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Advisory Announcement

For Immediate Release: **October 24, 2022**
Time: 12:00 p.m.

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Kuskokwim River Salmon Fishery Announcement #8

2022 Preliminary Kuskokwim Management Area Season Summary

This is an announcement from the Alaska Department of Fish and Game (department) for fishers in the Kuskokwim Management Area.

Kuskokwim Area Management

Kuskokwim River salmon fisheries were managed according to the *Kuskokwim River Salmon Management Plan* (5 AAC 07.365). The Kuskokwim Bay salmon fisheries were managed according to the *Districts 4 and 5 Salmon Management Plan* (5 AAC 07.367).

Kuskokwim River

Preseason Forecast

The 2022 Kuskokwim River Chinook salmon forecast was for a range of 99,000–161,000 fish. The drainage-wide Chinook salmon escapement goal is 65,000–120,000 fish. If the run came back as projected, the drainage-wide and tributary escapement goals were expected to be achieved with a limited subsistence harvest. The 2022 season was managed in accordance with the *Kuskokwim River Salmon Management Plan* (5 AAC 07.365) with input from the Kuskokwim River Salmon Management Working Group (Working Group). It was the intent of the department to manage all Kuskokwim River salmon stocks in a conservative manner, consistent with the *Policy for the Management of Sustainable Salmon Fisheries* under 5 AAC 39.222, to meet escapement goals and the subsistence priority.

Inseason Subsistence Management

Preseason management actions that were intended to achieve escapement goals included early season subsistence fishing closures, tributary closures, time and area restrictions, gillnet mesh size and length restrictions, and live-release requirements.

An early season gillnet subsistence fishing closure (i.e., "front-end closure") began on June 1, from the Yukon Delta National Wildlife Refuge (YDNWR) boundary at the mouth of the Kuskokwim River upriver to the Yukon Delta Refuge boundary at Aniak and upstream of the Yukon Delta Refuge boundary at Aniak beginning June 9, 2022. With the closure came additional restrictions, including tributary closures and required live release of Chinook salmon captured in selective gears. During the front-end closure, there were three 16-hour set gillnet opportunities with 6-inch or less mesh. These openings occurred on June 1, 4, and 8.

Between June 1 and July 21, a Federal Special Action (FSA) closed the Kuskokwim River gillnet fishery to non-Federally qualified users within the boundary of the YDNWR (Subsistence Sections 1–3). During the FSA, USFWS offered 6-inch set gillnet opportunities running concurrently to the 6-inch opportunities offered by the department on June 1, 4, and 8. Additionally, USFWS offered four 12-hour gillnet fishing periods on June 12, 16, 22 and July 9 with 6-inch or less mesh, 25 fathoms in length above the Johnson River mouth and 50 fathoms in

length below the Johnson River mouth. USFWS offered two 36-hour set gillnet fishing periods on June 29 and July 3 and two 16-hour set gillnet fishing periods on July 10 and 16. On June 20, USFWS opened those waters between the Kalskag Bluffs to the YDNWR boundary at Aniak to subsistence fishing until further notice with 6-inch or less mesh, 25 fathoms in length gillnets.

Beginning June 12, 2022, subsistence sections 4 (from the refuge boundary at Aniak to the Holitna River mouth) and 5 (Holitna River mouth to headwaters) were opened to subsistence fishing until further notice with 6-inch or less mesh, 25 fathoms in length, gillnets. These sections are located outside the YDNWR boundary and not subject to the FSA.

Chum salmon abundance was assessed to be extremely low based on Bethel Test Fishery catches, subsistence harvest reports, and Kuskokwim River Sonar passage, while sockeye salmon abundance was estimated to be average to above average. Beginning July 1, 2022, the release of chum salmon captured in fish wheels and beach seines was required throughout Kuskokwim River subsistence sections 4 and 5.

On July 23, when on average 98-100% of the Chinook salmon run, 98-100% of the sockeye salmon run, and 90-97% of the chum salmon run had passed Bethel, the entire Kuskokwim River was opened to subsistence fishing with gillnets and most mainstem gear restrictions were rescinded. The tributary restrictions were kept in place beyond the mainstem restrictions for the purpose of conservation while Chinook and chum salmon were on their spawning grounds.

In late July and early August, inseason assessment indicated that coho salmon escapement goals at the Kwethluk and Kogrukluk river weirs would not be met. Given the poor coho run, fishing restrictions and gillnet closures were needed for coho salmon protection. Subsistence fishing was closed in all flowing waters of the Kuskokwim River and its tributaries between August 17 and September 15, 2022.

Postseason subsistence harvest surveys are presently being conducted. An assessment of subsistence salmon harvest in 2022 will not be available until after postseason harvest surveys have been completed, data have been analyzed, and preliminary harvest estimates are produced. Final subsistence harvest estimates will be available in Spring 2023.

2022 District 1 Commercial Fishery

There were no commercial salmon fishing periods in District 1 during the 2022 season due to low chum and coho salmon returns.

Inseason Assessment Overview

In addition to recommendations and input from the Working Group, the department mainly utilized two lower Kuskokwim River assessment projects to inform inseason management decisions: the Bethel Test Fishery (BTF) and Kuskokwim River Sonar. The BTF provided information about salmon species catch-per-unit-effort (CPUE), species ratios, and run timing, while the sonar provided daily passage estimates for salmon and other species.

Bethel Test Fishery

The BTF operated June 1–August 24. A series of drifts were conducted to determine daily CPUE of salmon species an hour after each posted high tide. The area fished has not changed since its inception in 1984; however, gillnet mesh material changed beginning 2008. From the start of the early season to July 15, BTF used 8” and 5 3/8” mesh gillnets (each 50 fathoms in length) for assessment purposes. After July 15, only the 5 3/8” mesh gillnet was used because most of the Chinook salmon run had migrated upriver past the project site and the primary focus of assessment shifted to sockeye, chum, and coho salmon.

Kuskokwim River Sonar

The Kuskokwim River Sonar operated from June 2–August 26. The sonar provided timely information about the abundance of salmon and whitefish species as they migrated up the Kuskokwim River. The Kuskokwim River

Sonar program operated a test fishery for species apportionment using a series of six gillnets (8 1/2", 7 1/2", 6 1/2", 5 1/4", 4", and 2 3/4" mesh). The sonar program generated daily species-specific passage estimates using species apportionment and sonar counts. The sonar did not provide total abundance or escapement estimates since some spawning occurs below the sonar and harvest occurs both downriver and upriver from the sonar.

CPUE, Run Timing, and Passage Estimates

Chinook Salmon

The cumulative Chinook salmon CPUE at the BTF was 502, which was similar to the 10-year average of 555. The estimated midpoint of the Chinook salmon run was June 24 (2 days later than average). The cumulative Chinook salmon passage estimate at the sonar was 146,084 fish (95% CI = 115,891 –176,277 fish).

Sockeye Salmon

The cumulative sockeye salmon CPUE at the BTF was 1,372, which was below the 10-year average of 1,869. The estimated midpoint of the sockeye salmon run was June 30 (1 day later than average). The cumulative sockeye salmon passage estimate at the sonar was 614,039 fish (95% CI = 557,213 – 670,865).

Chum Salmon

The cumulative chum salmon CPUE at the BTF was 2,192, which was well below the 10-year average of 4,906. The estimated midpoint of the chum salmon run was July 16 (11 days later than average). The cumulative chum salmon passage estimate at the sonar was 103,455 fish (95% CI = 75,485 – 131,425).

Coho Salmon

The cumulative CPUE at the BTF and sonar passage estimates for coho salmon were incomplete because the coho salmon run was still progressing after the projects ceased operations on August 24 and August 26, respectively. Escapements at weir projects provided a more complete picture of coho salmon run strength than the BTF or Kuskokwim River Sonar. However, as of August 24, the cumulative CPUE for coho salmon at the BTF was 1,281, which was approximately half of the 10-year average of 2,566. The cumulative coho salmon passage estimate at the sonar was 161,257 fish (95% CI = 126,324–196,190). This was the third year that the Kuskokwim River Sonar operated into late August. Prior year operations ended in late July.

Whitefish

Five species of whitefish were captured by the sonar's test fishery nets (least and Bering cisco, broad and humpback whitefish, and sheefish). The cumulative cisco (least and Bering) passage estimate at the Kuskokwim River Sonar was 590,932 fish (95% CI = 528,466 – 653,398). The cumulative broad whitefish passage estimate at the sonar was 7,661 fish (95% CI = 1,665 – 13,657). The cumulative humpback whitefish passage estimate at the sonar was 613,584 fish (95% CI 534,551 – 692,617). The cumulative sheefish passage estimate at the sonar was 40,544 fish (95% CI = 26,923 – 54,165).

Salmon Escapement – Kuskokwim River Drainage

Chinook Salmon

A run reconstruction model was used to estimate the preliminary total run and escapement for Chinook salmon in 2022. The preliminary Kuskokwim River total run estimate is 143,622 Chinook salmon (95% CI = 106,565–193,565) and an estimated 105,774 Chinook salmon (95% CI = 68,717–155,717) escaped Kuskokwim River fisheries, which met the drainage-wide Sustainable Escapement Goal (SEG) range of 65,000–120,000 fish. All weir-based escapement goals for Chinook salmon assessed in 2022 were met within the Kuskokwim River drainage (Table 1). The established SEG range of 4,800–8,800 fish at Kogrukluk River weir was met (5,837 fish), as was the SEG range of 4,100–7,500 at Kwethluk River weir (6,217). Escapement at the George River weir was 4,318 Chinook salmon, which exceeded the SEG range of 1,800–3,300 fish. While Chinook salmon escapement goals were met or exceeded in the lower and middle Kuskokwim River, escapement to the headwaters region was poor in 2022. For example, escapement to the Salmon (Pitka Fork) River (a project located in the headwaters

region) was the lowest on record and only 23% of its historical average. Aerial surveys were not conducted in 2022 due to inclement weather and pilot availability (see Table 2 for historical data).

Sockeye Salmon
Sockeye salmon escapement was variable throughout the drainage with above average lake-type sockeye escapement and near average to slightly below average river-type sockeye salmon escapement (Table 3). The preliminary escapement estimate at the Kogrukluk River weir was 10,278 sockeye salmon, which was within the established SEG range of 4,400–17,000 fish. The Telaquana River weir observed the fourth highest escapement of sockeye salmon since the project was established in 2010 with a count of 152,737 fish (Table 3).

Chum Salmon
Chum salmon escapement at all weir projects was poor (Table 4). The preliminary escapement estimate of 13,471 fish at the Kogrukluk River weir did not meet the established SEG range of 15,000–49,000 fish, and passage at all other weir projects was well below average.

Coho Salmon
Coho salmon escapement was evaluated at two Kuskokwim River weirs in 2022. The escapement estimate at the George River weir was 9,934 coho salmon, which was the fifth lowest since 1997 (Table 5). The preliminary escapement estimate of 6,291 coho salmon at the Kwethluk River weir did not meet the established lower bound SEG >19,000 fish (Table 5). Kogrukluk River weir escapement was incomplete in 2022 due to high water and, therefore, the escapement goal was not evaluated.

Kuskokwim Bay

District 4 (Quinhagak)
There were no commercial salmon fishing periods in District 4 during the 2022 season due to a lack of a buyer/processor.

District 4 Salmon Escapement
Aerial surveys were not conducted in 2022 due to inclement weather and pilot availability (see Table 6 for historical data).

District 5 (Goodnews Bay)
There were no commercial salmon fishing periods in District 5 during the 2022 season due to a lack of processing capacity.

District 5 Salmon Escapement
Aerial surveys were not conducted in 2022 due to inclement weather and pilot availability (see Table 7 for historical data).

For additional information concerning this advisory announcement:
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Table 1.–Chinook salmon spawning weir escapement, Kuskokwim River Drainage, Kuskokwim Management Area 2011–2022.

	Chinook Salmon Escapement					
Year	Kwethluk	George	Kogrukluk	Salmon (Aniak)	Takotna	Salmon (Pitka)
2011	4,056	1,605	6,926	[a]	149	[a]
2012	[b]	2,362	[b]	[b]	238	[a]
2013	[b]	1,267	1,919	711	104	[a]
2014	3,191	2,988	3,726	1,722	[a]	[a]
2015	8,163	2,301	8,333	2,401	[a]	7,156
2016	[b]	2,218	7,034	[b]	[a]	6,371
2017	7,207	3,669	7,787	2,611	318	8,298
2018	[b]	3,322	6,292	2,252	205	5,354
2019	8,505	3,828	10,301	[a]	554	4,823
2020	[a]	2,418	5,645	1,228	357	4,825
2021	[a]	2,920	6,969	1,303	323	3,992
2022 [c]	6,217	4,318	5,837	1,620	[b]	1,332
SEG	4,100–7,500	1,800–3,300	4,800–8,800			
Average 2012–2021	6,767	2,729	6,445	1,747	300	5,831

[a] Weir did not operate.
[b] Historical run timing indicates that more than 40% of the run was missed; annual escapement was not determined.

[c] Preliminary numbers subject to change.

Table 2.–Chinook salmon spawning aerial survey index estimates, Kuskokwim River Drainage, Kuskokwim Management Area, 2011–2022.

	Kuskokwim River[a]												
	Lower		Middle						Upper				
Year	Kwethluk	Kisaralik	Aniak	Kipchuk	Salmon (Aniak)	Holokuk	Oskawalik	Holitna	Gagarayah	Cheeneetnuk	Bear (Pitka)	Salmon (Pitka)	Upper Pitka Fork
2011	[b]	534	[b]	116	79	20	26	[b]	96	249	145	767	85
2012	[b]	610	[b]	193	49	9	51	[b]	178	229	[b]	670	[b]
2013	1,165	597	754	261	154	29	38	670	74	138	64	475	[b]
2014	[b]	622	3,201	1,220	497	80	200	1,785	359	340	[b]	1,865	[b]
2015	[b]	709	[b]	917	810	77	[b]	662	19	[b]	1,381	2,016	[b]
2016	[b]	622	718	898	[b]	100	47	1,157	135	217	580	1,578	[b]
2017	[b]	[b]	1,781	889	423	140	136	676	453	660	492	687	234
2018	[b]	584	1,534	1,123	441	162	[b]	980	438	565	550	1,399	471
2019	[b]	1,063	3,160	1,344	950	719	638	1,377	760	1,345	542	1,918	330
2020	721	350	1,264	723	269	99	169	854	[b]	419	321	1,150	160
2021	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
2022	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
Escapement Goal Range:		400–1,200	1,200–2,300		330–1,200				300–830	340–1,300		470–1,600	
Average 2011–2020	943	632	1,773	768	408	144	163	1,020	279	462	509	1,253	256

[a] Estimates are from aerial surveys conducted during peak spawning periods under 'good' or 'fair' survey conditions.

[b] Survey was either not flown or did not meet acceptable survey criteria.

Table 3.–Sockeye salmon spawning weir escapement, Kuskokwim River drainage, Kuskokwim Management Area 2011–2022.

Year	Sockeye Salmon Escapement				
	Kwethluk	Salmon (Aniak)	George	Kogrukluk	Telaquana
2011	1,541	[a]	43	8,079	35,099
2012	[a]	950	79	[a]	23,002
2013	[a]	966	150	7,793	28,058
2014	3,880	934	156	6,479	24,292
2015	8,998	1,504	159	6,647	95,570
2016	20,495	310	2,807	20,108	82,710
2017	28,806	[a]	912	24,696	145,281
2018	[a]	2,537	1,615	21,343	197,368
2019	42,212	[a]	3,973	32,116	198,485
2020	[a]	234	281	9,923	177,509
2021	[a]	907	947	13,534	123,958
2022 [b]	8,328	1,414	510	10,278	152,737
SEG				4,400–17,000	
Average 2012–2021	20,878	1,043	1,108	15,849	109,623

[a] Weir did not operate, or counts were incomplete.

[b] Preliminary numbers subject to change.

Table 4.–Chum salmon spawning weir escapement, Kuskokwim River drainage, Kuskokwim Management Area 2011–2022.

Year		Chum Salmon Escapement				
		Kwethluk	Salmon (Aniak)	George	Kogrukluk	Takotna
2011		17,552	[a]	45,257	76,649	8,562
2012		[b]	[b]	33,277	[b]	6,039
2013		16,271	7,685	37,945	65,648	6,516
2014		17,942	2,777	17,183	30,697	[a]
2015		23,071	5,511	17,554	33,091	[a]
2016		31,666	1,691	19,469	45,234	[a]
2017		52,202	9,754	39,971	85,793	6,557
2018		[b]	18,770	48,915	52,937	6,007
2019		33,100	[b]	43,072	71,006	5,618
2020		[a]	1,995	8,943	19,020	[b]
2021		[a]	537	1,371	4,153	[b]
2022	[c]	2,239	1,051	8,429	13,471	[b]
SEG					15,000–49,000	
Average 2012–2021		29,042	6,090	26,770	45,287	6,147

[a] Weir did not operate.

[b] Historical run timing indicates that more than 40% of the run was missed; annual escapement was not determined.

[c] Preliminary numbers, subject to change.

Table 5.–Coho salmon spawning weir escapement, Kuskokwim River drainage, Kuskokwim Management Area, 2011–2022.

	Coho Salmon Escapement		
Year	Kwethluk	George	Kogrukluk
2011	[b]	31,900	21,950
2012	20,627	14,844	13,462
2013	[b]	14,823	23,800
2014	48,478	35,771	54,001
2015	32,124	35,790	32,900
2016	38,152	[b]	[b]
2017	55,722	25,338	[b]
2018	[b]	8,993	8,169
2019	34,561	13,277	16,470
2020	[a]	21,426	[b]
2021	[a]	31,491	14,373
2022 [c]	6,291	9,934	[b]
SEG	>19,000		13,000– 28,000
Average 2012–2021	38,277	22,417	23,311

[a] Weir did not operate
[b] Historical run timing indicates that more than 40% of the run was missed; annual escapement was not determined.
[c] Preliminary numbers, subject to change.

Table 6.–Kanektok River salmon spawning escapement estimates, 2011–2022.

	Aerial Survey Escapement	
Year	Chinook	Sockeye
2011	[a]	[a]
2012	[a]	[a]
2013	2,277	53,002
2014	1,840	136,400
2015	4,919	39,970
2016	5,631	80,160
2017	[a]	[a]
2018	4,246	326,200
2019	7,212	349,073
2020	4,405[b]	52,886[b]
2021	4,115	53,690[c]
2022	[a]	[a]
SEG	3,900–12,000	15,300–41,000
Average 2012–2021	4,334	168,168

[a] Survey was either not flown or did not meet acceptable survey criteria.
[b] Survey was flown outside (August 13) of the standardized peak spawning abundance date range of July 17 to August 5. Therefore, counts are underestimates of spawning escapement.
[c] Survey was flown under poor weather conditions which hindered visibility in upper index regions. Therefore, counts are underestimates of spawning escapement.

Table 7.–Salmon spawning escapement estimates, Goodnews River, Kuskokwim Bay, 2011–2022.

		Middle Fork Goodnews R. Weir Escapement				North Fork Goodnews R. Aerial Escapement	
Year		Chinook	Sockeye	Coho	Chum	Chinook	Sockeye
2011		2,045	19,643	24,668	19,974	853	14,140
2012		524	29,531	11,371	9,065	378	16,710
2013		1,187	23,545	1,189	27,682	[a]	[a]
2014	[b]	750	41,473	7,594	11,518	630	[a]
2015	[b]	1,494	57,809	15,084	11,517	991	38,390
2016	[c]	3,767	170,574		41,815	1,120	90,060
2017	[c]	6,881	179,897		54,799	[a]	[a]
2018	[d]					[a]	[a]
2019	[c]	6,421	167,105		38,177	2,462	162,930
2020	[d]					1,098	55,110
2021	[d]					2,273	95,020
2022	[d]					[a]	[a]
SEG		1,500–2,900	18,000–40,000	>12,000	>12,000	640–3,300	9,600–18,000
Average 2012–2021		3,003	95,705	8,810	27,796	1,279	76,370

[a] Survey was either not flown or did not meet acceptable survey criteria.
[b] Weir operations ended Aug 31
[c] Weir operation ended July 31.
[d] Weir did not operate, or counts were incomplete.

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