that CDQ boats operating within the closure zones were encountering lower bycatch rates than the rest of the trawl fleet operating outside of the closures (K. Haflinger, personal communication). It appeared as though the closures themselves were actually exacerbating the salmon bycatch problem.

Salmon bycatch in 2003-2004

Bycatch of salmon in 2003 and 2004 is much higher than the long-term average from 1990-2001. Relative to average (1990-2001) historical bycatch amounts, Chinook and chum salmon bycatch in BSAI groundfish fisheries during 2003 and 2004 were high (see table below; amounts include CDQ catch). Recent chum salmon bycatch amounts were the highest since the chum salmon bycatch controls were implemented in 1994. Chinook salmon bycatch in 2004 was much higher than the long-term average from 1990-2001.

BSAI Salmon Bycatch:

	Chinook	**Chum**
1990-2001 average	37,819	69,332
2002	36,385	81,470
2003	54,911	197,091
2004	62,493	465,650

Bycatch of Chinook salmon by week with groundfish catch (mt) for 2004 is shown in Figure 3. Bycatch is highest at predictable times from late January through March and again in September through October. Notably, however, bycatch is highest in mid October to early November for the lowest groundfish catch. The Chinook Salmon Savings Area closed to directed fishing for non-CDQ pollock with trawl gear on September 5, 2004 for the remainder of the year following the limit for Chinook salmon being exceeded. The highest bycatch numbers for Chinook in 2004 were outside of this area following the closure.

Bycatch of chum salmon by week and with groundfish catch (mt) is shown in Figure 4. Bycatch is highest in mid to late September. The Chum Salmon Savings Area closed to directed fishing for non-CDQ pollock with trawl gear from August 1-31 per annual regulations, and then again from September 14 through October 14th following the regulatory limit of 42,000 'other salmon' being exceeding since August 15th. The highest chum salmon bycatch was outside of the Chum Salmon Savings Area and after its closure.

A brief analysis of NMFS bycatch data for 2003 and 2004 by area indicates that bycatch rates for chum salmon (in number of salmon per mt of groundfish) did increase dramatically with the implementation of the Chum Salmon Savings Area closure on August 1. Note that the Chum Salmon Savings Area (Figure 1) is predominantly (4 'blocks') in Area 517, with one 'block' in 509.

Chum salmon bycatch rates:

	Area:	
2003:	**509**	**517**
July	0.30	0.08
August	0.19	0.28
September	0.27	0.56
2004		
July	0.12	0.16
August	0.81	1.72
September	0.20	2.80

In 2003, bycatch rates jumped from 0.08 in Area 517 in July to 0.29 in August and doubled again in September. In 2004, this was even more pronounced, with rates in 517 increasing from 0.16 in July to 1.72 in August and 2.80 in September.

Origin of salmon bycatch in the Bering Sea

A pertinent question for the Council in considering any modification to the existing regulation is: what is the origin of the salmon incidentally caught in the groundfish trawl fisheries? While the absolute stock origin of incidentally-caught salmon in the BSAI is not well-known, some previous studies on this as well as on-going research investigating salmon origin, give some background on this issue.

A historical overview of salmon bycatch in Alaska groundfish fisheries is provided by Witherell et al (2002). The origin of salmon taken as bycatch in the Bering Sea includes rivers in western Alaska, Southcentral and Southeast Alaska, Asia, British Columbia and Washington (Witherell et al. 2002). Recent studies in the Bering Sea have looked at the origin and distribution of chum salmon (Urawa et al. 2004; Moongeun et al. 2004). Genetic stock identification (GSI) with allozyme variation was used to determine the stock origin of chum salmon caught by a trawl research vessel operating in the central Bering Sea from late August to mid September 2002 (Urawa et al. 2004). Results indicated that the estimated stock composition for maturing chum salmon was 70% Japanese, 10% Russian and 20% North American stocks, while immature fish were estimated as 54% Japanese, 33% Russian, and 13% North American (Urawa et al. 2004). Stock composition of North American fish was identified for Northwest Alaska, Yukon, Alaskan Peninsula/Kodiak, Susitna River, Prince William Sound, Southeast Alaska/Northern British Columbia and Southern British Columbia/Washington State. Of these the majority of mature chum salmon for North America stocks came from Southern BC/Washington State and Alaska Peninsula/Kodiak (Urawa et al. 2004). For immature chum salmon, the largest contribution for North American stocks came from Southeast Alaska/Northern BC, followed by Alaska Peninsula/Kodiak and Southern BC/Washington State.

Additional information on the stock origin of salmon in the Bering Sea is available through the High Seas Salmon Research Program at the University of Washington. The High Seas Salmon Research Program of the University of Washington routinely tags and monitors Pacific salmon species. The Coded Wire Tag (CWT) information may not accurately represent the true distribution of hatchery caught salmon however as much of the CWT tagging occurs within the British Columbia hatcheries and thus most of the CWT recovered come from those same hatcheries. CWT tagging does occur in some Alaskan hatcheries, but is currently limited to Southcentral and Southeast Alaska, specifically in Cook Inlet, Prince William Sound, other Kenai

region hatcheries as well as in hatcheries in Southeast Alaska (Johnson, 2004). Tagging operations on hatcheries on the Yukon River were in operation in the past but ceased in the 1990's. No tagging occurs for chum salmon in Alaska. The 2003 program report for the High Seas Salmon Research Program details additional data on west coast salmon tag recoveries (Myers et al 2004). In 2003, 124 tags were recovered in the eastern Bering Sea and GOA. Of these tags, 103 were recovered in groundfish trawl fisheries while 21 were recovered by U.S. and Japanese research vessels. Tagging results in the Bering Sea showed the presence primarily of Yukon River Chinook salmon in the eastern Bering Sea though actual recovered tags were limited (and tagging in recent years from the Yukon River has ceased). Columbia River Basin and Oregon Chinook salmon were also recovered in the eastern Bering Sea though the majority of the tagged recoveries of these salmon occur in the GOA.

A study completed in 2003 estimated age and stock composition of Chinook salmon in the 1997-1999 BSAI groundfish fishery bycatch samples from the NMFS observer program database (Myers et al. 2004). Results indicated that bycatch samples were dominated by younger (age 1.2) fish in summer and older (age 1.3 and 1.4) fish in winter (Myers et al. 2004). The stock structure was dominated by western Alaskan stocks, with the estimated stock composition of 56% Western Alaska, 31% Central Alaska, 8% Southeast Alaska-British Columbia and 5% Russia. In the winter, age-1.4 western Alaskan Chinook were primarily from the subregions of the Yukon and Kuskokwim. In the fall, results indicated that age-1.2 western Alaskan Chinook were from subregions of the Kuskokwim and Bristol Bay with a large component of Cook Inlet Chinook salmon stocks as well (Myers et al. 2004).

The proportions of western Alaskan subregional stocks (Yukon, Kuskokwim and Bristol Bay) appear to vary considerably with factors such as brood year, time and area (Myers et al. 2004). Yukon River Chinook are often the dominant stock in winter while Bristol Bay, Cook Inlet and other Gulf of Alaska stocks are often the dominant stocks in the eastern BSAI in the fall (Myers et al. 2004). Additional studies from high seas tagging results as well as scale pattern analyses from Japanese driftnet fishery in the Bering Sea indicate that in the summer immature western Alaskan Chinook are distributed further west in the Bering Sea than other North American stocks.

Proposed problem statement and draft alternatives

The following problem statement and draft alternatives were adopted by the Council in December 2004:

Problem statement:

In the mid-1990's, the Council and NMFS implemented regulations to control the bycatch of chum salmon and Chinook salmon taken in BSAI trawl fisheries. These regulations established closure areas in areas and at times when salmon bycatch had been highest based on historical observer data. Unfortunately, these regulations did not appear to have been effective in 2003 and 2004, when record amounts of salmon bycatch were taken. Information from the fishing fleet indicates that bycatch was exacerbated by the regulations, as much higher salmon bycatch rates were encountered outside of the closure areas. Some of these bycaught salmon likely include Chinook and chum stocks of concern in western Alaska. Further, the closure areas impose increased costs on the pollock fleet. To address this problem, the Council will examine and consider other means to control salmon bycatch.

Draft alternatives:

Alternative 1 – Status Quo.

Alternative 2 – Eliminate the regulatory salmon savings area closures.

Alternative 3 – Suspend the regulatory salmon savings area closures on a year-by-year basis so long as the pollock cooperatives have in place a salmon bycatch "hot zone" closure system.

> Suboption: Develop an individual vessel accountability program that may be implemented if, after 3 years, it is determined the pollock cooperatives' "hot zone" closure system has not reduced salmon bycatch.

Alternative 4 – Establish new regulatory salmon savings area closures based on current salmon bycatch data.

Alternative 5 – Develop a regulatory individual vessel salmon bycatch accountability program.

Analytical needs and timeline for each of the alternatives

This analysis will be an EA/RIR/IRFA for the amendment to the BSAI FMP to modify the closures in regulation from amendments 21, 35 and 58. In order for rulemaking to be in place for the 2006 specifications process and before the trawl fishery opens on January 20th, 2006, final action by the Council would need to occur no later than June 2005. Initial review by the Council would occur in April 2005.

Alternatives 2 and 3 eliminate (alternative 2) or suspend (alternative 3) the regulatory salmon savings area closures. While alternative 2 eliminates them entirely, alternative 3 suspends them pending participation in a cooperative salmon bycatch 'hot spot' closure system as is currently utilized voluntarily by members of the fleet. A suboption under alternative 3 is to develop an individual vessel accountability program that may be implemented if after 3 years the pollock cooperatives' 'hot zone' closure system has not reduced salmon bycatch.

Adoption of either alternative 2 to repeal the closures or alternative 3 to suspend the closures would indicate that the Council and the agency are relying upon the fleet to control their bycatch of salmon area-wide. With no triggered closures for either chum or Chinook salmon in the BSAI, the fleet would be self-regulated to control their bycatch. The pollock fleet has already been managing themselves under a voluntary bycatch cooperative structure. This Intercooperative Agreement is between the nine catcher vessel cooperative in the BSAI pollock fishery. Some aspects of this inter-cooperative agreement include provisions for: allocation, monitoring and compliance of the PSC caps amongst the catcher vessel fleet; establishment of penalties for cooperatives which exceed allocations; promoting compliance with PSC limits while allowing for maximum harvest of allocated groundfish; and the reduction of PSC bycatch in the groundfish fishery. Sea State is retained to provide data gathering, analysis and reporting services to implement the bycatch management agreement, and in doing so provides timely hot spot reports to the fleet as well as summaries of bycatch characteristics, trends and/or fishing behaviors which may be having an effect on bycatch rates (Gruver 2003). Fleets are notified of avoidance areas for Chinook salmon and have previously agreed within the cooperative to avoid these areas as notified. Cooperative agreements in the BSAI vary between salmon species, with bycatch rates

calculated for use in monitoring access to the Chum Salmon Savings Area while 'hot spot' avoidance areas are utilized for Chinook salmon bycatch reduction.

The Intercooperative agreement would likely need to be modified to accommodate the repealed or suspended closures in order to be adaptive to the most appropriate means to continue to reduce Chinook and chum bycatch across the fleet. The Council should consider mechanisms for determining how and if the fleet has been effective at controlling salmon bycatch in the absence of regulatory closure areas.

Analyzing the repeal of the closure areas and the suspension of the closure areas under alternatives 2 and 3 would be a relatively straightforward and simplified analysis. The analysis of these alternatives (together with alternative 1, Status Quo) would require an EA/RIR/IRFA, and data for location-specific salmon bycatch would be necessary for several years, from at least 2002 (prior to the observed bycatch increase) through 2004. These alternatives represent the most simplified alternatives put forward for analysis but still require substantial analytical work. Given the analytical burden, this analysis could likely be brought back to the Council for initial review in June 2005 with final action for the Council in October 2005. This schedule would not allow for the regulations implementing this action to be in place in time for the start of the 2006 fishery. However, the regulations implementing this action would likely be in place by the Spring or early Summer of 2005 and prior to Chum Salmon Savings Area annual closure on August 1st.

The suboption under alternative 3 involves development of an individual vessel accountability program that may be implemented if after 3 years the pollock cooperative's 'hot zone' closure system has not reduced salmon bycatch. This suboption (and the analytical requirements of it) will be discussed in the context of alternative 5, to develop a regulatory individual vessel salmon bycatch accountability program.

Alternative 4 would establish new regulatory salmon savings area closures based on current salmon bycatch data. Analysis of this alternative would require similar analyses to that which comprised the original amendments (21, 35 and 58) establishing the regulatory closure areas. The analytical burden here is much greater than for the previous two alternatives as new areas would need to be established with the Council reviewing the chosen areas to ascertain which would be the most appropriate for new closures. Analyzing this alternative (in conjunction with the others or analyzed separately) would require an EA/RIR/IRFA. The analysis involved in proposing specific closure areas as well as analyzing the environmental and economic effects of moving the fleet away from these specified closures is extensive. It would be difficult, if not impossible, for this alternative to be analyzed in time for the Council to take initial review of an amendment package in June 2005. Analysis of new proposed closure areas based upon current salmon bycatch would be a longer-range solution and could be pursued as a separate amendment package to the previous alternatives. The timeline for completing this analysis would be much longer, possibly initial review in late 2005 and final action in 2006.

Alternative 5 (and **suboption for alternative 3**) would develop a regulatory individual vessel salmon bycatch accountability program. Under this alternative, vessels would receive a specific allocation of salmon bycatch (possibly an Individual Bycatch Quota, IBQ) which their vessel cannot exceed. If vessels exceed their individual bycatch quota they must cease fishing. Under the cooperative structure, the cooperative can receive an allocation for the entire cooperative and subdivide this amongst their vessels in order to better monitor the fleet. This alternative (as well as the suboption to do this under alternative 3) is extremely problematic both from a monitoring standpoint as well as for potential economic losses to fishermen.

For monitoring and enforcement, generating bycatch numbers on an individual vessel basis would require whole-haul sampling. Basket sampling for salmon on an individual vessel basis would not generate meaningful numbers for managing bycatch by individual vessels. However, whole haul sampling the entire AFA pollock fleet is a massive undertaking. On catcher vessels alone this would likely require video monitoring to enforce a no-presorting requirement and additional observers at the plant to whole-haul sample 24 hours per day (K. Lind, NMFS, personal communication). For catcher processors, this would be also be very difficult. Currently these CPs carry 2 observers and are still not yet able to whole-haul sample on a boat operating 24 hours per day, so at the minimum an additional observer would be necessary on board CPs. Obviously the observer program would need to be involved in developing the protocol for how they would achieve sampling 100% of the pollock catch on 100% of the fleet. In order to be effective for management and enforcement, the observer estimates of salmon on each vessel would need to be extremely precise.

Another consideration is the potential for economic losses to fishermen. If a vessel has a tow with very high salmon bycatch early in the season, depending upon their IBQ amount, it is possible for that vessel to exceed its annual IBQ for salmon. That vessel would likely then have to cease fishing for the remainder of the year. While vessels can coordinate on known 'hot spot' areas, changing conditions and migrating salmon leave open the possibility for extreme economic hardship to vessels based on the possibility of even a single bad tow. This also presents problems for the responsibility placed upon individual observers doing this whole-haul sampling. Some form of appeals process would likely need to be incorporated into an individual vessel accountability program in order for vessels to be able to challenge the reliability of a single whole-haul estimate particularly in cases where this could preempt fishing for the remainder of the year.

These are just some of the issues which would need to be considered in developing an individual bycatch accountability program. While these problems may not be insurmountable, the development of any individual vessel accountability program would need to give careful consideration to these and likely many other additional issues. The Council would need to consider what type of individual vessel bycatch system would be developed (i.e. would it be vessel specific IBQs?) and how this would be monitored and enforced. Would IBQs be managed by the co-ops? How would the allocative process be decided upon? These and other questions would need to be addressed in conceptualizing and analyzing the development of a program. The development and analysis of this alternative would therefore be fairly lengthy and would require a substantial timeline for development. This analysis would not be possible in 2005 and if initiated would likely take considerable time into 2006 in order to develop this program appropriately.

Next steps in the Council process

The Council may consider splitting the analysis and evaluating some of the alternatives (i.e, alternatives 1-3) in an amendment package at this time while initiating another analysis for the remaining alternatives. Bifurcating the analysis in this manner will allow the Council to act quickly to mitigate the problem at this time without ignoring an analysis of those alternatives which may take considerable time to analyze.

If the Council chose to simplify the analysis at this time to address alternatives 1-3 only, the Council would need to similarly simplify their draft problem statement to ensure that is consistent with any revision to the suite of alternatives for analysis.

Additional considerations for the Council:

If the Council chooses to move forward with an analysis which repeals (or suspends) the salmon savings area closures for chum and Chinook, the Council would need to include the following considerations:

- How will the AFA cooperatives regulate themselves and what sort of oversight will the agency have on salmon bycatch by the cooperatives in the absence of PSC limits which trigger closure areas?
- Will there be any hard caps on either chum or Chinook salmon bycatch which close the fishery? If not what mechanisms will ensure compliance with the over-arching goal of reducing salmon bycatch?
- What regulations on salmon bycatch will pertain to CDQ groups? What oversight will there be on their relative bycatch of chum and Chinook salmon?

The CDQ Program is allocated 7.5% of the Chinook salmon PSC and the non-Chinook salmon PSC annually. Once the initial allocation is taken, each of these prohibited species quota (PSQ) "reserves" are further allocated among the six CDQ groups. Each group is required to comply with the same time/area closures that apply to the non-CDQ fisheries when the group reaches its PSQ. If the salmon savings area closures are repealed, it would be necessary to specify what the CDQ groups must do. If there remain hard caps on salmon bycatch, the CDQ groups would continue to receive their 7.5% (PSQ) allocation, and this would continue to be further allocated amongst the six CDQ groups. However, it would be necessary to specify if and what the penalty would be if or when a group reached its PSQ or how the groups would be instructed to control or manage their salmon bycatch. Any analysis of modifying the current salmon bycatch structure in the BSAI would need to consider the impact on CDQ groups in addition to the consideration of other potential impacts (environmental and economic).

References

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Myers, K., R.V. Walker, N.D. Davis and J.L. Armstrong. 2004. High Seas Salmon Research Program, 2003. SAFS-UW-0402, School of Aquatic and Fishery Sciences, University of Washington, Seattle. 93p.

Urawa, S., M. Kawana, G. Anma, Y. Kamaei, T. Shoji, M. Fukuwaka, K. M. Munk, K. W. Meyers, and E. V. Farley, Jr. 2000. Geographic origin of high-seas chum salmon determined by genetic and thermal otolith markers. North Pacific Anadromous Fish Commission Bulletin 2:283-290.

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Witherell, D, D. Ackley, and C. Coon. 2002. An overview of salmon bycatch in Alaska groundfish fisheries. Alaska Fishery Research Bulletin (9)1:53-64.

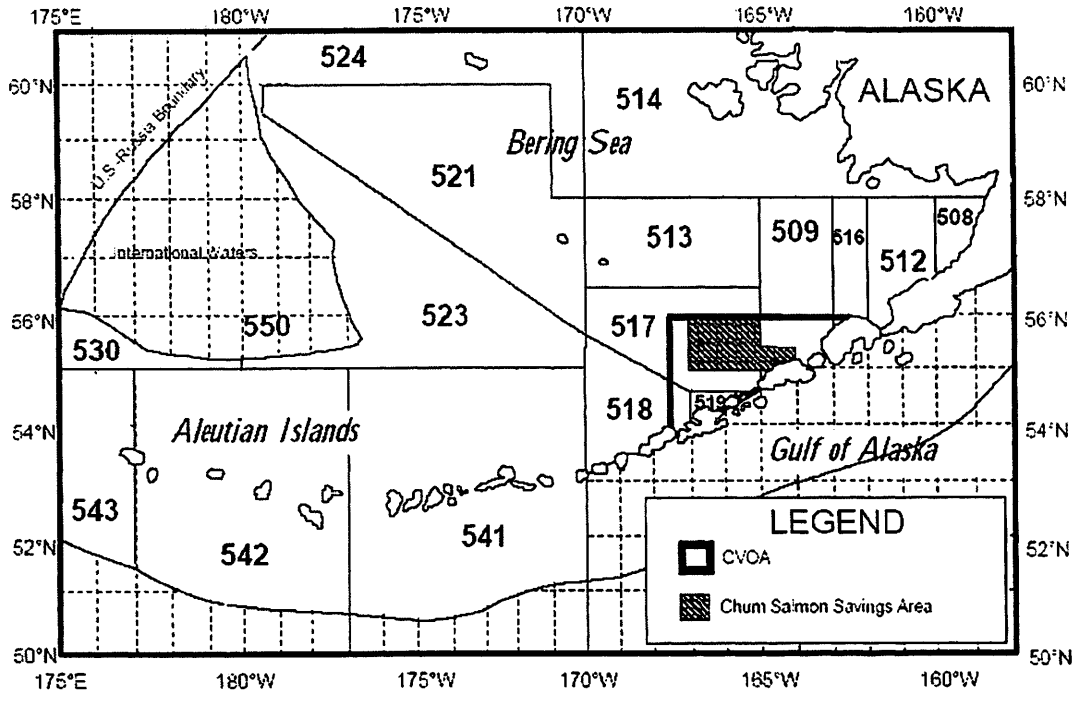

Figure 1: Chum Salmon Savings Area and Catcher Vessel Operational Area (CVOA)

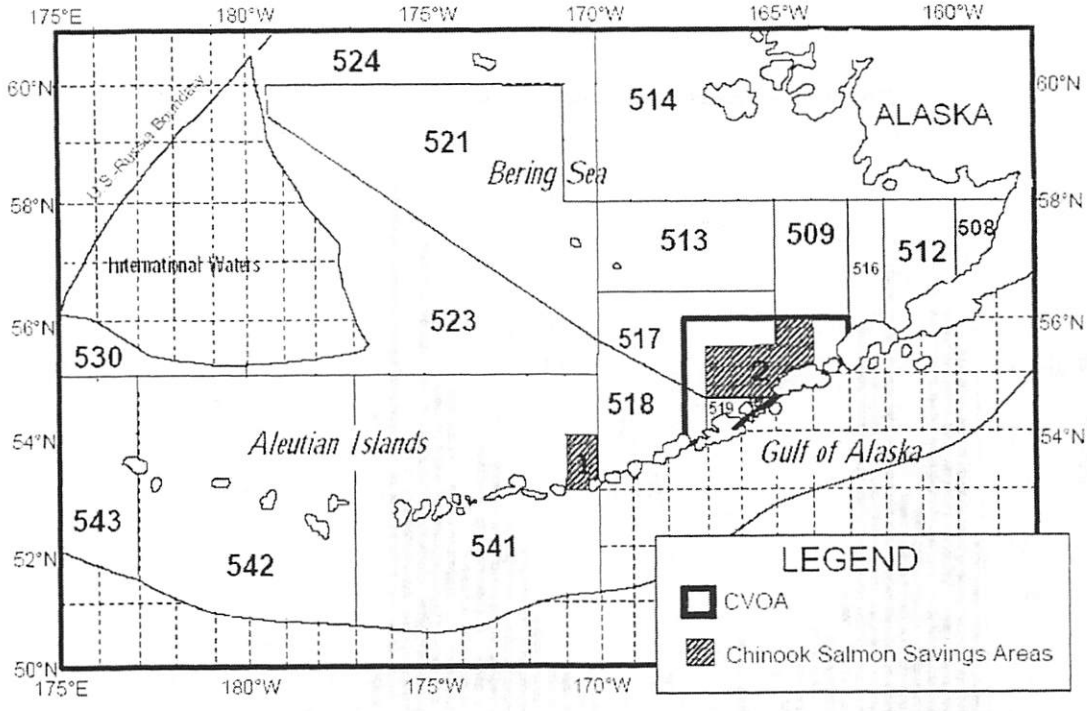

Figure 2: Chinook Salmon Savings Area and Catcher Vessel Operational Area (CVOA)

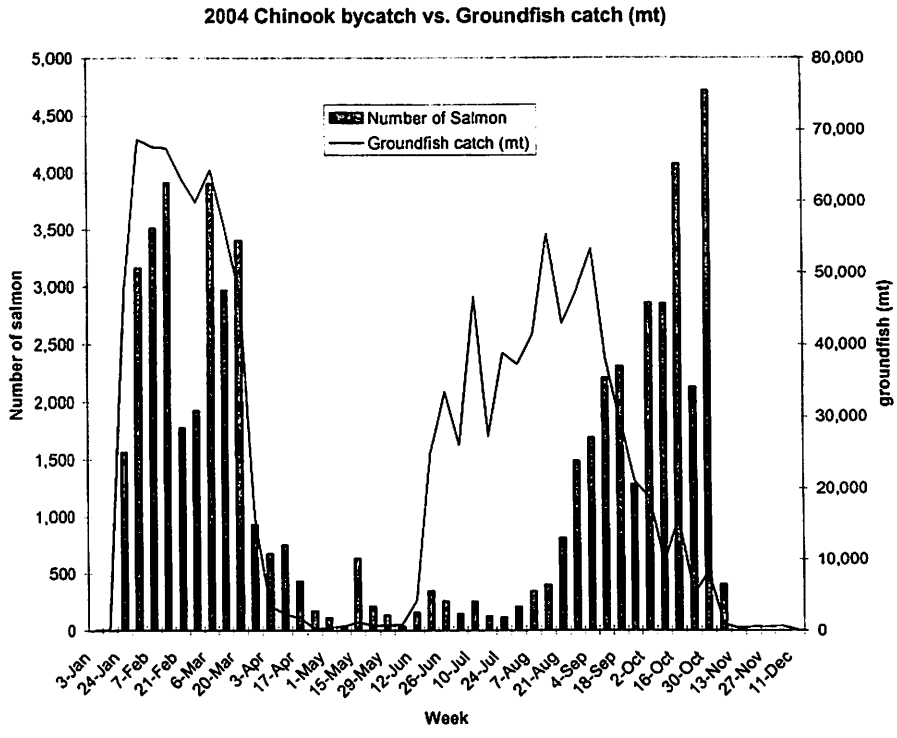

Figure 3: Bycatch of Chinook salmon by week in the BSAI (2004) with groundfish catch (mt)

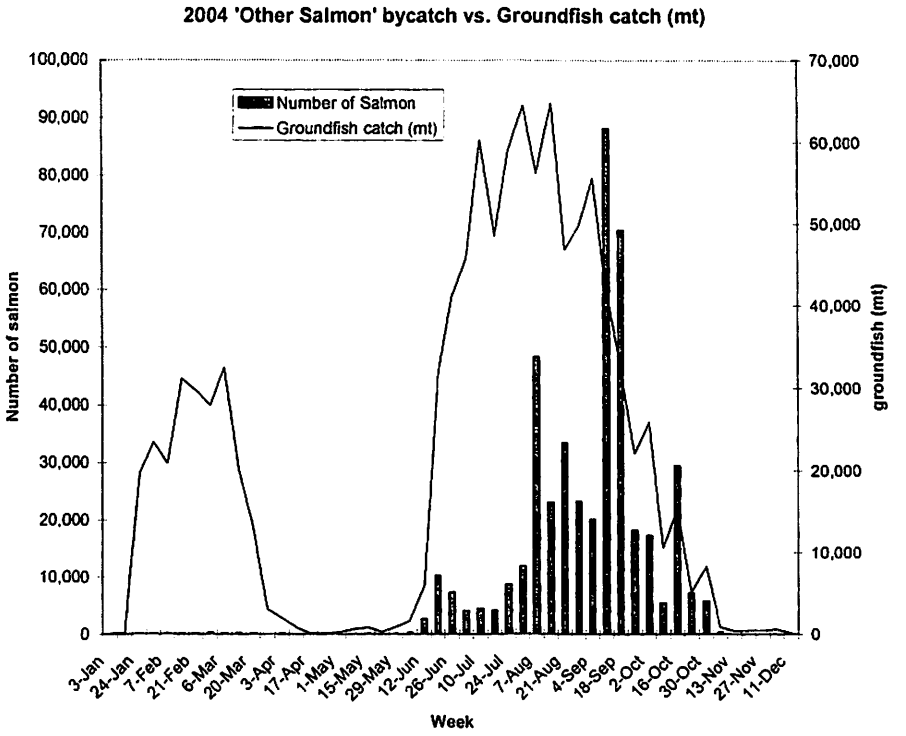

Figure 4: Bycatch of 'other salmon' by week in the BSAI (2004) with groundfish catch (mt)

1/19/04

AGENDA C-7
FEBRUARY 2005
Supplemental

Ms. Stephaie Madison, Cha

RECEIVED
JAN 2 : 2005
N.P.F.M.C.

400/500 Thousand fish are quite an alarming number. I believe that this salmon Bycatch should be Returned back to the Coastal Communities that have aboriginal ownersh to these fish.

Since the Past 5Plus Years, the Communities of CheVAK + HooperBay & Possibly other Coastal Communities had bad years On Subsistance fishing for Salmon. If those Salmon Bycatch were to be quick frozen & Reserved for the Coastal Communities, this would be a Win/Win Situatic for Both the Bering Sea fishing Program & also all the Coastal Communities that do have a shortfal on their Subsistance harvest needs.

Coastal Communities do Benifit from the Bering Sea pollock fleet through many Programs Which Clnclude JOBS, SCholaSHIPS, loans, Grants & other Benefits that CL might not be

Aware of. My Younger Brother is out on one of the Pollock fleets Processing the "A" Season. I don't think that he would have this Job or a village Job elf it was not for the BSP Fleet. So instead of Trying to Restrict where they fish, think Win/Win so that we would All be happy.

Good luck & Happy Newyear

Greg E Slats

Chevak Community Resident

(907) 858-7034

Public Testimony Sign-Up Sheet

and

Handouts Received During the Meeting on this Agenda Item

Public Testimony Sign Up Sheet
Agenda Item C-7 BSAI Salmon Bycatch

	NAME (PLEASE PRINT)	AFFILIATION
1	ERIC BARNHILL	Bering Sea Fishermens Association
2	Jill Klein	Yukon River Drainage Fishermens Association
3	Andy Bassich	Upper Yukon Fisherman
4	Ben Enticknap	AMCC
5	JOHN GRUVER	UNITED CATCHER BOATS
6	ERIC OLSON	BBEDC
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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.

C-7 Eric Barnhill Pub Test.
2-1305 830a

BSFA

Bering Sea Fishermen's Association
705 Christensen Drive
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Serving western Alaska small boat fisheries since 1980

To: North Pacific Fisheries Management Council

From: Bering Sea Fishermen's Association
Eric Barnhill, Staff Biologist
Re: Salmon by catch

Date: February 11, 2005

The Bering Sea Fishermen's association (BSFA) is here to testify regarding salmon by catch occurring in the Pollock fisheries. BSFA began in 1979 as a fishermen's association with approximately 150 members with two goals: 1) to become more involved in lucrative emerging and existing fisheries and 2) to build an organization that was concerned with helping local fishermen gain full economic benefit from their commercial fisheries. BSFA has a 13-member board that represents five different areas. These areas span western Alaska, and are the Bering Strait Region, Bristol Bay region, Yukon-Kuskokwim region, Northwest Arctic region and St. Paul Island.

With such a broad area of representation, we find many issues that command our attention in one or more of our member communities. With this issue we believe that it has the potential to affect most if not all of western Alaska. We hope to work with the council to take measures that will address this issue in a way that will allow for western Alaska to see healthy salmon returns far into the future.

The prior discussion in front of the council on this issue yielded a problem statement and list of alternatives to address the salmon by catch in BSAI trawl fisheries. BSFA is supportive of alternative three, which would allow for the regulatory salmon savings area to be set aside, to be replaced by the Pollock cooperatives "hot zone" closure system. We are hopeful that this attempt works to the benefit of the resource, but do not believe that the council should allow such an effort to go forth without certain guidelines.

We would suggest that the council, working with groups from western Alaska and the Pollock cooperatives, should allow the cooperatives plan to go forth. There should be, however, a stipulation that the current salmon savings areas are only suspended on a year to year basis and that the cooperative's progress be reviewed annually using a set of

guidelines to be developed by a group that would include at least the cooperative and western Alaska user groups.

We would support and participate in a group that would address what would happen in the case that the "hot zone" option does not yield positive results. We would support a set of guidelines set forth by such a group that would allow for flexibility in measuring the cooperatives success. We believe that such a set of guidelines must try to take into account, to some extent, salmon abundance from season to season.

BSFA would like to see a salmon by catch group implemented to look at all aspects of this mounting problem. We believe that the "hot zone" approach replacing the salmon savings area will result in a good deal of monetary savings by the cooperative. We believe that the resource should benefit in the form of a significant donation from the cooperatives for research into stock composition, abundance predictions, analysis of observer coverage or whatever else the proposed salmon by catch group would deem appropriate.

BSFA believes that the best way to combat this problem is by the people of western Alaska and the Pollock cooperatives working together towards a solution.

C-7 Jill Klein PT
2-13-05 8:35a

BSAI Salmon Bycatch
Testimony before the North Pacific Fisheries Management Council

Yukon River Drainage Fisheries Association
Jill Klein, Executive Director
February 12, 2005

The Yukon River Drainage Fisheries Association (YRDFA) is here to testify on salmon by catch on behalf of both subsistence and commercial salmon fisheries on the Yukon River. Our board members represent the fishing districts and live along the Yukon River. We also work closely with Canadians through the Yukon River Salmon Agreement.

We presented testimony at the Council meeting in December 2004 to support analysis of salmon bycatch alternatives. Since then, we have continued to work with both Western Alaska representatives and with the UCB Pollock cooperative.

We would like the Council to further analyze the alternatives, and we support the AP motion. In specific, the areas of support include:

- Bifurcation of the two track alternative analysis will enable the rolling hot spot closure program to be fully analyzed in as short a time frame as possible.
- An annual report to the Council will enable measurements of effectiveness to be developed before the program is implemented in the next available fishery. This will enable the program to be evaluated by the industry, the Council and Western Alaska stakeholders.
- Analysis of the "slower track" alternatives is also warranted to be able to compare alternatives in the pursuit of the best available program that can be developed.

The problem statement:

- During the past two years, the salmon runs on the Yukon River have been improving, but we still have stocks of concern due to low returns starting in the late 1990's. We support the AP taking out the word "likely" as salmon bycatch currently does contain salmon from stocks of concern on the Yukon River.
- Currently Chinook and fall chum are a yield concern and summer chum is a management concern. It is during low salmon returns, that even relatively low bycatch of salmon may reduce Yukon River harvests of salmon and the ability to meet spawning escapements.

Additional areas to consider in the analysis may include specific details that relate to trigger points, abundance based bycatch rates, accountability at the vessel level and coop level for performance standards and the observer program.

We would like to see observer sampling include fin clips for DNA analysis, which could assist fishery managers in developing both preseason and in season stock assessments of Yukon River salmon. There is also some uncertainty about the accuracy of bycatch

estimates and this affects the ability of accurately developing fishery management and conservation measures for Yukon River salmon.

YRDFA will continue to work with Western Alaska stakeholders and the Pollock cooperative as part of an emerging work group and would like the Council to support such efforts. This work group will need to look into measurements of effectiveness, research plans and funding considerations that are necessary to support the on-going efforts needed to monitor and protect Western Alaska salmon.

In summary, we urge the Council to take measures that will assure people of Western Alaska that effort is being made to preserve both the subsistence and commercial fisheries that depend upon healthy salmon returns. YRDFA understands the balance that is needed to ensure the Pollock fishery continued success, but Yukon River fisheries are being managed conservatively in order to ensure escapement and subsistence needs will be met. We anticipate that similar safeguards will be afforded to these salmon stocks when they are on their migration routes out at sea. We appreciate the work by the Pollock fleet as well as the Council to address this issue. Thank you.

C-7 Jill Klein PT HO
2-13-05

A Brief Review of Research on Interceptions of Yukon River Salmon by Commercial Groundfish Trawl Fisheries in the Bering Sea

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In 1977, the U.S. National Marine Fisheries Service scientific observer program began to provide estimates of salmon bycatch by foreign vessels operating in the U.S. 200-mile zone (French et al. 1982). Myers and Rogers (1988) used scale pattern analysis to estimate interceptions of Yukon River chinook salmon by foreign and joint-venture groundfish trawl fisheries in the Bering Sea and Aleutian Islands (BSAI) region of the U.S. 200-mile zone in 1977-1998 (6,300 fish in 1977, 5,600 fish in 1978, 32,600 fish in 1979, 16,600 fish in 1980, 2,500 fish in 1981, 600 fish in 1982, 1,500 fish in 1983, 1,600 fish in 1984, 1,400 fish in 1985, and 800 fish in 1986). The foreign and joint-venture fisheries in the U.S. 200 mile-zone were rapidly phased out as the U.S. groundfish fishing industry reached full capacity. Since then, there have been only a few attempts to quantify the stock composition of salmon bycatch, which is largely chum and chinook salmon (Berger 2004). A bycatch of chum and chinook salmon also occurs in U.S. trawl fisheries in the Gulf of Alaska (Berger 2004), although there are no estimates of the stock composition of the salmon bycatch in this region. There are also commercial trawl fishing fleets operating inside the Russian 200-mile zone in the western Bering Sea, Commander Islands, and western North Pacific Ocean that may intercept Yukon River salmon. Russia does not have a scientific observer program to quantify salmon bycatch by these fleets. Radchenko and Glebov (1998) concluded from their analysis of research trawl data that salmon bycatch by commercial trawl fisheries in the Russian 200-mile zone is low.

Genetic stock identification (GSI) estimates of the stock composition of chum salmon in incidental catches by U.S. trawl fisheries in the BSAI in 1994 (approximately 74,500 chum salmon) indicated that 39-55% originated in Asia, 20-35% in western Alaska, and 21-23% in southeastern Alaska, British Columbia, or Washington (Wilmot et al. 1998). Fleetwide, unstratified scale pattern estimates by Patton et al. (1998) were similar to the GSI estimates of Wilmot et al. (1998). Week-stratified interception estimates indicated that most Asian chum salmon were caught during the first two weeks of the fishery (August 15-27 in 1994), and the proportions of western and central Alaskan chum salmon in the BSAI bycatch increased over the course of the B-season fishery (August 15-October 4, 1994; Patton et al. 1998). In 1995 11% of the chum bycatch (17,039 fish) by the BSAI trawl fishery was sampled, and GSI estimates indicated that 13-51% originated in Asia, 33-53% in western Alaska, and 9- 46% in southeastern Alaska, British Columbia, or Washington (Wilmot et al. 1998). In 1995, the Asian component of the bycatch generally increased over the course of the B-season fishery (August 29-October 8, 1995; Wilmot et al. 1998).

Witherell et al. (2002) reviewed available information on salmon bycatch in U.S. groundfish fisheries from 1990 to 2000, and estimated that an annual BSAI bycatch of 60,000 immature chum salmon and 30,000 immature chinook salmon was equal to a

reduction in adult returns to western Alaska of 13,120 chum salmon (< 0.2% reduction in western Alaska runs) and 14,581 chinook salmon (<2.7% reduction in western Alaska runs). Witherell et al. (2002) discussed problems with estimating salmon bycatch in the U.S. groundfish trawl fisheries, including the lack of recent estimates of stock composition, and recommended that a high priority be given to salmon stock composition research.

Myers et al. (2004) provided the first estimates of the age and stock composition of chinook salmon in the bycatch of U.S. groundfish fisheries in the eastern Bering Sea. They found a strong seasonal difference in the age composition of chinook salmon in the 1997-1999 BSAI bycatch samples, with young (age 1.2) fish dominating fall samples and old (age 1.3 and 1.4) fish dominating winter samples. In contrast, Myers and Rogers (1988) found that young (age 1.2) fish were the dominant age group in winter bycatch samples from the BSAI in 1979–1982. The differences in the age composition of chinook salmon between the two studies were attributed primarily to changes in the area where most of the winter fishing occurred. The majority of winter samples analyzed by Myers and Rogers (1988) were from fish caught in waters northwest of 56°N, 175°W. In 1997-1999, there were few samples from the region west of 170°W in winter, and these were primarily from fish caught in the Aleutian Islands area southeast of 53°N, 177°W. These results indicate that in the eastern Bering Sea in winter, immature (age 1.2 and 1.3) chinook salmon are more abundant along the outer shelf break (west of 170°W), whereas maturing (age 1.3-1.5) chinook salmon are more abundant along the inner shelf break (east of 170°W). Other factors thought to influence the age composition of chinook salmon in the BSAI bycatch include year class strength, seasonal- and age-specific changes in the vertical distribution of chinook salmon, and long-term decreases in body size and increases in age at maturity of western Alaska chinook salmon.

Despite the decline in abundance of western Alaska chinook salmon in the late 1990s, western Alaska was the dominant regional stock (average 56%) in BSAI bycatch samples in 1997-1999 (Myers et al. 2004). Similar to the results of Myers and Rogers (1988), Myers et al. (2004) found that: (1) the proportions of the three western Alaskan subregional stocks (Yukon, Kuskokwim, and Bristol Bay) in the BSAI area vary considerably with such factors as brood year, time, and area; (2) Yukon River chinook salmon are often the dominant stock in the BSAI in winter, particularly among age 1.2 fish in the western BSAI (west of 170°W) and age 1.4 fish in the eastern BSAI (east of 170°W); (3) Bristol Bay and Cook Inlet are the dominant stocks of age 1.2 chinook salmon in the eastern BSAI in fall; and (4) age 1.1 chinook salmon in the eastern BSAI in fall are largely Gulf of Alaska stocks (Cook Inlet, southeast Alaska-British Columbia). The results of previous scale pattern analyses and tagging studies suggest that in summer immature Yukon River chinook salmon are distributed farther to the west in the Bering Sea than other North American stocks, which may explain their relatively low percentages in fall 1997-1999 bycatch samples from the eastern BSAI.

Estimates of interceptions of Yukon River chinook salmon by domestic groundfish fisheries in the BSAI in 1997-1999 (7,266 fish in 1997, 8,908 fish in 1998, and 3,074 fish; Myers et al. 2004), were higher than estimated interceptions by the foreign and JV

trawl fisheries after 1980 (Myers and Rogers 1988). The accuracies of these interception estimates, however, depend on the accuracy of the NMFS estimates of chinook salmon bycatch. To estimate chinook salmon bycatch by the BSAI groundfish fishery, NMFS uses "ad hoc procedures for stratification, expansion, and blending of observer data with industry retained catch reports" (Turnock and Karp 1997). Although NMFS does not calculate the variances of their salmon bycatch estimates, these variances are expected to be high (Turnock and Karp 1997). The high levels of uncertainty associated with the NMFS salmon bycatch estimates should be a major consideration, if the results of Myers et al. (2004) are used to develop fishery management or conservation measures for Yukon River chinook salmon.

Estimates of the adult equivalent interceptions of Yukon River chinook salmon by the domestic groundfish fisheries in the BSAI in 1977-1999 (6,522 fish in 1997, 7,510 fish in 1998, and 2,721 fish in 1999) were not large enough to explain the low returns to the Yukon River in the late 1990s. Myers et al. (2004) speculated that the 1997-1999 BSAI bycatch may have had the largest effect on local utilization and escapement of Yukon River chinook salmon in 1998 and 2000. Because of low returns in these years, the estimated AEQ bycatch of Yukon River chinook salmon may represent a substantial loss of escapement to spawning grounds in 1998-2000, as well as a loss of fishing opportunity for commercial and subsistence fishermen. Myers et al. (2004) concluded that in years when salmon returns to rivers are low, even relatively low incidental catches of salmon by non-target marine fisheries may reduce local utilization of chinook salmon resources and impede management and conservation efforts to achieve spawning escapement goals in the Yukon River.

NPFMC regulations implemented in 1999, which spread fishing effort over time, apparently increased the portion of the chinook salmon bycatch taken in winter, and estimated percentages of Yukon River chinook salmon in the bycatch also increased. Myers et al. (2004) recommended that future management efforts to conserve Yukon River chinook salmon should emphasize methods that will reduce the winter (January-June) bycatch of maturing (age 1.3, 1.4, and 1.5) chinook salmon in the eastern BSAI (east of 170°W). For example, accounting towards bycatch limits could begin on September 1, with the amount carried over to the next winter season.

Finally, Myers et al. (2004) recommended that the BSAI chinook salmon bycatch samples and data could be used more effectively to manage and conserve Yukon River chinook salmon. For example, NMFS Observer Program chinook salmon samples and data could be used to calculate annual estimates of the maturity, age, and stock composition of the chinook salmon in the bycatch samples. A new scale sampling scheme could be designed to improve time and area coverage of the fishery and to estimate the variance of age composition estimates. Samples for DNA analysis (fin clips) could be collected by observers from the same fish that are sampled for scales. Information from the BSAI chinook salmon bycatch samples and data could be used by fishery managers to improve both preseason and inseason stock assessments of Yukon River chinook salmon. Once comprehensive baselines are established, genetic (DNA)

stock identification may provide an efficient tool for inseason estimates of salmon stock composition of Yukon River chinook salmon in the BSAI bycatch.

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For the Record My name is Andrew Bassich. I have resided in and around Eagle Alaska for over 20 years. I am a Subsistence Fisherman Hunter and Trapper.

Eagle is the most upriver Village in Alaska along the Yukon River (1,400 river miles from the coast)

I am here to testify on behalf of the Upper Yukon River Fisherman..

I am also a Yukon River Panel Alternate member/ Responsible for the Implementation of the US/ Canada Treaty regarding Escapement of Chinook, and Fall Chum Salmon on the Yukon River.

I am a Federal Subsistence Regional Council member/ Making recommendation to the Federal Subsistence Board on Fish and Game regulations IN THE EASTERN INTERIOR, and a local advisory council member in Eagle.

I would like to impress upon you the Tremendous Dependence that the people in the Upper Yukon Region have on Chinook and Chum Salmon. This Salmon Resource is Critical to our way of life. It is the Central focus of our livelihood and Sustenance. There is little or no Commercial harvest of Salmon in our region. Salmon is Food to us.

Like all people that rely on Salmon both Commercial and Subsistence, we have suffered great hardship since the early 90's with poor Returns on various years.

We have great concerns regarding High seas by-catch of Chinook and Chum Salmon. Most years this By-catch is greater then the total Target Escapement Goal of Salmon into Canada as set by the Treaty.

Greater efforts and attention must be made to reduce the number of winter by-catch of more mature Chinook Salmon. (i.e. 1.3 and 1.4 Chinooks)

We feel it is most Important that extra precautions are taken on Years when Salmon abundance is low in the Marine environment. To monitor, and even reduce by-catch harvest on these years, due to it's increased harmful impacts on weak Yukon river stocks.

We would like to offer our support for any effort, which would reduce the By-catch of Salmon by High seas fishermen. We also recognize, and applaud the continuing efforts, and improvements by the UCB towards this reduction.

At this time we feel that all parties Realize the Limits and the harmful Economic effect that this By-catch has on the UCB, as well as Its devastating effects on an already Struggling Salmon Runs. Thus a reduction would benefit all concerned.

We feel that the Fisherman Generally know the best methods to catch and or not catch Differing species. That Safeguard must be in-place, and there must be a reliable system of accountability so that there is an efficient, and non-wasteful Fisheries in the high seas

There-for we would be in support of the YRDFA recommendation for an Alternative that suspends the current savings plan areas on an Annual basis, and is evaluated each year to re-examine the effects Positive and Negative of any new plan.

We feel it is essential that a reliable system of accurate reporting also be in place and enforced, and that a plan designed to Evaluate, and Measure the effectiveness of this alternate plan be developed, and implemented in conjuction with the adoption of any restructuring of the Pollock fisheries. This is key to a long term solutions.

We would like to be included in the effort to affect positive changes to this problem that has far reaching effects on All Alaska Fishermen.

In closing I would like to reiterate that your Actions have a very profound effect on Many Families, deep in the Interior of Alaska. **Let's work together to make a better life for All Fishermen, and their communities.**

Thank you
Andy Bassich

On Behalf of:
E.A.S.F.A. Eagle Area Subsistence Fishermen Association
Eagle AC Eagle Advisory Council
Subsistence Families in the Upper Yukon Region

Hazel Nelson
Draft Motion
2-13-05 9:20 A

BSAI Salmon Bycatch Motion (Alternative 3)

That the Council adopts the AP motion with the following additions:

The annual review of performance under the suspension should include at least the following:

- Evidence of moving the fleet away from hot spots – this is dependent on trigger rates, the spread in bycatch rates between areas, and the size of areas closed.
- Trigger rates – These should recognize abundance, so rates are lower in years of low abundance and higher in years of high abundance. Guidelines for setting initial trigger rates and generally acceptable total catches are probably needed. An annual review of performance will be essential.
- Individual accountability – while there is a certain amount of randomness in salmon bycatch, there are also measures vessels can take to minimize bycatch The coops should be encouraged to continue work on bycatch avoidance and individual accountability and required to report annually on these efforts.
- Review of the reliability of the total bycatch estimate.

The analysis should also include an analysis of the confidence intervals for salmon numbers by level of observer coverage and how that affects ~~to~~ the reliability of the total bycatch estimate.

The Council further recommends that as part of this voluntary rolling hot spot initiative, the stakeholders develop a research plan supported by industry contributions to analyze bycaught salmon stock composition, especially weak stocks in Alaska, and methods to estimate the abundance of stocks of interest both inseason and at the time they spawn.