

Submitted by the Alaska Department of Fish and Game  
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## SWANSON LAGOON SOCKEYE SALMON STOCK STATUS AND ACTION PLAN, 2012

### INTRODUCTION

In October of 2012, the Alaska Department of Fish and Game (department) recommended that the Alaska Board of Fisheries (board) declare Swanson Lagoon sockeye salmon as a stock of management concern at the board's Work Session.<sup>1</sup> This recommendation was based on guidelines established in the *Policy for management of sustainable salmon fisheries* (SSFP; 5 AAC 39.222). The SSFP states that "management concern means a concern arising from chronic inability, despite use of specific management measures, to maintain escapements for a salmon stock within the bounds of the [sustainable escapement goal] SEG, [biological escapement goal] BEG, [optimal escapement goal] OEG, or other specific management objectives for the fishery..." "Chronic inability" is further defined in the SSFP as "...the continuing or anticipated inability to meet escapement thresholds over a four to five year period..." based on the generation time of most salmon species. The Swanson Lagoon sockeye salmon stock has continued to decline since 2007, and failed to make the escapement goal from 2009–2012.

This action plan summarizes historical assessment of annual run size and describes existing regulations and emergency order (EO) authority that the department follows to manage Swanson Lagoon sockeye salmon. Options are presented for potential management actions for the commercial, sport, and subsistence fisheries, and research projects for the Swanson Lagoon sockeye salmon stock.

### STOCK ASSESSMENT AND ESCAPEMENT GOAL HISTORY

Swanson Lagoon is located in the Swanson Lagoon Section of the Northwestern District (Figure 1). Aerial surveys have been used to estimate escapement into Swanson Lagoon from 1960 to present. The first published escapement goal range for Swanson Lagoon was developed in 1990 and set at 8,000 to 16,000 sockeye salmon (Nelson and Lloyd 2001). The subsequent 2006 escapement goal review changed the goal to a 6,000 to 16,000 sockeye salmon SEG (Honnold et al. 2007). Sockeye salmon escapements have ranged from 50 to 32,900 fish (Table 1). During the 10 years from 1998–2007, escapements averaged 9,268 sockeye salmon. From 2007 through 2012, escapements decreased to an average of 2,540 fish. The decline in escapement was not due to increased commercial harvests, which also declined from an average of 5,115 (1998–2007) to 368 (2008–2012).

### COMMERCIAL FISHERIES HARVEST MANAGEMENT

While current commercial salmon fishing regulations establish a weekly fishing schedule for the Swanson Lagoon Section, there is little directed effort in this area. Effort outside of the Swanson Lagoon Section is localized such that the harvest of Swanson Lagoon sockeye salmon is believed unlikely.

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<sup>1</sup> Unpublished memorandum from J. Regnart and C. Swanton, ADF&G, to Board of Fisheries, September 24, 2012.

## **Potential Management Actions**

### **Action #1**

Status quo. Maintain regulations as currently specified in 5 AAC 09.320(b)(5), *Fishing Periods*. Since there is no established management plan for the Swanson Lagoon Section, management is directed by established fishing periods.

#### **Specific Actions:**

The department will close the Swanson Lagoon Section to commercial fishing by EO.

#### **Benefits:**

This will allow sockeye salmon stocks to rebuild while still allowing for harvest opportunity when salmon in excess of escapement requirements are present.

#### **Detriments:**

None.

### **Action #2**

Modify regulations to allow fishing periods in the Swanson Lagoon Section by EO.

#### **Specific Actions:**

Rescind weekly fishing periods from 5 AAC 09.320(b)(5), *Fishing Periods*, so that fishing periods in the Swanson Lagoon Section may only be established by EO.

#### **Benefits:**

This action would codify the approach the department plans on taking to rebuild the Swanson Lagoon sockeye salmon run. It would also align establishment of commercial fishing periods in the Swanson Lagoon Section with adjacent sections of the Northwestern District. The Swanson Lagoon Section would remain closed, by regulation, until escapements warranted a commercial fishing period.

#### **Detriments:**

None.

## **SUBSISTENCE FISHERIES MANAGEMENT ACTIONS**

### **Past Management Actions**

There has not been a reported subsistence harvest of sockeye salmon from the Swanson Lagoon Section over the past 10 years. The department's records indicate there have been no actions taken modify the subsistence salmon fishery in the Swanson Lagoon Section.

### **Potential Management Actions**

#### **Action #1**

Status quo. The department will continue the management of the subsistence fishery using EO authority.

Specific Actions:

When returns of sockeye salmon to Swanson Lagoon are weak, the department could close the Swanson Lagoon Section to subsistence salmon fishing.

Benefits:

Restricting harvest on Swanson Lagoon sockeye salmon would help ensure rebuilding of these stocks.

Detriments:

Restricting area or time in the subsistence fishery may impact reasonable opportunity to participate in the subsistence fishery.

**SPORT FISHERY MANAGEMENT ACTIONS**

**Past Management Actions**

There have been no actions taken to modify the sport fishery of the Swanson Lagoon section.

**Potential Management Actions**

**Action #1**

Status quo.

Specific Actions:

None. As there is no known sport fishing effort in Swanson Lagoon; impacts would be minimal, if any.

Benefits:

No unneeded changes to regulations.

Detriments:

None, as no user group would be affected.

**RESEARCH PLAN**

**Current Research Projects**

There are no ongoing research projects dealing with Swanson Lagoon sockeye salmon.

**Potential Additional Research Projects**

There are no plans to conduct research projects dealing with Swanson Lagoon sockeye salmon.

## **Literature Cited**

Honnold, S. G., M. J. Witteveen, I. Vining, H. Finkle, M. B. Foster, and J. J. Hasbrouck. 2007. Review of salmon escapement goals in the Alaska Peninsula Aleutian Islands Management Areas, 2006. Alaska Department of Fish and Game, Fishery Manuscript No. 07-02, 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.

Table 1.—Commercial harvest and escapement of Swanson Lagoon sockeye salmon, 1970–2012.

Year	Landings	Harvest	Escapement <sup>a</sup>
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	<sup>b</sup>	2,197	5,700
2001	26	5,113	10,600
2002	<sup>b</sup>	207	10,000
2003	5	3,881	16,100
2004	5	2,980	24,300
2005	<sup>b</sup>	929	3,500
2006	<sup>b</sup>	270	376
2007	10	4,795	9,200
2008	6	565	5,500
2009	<sup>b</sup>	622	1,000
2010	3	327	1,700
2011	7	324	1,000
2012	0	0	3,500

<sup>a</sup> The estimated total escapement represents the peak survey, enumeration of carcasses, as well as ancillary and qualitative data.

<sup>b</sup> Confidential information.

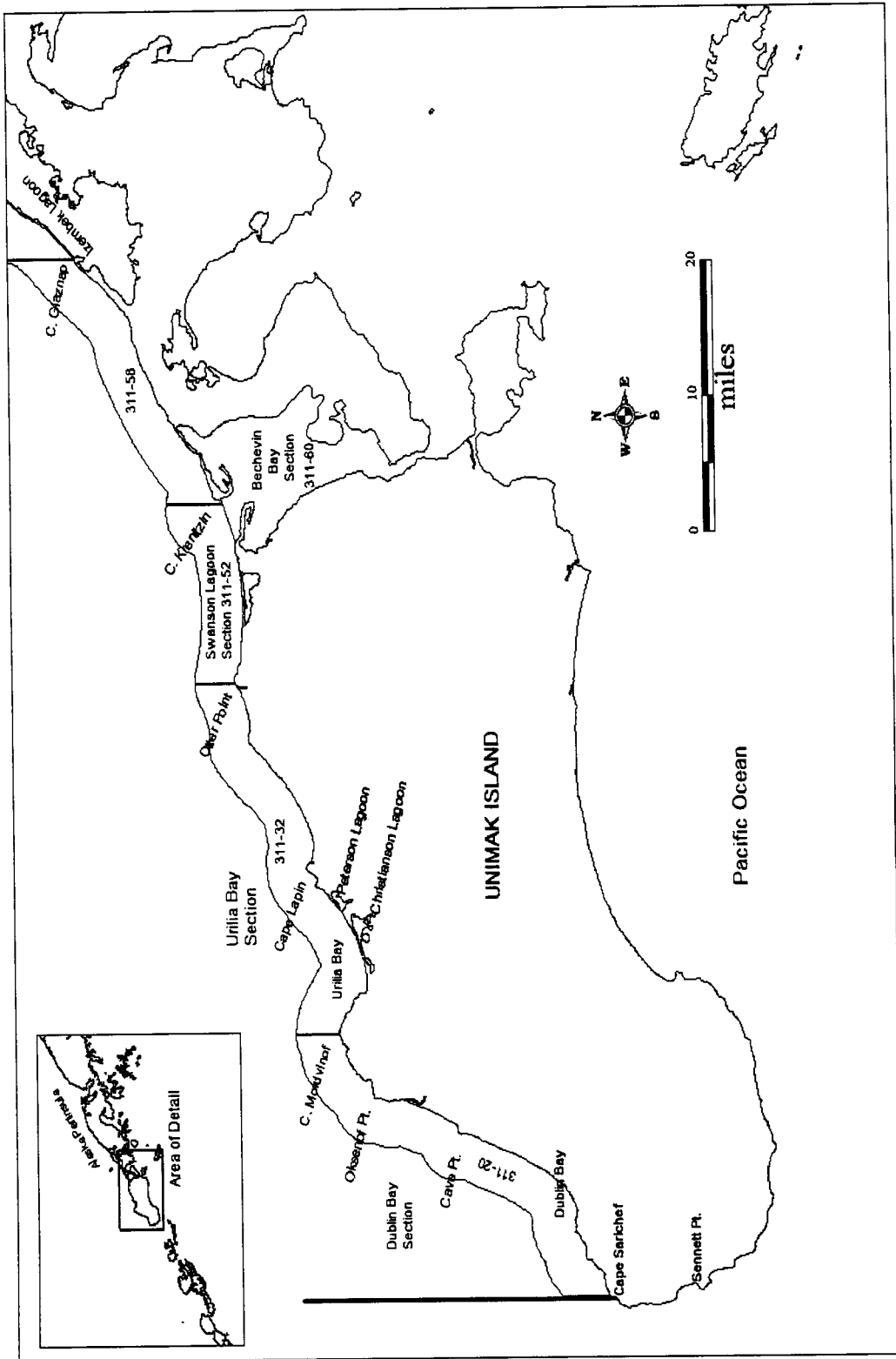


Figure 1.—Map depicting the Swanson Lagoon and adjacent sections.