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Addendum to the December 2024 Preliminary Draft EIS on Bering Sea Chum Salmon Bycatch Management

January 24, 2025

This addendum includes corrections to errors in tables or figures and accompanying text in the December 2024 Preliminary Draft EIS on Bering Sea Chum Salmon Bycatch Management, and its Appendices. Red text and strikethrough denote modifications to existing language.

New information is also provided in response to the SSC's April 2024 minutes and inquiries for information on chum and Western Alaska chum salmon bycatch and pollock catch across the genetic cluster areas. These data had been assembled for the preparation of the analysis, but not included in this format in the December 2024 document.

This addendum includes the following sections:

CORRECTION to Section 3.2.4.2.4 Implications Specific to Alternative 3

Table 3-23 (p.113 of Preliminary DEIS) has been corrected below to show the Norton Sound index was above its threshold evaluated at the 25th percentile in 2022. Table 3-25 (p.115) has been corrected to show the Yukon summer and fall chum salmon runs were above thresholds evaluated at the 25th percentile in 2019. Adjustments to the corresponding text, from pp.115-116, follow.

Table 3-23 Years when historical abundance fell below the 25th percentile for each area (gray), compared to a notation of the number of areas that were above the threshold evaluated, whether a chum salmon PSC limit would have been in effect, and at what amount under Alternative 3, Option 1, 2011–2023

Year	Yukon (sum of summer and fall chum run)	Kuskokwim (Bethel Test Fishery)	Norton Sound (Index + Total Harvest)	3 of 3 areas above threshold?	2 of 3 areas above threshold?	1 or 0 areas above threshold?	PSC limit in effect?	PSC limit amount
2011	3,650,141	10,028	202,421	Y	Y	Y	N	
2012	3,569,100	6,894	107,359	Y	Y	Y	N	
2013	4,565,409	5,739	188,104	Y	Y	Y	N	
2014	3,424,269	6,345	215,382	Y	Y	Y	N	
2015	2,806,853	2,945	259,441	Y	Y	Y	N	
2016	3,971,829	3,998	124,397	Y	Y	Y	N	
2017	5,950,983	6,785	324,148	Y	Y	Y	N	
2018	3,189,384	8,205	363,939	Y	Y	Y	N	
2019	2,492,364	6,429	234,270	Y	Y	Y	N	
2020	947,433	1,443	49,762	**N**	**N**	**N**	N	
2021	251,379	327	21,735	**N**	**N**	**N**	**Y**	75% of 100-550k
2022	721,155	2,191	70,702	**N**	**N**	**Y**	**Y**	75% of 100-550k
2023	1,215,537	4,304	38,469	**N**	**N**	**Y**	**Y**	75% of 100-550k
25th percentile	**1,713,000**	**2,800**	**57,300**	-	-	-	-	-

Notes: Gray highlighting indicates values below the 25th percentile of historical abundance.

Table 3-24 Years when historical abundance fell below the 25th percentile for either the Yukon summer or fall chum salmon run (gray) compared to a notation of whether a cap would have been in effect and at what amount under Alternative 3, Option 2, 2011–2023

Year	Yukon		Did one fail to meet threshold?	Cap?	Cap Amount
	Summer	Fall			
2011	2,406,000	1,244,141	N	N	
2012	2,479,900	1,089,200	N	N	
2013	3,349,600	1,215,809	N	N	
2014	2,467,600	956,669	N	N	
2015	1,978,400	828,453	N	N	
2016	2,581,500	1,390,329	N	N	
2017	3,635,100	2,315,883	N	N	
2018	2,074,700	1,114,684	N	N	
2019	1,689,400	802,964	N	N	
2020	763,200	184,233	**Y**	N	
2021	156,130	95,249	**Y**	**Y**	100,00 to 550,000
2022	478,690	242,465	**Y**	**Y**	100,00 to 550,000
2023	896,850	318,687	**Y**	**Y**	100,00 to 550,000
25th percentile	**1,268,700**	**444,600**	-	-	-

Notes: Grey highlighting indicates values below the 25th percentile of historical abundance.

As shown in the preceding tables, there is an inherent lag in the timing of when an overall chum salmon PSC limit would be implemented under Alternative 3. A PSC limit would have been in effect in 3 or 6 years retrospectively under Alternative 3, Option 1 and in ~~4 or 5~~ 3 or 5 years under Alternative 3, Option 2. At these thresholds, an overall chum salmon PSC limit would not have been in effect year-to-year until there was a consistent decline in abundance, as observed from 2020–2023, and would not be in effect during the first year of a consistent decline.

For instance, the recent period of decline began in 2019 for the Yukon summer and fall chum salmon stocks and persisted through 2023. In 2020, Yukon summer and fall chum salmon run abundance was very low. When Alternative 3, Option 1 and Option 2 thresholds were evaluated at the 50th percentile, a hard cap would have been in place in 2020. However, under both options, a hard cap would not have been in effect in 2020 when thresholds were evaluated at the 25th percentile. ~~and a cap would have been implemented under all scenarios, except for Alternative 3, Option 1 when abundance is evaluated based 25th percentile. However,~~

When the 50th percentile was used to evaluate indices under Alternative 3, Option 1, a chum salmon PSC limit of 100,000–550,000 chum salmon would have been in effect in 2016, 2017, and 2020 because one area fell below its threshold. A hard cap would also have been in place in 2021, 2022, and 2023 at 75% of the amount selected when one area failed to meet its thresholds. Under Alternative 3, Option 2 a hard cap would have been in effect in 2016 and 2020–2023 (when indices were evaluated at the 50th percentile). **Abundances evaluated by the higher thresholds at the 50th percentile may detect a decline earlier.**

CORRECTION to Section 3.2.4.3.2 Provision 2: Evaluate Closure More Than Once Per Week

Adjustments to text and figures on p.124 of Preliminary DEIS

To illustrate this, the weekly bycatch rate and chum bycatch numbers were pulled for the CP sector in 2021, 2022, and 2023. As shown in Figure 3-20 and Figure 3-21, the peak bycatch rate and level have decreased over time in line with what would be expected. For instance, the bycatch rate in statistical week 36 in 2022 was 1.77, slightly below the highest weekly bycatch rate ~~peak~~ in 2021 at 1.99 chum/mt of pollock ~~salmon~~. However, the overall number of chum salmon bycatch that these rates reflect are substantially different. In 2021, 51,406 chum salmon were caught as bycatch in statistical week 31 when the rate was 1.99 chum salmon per mt of pollock compared to 2022 when 10,044 chum salmon caught as bycatch in statistical week 36. In 2023, the highest weekly bycatch rate was observed in statistical week 36 at 0.23 chum/mt pollock. The corresponding level of bycatch observed in statistical week 36 in 2023 was 2,608 chum salmon.

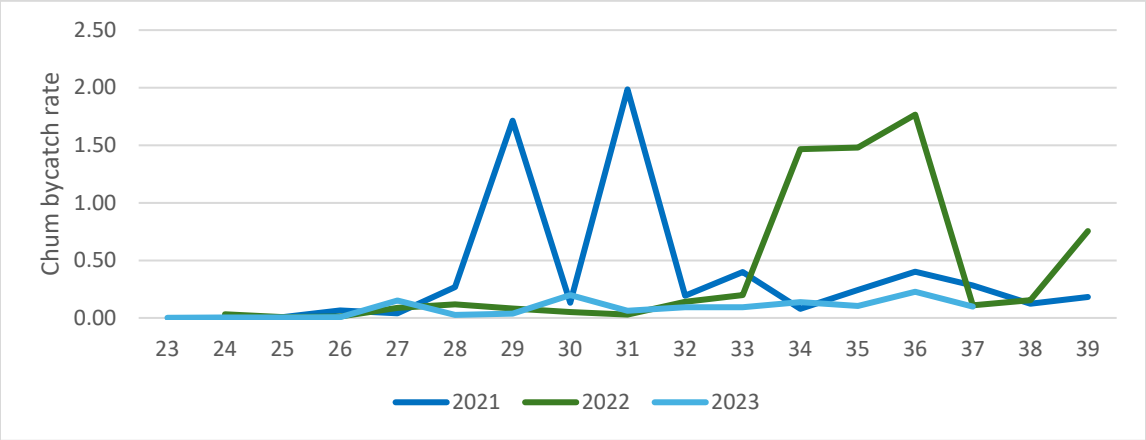

Figure 3-20 Weekly B season chum salmon bycatch rate for the CP sector in 2021, 2022, and 2023
Source: NMFS Alaska Region CAS, data compiled by AKFIN.

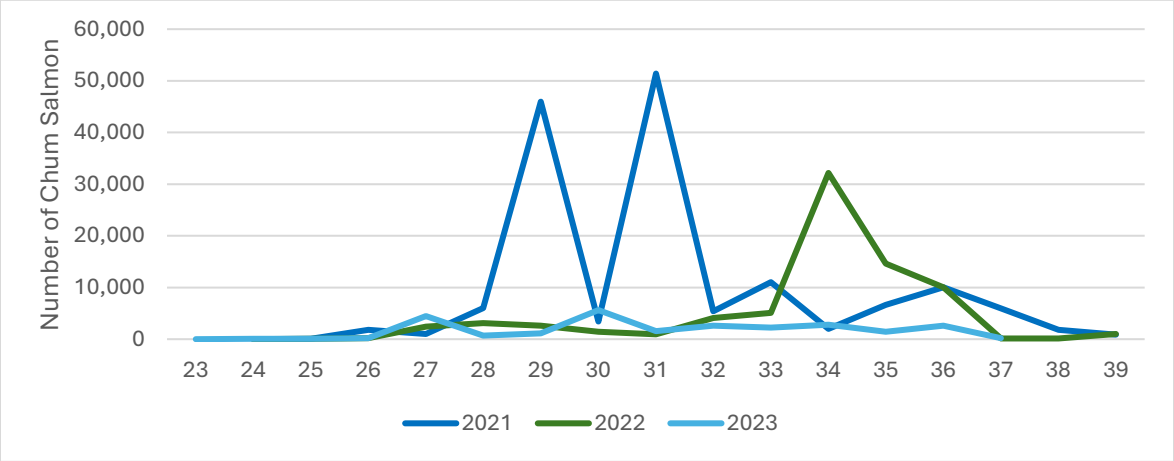

Figure 3-21 Weekly B season chum salmon bycatch for the CP sector in 2021, 2022, and 2023
Source: NMFS Alaska Region CAS, data compiled by AKFIN.

CORRECTION to Appendix 2, Footnotes 1-3

See bottom of p.2 of Appendix 2 / p.50 of Appendices PDF

[1] 47,591 Chinook salmon is the 10-year average of Chinook salmon bycatch from 1997 to 2006. The Council determined that the 47,591 PSC limit was an appropriate limit on Chinook salmon bycatch in the Bering Sea pollock fishery if no other incentives were operating to minimize bycatch below that level.

[2] If an IPA was formed and an AFA-permitted vessel or CDQ group chose not to participate in an IPA, it would receive a more restrictive allocation referred to as the "opt-out allocation." NMFS would subtract the amount of Chinook salmon PSC from each sector's allocation associated with each vessel not participating in the IPA. The method NMFS would use for sector-specific adjustments can be found at 50 CFR 679.21(f)(4)(ii).

[3] Information on the Chinook salmon PSC limit relative to abundance can be found here: https://www.fisheries.noaa.gov/sites/default/files/akro/cas2SalmonPerformanceStandard2023.html

Additional Information – CV Estimates for Area Indices Under Alternative 3.

The SSC's April 2024 minutes requested CV estimates be made available for area indices under Alternative 3. CV estimates are only available and thus provided for the Yukon summer chum run reconstruction and the Yukon fall chum salmon drainagewide escapement. The total run for Yukon Fall chum is derived as the sum of the drainagewide escapement model output and total harvest reported for commercial, subsistence, and personal use. The Bayesian model estimates were not available for 2022 and 2023. As such, the estimates on abundance provided for those years were based on a comparable, but different, method that does not include an estimate of uncertainty. Since the full timeseries of total run estimates for Yukon summer and fall chum salmon change every time the model is updated and run with new annual inputs, these data are based on the most recent model run at the time of the original request.

CV estimates are provided for the Kuskokwim Sonar, an alternative data source to Bethel Test Fishery cumulative CPUE. As described in Section 2.4 (p.55 of Preliminary DEIS) and Appendix 2 (p.9 / p.57 of Appendices PDF), new information is available that indicates funding to continue operating the Bethel Test Fishery is uncertain. The Council would need to consider alternative data sources for indexing chum salmon abundance to the Kuskokwim River if it intends to move forward with Alternative 3, Option 1. The Kuskokwim Sonar is one alternative data source that may be considered for which CV estimates are available.

Figure Ad-1 CV Estimates for Yukon summer, Yukon fall, and Kuskokwim Sonar

Year	Yukon Summer Index (run reconstruction)	Yukon Summer CV	Yukon Fall Index (run reconstruction)	Drainagewide escapement CV	Kuskokwim sonar	Kuskokwim sonar CV
1974			1,150,475	0.27		
1975			2,762,062	0.23		
1976			884,743	0.27		
1977			1,174,618	0.26		
1978	2,886,800	0.17	984,930	0.27		
1979	2,307,000	0.17	1,996,377	0.26		
1980	3,064,200	0.17	810,205	0.21		
1981	5,470,200	0.22	1,232,293	0.21		
1982	2,183,300	0.21	607,275	0.21		
1983	2,489,400	0.16	1,025,266	0.19		
1984	3,799,600	0.23	763,722	0.21		
1985	4,666,200	0.21	1,208,481	0.19		
1986	4,574,900	0.11	841,428	0.19		
1987	1,988,700	0.10	1,124,565	0.18		
1988	4,554,100	0.10	697,147	0.18		
1989	3,818,300	0.11	1,074,022	0.18		
1990	1,932,700	0.11	835,714	0.19		
1991	2,689,500	0.11	1,027,796	0.18		
1992	2,833,600	0.22	556,852	0.18		
1993	1,891,700	0.12	462,735	0.18		
1994	3,871,700	0.12	1,114,772	0.17		
1995	4,300,100	0.03	1,614,534	0.09		
1996	4,401,300	0.19	1,140,415	0.09		
1997	1,654,300	0.04	705,179	0.10		
1998	1,012,700	0.05	350,457	0.09		
1999	1,146,500	0.05	416,480	0.10		
2000	552,820	0.04	250,242	0.10		
2001	542,190	0.04	372,385	0.10		
2002	1,275,200	0.04	426,469	0.08		
2003	1,262,200	0.03	792,375	0.07		
2004	1,463,000	0.02	652,616	0.08		
2005	2,761,400	0.02	2,188,488	0.07		
2006	4,019,500	0.03	1,213,273	0.07		
2007	2,157,800	0.03	1,161,101	0.06		
2008	2,067,500	0.02	857,819	0.11		
2009	1,703,700	0.03	591,077	0.18		
2010	1,668,300	0.04	585,791	0.11		
2011	2,406,000	0.02	1,244,141	0.11		
2012	2,479,900	0.02	1,089,200	0.11		
2013	3,349,600	0.03	1,215,809	0.12		
2014	2,467,600	0.03	956,669	0.13		
2015	1,978,400	0.04	828,453	0.13		
2016	2,581,500	0.03	1,390,329	0.12		
2017	3,635,100	0.03	2,315,883	0.13		
2018	2,074,700	0.04	1,114,684	0.14	555,589	0.04
2019	1,689,400	0.04	802,964	0.14	385,409	0.09
2020	763,200	0.03	184,233	0.25	76,369	0.14
2021	156,130	0.06	95,249	0.15	25,689	0.22
2022	478,690	0.03	242,465	<Not Bayes	103,864	0.14
2023	896,850	0.03	318,687	<Not Bayes	251,542	0.08
2024					253,825	0.08

Source: ADF&G

Additional Information – Chum and WAK Chum Salmon PSC and Pollock Catch Across Cluster Areas and Unimak (2011-2023)

This portion of the addendum provides data tables that supplement figures included in the December 2024 analysis on chum and Western Alaska chum salmon bycatch, pollock catch (mt), and bycatch rates inside each genetic cluster area and the Unimak area, for status quo and Alternative 5. B season data are provided from 2011 to 2023 which encompasses the baseline period. Figure 1-6 in the preliminary DEIS (p.17) illustrates the genetic cluster areas.

Table Ad-2 Number of chum salmon caught as bycatch during the B season pollock fishery, by genetic cluster area, and Unimak, 2011-2023

Year	B Season	Cluster 1	Unimak	Cluster 2	Cluster 3	Cluster 4
2011	191,313	121,513	95,929	20,225	28,887	20,476
2012	22,172	15,278	14,524	3,612	1,871	868
2013	125,114	77,426	65,714	18,862	23,159	5,492
2014	218,886	75,617	50,275	55,573	52,775	34,652
2015	233,085	151,037	133,562	15,604	47,917	18,527
2016	339,236	201,352	80,121	85,455	44,764	7,665
2017	465,848	171,567	96,306	234,346	34,739	25,196
2018	294,675	104,034	78,136	109,614	74,323	6,689
2019	346,671	164,647	154,957	42,315	62,095	77,536
2020	343,094	118,396	111,998	64,412	108,420	48,598
2021	545,901	221,859	193,969	274,805	41,787	7,438
2022	242,309	150,305	110,795	30,922	46,661	14,421
2023	111,852	56,997	56,463	8,745	10,418	35,624
Average	**267,704**	**125,387**	**95,596**	**74,192**	**44,447**	**23,322**

Source: NMFS Alaska Region CAS, data compiled by AKFIN

Table Ad-3 Number of Western Alaska chum salmon caught as bycatch during the B season pollock fishery, by genetic cluster area, and Unimak, 2011-2023

Year	B Season Estimate	Cluster 1 Estimate	Unimak Estimate	Cluster 2 Estimate	Cluster 3 Estimate	Cluster 4 Estimate
2011	48,020	33,695	27,663	1,066	6,338	4,357
2012	4,701	3,568	3,316	-	-	-
2013	30,415	17,275	15,652	2,420	6,233	350
2014	43,252	16,021	11,998	10,630	7,561	2,088
2015	46,384	34,513	31,378	1,569	8,824	983
2016	83,453	59,162	23,591	14,402	5,943	1,157
2017	93,170	44,996	27,417	39,499	4,117	2,079
2018	55,405	26,910	19,426	16,085	11,396	41
2019	56,183	39,005	40,809	3,798	6,744	4,003
2020	31,222	15,265	15,061	1,916	4,748	1,352
2021	51,512	19,980	18,469	19,047	3,932	-
2022	55,724	40,188	33,883	3,330	5,302	312
2023	11,491	8,503	8,502	725	461	947
Average	**46,995**	**27,622**	**21,320**	**9,540**	**5,967**	**1,606**

Table Ad-4 Number of chum salmon caught as bycatch during the B season pollock fishery by each sector in all genetic cluster areas and Unimak, 2011-2023

Year	Cluster 1				Unimak				Cluster 2				Cluster 3				Cluster 4			
	CDQ	CP	M	CV	CDQ	CP	M	CV	CDQ	CP	M	CV	CDQ	CP	M	CV	CDQ	CP	M	CV
2011	1,442	3,725	13,546	102,800	1,388		10,228	84,313	826	13,547	575	5,277	657	8,409	9,847	9,974	833	18,581	386	676
2012	10	58	793	14,417	9		732	13,783	8	561	42	3,001	19	742	29	1,081	134	426	92	216
2013	0	1,201	1,129	75,096	0		751	64,963	1	1,856	1,650	15,355	203	4,526	320	18,110	349	2,633	736	1,774
2014	248	22	1,669	73,678	246		1,641	48,388	210	6,143	760	48,460	899	28,596	3,900	19,380	1,050	28,305	1,762	3,535
2015	1,291	2	1,040	148,704	1,291		808	131,463	1,129	9,436	2,348	2,691	1,146	14,940	8,883	22,948	1,084	15,668	1,775	
2016	13,811	19,378	37,800	130,363	9,584		11,268	59,251	1,911	63,563	5,462	14,519	571	44,193			49	7,616		
2017	31,524	843	15,346	123,854	177		6,219	89,904	53,296	149,655	639	30,756	365	34,374			1,873	22,483	840	
2018	9,347	3,462	7,274	83,951	6,215		4,845	67,076	5,940	32,955	8,533	62,186	10,807	58,581	4,085	850	492	4,449	1,411	337
2019	8,344		20,954	135,349	6,243		20,359	128,355	1,992	32,201	1,236	6,886	553	16,946	14,042	30,554	4,837	64,080	8,615	4
2020		0	10,015	108,381			8,625	103,373	404	26,774	390	36,844	2,289	10,350	4,319	91,462	5,378	37,775	4,540	905
2021	49,239	24	16,151	156,445	49,239		11,753	132,977	1,593	57,376	34,296	181,540	3,777	37,248	92	670	1,054	3,267	3	3,114
2022	722	1,998	23,781	123,804			12,955	97,840	2,061	23,285	297	5,279	3,581	37,200	3,067	2,813	1	9,303	5,117	
2023	0	5	4,539	52,453	0		4,504	51,959	25	609	154	7,957	346	7,107		2,965	2,987	14,778	14,406	3,453

Source: NMFS Alaska Region CAS, data compiled by AKFIN.
Notes: Zero values for chum salmon PSC denote a sector did fish inside the area in that year but no chum salmon were encountered. Blank cells indicate years when a sector did not fish in an area and thus no chum salmon PSC was encountered.

Table Ad-5 B season pollock catch (mt) for all genetic cluster areas and Unimak, 2011-2023

Year	Cluster 1	Unimak	Cluster 2	Cluster 3	Cluster 4
2011	250,190	223,403	75,222	170,931	191,240
2012	164,812	128,404	62,534	144,011	300,881
2013	164,675	132,821	93,543	164,397	304,297
2014	258,910	220,839	85,280	141,582	268,403
2015	318,500	279,849	90,557	143,494	230,676
2016	544,271	373,758	143,198	85,007	23,047
2017	397,603	330,264	213,270	85,191	66,582
2018	323,065	300,189	107,587	88,242	239,586
2019	379,019	345,764	75,733	98,144	227,365
2020	235,662	223,912	48,526	162,060	259,212
2021	376,314	356,108	81,228	136,895	158,784
2022	295,201	247,880	100,209	164,620	28,884
2023	268,728	238,443	36,365	138,315	269,211
Average	**305,919**	**261,664**	**93,327**	**132,530**	**197,551**

Source: NMFS Alaska Region CAS, data compiled by AKFIN

Table Ad-6 B season pollock catch (mt) for each sector in all genetic cluster areas and Unimak, 2011-2023

Year	Cluster 1				Unimak				Cluster 2				Cluster 3				Cluster 4			
	CDQ	CP	M	CV	CDQ	CP	M	CV	CDQ	CP	M	CV	CDQ	CP	M	CV	CDQ	CP	M	CV
2011	6,960	3,694	28,058	211,479	6,244		25,356	191,803	8,295	31,410	6,095	29,421	22,379	74,920	23,826	49,807	29,068	142,497	7,011	12,664
2012	1,426	6,964	22,781	133,640	723		15,546	112,136	3,277	20,705	9,229	29,323	13,866	71,402	9,811	48,932	50,713	144,778	20,483	84,908
2013	180	1,277	6,896	156,321	81		4,676	128,064	477	13,095	11,090	68,881	40,455	58,718	12,803	52,421	34,968	187,131	28,587	53,612
2014	12,358	34	11,577	234,941	11,829		10,438	198,573	3,793	34,568	6,152	40,767	14,416	70,381	14,875	41,910	47,895	165,505	34,484	20,520
2015	1,861	11	8,339	308,289	1,759		6,176	271,914	10,278	38,647	9,680	31,952	22,582	80,157	28,201	12,553	45,609	161,613	23,453	
2016	67,332	63,420	63,644	349,875	49,553	316	41,611	282,277	6,149	124,010	7,119	5,920	4,205	80,802			3,497	19,550		
2017	27,834	9,611	47,135	313,023	11,413	3	36,819	282,030	36,543	132,606	8,487	35,634	8,071	77,119			3,518	52,021	11,043	
2018	24,715	1,364	17,452	279,533	22,752		15,502	261,934	7,465	43,529	5,991	50,602	9,079	61,416	13,385	4,361	35,330	160,455	30,542	13,259
2019	28,269		29,049	321,701	19,790		24,289	301,685	7,781	51,796	4,533	11,623	7,525	54,246	17,704	18,669	35,291	173,552	17,731	792
2020		39	22,951	212,672			22,026	201,886	990	17,047	2,137	28,352	15,749	42,614	18,967	84,730	44,706	183,440	23,423	7,644
2021	11,623	323	55,961	308,407	11,608		51,925	292,575	12,000	40,896	5,734	22,598	21,886	106,346	3,609	5,053	31,581	119,379	2,197	5,627
2022	2,135	9,384	39,420	244,261			30,369	217,511	9,237	70,099	4,200	16,672	49,700	110,245	2,014	2,661	210	20,603	8,071	
2023	1,610	4,631	41,069	221,418	1,474		38,338	198,631	1,048	14,442	1,166	19,709	19,007	99,675		19,633	51,202	132,033	20,550	65,425

Source: NMFS Alaska Region CAS, data compiled by AKFIN

Notes: Blank cells indicate years when a sector did not fish in an area and thus no chum salmon PSC was encountered.

Table Ad-7 B season chum salmon bycatch rate for all genetic cluster areas and Unimak, 2011-2023

Year	Cluster 1	Unimak	Cluster 2	Cluster 3	Cluster 4
2011	0.49	0.43	0.27	0.17	0.11
2012	0.09	0.11	0.06	0.01	0.00
2013	0.47	0.49	0.20	0.14	0.02
2014	0.29	0.23	0.65	0.37	0.13
2015	0.47	0.48	0.17	0.33	0.08
2016	0.37	0.21	0.60	0.53	0.33
2017	0.43	0.29	1.10	0.41	0.38
2018	0.32	0.26	1.02	0.84	0.03
2019	0.43	0.45	0.56	0.63	0.34
2020	0.50	0.50	1.33	0.67	0.19
2021	0.59	0.54	3.38	0.31	0.05
2022	0.51	0.45	0.31	0.28	0.50
2023	0.21	0.24	0.24	0.08	0.13
Average	**0.40**	**0.36**	**0.76**	**0.37**	**0.18**

Source: NMFS Alaska Region CAS, data compiled by AKFIN

Table Ad-8 B season chum salmon bycatch rate for each sector in all genetic cluster areas and Unimak, 2011-2023

Year	Cluster 1				Unimak				Cluster 2				Cluster 3				Cluster 4			
	CDQ	CP	M	CV	CDQ	CP	M	CV	CDQ	CP	M	CV	CDQ	CP	M	CV	CDQ	CP	M	CV
2011	0.207	1.008	0.483	0.486	0.222		0.403	0.440	0.100	0.431	0.094	0.179	0.029	0.112	0.413	0.200	0.029	0.130	0.055	0.053
2012	0.007	0.008	0.035	0.108	0.012		0.047	0.123	0.002	0.027	0.005	0.102	0.001	0.010	0.003	0.022	0.003	0.003	0.004	0.003
2013		0.940	0.164	0.480			0.161	0.507	0.002	0.142	0.149	0.223	0.005	0.077	0.025	0.345	0.010	0.014	0.026	0.033
2014	0.020	0.654	0.144	0.314	0.021		0.157	0.244	0.055	0.178	0.124	1.189	0.062	0.406	0.262	0.462	0.022	0.171	0.051	0.172
2015	0.694	0.184	0.125	0.482	0.734		0.131	0.483	0.110	0.244	0.243	0.084	0.051	0.186	0.315	1.828	0.024	0.097	0.076	
2016	0.205	0.306	0.594	0.373	0.193		0.271	0.210	0.311	0.513	0.767	2.453	0.136	0.547			0.014	0.390		
2017	1.133	0.088	0.326	0.396	0.016		0.169	0.319	1.458	1.129	0.075	0.863	0.045	0.446			0.532	0.432	0.076	
2018	0.378	2.538	0.417	0.300	0.273		0.313	0.256	0.796	0.757	1.424	1.229	1.190	0.954	0.305	0.195	0.014	0.028	0.046	0.025
2019	0.295		0.721	0.421	0.315		0.838	0.425	0.256	0.622	0.273	0.592	0.073	0.312	0.793	1.637	0.137	0.369	0.486	0.005
2020			0.436	0.510			0.392	0.512	0.408	1.571	0.183	1.300	0.145	0.243	0.228	1.079	0.120	0.206	0.194	0.118
2021	4.236	0.074	0.289	0.507	4.242		0.226	0.455	0.133	1.403	5.981	8.033	0.173	0.350	0.025	0.133	0.033	0.027	0.001	0.553
2022	0.338	0.213	0.603	0.507			0.427	0.450	0.223	0.332	0.071	0.317	0.072	0.337	1.523	1.057	0.005	0.452	0.634	
2023		0.001	0.111	0.237			0.117	0.262	0.024	0.042	0.132	0.404	0.018	0.071	0.000	0.151	0.058	0.112	0.701	0.053

Source: NMFS Alaska Region CAS, data compiled by AKFIN

Additional Information – Potentially Forgone B Season Revenue Under Alternative 2 or 3

The following tables are provided to further demonstrate interannual variability in potentially forgone revenue for pollock sector under the chum salmon PSC limits considered under Alternative 2 or 3. These tables are in addition to other tables presented in **Appendix 6** (i.e., percent of B season revenue potentially forgone, Tables A6-21 and A6-22 on pp. 32-33 of Appendix 6, or pp. 195-196 of Appendices PDF) and supplemental to Chapter 4.

Table Ad-9 Upper bound of B season gross ex vessel revenue potentially forgone under Alternative 2/3 by pollock sector, 2011-2023 (millions of 2022 $)

Year	100,000				325,000				550,000			
	CDQ	CP	M	CV	CDQ	CP	M	CV	CDQ	CP	M	CV
Sector apportionment 1, 3-year average												
2011		$40.9	$18.0	$54.6								
2012												
2013				$33.5								
2014		$34.8		$56.0								
2015		$26.2	$6.4	$48.7								
2016	$8.2	$81.7	$15.4	$47.0		$43.9	$4.7			$14.6		
2017	$17.3	$65.7	$14.3	$71.5	$14.7	$58.4			$14.7	$48.0		
2018	$24.8	$92.9	$20.3	$97.8	$22.5	$67.3						
2019	$9.8	$44.5	$14.7	$92.4		$25.6	$5.6					
2020	$5.9	$31.0	$7.7	$55.2		$7.5		$11.0				
2021	$17.9	$46.4	$16.3	$80.1	$17.9	$30.3	$12.1	$63.5	$17.9		$4.0	
2022		$8.3	$6.8	$25.1			$0.1					
2023		$0.8	$11.0	$16.5								
Sector apportionment 2, 5-year average												
2011		$40.9	$18.0	$62.1								
2012												
2013				$40.9								
2014		$34.8		$56.0								
2015		$17.7	$5.1	$48.7								
2016	$8.2	$73.8	$15.4	$47.0		$33.6	$4.7					
2017	$17.3	$65.7	$12.3	$71.5	$14.7	$58.4			$10.0	$48.0		
2018	$24.8	$92.9	$20.3	$97.8	$20.7	$11.3						
2019	$9.8	$44.5	$14.7	$92.4		$25.6	$5.6					
2020	$4.6	$31.0	$7.7	$55.2				$16.9				
2021	$17.9	$46.4	$14.2	$80.1	$17.9	$12.3	$12.1	$63.5	$17.9			$54.7
2022		$8.3	$6.8	$25.1			$0.1					
2023			$11.0	$23.5								
Sector apportionment 3, pro rata												
2011		$40.9	$18.0	$62.1								
2012												
2013				$40.9								
2014		$34.8		$56.0								
2015		$17.7	$6.4	$48.7								
2016	$8.2	$73.8	$15.4	$47.0		$33.6	$4.7					
2017	$17.3	$65.7	$14.3	$71.5	$14.7	$58.4			$10.0	$48.0		
2018	$24.8	$92.9	$20.3	$97.8	$20.7	$11.3						
2019	$9.8	$38.3	$14.7	$92.4		$25.6	$5.6					
2020	$4.6	$31.0	$7.7	$55.2				$16.9				
2021	$17.9	$46.4	$16.3	$80.1	$17.9	$12.3	$12.1	$63.5	$17.9		$4.0	$54.7
2022		$8.3	$6.8	$25.1			$0.1					
2023			$11.0	$23.5								
Sector apportionment 4, AFA												
2011		$3.5	$18.0	$90.1								
2012												
2013				$50.9								
2014		$15.8		$56.0								
2015		$2.1	$6.4	$48.7				$22.9				
2016	$6.4	$61.4	$15.4	$57.1		$14.6	$4.7					
2017	$17.3	$58.4	$14.3	$71.5	$14.7	$48.0		$8.6	$10.0	$0.8		
2018	$24.8	$85.8	$20.3	$106.9								
2019	$5.0	$31.6	$14.7	$108.3			$5.6	$13.3				
2020		$20.8	$7.7	$55.2				$36.9				
2021	$17.9	$46.4	$16.3	$89.3	$17.9		$12.1	$63.5	$0.8		$8.5	$54.7
2022		$8.3	$6.8	$35.9			$0.1					
2023			$11.0	$30.7								

Source: NMFS Alaska Region CAS, data compiled by AKFIN

Table Ad-10 Upper bound of B season gross first wholesale revenue potentially forgone under Alternative 2/ 3 by pollock fishing sector, 2011-2023

Year	100,000				325,000				550,000			
	CDQ	CP	M	CV	CDQ	CP	M	CV	CDQ	CP	M	CV
Sector apportionment 1, 3-year average												
2011		$139.5	$61.5	$164.0								
2012												
2013				$100.1								
2014		$107.5		$164.1								
2015		$82.5	$20.1	$133.2								
2016	$28.8	$286.4	$54.3	$146.3		$153.4	$16.4			$50.9		
2017	$63.4	$238.8	$52.5	$210.0	$53.7	$212.1			$53.7	$174.1		
2018	$77.2	$288.6	$63.3	$281.2	$70.0	$209.1						
2019	$35.0	$158.5	$52.3	$294.3		$90.8	$19.9					
2020	$19.0	$99.3	$24.4	$145.5		$23.9		$28.2				
2021	$57.5	$148.8	$52.1	$225.5	$57.5	$97.1	$38.8	$178.7	$57.5		$12.9	
2022		$25.7	$20.9	$72.9			$0.2					
2023		$2.7	$35.0	$57.9								
Sector apportionment 2, 5-year average												
2011		$139.5	$61.5	$186.3								
2012												
2013				$121.8								
2014		$107.5		$164.1								
2015		$55.8	$15.9	$133.2								
2016	$28.8	$258.4	$54.3	$146.3		$117.6	$16.4					
2017	$63.4	$238.8	$44.9	$210.0	$53.7	$212.1			$36.6	$174.1		
2018	$77.2	$288.6	$63.3	$281.2	$64.6	$35.2						
2019	$35.0	$158.5	$52.3	$294.3		$90.8	$19.9					
2020	$14.8	$99.3	$24.4	$145.5				$43.6				
2021	$57.5	$148.8	$45.6	$225.5	$57.5	$39.5	$38.8	$178.7	$57.5			$153.8
2022		$25.7	$20.9	$72.9			$0.2					
2023			$35.0	$81.3								
Sector apportionment 3, pro rata												
2011		$139.5	$61.5	$186.3								
2012												
2013				$121.8								
2014		$107.5		$164.1								
2015		$55.8	$20.1	$133.2								
2016	$28.8	$258.4	$54.3	$146.3		$117.6	$16.4					
2017	$63.4	$238.8	$52.5	$210.0	$53.7	$212.1			$36.6	$174.1		
2018	$77.2	$288.6	$63.3	$281.2	$64.6	$35.2						
2019	$35.0	$136.1	$52.3	$294.3		$90.8	$19.9					
2020	$14.8	$99.3	$24.4	$145.5				$43.6				
2021	$57.5	$148.8	$52.1	$225.5	$57.5	$39.5	$38.8	$178.7	$57.5		$12.9	$153.8
2022		$25.7	$20.9	$72.9			$0.2					
2023			$35.0	$81.3								
Sector apportionment 4, AFA												
2011		$11.7	$61.5	$269.7								
2012												
2013				$150.5								
2014		$48.9		$164.1								
2015		$6.5	$20.1	$133.2				$64.9				
2016	$22.4	$214.7	$54.3	$177.4		$50.9	$16.4					
2017	$63.4	$212.1	$52.5	$210.0	$53.7	$174.1		$26.7	$36.6	$2.9		
2018	$77.2	$266.8	$63.3	$307.0								
2019	$17.7	$112.2	$52.3	$345.8			$19.9	$43.7				
2020		$66.5	$24.4	$145.5				$95.6				
2021	$57.5	$148.8	$52.1	$251.1	$57.5		$38.8	$178.7	$2.7		$27.2	$153.8
2022		$25.7	$20.9	$104.2			$0.2					
2023			$35.0	$105.0								

Source: NMFS Alaska Region CAS, data compiled by AKFIN