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Advisory Announcement
For Immediate Release: **October 27, 2023**
Time: 1:30 p.m.

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Kuskokwim River Salmon Fishery Announcement #6

2023 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 2023 Kuskokwim River Chinook salmon forecast was for a range of 115,000 and 170,000 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 2023 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.

In-season 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.

Between June 1 and August 13, a Federal Special Action (FSA) closed the Kuskokwim River gillnet fishery to Federally qualified users within the boundary of the Yukon Delta National Wildlife Refuge (YDNWR). The U.S. Fish and Wildlife Service (USFWS) determined that adopting the FSA was warranted due to the expectation that Chinook and coho salmon runs had been forecast to be below average, and that the chum salmon run forecast indicated a poor run. An early season gillnet subsistence fishing closure (i.e., "front-end closure") began on June 1, from the YDNWR boundary at the mouth of the Kuskokwim River upriver to the YDNWR boundary at Aniak (Subsistence Sections 1–3), and upstream of the YDNWR boundary at Aniak to the Kuskokwim River headwaters (Subsistence Sections 4 and 5). Subsistence Sections 4 and 5 are located outside the YDNWR boundary and were not subject to the FSA. With the closure came additional restrictions, including tributary closures and required live release of Chinook and chum salmon captured in selective gears. Subsequently, at 12:01 a.m. June 7, fishing with set gillnets was opened in sections 4 and 5. Retention of all species was allowed with selective gear in

sections 4 and 5. On June 20, the USFWS opened those waters between the Kalskag Bluffs to the YDNWR boundary at Aniak until further notice to subsistence fishing with gillnets of 6-inch or less mesh and 25 fathoms in length.

During the FSA, the USFWS offered 6-inch set gillnet opportunities on June 3, 6, and 9. The USFWS also offered a 24-hour set gillnet fishing period June 30—July 1; a 48-hour period July 4—6; a 12-hour period July 7—8; three 12-hour periods on July 17, 19, and 21; and two 6-hour periods on July 24 and 26. During those openings, subsistence fishing was allowed with set gillnets of 6-inch or less mesh and 75 feet in length. The USFWS offered seven 12-hour set and drift gillnet fishing periods on June 12, 17, and 23; July 7; and August 3, 9, and 12. Additionally, the USFWS offered a 6-hour set and drift gillnet fishing period on July 11. During each of these periods, subsistence fishing was allowed with drift gillnets of 6-inch or less mesh, 25 fathoms in length above the Johnson River mouth and 50 fathoms in length below the Johnson River mouth.

On July 7, the USFWS also offered a fishing period for subsistence fishing with rod and reel for Chinook salmon with some bag and possession limits. Rod and reel fishers were not permitted to retain any chum or coho salmon caught. Harvests of sockeye salmon with rod and reel gear were not restricted. Fishing with rod and reel was allowed between the ADF&G regulatory marker below the Aniak River mouth and upstream to the YDNWR boundary (a.k.a. "the Aniak box"). On August 1, the USFWS allowed for retention of coho salmon caught with rod and reel in the Kuskokwim River and all tributaries within YDNWR.

On August 13, the USFWS rescinded the FSA and the associated fishing closures that had been in place in the Kuskokwim River within the YDNWR boundaries. On August 14, the ADF&G resumed management of fishing in Subsistence Sections 1—3, and subsequently opened subsistence fishing with gillnets until further notice from the mouth of the Kuskokwim River upstream to its headwaters. Based on preliminary in-season run assessment data, the department determined that ending restrictions to fishing with gillnets was warranted. The Bethel Test Fishery (BTF) cumulative CPUE on August 10 for coho salmon was 1,977 and the total coho salmon passage past the sonar was 198,000 fish. These BTF and sonar data indicated that the coho salmon escapement goals at the Kwethluk River weir and Kogrukluk River weir would be met. On average, approximately 58% of the coho salmon run has passed through Bethel on August 10. By August 10, an average of 100% of the Chinook salmon run, 100% of the sockeye salmon run, and 99% of the chum salmon run will have passed through Bethel. 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.

Postseason subsistence harvest surveys are presently being conducted. An assessment of subsistence salmon harvest in 2023 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 2024.

2023 District 1 Commercial Fishery

There were no commercial buyers or processors operating in the Kuskokwim River districts. Therefore, commercial fishing opportunities were limited to individuals registered with the department as catcher/sellers who had secured their own markets. A single catcher/seller applied for and received a commissioner's permit to harvest salmon with drift gillnet gear. A total of eight commercial gillnet fishing periods directed at coho salmon were provided in Subdistrict 1-A of the Kuskokwim River between August 16–30. Due to the small number of participants in these gillnet fishing periods commercial salmon harvest was well below the historical average. Thus, State of Alaska confidentiality requirements prohibit release of the harvest data.

In-season Assessment Overview

In addition to recommendations and input from the Working Group, the department mainly utilized two lower Kuskokwim River assessment projects to inform in-season 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 9–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 382, which was less than the 10-year average of 568. The estimated midpoint of the Chinook salmon run was June 26 (3 days later than average). The cumulative Chinook salmon passage estimate at the sonar was 78,458 fish (95% CI = 62,424–94,492 fish).

Sockeye Salmon

The cumulative sockeye salmon CPUE at the BTF was 1,789, which was similar to the 10-year average of 1,889. The estimated midpoint of the sockeye salmon run was July 5 (5 days later than average). The cumulative sockeye salmon passage estimate at the sonar was 903,217 fish (95% CI = 855,688–950,746).

Chum Salmon

The cumulative chum salmon CPUE at the BTF was 4,304, which was similar to the 10-year average of 4,441. The estimated midpoint of the chum salmon run was July 15 (9 days later than average). The cumulative chum salmon passage estimate at the sonar was 249,952 fish (95% CI = 209,299–290,605).

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 4,160, which was above the 10-year average of 2,451. The cumulative coho salmon passage estimate at the sonar was 371,652 fish (95% CI = 281,124–462,180). This was the fourth year that the Kuskokwim River Sonar operated into late August.

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 800,022 fish (95% CI = 696,478–903,566). The cumulative broad whitefish passage estimate at the sonar was 8,401 fish (95% CI = 0–29,524). The cumulative humpback whitefish passage estimate at the sonar was 588,167 fish (95% CI 516,390–659,944). The cumulative sheefish passage estimate at the sonar was 28,515 fish (95% CI = 18,545–38,485).

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 2023. The preliminary Kuskokwim River total run estimate is 130,837 Chinook salmon (95% CI = 98,692–173,452) and an estimated 103,989 Chinook salmon (95% CI = 71,844–146,604) escaped Kuskokwim River fisheries, which met the drainage-wide Sustainable Escapement Goal (SEG) range of 65,000–120,000 fish. Chinook salmon escapement was estimated at 4 weirs in 2023 (Table 1). Escapement at the George River weir was 2,834 Chinook salmon, which fell within the SEG range of 1,800–3,300 fish. Chinook salmon escapements at the remaining weir projects were slightly below average. Eight aerial surveys were carried out for Chinook salmon in 2023. The Chinook salmon aerial survey estimate at the Salmon (Pitka Fork) River was 671 fish, which fell within the SEG range of 470–1,600 fish (Table 2).

Sockeye Salmon

Sockeye salmon escapement was estimated at 2 weirs in 2023 (Table 3). Sockeye salmon escapement at the Salmon (Aniak) River weir (2,693 fish) was above average. The Telaquana River weir observed the largest escapement of sockeye salmon since the project was established in 2010 with a count of 283,014 fish (Table 3). No escapement goals for Kuskokwim River sockeye salmon were assessed in 2023.

Chum Salmon

Chum salmon escapement was estimated at 3 weirs in 2023 (Table 4). Chum salmon escapement at all weir projects was poor but a marked improvement over escapements observed from 2020–2022. No escapement goals for Kuskokwim River chum salmon were assessed in 2023.

Coho Salmon

Coho salmon escapement was estimated at 3 weirs in 2023 (Table 5). The escapement estimate at the George River weir was 33,439 coho salmon, which was above average. The escapement estimate of 28,132 coho salmon at the Kogrukluk River weir was above average and slightly above the SEG range of 13,000–28,000 fish. The escapement estimate of 36,035 coho salmon at the Kwethluk River weir was near average and met the SEG of at least 19,000 fish.

Kuskokwim Bay

District 4 (Quinhagak)

The Alaska Board of Fisheries (the Board) met via web conference on April 19, 2023, to consider a proposal concerning Kuskokwim Area District 4 subsistence and commercial fisheries. The Board adopted that proposal and established changes that went into effect beginning in 2023. Changes to regulation closed District 4 to subsistence and commercial fishing on all Sundays between June 1 and July 15. Also, commercial and subsistence

fishers are permitted to operate only one gillnet per boat in District 4 between June 1 and July 15. There were no commercial salmon fishing periods in District 4 during the 2023 season due to a lack of a buyer/processor.

District 4 Salmon Escapement
An aerial survey was completed on the Kanektok River in 2023. The Chinook salmon aerial survey SEG of 3,900–12,000 fish was achieved with an estimate of 6,688 fish. The sockeye salmon aerial survey SEG 15,300–41,000 fish was exceeded with an estimate of 90,360 fish (Table 6).

District 5 (Goodnews Bay)
There were no commercial salmon fishing periods in District 5 during the 2023 season due to a lack of processing capacity.

District 5 Salmon Escapement
An aerial survey was completed on the North Fork Goodnews River in 2023. The Chinook salmon aerial survey SEG of 640–3,300 fish was exceeded with a count 4,336 fish. The sockeye salmon aerial survey SEG of 9,600–18,000 fish was exceeded with 33,020 fish counted (Table 7).

For additional information concerning this advisory announcement:
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Table 1.–Chinook salmon spawning weir escapement, Kuskokwim River Drainage, Kuskokwim Management Area 2011–2023.

	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	6,808	4,318	5,837	1,620	[b]	1,332
2023 [c]	[b]	2,834	[b]	1,228	233	4,791
SEG	4,100–7,500	1,800–3,300	4,800–8,800			
Average 2013–2022	6,775	2,925	6,384	1,731	310	5,272

[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, 2011–2023.

	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]
2023	[b]	[b]	628	[b]	[b]	660	373	[b]	449	645	326	671	28
Escapement Goal Range:												470–1,600	
Average 2013–2022	943	650	1,773	922	506	197	205	891	320	526	561	1,385	299

[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 2011–2023.

Year	Sockeye Salmon Escapement			
	Kwethluk	Salmon (Aniak)	Kogrukluk	Telaquana
2011	1,541	[a]	8,079	35,099
2012	[a]	950	[a]	23,002
2013	[a]	966	7,793	28,058
2014	3,880	934	6,479	24,292
2015	8,998	1,504	6,647	95,570
2016	20,495	310	20,108	82,710
2017	28,806	[a]	24,696	145,281
2018	[a]	2,537	21,343	197,368
2019	42,212	[a]	32,116	198,485
2020	[a]	234	9,923	177,509
2021	[a]	907	13,534	123,958
2022	8,563	1,414	10,278	152,737
2023 [b]	[a]	2,693	[a]	283,014
SEG			4,400–17,000	
Average 2013–2022	18,826	1,101	15,292	122,661

[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 2011–2023.

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	8,563	1,051	8,429	13,471	[b]
2023 [c]	[b]	4,040	15,253	[b]	2,763
SEG				15,000–49,000	
Average 2013–2022	26,116	5,530	24,285	42,105	6,175

[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, 2011–2023.

Year	Coho Salmon Escapement		
	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	8,702	9,934	[b]
2023 [c]	36,035	33,439	28,132
SEG	>19,000		13,000– 28,000
Average 2013–2022	36,290	21,797	24,952

[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, 2011–2023.

	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]
2023	6,688	90,360
SEG	3,900–12,000	15,300–41,000
Average 2013–2022	4,331	136,456

[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, 2011–2023.

Year		Middle Fork Goodnews R. Weir Escapement				North Fork Goodnews R. Aerial Escapement	
		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]
2023	[d]					4,336	33,020
SEG		1,500–2,900	18,000–40,000	>12,000	>12,000	640–3,300	9,600–18,000
Average 2013–2022		3,003	95,705	8,810	27,796	1,429	88,302

[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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