

1983 Western Alaska Chinook Salmon Synopsis
Report to the United States Section
International North Pacific Fisheries Commission
Anchorage, Alaska; September 30, 1983

by

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Introduction

This report provides a synopsis of preliminary data on the 1983 inshore catch and escapement of chinook salmon in eastern Bering Sea waters from the Alaska Peninsula to Kotzebue Sound. This area is referred to as "western Alaska" in this report. The chinook salmon resource is considered to be of immense value in western Alaska and is fully harvested in established subsistence and commercial fisheries of the region. Interception of chinook salmon of western Alaska origin by Japanese high seas fisheries has resulted in substantial socio-economic losses to domestic fisheries which continues to be a great concern to the public and fishery managers.

Tables 1 and 2 present 1961-1983 commercial catch and escapement data respectively.

Bristol Bay Area

The baywide commercial harvest in 1983 totalled 201,000 chinook salmon (4,300,000 lbs.), approximately 64,000 fish less than the record 1982 catch. Very strong catches and escapements were recorded in all districts.

Escapements to the Nushagak and Togiak systems, totalled an estimated 184,000 salmon including a record 162,000 to the Nushagak River system, the major contributor of chinook salmon in Bristol Bay. This was the sixth consecutive year of above average chinook salmon returns to the Bay. Protracted run timing was observed, particularly in the Nushagak and Togiak districts, where substantial catches were made well into July.

Preliminary age composition data for both the commercial catch and escapement indicate a strong predominance of 6 year old salmon, where in 1982 returns were strongly influenced by an unusually large percentage of 5 year old chinook. It is speculated that weakness in the return of 6 year olds in 1982 could have resulted from the extremely large catch of chinook salmon by the Japanese mothership fleet in 1980 since that catch was largely composed of 4 year old fish which would have returned as 6 year olds in 1982.

Kuskokwim Area

The 1983 commercial harvest from the Kuskokwim Area (includes the Kuskokwim River, Quinhagak and Goodnews Bay Fisheries) totaled 93,586 chinook salmon (2,000,000 lbs.) surpassing the previous record catch of 1982 by more than 13,000 fish.

The 1983 harvest was unusual in that catches from the Kuskokwim River, the largest chinook salmon contributor in the area, fell well below that of recent years. Additional fishing time restrictions were required to bolster Kuskokwim River escapements. However, Quinhagak and Goodnews Bay (Kuskokwim Bay) catches were far greater than previous record catches.

Subsistence harvests have not been tabulated to date but are estimated at least equal to recent year levels.

Escapement levels were judged excellent in Kuskokwim Bay streams but average or below average in tributaries of the Kuskokwim River.

The chinook salmon return was protracted in time with a substantial proportion of the catch being made later in the season than is normal.

Preliminary age composition data from the commercial catch indicates that the harvest was composed primarily of 6 year old fish which is normal for the area.

Yukon Area

The commercial harvest in the Yukon River (including reported Canadian catches) was 158,000 fish (3,476,000 lbs.). The harvest was the third largest in history and larger than the recent 5 year average (1978-1982) of 140,000. Effort, in terms of number of permits fishing in 1983 was similar to prior recent years, although actual fishing time was slightly less in 1983. Subsistence harvest data are being collected at this time but will probably indicate a harvest similar to or slightly larger than the recent 5 year average of 39,700 fish.

Average fish size and preliminary aging data indicate that the commercial catch was composed primarily of 5 and 6 year old fish, similar to most prior years.

Escapements in several important spawning streams, where annual surveys are made, were considered average in magnitude. Escapements recorded this year and in 1982 were considerably below peak levels experienced during 1978-1980.

Norton Sound Area

The commercial harvest of 10,308 chinook salmon was the second largest catch ever recorded and 26 percent above the previous five year average. The majority of the harvest is made in the Unalakleet and Shaktoolik fisheries located in eastern Norton Sound. Based on partial aerial survey coverage, escapement magnitudes in the Unalakleet and Shaktoolik River systems were judged average and above average respectively.

Summary

A total of 488,453 chinook salmon were harvested in western Alaska commercial fisheries. This was the third largest harvest recorded (511,000 in 1981 and 506,000 in 1982). The 1983 inshore returns to most areas continued the trend of increased chinook salmon abundance since the late 1970's. The Kuskokwim River return was a notable exception to this trend as both the commercial catch and indicated escapement were below average when compared to either recent five or ten year averages.

Table 1. Commercial harvest of Western Alaska chinook salmon by area and year, 1961-1983.

Year	Kotzebue	Norton Sound	Yukon 1/	Kuskokwim 2/	Bristol Bay	AK Peninsula	Aleutians	Total
1961	-	5,300	123,706	23,462	88,656	6,050	-	243,132
1962	12	7,286	98,771	20,869	84,047	6,098	12	213,060
1963	7	6,613	119,277	18,581	62,269	3,601	4	208,123
1964	-	2,034	96,795	21,246	139,536	3,592	1	259,996
1965	-	1,449	120,363	24,428	112,967	6,131	-	262,989
1966	1	1,553	95,257	25,823	77,472	9,342	1	207,507
1967	1	1,804	131,893	29,986	117,193	5,523	1	283,938
1968	2	1,045	108,732	43,157	103,723	4,483	37	258,973
1969	-	2,394	91,863	64,777	124,908	4,846	2	287,647
1970	-	1,845	82,880	65,273	140,511	3,854	6	290,790
1971	1	2,583	113,685	44,936	123,015	2,189	-	283,241
1972	3	2,938	94,609	56,939	69,546	1,792	-	224,058
1973	5	2,041	77,224	51,374	44,044	4,554	-	177,376
1974	-	3,000	100,133	30,739	45,664	2,720	-	180,312
1975	-	2,394	66,740	27,803	29,992	2,093	-	126,150
1976	3	2,248	92,171	50,103	95,968	4,953	-	241,544
1977	10	4,500	101,034	58,256	130,526	5,500	-	296,089
1978	146	10,002	100,577	63,194	191,539	14,259	-	379,977
1979	-	10,706	135,231	53,314	212,873	16,900	-	429,024
1980	-	6,100	164,588	48,242	95,708	18,000	-	332,638
1981 3/	100	7,900	166,200	79,700	239,065	18,000	-	510,965
1982 3/	-	5,900	133,100	79,100	265,000	30,000	-	506,100
1983 3/	121	10,308	157,987	93,586	201,000	28,000	-	488,453

1/ Includes catches made in Canada.

2/ Includes Kuskokwim River, Quinhagak and Goodnews Bay Fisheries.

3/ Preliminary data subject to change.

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Table 2. Escapement estimates and indices of Western Alaska chinook salmon by area and year, 1961-1983.

Year	Yukon 1/	Kuskokwim 2/	Bristol Bay 3/
1961	1,650	-	-
1962	1,218	-	-
1963	484	-	-
1964	652	-	-
1965	655	-	-
1966	507	824	-
1967	533	-	74,000
1968	476	972	86,000
1969	334	537	43,000
1970	1,057	932	65,000
1971	1,348	-	-
1972	794	476	39,000
1973	523	191	46,000
1974	805	73	85,000
1975	696	419	81,000
1976	783	596	114,000
1977	1,247	1,079	85,000
1978	1,943	2,540	170,000
1979	2,063	-	115,000
1980	2,651	-	153,000
1981	5/	4,355 6/	177,000
1982	1,285	7/	164,000
1983	1,433 4/	447	184,000

1/ Indices based on average numbers of fish counted in four index areas: West Fork, Andreafsky; East Fork, Andreafsky; Salcha; Whitehorse fishery (ADF&G 1980a).

2/ Indices based on average numbers of fish counted during aerial surveys of the following index streams in the Kuskokwim River drainage: Kwethluk, Kisaralik, Aniak (upstream of Salmon River), Kipchuk, Chukowan, and Kogruklu (ADF&G 1980b).

3/ Escapement estimates for Nushagak and Togiak Districts, only.

4/ Preliminary estimates.

5/ Index areas unsurveyed due to high, turbid water conditions.

6/ Based on poor surveys of Kwethluk and Kisaralik; fair survey of Aniak; other streams unsurveyed.

7/ Surveyed after peak of spawning, stream totals not comparable with prior years.

ESCAPES