





MEMORANDUM

TO: Members, Alaska Board of Fisheries DATE: September 24, 2012

FROM: Jeff Regnart, Director 
Division of Commercial Fisheries SUBJECT: Alaska Peninsula/
Aleutian Islands
Stock of Concern
Recommendations

Charles O. Swanton, Director 
Division of Sport Fish

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. An interdivisional review team, consisting of staff from the divisions of Commercial Fisheries and Sport Fish, reviewed escapement goals in the Alaska Peninsula/Aleutian Islands Management Area as part of the current board meeting cycle. In conjunction with the escapement goal review, the team examined potential stocks of yield, management, or conservation concern, as defined in the SSFP. This memorandum summarizes the results of the stock of concern evaluation for the Alaska Peninsula/Aleutian Islands (Area M) salmon stocks for the 2012–2013 board regulatory cycle.

All king, sockeye, pink, coho, and chum salmon stocks with escapement goals in Area M were examined for potential stock of concern status. Only the Swanson Lagoon sockeye salmon stock was identified as a potential candidate for stock of concern status.

Swanson Lagoon Sockeye Salmon

Background

Swanson Lagoon is located on the northeast portion of Unimak Island within the Northwestern District of Area M (Figure 1). The system is low gradient, and in 2009, was completely blocked off from the ocean by shifting beach substrate. Aerial surveys of the system in 2009 indicated that the blockage prevented sockeye salmon escapement. A sustainable escapement goal (SEG) of 8,000–16,000 fish was established for Swanson Lagoon sockeye salmon in 1990 (Nelson and Lloyd 2001).

During the 2005–2006 board meeting cycle, the escapement goal was changed to an SEG of 6,000 to 16,000 sockeye salmon (Honnold et al. 2007). Subsequent reviews of this SEG using the percentile method have corroborated this goal (Witteveen et al. 2009). The Division of Commercial Fisheries has conducted aerial surveys of Swanson Lagoon to estimate the escapement since 1970 (Figure 1). Aerial surveys are difficult on Swanson Lagoon because the

lagoon has frequent algae blooms that obscure visibility and make estimation difficult. Estimated escapement of Swanson Lagoon sockeye salmon since 1970 ranged from 50 to 32,900 fish. The average escapement from 2007–2011 was 3,680 fish (Table 1). With the exception of 2007, escapements have failed to meet the SEG since 2005 (Figure 2). Prior to establishment of the escapement goal, escapements from 1970 through 1989 were also below average and were below the existing SEG 14 out of the 20 years.

No biological samples of the escapement or harvest have been collected. Reported commercial harvest is from the Swanson Lagoon Section, but there are no data to corroborate the stock of origin. There has been an average of five landings and a harvest of 1,327 sockeye salmon by the purse seine, drift gillnet, or set gillnet fleet from the Swanson Lagoon Section (statistical area 311-52) per year from 2007–2011 (Table 1; Figure 1).

Management Measures

There is little effort and minimal harvest in the Swanson Lagoon Section, and effort outside of this section is localized such that harvest of Swanson Lagoon sockeye salmon is believed unlikely. As a result of this fishing behavior, no management actions were taken prior to 2012 in the Swanson Lagoon Section to address low escapement of sockeye salmon. During 2012, the section was closed starting July 10 for the entire fishing season to protect the Swanson Lagoon stock.

Stock of Concern Recommendation

Escapements were below the lower goal four out of five years during the 2009 escapement goal review. Swanson Lagoon was not considered a stock of concern at that time because one of those years (2008) was very close to the lower goal and one year was the instance when the system was blocked from the ocean. For the current review, sockeye salmon escapement into Swanson Lagoon has not reached the lower end of the escapement goal range during the last four years (not including 2012) despite low effort and low harvest. Due to the low effort and harvest, the department has not taken any specific management measures to improve escapement (until 2012). The department has noted that the system has shown some cyclical changes in production and is vulnerable to natural habitat degradation; however, stock abundance has been difficult to assess due to the visibility constraints during aerial surveys.

The SSFP states that “management concern means a concern arising from a chronic inability, despite use of specific management measures, to maintain escapements for a salmon stock within the bounds of the SEG, BEG, OEG, or other specific management objectives for the fishery...”. Although management measures were not implemented to address low escapement prior to 2012, the department recommends that the board consider declaring Swanson Lagoon sockeye salmon a stock of management concern.

Literature Cited

- Honnold, S. G., M. J. Witteveen, M. B. Foster, I. Vining, and J. J. Hasbrouck. 2007. Review of escapement goals for salmon stocks in the Kodiak Management Area, Alaska. Alaska Department of Fish and Game, Fishery Manuscript No. 07-10, Anchorage.
- Nelson, P. A., and D. S. Lloyd. 2001. Escapement goals for Pacific salmon in the Kodiak, Chignik, and Alaska Peninsula/Aleutian Islands Areas of Alaska. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K01-66, Kodiak.
- Witteveen, M. J., H. Finkle, M. Loewen, M. B. Foster, and J. W. Erickson. 2009. Review of salmon escapement goals in the Alaska Peninsula and Aleutian Islands Management Areas; A Report to the Alaska Board of Fisheries, 2010. Alaska Department of Fish and Game, Fishery Manuscript No. 09-09, Anchorage.

Table 1.—Swanson Lagoon sockeye salmon landings, harvest, and escapement, 1970–2011.

Year	Swanson Lagoon Section		Escapement ^b
	Landings	Harvest ^a	
1970	5	306	700
1971	9	2,167	300
1972	3	135	200
1973	5	0	100
1974	7	735	50
1975	3	1,451	1,400
1976	3	1,020	2,600
1977	49	31,509	12,000
1978	61	24,168	8,100
1979	55	48,970	8,400
1980	5	3,852	9,700
1981	7	2,067	600
1982	4	586	1,800
1983	6	746	300
1984	51	27,734	5,500
1985	43	22,310	3,400
1986	58	9,517	7,400
1987	57	31,957	9,600
1988	68	24,766	5,700
1989	41	13,324	5,500
1990	58	13,518	32,900
1991	38	9,549	11,200
1992	52	16,274	15,400
1993	68	13,870	7,600
1994	33	6,521	9,700
1995	20	5,134	10,300
1996	13	2,109	9,300
1997	111	33,636	7,800
1998	71	8,663	5,000
1999	115	22,111	7,900
2000	2	2,197	5,700
2001	26	5,113	10,600
2002	1	207	10,000
2003	5	3,881	16,100
2004	5	2,980	24,300
2005	1	929	3,500
2006	1	270	376
2007	10	4,795	9,200
2008	6	565	5,500
2009	1	622	1,000
2010	3	327	1,700
2011	7	324	1,000
2002-2006 Avg.	3	1,653	10,855
2007-2011 Avg.	5	1,327	3,680

^a Source: ADF&G, Division of Commercial Fisheries Statewide Harvest Receipt (fish ticket) database. Commercial harvest is the harvest of sockeye salmon from Swanson Lagoon Statistical Area 311-52.

^b Escapement represents peak aerial survey.

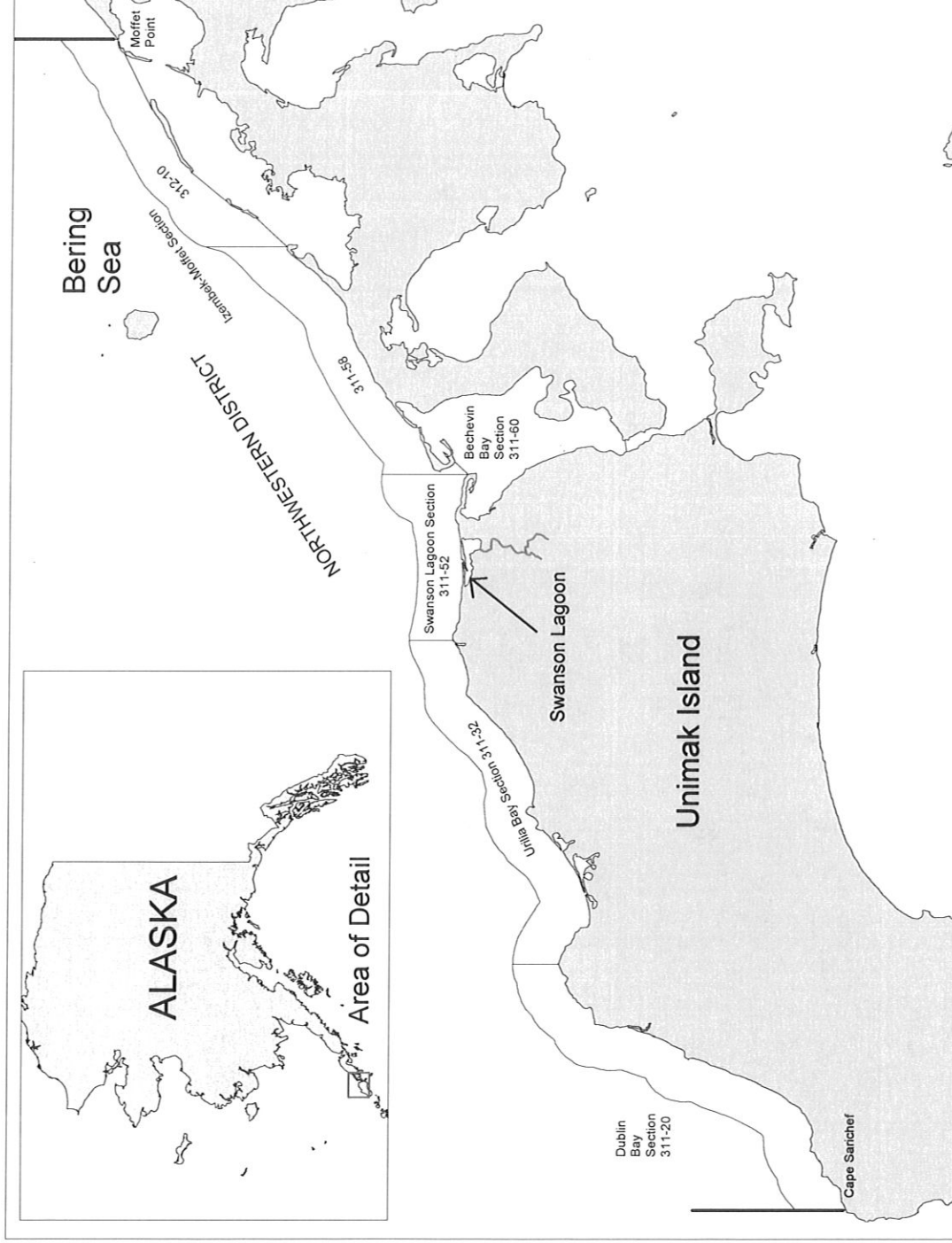


Figure 1.-Map of Swanson Lagoon, the Northwestern District, and commercial fishery sections.

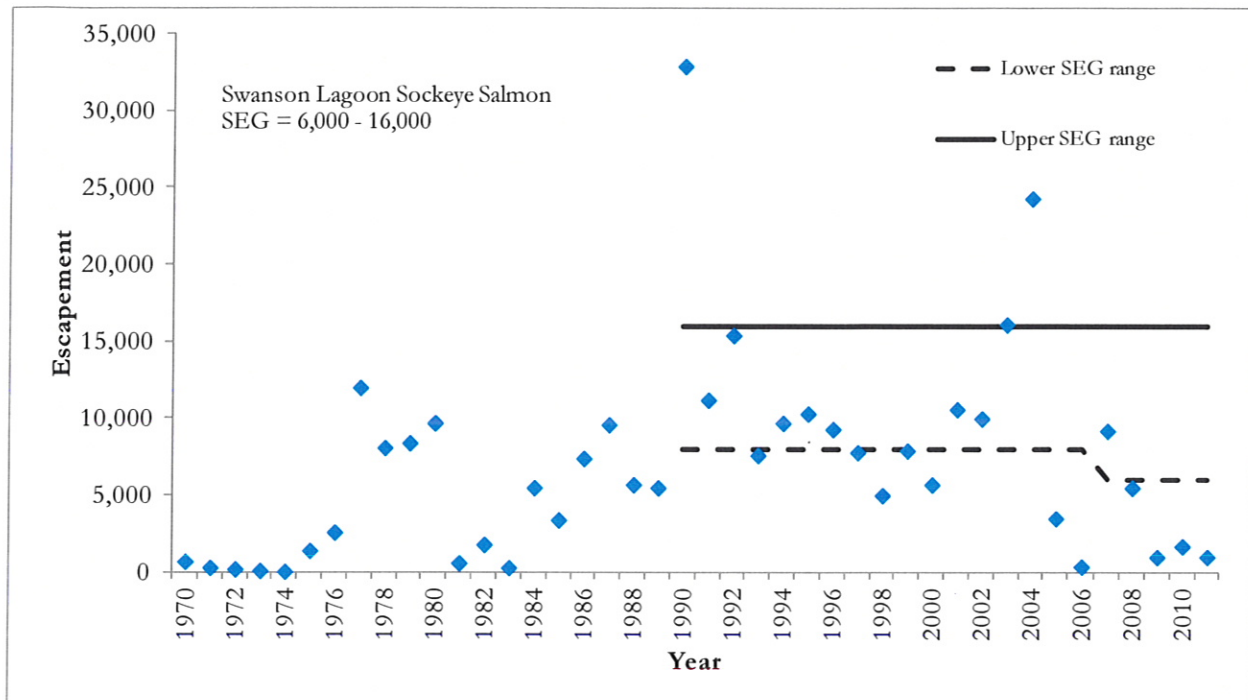


Figure 2.—Swanson Lagoon sockeye salmon escapement and escapement goal ranges, 1970–2011.