



THE STATE
of **ALASKA**
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Department of Fish and Game

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MEMORANDUM

TO: Members
Alaska Board of Fisheries

DATE: September 20, 2023

FROM: Israel Payton, Director
Division of Sport Fish 

SUBJECT: Upper Cook Inlet Stock of
Concern Recommendations

and

Sam Rabung, Director 
Division of Commercial Fisheries

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. This memorandum summarizes the results of the stock of concern evaluation for Upper Cook Inlet (UCI) salmon stocks for the 2023–2024 board regulatory cycle. The evaluation includes input from headquarters, regional, and area staff from both fishery divisions.

Following the 2023 salmon season all king, sockeye, coho, and chum salmon stocks in the UCI management area were examined for potential stock of concern status. For this review, staff relied on the definition of “chronic inability” within the *Policy for the management of sustainable salmon fisheries* (5 AAC 39.222) to identify potential stocks of concern. Chronic inability means “the continuing or anticipated inability to meet escapement thresholds over a four to five year period, which is approximately the generation time of most salmon species.” Currently, there are four stocks of concern in UCI (Munro and Brenner 2022; Table 1), all of which are stocks of management concern for king salmon. In addition, the department is recommending that late-run Kenai River king salmon be designated a stock of management concern. The following summarizes the department’s recommendations by species, area, and stocks.

King salmon

West Cook Inlet

Theodore River

In 2011, the board designated Theodore River king salmon a stock of management concern. The escapement goal for the Theodore River was last achieved in 2006. The department recommends continuing the stock of management concern designation for this stock.

Chuitna River

Chuitna River king salmon were also designated a stock of management concern in 2011. The king salmon escapement goal for the Chuitna River has been achieved only once in the last five successfully completed surveys. The department recommends continuing the stock of management concern designation.

Susitna River

Alexander Creek

The board designated Alexander Creek king salmon a stock of management concern in 2011. This stock has been heavily impacted by the spread of invasive northern pike. Despite the removal of over 30,000 northern pike over the last 12 years, the king salmon escapement goal in Alexander Creek was last achieved in 2005. The department recommends continuing the stock of management concern designation for this stock.

Deshka River

The king salmon escapement goal for the Deshka River has been achieved in two of the last five years. Because escapement performance of this stock does not fit the criteria for a stock of concern, the department does not recommend designation of this stock as a stock of concern. The department does, however, anticipate a continued trend of low runs for this stock.

East Susitna Stock (Goose, Sheep, Willow, Little Willow, and Montana Creeks)

Prior to the 2020 salmon season, the individual escapement goals for all five king salmon spawning populations of the East Susitna stock were discontinued and replaced with a single escapement goal (Figure 1). At that time, three of the five king salmon spawning populations of the East Susitna stock had already been designated as stocks of concern (the board designated Willow Creek and Goose Creek king salmon stocks as stocks of yield concern in 2011 and designated Goose Creek and Sheep Creek as stocks of management concern in 2014). Accordingly, the department recommended and the board subsequently designated the East Susitna stock collectively as a stock of management concern at the 2020 UCI board meeting. In the action plan associated with that recommendation, delisting criteria for the East Susitna stock were specified as achieving the lower bound of the biological escapement goal range in at least three consecutive years or at least four out of six consecutive years. Because the goal has only been met in two of the four years that the escapement goal has been in place, the department recommends continuing the stock of management concern designation for this stock.

Talkeetna Stock (Prairie and Clear [Chunilna] Creeks)

Prior to the 2020 salmon season, the individual escapement goals for the two king salmon spawning populations of the Talkeetna stock were discontinued and replaced with a single escapement goal (Figure 1); neither stock was a designated stock of concern at that time. Because the goal for this stock has only been in place for four years and was achieved in one of the four years, the department does not recommend designation of this stock as a stock of concern. The department does, however, anticipate a continued trend of low runs for this stock.

Chulitna River

The king salmon escapement goal for the Chulitna River has been achieved in two of the last five surveyed years. Because escapement performance of this stock does not fit the criteria for a stock of concern, the department does not recommend designation of this stock as a stock of concern. The department does, however, anticipate a continued trend of low runs for this stock.

Yentna River Stock (Talachulitna River, Lake Creek, and Peters Creek)

Prior to the 2020 salmon season, the individual escapement goals for the three king salmon spawning populations of this stock were discontinued and replaced with a single escapement goal (Figure 1); none of the populations were designated a stock of concern at that time. There is both a department determined SEG (sustainable escapement goal) for this stock and a board determined OEG (optimum escapement goal). Because the OEG for this stock has only been in place for four years and was achieved in two of the four years, the department does not recommend designation of this stock as a stock of concern. The department does, however, anticipate a continued trend of low runs for this stock.

Knik Arm

Little Susitna River

The king salmon escapement goal for the Little Susitna River has been achieved in four of the last five surveyed years. Flooding resulted an incomplete weir count in 2023; however, it is anticipated the escapement was missed. Because escapement performance of this stock does not fit the criteria for a stock of concern, the department does not recommend designation of this stock as a stock of concern. The department does, however, anticipate a continued trend of low runs for this stock.

Anchorage

Campbell Creek

Campbell Creek king salmon are assessed via a foot survey through the heart of Anchorage. The only fishery prosecuted on this stock is a youth-only fishery, which has a small harvest. The king salmon escapement goal for Campbell Creek has been achieved in two of the last five years. Because escapement performance of this stock does not fit the criteria for a stock of concern, the department does not recommend designation of this stock as a stock of concern. The department does, however, anticipate a continued trend of low runs for this stock.

Kenai Peninsula

Crooked Creek

Crooked Creek is a tributary of the Kasilof River and has been enhanced with hatchery-produced king salmon smolt since the mid-1970s. Naturally produced king salmon in Crooked Creek are

assessed via a weir. The king salmon escapement goal for naturally produced king salmon ocean age-2 or older has been achieved in three of the last five years. Because escapement performance of this stock does not fit the criteria for a stock of concern, the department does not recommend designation of this stock as a stock of concern. The department does, however, anticipate a continued trend of low runs for this stock.

Kenai River early-run

Large fish (fish ≥ 75 cm mid-eye-to-fork of tail length) of this stock are assessed annually using sonar. There is both a department determined SEG for this stock and a board determined OEG. Both the OEG and the SEG have been achieved in two of the last five years. Because escapement performance of this stock does not fit the criteria for a stock of concern, the department does not recommend designation of this stock as a stock of concern. The department does, however, anticipate a continued trend of low runs for this stock.

Kenai River late-run

Large fish (fish ≥ 75 cm mid-eye-to-fork of tail length) of this stock are assessed annually using sonar. There is both a department determined SEG for this stock and a board determined OEG. The king salmon OEG has not been achieved in the four years that it has been in place; the sustainable escapement goal has been in place since 2017 and has been achieved in two of the last five years (2022 and 2023). Because escapement performance of this stock fits the criteria for a stock of concern (based on achieving the OEG), the department recommends designation of this stock as a stock of management concern.

Coho salmon

Knik Arm

Jim Creek (assessed via foot survey on McRoberts Creek)

The coho salmon escapement goal has been achieved in as few as three of the last five years (the 2023 count has not occurred yet; Table 1). Because escapement performance of this stock does not fit the criteria for a stock of concern, the department does not recommend designation of this stock as a stock of concern.

Little Susitna River

Assessment of this stock is via a floating weir, which is difficult to maintain due to regular high water events. The coho salmon escapement goal was achieved in three years (2017, 2020, 2021), and considered not achieved in 2 years that had incomplete counts (2019 and 2023). The count in 2022 was incomplete also, but counts were conducted so briefly because of high water levels, that achievement (or not) of the escapement goal could not be ascertained. Because escapement performance of this stock does not fit the criteria for a stock of concern, the department does not recommend designation of this stock as a stock of concern.

In summary, the department recommends continuing the stock of management concern designations for Theodore River, Chuitna River, Alexander Creek, and East Susitna king salmon stocks. The department also recommends that Kenai River late-run king salmon be designated as a stock of management concern. No coho salmon stocks are recommended as stocks of concern.

As part of the UCI board meeting in February 2024, staff will include an update on stocks of concern and review the department's recommendations for stock of concern.

References Cited

Munro, A. R. and R.E. Brenner, 2022. Summary of Pacific salmon escapement goals in Alaska with a review of escapements from 2013 to 2021. Alaska Department of Fish and Game, Fishery Manuscript Series No. 18-04, Anchorage. <https://www.adfg.alaska.gov/FedAidPDFs/FMS22-02.pdf>

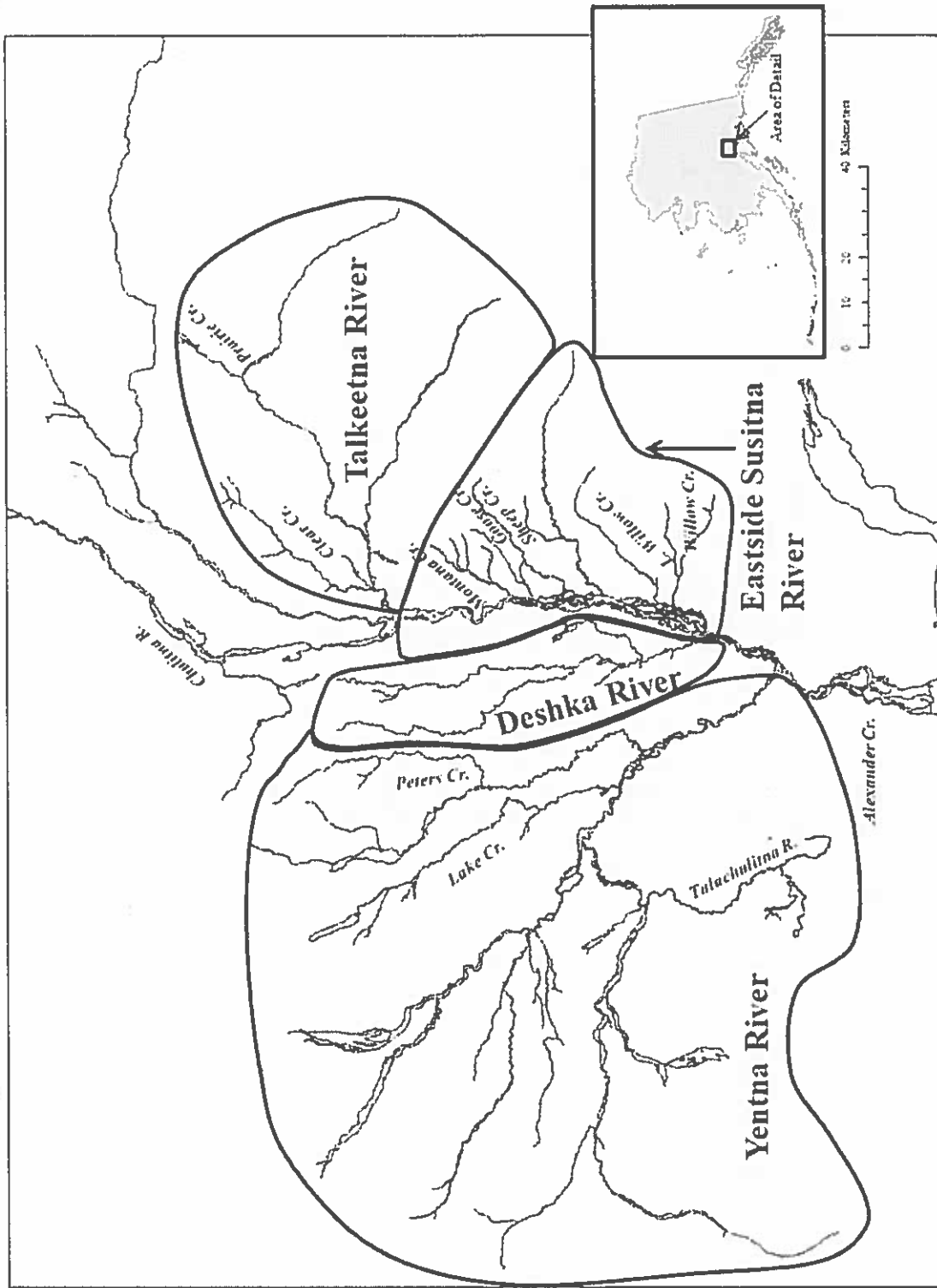


Figure 1.—Map of Susitna River king salmon escapement goals.

Table 1.—Upper Cook Inlet stocks reviewed for stock of concern status, including current and recommended SOC designation, current and recommended escapement goals, and escapements, 2013–2023. Escapements in shaded cells were below the escapement goal in place that year for that stock; this includes surveys that were incomplete but escapement was likely not achieved.

Species, system, and stock	SOC estab	SOC	Type of		SOC	Current goal		Recommended		Escapements											
			Survey	Goal		Goal	action	Goal	action	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
<i>King salmon</i>																					
West Cook Inlet																					
Thodore R	2011	mngt	SAS	SEG	500–1,000	no change	cont.	476	312	426	68	21	18	201	111	38	11*				
Chuitna R	2011	mngt	SAS	SEG	1,000–1,500	no change	cont.	1,690	1,398	1,965	1,372	235	939	2,115	869	806	372				
Susitna River																					
Alexander Cr	2011	mngt	SAS	SEG	1,900–3,700	no change	cont.	588	911	1,117	754	170	296	1,297	596	288	NC	NC			
Deshka R. Stock	-	none	weir	BEG	9,000–18,000	no change	-	18,531	16,335	24,316	22,874	11,383	8,548	9,705	10,638	18,674	5,440	3,741			
East Susitna Stk.																					
Talketna Stock	-	none	model	SEG	13,000–25,000	no change	cont.	17,201	16,083	24,699	22,972	13,615	10,599	11,653	13,815	15,208	7,654	NA			
Chuitna R.	-	none	SAS	SEG	1,200–2,900	no change	-	1,262	1,011	3,137	1,151	NC	1,125	2,765	845	1,535	NC	494			
Yentna R.	-	none	model	OEG	16,000–22,000	no change	-	28,639	27,550	40,375	27,409	12,693	14,892	22,989	14,850	18,890	16,583	NA			
Knik Arm																					
Little Susitna R. ^b	-	none	SAS	SEG	700–1,500	no change	-	1,651	1,759	1,507	1,622	1,192	530	NC	558	889	NC	NC			
Little Susitna R.	-	none	weir	SEG	2,100–4,300	no change	-	-	-	-	-	2,531	549	3,666	2,445	3,121	2,288	796			
Anchorage																					
Campbell Cr	-	none	SFS	LB SEG	380	340	-	NC	274	654	544	475	287	393	154	339	423*	171			
Kenai Peninsula																					
Crooked Cr	-	none	weir	SEG	700–1,400	no change	-	1,103	1,411	1,459	1,747	911	714	1,444	830	594	735	500			
Kenai R. early run (large fish)	-	none	sonar	OEG	3,900–6,600	no change	-	-	-	-	-	6,725	2,909	4,128	2,439	4,036	2,047	1,975			
Kenai R. late run (large fish)	-	none	sonar	OEG	2,800–5,600	no change	-	-	-	-	-	-	-	-	-	-	-	-			
Kenai R. late run (large fish)	-	none	sonar	OEG	15,000–30,000	no change	mngt.	-	-	-	-	-	-	-	-	-	-	-			
					13,500–27,000	no change	(NEW)					20,615	17,289	11,638							

-continued-

Table 1.–Page 2 of 2.

Species, system, and stock	SOC estab	Type of		SOC	Goal	Current goal	Goal	Recommended		Escapements									
		SOC	Survey					Goal	action	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<i>Coho salmon</i>																			
<i>Knik Arm</i>																			
Jim Cr (Mc Roberts)	-	none	SFS	SEG	250–700	no change	-	663	122	571	106	607	758	162	735	1,499	1,899	NA	
Little Susitna R ^d	-	none	weir	SEG	9,200–17,700	no change	-	13,583	24,211	12,756	10,049	17,781	7,583 ^a	4,229 ^a	9,779	10,229	2,792 ^a	2,949 ^a	

Note: SAS is a single aerial survey, SFS is a single foot survey; NC is no count, NA is not available yet
^a Incomplete count.

^b Little Susitna River Chinook salmon aerial survey goal is only used to assess escapement if weir count is not available

^c McRobert's Creek foot surveys and the SEG is based on these counts.

^d Beginning in 2020 escapement is the weir count minus the SWTIS estimate of harvest above the weir