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of **ALASKA**
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MEMORANDUM

TO:	Members Alaska Board of Fisheries	DATE:	October 3, 2013
FROM:	Jeff Regnart, Director Division of Commercial Fisheries and Charles O. Swanton, Director Division of Sport Fish	SUBJECT:	Upper Cook Inlet Stock of Concern Recommendations

The *Policy for the management of sustainable salmon fisheries* (SSFP; 5 AAC 39.222) directs the 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 2013 board regulatory cycle. The evaluation includes input from regional and area management staff from both fishery divisions.

All king, sockeye, pink, coho, and chum salmon stocks in the UCI were examined for potential stock of concern status (Munro and Volk 2013). Currently, there are seven stocks of concern in UCI (Table 1).

King salmon

The board designated six king salmon stocks as stocks of concern during the 2011 UCI board meeting. Since 2009, the escapement goal was met only twice among these six stocks, Willow Creek and Chuitna River king salmon in 2013, despite management actions being taken to limit fishing mortality on these stocks (Table 1).

The Sheep Creek king salmon stock was identified by the escapement goal review committee as a new candidate for stock of concern. The department has conducted annual single aerial surveys on Sheep Creek since 1979 to index escapement (Figure 1). Sheep Creek is a semi-glacial stream, making it more difficult to see and count on a given year than most other index streams in the

Susitna watershed. Depending on flow conditions, Sheep Creek shares a common channel with Goose Creek, currently designated as a stock of yield concern. As a result of turbid water conditions, Sheep Creek was not surveyed in 2008, 2010, and 2013. The SEG for Sheep Creek has not been attained since 2005 and the SEG for Goose Creek has not been attained since 2006 (Figure 1). Based on the proximity of Sheep Creek to Goose Creek, and their inability to meet escapement goals, despite specific management action being taken in season to reduce harvest, the department recommends Sheep Creek and Goose Creek king salmon be designated stocks of management concern.

Coho salmon

Jim Creek coho salmon was identified by the committee as a candidate for stock of concern. The SEG of 450–700 coho salmon was not attained in 2010–2012. In 2013, 663 coho salmon were counted in the annual foot survey. The department recommends Jim Creek coho salmon not be designated a stock of concern since the escapement goal was attained in 2013.

Sockeye salmon

Since establishment of Susitna River sockeye salmon as a stock of yield concern, the sonar-based Yentna River sustainable escapement goal (SEG) was eliminated and replaced with three Susitna drainage weir-based SEGs (Fair et al. 2009): Chelatna Lake (Yentna River), Judd Lake (Yentna River), and Larson Lake (Susitna mainstem). The new escapement goals (Table 1) became effective for the 2009 salmon runs. The Chelatna Lake escapement goal has been met four of the past five years, Judd Lake two of the past five years, and Larson Lake four of the past five years.

In the Central District drift fishery, Susitna median yield estimates in 2008–2013 were 26% larger than those from 2003–2007, and about 75% of those from 1983–2002 and 1993–2002, the two time periods to which recent (2003–2007) yields were compared when determining the stock of yield-concern in February 2008. In the Northern District salmon fishery, the 2008–2013 median yield estimates were about 30% of those from 1983–2002 and 1993–2003, but 40% larger than those from 2003–2007.

The department recommends Susitna River sockeye salmon remain classified as a stock of yield concern because: 1) five of the escapements (out of 15 total) have been below the minimum goal, and 2) harvests in Central and Northern districts from 2008 through 2013 were generally less than the long-term averages. Research studies are ongoing to better understand sockeye salmon abundance and distribution.

Literature Cited

- Fair, L. F., T. M. Willette, and J. Erickson. 2009. Escapement goal review for Susitna River sockeye salmon, 2009. Alaska Department of Fish and Game, Fishery Manuscript Series No. 09-01, Anchorage.
- Munro, A. R., and E. C. Volk. 2013. Summary of Pacific salmon escapement goals in Alaska, with a review of escapements from 2004 to 2012. Alaska Department of Fish and Game, Fishery Manuscript Series No. 13-05, Anchorage.

2013 UCI Stock of Concern Memo

Table 1.—Upper Cook Inlet stocks of concern, escapement goals, and escapements, 2009–2013 .

Stock	SOC				SOC	Escapement				
	Established	Survey type	Type	Goal Range		2009	2010	2011	2012	2013
King salmon										
Alexander Creek	2011	SAS	SEG	2,100–6,000	mngt.	275	177	343	181	588
Chuitna River	2011	SAS	SEG	1,200–2,900	mngt.	1,040	735	719	502	1,690
Goose Creek	2011	SAS	SEG	250–650	yield	65	76	80	57	62
Lewis River	2011	SAS	SEG	250–800	mngt.	111	56	92	107	61
Theodore River	2011	SAS	SEG	500–1,700	mngt.	352	202	327	179	476
Willow Creek	2011	SAS	SEG	1,600–2,800	yield	1,113	1,173	1,061	756	1,752
Sockeye salmon										
Yentna River*	2008				yield	NA	NA	NA	NA	NA
Chelatna Lake		weir	SEG	20,000–65,000	none	17,721	37,784	70,353	36,577	70,555
Judd Lake		weir	SEG	25,000–55,000	none	44,616	18,361	39,997	18,303	14,021
Larson Lake		weir	SEG	15,000–50,000	none	40,933	20,324	12,413	16,708	21,813

*Yentna River sockeye salmon escapement goal was replaced by SEGs on Chelatna, Judd, and Larson lakes in 2009.

Notes: SAS is a single aerial suvery; shaded cells identify years that stocks did not meet the SEG.

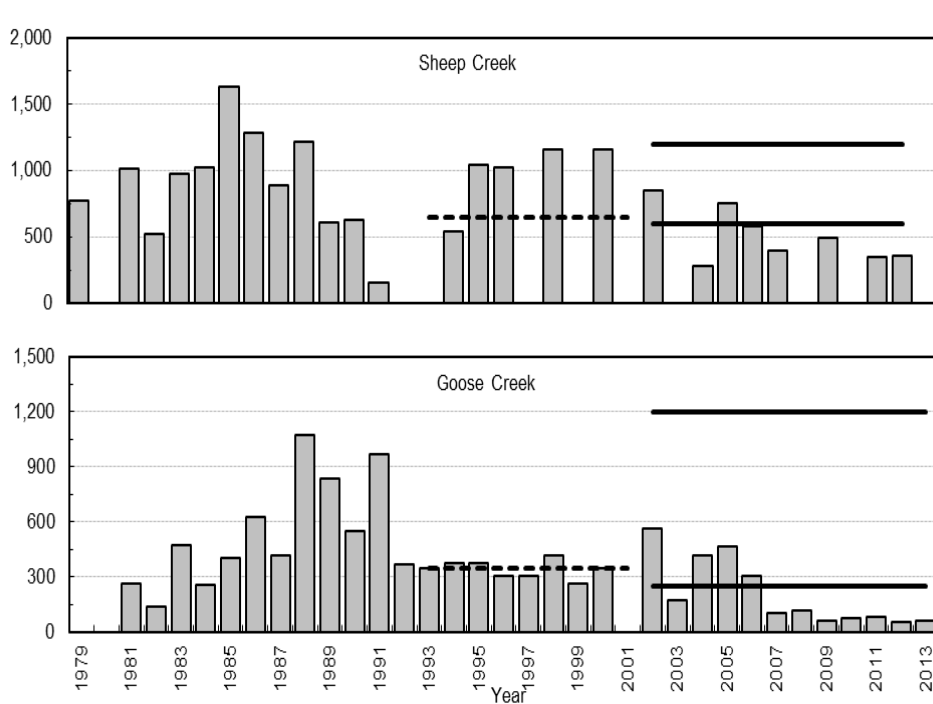


Figure 1.—King salmon escapements for Sheep Creek and Goose Creek, 1979–2013.

Y-axis = king salmon.

Dashed line = biological escapement goal. *Solid lines* = sustainable escapement goal range.