

UPPER KUSKOKWIM RIVER  
SUBSISTENCE SALMON FISHERY

A REPORT TO THE  
ALASKA BOARD OF FISHERIES

DECEMBER 1979

ALASKA DEPARTMENT OF FISH AND GAME  
DIVISION OF COMMERCIAL FISHERIES - BETHEL

## INTRODUCTION

At the 1979 spring Board of Fisheries meeting, a proposal was submitted by the Tanana Chief's Conference concerning an alleged lack of king salmon for subsistence use in some of the upper Kuskokwim River villages. The Board rejected the particular proposal for a fixed delayed opening date of the lower river's commercial fishery, but requested that the staff look into the matter and report back to the Board during the fall 1979 meeting.

The following report is a summary of escapement status of king and chum salmon, actual salmon catches of various villages of the Kuskokwim region and comments on salmon needs made by local residents of the affected villages.

## SALMON ESCAPEMENT

Approximately ten major streams in the Kuskokwim River system are surveyed annually with results greatly dependent on budget limitations and poor weather-stream conditions. Often a remote stream cannot be re-surveyed after a unsuccessful attempt due to budgetary considerations.

Aerial surveys attempted each year on streams in the upper Kuskokwim River area can be found in Table 1 and the location of the streams relative of other landmarks can be found in Figure 1. Also, for the purpose of comparison, salmon counts for lower Kuskokwim streams (Kiseralik, Kwethluk) and the middle Kuskokwim River counting site (Ignatti weir) are included.

Weather conditions and stream turbidity during the 1979 season allowed only two of the ten Kuskokwim River index streams to be adequately surveyed. The Dept. did receive one report from a resident of Lime Village that Can Creek had "probably thousands" of salmon in it this year. Fortunately, the Department's weir site on the Holitna River was

operational this season and produced counts that are believed to be accurate.

Because most spawning streams are so remote from the commercial fishery, there is no accurate inseason escapement data that has direct application to the current year fishery. Within the next few years a main river sonar unit will be deployed in the Kuskokwim River near Bethel. The sonar will be above a majority of the commercial fishery and if successful will provide an idea as to the escapement in a timely fashion.

#### SUBSISTENCE CATCHES 1976-79

Actual interviews of subsistence fishermen in upriver villages (above Stony River village) began in 1976. Nikolai is the farthest upriver village surveyed and is 622 miles from the mouth of the Kuskokwim. The upriver surveys were performed by the staff while they were in the area attempting to conduct aerial surveys.

Tables 2 and 3 show the average subsistence and total subsistence (respectively) catches for the villages in the upper Kuskokwim (see Figure 1 for location of villages). Data for Kwethluk is also included for the purpose of comparison. Kwethluk is the largest village (excluding Bethel) on the Kuskokwim River and is located on the lower river.

#### Medfra

No one from Medfra reportedly fished in 1979.

#### McGrath

This is the largest village of the upper Kuskokwim River. Several professional dog teams are owned in this area and the demand for salmon is great. One of the teams owners caught approximately 100 chum and coho per day for several days this season. Apparently a good run of chums and cohos this season. Concerning the king salmon run, people in villages that fished consistently caught enough, but a lot of people

fish only a short amount of time and don't catch enough.

#### Takotna

No one from Takotna reportedly fished in 1979.

#### Lime Village

"Enough fish this year, usually don't get too many kings", were comments obtained from this village. A high percentage of catch is composed of sockeye salmon.

#### Nikolai

When interviewed this spring regarding 1978 catches, residents of this village said 1978 was an excellent season. Although Bobby Easi (man who testified before Board) was not in the village, his brother stated that fishing was quite good for kings and chums during 1978.

For the 1979 season the people interviewed in Nikolai felt that this years catch was not as good as previous years.

At the McGrath Advisory Committee Meeting of August 28, 1979 the general comments were that there were more king and chum salmon this season than last season but most people did not fish that much.

#### Telida

Only two families fish at this village, the rest fish at Nikolai. Not a major salmon fishery for "a long time".

#### Stony River

One family caught over 220 kings and so many chums with a gill net in 1979 that they did not bother to operate their fishwheel.

### CONCLUSIONS

Long term data regarding subsistence catch and effort in addition to spawning escapements are not available for the extreme headwaters area of the Kuskokwim River. Generally catch and escapement data indicate that salmon abundance during the last 2-3 years has been at least average.

Due to lower productivity generally associated with headwater spawning areas and distribution of salmon within the Kuskokwim River, substantially fewer salmon are available to residents in the study area compared to downstream areas. For villages located on single tributaries, closure of the entire fishery in the lower river may not substantially increase salmon returns and catches. It appears that fishing success is often related to the quantity and quality of the effort.

The Department will continue to monitor subsistence catches in the area paying particular attention to surveying the same selected individuals each year to establish more accurate catch and effort trends. If programs in the Department's FY81 budget request are funded, some additional escapement monitoring will be provided for the upper river.

Table 1. Escapement indices of king and chum salmon 1976-79  
 (all counts from aerial surveys except Ignatti weir count)

<u>King Salmon</u>				
	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Ignatti Weir	5,507	1,385 <sup>2/</sup>	13,132	11,299
Salmon River	<u>1/</u>	1,930	1,083	682
Bear Creek	182	<u>1/</u>	227	<u>1/</u>
Cheeneetnuk River	2,201	1,407	268	<u>1/</u>
Gagaryah River	662	897	504	<u>1/</u>
Kwethluk River	997	1,999	1,722	822
Kiseralik River	873	<u>1/</u>	2,417	-
<u>Chum Salmon</u>				
	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Ignatti Weir	8,046	10,388 <sup>2/</sup>	47,099	16,207
Salmon River	<u>1/</u>	50	<u>1/</u>	<u>1/</u>
Bear Creek	-	-	-	-
Cheeneetnuk River	516	880	<u>1/</u>	<u>1/</u>
Gagaryah River	<u>1/</u>	100	28	<u>1/</u>
Can Creek	1,366	4,770	293	<u>1/</u>
Kwethluk River	7,576	19,621	3,220	4,839
Kiseralik River	10,921	<u>1/</u>	2,100	-

1/ Not surveyed

2/ Minimal count: High water complications

Table 2. Average Subsistence Catches 1976-79.

King Salmon - Average Catch				
	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Stony River	103	5	23	19
Lime Village	6	1	<u>2/</u>	8
McGrath	22	41	<u>2/</u>	32
Takotna	30	50	<u>2/</u>	<u>1/</u>
Medfra	3	32	<u>2/</u>	<u>1/</u>
Nikolai	43	23	<u>2/</u>	7
Kwethluk	98	98	54	107
Other Salmon <sup>3/</sup> - Average Catch				
	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Stony River	921	471	443	373
Lime Village	425	880	<u>2/</u>	716
McGrath	165	485	<u>2/</u>	198
Takotna	2,000	800	<u>2/</u>	<u>1/</u>
Medfra	111	670	<u>2/</u>	<u>1/</u>
Nikolai	100	193	<u>2/</u>	167
Kwethluk	615	446	192	215

1/ No reported fishing effort

2/ No survey performed

3/ Primarily chum and sockeye salmon, few coho salmon.

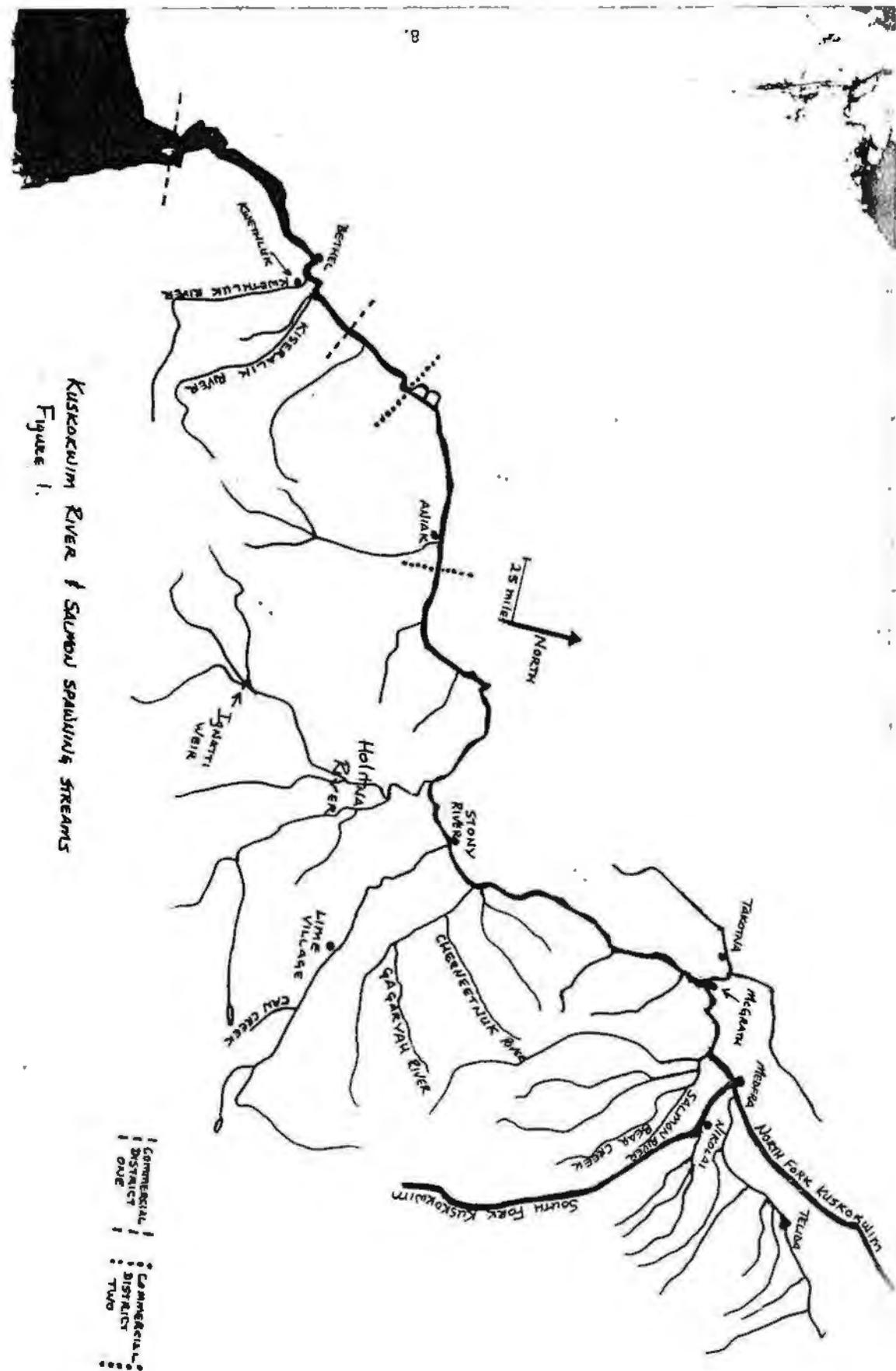
Table 3. Subsistence Salmon Catch 1976-79

King Salmon (Families Surveyed)				
	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Stony River	620 (6)	33 (7)	182 (8)	171 (9)
Lime Village	38 (6)	5 (5)	<u>2/</u>	38 (5)
McGrath	155 (7)	41 (1)	<u>2/</u>	581 (18)
Takotna	30 (1)	50 (1)	<u>2/</u>	<u>1/</u>
Medfra	5 (2)	32 (1)	<u>2/</u>	<u>1/</u>
Nikolai	85 (2)	115 (5)	<u>2/</u>	60 (9)
Kwethluk	4,193 (43)	5,563 (57)	3,172 (59)	6,958 (65)
Other Salmon <sup>3/</sup> (Families Surveyed)				
	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Stony River	5,523 (6)	3,300 (7)	3,545 (8)	3,355 (9)
Lime Village	2,550 (6)	4,400 (5)	<u>2/</u>	3,580 (5)
McGrath	1,153 (7)	485 (1)	<u>2/</u>	3,570 (18)
Takotna	2,000 (1)	800 (1)	<u>2/</u>	<u>1/</u>
Medfra	222 (2)	670 (1)	<u>2/</u>	<u>1/</u>
Nikolai	200 (2)	967 (5)	<u>2/</u>	1,506 (9)
Kwethluk	26,443 (43)	25,405 (57)	11,311 (59)	13,981 (65)

1/ No reported fishing effort

2/ No survey performed

3/ Primarily chum and sockeye salmon; few coho salmon



Kuskokwim River & Salmon Spawning Streams  
Figure 1.