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MEMORANDUM

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| TO: | Members, Alaska Board of Fisheries | DATE: | September 28, 2015 |
| FROM: | Jeff Regnart, Director  Division of Commercial Fisheries | SUBJECT: | Alaska Peninsula/Aleutian Islands and Chignik Stock of Concern Recommendations |
| | Thomas Brookover, Director  Division of Sport Fish | | |

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. An interdivisional review team, consisting of staff from the divisions of Commercial Fisheries and Sport Fish, was formed to review existing Pacific salmon *Oncorhynchus* spp. escapement goals for Area L (Chignik Management Area) and Area M (Alaska Peninsula and 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 Area L and Area M salmon stocks for the 2015–2016 board regulatory cycle.

All king, sockeye, pink, coho, and chum salmon stocks with escapement goals in Area L and 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 and 2014 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. In 2014, aerial surveys in the lagoon indicated that while the system had been blocked in June and July, the blockage had blown out by August and some salmon escapement did occur. The department has noted that the

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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 with frequent algae blooms during aerial surveys.

A sustainable escapement goal (SEG) range of 8,000–16,000 fish was established for Swanson Lagoon sockeye salmon in 1990 (Nelson and Lloyd 2001). The department modified the goal in 2006, changing it to an SEG range 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; Sagalkin and Erickson 2013). The department has conducted aerial surveys of Swanson Lagoon to estimate escapement since 1970 (Figure 1). Peak aerial survey (PAS) counts of Swanson Lagoon sockeye salmon since 1970 ranged from 50 to 32,900 fish. The average PAS from 2010–2014 was 2,140 fish (Table 1). With the exception of 2007, escapements have failed to meet the current SEG since it was adopted (Figure 2).

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. Harvest has been low in the last 10 years, and has been restricted since 2012, resulting in complete closures and no harvest (Table 1). Even with these restrictions, escapement has continued to stay below the SEG (Figure 2).

Management Measures

Since 2002 there has been 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 on July 10 for the entire fishing season to protect the Swanson Lagoon stock. During the 2012-2013 board cycle, Swanson Lagoon sockeye salmon were designated as a stock of management concern (Sagalkin and Erickson 2013), and a specific management strategy was developed and adopted into regulation that established commercial fishing periods through emergency order authority and closed the lagoon and its tributaries to sport fishing for salmon. It has not been opened for sockeye salmon fishing since this regulation was adopted.

Stock of Concern Recommendation

Escapements were below the lower bound of the SEG 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 bound and one year the system was blocked from the ocean (2009). As of the current review, sockeye salmon escapement into Swanson Lagoon has not met the escapement goal during eight of the last nine years (since the current goal was adopted), despite little to no effort and harvest (no harvest since 2011).

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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...”. Specific management actions resulted in no openings in the Swanson Lagoon Section in 2012 through 2014, and escapement remained below the SEG. The department recommends that the board maintain Swanson Lagoon sockeye salmon as a stock of management concern. No other systems in Area L or Area M are recommended for stocks of concern.

Literature Cited

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- 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.
- Sagalkin, N. H. and J. W. Erickson. 2013. Review of salmon escapement goals in the Alaska Peninsula and Aleutian Islands Management Areas, 2012. Alaska Department of Fish and Game, Fishery Manuscript No. 13-01, Anchorage.
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Table 1.—Swanson Lagoon sockeye salmon landings, harvest, and escapement, 1970–2014.

| 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 | 29 | 22,310 | 3,400 |
| 1986 | 42 | 9,517 | 7,400 |
| 1987 | 55 | 31,957 | 9,600 |
| 1988 | 64 | 24,766 | 5,700 |
| 1989 | 40 | 13,324 | 5,500 |
| 1990 | 53 | 13,518 | 32,900 |
| 1991 | 27 | 9,549 | 11,200 |
| 1992 | 50 | 16,274 | 15,400 |
| 1993 | 68 | 13,870 | 7,600 |
| 1994 | 33 | 6,521 | 9,700 |
| 1995 | 20 | 5,134 | 10,300 |
| 1996 | 12 | 2,109 | 9,300 |
| 1997 | 109 | 33,636 | 7,800 |
| 1998 | 70 | 8,663 | 5,000 |
| 1999 | 115 | 22,111 | 7,900 |
| 2000 | 24 | 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 | 5 | 565 | 5,500 |
| 2009 | 1 | 622 | 1,000 |
| 2010 | 3 | 327 | 1,700 |
| 2011 | 7 | 324 | 1,000 |
| 2012 | 0 | 0 | 3,500 |
| 2013 | 0 | 0 | 3,000 |
| 2014 | 0 | 0 | 1,500 |
| 2005-2009 Avg. | 4 | 1,436 | 3,915 |
| 2010-2014 Avg. | 2 | 130 | 2,140 |

^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

^b Escapement represents peak aerial survey.

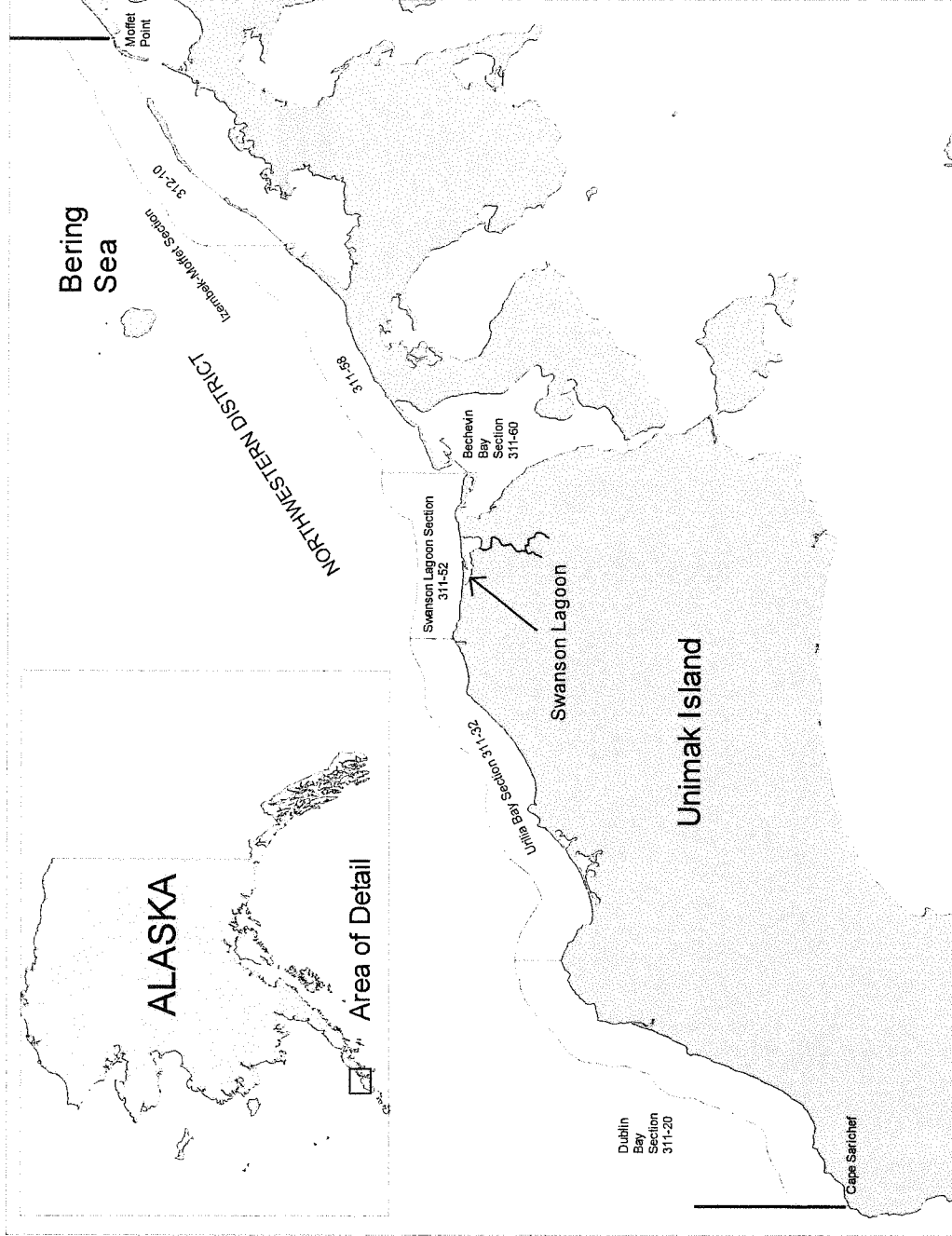


Figure 1.-Map of Swanson Lagoon, the Northwestern District, and commercial fishery sections.

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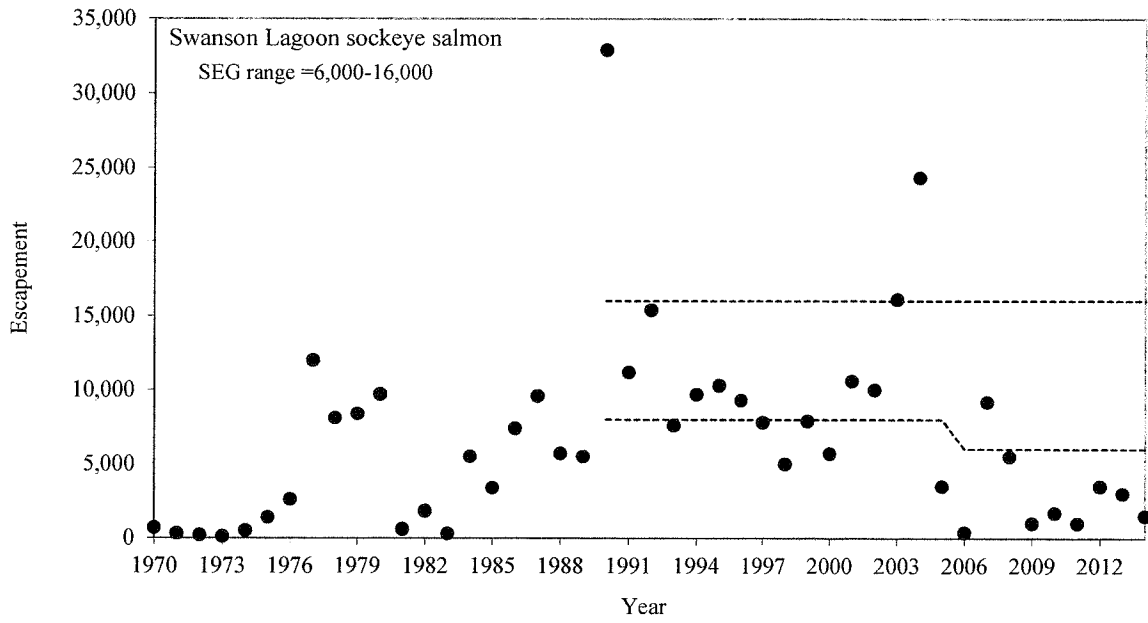


Figure 2.—Swanson Lagoon sockeye salmon escapement and escapement goal ranges, 1970–2014.