

STATUS OF THE ATCTIC YUKON KUSKOKWIM AREA FISHERY
1968

A REPORT TO THE ALASKA BOARD
OF FISH AND GAME, 1968

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES

STAFF:

Ronald I. Regnart (Area Management Biologist)..... Anchorage
Rae Baxter (Assistant Area Management Biologist)..... Bethel
Carl Yanagawa (Assistant Area Management Biologist)..... Nome

Michael F. Geiger (Research Project Leader)..... Anchorage

Margie Whiteside (Secretary)..... Anchorage
Sylvia Kolivosky (Secretary)..... Nome

INTRODUCTION

The Arctic-Yukon-Kuskokwim Area includes all of the drainages of the Bering Sea, and the Arctic Ocean from Cape Newenham to Demarcation Point at the Canadian border. This area encompasses about 400,000 square miles, and is the largest management area in the State (Figure 1).

There are approximately 30,000 Eskimo and Indian persons in the area, the majority of which reside in 110 villages scattered along the coast and the major river systems. Nearly all are dependent to varying degrees on the fish and game resources for their livelihood. Subsistence fishing for salmon, whitefish, sheefish, char, burbot and tomcod has long provided an important source of food to these native people and their sled dogs. The relatively recent development and expansion of the commercial salmon fishery has enabled many of the area residents to obtain a cash income when other employment is often sporadic or non-existent.

COMMERCIAL FISHERY

Development of new fisheries and expansion of others through liberalization of regulations have resulted in substantial catch increases during the years since statehood. For example, the commercial salmon catch for the area during the 1960-1968 period was 3.5 million fish as compared to only 0.5 million taken during the previous nine years, an increase of 600 percent.

1968 Catch and Pack: A record catch of 637,425 salmon of all species was made in 1968 which exceeded the previous high catch by 10,000 fish and was 75 percent over the average for the prior eight years (Figure 2).

TABLE 1

ARCTIC-YUKON-KUSKOKWIM AREA TOTAL SALMON CATCH BY DISTRICT, 1968

	Kings	Reds	Cohos	Pinks	Chums	All Species
KUSKOKWIM:						
Commercial	43,175	5,884	154,473	75,818	19,690	299,040
Subsistence	34,999				275,799 ^{1/}	310,798
SUB-TOTAL	<u>78,174</u>	<u>5,884</u>	<u>154,473</u>	<u>75,818</u>	<u>295,489</u>	<u>609,838</u>
YUKON:						
Commercial	106,524		12,397		62,307	181,228
Subsistence	12,955				166,646 ^{1/}	179,601
SUB-TOTAL	<u>119,479</u>		<u>12,397</u>		<u>228,953</u>	<u>360,829</u>
NORTON SOUND:						
Commercial	1,044		7,512	71,283	45,415	125,254
Subsistence	198		1,993	24,376	8,055	34,622
SUB-TOTAL	<u>1,242</u>		<u>9,505</u>	<u>95,659</u>	<u>53,470</u>	<u>159,876</u>
PORT CLARENCE:						
Commercial						
Subsistence	36	530	65	772	1,782	3,185
SUB-TOTAL	<u>36</u>	<u>530</u>	<u>65</u>	<u>772</u>	<u>1,782</u>	<u>3,185</u>
KOTZEBUE:						
Commercial					30,695	30,695
Subsistence					16,307	16,307
SUB-TOTAL					<u>47,002</u>	<u>47,002</u>
GRAND TOTAL FOR A-Y-K AREA						
Commercial	150,743	5,884	174,382	147,101	158,107	636,217
Subsistence	48,188	530	2,058	25,148	468,589	544,513
TOTALS, 1968	<u>198,931</u>	<u>6,414</u>	<u>174,382</u>	<u>172,249</u>	<u>626,696</u>	<u>1,180,730</u>
TOTALS, 1967	243,328	2,722	73,100	47,335	706,830	1,073,315
TOTALS, 1966	184,268	2,137	51,100	28,740	640,273	906,518

^{1/} Mostly chum salmon, some red, coho and pink salmon.

Table 1 presents the catch by species for each district. About 5 million pounds of salmon were processed for the fresh, frozen and cured markets; 19,625 cases of canned salmon were also produced.

Economic Value: As a result of higher prices paid for fish and a greater percentage of the catch being marketed as cured or fresh fish instead of canned fish, the monetary value of the A-Y-K Area commercial fishery has steadily increased during recent years. Area fishermen, nearly all Eskimo and Indian residents, received a record \$955,000 for their 1968 salmon catch. Wages earned by resident processing plant employees added from \$300,000 to \$400,000 to the area's economy in 1968. The first wholesale value of the 1968 pack is estimated to be slightly in excess of \$3,000,000.

Estimated Values of A-Y-K Area Commercial Salmon
Fishery, 1964-1968

<u>Year</u>	<u>Prices Paid To Fishermen</u>	<u>First Wholesale Value</u>
1964	\$523,000	\$2,100,000
1965	673,000	2,000,000
1966	635,000	2,000,000
1967	818,000	2,800,000
1968	955,000	3,100,000

License Registration: License registration for the area set an all-time high in 1968 with 1,349 commercial, 1,098 vessel and 1,227 gill net licenses being issued. License registration in 1968 exceeded that of 1967 in all districts except the Yukon.

Salmon Gill Net Licenses Issued for
Selected Years

<u>Year</u>	<u>Kuskokwim</u>	<u>Yukon</u>	<u>Norton Sound</u>	<u>Kotzebue</u>	<u>Totals</u>
1961	210	441			651
1962	338	613	154	102	1,207
1964	177	568	132	52	929
1967	254	670	79	30	1,033
1968	420	634	114	59	1,227

SUBSISTENCE FISHERY

For the first time since 1961 when the Department began surveying the subsistence fishery, the recorded 1968 subsistence harvest of about 550,000 salmon was less than the commercial harvest (Figure 2). With a few exceptions the dependence on subsistence fishing is slowly declining as a result of greater employment opportunities and the increased use of snowmobiles which are replacing sled dogs. Department survey crews travel approximately 2,200 river miles and 1,100 air miles to interview fishermen and document subsistence catches.

DISTRICT SUMMARIES FOR 1968

Kuskokwim: The commercial catches of king (43,175), coho (154,473) and pink salmon (75,818) were the greatest in history. Previous record catches were 34,853 king salmon taken in 1920, 58,239 coho salmon in 1967 and 4,340 pink salmon in 1962. The large 1968 harvest was a result of excellent salmon runs and greater fishing effort throughout the entire district. A much larger pink salmon catch could have been made, but there was little demand for this species. It was estimated that a

minimum of one million pink salmon returned to the Kanektok and Goodnews River systems in 1968.

A new commercial salmon fishery was established at Goodnews Bay by Department emergency order in late August. This fishery was created as a result of a request from area residents and Department surveys which indicated that a harvestable supply of salmon was available. The emergency order went into effect during the latter part of the run, but even so, 5,500 coho salmon were delivered by 18 fishermen.

The Kuskokwim River subsistence catch of 35,000 king salmon was average in magnitude, but the catch of 275,800 other salmon, mostly chums, was the second largest catch recorded since 1960. Dependence on subsistence fishing in this district has remained relatively high during recent years.

Yukon: The commercial king salmon catch of 106,524 fish was 2,988 less than the 1961-1967 average. The chum and coho salmon catches (62,307 and 12,397) exceeded the 1961-1967 averages by 26,779 and 3,134 fish respectively. Fishing time during the king salmon season in the lower 150 miles of river was reduced from 4 to 3½ days a week which reduced the total 1968 catch by an estimated 10-15 percent. This restriction was necessary to maintain adequate king salmon escapements. Lower Yukon fishermen gave the Department excellent cooperation in this matter and violations were at a minimum.

The subsistence catch of 13,000 kings and 167,000 other salmon was the lowest ever recorded. The small catch is believed to be a result

of the declining dependence on subsistence fishing in addition to increased employment of fishermen as firefighters.

Norton Sound: The highlight of the season was the unprecedented large return of pink salmon. It was estimated that the 1968 run totaled a minimum of one million fish. Although the 1968 catch of 71,283 pinks set a record for this district, it is estimated that at least 500,000 could have been taken if adequate processing facilities and effective gear were available. The other species of salmon were not as abundant as in previous years with 1,044 kings, 45,415 chums and 7,512 cohos taken commercially. The largest commercial catch ever made in this district was in 1962 when 7,286 kings and 225,127 other salmon were taken.

A subsistence catch of 34,622 salmon of all species was taken; dependence on subsistence fishing is relatively low for this district.

Kotzebue: A commercial catch of 30,695 chum salmon was made. Since 1962, the commercial chum salmon catches have ranged from 29,400 (1967) to 129,948 (1962), the average being 55,698. Catches, which generally reflect salmon abundance, have been relatively small for the past three seasons. The chum salmon runs have been highly variable during the past seven seasons, and it appears that large runs, similar to that of 1962, are the exception and will tend to be low for most years.

Commercial fishermen received \$.15 - \$.17 a pound for chum salmon (8.8 lb. average) which was probably one of the highest prices paid for this species in the State.

A total of 16,307 chum salmon were taken for subsistence which was the lowest catch recorded during the 1962-1968 period.

RESEARCH

Anadromous Fish Studies: With the recent addition of \$50,000 annually in federal funds as provided by the Anadromous Fish Act (P.L. 89-304), research projects dealing with anadromous fishes (salmon and sheefish) were intensified in 1968.

Tag and recovery projects were located on the Yukon River and at Kotzebue. King and summer chum salmon were tagged on the Yukon River above the intensive downriver commercial fishery in order to obtain an estimate of population size and to collect information on destination, timing and migration rates of various run segments. A three-year study to determine the run timing and migration patterns of Kobuk and Noatak River chum salmon passing through the commercial fishery at Kotzebue was completed in 1968.

A counting tower project was located on the Kwiniuk River in the Norton Sound District for the fourth consecutive year. Basic objectives of this project are to obtain an estimate of the total salmon escapement for the Kwiniuk River, a typical salmon spawning stream in Norton Sound, and to evaluate aerial survey methods by comparing aerial estimates to the tower counts. In 1968 a total of 16,795 chum and 126,542 pink salmon were counted as they passed the tower. The exceptionally large escapement of pinks in 1968 resulted from a brood year escapement of only 10,864 pinks in 1966, a twelve-fold increase.

Sheefish studies were conducted mainly in the Kotzebue district. Since 1965 approximately 1,000 sheefish have been tagged and released. The basic objective of the tag and recovery program is to determine the movements on a year round basis of Selawik and Kobuk River sheefish

populations. Other sheefish life history and escapement data were collected also. A similar study was initiated on the Yukon River in 1968.

Test fishing projects were located at the mouths of the Yukon and Kuskokwim Rivers to provide information on the timing and abundance of king and chum salmon prior to entering the commercial fisheries. Other important aspects of the 1968 program included increased aerial survey coverage of spawning streams and collection of age - sex - size data from commercial catches in each of the major fisheries.

Other Studies: In addition to the anadromous fish projects listed above, other programs included Kuskokwim River winter whitefish studies, Norton Sound experimental shrimp trawling project, herring spawning surveys, and Wulik-Kivalina River (north of Kotzebue) char studies. The latter project was conducted in co-operation with the Division of Sport Fish.

PUBLIC RELATIONS AND EDUCATION

Each commercial fisherman personally received a summary of the important fishing regulations written in clear, simple terms. The Kuskokwim district summary was prepared in both the English and Eskimo languages.

Public meetings are held annually in 25 - 30 villages for the purpose of discussing regulations and reviewing the management and research program.

A Department report which gave current information on regulations,

catches, escapements, etc. was broadcast weekly during the fishing season over Radio KICY in Nome. Response to the broadcast was good and it will be continued and possibly expanded next year.

catches, escapements, etc. was broadcast weekly during the fishing season over Radio KICY in Nome. Response to the broadcast was good and it will be continued and possibly expanded next year.