



THE STATE  
of **ALASKA**

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Fish and Game

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## MEMORANDUM

TO: Members, Alaska Board of Fisheries      DATE: October 1, 2018

FROM: Forrest R. Bowers, Acting Director   
Division of Commercial Fisheries      SUBJECT: Arctic-Yukon-  
Kuskokwim  
Stock of Concern  
Recommendations

Tom Brookover, Director   
Division of Sport Fish

This memorandum summarizes the results of the stock of concern evaluation for Arctic-Yukon-Kuskokwim (AYK) Region salmon stocks for the 2019 board regulatory cycle. The *Policy for the Management of Sustainable Salmon Fisheries* (SSFP; 5 AAC 39.222) directs the Alaska Department of Fish and Game (department) to report to the Alaska Board of Fisheries (board) on the status of salmon stocks and identify any stocks that present a concern related to yield, management, or conservation during regular board meetings.

Stock of concern status has been evaluated by the department since 2000 and designations were determined by the board as warranted, based on recommendations by the department. In September 2000, the board designated nine AYK Region salmon stocks as stocks of concern, at either the management concern level or the yield concern level. In 2004, two stocks were removed and one stock was added (a total of eight stocks designated). In 2007, four stocks were removed from designation. In 2016, one stock was removed from designation. Since the 2000 and 2004 board cycles, one chum salmon stock (Norton Sound Subdistricts 2 and 3) and two king salmon stocks (Norton Sound Subdistricts 5 and 6, and Yukon River) continue to be designated as stocks of yield concern.

This evaluation included a review of major salmon stocks in the region to determine if any meet the criteria to be listed, maintained, or discontinued as stocks of concern during the upcoming regulatory cycle. All available 2018 data are preliminary; some 2018 data are unavailable because fisheries and projects are still ongoing. Management plans and associated regulations were developed and adopted based on action plans for all current stocks of concern. The escapement goal review for the AYK Region is complete. Existing escapement goals were used to evaluate stock of concern unless stated otherwise, and proposed changes in escapement goals will not affect the stock of concern recommendations.

After completing the evaluation, the department is not recommending any new stocks of concern. Further information on status of AYK Region salmon stocks, regulatory history, and management plans will be addressed in written and oral reports for the AYK board meeting in

January 2019. The following information summarizes the evaluation and recommendations for existing AYK Region stocks of concern.

## **Chum Salmon**

### **Norton Sound Subdistricts 2 and 3 (Golovin and Elim)**

Chum salmon in Subdistricts 2 and 3 have been classified as stocks of yield concern since the September 2000 board meeting. These designations were based on low harvests compared to historical yields. These stocks were addressed through actions plans at prior board meetings; therefore, a management plan already exists. Data considered in this analysis included the most recent 5-years of escapement, yield, and historical information.

Subdistrict 2 and Subdistrict 3 have been managed as one fishery to achieve escapement goals and provide harvest of chum salmon. The Kwiniuk River tower-based OEG range of 11,500–23,000 chum salmon was exceeded four times in the last five years, 2014–2018 (Table 1). Subsistence fishing time during the most recent five year period has not been restricted. Directed commercial chum salmon fishing occurred in 2014, 2015, 2017, and 2018 resulting in the highest commercial chum salmon harvests in Subdistricts 2 and 3 since 1988 (Table 2). Harvestable surpluses during the most recent 5-year period have continued to increase; however, higher harvest levels were difficult to achieve because of processing capacity limitations.

#### ***Stock of Concern Recommendation***

The department recommends that the stock of yield concern designation for Norton Sound Subdistricts 2 and 3 chum salmon be discontinued.

## **King Salmon**

King salmon in Norton Sound Subdistricts 5 and 6 (Shaktoolik and Unalakleet), and in the Yukon River have been designated as stocks of yield concern since January 2004. These designations were based on low harvests compared to historical harvests. These stocks were addressed through actions plans at prior board meetings; therefore, a management plan already exists. Data considered in this analysis were the most recent 5 years (2014–2018) of escapement, yield, and historical information.

### **Norton Sound Subdistricts 5 and 6 (Shaktoolik and Unalakleet)**

Subdistricts 5 and 6 have been managed as one fishery to achieve escapement goals and provide harvest of king salmon because past studies have shown salmon bound for these subdistricts intermingle in nearshore marine waters and that stocks originating from both the Shaktoolik and Unalakleet rivers comprise harvests in each subdistrict.

The current North River tower-based SEG range of 1,200–2,600 king salmon, established in 2005, was achieved in three of the last five years, 2014–2018, (Table 3). King salmon escapements were within or exceeded the upper end of the escapement goal range in 2014, 2015, and 2018 as a result of specific management actions, **5 AAC 04.395. Subdistricts 5 and 6 of the Norton Sound District and the Unalakleet River King Salmon Management Plan**, preseason subsistence and sport fisheries closures, commercial salmon fishing closures, and restrictions on gillnet mesh size (Table 4). Although run size information is limited, there is evidence that run sizes have declined in recent years compared to historical run sizes resulting in lower yields (Table 4). This led to conservative management actions to reduce harvest in order to achieve

escapement goals. Over the last five years this has resulted in harvests at or below historical levels.

### **Yukon River King Salmon**

Yukon River king salmon escapement goals were consistently met on all systems from 2014 through 2018 where ground-based assessment was utilized (Table 5). A majority of aerial survey goals were achieved during the same time frame; however, these surveys are flown only once annually and should be considered minimum estimates (Table 5). The ability to meet escapement goals has been a direct result of specific management actions, **5 AAC 05.360. Yukon River King Salmon Management Plan**, on king salmon subsistence and sport fisheries, and the closure of king salmon commercial fishing (Table 6). Conservative management actions over the last five years to reduce harvest in order to achieve escapement goals have resulted in harvests at or below historical levels.

### ***Stock of Concern Recommendation***

The department recommends no change to the status of Norton Sound Subdistricts 5 and 6 (Shaktoolik and Unalakleet), and Yukon River king salmon as stocks of yield concern.

**Table 1.** Chum salmon escapement estimates for Norton Sound subdistricts 2 and 3, 1965–2018.

Year	Subdistrict 2		Subdistrict 3
	Niukluk River Tower <sup>a</sup>	Fish River Tower	Kwiniuk River Tower
1965			32,861
1966			32,786
1967			26,661
1968			19,976
1969			19,687
1970			66,604
1971			38,679
1972			30,686
1973			28,029
1974			35,161
1975			14,049
1976			8,508
1977			21,798
1978			11,049
1979			12,355
1980			19,374
1981			34,565
1982			44,099
1983			56,907
1984			54,043
1985			9,013
1986			24,700
1987			16,133
1988			13,303
1989			14,529
1990			13,957
1991			19,801
1992			12,077
1993			15,824
1994			33,012
1995	86,333		42,500
1996	80,178		28,493

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Year	Subdistrict 2		Subdistrict 3
	Niukluk River Tower <sup>a</sup>	Fish River Tower	Kwiniuk River Tower
1997	57,305		20,119
1998	45,588		24,247
1999	35,239		8,763
2000	29,573		12,879
2001	30,662		16,598
2002	35,307		37,995
2003	20,018		12,123
2004	10,770		10,362
2005	25,598		12,083
2006	29,199		39,519
2007	50,994		27,756
2008	12,078		9,483
2009	15,879		8,739
2010	48,561		71,388
2011	25,032		31,604
2012	20,745		5,577
2013			5,631
2014		63,348 <sup>b</sup>	39,774
2015		144,690	37,831
2016		71,005	8,526
2017		158,411	32,551
2018 <sup>c</sup>		45,700 <sup>d</sup>	41,700
5-Year Avg (2014 - 2018)			32,076
Escapement Goal			10,000-20,000 BEG 11,500-23,000 OEG

<sup>a</sup> Niukluk River is a tributary of Fish River. Telemetry studies (2002-2004) estimated one-third of Fish River chum salmon would pass Niukluk River tower.

<sup>b</sup> Partial count. Project only had one operational counting tower until near the average third-quarter point of passage.

<sup>c</sup> Data are preliminary.

<sup>d</sup> Partial count. Project was not operational until after the average midpoint of passage because of high water.

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**Table 2.** Commercial and subsistence chum salmon harvests for Norton Sound subdistricts 2 and 3, 1961–2018.

Year	Subdistrict 2		Subdistrict 3		Total Harvest		Total
	Commercial	Subsistence <sup>a</sup>	Commercial	Subsistence <sup>a</sup>	Commercial	Subsistence	Combined Harvest
1961					0	0	0
1962	68,720		50,683		119,403	0	119,403
1963	49,850	9,319	46,274	8,316	96,124	17,635	113,759
1964	58,301		28,568	348	86,869	348	87,217
1965		3,847		9,857	0	13,704	13,704
1966	29,791	3,520	24,741	5,409	54,532	8,929	63,461
1967	31,193	4,803		9,913	31,193	14,716	45,909
1968	10,011	1,744	17,908	2,527	27,919	4,271	32,190
1969	20,949	2,514	26,594	1,303	47,543	3,817	51,360
1970	20,566	2,614	29,726	6,960	50,292	9,574	59,866
1971	33,824	1,936	43,831	2,227	77,655	4,163	81,818
1972	27,097	2,028	30,919	2,070	58,016	4,098	62,114
1973	41,689	74	31,389	298	73,078	372	73,450
1974	30,173	205	55,276	1,723	85,449	1,928	87,377
1975	41,761	2,025	46,699	508	88,460	2,533	90,993
1976	30,219	1,128	10,890	1,548	41,109	2,676	43,785
1977	53,912	2,915	47,455	1,170	101,367	4,085	105,452
1978	41,462	1,061	44,595	1,229	86,057	2,290	88,347
1979	30,201	2,840	37,123	1,195	67,324	4,035	71,359
1980	52,609	4,057	14,755	1,393	67,364	5,450	72,814
1981	58,323	5,543	29,325	2,819	87,648	8,362	96,010
1982	51,970	1,868	40,030	3,537	92,000	5,405	97,405
1983	48,283		65,776		114,059	0	114,059
1984	54,153		9,477		63,630	0	63,630
1985	55,781	9,577	24,466	947	80,247	10,524	90,771
1986	69,725		20,668		90,393	0	90,393
1987	44,334		17,278		61,612	0	61,612
1988	33,348		18,585		51,933	0	51,933
1989			167		167	0	167
1990	15,993		3,723		19,716	0	19,716
1991	14,839		804	2,660	15,643	2,660	18,303
1992	1,002		6	1,260	1,008	1,260	2,268

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Year	Subdistrict 2		Subdistrict 3		Total Harvest		Total
	Commercial	Subsistence <sup>a</sup>	Commercial	Subsistence <sup>a</sup>	Commercial	Subsistence	Combined Harvest
1993	2,803	<sup>b</sup>	167	1,635 <sup>b</sup>	2,970	1,635	4,605
1994	111	1,337 <sup>c</sup>	414	3,476	525	4,813	5,338
1995	1,987	10,373 <sup>c</sup>	1,171	3,774	3,158	14,147	17,305
1996		2,867 <sup>c</sup>		2,319	0	5,186	5,186
1997	8,003	4,891 <sup>c</sup>	2,683	2,064	10,686	6,955	17,641
1998	723	1,893 <sup>c</sup>	2,311	1,376	3,034	3,269	6,303
1999		3,656 <sup>c</sup>		744	0	4,400	4,400
2000	164	1,155 <sup>c</sup>	535	1,173	699	2,328	3,027
2001	7,094	3,291 <sup>c</sup>	681	898	7,775	4,189	11,964
2002		1,882 <sup>c</sup>		1,451	0	3,333	3,333
2003		1,477 <sup>c</sup>		1,687	0	3,164	3,164
2004		880		683	0	1,563	1,563
2005		1,852		598	0	2,450	2,450
2006		722		1,267	0	1,989	1,989
2007		4,217	4,567	2,334	4,567	6,551	11,118
2008	623	350	304	1,284	927	1,634	2,561
2009	87	1,694	597	600	684	2,294	2,978
2010	17,212	1,133	23,453	3,925	40,665	5,058	45,723
2011	20,075	2,122	23,531	3,671	43,606	5,793	49,399
2012	3,791	1,056	2,262	1,494	6,053	2,550	8,603
2013	3,113	3,256	1,434	1,218	4,547	4,474	9,021
2014	13,560	1,719	17,525	2,081	31,085	3,800	34,885
2015	20,525	2,250	30,116	1,573	50,641	3,823	54,464
2016	5,331	1,006	6,736	830	12,067	1,836	13,903
2017	7,173	1,037	11,779	1,109	18,952	2,146	21,098
2018 <sup>d</sup>	24,500	<sup>e</sup>	34,700	<sup>e</sup>	59,200	<sup>e</sup>	59,200
5-Year Avg (2014 - 2018)	14,218	1,503	20,171	1,398	34,389	2,901	36,710

<sup>a</sup> Beginning in 2004 a subsistence fishing permit was required in Subdistricts 2 and 3.

<sup>b</sup> Subsistence harvest data are incomplete prior to 1979, and 1983-1984 and 1986-1994.

<sup>c</sup> Subsistence harvest data were estimated from Division of Subsistence surveys.

<sup>d</sup> Data are preliminary.

<sup>e</sup> Subsistence harvest data are not yet available.

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**Table 3.** King salmon escapement estimates for Norton Sound subdistricts 5 and 6, 1996–2018.

Year	Subdistrict 5		Subdistrict 6	
	Shaktoolik River Tower		North River Tower	Unalakleet River Weir
1996			1,197	
1997			4,185	
1998			2,100	
1999			1,639	
2000			1,046	
2001			1,337	
2002			1,484	
2003			1,452	
2004			1,125	
2005			1,015	
2006			906	
2007			1,948	
2008			905	
2009			2,357	
2010			1,256	1,021
2011			841	1,030
2012			972	823
2013			580	667
2014	2,034		3,454	1,126
2015	654		1,950	2,789
2016	354		513	505
2017	1,272		1,045	2,934
2018 <sup>a</sup>	1,035		2,577	3,309
5-Year Avg (2014-2018)	1,070	<sup>b</sup>	1,908	2,133
Escapement Goal			1,200-2,600	
			SEG	

<sup>a</sup> Data are preliminary.

<sup>b</sup> Shaktoolik River tower is a 4-year average from 2014-2017.

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**Table 4.** Commercial, subsistence, and sport king salmon harvests for Norton Sound Subdistricts 5 and 6, 1961–2018.

Year	Shaktoolik (5)		Unalakleet (6)			Combined Totals		Total
	Commercial	Subsistence <sup>a</sup>	Commercial	Subsistence <sup>b</sup>	Sport	Commercial	Subsistence <sup>a,b</sup>	Combined Harvest
1961	140		5,160			5,300		5,300
1962	1,738		5,089			6,827		6,827
1963	480		5,941			6,421		6,421
1964	631	77	1,273	488		1,904	565	2,469
1965	127	31	1,321	521		1,448	552	2,000
1966	310	142	1,208	90		1,518	232	1,750
1967	43	262	1,751	490		1,794	752	2,546
1968	61	10	960	186		1,021	196	1,217
1969	33	40	2,276	324		2,309	364	2,673
1970	197	43	1,604	495		1,801	538	2,339
1971	284	87	2,166	911		2,450	998	3,448
1972	419	64	2,235	643		2,654	707	3,361
1973	289	51	1,397	323		1,686	374	2,060
1974	583	93	2,100	313		2,683	406	3,089
1975	651	18	1,638	163		2,289	181	2,470
1976	892	24	1,211	142		2,103	166	2,269
1977	1,521	49	2,691	723		4,212	772	4,984
1978	1,339	81	7,525	1,044	<sup>c</sup>	8,864	1,125	9,989
1979	2,377	62	6,354	640	<sup>c</sup>	8,731	702	9,433
1980	1,086	57	4,339	1,046	<sup>c</sup>	5,425	1,103	6,528
1981	1,484	8	6,157	869	<sup>c</sup>	7,641	877	8,518
1982	1,677	68	3,768	913	<sup>c</sup>	5,445	981	6,426
1983	2,742		7,022	1,868	130	9,764		9,894
1984	1,613		6,804	1,650	104	8,417		8,521
1985	5,312	298	12,621	1,397	179	17,933	1,695	19,807
1986	1,075		4,494		850	5,569		6,419
1987	2,214		3,246		417	5,460		5,877
1988	671		2,218		272	2,889		3,161
1989	1,241		4,402		49	5,643		5,692
1990	2,644		5,998	2,476	276	8,642		8,918

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Year	Shaktoolik (5)			Unalakleet (6)			Combined Totals		Total
	Commercial	Subsistence	<sup>a</sup>	Commercial	Subsistence	Sport	Commercial	Subsistence <sup>a,b</sup>	Combined Harvest
1991	1,324			4,534		296	5,858		6,154
1992	1,098			3,409		117	4,507		4,624
1993	2,756			5,944		382	8,700		9,082
1994	885	1,175	<sup>d</sup>	4,400	3,035	<sup>d</sup> 379	5,285	4,210	9,874
1995	1,239	1,275	<sup>d</sup>	7,617	3,114	<sup>d</sup> 259	8,856	4,389	13,504
1996	1,340	1,114	<sup>d</sup>	3,644	3,023	<sup>d</sup> 384	4,984	4,137	9,505
1997	2,449	1,146	<sup>d</sup>	9,067	4,191	<sup>d</sup> 842	11,516	5,337	17,695
1998	910	982	<sup>d</sup>	6,413	4,066	<sup>d</sup> 513	7,323	5,048	12,884
1999	581	818	<sup>d</sup>	1,927	2,691	<sup>d</sup> 415	2,508	3,509	6,432
2000	160	440	<sup>d</sup>	582	2,429	<sup>d</sup> 345	742	2,869	3,956
2001	90	936	<sup>d</sup>	116	2,810	<sup>d</sup> 250	206	3,746	4,202
2002	1	1,230	<sup>d</sup>	4	2,367	<sup>d</sup> 544	5	3,597	4,146
2003	2	881	<sup>d</sup>	10	2,585	<sup>d</sup> 97	12	3,466	3,575
2004	0	943	<sup>e</sup>	0	2,829	<sup>e</sup> 356	0	3,772	4,128
2005	50	807	<sup>e</sup>	101	2,193	<sup>e</sup> 216	151	3,000	3,367
2006	0	382	<sup>e</sup>	11	2,537	<sup>e</sup> 394	11	2,919	3,324
2007	5	515	<sup>e</sup>	13	1,665	<sup>e</sup> 147	18	2,180	2,345
2008	6	422	<sup>e</sup>	65	1,402	<sup>e</sup> 580	71	1,824	2,475
2009	4	417	<sup>e</sup>	80	1,892	<sup>e</sup> 248	84	2,309	2,641
2010	4	327	<sup>e</sup>	124	1,257	<sup>e</sup> 61	128	1,584	1,773
2011	45	235	<sup>e</sup>	124	607	<sup>e</sup> 8	169	842	1,019
2012	25	214	<sup>e</sup>	157	808	<sup>e</sup> 0	182	1,022	1,204
2013	6	136	<sup>e</sup>	131	468	<sup>e</sup> 0	137	604	741
2014	16	158	<sup>e</sup>	70	442	<sup>e</sup> 0	86	600	686
2015	49	178	<sup>e</sup>	384	1,139	<sup>e</sup> 0	433	1,317	1,750
2016	23	290	<sup>e</sup>	101	837	<sup>e</sup> 78	124	1,127	1,329
2017	52	177	<sup>e</sup>	327	496	<sup>e</sup> 17	379	673	1,069
2018 <sup>f</sup>	24		<sup>g</sup>	275		<sup>g</sup>	299	<sup>g</sup>	299
5-Year Avg (2014-2018)	33	201		231	729	24	264	929	1,209

<sup>a</sup> Subsistence harvest data are incomplete prior to 1982 and from 1983 to 1993 only one partial survey in 1985.

<sup>b</sup> Subsistence harvest date are incomplete prior to 1979 and from 1986 to 1993 only one survey in 1990.

<sup>c</sup> Sport fish harvest estimates are unavailable.

<sup>d</sup> Subsistence harvests were estimated from Division of Subsistence surveys.

<sup>e</sup> Subsistence harvests were estimated from Division of Commercial Fisheries surveys.

<sup>f</sup> Data are preliminary.

<sup>g</sup> Data not yet available.

**Table 5.** Yukon River king salmon historical abundance estimates from mainstem sonar and selected tributaries, 1980–2018.

Year	Sonar		Ground Based Projects			Aerial Surveys <sup>a</sup>		
	Pilot	Eagle	Chena	Salcha	E.F. Andraefsky	W.F. Andraefsky	Anvik <sup>f</sup>	Nulato
1980						1,500	1,323	
1981								
1982						851		
1983								1,006
1984						1,993		
1985						2,248		2,780
1986			9,065		1,530	3,158		2,974
1987			6,404	4,771	2,011	3,281	1,160	1,638
1988			3,346	4,562	1,339	1,448	1,788	1,775
1989			2,666	3,294		1,089		
1990			5,603	10,728		1,545	2,222	
1991			3,025	5,608		2,544		2,020
1992			5,230	7,862			1,515	579
1993			12,241	10,007		2,765		3,025
1994			11,877	18,399	7,801			1,795
1995	221,357		9,680	13,643	5,841	1,108	1,996	1,649
1996			7,153	7,570	2,955	624	830	
1997	199,763		13,390	18,514	3,186	1,510	3,939	
1998	108,038		4,745	5,027	4,034			1,053
1999	184,218		6,485	9,198	3,444			
2000	54,560		4,694	4,595	1,609	427		
2001	121,089		9,696	13,328		565	1,420	1,884
2002	151,713		6,967	9,000	b, d	4,123	917	1,713
2003	318,088		11,100	15,500	b, d	4,336		1,584
2004	200,761		9,645	15,761		8,045	1,317	3,625
2005	259,015	81,529		6,000	b	2,239	1,492	2,410
2006	228,763	73,691	2,936	10,679		6,463	824	1,292
2007	170,246	41,697	3,806	6,425		4,504	976	2,583

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Year	Sonar		Ground Based Projects				Aerial Surveys <sup>a</sup>			
	Pilot	Eagle	Chena	Salcha	E.F. Andraefsky	W.F. Andraefsky	Anvik <sup>f</sup>	Nulato		
2008	175,046	38,097	3,210	2,731	<sup>b</sup> 4,242			922		
2009	177,796	69,957	5,253	12,774	3,004	1,678	832	2,260		
2010	145,088	35,074	2,382	6,135	2,413	858	965	711		
2011	148,797	51,271		<sup>b</sup>	<sup>b, c</sup> 5,213	1,173	642	1,401		
2012	127,555	34,747	2,219	7,165	2,517		722	1,374		
2013	136,805	30,725	1,860	5,465	1,998	1,090	941	1,118		
2014	163,895	63,482	7,191		<sup>b</sup> 5,949	1,695	1,051			
2015	146,859	84,015	6,294	6,879	5,474	1,356	2,487	1,564		
2016	176,898	72,329	6,665	2,675	<sup>g</sup> 2,676					
2017	263,014	73,313	4,201	<sup>c</sup> 4,195	<sup>c</sup> 2,970	942	1,080	943		
2018	161,900 <sup>c</sup>	57,959 <sup>c</sup>	4,447 <sup>c</sup>	<sup>c</sup> 4,053	<sup>c</sup> 3,972 <sup>c</sup>	455 <sup>c</sup>	1,109 <sup>c</sup>	870 <sup>c</sup>		
5-Year Avg (2014-2018)		70,220	5,760	4,451	4,208	1,112	1,432	1,126		
Escapement Goals		42,500- 55,000 (IMEG)	2,800- 5,700 (BEG)	3,300- 6,500 (BEG)	2,100-4,900 (SEG)	640-1,600 (SEG)	1,100- 1,700 (SEG)	940-1,900 (SEG)		

Note: blank cells indicate no data.

<sup>a</sup>Only surveys that were complete and had a rating higher than fair are included.

<sup>b</sup>Incomplete count, project was not operated or was inoperable for a large portion of the season due to water conditions.

<sup>c</sup>Preliminary estimate and subject to change.

<sup>d</sup>Estimate includes an expansion for missed counting days based on average run timing.

<sup>e</sup>Aerial survey indicated escapement of at least 3,500 king salmon.

<sup>f</sup>Standardized for escapement goal review to include mainstem between sonar and McDonald creek. Also includes Beaver, Swift and Otter creeks.

<sup>g</sup>This is a minimum count due to high water conditions, based on inriver carcass sampling the lower end of the escapement goal was met at a minimum.

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**Table 6.** Alaska harvest of Yukon River king salmon, 1961–2018.

Year	Commercial	Commercial Related <sup>a</sup>	Total Commercial	Subsistence <sup>b</sup>	Personal Use <sup>c</sup>	Test Fish Sales <sup>d</sup>	Sport Fish <sup>e</sup>	Total
1961	119,664		119,664	21,488				141,152
1962	94,734		94,734	11,110				105,844
1963	117,048		117,048	24,862				141,910
1964	93,587		93,587	16,231				109,818
1965	118,098		118,098	16,608				134,706
1966	93,315		93,315	11,572				104,887
1967	129,656		129,656	16,448				146,104
1968	106,526		106,526	12,106				118,632
1969	91,027		91,027	14,000				105,027
1970	79,145		79,145	13,874				93,019
1971	110,507		110,507	25,684				136,191
1972	92,840		92,840	20,258				113,098
1973	75,353		75,353	24,317				99,670
1974	98,089		98,089	19,964				118,053
1975	63,838		63,838	12,867				76,705
1976	87,776		87,776	17,806				105,582
1977	96,757		96,757	17,581			156	114,494
1978	99,168		99,168	30,785			523	130,476
1979	127,673		127,673	31,005			554	159,232
1980	153,985		153,985	42,724			956	197,665
1981	158,018		158,018	29,690			769	188,477
1982	123,644		123,644	28,158			1,006	152,808
1983	147,910		147,910	49,478			1,048	198,436
1984	119,904		119,904	42,428			351	162,683
1985	146,188		146,188	39,771			1,368	187,327
1986	99,970		99,970	45,238			796	146,004
1987	134,760		134,760	<sup>f</sup> 55,039	1,706		502	192,007
1988	100,364		100,364	45,495	2,125	1,081	944	150,009
1989	104,198		104,198	48,462	2,616	1,293	1,063	157,632

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Year	Commercial	Commercial Related <sup>a</sup>	Total Commercial	Subsistence <sup>b</sup>	Personal Use <sup>c</sup>	Test Fish Sales <sup>d</sup>	Sport Fish <sup>e</sup>	Total	
1990	95,247	413	95,660	48,587	2,594	2,048	544	149,433	
1991	104,878	1,538	106,416	46,773		689	773	154,651	
1992	120,245	927	121,172	47,077		962	431	169,642	
1993	93,550	560	94,110	63,915	426	1,572	1,695	161,718	
1994	113,137	703	113,840	53,902		1,631	2,281	171,654	
1995	122,728	1,324	124,052	50,620	399	2,152	2,525	179,748	
1996	89,671	521	90,192	45,671	215	1,698	3,873	141,649	
1997	112,841	769	113,610	57,117	313	2,811	2,174	176,025	
1998	43,618	81	43,699	54,124	357	926	654	99,760	
1999	69,275	288	69,563	53,305	331	1,205	1,023	125,427	
2000	8,518	0	8,518	36,404	75	597	276	45,870	
2001	0	g	0	g	55,819	122	0	679	56,620
2002	24,128	0	24,128	43,742	126	528	486	69,010	
2003	40,438	0	40,438	56,959	204	680	2,252	100,533	
2004	56,151	0	56,151	55,713	201	792	1,513	114,370	
2005	32,029	0	32,029	53,409	138	310	483	86,369	
2006	45,829	0	45,829	48,593	89	817	739	96,067	
2007	33,634	0	33,634	55,174	136	849	960	90,753	
2008	4,641	g,h	0	g,h	45,186	126	0	409	50,362
2009	316	g,h	0	g,h	33,805	127	0	863	35,111
2010	9,897	g,h	0	g,h	44,559	162	0	474	55,092
2011	82	g,h	0	g,h	40,980	88	0	474	41,762
2012	0	g	0	g	30,415	71	0	345	30,831
2013	0	g	0	g	12,533	42	0	166	12,741
2014	0	g	0	g	3,286	1	0	0	3,282
2015	0	g	0	g	7,577	5	0	13	7,595

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Table

Year	Commercial	Commercial Related <sup>a</sup>	Total Commercial	Subsistence <sup>b</sup>	Personal Use <sup>c</sup>	Test Fish Sales <sup>d</sup>	Sport Fish <sup>e</sup>	Total
2016	0 <sup>g</sup>	0	0 <sup>g</sup>	21,627	57	0	20	21,704
2017	168 <sup>g,h</sup>	0	0 <sup>g</sup>	38,036	125	0	19 <sup>j</sup>	38,348
2018	0 <sup>g</sup>	0	0 <sup>g</sup>			0		
5-Year Avg. (2014-2018)	34	0	0	17,632	47	0	11	17,732

Note: blank cells indicate no data.

<sup>a</sup>Refers to production of salmon roe, including carcasses from subsistence-caught fish. These data are only available since 1990.

<sup>b</sup>Includes harvest from the Coastal District and test fishery harvest that were utilized for subsistence. In 2009, 2011, and 2012, subsistence includes fish commercially caught, but not sold.

<sup>c</sup>Prior to 1987, and in 1990, 1991, and 1994, personal use was considered part of subsistence.

<sup>d</sup>Includes only test fishery fish that were sold commercially.

<sup>e</sup>Sport fish harvest for the Alaskan portion of the Yukon River drainage, which includes the Tanana drainage.

<sup>f</sup>Includes 653 and 2,136 king salmon illegally sold in districts 5 (Yukon River) and 6 (Tanana River), respectively.

<sup>g</sup>No directed king salmon commercial fishery was conducted.

<sup>h</sup>King salmon sold commercially were incidentally caught in chum directed commercial fishery.

<sup>i</sup>Subsistence, personal use, and sport fish data are not yet available.

<sup>j</sup>Preliminary estimate.

