

1981 WESTERN ALASKA CHINOOK SALMON SYNOPSIS
REPORT TO THE UNITED STATES SECTION
INTERNATIONAL NORTH PACIFIC FISHERIES COMMISSION
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by
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Introduction: This report was prepared to provide preliminary data on the 1981 inshore catch and escapement of western Alaska chinook salmon. The chinook salmon resource is of immense commercial and subsistence value and is currently fully harvested in established inshore domestic fisheries. Although serious concern has existed over high seas exploitation of this resource for a number of years, recent record level interceptions have resulted in this issue assuming major importance and requiring serious INPFC consideration.

Yukon River Area: An exceptionally large return occurred with commercial catches and escapements approaching or exceeding historic high records. The large average size of individuals in the catch and preliminary age analysis indicate that a large proportion of the run was composed of six year old fish. The Yukon commercial harvest totalled 164,408 including 5,500 taken in the Canadian portion of the drainage. Subsistence fishery surveys are currently being conducted and this catch is expected to approach or exceed the 1980 level. The combined commercial and subsistence catches for the entire drainage should approximate last years record harvest of over 200,000. Escapement surveys in the Alaskan portion of the drainage were severely limited by high turbid waters but the few successful surveys conducted in individual spawning areas indicated record or near record escapements.

Kuskokwim Area: Chinook salmon returns to Kuskokwim Bay and the Kuskokwim River proper were also large as evidenced by the commercial harvest, test fishing, and escapement levels. The commercial harvest totalled a record 80,000 salmon. The subsistence harvest data are not yet available but the catch is expected to approach or exceed last years level of about 50,000 for a total estimated harvest of about 130,000 chinook. Record high escapement levels were recorded in several spawning tributaries of Kuskokwim Bay and the Kuskokwim River.

Nushagak River Area: Chinook salmon returns to Bristol Bay were at record levels in 1981. The commercial harvest totalled 239,000, an all time record. Subsistence harvests totaled approximately 15,000. Escapements to the Nushagak and Togiak River systems, the major contributors to the Bristol Bay chinook salmon resource, were also at record levels of approximately 177,000. Scale samples have not yet been aged. The historic average age composition is 32% five year old and 48% six year old fish.

Summary: Over 500,000 chinook salmon were harvested in the 1981 western Alaska commercial fisheries (Figure 1, Table 1) and a rough approximation of 130,000 in the subsistence fishery (Table 2). In addition to this record level harvest, escapements appear to be at extremely high levels as well (Table 3). In 1980, the Japanese Mothership fishery captured a record level 704,000 chinook salmon of which 388,000 were estimated to have been of western Alaska origin. Numerous scale samples were collected from the 1981 inshore run which will allow the first

evaluation of the effects of this high seas harvest on the resource as soon as these scales are aged and similar data from the 1980 mothership catch are made available. Based on past years analysis, the mothership catches are largely composed of four year old fish whereas the inshore catches are largely composed of six year old fish followed in abundance by five year old fish. Therefore, a more complete evaluation will not be possible until the six year old component of the 1982 inshore run is assessed.

COMMERCIAL KING SALMON CATCH BY YEAR, WESTERN ALASKA

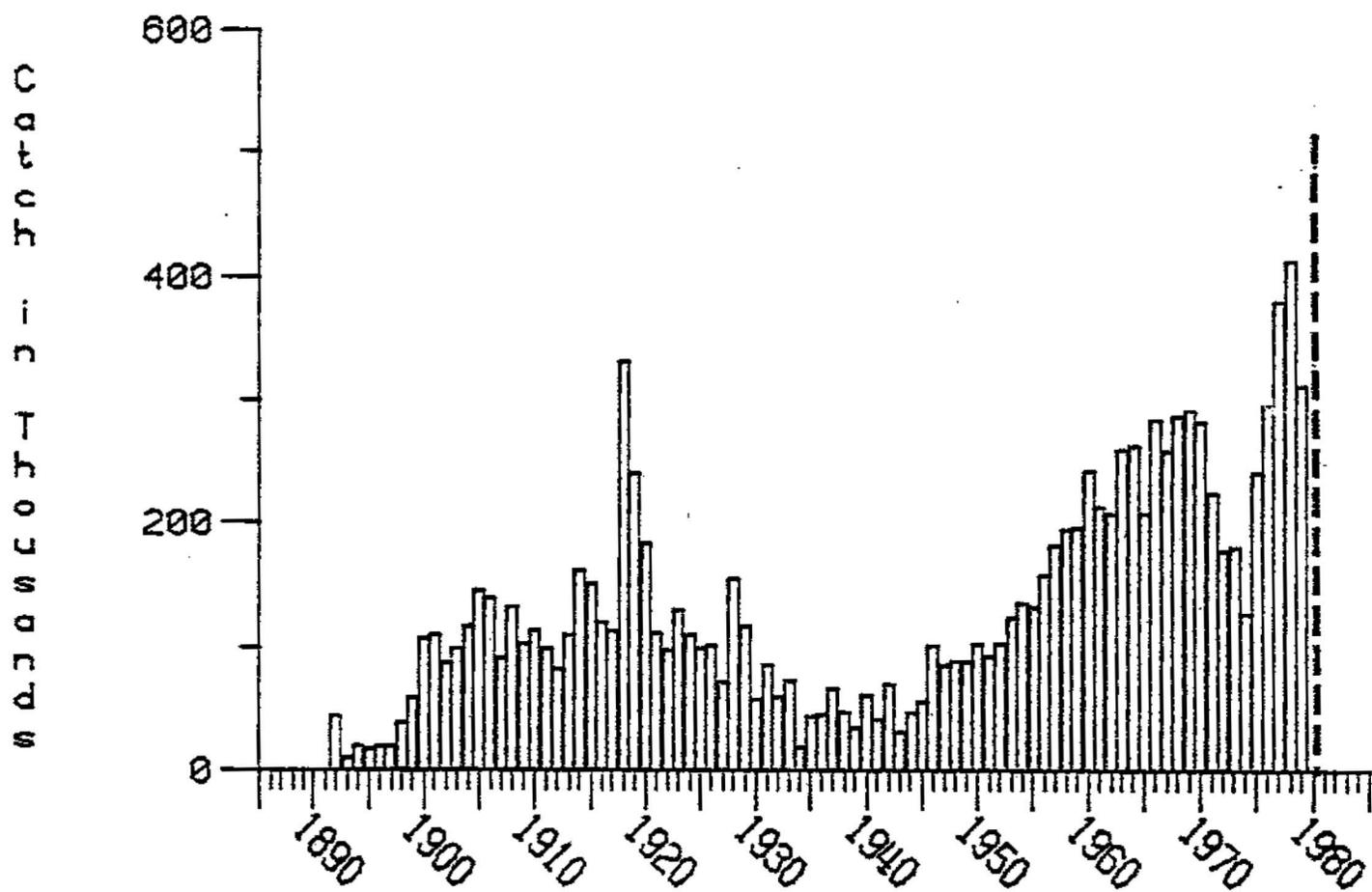


Figure 1. Commercial harvest of western Alaska chinook salmon, 1894 - 1981.

Table 1. Commercial harvest of western Alaska chinook salmon by area and year, 1961-1981.

Year	Kotzebue	Norton Sound	Yukon ^{1/}	Kuskokwim	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	2,593	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	-	180,213
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 ^{2/}	10	4,500	101,034	58,256	130,526	5,500	-	296,089
1978 ^{2/}	146	10,002	100,577	63,194	191,539	14,259	-	379,977
1979 ^{2/}	-	10,706	135,231	53,314	202,000	16,900	-	411,969
1980 ^{2/}	-	6,100	162,288	48,242	96,700	18,000	-	312,000
1981 ^{2/}	100	7,900	164,408	79,700	239,000	18,000	-	509,108

^{1/} Includes catches made in Canada.

^{2/} Preliminary

Table 2. Subsistence harvest of western Alaska chinook salmon by area and year, 1961-1981.

Year	Yukon	Kuskokwim	Bristol Bay	Total
1961	21,488	30,910	-	-
1962	11,110	14,642	-	-
1963	24,862	37,246	4,100	66,208
1964	16,231	30,853	3,400	50,484
1965	16,608	31,143	5,100	52,851
1966	11,572	53,606	4,300	69,478
1967	16,438	61,224	4,200	81,912
1968	12,106	34,986	7,100	54,192
1969	14,000	43,732	7,500	65,232
1970	13,874	71,376	6,645	95,119
1971	15,684	45,465	4,700	73,836
1972	17,958	43,335	4,532	66,733
1973	24,317	41,697	7,200	69,707
1974	17,356	29,590	9,840	57,342
1975	17,440	50,830	8,600	77,162
1976	15,097	60,335	8,400	84,043
1977 1/	17,581	58,163	7,000	82,744
1978 1/	27,391	38,209	8,100	73,700
1979 1/	31,005	57,283	10,300	98,588
1980 1/	42,724	50,000	14,800	107,524
1981 1/	50,000	65,000	15,000	130,000

1/ Preliminary approximation

Table 3. Escapement estimates and indices of western Alaska chinook salmon by area and year, 1961-1981.

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	-	75,000
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 4/	-	155,000 4/
1981	5/	4,355 6/	177,000 4/

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

2/ Indices based on average numbers of fish counted during aerial surveys of the following index streams: Kwethluk, Kisaralik, Aniak (upstream of Salmon River), Kipchuk, Chukowan, and Kogrukuk (ADFG 1980b).

3/ Escapement estimates (Nelson, M. L. 1979).

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.