
RECORD OF DECISION

BERING SEA CHINOOK SALMON BYCATCH MANAGEMENT FINAL ENVIRONMENTAL IMPACT STATEMENT

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Lead Agency: National Oceanic and Atmospheric Administration (NOAA)
National Marine Fisheries Service (NMFS)

Responsible Official: Eric C. Schwaab
Assistant Administrator for Fisheries, NOAA

Information contact: Gretchen Harrington
NMFS Alaska Region
P.O. Box 21668
Juneau, AK 99802
907-586-7228

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RECORD OF DECISION

This Record of Decision (ROD) documents the decision by the National Marine Fisheries Service (NMFS) to select Alternative 5, the preferred alternative in the Bering Sea Chinook Salmon Bycatch Management Final Environmental Impact Statement (EIS)¹, for managing bycatch of Chinook salmon (*Oncorhynchus tshawytscha*) in the Bering Sea pollock (*Theragra chalcogramma*) fishery. Alternative 5 is a program of Chinook salmon prohibited species catch (PSC) limits with incentive plan agreements and a performance standard. PSC limits, also called hard caps, are catch limits that when reached, close the pollock fishery. To implement Alternative 5, NMFS approves Amendment 91 to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area (FMP), which amends the FMP to include the Program. On February 18, 2010, NMFS published the notice of availability for Amendment 91 with a public comment period that ended on April 19, 2010 (75 FR 7228). NMFS published a proposed rule implementing Amendment 91 on March 23, 2010 with a public comment period that ended on May 7, 2010 (75 FR 14016). NMFS intends to publish the final rule in August 2010.

The EIS provides decision-makers and the public with an evaluation of the environmental, social, and economic effects of the current Chinook salmon bycatch management measures and alternative ways to minimize Chinook salmon bycatch to the extent practicable. The Draft EIS and preliminary comment analysis report served as the central decision-making documents for the North Pacific Fishery Management Council (Council) to recommend Amendment 91 to the Secretary of Commerce. The preliminary comment analysis report contained summaries of the public comments received on the DEIS, the agency's responses, and, as appendices, the EIS and RIR sections that the authors substantively revised based on public comments. The Final EIS serves as the central decision-making document for NMFS to approve Amendment 91, issue this ROD, and implement Amendment 91 through federal regulations.

The Bering Sea pollock fishery is the largest single species fishery, by volume, in the United States and annually generates over a billion dollars in revenue. This fishery is managed under the American Fisheries Act (AFA), which rationalized the fishery by identifying the eligible vessels and processors and allocating pollock quota among these participants. Under the AFA, 10 percent of the Bering Sea pollock total allowable catch (TAC) is allocated to the Community Development Quota (CDQ) Program and an amount needed to allow for the incidental catch of pollock in other Bering Sea groundfish fisheries is subtracted from the TAC. The remaining TAC is the "directed fishing allowance" allocated among the AFA inshore catcher vessel sector (50 percent), the AFA catcher/processor sector (40 percent), and the AFA mothership sector (10 percent). NMFS further allocates the AFA inshore catcher vessel sector pollock quota among the inshore cooperatives. Pollock allocations to the CDQ Program and the other three AFA sectors are further allocated annually between two seasons – 40 percent to the A season (January 20 to June 10) and 60 percent to the B season (June 10 to November 1).

Chinook salmon serve important cultural, spiritual, nutritional, and economic roles in the lives of Alaska Natives and others who live in rural Alaskan communities. Chinook salmon also support subsistence, commercial, personal use, and sport fisheries in their regions of origin. Therefore, NMFS manages Chinook salmon and all other species of salmon as prohibited species in the Bering Sea and Aleutian Islands. However, fishermen targeting pollock accidentally catch Chinook salmon in their trawl nets; the Bering Sea

¹ This EIS is available on the NMFS Alaska Region web page at: <http://www.alaskafisheries.noaa.gov/sustainablefisheries/bycatch/default.htm>.

pollock fishery catches up to 95 percent of the Chinook salmon taken incidentally as bycatch in the Bering Sea and Aleutian Islands groundfish fisheries. NMFS and the Council therefore resolved to develop a management strategy to minimize to the extent practicable Chinook salmon bycatch in the pollock fishery.

ALTERNATIVES CONSIDERED

The EIS evaluated five alternatives that consider a range of options (including the status quo and four separate management plans) for managing Chinook salmon bycatch.

Alternative 1: Status Quo (No Action)

Alternative 2: Hard cap

Alternative 3: Triggered closures

Alternative 4: Hard caps with an intercooperative agreement

Alternative 5: Preferred Alternative – PSC limits with incentive plan agreements and a performance standard

Chapter 2 of the EIS describes and compares these five alternatives, including detailed options and suboptions for each alternative. The following is a brief summary of those alternatives and other alternatives considered but eliminated from detailed study.

Alternative 1: Status Quo

Alternative 1 would retain the current Chinook Salmon Savings Area (SSA) closures and the exemption for vessels that participate in the Voluntary Rolling Hotspot System Intercooperative Agreement (VRHS ICA). Vessels directed fishing for pollock are subject to the SSA closures and VRHS ICA regulations. Once the pollock fleet reaches the 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 CDQ and non-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 FMP Amendment 84, are exempt from these closures.

Alternative 2: Hard Cap

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

Table 1 contains the Alternative 2 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, (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.

Table 1 Alternative 2 components, options, and suboptions.

Setting the hard cap (Component 1)	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, within a sector and calendar year.						
Allocating the hard cap to sectors (Component 2)		CDQ	Inshore CV	Mothership	Offshore CP	
	No allocation	7.5%	92.5%; managed at the combined fishery-level for all three sectors			
	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 (midpoint)	6.5%	57.5%	7.5%	28.5%	
Sector transfers (Component 3)	No transfers					
	Option 1	Caps are transferable among sectors within 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.					
Allocating the hard cap to cooperatives (Component 4)	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%		

Alternative 3: Triggered Closures

Alternative 3 would establish time and area closures that would be triggered when specified cap levels are reached. The cap levels for triggered closures would be set in the same way as the hard caps 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. Table 2 presents the five components and their options included under Alternative 3. As noted in the table, components and options that are the same as Alternative 2 are presented in Table 1.

Table 2 Alternative 3 Components and options.

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 (Figure 1)	Once triggered, area would close for the rest of the A season		
	B season closure areas (Figure 2)	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.		

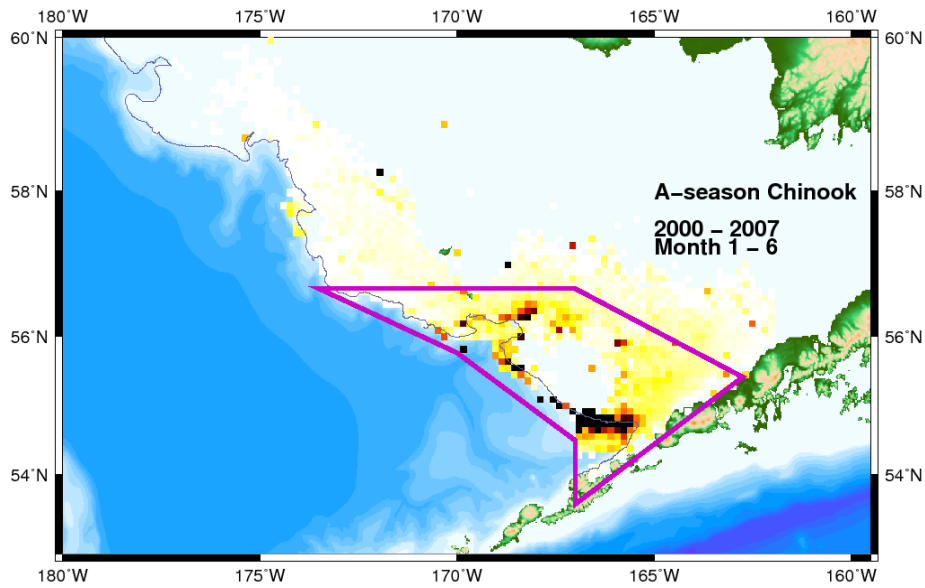


Figure 1 Proposed A-season trigger closure, encompassing 90% of Chinook bycatch in 2000-2007.

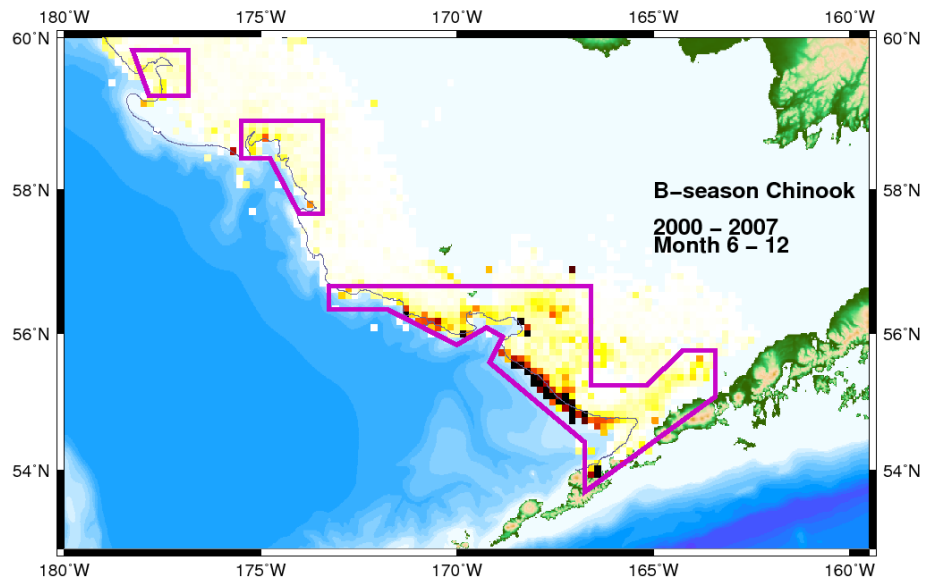


Figure 2 Proposed B-season trigger closures, encompassing 90% of Chinook bycatch in 2000-2007.

Alternative 4: Hard caps with an intercooperative agreement

Alternative 4 provides for two different annual scenarios with different caps for each scenario (Table 3). Annual Scenario 1 contains a dual cap system with a high cap of 68,392 Chinook salmon and a backstop cap of 32,482 Chinook salmon. Annual Scenario 2 contains a cap of 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. Alternative 4 would rely on the cap to limit Chinook salmon bycatch in all years and on the ICA to keep Chinook salmon bycatch as far as possible below the cap.

Under Alternative 4, it would have been possible to choose Annual Scenario 1, Annual Scenario 2, or both. The prescribed sector splits (and provisions to divide the sector splits to the inshore catcher vessel cooperative level and among CDQ entities) are identical for the 68,392 cap and 47,591 cap. All caps would be apportioned 70 percent to the A season (January 20 - June 10) and 30 percent to the B season (June 10- November 1).

Table 3 Alternative 4 components

Setting the hard cap (Component 1)	Annual Scenario 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	A cap of 47,591, with no ICA.			
	Annual Scenario 1 + Annual Scenario 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.			
	A season/B season division	The 68,392 cap and 47,591 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.			
Allocating the hard cap to sectors (Component 2)		CDQ	Inshore CV	Mothership	Offshore CP
	A season	9.3%	49.8%	8.0%	32.9%
	B season	5.5%	69.3%	7.3%	17.9%
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 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 allocation would be based on the pollock history of those vessels participating in the limited 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.			

Alternative 5: Preferred Alternative – PSC limits with incentive plan agreements and a performance standard

The Council developed Alternative 5 as the preferred alternative at the April 2009 Council meeting. Alternative 5 builds on Alternative 4, which was the preliminary preferred alternative. Alternative 5 includes two different Chinook salmon PSC limits (60,000 Chinook salmon and 47,591 Chinook salmon). The 60,000 Chinook salmon PSC limit will be available if some or all of the pollock industry participates in a private contractual arrangement, called an incentive plan agreement (IPA)², that establishes an incentive program to keep Chinook salmon bycatch below the 60,000 Chinook salmon PSC limit.

Alternative 5 relies on the PSC limit to cap Chinook salmon bycatch in all years and on the IPA to provide incentives to keep bycatch below the PSC limit. The combination of the PSC limit, transferable allocations, and one or more IPAs is intended to provide a more flexible and responsive approach to minimizing salmon bycatch than would be achieved by a cap alone. To ensure Chinook salmon savings, regardless of whether an IPA successfully minimizes bycatch, the Council established a sector level performance standard in Alternative 5. For a sector to continue to receive Chinook salmon bycatch allocations based on the 60,000 Chinook salmon PSC limit, that sector may not exceed its performance standard in any three of seven consecutive years. If a sector fails this performance standard, it will permanently be allocated a percentage allocation of 47,591 Chinook salmon.

Alternative 5 contains selected provisions under six components:

- **Component 1: PSC limits with an option for IPAs**, addresses the Chinook salmon PSC limits, IPA requirements under the 60,000 PSC limit, and seasonal distribution and rollovers of the PSC allocations.
- **Component 2: Sector allocation**, specifies the seasonal allocations of the Chinook salmon PSC limits among the four AFA sectors: the CDQ sector, the inshore catcher vessel sector, the mothership sector, and the catcher processor sector.
- **Component 3: Sector transfers**, allows transferability of the Chinook salmon PSC allocations among the sectors, inshore cooperatives, and CDQ groups to better ensure harvest of the full pollock TAC.
- **Component 4: Cooperative provisions**, further allocates the inshore sector's Chinook salmon PSC allocation among the inshore cooperatives and the inshore open access fishery, if the inshore open access fishery exists in any particular year.
- **Component 5: Performance standard**, annually evaluates each sector's bycatch against that sector's portion of 47,591 Chinook salmon.
- **Component 6: Observer program**, authorizes NMFS to modify regulations for shoreside processors and increase observer coverage on all catcher vessels.

²The term incentive plan agreement (IPA) under Alternative 5 is the same concept as the intercooperative agreement (ICA) under Alternative 4. The term IPA is used under Alternative 5 to clarify that participation in the IPA is not limited to AFA cooperatives as it may include individual vessel owners or CDQ groups. In addition, more than one IPA may be approved and an IPA could be created by a single cooperative (so an IPA is not required to include more than one cooperative or to be an agreement among cooperatives).

Table 4 Alternative 5 components

Setting the PSC limit (Component 1)	47,591 Chinook salmon	The fleet-wide PSC limit unless industry submits and NMFS approves an IPA agreement which provides explicit incentives for salmon avoidance.			
	60,000 Chinook salmon	The fleet-wide PSC limit if fishery participants form one or more IPAs that meet the criteria in regulations.			
	28,496 Chinook salmon	Vessels not in an IPA will fish under a portion of this “opt-out” or backstop cap.			
	A season/ B season division	The PSC limits will be divided 70% A season and 30% B season before allocations to sectors, CDQ groups, and cooperatives.			
	Seasonal rollovers	NMFS will rollover 100% percent of a sector’s, cooperative’s, or CDQ group’s unused salmon bycatch from its A season account to its B season account. No rollover will occur from the B season to the A season. No rollover will occur under the backstop cap.			
Allocating the PSC limit to sectors (Component 2)		CDQ	Catcher vessel	Mothership	Catcher processor
	A season	9.3%	49.8%	8.0%	32.9%
	B season	5.5%	69.3%	7.3%	17.9%
Sector transfers (Component 3) + Cooperative transfers	Upon request, NMFS could transfer allocations among recipients of transferable allocations during a fishing season. If an entity’s catches more Chinook salmon than its allocation in a given season, the entity has the opportunity to receive transfers of Chinook salmon PSC sufficient to bring the entity’s account to a zero balance.				
Allocating the PSC limit to cooperatives (Component 4)	Each inshore cooperative and the inshore open-access fishery will receive a transferable allocation of the inshore CV sector PSC limit and must stop fishing once the allocation is reached.				
	Inshore cooperative allocations will be based on that cooperative’s AFA pollock allocation percentage. Inshore open access allocation will be based on the pollock history of those vessels participating in the inshore open access fishery.				
Performance Standard (Component 5)	If a sector’s annual bycatch exceeds its performance standard in any three years within seven consecutive years, NMFS will permanently reduce that sector’s Chinook salmon allocation to that sector’s portion of 47,591 Chinook salmon PSC limit.				
Observer Program (Component 6)	The implementing regulations increase observer coverage to 100% for catcher vessels not delivering unsorted cod-ends at sea, require that all salmon caught be counted, and modify shoreside processors’ catch monitoring plans.				

ALTERNATIVES CONSIDERED AND ELIMINATED FROM DETAILED STUDY

During the development of the alternatives for the proposed action, the Council considered several different options for managing Chinook salmon bycatch in the Bering Sea pollock fishery. Some of these alternatives received extensive analysis as alternatives in the EIS, while others were eliminated from further detailed study because the management structure was considered to be unsuitable for managing Chinook salmon bycatch in the Bering Sea pollock fishery. EIS chapter 2 provides a summary of the alternatives and options that were not considered in detail. These include:

- Chinook salmon hard caps that ranged from 14,000 to 114,000 Chinook salmon;

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- A three-year step-down mechanism for the hard cap by starting with a Chinook hard cap of 99,908 (a 20% increase in the highest pre-2007 year);
 - A variety of fixed area closures and complex triggered area closures;
 - An index cap that would framework, in regulations, a method to set the cap relative to salmon returns;
 - A framework to establish a new cap on an annual basis;
 - A modification of the PSC accounting period to begin with the B season of one year and end with the A season of the following year;
 - Other changes to pollock fishery management such as reducing the pollock A and B season TACs, changing the timing of fishing activity to reduce bycatch, modifying trawl gear to reduce bycatch, closing the pollock fishery, and shortening the pollock B season when Chinook bycatch rates tend to increase drastically (while pollock catches are typically low);
 - A variety of flexible bycatch accountability mechanisms, such as a hard cap with tradable salmon quotas issued to individual vessels, cooperatives, or sectors;
 - A hard cap with hybrid quota/fee system; and
 - A fee per salmon caught to provide an incentive to reduce bycatch and to support research assessing impacts and methods to further reduce salmon bycatch.

THE ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The Council on Environmental Quality regulations require that the ROD specify “the alternative or alternatives which were considered to be environmentally preferable” (40 CFR 1505.2(b)). This alternative has been interpreted to be the alternative that will promote the national environmental policy as expressed in section 101 of the National Environmental Policy Act (NEPA). Ordinarily, this means the alternative that causes the least damage to the physical and biological environment, and that best protects, preserves, and enhances historic, cultural, and natural resources.

The Final EIS analysis demonstrates that Alternative 2, with a cap of 29,323 Chinook salmon, is the environmentally preferable alternative. The environmental benefits of this alternative would occur by limiting the amount of Chinook salmon bycatch to below average levels and by closing the Bering Sea pollock fishery once the hard cap is reached. This hard cap would result in the highest over-all returns of Chinook salmon to their rivers of origin and would result in the greatest reductions in pollock harvests as well.

While Alternative 2 is the environmentally preferable alternative because it prevents bycatch from exceeding 29,323 Chinook salmon every year, it would not achieve the goal of minimizing Chinook salmon bycatch at all levels of abundance. While 29,323 Chinook salmon cap would ensure bycatch does not exceed that level, it would not provide any incentives or mechanism to further reduce bycatch below that limit. As a result, if low encounters are due to low Chinook salmon abundance in one or more stocks, this cap would not address biological concerns about the potential impact of bycatch on these Chinook salmon stocks because participants would be expected to incidentally catch Chinook salmon up to the cap.

NMFS DECISION AND FACTORS CONSIDERED IN THE DECISION

The Decision

NMFS selects Alternative 5 as its choice for management of Chinook salmon bycatch in the Bering Sea pollock fishery. Alternative 5 best balances minimizing Chinook salmon bycatch to the extent practicable with providing the pollock fleet the flexibility to harvest the pollock total allowable catch. The rationale for this decision is discussed below and is fully supported by the environmental analysis documented in the EIS.

Rationale for the Decision

NMFS's decision to select Alternative 5, and thereby approve Amendment 91, was reached after a comprehensive review of the relevant environmental, economic, and social consequences of the alternatives. NMFS has taken into account the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), the Marine Mammal Protection Act, the Endangered Species Act (ESA), Pacific Salmon Treaty, other applicable statutory and policy considerations, and all public comments, in selecting Alternative 5 as the alternative that best enables NMFS and the Council to manage Chinook salmon bycatch in the Bering Sea pollock fishery while meeting the statutory, regulatory, and national policy requirements, goals, and objectives.

Under Alternative 1, there is no limit on the amount of Chinook salmon that could be incidentally caught in the pollock fishery. In response to extremely high Chinook salmon bycatch in recent years, the Council determined that the status quo management structure was not minimizing Chinook salmon bycatch to the extent practicable. While the annual reports suggest that the VRHS ICA has reduced Chinook salmon bycatch rates compared to what they would have been without the ICA, the highest historical Chinook salmon bycatch occurred in 2007 when the ICA was in effect under an exempted fishing permit. This high level of bycatch indicates that the status quo management measures, despite their giving the pollock fleet tools to reduce salmon bycatch, contain no effective upper limit on the amount of Chinook salmon bycatch taken in the Bering Sea pollock fishery.

The principle objective of Chinook salmon bycatch management in the Bering Sea pollock fishery is to minimize Chinook salmon bycatch to the extent practicable, while achieving optimum yield. Minimizing Chinook salmon bycatch to the extent practicable, while achieving optimum yield, is necessary to maintain a healthy marine ecosystem, to ensure long-term conservation and abundance of Chinook salmon, to provide maximum benefit to fishermen and communities that depend on Chinook salmon and pollock resources, and to comply with the Magnuson-Stevens Act and other applicable federal law.

In April 2009, the Council, by unanimous vote, selected Alternative 5 as its preferred program from the five alternatives analyzed. In developing Alternative 5, the Council considered consistency with the Magnuson-Stevens Act's 10 National Standards. The Council designed its recommended alternative to balance the competing demands of the National Standards, specifically, the need to balance and be consistent with both National Standard 9 and National Standard 1. National Standard 9 requires that conservation and management measures shall, to the extent practicable, minimize bycatch. Alternative 5 complies with National Standard 9 because it ensures Chinook salmon bycatch will not exceed, on average, 50,000 fish per year, and this is an amount close to the recent 10-year average and lower than bycatch levels several years prior to and including 2007. Additionally, if the IPAs work as intended, the bycatch should be well below 50,000 Chinook salmon each year.

National Standard 1 requires that conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the U. S. fishing industry. The ability to harvest the entire pollock TAC in any given year is not determinative of whether the Bering Sea/Aleutian Islands groundfish fishery achieves optimum yield. However, Alternative 5 provides the flexibility for the fleet to harvest the allocated TAC, which is one aspect of achieving optimum yield in the long term.

The Council also considered consistency with National Standard 8. National Standard 8 specifies that:

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 [based on the best scientific information available,] 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. 16 U.S.C. § 1851(a)(8).

The EIS analyzes the importance of Chinook salmon and pollock fishery resources to fishing communities. Alternative 5 mitigates the impacts of status quo bycatch on Chinook salmon fishing communities and does not negatively affect the sustained participation of these fishing communities. Alternative 5 balances the needs of these communities with the ability to ascertain direct impacts to salmon runs from incidentally caught salmon. Understanding that this action cannot rebuild salmon runs, NMFS believes that this action is likely to return more fish to natal streams than other alternatives under consideration. Alternative 5 also balances the needs of pollock fishing communities with the need to minimize Chinook salmon bycatch in providing the fleet the flexibility to harvest the pollock TAC.

Alternative 5 combines a limit on the amount of Chinook salmon that may be caught incidentally with a novel approach designed to minimize bycatch to the extent practicable in all years and prevent bycatch from reaching the limit in most years. In developing this program, the Council recognized that the number of Chinook salmon caught as bycatch in the Bering Sea pollock fishery is highly variable from year to year, from sector to sector, and even from vessel to vessel. Current information about Chinook salmon is insufficient to determine the reasons for high or low encounters of Chinook salmon in the pollock fishery or the degree to which encounter rates are related to Chinook salmon abundance or other conditions. The uncertainty and variability in Chinook salmon bycatch led the Council to create a program with a combination of management measures that together achieve the objectives to minimize bycatch to the extent practicable in all years while providing the fleet the flexibility to harvest the pollock TAC.

Under Alternative 5, the PSC limit will be 60,000 Chinook salmon if some or all of the pollock industry participates in an industry-developed contractual arrangement, called an incentive plan agreement (IPA), that establishes an incentive program to minimize bycatch at all levels of Chinook salmon abundance. Participation in an IPA is voluntary; however, any vessel or CDQ group that chooses not to participate in an IPA will be subject to a restrictive opt-out allocation (also called a backstop cap). IPAs are possible in the pollock fishery due to management under the AFA; participation is limited to an established fleet and pollock quota is allocated to participants. The regulatory requirements for an IPA are performance based (i.e., they address what an IPA should accomplish); any number of different incentive plans could meet these objectives. As designed, an IPA can be more responsive and adaptive than federal regulations and can use tools not available to federal managers, such as fees and penalties.

To ensure participants develop effective IPAs, Alternative 5 requires participants to demonstrate to the Council through performance documented in annual reports that the IPA is accomplishing the Council's intent that each vessel does its best to avoid Chinook salmon at all times while fishing for pollock and that, collectively, bycatch is minimized in each year. The addition of an IPA that can impose rewards for avoiding Chinook salmon bycatch and penalties for failure to avoid Chinook salmon bycatch at the vessel level, will be more effective at minimizing bycatch than a PSC limit alone. However, while the IPA should minimize bycatch in all years to a level below the limit, a limit of 60,000 Chinook salmon will provide the industry the flexibility necessary to harvest the pollock TAC in high-encounter years when bycatch is extremely difficult to avoid.

A 47,591 Chinook salmon PSC limit will apply fleet-wide if industry does not form any IPAs. This PSC limit of 47,591 Chinook salmon is the approximate 10-year average of Chinook salmon bycatch from 1997 to 2006. The 47,591 PSC limit is an appropriate limit on Chinook salmon bycatch if no other incentives minimize bycatch below this level.

Both PSC limits will be divided between the A and B seasons and allocated to AFA sectors, cooperatives, and CDQ groups as transferable PSC allocations. Transferability is expected to mitigate the variation in the encounter rates of Chinook salmon among sectors, CDQ groups, and cooperatives in a given season by allowing eligible participants to obtain a larger portion of the PSC allocation in order to harvest their pollock allocation or to transfer surplus PSC allocation to other entities. When a transferable PSC allocation is reached, the affected sector, inshore cooperative, or CDQ group will have to stop fishing for pollock for the remainder of the season even if its pollock allocation had not been fully harvested.

The Council also recommended a sector-level performance standard as an additional tool to ensure that the IPA is effective and that sectors do not fully harvest the Chinook salmon PSC allocations under the 60,000 Chinook salmon PSC limit in most years. For a sector to continue to receive Chinook salmon PSC allocations under the 60,000 Chinook salmon PSC limit, that sector may not exceed its annual threshold amount in any three years within seven consecutive years. If a sector fails this performance standard, the sector will permanently be allocated a portion of the 47,591 Chinook salmon PSC limit. The risk of bearing the potential economic impacts of a reduction from the 60,000 PSC limit to the 47,591 PSC limit creates incentives for fishery participants to cooperate in an effective IPA.

In selecting the appropriate Chinook salmon bycatch management program, NMFS and Council considered a wide range of alternatives to assess the impacts of minimizing Chinook salmon bycatch to the extent practicable, while maximizing the potential for the full harvest of the pollock TAC. The EIS analyzed the trade-offs between the potential Chinook salmon saved and the forgone pollock catch. The EIS contains a complete description of the alternatives and a comparative analysis of the potential impacts of the alternatives.

Alternative 2 would implement a single PSC limit, without incentive plans or a performance standard. However, a single PSC limit is not the optimum mechanism to minimize Chinook salmon bycatch at all levels of Chinook salmon abundance and at all rates of Chinook salmon encounters in the pollock fishery.

A relatively high PSC limit alone would not constrain the pollock fishery in most years, so it would not achieve the goal of minimizing Chinook salmon bycatch to the extent practicable. A high PSC limit in years of low Chinook salmon encounters would not provide incentives for the pollock fleet to reduce bycatch at all, even if lower bycatch could have been achieved at minimal expense. If low encounters are due to low Chinook salmon abundance in one or more stocks, a high PSC limit alone would not address biological concerns about the potential impact of bycatch on Chinook salmon stocks.

A low PSC limit would reduce Chinook salmon bycatch below historic levels. However, it could limit the pollock fishery harvests below the pollock TAC in many years because a low PSC limit would not accommodate the high variability in Chinook salmon encounter rates experienced in the Bering Sea pollock fishery, or the unpredictability of these rates. While a low PSC limit alone would ensure bycatch does not exceed that level, it would not provide any incentives or mechanism to further reduce bycatch below that limit. As a result, if low encounters are due to low Chinook salmon abundance in one or more stocks, even a low PSC limit alone would not address biological concerns about the potential impact of bycatch on Chinook salmon stocks. Additionally, if the low PSC limit were allocated to sectors, cooperatives, and CDQ groups, it could result in allocations so small that it could effectively preclude pollock fishing by a vessel or group of vessels. On the other hand, not allocating the PSC limit could result in a race to fish, which would undermine the rationalized management of the AFA and the current pollock fishery management.

Alternative 3 would implement time and areas closures, without a hard cap, incentive plans, or a performance standard. Alternative 3 is a similar approach to the status quo time and area closures. As with Alternative 2, Alternative 3 does not provide incentives for the pollock industry to reduce bycatch to levels below the trigger levels considered nor would it establish a hard cap and, thus, is not the optimum mechanism to minimize Chinook salmon bycatch at all levels of Chinook salmon abundance and all rates of Chinook salmon encounters in the pollock fishery.

NMFS believes that Alternative 5's innovative and comprehensive management approach protects the interests of all stakeholders and recognizes all components of the fishery as a balanced, inextricably linked system, rather than individual, competing components.

MITIGATION MEASURES AND MONITORING

Section 1505.2(c) of the Council on Environmental Quality regulations state that the ROD shall state whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and, if not, why they were not. The Final EIS describes a number of ways that Alternative 5 will mitigate the adverse effects of fishing under status quo and produce benefits to the human environment over time. Additionally, as identified in the EIS, Alternative 5 contains the following extensive monitoring, data collection, and review provisions as measures to analyze the effectiveness of Alternative 5 and to mitigate unintended consequences and potential harm to the human environment of Chinook salmon bycatch.

Monitoring

With the implementation of Alternative 5, NMFS will improve the monitoring of Chinook salmon bycatch in the pollock fishery. NMFS will use the same method of accounting for Chinook salmon bycatch for all AFA sectors. To accurately count Chinook salmon for the PSC allocations, NMFS will implement the following requirements (1) 100 % observer coverage for all vessels and shoreside processing facilities, (2) retain and count all Chinook salmon, (3) designate specific areas onboard vessels and at shoreside processing facilities to store and count all salmon, (4) use video monitoring on at-sea processors, and (5) electronically report salmon by species by haul or delivery. The proposed rule (75 FR 14016; March 23, 2010) provides a more detailed description of the specific additional monitoring implemented under this program.

Economic Data Collection

The Council recommended an economic data collection program in conjunction with Alternative 5. The data collection program will focus on (1) evaluating the effectiveness of the IPA incentives, the PSC limits, and

performance standard in terms of reducing salmon bycatch in times of high and low levels of salmon abundance, and (2) evaluating how Alternative 5 affects where, when, and how pollock fishing and salmon bycatch occur. The data collection program will also provide data for NMFS and the Council to study and verify conclusions drawn by industry in the IPA annual reports. Due to the complex nature of economic data collection, the proposed data collection program would be implemented under a separate rulemaking process. The Council is scheduled to review the draft proposed rule in October 2011. If the proposed data collection is approved by the Secretary of Commerce, it could be implemented in 2012.

Annual Reports

To ensure participants develop effective IPAs, participants will demonstrate to the Council, through annual reports, that the IPA is accomplishing the Council's intent that each vessel does its best to avoid Chinook salmon at all times while fishing for pollock and that, collectively, bycatch is minimized in each year. The Council will review the IPA reports to determine whether program changes are necessary to achieve the Council's goal to minimize bycatch to the extent practicable

Each IPA representative is required to submit an annual report to the Council by April 1 each year. The IPA annual report must contain (1) a comprehensive description of the incentive measures in effect in the previous year, (2) a description of how these incentive measures affected individual vessels, (3) an evaluation of whether incentive measures were effective in achieving Chinook salmon savings beyond levels that would have been achieved in the absence of the measures, and (4) a description of any amendments to the terms of the IPA that were approved by NMFS since the last annual report and the reasons that the amendments to the IPA were made.

CONCLUSIONS

Through the EIS and as documented in this ROD, NMFS has considered the objectives of the proposed action and has analyzed a reasonable range of alternatives that adequately addresses the objectives of the proposed action. Furthermore, NMFS has analyzed the associated environmental consequences and impacts of the alternatives and identified mitigation measures to address, to the extent practicable, those consequences and impacts. NMFS also has considered public and agency comments received during the EIS review periods. Consequently, NMFS concludes that Alternative 5 provides reasonable and practical means to avoid, minimize, or compensate for environmental harm from the action. Future actions consistent with Alternative 5 will be carefully considered following the procedures authorized by the Magnuson-Stevens Act and NEPA.

Signed: _____

Eric C. Schwaab
Assistant Administrator for Fisheries, NOAA

Date: _____

5/14/10

APPENDIX 1 - PUBLIC COMMENTS

NMFS summarized and responded to the public comments received on the Draft EIS in the Comment Analysis Report, which is EIS chapter 9. NMFS made changes from draft EIS to the final EIS in response to public comments, and these changes were noted in the Comment Analysis Report.

NMFS received 10 letters of public comment on the Final EIS, which are posted on the NMFS Alaska Region web page.³ The comments received on the Final EIS are summarized and responded to below. Comment summaries and responses are presented in the order in which NMFS received the comments. Note that while NMFS is not required to respond to comments received as a result of issuance of the Final EIS, NMFS decided to provide the following responses as part of the process to review and consider each comment's impact on the issuance of this ROD.

NMFS published the notice of availability for Amendment 91 on February 18, 2010 (75 FR 7228). NMFS received 36 comments on Amendment 91. NMFS published the proposed rule on March 23, 2010 (75 FR 14016). NMFS received X comments on the proposed rule. NMFS has made this decision after careful review of the public comments on the Draft EIS, the Final EIS, Amendment 91, and the proposed rule. The comments received on Amendment 91 and the proposed rule will be summarized and responded to in the final rule.

Comments from the Federal Subsistence Board

Comment 1: The Federal Subsistence Board urges NMFS to take actions that significantly reduce the amount of Chinook salmon bycatch in the pollock fishery and recommends a hard cap of 29,323 Chinook salmon to assist in ensuring that enough Chinook salmon return to Western and Interior Alaska rivers to meet spawning escapement requirements and the subsistence uses of over 120 communities representing approximately 60,000 rural residents in the Arctic-Yukon-Kuskokwim and Bristol Bay regions.

Response: NMFS acknowledges the comment. Alternative 2 includes a cap of 29,323 Chinook salmon and this cap was analyzed in the EIS. As explained in the EIS analysis, the degree to which levels of bycatch are related to declining returns of Chinook salmon is unknown. Although the reasons for the decline of Chinook salmon are not completely understood, scientists believe they are predominately natural. Changes in ocean and river conditions, including unfavorable shifts in temperatures and food sources, likely caused poor survival of Chinook salmon.

Comment 2: In addition, 29,323 Chinook salmon represents the five-year average (1997-2001) of Chinook salmon bycatch just prior to the signing of the United States/Canada Yukon River Salmon Agreement in 2002. This level of bycatch comes closest to the stipulation in that agreement which requires the United States to increase in-river returns of Yukon River origin salmon by reducing marine catches and bycatches of Yukon River salmon.

Response: The Yukon River Agreement states 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" (Art. XV, Annex

³ URL: <http://alaskafisheries.noaa.gov/sustainablefisheries/bycatch/salmon/chinook/feis/comments/default.htm>.

IV, Ch. 8, Cl. 12). The Yukon River Agreement also established the Yukon River Panel as an international advisory body to address the conservation, management, and harvest sharing of Canadian-origin salmon between the United States and Canada. This action is an element of efforts to reduce marine bycatch of salmon and ensure compliance with the Agreement. Additionally, in developing the alternatives under consideration, NMFS and the Council have considered the recommendations of the Yukon River Panel. The EIS and Regulatory Impact Review (RIR) address the substantive issues involving the portion of Chinook salmon taken as bycatch in the Bering Sea pollock fishery that originated from the Yukon River and the predicted impacts of salmon bycatch in the pollock fishery on returns of Chinook salmon to the Canadian portion of the Yukon River.

Comment 3: The preferred alternative should not be adopted into regulations because neither the limit of 60,000 nor 47,591 Chinook salmon represents a reduction in Chinook salmon bycatch, but rather is an allowance for higher bycatch. This allowance appears to be in direct conflict with the stated management goal to avoid bycatch of a prohibited species.

Response: NMFS disagrees. Alternative 5 achieves the stated management goal to minimize Chinook salmon bycatch to the extent practicable.

Comment 4: While the minimum escapement goal for Canada was exceeded in 2009, the EIS/RIR fails to point out that this was accomplished through the imposition of substantial restrictions on subsistence fishing and the prohibition of in-river commercial fishing.

Response: Section 3.6 of the RIR does discuss the restrictions on Chinook salmon subsistence and commercial fishing for the 2009 season.

Comments from Bristol Bay Economic Development Corporation

Comment 1: The Final EIS is a very thorough and well-written document that meets the standards necessary to support Secretary of Commerce approval of Amendment 91 based on the best available information.

Response: Comment acknowledged.

Comment 2: Bristol Bay Economic Development Corporation advocates third-party audits of the IPAs and an analysis of their effectiveness relative to the problem statement and IPA criteria. Without a third-party audit, Council staff should be responsible for reviewing the IPA reports each year and providing a critique of whether and to what extent the IPAs address the objectives. The Council is going to have to pay more attention to the nuts and bolts of the rolling hot spot system to be able to evaluate the effectiveness of the IPAs. Whether an IPA contains sufficient teeth to be effective in low and very low encounter levels will be an important test of the meeting of the Council's intent.

Response: NMFS agrees with the importance of evaluating the effectiveness of the IPAs. Alternative 5 establishes a process for the Council's annual review of the IPAs and their effectiveness at meeting the program requirements and the implementing regulations. Additionally, the proposed economic data collection program, once implemented, would provide information to the analysts and the Council in determining the effectiveness of the IPAs. The data collection program will focus on: (1) evaluating the effectiveness of the IPA incentives, the PSC limits, and the performance standard in terms of reducing salmon bycatch in times of high and low levels of salmon abundance, and (2) evaluating how Amendment 91 affects where, when, and

how pollock fishing and salmon bycatch occur. The proposed data collection program would also provide data for NMFS and the Council to study and verify conclusions drawn by industry in the IPA annual reports. Due to the complex nature of economic data collection, the data collection program will be implemented after Amendment 91.

Comment 3: Bristol Bay Economic Development Corporation would like to see an experimental fishing permit for test fishing in rolling hot spot closures to provide ground-truthing to that important component of the IPAs.

Response: The process for developing a research plan and applying for an exempted fishing permit is described at <http://alaskafisheries.noaa.gov/ram/efp.htm> and in 50 CFR 679.6. The feasibility of pollock vessel salmon bycatch management under an intercooperative agreement, including the use of rolling hot spot closures, was studied under EFPs issued in 2006 and 2007 to the AFA Catcher Vessel Intercooperative and the Pollock Conservation Cooperative. A final report of the EFPs' results shows the estimated reductions in Chinook and chum salmon incidental catch by using the rolling hot spot closures, ranged from 20 percent to 70 percent. This report is available from NMFS Alaska Region.

Comments from the U.S. Environmental Protection Agency

Comment 1: EPA's primary concerns with the Draft EIS were addressed in the Final EIS. EPA was particularly pleased with the additional information on the potential effects of climate change on salmon and pollock, the addition of Alternative 5, which provides a flexible and responsive approach to minimizing salmon bycatch that a hard cap alone, and clarification of the adaptive management strategies that are inherent in the management plan process.

Response: Comment acknowledged.

Comment 2: In future final EISs, EPA recommends that the Comment Analysis Report identify the commenter name and/or organization so commenter's can easily identify their comments and the response.

Response: Comment acknowledged.

Comment 3: EPA recommends that if the ROD in any way addresses the status of the State of Alaska's residue criteria, or of the Alaska Pollutant Discharge Elimination System, that this information from section 3.4.3.5 be updated as the status of both has changed substantially since this information was initially obtained in early 2008.

Response: This ROD does not address the status of the State of Alaska's residue criteria or of the Alaska Pollutant Discharge Elimination System. The use of outdated information in the EIS was an oversight; however, this information is not relevant for this decision.

Comments from George Donart

Comment 1: NMFS is not addressing salmon bycatch but is simply creating a fishing regime that has the least impact on the fishing behavior of the pollock fleet.

Response: NMFS disagrees. Under Alternative 5, not only will pollock fishery participants change behavior to avoid exceeding the performance standard, each vessel in an IPA will have incentives to avoid Chinook salmon bycatch at all times. These changes will impact the fishing behavior of the pollock fleet and minimize Chinook salmon bycatch to the extent practicable.

Comment 2: A declining cap is a reasonable and prudent measure as the pollock fleet becomes more proficient at reducing salmon bycatch. If Chinook populations continue to decline or stagnate, there is no trigger to reduce the caps.

Response: A declining cap was considered during the development of the alternatives and the reasons that it was not analyzed are provided in EIS section 2.6. Alaska fisheries management is inherently adaptive because of the monitoring requirements and the use of this information to continually refine management practices. As more information becomes available, the Council or NMFS may decide to change the PSC limits or make other modifications to the Chinook salmon bycatch management program.

Comment 3: The cumulative, multi-year impact of Chinook salmon interception on multi-age groups may have created an absolute extreme from which Western Alaska runs may not recover. There is no other explanation for the drastically reduced Chinook salmon runs other than interception at sea.

Response: NMFS disagrees. While Chinook salmon bycatch in the Bering Sea pollock fishery may be a contributing factor in the decline of Chinook salmon, as the EIS analysis shows, the absolute numbers of the ocean bycatch that would have returned to western Alaska are expected to be relatively small due to ocean mortality and the large number of other river systems contributing to the total Chinook bycatch. Although the reasons for the decline of Chinook salmon are not completely understood, scientists believe they are predominately natural. Changes in ocean and river conditions, including unfavorable shifts in temperatures and food sources, likely caused poor survival of Chinook salmon.

Comment 4: The RIR does not account for the environmental justice of valuing pollock over salmon. People living along Western Alaska rivers have very few options when commercial and subsistence take of salmon is restricted or barred, but this is not true of those involved in the pollock fishery.

Response: The analysis does not assume that pollock is valued over salmon. The analysis provides the best available information on both the pollock fishery and the Chinook salmon fisheries, including the availability of other sources of income for participants in both fisheries.

Comment 5: Chinook salmon accounts for approximately 43% to 55% of fishery subsistence on the Yukon River by weight, an accurate measure of nutritional value. The RIR only compares Chinook/chum salmon use by numbers of salmon caught, not by weight, skewing their relative values.

Response: NMFS acknowledged the importance of Chinook salmon to Yukon River subsistence users. The RIR, contained in Volume 2 of the EIS, includes an extensive treatment of the importance of Chinook salmon to Yukon subsistence users, using the best available information from Alaska Department of Fish & Game Subsistence Division Annual Reports. The RIR, based on the analysis contained in EIS section 5.5, also provides estimates of the numbers of Chinook salmon that would likely be “saved” and return to the Yukon River as adults under each of the alternatives. These estimates are provided in order to show the relative impact of each alternative on interception of Chinook salmon in order to compare the potential benefits of the alternatives in terms of Chinook salmon that may be made available to Yukon River fishery participants.

NMFS acknowledges the relatively higher value of Chinook salmon versus chum salmon could be made clearer, and NMFS will attempt to do so in future analytical documents regarding salmon bycatch.

Comment 6: The economic analysis in the RIR is based on an erroneous assumption that pollock fishermen will act irrationally when faced with constraints on their fishing practices. The analysis assumes that the fleet would not have changed fishing behavior had a new management regime been in effect during the last 5 years. Acting rationally, they would have gone to fish elsewhere, spent more money and fished longer, but would not have been shut down by a low cap at the time and catch-levels assumed by NMFS. A lower cap will impact, but not shut down the pollock fishery. An equal proportion of pollock will still be harvested under a low hard cap, but taken more cautiously.

Response: NMFS disagrees with the assertions made in this comment. The RIR specifically addresses this issue in section 6.0, on page 176, where the following is stated (emphasis added):

“It must also be understood that the proposed action is not to close the pollock fishery; it is to create incentives for pollock fishermen to avoid Chinook salmon bycatch as evidenced by the inclusion of provisions, in both Alternative 4 and the Preferred Alternative (Alternative 5) for inter-cooperative agreements aimed at creating effective Chinook salmon bycatch avoidance incentives. Thus, the impacts are reported as potentially forgone gross revenue or revenue at risk, depending on alternative, and are not reported as industry losses of revenue. The RIR does not identify these impact estimates as lost revenue specifically because mitigation of the impacts via harvesting behavior changes are expected as that is the point of incentivizing avoidance of prohibited species bycatch. Furthermore, the Council's stated preliminary preferred alternative modifies the strict hard cap formulations contained in Alternative 2 by including provisions for an industry managed Intercooperative Agreement (ICA provision) to reduce Chinook salmon bycatch to levels below the strict hard cap via industry derived incentives. Clearly, the Council's intent is to incentivize Chinook salmon bycatch avoidance in order to reduce it and the hard cap used in the potentially forgone gross revenue analysis is one part of the incentive. The implication is that the pollock industry will change behavior so that they do not face all of the potential forgone gross revenue, and/or revenue at risk estimated in the analysis as direct losses in revenue due to direct contraction in pollock harvest.

Thus, it is acknowledged that the gross revenue estimates shown in this analysis reflect highly simplified assumptions about the outcome of competing alternative bycatch rules. In a sense, they are intended to portray the "worst case" outcome if the pollock fishery was required to forgo a specific catch amount in response to each of the Chinook bycatch prohibition actions being examined. There is no expectation that this outcome will be realized as a result of any of the proposed Chinook bycatch management measures under consideration, and these "techniques" are employed solely to provide a crude approximation of the first wholesale gross dollar value associated with unharvested pollock, by sector, processing mode, etc.”

Comment 7: The paucity of data about Chinook salmon in the Bering Sea ecosystem requires NMFS to take a much more cautionary approach toward Chinook salmon conservation than Alternative 5. Depending on the thin veneer of knowledge to promote high bycatch rates is neither reasonable nor prudent.

Response: NMFS disagrees that Alternative 5 would promote high bycatch rates. Alternative 5 will minimize Chinook salmon bycatch to the extent practicable. Further, the EIS provides the best available

information on the role of Chinook salmon in the Bering Sea ecosystem. Since fisheries management is inherently adaptive, as more information becomes available on Chinook salmon in the Bering Sea ecosystem, the Council or NMFS may decide to change the PSC limits or make other modifications to the Chinook salmon bycatch management program.

Comment 8: There is little to believe that Alternative 5 will be any less of a failure than the previous system. For example, despite bycatch-triggered closures in each of the five years from 2002 through 2006, Chinook salmon bycatch increased 350 percent. The implementation of Amendment 84a and the ICA/VRHS system did nothing to curtail 2007's overwhelmingly high bycatch of Chinook salmon, despite 2006 NMFS statements that, "future salmon incidental take in the BSAI groundfish fisheries is expected to decrease with the proposed Amendment 84a." and "amendment (84a) is expected to reduce salmon incidental catch in the pollock trawl fishery of the BSAI." The complex proposed IPA system has a high likelihood of being so gamed as to effectively negate any meaningful cap on Chinook bycatch.

Response: NMFS disagrees. As explained in the EIS, NMFS and the Council recognized that Amendment 84a was not as effective as anticipated and as a result developed Alternative 5. The Council recognized that the management measures implemented under Amendment 84 provided the pollock fleet with tools to reduce salmon bycatch, but these measures contained no effective upper limit to restrict Chinook salmon bycatch. Alternative 5 contains measures that were not included in Amendment 84a. Specifically, Alternative 5 includes a limit on the total number of Chinook salmon that may be caught in the Bering Sea, and pollock fishing must stop to prevent that limit from being exceeded. Alternative 5 includes a sector-level performance standard that will ensure that sectors do not exceed their portion of 47,591 Chinook salmon in more than three years in a seven consecutive year period. Additionally, the IPA, while similar to the ICA in that it is an industry agreement, has additional requirements that were not part of the ICA under Amendment 84a. For example, the IPA must have rewards or penalties to encourage each vessel to avoid Chinook salmon bycatch in all years and promote reductions in individual vessel bycatch rates.

Comment 9: Install a conservation regime based on protection of Chinook and other intercepted species that includes the following:

1. An initial, low (30,000 or lower) hard cap.
2. Annually set the Chinook bycatch cap based on a 3- to 5-year rolling average of previous years' runs in river systems.
3. Create a mechanism to favor or weight the most impacted and imperiled salmon populations, such as the Norton Sound and Yukon runs at present.
4. Address the Pacific Salmon Treaty and Alaska National Interest Lands Conservation Act (ANILCA) priorities when setting seasonal caps.
5. When a boat's quota share is exceeded, its fishing is over for the season.
6. Any amount of bycatch taken over the quota share is deducted from the next year's share.
7. No transfer of quota share either within a season or when exiting a vessel from the fleet.
8. Close to all trawl fishing areas near river mouths and areas of dense migration.
9. Conduct systematic non-pollock census annually.
10. Embark on a robust program of research on the Bering Sea and Aleutian ecosystem.
11. Create a system with clear incentives for trawlers to fish clean.

Response: NMFS acknowledges the comment and notes that these recommendations were considered in the EIS, either as options under an alternative or in section 2.6 on alternatives considered and eliminated from

further analysis. Additionally, Alternative 5 does create a system - the IPAs - with clear incentives for pollock vessels to avoid Chinook salmon bycatch.

NMFS agrees that a robust program of research on the Bering Sea and Aleutian Islands ecosystem is desirable. In 2007, the North Pacific Research Board and the National Science Foundation entered into a historic partnership to support a comprehensive \$52 million investigation of the eastern Bering Sea ecosystem. NMFS is integrally involved in this "Bering Sea Project". The Bering Sea Project is a 6-year study of the Bering Sea ecosystem, from the benthos and the atmosphere to human communities, and everything in between. The project goal is to understand how climate change is affecting the Bering Sea ecosystem and the consequences of these changes on lower trophic levels for fish, seabirds, marine mammals, and ultimately people. For more information, visit the Bering Sea Project site at <http://bsierp.nprb.org/>.

Comments from the Yukon River Panel

Comment 1: The Yukon River Panel supports an interim hard cap of 37,000 Chinook salmon.

Response: NMFS acknowledges the comment and notes that similar cap amounts were considered in the EIS.

Comment 2: Under Alternative 5, the pollock fishery can catch 60,000 Chinook salmon in two out of every seven years with no consequence. This is unacceptable.

Response: NMFS disagrees. Alternative 5 is more complex than just a 60,000 PSC limit. First, while it is true that a sector can harvest up to its A and B season allocation of the 60,000 Chinook salmon PSC limit in two out of seven consecutive years, it is highly unlikely that all sectors will fish up to their allocations in each season in the same two years. Therefore, it is highly unlikely that the 60,000 Chinook salmon PSC limit will ever be met. With just the PSC limit and the performance standard, NMFS estimates that average bycatch would not exceed 50,000 Chinook salmon. However, Alternative 5 contains additional constraints through the IPA requirements. Alternative 5 includes IPAs as a tool to further reduce bycatch below the PSC limit with the goal that each pollock vessel avoids Chinook salmon bycatch at all times. The IPA can impose, at the vessel level, rewards for avoiding Chinook salmon bycatch, penalties for failure to avoid Chinook salmon bycatch, or both. To ensure participants develop effective IPAs, participants must demonstrate to the Council, through performance and annual reports, that the IPA is accomplishing the Council's goals. Additionally, the proposed data collection program would collect the data necessary for the NMFS and the Council to evaluate the effectiveness of the IPAs.

Comment 3: The Yukon River Panel supports the PSC limit of 47,591 Chinook salmon because the Yukon River Salmon Agreement when signed in 2002 included the provision in the Pacific Salmon Treaty, Chapter 8, paragraph 12: "the Parties shall maintain efforts to increase the in-river run of Yukon River 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."

Response: Comment acknowledged.

Comment 4: The Yukon River Panel urges the Council to re-consider its options and implement a management plan that is not dependent upon industry incentive plans to reduce salmon bycatch below the hard cap levels, but instead is based upon agency and Council control.

Response: The IPA component is a novel approach that is intended to provide incentives for each vessel to avoid bycatch at all times and thus further minimize bycatch below the PSC limits. The requirements for an IPA are performance based (i.e., they address what an IPA should accomplish); any number of different incentive plans could meet these objectives. As designed, an IPA can be more responsive and adaptive than federal regulations and can use tools not available to federal managers, such as fees and penalties. IPAs were included as a performance-based provision and the federal regulations are flexible in allowing the pollock fishery participants to amend the IPAs as performance information becomes available to ensure that the IPAs meet the goals in Alternative 5. Additionally, the IPA representative will report on the performance of the IPA for the Council. Therefore, IPAs can be more effective at providing incentive to minimize bycatch than regulatory controls.

Comments from Coastal Villages Region Fund

Comment 1: NMFS suggests that the RIR would benefit from an analysis of forgone values of pollock royalties for each CDQ group; however, no such analysis was conducted. NMFS royalty estimates are underestimated. Contrary to NMFS assertions, the data needed to improve this analysis are available.

Response: NMSF agrees that additional royalty information would improve this analysis. Detailed royalty data for each CDQ group is no longer available to NMFS because the CDQ groups are no longer required to submit to the State of Alaska or NMFS the reports through which the royalty data previously was collected. NMFS suspended certain reporting requirements that were no longer consistent with the Magnuson-Stevens Act after it was amended in 2006; therefore, detailed royalty data are not available for 2006 and 2007. As stated in the RIR, on page 39, no further calculations were necessary in 2003, 2004, and 2005 because NMFS received detailed pollock royalty data.

At the time this analysis was conducted, only two of the six CDQ groups had published publicly available annual reports containing pollock royalty data for 2007 and none had published pollock royalty data for 2006. The 2007 estimated royalty value of \$310 per metric ton used in the RIR is based on an average of two CDQ groups. Since the RIR was published, a third CDQ group published royalty data in their publicly available annual report. An average of the royalty data published by these three CDQ groups would have increased the estimated royalty value to \$360 per metric ton in 2007. Had the RIR analysis been conducted using this new royalty data, the estimated forgone royalty revenue to the CDQ groups would have increased for 2007. NMFS has requested that each CDQ group voluntarily submit royalty data, which would enhance any regulatory impact review of the CDQ groups. While some CDQ groups provide royalty data in their publically available annual reports, these data are no longer submitted directly to NMFS.

NMFS disagrees with that statement that NMFS failed to conduct an analysis of the forgone values of pollock royalties to the CDQ entities. The RIR includes a retrospective analysis of potentially forgone pollock revenue had Amendment 91 been implemented from 2003 through 2007. NMFS calculated the potential forgone pollock revenue for each sector including CDQ entities in section 6.5 of the RIR. In addition, section 7.3 provides comparative analyses of the potential impacts of the alternatives on all sectors, including estimates of the effects of various alternatives would have had on CDQ royalties. NMFS is not aware of any additional sources for CDQ royalty data other than those cited in the EIS/RIR.

Comment 2: In RIR Section 2.5, page 42, the reference to CVRF 2008 is incorrect. The source cited does not include information about the impacts on Kotzebue Sound communities.

Response: NMFS agrees. The reference citing the 2008 CVRF annual report should have followed an earlier sentence in that paragraph: “. . . in 2008, 16 percent of the CVRF fish processing employees were residents of non-CDQ communities.”

Comment 3: In RIR section 3.2, page 51, NMFS fails to acknowledge that the income residents acquire from CDQ activities also support subsistence harvest. If CDQ entities were unable to provide buying stations for commercially harvested nearshore species, the opportunities for participation in the subsistence fishery would be reduced.

Response: NMFS acknowledges that the EIS and RIR do not specifically address the contribution of CDQ buying stations. NMFS agrees that any economic activity in western Alaska that provides income to individuals could support subsistence activity. The RIR, in Sections 3.2, 3.3, and 8.0, describes the relationship between the local commercial salmon fisheries and subsistence fisheries.

Comments from the U.S Fish and Wildlife Service

Comment 1: A cap of 38,891 Chinook salmon would be more likely to (1) provide for the long term sustainable health of Chinook salmon populations, (2) allow ANILCA subsistence harvest priorities to be met, and (3) allow Pacific Salmon Treaty border passage obligations to be met without undue restrictions placed upon priority users. The cap of 38,891 Chinook salmon should be combined with sector-level performance standards and IPAs designed to keep bycatch levels well below the hard caps in most years.

Response: NMFS acknowledges the comment and notes that a similar cap amount was considered in the EIS.

Comments from the Yukon River Drainage Fisheries Association

Comment 1: The preferred alternative remains woefully inadequate to meet the purpose of this action, which is to reduce salmon bycatch.

Response: NMFS disagrees. Alternative 5 is designed to meet the purpose of this action, which is to minimize Chinook salmon bycatch to the extent practicable while achieving optimum yield.

Comment 2: To reduce bycatch, immediately implement the following measures from Alternative 2: (1) a hard cap of 32,500 Chinook salmon, (2) a 58/42 A/B season apportionment, and (3) allocations to the cooperative level with allocation based pro rata on pollock allocation. This lower cap will provide protections to salmon populations while allowing the pollock fishery to operate. It will reduce bycatch to levels experienced before the Yukon River Salmon Agreement was signed, honoring our international commitments under this treaty and providing necessary protection to Chinook salmon throughout Western Alaska.

Response: NMFS acknowledges the comment and notes that a similar cap and these options were considered in the EIS.

Comment 3: The difference in the amount of Yukon River Chinook salmon caught between our recommended cap and the Alternative 5 cap is significant and cannot be ignored in the EIS.

Response: The EIS does not ignore the difference in the amount of Yukon River Chinook salmon caught among all of the alternative cap levels, including a 32,500 cap level. Understanding the portion of Yukon

River salmon caught in the pollock fishery and a comparison of the amount that would have returned under the alternative cap levels was only possible with the adult equivalent (AEQ) analysis conducted in the EIS.

Comment 4: Alternative 5 does not meet the obligations of National Standard 9 because the 60,000 Chinook salmon PSC limit has only been exceeded three times in the past eighteen years.

Response: NMFS disagrees. Alternative 5 does minimize bycatch to the extent practicable. Alternative 5 is more than just a 60,000 Chinook salmon PSC limit. Alternative 5 complies with National Standard 9 because the performance standard ensures Chinook salmon bycatch will not exceed, on average, more than 50,000 fish per year, an amount close to the recent 10-year average and lower than bycatch levels several years prior to and including 2007. Additionally, if the IPAs work as intended, the bycatch should be well below that amount. If fishery participants do not form any IPAs, then the 47,591 PSC limit will be in effect, which is the approximate 10-year average of Chinook salmon bycatch from 1997 to 2006.

Comment 5: The Council has justified a higher cap on the basis that they must balance National Standard 9 with National Standard 1, which requires that conservation and management measures prevent overfishing, while achieving, on a continuing basis, the optimum yield (OY) from each fishery for the United States fishing industry. However, the EIS shows that even at the lowest cap level analyzed – 29,300 – OY was achieved overall throughout the time period analyzed in the EIS. This time period includes the highest bycatch on record, and the three highest bycatch levels in the past eighteen years, so the fact that OY was achieved even with these bycatch levels suggests that a bycatch cap at the lowest level analyzed of 29,300 is indeed practicable for the pollock fleet, and would comport with National Standard 1. This being the case, a 60,000 hard cap is not necessary to meet National Standard 1 or the practicability requirement of National Standard 9, and in fact seems designed more to protect the pollock fishery's revenues than the health of Western Alaska's salmon and those who depend upon them.

Response: NMFS disagrees. Alternative 5 as a whole complies with National Standard 1 and the 60,000 Chinook salmon PSC limit is one component of Alternative 5. In developing this program, the Council recognized that the number of Chinook salmon caught as bycatch in the Bering Sea pollock fishery is highly variable from year to year, from sector to sector, and even from vessel to vessel. Current information about Chinook salmon is insufficient to determine the reasons for high or low encounters of Chinook salmon in the pollock fishery or the degree to which encounter rates are related to Chinook salmon abundance or other conditions. The uncertainty and variability in Chinook salmon bycatch led the Council to create a program with a combination of management measures that together achieve its objective to minimize bycatch to the extent practicable in all years while providing the fleet the flexibility to harvest the pollock TAC. Since Alternative 5 divides the PSC limit between the A and B season and allocates the PSC limits to the sectors, cooperatives, CDQ groups, and, potentially, non-transferable allocations, the actual allocations are small and could be limiting to an entity that is trying to avoid bycatch in a high bycatch year. In these years, the flexibility of the higher PSC limit is necessary for each sector, cooperative, or CDQ group to harvest its pollock allocation.

Comment 6: While the assumption that there are situations in which the pollock fishery cannot control their bycatch forms the basis for the higher PSC limit under Alternative 5, there is absolutely no evidence presented in the EIS to support this assumption.

Response: NMFS disagrees. The alternative hard caps selected by the Council for analysis make no such assumption, nor does the Council's preferred alternative. EIS section 2.2.1.1 (page 35) presents a discussion of how the range of numbers for a hard cap was established. Specifically, the highest bycatch level analyzed

was 87,500 Chinook salmon, which represents the upper end of the recent range of observed bycatch included in the BSAI groundfish fishery Incidental Take Statement for ESA-listed Chinook salmon. This level is considerably less than the 2007 level of bycatch. If an assumption were made that the pollock fishery could not control bycatch, it would most likely be made in years with extraordinarily high bycatch rates such as occurred in 2007. Thus, were the Council to invoke such an assumption, one would logically expect the upper end of the bycatch cap formulation for analysis to include the 2007 bycatch amounts. However, none of the cap options include the highest year of 2007 in calculation of historical averages. The option chosen in Alternative 4 represents a three-year average (2004-2006). For Alternative 5, this three-year average was reduced by 8,392 Chinook salmon. Other options under Alternative 2 have different year-sets included (3-, 5-, and 10-year averages before and after 2002). Option iv is specifically the 10 year average (1997-2006) with the lowest year (2000) dropped from consideration, while option vi is the same 10-year average but with 2006 dropped. None of these options include the highest observed levels of bycatch.

More importantly, the proposed action is not to close the pollock fishery but to minimize bycatch of Chinook salmon to the extent practicable. This fact is evidence alone that the Council has recommended a program that assumes that some level of bycatch is, indeed, avoidable. For example, Alternative 5 modifies the strict hard cap formulations contained in Alternative 2 by including provisions for an industry managed IPA to reduce Chinook salmon bycatch to levels below the hard cap via industry derived incentives. Clearly, the intent is to provide incentives to avoid Chinook salmon bycatch in order to reduce it below the PSC limit. The implication is that the pollock industry will change their behavior so that they do not face all of the potential forgone revenue, and/or revenue at risk estimated in the analysis. And this expected change in behavior is exactly the bycatch avoidance the commenter wrongly asserts is assumed to not be possible.

Comment 7: National Standard 9 requires the Council and NMFS to adopt a precautionary approach when faced with uncertainty and to improve data regarding bycatch species, including information about the type of fish, disposition, and other characteristics.

Response: NMFS disagrees. National Standard 9 requires that 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. NMFS is improving data collection regarding salmon bycatch in the Bering Sea pollock fishery. With the regulations implementing Amendment 91, observer coverage will be increased to 100% and observers will count every salmon caught in the pollock fishery. Additionally, NMFS has made improvements in the observer sampling protocols for the collection of genetic samples and related scientific information.

Comment 8: In comparison to the complete shutdown of the commercial Chinook salmon fishery and the significant restrictions on subsistence communities that rely on Chinook salmon for a major part of their diets, the impact of reducing bycatch on the pollock fishery is minor.

Response: Comment acknowledged.

Comment 9: Council and NMFS must consider other applicable laws in meeting their obligations under National Standard 9. At least three obligations should provide guidance in setting a bycatch cap here: ANILCA, the Pacific Salmon Treaty, and the ESA. All of these obligations counsel in favor of adopting a lower Chinook salmon bycatch cap.

Response: NMFS has complied with all applicable laws in approving and implementing Amendment 91. See response to comment 3 from the Association of Village Council Presidents on ANILCA. See response to

comment 2 from the Federal Subsistence Board on the Yukon River Agreement of the Pacific Salmon Treaty. See response to comment 11 from the Yukon River Drainage Fisheries Association on the ESA.

Comment 10: The 60,000 PSC limit calls into question the United States' compliance with its treaty obligation under the Yukon River Salmon Agreement to "increase the in-river run of Yukon River origin salmon by reducing marine catches and by-catches of Yukon River salmon."

Response: NMFS disagrees. Alternative 5 is an element of efforts to reduce salmon bycatch and ensure compliance with the Agreement. See response to comment 2 from the Federal Subsistence Board.

Comment 11: Salmon stocks from the Pacific Northwest that are listed under the ESA are among those caught in the bycatch from the pollock fleet, however, there is not enough information available to determine how many lower 48 listed Chinook salmon are caught each year. The effects of Chinook salmon bycatch on the viability of ESA-listed species is therefore unknown, and take may exceed permissible levels.

Response: The biological opinion for this action determined that the amount or extent of expected take of ESA-listed Chinook salmon in the Bering Sea pollock fishery would be equivalent to the amount of ESA-listed Chinook salmon expected to be taken under the Chinook salmon PSC limits established by Amendment 91. There is no permissible level of ESA-listed Chinook salmon take. The exceedence of a PSC limit would require reinitiation of ESA section 7 consultation. The biological opinion concluded that Amendment 91 would not cause jeopardy of extinction for ESA-listed Chinook salmon stocks.

Information on the bycatch of ESA-listed stocks is from the recovery of coded-wire tagged fish from ESA-listed stocks. The only ESA-listed stocks that have been recovered from bycatch in the Bering Sea and Aleutian Islands groundfish fisheries are from the Lower Columbia River and Upper Willamette River Chinook salmon stocks. All of these recoveries have been from the Bering Sea pollock fishery. The frequency of coded-wire tag recovery, in relation to the number of coded-wired tagged fish released from these stocks, indicates that the take of these ESA-listed stocks in the BSAI groundfish fisheries is rare.

Alternative 5 will improve the collection of Chinook salmon information by requiring a census of Chinook salmon in every haul or fishing trip. Every Chinook salmon in the observer's sample that may have a clipped adipose fin, indicating a coded-wire tag, and additional salmon with clipped fins collected by crew are sampled for coded-wire tags. Because of this improved sampling process, it will be likely that the estimation of ESA-listed stocks occurring in the incidental catch of the Bering Sea pollock fishery is close to or the same as the actual number of ESA-listed salmon taken.

Comment 12: The 58/42 A/B season split would provide essential protections to maturing salmon bound for their natal rivers in the coming summer. According to the DEIS, "there is a tendency for the number of AEQ Chinook salmon released to natal rivers to increase as the A season allocation is reduced." Amendment 91, on the other hand, provides a 70/30 A/B season split, which is higher than historical rates and places a majority of the available bycatch quota in the A season, with the highest impact to river-bound Chinook salmon. Further, Amendment 91 allows 80% of the A season cap to be rolled over to the B season, further reducing the true seasonality of the two caps.

Response: Four seasonal apportionment options are analyzed in the EIS, including the 58/42 apportionment. Alternative 5 apportions the PSC limits as 70 percent in the A season and 30 percent in the B season. Seventy percent is higher than average historical distribution to the A season to provide more of the allocation during the highest value pollock fishing. The 70/30 A/B season split is combined with the rollover of 100%

of the remaining A season allocation to the B season. This rollover provision promotes salmon savings in the A season by providing incentives for sectors to minimize bycatch to the extent practicable in preparation for the B season, but also locks in the maximum proportion of bycatch allowed in the A season.

Comment 13: Alternative 5 allocates bycatch caps to the sectors based 75 percent on historical bycatch levels and 25 percent on AFA pollock allocations. This allocation rewards bad actors for their historically high bycatch rates, which should be specifically avoided within Chinook salmon bycatch management measures.

Response: NMFS disagrees. The sector allocations recognize the variable bycatch rates between sectors and that bycatch rates are due to other factors in addition to the amount of pollock harvested. As explained in EIS section 2.5.2, the sector allocation percentages are based on the 5-year (2002-2006) historical average of the annual proportion of Chinook salmon bycatch by sector within each season, adjusted by blending the reported bycatch for CDQ and non-CDQ hauls for vessels fishing on behalf of CDQ groups. Allocation estimates for the sectors for each season were calculated by (1) multiplying 0.75 by each sector's adjusted 5-year historical average bycatch and (2) multiplying 0.25 by each sector's AFA pollock allocation. Placing 70 percent of the PSC limit in the A season benefited the catcher processor, CDQ, and mothership sectors that have historically taken a larger portion of their bycatch in the A season. Thus, providing for a portion of the historical average mitigates the inshore catcher vessel sector's disadvantage under the 70/30 seasonal split. However, the 0.25 AFA pollock distribution adjustment to bycatch history ensures the poorest performers in the inshore catcher vessel sector will not be fully rewarded for past behavior. Not including history in the sector allocations would assume a fleet homogeneity that does not exist.

Comment 14: The EIS does not analyze the IPAs, which were relied upon to justify the Alternative 5. NEPA requires that IPAs be analyzed as alternatives within the EIS if selection of a higher hard cap is based on performance under the incentive programs. Without an analysis of the IPAs, there is no justification for allowing a higher cap if IPAs are in place. The agency argues that the IPAs need not be analyzed because it is the cap levels themselves which are being analyzed. One must then assume that the Council has effectively chosen a 60,000 PSC limit. Assuming *arguendo* that this is the case, the Council's rhetoric does not match its action. In deliberations and in follow-up to the public, Council members have stressed that this is not really a 60,000 hard cap because of the IPAs and the performance standard. If the IPAs are truly insignificant enough such that they need not be analyzed in the EIS, they also cannot be justification for the two scenario approach.

Response: NMFS disagrees. As explained in EIS chapter 9, in response to comment 2-27, as long as the EIS analyzes and discloses the consequences of adopting the PSC limits specified in the alternatives, and the incentive programs are a feature of the alternative that provides additional incentives to avoid Chinook salmon bycatch within these PSC limit, the Secretary of Commerce can approve Amendment 91 without an analysis in the EIS of the specific incentive program the pollock industry may submit.

The EIS analyzes the environmental impacts of Chinook salmon bycatch at the 60,000 and 47,591 Chinook salmon PSC limits. This provides the best available information on the predicted impacts of bycatch at these levels because these PSC limits are the maximum amount of bycatch that could be caught in any given year. The EIS discusses the function of the sector-level performance standard to prevent each sector from exceeding its portion of 47,951 in more than three years in any seven consecutive years. Note that since the performance standard is on a sector basis, if a given sector exceeded its performance standard and fished up to its allocation under the 60,000 limit, total bycatch would still be below 60,000 Chinook salmon. Bycatch would only reach 60,000 in a given year if all sectors fished up to their allocation of 60,000 Chinook salmon.

Therefore, the performance standard is the tool that will prevent bycatch from exceeding, on average, the historical 10-year average.

The IPA component is a novel approach that is designed to provide incentives for each vessel to avoid bycatch at all times and thus further minimizes bycatch below the PSC limits. The requirements for an IPA are performance based (i.e., they address what an IPA should accomplish); any number of different incentive plans could meet these objectives. As designed, an IPA can be more responsive and adaptive than federal regulations and can use tools not available to managers, such as fees and penalties. IPAs were included as a performance-based provision and the federal regulations are flexible in allowing the pollock fleet to modify the IPAs as performance information becomes available to ensure that the IPAs meet the goals in Amendment 91. Additionally, requiring, as the comment suggests, that the IPAs be finalized years before they would be used in order for them to be analyzed would remove the adaptive nature of the IPAs and therefore remove some of their effectiveness.

Comment 15: Under Alternative 5, there is no opportunity for a substantive review of the IPAs by either NMFS or the Council and no analysis of expected performance is conducted by NMFS in approving the plans. The IPA requirements do not specify the specific types of incentives which must be contained in the plans. Under this review process, only the Council is addressing the efficacy of the incentive programs, yet the incentive programs submitted to NMFS may not be the same programs submitted to the Council. In effect, no one, including the public, NMFS, and the Council, has the opportunity to assess the efficacy of the final incentive programs submitted to NMFS. And, the Council has no authority to approve or deny the IPAs, and an FMP amendment would have to be initiated to change the requirements.

Response: The comment is correct that there is no process to review the potential efficacy of the IPAs prior to the first year of implementation. After the first year of implementation, substantive review of the IPAs will occur annually as part of the Council's public process and be based on the performance of the IPAs. The IPA annual report is the primary tool through which the Council will evaluate whether its goals for the IPAs are being met. The IPA annual report would be required to contain (1) a comprehensive description of the incentive measures in effect in the previous year, (2) a description of how these incentive measures affected individual vessels, (3) an evaluation of whether incentive measures were effective in achieving salmon savings beyond levels that would have been achieved in the absence of the measures, and (4) a description of any amendments to the terms of the IPA that were approved by NMFS since the last annual report and the reasons that the amendments to the IPA were made. By design, IPAs are adaptive and can be modified as necessary. The IPAs may be amended in response to the Council's review to better achieve the program goals. Furthermore, if analysis prepared after the incentive plans are in effect demonstrates that the Council's goals for salmon avoidance are not being met, the Council could reinitiate analysis of alternative salmon bycatch management measures and implement revised or new management measures in the future.

Additionally, the proposed economic data collection program, once implemented, would provide information to the analysts and the Council in determining the effectiveness of the IPAs. The data collection program will focus on: (1) evaluating the effectiveness of the IPA incentives, the PSC limits, and the performance standard in terms of reducing salmon bycatch in times of high and low levels of salmon abundance, and (2) evaluating how Amendment 91 affects where, when, and how pollock fishing and salmon bycatch occur. The proposed data collection program would also provide data for NMFS and the Council to study and verify conclusions drawn by industry in the IPA annual reports. Due to the complex nature of economic data collection, the data collection program will be implemented after Amendment 91.

As discussed above, the requirements for the IPA are performance-based because fishery participants have more tools available to them to create incentives to minimize bycatch at the vessel level than could be proscribed through federal regulation.

Comment 16: To accurately characterize the impacts, and the revenue at risk, the analysis should include a broader range of years which better represents historical bycatch patterns. Using bycatch data from 2003 to 2007 presents a fatally skewed analysis of the impacts of the 60,000 PSC limit and makes the revenue at risk numbers artificially high because the low bycatch years – which predominate over the long term – are not presented.

Response: NMFS disagrees that the impacts analysis did not include an appropriate range of years representing historical bycatch patterns. As explained in EIS section 3.2, the impact of alternative Chinook salmon bycatch management measures was evaluated by using the actual bycatch of Chinook salmon, by season and sector, for the years 2003-2007 to estimate when alternative cap levels would have been reached and closed the pollock fishery during those years. This allows the alternatives to be compared to Alternative 1 status quo (no hard cap) for an understanding of the relative impacts of each alternative.

The years 2003 to 2007 were chosen as the analytical base years because that was the most recent 5-year time period reflective of recent fishing patterns at the time of initial Council action, with 2007 representing the highest historical bycatch of Chinook salmon. Catch accounting changed beginning in the 2003 pollock fishery with the NMFS catch accounting system (CAS). Since 2003, the CAS has enabled consistent sector-specific and spatially-explicit treatment of the Chinook salmon bycatch data for comparative purposes across years. Thus, starting the analysis in 2003 utilized the most consistent and uniform data set that was available from NMFS on a sector-specific basis. The AEQ analysis would not have been possible without this fine-scale data on Chinook salmon bycatch.

The purpose of the analysis was to estimate the Chinook salmon saved and forgone pollock catch and related impacts, and extending the period would have had little effect on the conclusions. In fact, in years when bycatch was below all caps under consideration, most likely there would have been no salmon saved or pollock forgone under any of the alternatives. The data from 2003-2007 is sufficient to highlight relative differences among the alternatives and associated options and show how these alternatives and options perform given the variability in Chinook salmon bycatch between seasons and among sectors and years. The EIS and RIR do include historical and more recent data on Chinook salmon bycatch, the pollock fishery, and Chinook salmon stock status and directed fisheries to provide an understanding of the existing conditions.

NMFS also disagrees with the assertion that the numerical estimates of potentially forgone gross revenues and gross revenues at risk, identified in the RIR are “fatally skewed.” As explained in the RIR, these gross estimates reflect highly simplified assumptions about the outcome of competing alternative bycatch rules. In a sense, they are intended to portray the "worst case" outcome if the pollock fishery was required to forgo a specific catch amount in response to each of the alternatives being examined. As the text clearly indicates, there is no expectation that this outcome will be realized as a result of any of the proposed Chinook bycatch management measures under consideration. The RIR is very clear that these analytical techniques are employed solely to provide a crude approximation of the first wholesale gross dollar value associated with unharvested pollock, by sector, processing mode, etc. On page 209, the text states "As noted above, gross revenues at risk are forgone only if a fishing fleet is unable to modify its operations to accommodate the imposed [Chinook salmon bycatch] limits and, thus, cannot make up displaced catches elsewhere ..." The analysis goes on to address the expected results of less extreme catch reduction levels, resulting from industry changes in operational practices (e.g., gear changes, location changes, timing changes). In every case, the

RIR emphasizes that these estimates are incomplete, owing to the absence of industry cost and operational data, market information, pricing structure, etc. As "gross revenue" measures, these numerical results cannot even be interpreted as being indicative of the net impacts the industry could be expected to incur as a result of implementation of any one of the alternatives.

Comment 17: In the EIS, the agency recognized that the stock composition estimates contained a high degree of uncertainty. Even with the associated caveats, the inclusion of AEQ estimates at the level of specific river systems (as in EIS Tables 5-51, 5-52, 5-53, 5-54, 5-55, and 5-56) implies their usefulness, and makes them part of the available information for decision-making. This provides decision-makers and the public with an inaccurate base of information on which to base their decisions, and to weigh the costs and benefits of reducing Chinook salmon bycatch. This is particularly problematic in the case of upper Yukon River Chinook salmon. Given the importance of these stocks for treaty obligations, we cannot assume that the stock compositions from the spatially and temporally limited samples analyzed by Seeb et al. are indicative of the overall presence of these stocks in the bycatch. Yet, information is presented on the specific number of upper Yukon Chinook salmon which will be "saved" under the various alternatives.

Response: NMFS disagrees. Uncertainty is common in all quantitative fisheries studies and noting this for the AEQ analysis is standard practice. Presently, this information is the best available scientific data and ignoring specific AEQ results would be negligent. Therefore, NMFS considers the caveats as expressed in the EIS as sufficient. NMFS also notes that the level of uncertainty (through the AEQ estimation model and through tested genetics approaches) is presented explicitly and provides some context for actual estimates of uncertainty.

Comment 18: The environmental justice analysis is inadequate in assessing the disproportionate impacts placed on these populations.

Response: NMFS disagrees. The environmental justice analysis adequately analyzes the disproportionate impacts place on minority population under each alternative, including status quo.

Comment 19: While some qualitative information is provided about the importance of Chinook salmon to Western Alaskan populations, there is a great disparity between the amount of information presented regarding the risks to Western Alaska communities and the specific numbers presented for "Revenue at risk" for the pollock fishery. While we appreciate that some of this is due to the "priceless" nature of Chinook salmon to subsistence communities, it is heightened by the revenue at risk methodology which presents a "worst case scenario" for the pollock fishery. In this analysis, the revenue at risk numbers present the cost to the pollock fishery under the various hard caps with no change in behavior. It is reasonable to assume, however, that under a management system which includes a hard cap, participants in the pollock fishery will adapt their fishing practices to avoid hitting the hard cap. This is acknowledged in the EIS, and the idea that the fleet can change its behavior to reduce bycatch is in fact the premise of Alternative 5. The presentation of the revenue at risk numbers as quantified numbers presents information which overestimates the costs to industry, while failing to fully develop the benefits for Western Alaska communities.

Response: NMFS agrees that is only able to assert that the bycatch of Chinook salmon in the pollock fishery "may" be affecting stocks of western Alaska Chinook and associated subsistence, commercial, and sport fisheries. Our knowledge of these complex ecological, biological, and economic relationships remains incomplete at this time. That being said, these data deficiencies do not remove the Agency's obligation to use the "best available scientific information" to evaluate, in this case, alternatives to minimize Chinook bycatch to the extent practicable in the Bering Sea pollock fishery.

The RIR discusses the difficulties in estimating the costs of forgone subsistence salmon harvests, and the reasons why this assessment was not made. RIR chapter 5 states that 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. These benefits would accrue within natal river systems of stock origin as returning adult fish that may return to spawn or be caught in either commercial, subsistence, or sport fisheries.

Exactly how those fish would be used (i.e., in what fishery would they have been caught or whether they would have returned to spawn) is the fundamental, and very 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 problematic. The proportion of AEQ estimated salmon that might be taken in each of the various fisheries is a function of many variables, as discussed in Chapter 5. 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.

Further, the total social and cultural value of subsistence Chinook salmon catch 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. Making estimates of changes to the gross revenues to the commercial Chinook salmon fishery may even bias the true subsistence value, when the non-monetary value of subsistence harvests is significant and not reflected in terms of gross revenues. In sum, Chapter 5 outlines the reasons why the economic analysis does not provide estimates of a monetary value of forgone subsistence salmon harvests. The analysis relies on a discussion of subsistence use and AEQ estimates of Chinook salmon saved as the measure of economic benefits of the alternatives and options.

However, the comment misinterprets the numerical estimates of potentially forgone gross revenues and gross revenues at risk, identified in the RIR, when the comment states “the revenue at risk numbers present the **cost** to the pollock fishery under the various hard caps with no change in behavior (emphasis added).” As explained within the RIR, these gross estimates reflect highly simplified assumptions about the outcome of competing alternative bycatch rules. In a sense, they are intended to portray the “worst case” outcome if the pollock fishery was required to forgo a specific catch amount in response to each of the Chinook bycatch prohibition actions being examined. As the text clearly indicates, there is no expectation that this outcome will be realized as a result of any of the proposed Chinook bycatch management measures under consideration. The RIR is very clear that these “techniques” are employed solely to provide a crude approximation of the first wholesale gross dollar value associated with unharvested pollock, by sector, processing mode, etc.

Comments from the Association of Village Council Presidents

Comment 1: Allowing two Council members who have a conflict of interest because they are employed by the pollock industry to vote on the salmon bycatch action violated applicable law and renders the Council’s action illegal.

Response: NMFS disagrees. NOAA, Office of General Counsel reviewed all of the financial disclosure forms that Council members had filed pursuant to 50 CFR § 600.235(b) and concluded that the action would not have “a significant and predictable effect on a financial interest disclosed in [their] report[s].” *Id.* § 600.235(c)(1). Therefore, no Council member was precluded from voting.

Comment 2: Alaskan Tribal aboriginal title and rights to the waters in the areas of Alaska are unsettled, and the pollock industry is in violation of these rights.

Response: NMFS agrees that the existence, nature, and extent of aboriginal rights in waters of the exclusive economic zone (EEZ) is unclear. Compare Village of Gambell v. Hodel, 869 F.2d 1273 (9th Cir. 1989) with Native Village of Eyak v. Trawler Diane Marie, Inc., 154 F.3d 1090 (9th Cir. 1998). NMFS disagrees, however, that the proposed action, designed to minimize Chinook salmon bycatch to the extent practicable, interferes with or violates whatever aboriginal rights may exist.

Comment 3: The Council’s action violates Title VIII of the ANILCA in that it fails to provide an opportunity for subsistence uses of Chinook salmon.

Response: NMFS disagrees. ANILCA does not apply to the Bering Sea EEZ, which is the action area for Alternative 5. Title VIII of ANILCA creates a priority for subsistence uses over the taking of fish and wildlife for other purposes on “public lands.” 16 U.S.C. 3114. ANILCA expressly defines “public lands” as lands situated “in Alaska” which, after December 2, 1980, are federal lands, except those lands selected by or granted to the State of Alaska, lands selected by an Alaska Native Corporation under the Alaska Native Claims Settlement Act (ANCSA), and lands referred to in section 19(b) of ANCSA. 16 U.S.C. 3102(3). Interpreting the phrase “in Alaska,” the U.S. Supreme Court has ruled that it refers to the boundaries of the State of Alaska and concluded therefore that ANILCA does not apply to the outer continental shelf region. Amoco Prod. Co. v. Village of Gambell, 480 U.S. 531, 546-47 (1987).

NMFS is, however, mindful of the importance of subsistence to the Native Alaskans’ traditions and culture and, even though ANILCA does not cover the action area, NMFS has aimed to consider the importance of subsistence uses pursuant to other laws, such as NEPA and the Magnuson-Stevens Act. The RIR evaluates the consequences of the proposed actions on subsistence uses.

Comment 4: Alternative 5 violates the U.S.’s trust responsibility.

Response: NMFS agrees that the federal government has a trust responsibility to protect the Alaskan Natives’ rights of subsistence hunting and fishing. North Slope Borough v. Andrus, 642 F.2d 589, 612 (D.C. Cir. 1980). However, the environmental statutes under which the Council and NMFS are proposing to act prescribe “a solicitous stance toward the environment.” *Id.* As a result, where the government acts responsibly in respect of the environment, it implements responsibly, and protects, “the parallel concerns of the Native Alaskans.” *Id.* In this instance, the Council and NMFS are proposing to take action to minimize the bycatch of Chinook salmon to the extent practicable. In doing so, they are taking action which is intended to protect an important, natural resource and therefore is also, inherently, intended to protect Alaskan Natives’ rights of subsistence fishing.

Comment 5: Alternative 5 does not minimize bycatch to the extent practicable.

Response: NMFS disagrees. Alternative 5 does minimize bycatch to the extent practicable. Alternative 5 is more than just a 60,000 Chinook salmon PSC limit. Alternative 5 complies with National Standard 9 because the performance standard ensures Chinook salmon bycatch will not exceed, on average, 50,000 fish per year, an amount close to the recent 10-year average and lower than bycatch levels several years prior to and including 2007. Additionally, if the IPAs work as intended, the bycatch should be well below that amount. If

fishery participants do not form any IPAs, then the 47,591 PSC limit will be in effect, which is the approximate 10-year average of Chinook salmon bycatch from 1997 to 2006.

Comment 6: NEPA requires the agency to obtain needed information. In this case, information is lacking with respect to: which Chinook stocks are among those caught as bycatch in the pollock fishery, where Chinook are headed, when Chinook are likely to be in any area during the pollock season, what has changed in fishing practices, why bycatch is higher in some years than in others, and how many Lower 48 ESA-listed species are among the Chinook salmon caught as bycatch, among other things. Without any of this critical information, the Council, NMFS, and the public are left guessing what the effects of the action will be and whether there are better ways to minimize bycatch. There is a lack of baseline information about fish stocks and fishing practices, and that is compounded by a lack of information about what measures the incentive plan agreements will implement to achieve bycatch reductions. Thus, to meet its NEPA obligations, the Council and NMFS must do the research to gather that information, and, in the meantime, should adopt a conservative bycatch limit to protect the many communities dependent on Chinook.

Response: NMFS disagrees that NEPA requires NMFS to conduct additional research before approving Amendment 91 and that NEPA obligates NMFS to approve an alternative besides Alternative 5. The EIS provides the best available information on which to understand potential environmental impacts and make an informed decision on which alternative best meets the purpose and need.

As the commenter recognizes, 40 CFR 1502.22 requires NMFS to make clear that information relevant to reasonably foreseeable significant adverse impacts is lacking. If such information is essential and the costs of obtaining are not exorbitant, the agency shall include it in the EIS. *Id.* § 1502.22(a). If the information cannot be obtained because of exorbitant costs or because the means to obtain it are not known, the agency shall include the following with the EIS:

- (1) a statement that such information is incomplete or unavailable;
- (2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment;
- (3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment; and
- (4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community.

Id. § 1502.22(b). NMFS complied with this provision as shown in EIS chapter 3, Methodology for Impact Analysis. Chapter 3 provides the best information available on which Chinook stocks are caught in the pollock fishery and the results of existing research on the river of origin for Chinook salmon caught as bycatch. Chapter 3 explains the incomplete or unavailable information, and the uncertainty in the available information, and its relevance to evaluating reasonably foreseeable significant adverse impacts on the human environment. Chapter 3 also provides a summary of the existing relevant scientific information used in the impact analysis. Finally, as explained in chapter 3, the agency's evaluation of the impacts is based on both generally accepted theoretical approaches and research methods, and these approaches and methods, are explained or referenced in this chapter.

Additionally, not all of the information identified in the comment is lacking. The analysis relies upon the best scientific information available. Critical aspects of the analysis where this information is used include:

- Detailed spatial and temporal information on catch of pollock and Chinook salmon;

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- Stock of origin information including use of the most recent genetic information available on river of origin of trawl caught bycatch and a comparison against historical scale-pattern analyses;
 - Most recent economic information available including direct and indirect costs for the pollock fishery as well as commercial, recreational and subsistence information for salmon usage;
 - Most recent stock assessment information for salmon management regions;
 - Most recent coded-wire tag recoveries of ESA-listed Chinook salmon taken in the Bering Sea pollock fishery; and
 - Adult equivalent analysis to relate estimated bycatch to adults returning to individual river systems for estimation of relative impacts to these regions.

Chapter 5 and the RIR provide a complete discussion of baseline information about Chinook salmon stocks and fishing practices, and chapter 4 and the RIR provide a complete discussion of baseline information about the pollock stocks and fishing practices. Chapter 5 also details all of the available information on ESA-listed stocks caught as bycatch in the pollock fishery.

Comments from Trout Unlimited Alaska

Comment 1: Given the importance of Chinook salmon as a food source and as both a commercial and recreational fisheries target from Alaska to California, Chinook salmon should be afforded higher levels of protection that those offered in the range of alternatives proposed in the EIS.

Response: The EIS analyzes a reasonable range of alternatives to meet the purpose and need for the action and includes the 29,323 Chinook salmon cap level recommended by the commenter. As discussed in EIS section 2.6, cap levels below this amount were not considered because 29,323 is representative of the 5-year average before 2001, and the Council felt this amount was sufficiently conservative to meet the purpose and need for this action.

Comment 2: Because subsistence users are granted priority allocation of resources in the Alaska Constitution and the terms of the Pacific Salmon Treaty allocate only so many fish for harvest by the United States, continued declines of returning Chinook salmon could necessitate the closure of the Bering Sea pollock fishery in its entirety.

Response: NMFS agrees that subsistence users are granted a priority over all other resource users. However, NMFS disagrees that this priority use right would necessarily result in the closure of the Bering Sea pollock fishery if Chinook salmon stocks continued to decline. While Chinook salmon bycatch in the Bering Sea pollock fishery may be a contributing factor in the decline of Chinook salmon, the absolute numbers of the ocean bycatch that would have returned to western Alaska are expected to be small due to ocean mortality and the large number of other river systems contributing to the total Chinook bycatch. Although the reasons for the decline of Chinook salmon are not completely understood, scientists believe they are predominately natural. Changes in ocean and river conditions, including unfavorable shifts in temperatures and food sources, likely caused poor survival of Chinook salmon. NMFS and the State of Alaska are continuing to research the Chinook salmon caught as bycatch and the causes of Chinook salmon run strength. As new information becomes available, NMFS and the Council could reevaluate the Chinook salmon bycatch management measures.

Comment 3: Lacking stock identification data, it is possible that some percentage of the BSAI bycatch is comprised of Chinook salmon from West Coast stocks listed under the ESA. The identity of stocks comprising Chinook salmon bycatch could dictate the need for full closure of the pollock fishery in Alaska.

Response: See response to comment 11 from the Yukon River Drainage Fisheries Association. Region of origin information is available through genetic testing and individual Chinook salmon stocks can be determined by coded-wire tag recoveries. The Bering Sea pollock fishery would not be closed based on the origin of Chinook salmon incidentally taken. The closure of all or sectors of the Bering Sea pollock fishery would be dependent on the total allowable catch specified for that fishing year and on the Chinook salmon PSC limits established under Alternative 5.

Comment 4: Given the proposed liberal levels of Chinook bycatch and the rollovers and transfers of bycatch quota, which taken together would effectively remove virtually all incentive for the pollock industry to truly address the problem at hand, it is apparent to us that Alternative 5 would not be in compliance with National Standard 9 as it relates to minimizing bycatch and mortality.

Response: NMFS disagrees. Alternative 5 complies with National Standard 9. See response to comment 5 from the Association of Village Council Presidents.

Comment 5: The best way to protect both Chinook salmon and the pollock fishery would be for a hard cap of 29,323 Chinook salmon with no provisions for transfer of bycatch allocation among harvesters or bycatch allocation rollover between fishing seasons. These stringent measures will ensure the pollock industry has the incentive and does the utmost to support the acquisition of better scientific data on Chinook salmon locations and movement within the fishery and allocate more resources towards the development of salmon excluder technologies, within the shortest time frame possible. Until it is made clear that the fortunes and future of the pollock industry are inexorably tied to the continued abundance of Chinook salmon stocks in this manner, it appears to us that NMFS would not be doing its utmost to ensure the optimal yield of either species into the future.

Response: NMFS acknowledges the comment and notes that Alternative 2 included options for a 29,323 Chinook salmon cap and options to prohibit transfers or rollovers of bycatch allocations. This alternative was analyzed in the EIS.

List of Preparers

Gretchen Anne Harrington, Fishery Management Plan Coordinator, NMFS Alaska Region, Sustainable Fisheries Division

Demian Schane, J.D., Attorney Advisor, NOAA General Counsel

Seanbob Kelly, Fishery Regulation Specialist, NMFS Alaska Region, Sustainable Fisheries Division

Scott A. Miller, Industry Economist, NMFS Alaska Region, Analytical Team

Melanie Brown, Fishery Program Specialist, NMFS Alaska Region, Sustainable Fisheries Division

Joe McCabe, Paralegal Specialist, NOAA General Counsel

Sue Salvesson, Assistant Regional Administrator, NMFS Alaska Region, Sustainable Fisheries Division

James N. Ianello, Fisheries Scientist, REFM, Alaska Fisheries Science Center

Gabrielle Aberle, Technical Editor, NMFS Alaska Region, Sustainable Fisheries Division

James Hale, Technical Editor, NMFS Alaska Region, Analytical Team