

Informational Leaflet 75

BRISTOL BAY RED SALMON (Oncorhynchus nerka), 1965

A COMPILATION OF THE CATCH AND ESCAPEMENT DATA

Collected by:

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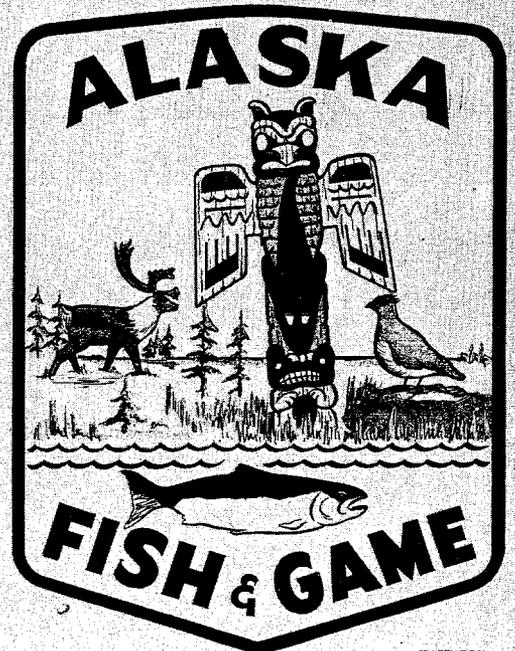


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INTRODUCTION

This publication is the third in a series intended to annually present catch and escapement statistics for the Bristol Bay red salmon fishery.

Personnel of the Alaska Department of Fish and Game's Commercial Fisheries Division collected all data with the exception of the Naknek River escapement sampling which was handled by the U. S. Bureau of Commercial Fisheries. Dr. C. J. DiCostanzo furnished all scale readings for both catch and escapement. Personnel of the Commercial Fisheries Division, Management and Research Sections and the Statistics Section of the Alaska Department of Fish and Game furnished all the data tabulations. Scientists participating in the tabulation and analysis of these data include: Mr. Kenneth Middleton, Mr. Howard Metsker, Mr. Glenn Davenport, Mr. Mike Nelson, Mr. Angus Robertson, Mr. Richard Nelson, Mr. Mel Seibel and Mr. Steven Pennoyer of the Alaska Department of Fish and Game; Dr. C. J. DiCostanzo and Mr. Herbert Jaenicke of the U. S. Bureau of Commercial Fisheries. Many additional personnel also participated in the collection and preliminary tabulation of these data. Jerry A. McCrary provided the figures of the fishing districts and Mrs. June Grant served as typist for the final report. Mr. Mel Seibel and Mr. Steven Pennoyer served as editors and assembled this material in its present form. Much of the format of this report and many of the procedures used to collect and assemble the data for it are the work of Mr. Donald B. Siniff now with the University of Minnesota and the editor of the 1963 report.

METHODS AND MATERIAL

These data were collected by the many field crews stationed at counting towers on the various rivers and at selected canneries throughout the Bristol Bay area. Figure 1 shows the relative location of the various sampling stations. Each station was supplied with a measuring caliper, a scale, and gum cards for salmon scale collection. Scales were placed directly on the gum cards and pressed to form plastic impressions. Escapement counts were made from elevated towers (either mounted in boats or on the shore) located along the banks of trunk rivers. Counts were made for ten minutes out of each hour, for each side of the river. The counts were then multiplied by six to obtain hourly estimates and summed to obtain daily estimates. Catch figures given herein are final catch figures tabulated from punch cards obtained from fish ticket receipts. Chums, silvers and pinks which are mixed with the red salmon catch on many of the fish ticket receipts were deducted from the total catch by district and by period to yield a final red salmon catch. Percentages of chum salmon in the catch were obtained by random sampling in the Naknek-Kvichak, Egegik and Ugashik districts and from cannery reports in the Nushagak and Togiak districts. Averages for each period and district were calculated for application to the total red and chum salmon catch.

Escapement sampling was carried out daily when possible. Sampling crews used beach seines for capture gear and tried to obtain approximately 200

fish daily. Sex, length and scales were obtained from all fish captured. During the peak of the run the first ten fish in each sample of 30 were weighed until 200 weights were obtained. At times the sampling effort fell below these goals because of interference of poor weather, lack of migrating salmon or some other reason.

The cannery fish samples were taken by selecting fish from the conveyor belts as the salmon moved into the cannery storage bins. Except in the Togiak district fish were taken randomly from the belt without regard to species (reds or chums) and placed in specially constructed sampling bins to facilitate the taking of measurements. In the Nushagak district, chums were removed from the sampling bins, counted and returned to the belt. In the Egegik, Ugashik and Naknek-Kvichak districts, both chums and reds were sampled and separated later on the basis of scale analysis. The samplers were instructed to take a maximum of 200 fish per scow load and 900 fish per fishing period (or per five days of fishing time) per district. Catch location and date for each sample were obtained by interview from the scow captains.

Data for the north side of the Alaska Peninsula were collected by Alaska Department of Fish and Game personnel working out of Cold Bay.

In this report, remarks appropriate to each system are included with the data for that system. A map of each fishing district is also included.

Age designation used throughout this paper is the Gilbert-Rich notation instead of the European method sometimes used on the west coast.

<u>Gilbert- Rich</u>	<u>European</u>	
3 ₂	1.1	One winter in freshwater, one winter in ocean, in third year
4 ₃	2.1	Two winters in freshwater, one winter in ocean, in fourth year
5 ₄	3.1	Three winters in freshwater, one winter in ocean, in fifth year
3 ₁	0.2	No winter in freshwater, two winters in ocean, in third year
4 ₂	1.2	One winter in freshwater, two winters in ocean, in fourth year
5 ₃	2.2	Two winters in freshwater, two winters in ocean, in fifth year
6 ₄	3.2	Three winters in freshwater, two winters in ocean, in sixth year

4 ₁	0.3	No winter in freshwater, three winters in ocean, in fourth year
5 ₂	1.3	One winter in freshwater, three winters in ocean, in fifth year
6 ₃	2.3	Two winters in freshwater, three winters in ocean, in sixth year
7 ₄	3.3	Three winters in freshwater, three winters in ocean, in seventh year
6 ₂	1.4	One winter in freshwater, four winters in ocean, in sixth year
7 ₃	2.4	Two winters in freshwater, four winters in ocean, in seventh year

Lengths were taken for all red salmon sampled in both the catch and escapement and many weights were also taken. Manual processing of this data would be extremely time consuming, therefore, it is being card punched and will be presented either as a separate report or made available to those interested in print-out form.

It is the purpose of this report to present these statistics in a form which will serve the needs of scientists concerned with this fishery. No attempt will be made to draw conclusions or discuss the merits or shortcomings of the data collection procedure.

APPROXIMATE LOCATIONS OF CATCH SAMPLING AND COUNTING TOWERS
BRISTOL BAY, 1965

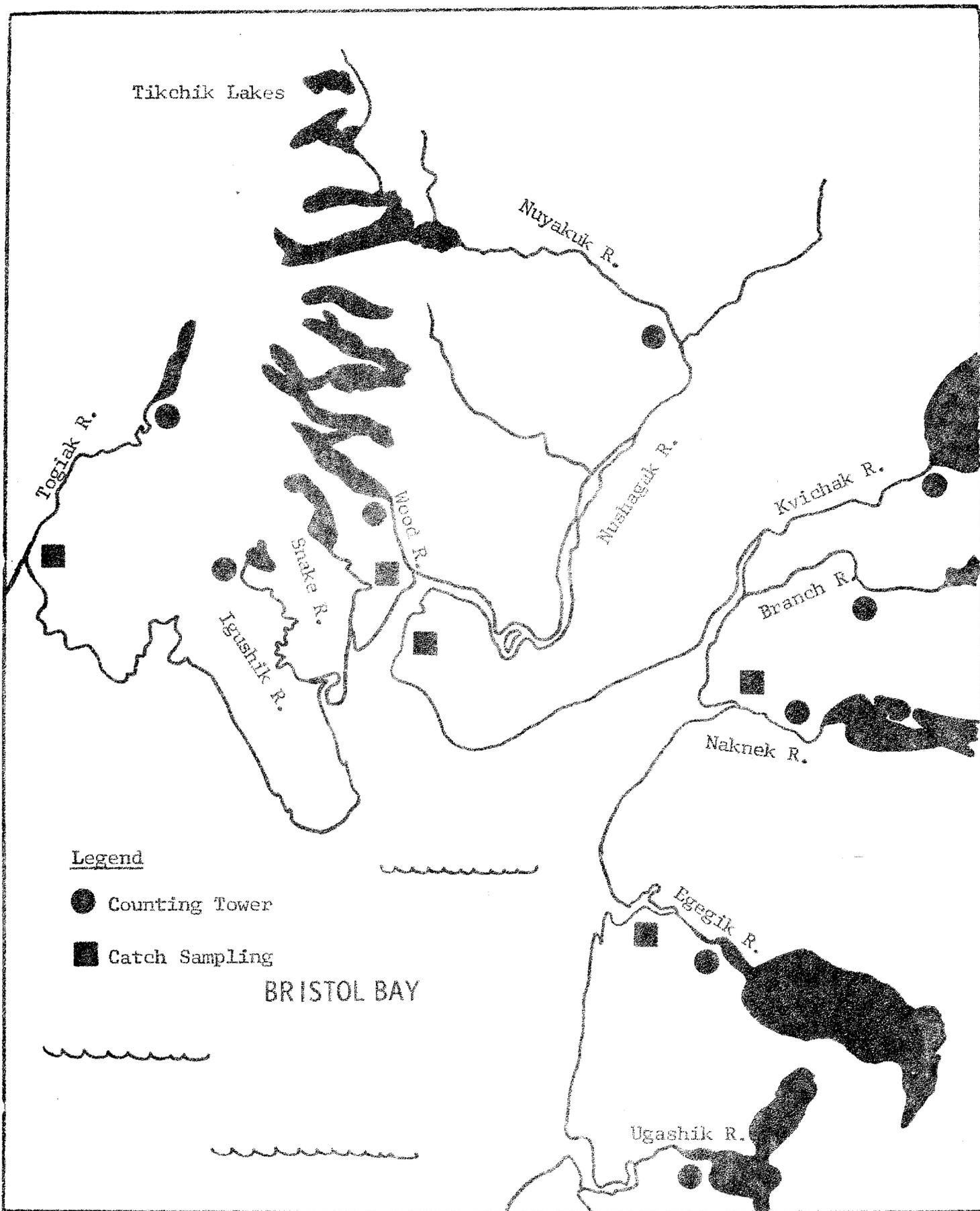


Table 1

1965 BRISTOL BAY FISHING PERIOD VARIATIONS FROM REGULATION FIVE-DAY WEEK

<u>NAKNEK-KVICHAK DISTRICT</u>					<u>UGASHIK DISTRICT</u>				
<u>DATE & TIME</u>				<u>HOURS</u>	<u>DATE & TIME</u>				<u>HOURS</u>
June 24	12 MN	-	June 26 9 AM	33	June 24	12 MN	-	June 26 9 AM	33
June 27	7 AM	-	June 28 7 AM	24	June 28	6 AM	-	June 29 7 AM	25
June 28	7 AM	-	June 29 7 AM	24	June 29	7 AM	-	June 30 7 AM	24
June 30	10 AM	-	June 30 10 PM	12	June 30	7 AM	-	July 1 7 AM	24
July 1	11 AM	-	July 1 11 PM	12	July 1	7 AM	-	July 2 7 AM	24
July 4	2 AM	-	July 5 2 AM	24	July 3	9 AM	-	July 4 9 AM	24
July 6	4 AM	-	July 7 4 AM	24	July 4	9 AM	-	July 5 11 AM	26
July 8	6 AM	-	July 9 6 AM	24	July 5	11 AM	-	July 6 12 N	25
July 10	7 AM	-	July 11 7 AM	24	July 8	1 PM	-	July 9 2 PM	25
July 11	7 AM	-	July 19 9 AM	194	July 10	3 PM	-	July 11 3 PM	24
<u>NAKNEK SECTION Only - Set Nets Only:</u>					July 13	6 AM	-	July 13 6 PM	12
July 12	9 AM	-	July 13 9 AM	24	July 15	7 AM	-	July 15 7 PM	12
July 14	10 AM	-	July 15 10 AM	24	July 19	9 AM	revert to 5 day week.		
July 16	12 N	-	July 17 12 N	24	Total fishing hours during regulatory period, June 25 - July 18: 278				
July 19	9 AM	revert to 5 day week.			Total fishing hours during regulatory period, June 25 - July 18: 395				
Total fishing hours during regulatory period, June 25 - July 18:					Kvichak Section: 395				
					Naknek Section: drift 201				
					set only 72				

<u>EGEGIK DISTRICT</u>					<u>NUSHAGAK DISTRICT</u>				
<u>DATE & TIME</u>				<u>HOURS</u>	<u>DATE & TIME</u>				<u>HOURS</u>
June 24	12 MN	-	June 26 9 AM	33	June 24	12 MN	-	June 26 9 AM	33
June 27	7 AM	-	June 28 7 AM	24	June 29	10 AM	-	June 29 10 PM	12
June 28	7 AM	-	June 29 7 AM	24	July 2	1 PM	-	July 3 1 AM	12
June 29	9 PM	-	June 30 12 N	24	July 7	6 AM	-	July 7 2 PM	8
July 2	12 N	-	July 3 12 N	24	July 8	6 AM	-	July 8 6 PM	12
July 4	3 PM	-	July 5 3 PM	24	July 9	7 AM	-	July 10 7 AM	24
July 6	5 PM	-	July 7 5 PM	24	<u>NUSHAGAK SECTION Only:</u>				
July 8	8 PM	-	July 9 8 AM	12	July 10	7 AM	-	July 11 7 AM	24
July 9	8 PM	-	July 11 10 PM	50	July 11	7 AM	-	July 19 9 AM	194
July 12	10 PM	-	July 19 9 AM	155	<u>IGUSHIK SECTION Only:</u>				
July 19	9 AM	revert to 5 day week.			July 12	10 AM	-	July 13 10 AM	24
Total fishing hours during regulatory period, June 25 - July 18: 394					July 13	10 AM	-	July 19 9 AM	143
					Total fishing hours during regulatory period, June 25 - July 18: 319				
					Nushagak Section: 319				
					Igushik Section: 268				

<u>TOGIK DISTRICT</u>				
<u>DATE & TIME</u>				<u>HOURS</u>
June 24	12 MN	-	June 26 9 AM	33
June 28	9 AM	-	July 3 9 AM	120
July 5	9 AM	-	July 10 9 AM	120
July 12	9 AM	-	July 15 1 AM	64
Total fishing hours during regulatory period, June 25 - July 18: 337				
There was one further closure of the fishery: July 21 5 PM - July 24 9 AM for 64 hrs.				

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Table 2

1965 BRISTOL BAY RED SALMON RETURN

System	Catch	Escapement	Total Return
KVICHAK RIVER	17,785,664	24,325,926	42,111,590
BRANCH RIVER	239,303	175,020	414,323
NAKNEK RIVER	1,114,600	717,798	1,832,398
TOTAL NAKNEK-KVICHAK	19,139,567	25,218,744	44,358,311
EGEGIK RIVER	3,179,559	1,444,608	4,624,167
UGASHIK RIVER	925,690	996,612	1,922,302
WOOD RIVER	468,496	675,156	1,143,652
IGUSHIK RIVER	133,211	180,840	314,051
SNAKE RIVER	8,146	12,000 ^{1/}	20,146
NUYAKUK RIVER	161,286	203,070	364,356
NUSHAGAK-MULCHATNA	22,184	28,200 ^{1/}	50,384
TOTAL NUSHAGAK-IGUSHIK	793,323	1,099,266	1,892,589
TOGIAK RIVER		88,386	
TOGIAK TRIBUTARIES		8,100 ^{1/}	
KULAKAK SYSTEM ^{2/}		16,300 ^{1/}	
TOTAL TOGIAK DISTRICT	217,100	112,786	329,886
TOTAL BRISTOL BAY	24,255,239	28,872,016	53,127,255

^{1/} Escapement estimates based on aerial survey of spawning grounds.

^{2/} Salmon harvested from these systems are included in the Togiak district commercial catch.

Table 3

1965 BRISTOL BAY RED SALMON RETURN BY AGE GROUP BY SYSTEM

Age Group	DISTRICT					TOTAL BRISTOL BAY
	NAKNEK-KVICHAK	EGEGIK	UGASHIK	NUSHAGAK-IGUSHIK	TOGIAK	
Number of Fish						
3 ₁	-	-	-	599	-	599
3 ₂	18,779	-	441	1,586	-	20,806
4 ₁	388	2,431	2,114	36,573	2,461	43,967
4 ₂	585,563	72,515	212,579	296,158	81,678	1,248,493
4 ₃	3,975	-	2,056	-	-	6,031
5 ₂	1,031,180	246,251	222,018	1,334,622	219,082	3,053,153
5 ₃	42,119,297	3,936,922	1,383,848	155,896	20,984	47,616,947
6 ₂	-	-	306	615	-	921
6 ₃	594,577	351,120	98,940	66,540	5,681	1,116,858
6 ₄	462	12,536	-	-	-	12,998
7 ₄	4,090	2,392	-	-	-	6,482
TOTAL	44,358,311	4,624,167	1,922,302	1,892,589	329,886	53,127,255

Table 5

1965 BRISTOL BAY RED SALMON RETURN BY OCEAN AGE GROUP BY SYSTEM

District	Ocean Age Group				Total
	1	2	3	4	
<u>Naknek-Kvichak</u>					
No. of Fish	22,754	42,705,322	1,630,235	-	44,358,311
Percent	0.05	96.27	3.68	-	100.00
<u>Egegik</u>					
No. of Fish	-	4,021,973	602,194	-	4,624,167
Percent	-	86.98	13.02	-	100.00
<u>Ugashik</u>					
No. of Fish	2,497	1,596,427	323,072	306	1,922,302
Percent	0.13	83.05	16.81	0.01	100.00
<u>Nushagak-Igushik</u>					
No. of Fish	1,586	452,653	1,437,735	615	1,892,589
Percent	0.08	23.92	75.97	0.03	100.00
<u>Togiak</u>					
No. of Fish	-	102,662	227,224	-	329,886
Percent	-	31.12	68.88	-	100.00
<u>Total Bristol Bay</u>					
No. of Fish	26,837	48,879,037	4,220,460	921	53,127,255
Percent	0.05	92.00	7.95	0.00	100.00

NAKNEK-KVICHAK DISTRICT

The 1965 Naknek-Kvichak fishing district as shown in Figure 2 was the same as in 1964. No boundary changes were required during the fishing season.

Regulations pertaining to gear limitations and mesh size remained unchanged for Bristol Bay in 1965. The allowable drift gillnet and set gillnet were 150 and 50 fathoms respectively. The minimum mesh size was 5-3/8 stretched measure.

The initial gear registration (drift and set net) for the Naknek-Kvichak district was 922 units. This represents an increase of 9 units or only 1% over the 1964 season, however the initial registration of 822 vessels increased substantially when it became apparent that a large return was materializing in the Naknek/Kvichak district. The largest transfer of vessels occurred from the Nushagak district where fishing was restricted to obtain escapement from the small return. The total number of vessels fishing at one time in the Naknek-Kvichak district was estimated in excess of 1,000 vessels.

The dominant 1965 Kvichak run 1) established the largest return and second largest catch for the Naknek-Kvichak district and 2) provided the bulk of the largest recorded catch and sixth largest case pack for Bristol Bay in the 73-year history of the fishery.

The exceptionally large volume of fish entering the Naknek-Kvichak district, combined with the heavy concentration of fishing effort, exceeded the processing capacity of the canneries and resulted in catch limits (usually 2,000 fish per vessel per period) being imposed by the canneries as early as June 30. Catch limits were extended to other districts to slow the flood of fish to all canneries.

Another factor which affected the commercial catch was a shortage of cans which forced one major cannery to stop receiving fish on July 12. By July 14, all major canneries in the Naknek-Kvichak district had announced a temporary discontinuation of operations. Although maximum production was never regained after this period, cans were air freighted in to allow some intermittent fishing.

Weather conditions were very favorable and no significant time was lost because of adverse weather.

The Naknek-Kvichak district catch accounted for 78.9% of the total Bristol Bay red salmon catch. In addition to the catch of 19,139,567 sockeye, other species were harvested as follows:

Cohos:	3,053
Pinks:	514
Chums:	45,430
Kings:	9,793

Sockeye salmon returning to the Kvichak, Branch and Naknek rivers are harvested as mixed stocks in the Naknek-Kvichak district (refer to Figure 2). A method has been developed whereby the total Naknek-Kvichak district catch is apportioned to each of the three river systems on the basis of the escapement received by each of these systems. The method is as follows:

- 1) On the basis of samples taken from the Naknek-Kvichak commercial catch (period samples are weighted by period catches) the total catch is separated according to sex, then each sex is separated according to age.
- 2) For each of the three river systems, the escapement is separated by sex and age class. Daily (or period) samples are weighted by daily (or period) escapement estimates.
- 3) For each sex, each age class of fish in the commercial catch is apportioned to the three river systems in the same proportion as this age class appears in the escapement of each of these rivers.

To express this method algebraically, let

C_{Mi} = Number of males of age class i occurring in total Naknek-Kvichak catch,

$C_{KMi}, C_{BMi}, C_{NMi}$ = Number of males of age class i apportioned to the commercial catch of the Kvichak, Branch and Naknek stocks respectively, (note that $C_{Mi} = C_{KMi} + C_{BMi} + C_{NMi}$)

E_{Mi} = Number of males of age class i in the total escapements of the Kvichak, Branch and Naknek rivers, and

$E_{KMi}, E_{BMi}, E_{NMi}$ = Number of males of age class i occurring in the Kvichak, Branch and Naknek escapements respectively.

Then we have the following formulas:

$$C_{KMi} = \frac{E_{KMi}}{E_{Mi}} C_{Mi}$$

$$C_{BMi} = \frac{E_{BMi}}{E_{Mi}} C_{Mi}$$

$$C_{NMi} = \frac{E_{NMi}}{E_{Mi}} C_{Mi}$$

Applying this method to each age class and also to the female sock-eye provides an estimate of the number of sockeye each system contributed to the total district catch. This same method is applied to the Nushagak district.

Figure 2. 1965 NAKNEK-KVICHAK COMMERCIAL FISHING DISTRICT

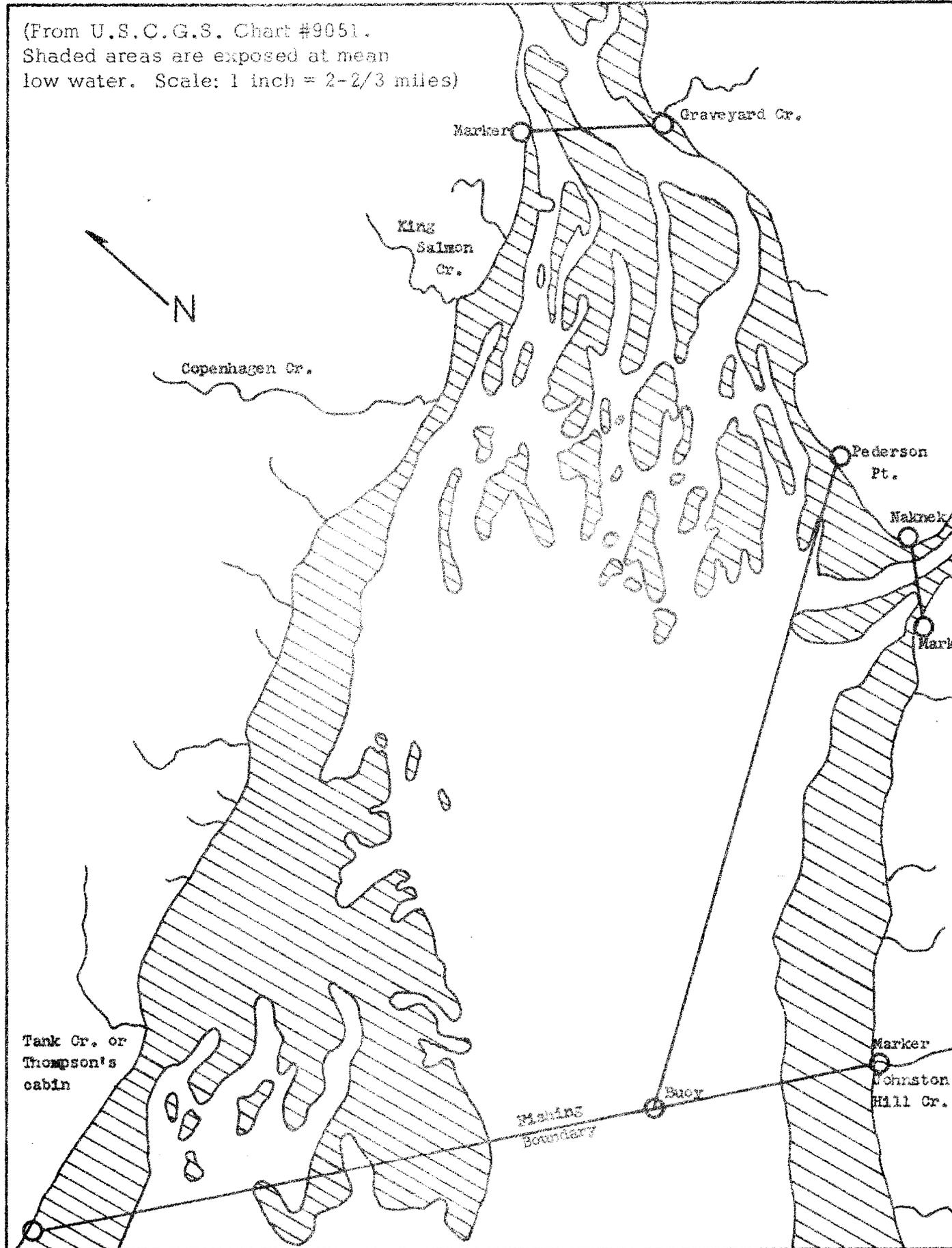


Table 6

NAKNEK-KVICHAK DISTRICT, CATCH AND ESCAPEMENT BY AGE GROUP
Red Salmon, 1965

	Age Group								Total	
	3 ₂	4 ₁	4 ₂	4 ₃	5 ₂	5 ₃	6 ₃	6 ₄	7 ₄	
<u>KVICHAK</u>										
Escapement	-	-	98,347	-	141,002	24,082,058	2,065	-	2,454	24,325,926
Catch	-	-	197,137	-	281,765	17,300,868	5,894	-	-	17,785,664
Subtotal	-	-	295,484	-	422,767	41,382,926	7,959	-	2,454	42,111,590
Percent	-	-	0.70	-	1.00	98.27	0.02	-	0.01	100.00
<u>BRANCH</u>										
Escapement	18,644	388	26,236	801	46,134	67,010	15,345	462	-	175,020
Catch	-	-	52,193	-	92,559	52,875	41,676	-	-	239,303
Subtotal	18,644	388	78,429	801	138,693	119,885	57,021	462	-	414,323
Percent	4.50	0.09	18.93	0.19	33.48	28.94	13.76	0.11	-	100.00
<u>NAKNEK</u>										
Escapement	135	-	70,145	3,174	155,491	345,247	141,970	-	1,636	717,798
Catch	-	-	141,505	-	314,229	271,239	387,627	-	-	1,114,600
Subtotal	135	-	211,650	3,174	469,720	616,486	529,597	-	1,636	1,832,398
Percent	0.01	-	11.55	0.17	25.64	33.64	28.90	-	0.09	100.00
<u>TOTAL NAKNEK-KVICHAK</u>										
Escapement	18,779	388	194,728	3,975	342,627	24,494,315	159,380	462	4,090	25,218,744
Catch	-	-	390,835	-	688,553	17,624,982	435,197	-	-	19,139,567
Subtotal	18,779	388	585,563	3,975	1,031,180	42,119,297	594,577	462	4,090	44,358,311
Percent	0.04	0.00	1.32	0.01	2.32	94.96	1.34	0.00	0.01	100.00

Table 7
 NAKNEK-KVICHAK COMMERCIAL CATCH
 SEX COMPOSITION OF RED SALMON BY FISHING PERIOD, 1965

Period	No. of Samples	No. in Samples		Percent		Commercial Catch	No. in Catch	
		Males	Females	Males	Females		Males	Females
To 6/26	18	707	463	60.4	39.6	1,662,214	1,003,977	685,237
27 - 29	15	840	595	58.5	41.5	2,568,369	1,502,496	1,065,873
30	7	571	395	59.1	40.9	1,279,883	756,411	523,472
7/1	3	199	143	58.2	41.8	2,048,136	1,192,015	856,121
4 - 5	6	366	231	61.3	38.7	1,927,760	1,181,717	746,043
6 - 7	6	399	252	61.3	38.7	1,635,774	1,002,729	633,045
8 - 9	5	280	197	58.7	41.3	1,971,223	1,157,108	814,115
10 - 8/7	20	1,323	704	65.3	34.7	6,046,208	3,948,174	2,098,034
TOTALS	80	4,685	2,980	61.36	38.64	19,139,567	11,744,627	7,394,940

Table 8
 NAKNEK-KVICHAK COMMERCIAL CATCH
 AGE COMPOSITION OF MALE RED SALMON BY FISHING PERIOD, 1965

Period	No. of Samples	No. of Fish	Age Group				Total
			4 ₂	5 ₂ Percent	5 ₃	6 ₃	
To 6/26	18	707	2.5	4.0	91.8	1.7	100.0
27 - 29	15	840	3.0	2.3	93.9	0.8	100.0
30	7	571	1.8	3.8	93.9	0.5	100.0
7/1	3	199	1.5	1.5	97.0	-	100.0
4 - 5	6	366	1.6	3.3	91.3	3.8	100.0
6 - 7	6	399	1.2	3.3	93.0	2.5	100.0
8 - 9	5	280	1.4	3.2	92.9	2.5	100.0
10 - 8/7	20	1,323	2.1	1.6	95.4	0.9	100.0
TOTALS	80	4,685					
WEIGHTED PERCENTAGES			1.97	2.50	94.11	1.42	100.00

Table 9

NAKNEK-KVICHAK COMMERCIAL CATCH
AGE COMPOSITION OF FEMALE RED SALMON BY FISHING PERIOD, 1965

Period	No. of Samples	No. of Fish	Age Group				Total
			⁴ ₂	⁵ ₂ Percent	⁵ ₃	⁶ ₃	
To 6/26	18	463	2.4	5.0	87.9	4.7	100.0
27 - 29	15	595	1.3	5.9	89.3	3.5	100.0
30	7	395	1.5	3.0	94.7	0.8	100.0
7/1	3	143	1.4	4.9	93.0	0.7	100.0
4 - 5	6	231	3.9	7.8	82.7	5.6	100.0
6 - 7	6	252	1.2	7.5	84.1	7.2	100.0
8 - 9	5	197	2.0	5.6	86.3	6.1	100.0
10 - 8/7	20	704	2.7	4.3	90.5	2.5	100.0
TOTALS	80	2,980					
WEIGHTED PERCENTAGES			2.15	5.34	88.89	3.62	100.00

Table 10

NAKNEK-KVICHAK COMMERCIAL CATCH, AGE COMPOSITION OF RED SALMON,
BOTH SEXES COMBINED, 1965

	Age Group				Total
	4 ₂	5 ₂	5 ₃	6 ₃	
MALES:					
Number	231,721	293,625	11,051,977	167,304	11,744,627
Percent	1.97	2.50	94.11	1.42	100.00
FEMALES:					
Number	159,114	394,928	6,573,005	267,893	7,394,940
Percent	2.15	5.34	88.89	3.62	100.00
SEXES COMBINED:					
Number	390,835	688,553	17,624,982	435,197	19,139,567
Percent	2.04	3.60	92.09	2.27	100.00

Table 11

KVICHAK RIVER DAILY RED SALMON ESCAPEMENT COUNTS, 1965

Date	Daily Counts	Daily Percent of Total	Accum. Count
6/19	0	0	0
20	24	0	24
21	12	0	36
22	6	0	42
23	12	0	54
24	300	0	354
25	7,518	0.03	7,872
26	39,942	0.16	47,814
27	66,984	0.28	114,798
28	97,006	0.40	211,804
29	127,028	0.52	338,832
30	156,540	0.64	495,372
7/ 1	247,332	1.02	742,704
2	467,154	1.92	1,209,858
3	589,908	2.43	1,799,766
4	373,602	1.54	2,173,368
5	433,794	1.78	2,607,162
6	723,006	2.97	3,330,168
7	1,180,272	4.85	4,510,440
8	1,588,650	6.53	6,099,090
9	2,194,200	9.02	8,293,290
10	2,265,330	9.31	10,558,620
11	1,737,480	7.14	12,296,100
12	1,736,040	7.14	14,032,140
13	1,551,240	6.38	15,583,380
14	1,185,060	4.87	16,768,440
15	852,420	3.51	17,620,860
16	808,098	3.32	18,428,958
17	747,762	3.07	19,176,720
18	1,266,480	5.21	20,443,200
19	1,180,500	4.85	21,623,700
20	930,420	3.83	22,554,120
21	726,354	2.99	23,280,474
22	464,454	1.91	23,744,928
23	190,260	0.78	23,935,188
24	117,954	0.48	24,053,142
25	101,352	0.42	24,154,494
26	72,078	0.30	24,226,572
27	44,274	0.18	24,270,846
28	25,446	0.10	24,296,292
29	14,298	0.06	24,310,590
30	5,388	0.02	24,315,978
31	4,644	0.02	24,320,622
8/ 1	5,304	0.02	24,325,926
TOTALS	24,325,926	100.00	24,325,926

Table 12

KVICHAK RIVER ESCAPEMENT, SEX COMPOSITION OF RED SALMON BY DATE, 1965

Date	No. of Samples	No. in Samples		Percent		Escapement	No. in Escapement	
		Males	Females	Males	Females		Males	Females
7/20-30	5	22	65	25.3	74.7	495,372	125,329	370,043
7/ 1	5	35	94	27.1	72.9	247,332	67,027	180,305
2	7	76	112	40.4	59.6	467,154	188,730	278,424
3	7	64	117	35.4	64.6	589,908	208,827	381,081
4	7	55	123	30.9	69.1	373,602	115,443	258,159
5	7	52	123	29.7	70.3	433,794	128,837	304,957
6	7	58	123	32.0	68.0	723,006	231,362	491,644
7	7	46	138	25.0	75.0	1,180,272	295,068	885,204
8	7	60	115	34.3	65.7	1,588,650	544,907	1,043,743
9	7	74	83	47.1	52.9	2,194,200	1,033,468	1,160,732
10	7	79	100	44.1	55.9	2,265,330	999,011	1,266,319
11	7	88	98	47.3	52.7	1,737,480	821,828	915,652
12	4	50	44	53.2	46.8	1,736,040	923,573	812,467
13	4	44	42	51.2	48.8	1,551,240	794,235	757,005
14	4	56	38	59.6	40.4	1,185,060	706,296	478,764
15	4	25	72	25.8	74.2	852,420	219,924	632,496
16	4	27	61	30.7	69.3	808,098	248,086	560,012
17	3	28	41	40.6	59.4	747,762	303,591	444,171
18	4	54	40	57.4	42.6	1,266,480	726,960	539,520
19	4	35	53	39.8	60.2	1,180,500	469,839	710,661
20	4	59	36	62.1	37.9	930,420	577,791	352,629
21	4	38	58	39.6	60.4	726,354	287,636	438,718
22	4	34	58	37.0	63.0	464,454	171,848	292,606
23	4	40	55	42.1	57.9	190,260	80,099	110,161
24	3	25	33	43.1	56.9	117,954	50,838	67,116

Table 12

KVICHAK RIVER ESCAPEMENT, SEX COMPOSITION OF RED SALMON BY DATE, 1965
(Continued)

Date	No. of Samples	No. in Samples		Percent		Escapement	No. in Escapement	
		Males	Females	Males	Females		Males	Females
25	4	29	54	34.9	65.1	101,352	35,372	65,980
26-8/1	3	36	39	48.0	52.0	171,432	82,287	89,145
TOTALS	137	1,289	2,015	42.91	57.08	24,325,926	10,438,212	13,887,714

Table 13

KVICHAK RIVER ESCAPEMENT,
AGE COMPOSITION OF MALE RED SALMON BY DATE, 1965

Date	No. of Samples	No. of Fish	4 ₂	5 ₂	5 ₃	6 ₄	Total
6/20-30	5	22	--	--	100.0	--	100.0
7/ 1	5	35	--	--	100.0	--	100.0
2	7	76	2.6	--	96.1	1.3	100.0
3	7	64	--	--	100.0	--	100.0
4	7	55	--	1.8	98.2	--	100.0
5	7	52	--	1.9	98.1	--	100.0
6	7	58	--	3.4	96.6	--	100.0
7	7	46	--	4.3	95.7	--	100.0
8	7	60	--	--	100.0	--	100.0
9	7	74	--	--	100.0	--	100.0
10	7	79	--	2.5	97.5	--	100.0
11	7	88	--	1.1	98.9	--	100.0
12	4	50	--	--	100.0	--	100.0
13	4	44	2.3	--	97.7	--	100.0
14	4	56	--	--	100.0	--	100.0
15	4	25	--	--	100.0	--	100.0
16	4	27	--	--	100.0	--	100.0
17	3	28	3.6	--	96.4	--	100.0
18	4	54	--	--	100.0	--	100.0
19	4	35	2.9	--	97.1	--	100.0
20	4	59	--	1.7	98.3	--	100.0
21	4	38	--	--	100.0	--	100.0
22	4	34	2.9	5.9	91.2	--	100.0

Table 13
 KVICHAK RIVER ESCAPEMENT,
 AGE COMPOSITION OF MALE RED SALMON BY DATE, 1965

(Continued)

Date	No. of Samples	No. of Fish	4 ₂	5 ₂	5 ₃	6 ₄	Total
23	4	40	2.5	- -	97.5	- -	100.0
24	3	25	- -	- -	100.0	- -	100.0
25	4	29	- -	- -	100.0	- -	100.0
26-8/ 1	3	36	- -	2.8	97.2	- -	100.0
TOTALS	137	1,289					
WEIGHTED PERCENTAGES			0.52	0.78	98.68	0.02	100.00

Table 14

KVICHAK RIVER ESCAPEMENT,
AGE COMPOSITION OF FEMALE RED SALMON BY DATE, 1965

Date	No. of Samples	No. of Fish	4 ₂	5 ₂	5 ₃	6 ₃	Total
6/20-30	5	65	--	--	100.0	--	100.0
7/1	5	94	1.0	--	99.0	--	100.0
2	7	112	0.9	0.9	98.2	--	100.0
3	7	117	--	1.7	98.3	--	100.0
4	7	123	--	--	99.2	0.8	100.0
5	7	123	--	0.8	99.2	--	100.0
6	7	123	0.8	--	99.2	--	100.0
7	7	138	--	3.6	96.4	--	100.0
8	7	115	--	0.9	99.1	--	100.0
9	7	83	--	--	100.0	--	100.0
10	7	100	--	--	100.0	--	100.0
11	7	98	--	--	100.0	--	100.0
12	4	44	--	--	100.0	--	100.0
13	4	42	--	--	100.0	--	100.0
14	4	38	--	--	100.0	--	100.0
15	4	72	--	--	100.0	--	100.0
16	4	61	--	--	100.0	--	100.0
17	3	41	--	--	100.0	--	100.0
18	4	40	2.5	--	97.5	--	100.0
19	4	53	--	--	100.0	--	100.0
20	4	36	--	--	100.0	--	100.0
21	4	58	3.4	--	96.6	--	100.0
22	4	58	1.7	1.7	96.6	--	100.0

Table 14

KVICHAK RIVER ESCAPEMENT,
AGE COMPOSITION OF FEMALE RED SALMON BY DATE, 1965
(Continued)

Date	No. of Samples	No. of Fish	4 ₂	5 ₂	5 ₃	6 ₃	Total
23	4	55	- -	1.8	98.2	- -	100.0
24	3	33	3.0	- -	97.0	- -	100.0
25	4	54	- -	- -	100.0	- -	100.0
26-8/ 1	3	39	- -	- -	100.0	- -	100.0
TOTALS	137	2,015					
WEIGHTED PERCENTAGES			0.32	0.43	99.24	0.01	100.00

Table 15
 KVICHAK RIVER ESCAPEMENT,
 AGE COMPOSITION OF RED SALMON, BOTH SEXES COMBINED, 1965

	Age Group					Total
	4 ₂	5 ₂	5 ₃	6 ₃	6 ₄	
MALES:						
Number	54,714	81,360	10,299,684	- -	2,454	10,438,212
Percent	0.52	0.78	98.68	- -	0.02	100.00
FEMALES:						
Number	43,633	59,642	13,782,374	2,065	- -	13,887,714
Percent	0.32	0.43	99.24	0.01	- -	100.00
SEXES COMBINED:						
Number	98,347	141,002	24,082,058	2,065	2,454	24,325,926
Percent	0.40	0.58	99.00	0.01	0.01	100.00

Table 16
BRANCH RIVER DAILY RED SALMON ESCAPEMENT COUNTS, 1965

Date	Daily Counts	Daily Percent of Total	Accum. Count
6/26	0	0	0
27	0	0	0
28	0	0	0
29	0	0	0
30	120	0.07	120
7/ 1	888	0.51	1,008
2	3,912	2.24	4,920
3	5,088	2.91	10,008
4	8,568	4.90	18,576
5	16,056	9.17	34,632
6	31,206	17.83	65,838
7	29,358	16.78	95,196
8	15,294	8.74	110,490
9	27,582	15.76	138,072
10	15,882	9.07	153,954
11	11,292	6.45	165,246
12	4,260	2.43	169,506
13	762	0.44	170,268
14	864	0.49	171,132
15	300	0.17	171,432
16	1,350	0.77	172,782
17	1,230	0.70	174,012
18	876	0.50	174,888
19	96	0.05	174,984
20	36	0.02	175,020
TOTALS	175,020	100.00	175,020

Table 17

BRANCH RIVER ESCAPEMENT, SEX COMPOSITION OF RED SALMON BY DATE, 1965

Date	No. in Samples	No. in Samples		Percent		Escapement	No. in Escapement	
		Males	Females	Males	Females		Males	Females
6/26-7/4	4	19	32	37.3	62.7	18,576	6,929	11,647
5 - 6	3	14	33	29.8	70.2	47,262	14,084	33,178
7 - 9	8	82	69	54.3	45.7	72,234	39,223	33,011
10 - 20	5	65	28	69.9	30.1	36,948	25,827	11,121
TOTALS	20	180	162	49.17	50.83	175,020	86,063	88,957

Table 18

BRANCH RIVER ESCAPEMENT, AGE COMPOSITION BY DATE, MALE RED SALMON, 1965

Date	No. of Samples	No. of Fish	Percent							Totals
			3 ₂	4 ₁	4 ₂	4 ₃	5 ₂	5 ₃	6 ₃	
6/26-7/ 4	4	19	- -	- -	5.3	- -	31.6	52.6	10.5	100.0
5-6	3	14	- -	- -	28.6	- -	42.9	21.4	7.1	100.0
7-9	8	82	20.7	- -	11.0	- -	18.3	41.5	8.5	100.0
10-20	5	65	36.9	1.5	15.4	3.1	18.5	15.4	9.2	100.0
TOTALS	20	180								
WEIGHTED PERCENTAGES			20.51	0.45	14.74	0.93	23.46	31.27	8.64	100.00

Table 19

BRANCH RIVER ESCAPEMENT, AGE COMPOSITION BY DATE, FEMALE RED SALMON, 1965

Date	No. of Samples	No. of Fish	Percent						Totals
			3 ₂	4 ₂	5 ₂	5 ₃	6 ₃	6 ₄	
6/26-7/ 4	4	32	- -	6.3	25.0	53.1	15.6	- -	100.0
5-6	3	33	3.0	18.2	33.4	42.4	3.0	- -	100.0
7-9	8	69	- -	14.5	29.0	49.3	5.8	1.4	100.0
10-20	5	28	- -	17.9	21.4	32.1	28.6	- -	100.0
TOTALS	20	162							
WEIGHTED PERCENTAGES			1.12	15.23	29.17	45.07	8.89	0.52	100.00

Table 20
 BRANCH RIVER ESCAPEMENT,
 AGE COMPOSITION OF BOTH SEXES COMBINED FOR RED SALMON, 1965

	3 ₂	4 ₁	4 ₂	4 ₃	Age Group		6 ₃	6 ₄	Total
					5 ₂	5 ₃			
MALES:									
Number	17,649	388	12,686	801	20,187	26,914	7,438	- -	86,063
Percent	20.51	0.45	14.74	0.93	23.46	31.27	8.64	- -	100.00
FEMALES:									
Number	995	- -	13,550	- -	25,947	40,096	7,907	462	88,957
Percent	1.12	- -	15.23	- -	29.17	45.07	8.89	0.52	100.00
BOTH SEXES COMBINED:									
Number	18,644	388	26,236	801	46,134	67,010	15,345	462	175,020
Percent	10.65	0.22	14.99	0.46	26.36	38.29	8.77	0.26	100.00

Table 21

NAKNEK RIVER DAILY RED SALMON ESCAPEMENT COUNTS, 1965

Date	Daily Counts	Daily Percent of Total	Accum. Count
6/20	0	0	0
21	0	0	0
22	12	0	12
23	36	0	48
24	138	0.02	186
25	402	0.06	588
26	78	0.01	666
27	360	0.05	1,026
28	3,120	0.43	4,146
29	1,140	0.16	5,286
30	2,280	0.32	7,566
7/ 1	10,566	1.47	18,132
2	9,276	1.29	27,408
3	16,824	2.34	44,232
4	32,022	4.46	76,254
5	74,256	10.35	150,510
6	184,332	25.68	334,842
7	44,346	6.18	379,188
8	31,188	4.35	410,376
9	39,120	5.45	449,496
10	41,802	5.82	491,298
11	12,732	1.77	504,030
12	25,836	3.60	529,866
13	33,426	4.66	563,292
14	19,638	2.74	582,930
15	33,024	4.60	615,954
16	45,684	6.36	661,638
17	12,186	1.70	673,824
18	11,268	1.57	685,092
19	12,390	1.73	697,482
20	4,464	0.62	701,946
21	3,366	0.47	705,312
22	2,340	0.33	707,652
23	3,060	0.43	710,712
24	1,170	0.16	711,882
25	1,896	0.26	713,778
26	1,092	0.15	714,870
27	720	0.10	715,590
28	396	0.06	715,986
29	660	0.09	716,646
30	606	0.08	717,252
31	546	0.08	717,798
TOTAL	717,798	100.00	717,798

Table 22

NAKNEK RIVER ESCAPEMENT, SEX COMPOSITION OF RED SALMON BY DATE, 1965

Date	No. of Samples	No. in Samples		Percent		Escapement	No. in Escapement	
		Males	Females	Males	Females		Males	Females
6/20-7/1	3	71	35	67.0	33.0	18,132	12,148	5,984
2	2	38	29	56.7	43.3	9,276	5,259	4,017
3	4	63	63	50.0	50.0	16,824	8,412	8,412
4	5	89	88	50.3	49.7	32,022	16,107	15,915
5	6	127	98	56.4	43.6	74,256	41,880	32,376
6	6	88	114	43.6	56.4	184,332	80,369	103,963
7	3	52	32	61.9	38.1	44,346	27,450	16,896
8	5	100	95	51.3	48.7	31,188	15,999	15,189
9	2	43	32	57.3	42.7	39,120	22,416	16,704
10	6	98	129	43.2	56.8	41,802	18,058	23,744
11-12	8	134	154	46.5	53.5	38,568	17,934	20,634
13	5	64	105	37.9	62.1	33,426	12,668	20,758
14	4	69	90	43.4	56.6	19,638	8,523	11,115
15	5	97	94	50.8	49.2	33,024	16,776	16,248
16	5	83	108	43.5	56.5	45,684	19,873	25,811
17	3	45	65	40.9	59.1	12,186	4,984	7,202
18-19	4	56	75	42.7	57.3	23,658	10,102	13,556
20-31	4	53	70	43.1	56.9	20,316	8,756	11,560
TOTALS	80	1,370	1,476	48.44	51.56	717,798	347,714	370,084

Table 23

NAKNEK RIVER ESCAPEMENT, AGE COMPOSITION BY DATE, MALE RED SALMON, 1965

Date	No. of Samples	No. of Fish	Percent							Total
			3 ₂	4 ₂	4 ₃	5 ₂	5 ₃	6 ₃	7 ₄	
6/20-7/1	3	71	- -	5.6	1.4	14.1	74.7	4.2	- -	100.0
	2	38	- -	21.1	- -	2.6	65.8	10.5	- -	100.0
	3	63	1.6	6.3	- -	8.0	77.8	6.3	- -	100.0
	4	89	- -	12.4	- -	21.3	52.8	13.5	- -	100.0
	5	127	- -	15.8	0.8	16.5	55.9	11.0	- -	100.0
	6	88	- -	12.5	1.1	10.2	50.0	26.2	- -	100.0
	7	52	- -	17.3	- -	7.7	65.4	9.6	- -	100.0
	8	100	- -	11.0	2.0	17.0	53.0	17.0	- -	100.0
	9	43	- -	11.6	- -	14.0	53.5	20.9	- -	100.0
	10	98	- -	10.2	3.1	12.2	58.2	16.3	- -	100.0
11-12	8	134	- -	8.9	1.5	17.2	62.7	9.7	- -	100.0
	13	64	- -	15.6	- -	10.9	65.7	7.8	- -	100.0
	14	69	- -	8.7	1.4	20.3	55.1	14.5	- -	100.0
	15	97	- -	15.5	1.0	14.4	53.6	15.5	- -	100.0
	16	83	- -	14.4	1.2	22.9	44.6	16.9	- -	100.0
	17	45	- -	13.3	2.2	17.8	37.8	28.9	- -	100.0
18-19	4	56	- -	5.3	- -	16.1	46.4	30.4	1.8	100.0
20-31	4	53	- -	7.5	- -	13.2	58.5	20.8	- -	100.0
TOTALS	80	1,370								
WEIGHTED PERCENTAGES			0.04	12.53	0.91	13.83	55.77	16.87	0.05	100.0

Table 24

NAKNEK RIVER ESCAPEMENT, AGE COMPOSITION BY DATE, FEMALE RED SALMON, 1965

Date	No. of Samples	No. of Fish	Percent					Total
			4 ₂	5 ₂	5 ₃	6 ₃	7 ₄	
6/20-7/1	3	35	2.9	28.5	42.9	25.7	- -	100.0
	2	29	6.9	17.2	58.7	17.2	- -	100.0
	3	63	9.5	28.6	36.5	25.4	- -	100.0
	4	88	5.7	35.2	34.1	25.0	- -	100.0
	5	98	8.2	25.5	43.9	22.4	- -	100.0
	6	114	5.3	33.3	35.9	24.6	0.9	100.0
	7	32	12.5	12.5	65.6	9.4	- -	100.0
	8	95	5.3	37.9	35.8	21.0	- -	100.0
	9	32	6.2	12.5	46.9	31.3	3.1	100.0
	10	129	9.3	29.5	42.6	18.6	- -	100.0
11-12	8	154	4.5	27.3	47.4	20.8	- -	100.0
	13	105	11.4	31.4	38.1	19.1	- -	100.0
	14	90	5.6	32.2	33.3	28.9	- -	100.0
	15	94	6.4	21.3	45.7	26.6	- -	100.0
	16	108	7.4	33.3	39.8	19.5	- -	100.0
	17	65	4.6	27.7	43.1	24.6	- -	100.0
18-19	4	75	9.3	28.0	36.0	26.7	- -	100.0
20-31	4	70	12.8	14.3	50.0	22.9	- -	100.0
TOTALS	80	1,476						
WEIGHTED PERCENTAGES			7.18	29.03	40.89	22.51	0.39	100.00

Table 25
 NAKNEK RIVER ESCAPEMENT, AGE COMPOSITION OF BOTH SEXES
 COMBINED FOR RED SALMON, 1965

	3 ₂	4 ₂	4 ₃	Age Group			7 ₄	Total
				5 ₂	5 ₃	6 ₃		
MALES:								
Number	135	43,561	3,174	48,070	193,924	58,668	182	347,714
Percent	0.04	12.53	0.91	13.83	55.77	16.87	0.05	100.00
FEMALES:								
Number	--	26,584	--	107,421	151,323	83,302	1,454	370,084
Percent	--	7.18	--	29.03	40.89	22.51	0.39	100.00
SEXES COMBINED:								
Number	135	70,145	3,174	155,491	345,247	141,970	1,636	717,798
Percent	0.02	9.77	0.44	21.66	48.10	19.78	0.23	100.00

EGEGIK DISTRICT

The fishing area in the Egegik district (Figure 3) remained similar to that of 1964 and no boundary changes were necessary to allow more fishing area to harvest the record return of red salmon.

The initial gear registration of 430 units was a decrease of over 100 (18.9%) units from the 1964 effort. Although the amount of gear fluctuated with each fishing period, there were approximately 220 drift boats and 180 set nets that participated during each open fishing period.

The total return of 4,624,167 red salmon to the Egegik district was the largest on record. A record catch of 3,179,559 red salmon was taken during the almost continuous fishing from June 27 to July 19. During this period approximately 93% of the total catch was taken.

Large catches of over 400,000 red salmon were obtained during three of the fishing periods and resulted, along with large catches in the Naknek-Kvichak district, in a 2,000 fish per boat limit being placed on the fleet by the canneries.

Weather conditions remained good throughout the season and did not cause any loss of fishing time.

The Egegik district red salmon catch accounted for 13.1% of the total Bristol Bay catch. In addition to the record red salmon catch other species harvested were as follows:

Kings: 2,313
Cohos: 945
Chums: 11,188

The escapement of red salmon past the fishery amounted to 1,444,608 and was only slightly less than twice the 13 year average (1952-1964). The 1965 escapement marks the seventh consecutive year that a good to excellent escapement has been obtained in the Egegik district. Since 1952, the escapement of 1,798,764 sockeye in 1960 was the only escapement to exceed that of 1965.

Figure 3. 1965 EGEGIK COMMERCIAL FISHING DISTRICT

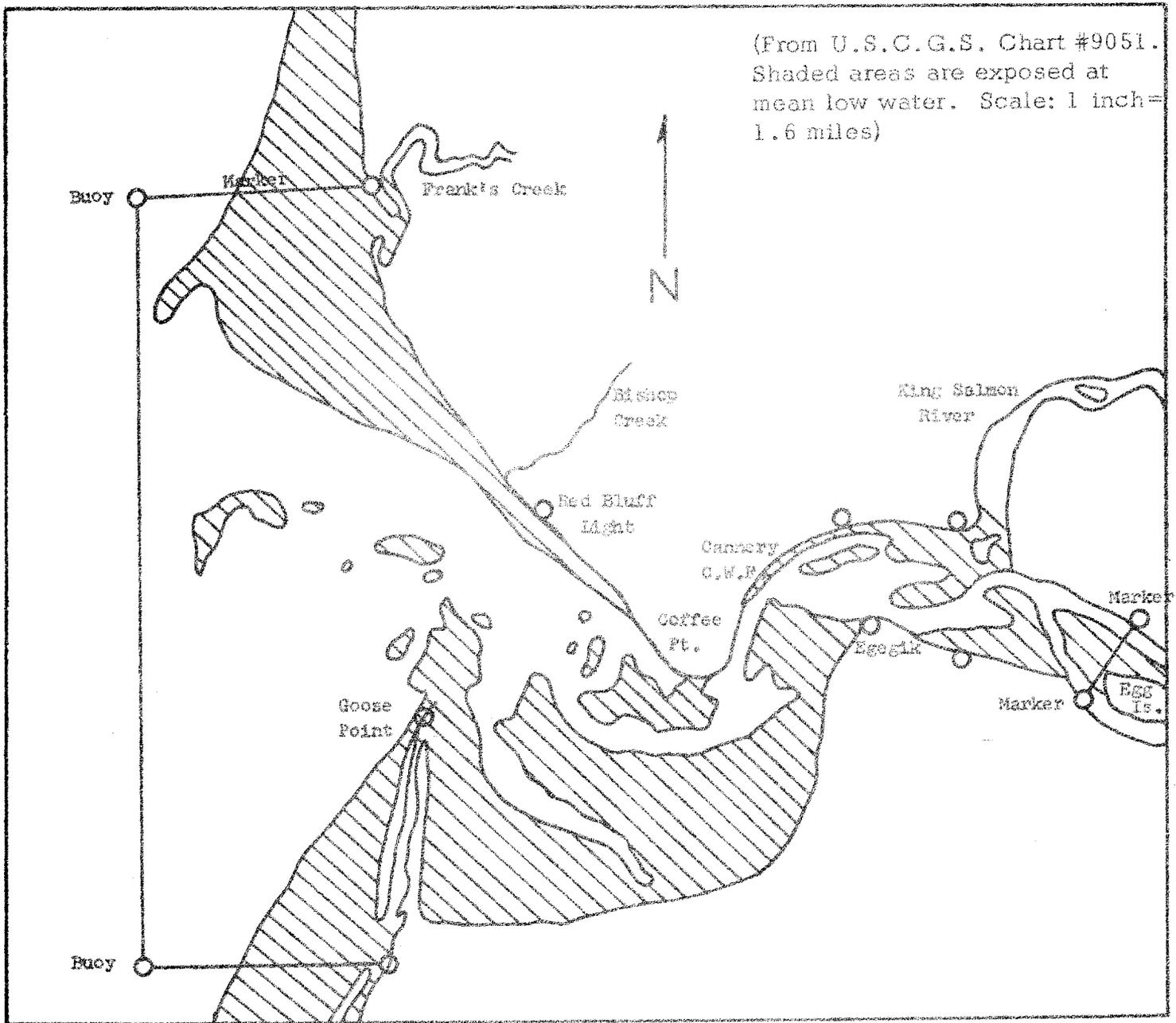


Table 26
 EGEGIK DISTRICT, CATCH AND ESCAPEMENT
 OF RED SALMON BY AGE GROUP, 1965

	4 ₁	4 ₂	5 ₂	Age Group 5 ₃	6 ₃	6 ₄	7 ₄	Total
MALES:								
Number	-	41,971	115,874	2,005,275	133,278	6,797	507	2,303,702
Percent	-	1.82	5.03	87.05	5.79	0.29	0.02	100.00
FEMALES:								
Number	2,431	30,544	130,377	1,931,647	217,842	5,739	1,885	2,320,465
Percent	0.10	1.32	5.62	83.24	9.39	0.25	0.08	100.00
SEXES COMBINED:								
Number	2,431	72,515	246,251	3,936,922	351,120	12,536	2,392	4,624,167
Percent	0.05	1.57	5.33	85.14	7.59	0.27	0.05	100.00

Table 27
EGEGIK COMMERCIAL CATCH
SEX COMPOSITION OF RED SALMON BY FISHING PERIOD, 1965

Period	No. of Samples	No. in Samples		Percent		Commercial Catch	No. in Catch	
		Males	Females	Males	Females		Males	Females
To 6/26	9	609	367	62.4	37.6	246,432	153,774	92,658
27 - 29	9	814	502	61.9	38.1	599,887	371,330	228,557
29 - 30	5	315	211	59.9	40.1	449,970	269,532	180,438
7/2 - 3	4	336	224	60.0	40.0	411,227	246,736	164,491
4 - 5	5	270	190	58.7	41.3	393,147	230,777	162,370
6 - 7	6	483	365	57.0	43.0	325,467	185,516	139,951
8 - 9	4	214	166	56.3	43.7	199,311	112,212	87,099
9 - 11	3	183	180	50.4	49.6	295,059	130,566	128,493
12-8/28	9	344	256	57.3	42.7	169,059	169,069	125,990
TOTALS	54	3,568	2,461	58.8	41.2	3,179,559	1,869,512	1,310,047

Table 28
 EGEKIK COMMERCIAL CATCH
 AGE COMPOSITION OF MALE RED SALMON BY FISHING PERIOD, 1965

Period	No. of Samples	No. of Fish	Age Group					Total	
			4 ₂	5 ₂	5 ₃ Percent	6 ₃	6 ₄		7 ₄
To 6/26	9	609	3.9	6.6	85.9	3.3	0.3	-	100.0
27 - 29	9	814	1.9	4.7	89.2	3.8	0.4	-	100.0
29 - 30	5	315	0.6	6.4	88.9	4.1	-	-	100.0
7/2 - 3	4	336	3.9	4.2	87.8	4.1	-	-	100.0
4 - 5	5	270	1.5	5.9	84.1	8.5	-	-	100.0
6 - 7	6	483	2.5	3.7	88.6	5.2	-	-	100.0
8 - 9	4	214	0.5	4.7	87.4	7.4	-	-	100.0
9 - 11	3	183	-	2.7	90.7	6.6	-	-	100.0
12 - 8/28	9	344	0.9	3.2	84.6	10.4	0.6	0.3	100.0
TOTALS	54	3,568							
WEIGHTED PERCENTAGES			1.84	4.81	87.59	5.57	0.16	0.03	100.00

Table 29

EGEGIK COMMERCIAL CATCH
AGE COMPOSITION OF FEMALE RED SALMON BY FISHING PERIOD, 1965

Period	No. of Samples	No. of Fish	Age Group							Total
			4 ₁	4 ₂	5 ₂ Percent	5 ₃	6 ₃	6 ₄	7 ₄	
To 6/26	9	367	-	4.1	15.3	66.2	13.6	0.8	-	100.0
27 - 29	9	502	0.2	1.2	8.2	78.3	11.1	0.8	0.2	100.0
29 - 30	5	211	-	1.9	11.8	74.4	11.4	0.5	-	100.0
7/2 - 3	4	224	0.4	2.7	4.0	80.8	11.6	0.5	-	100.0
4 - 5	5	190	0.5	1.6	7.9	73.2	16.8	-	-	100.0
6 - 7	6	365	-	1.3	7.7	75.9	14.8	-	0.3	100.0
8 - 9	4	166	-	0.6	7.8	83.8	7.2	0.6	-	100.0
9 - 11	3	180	-	2.8	5.0	78.3	13.9	-	-	100.0
12 - 8/28	9	256	0.4	0.8	4.7	75.4	17.5	0.4	0.8	100.0
TOTALS	54	2,461								
WEIGHTED PERCENTAGES			0.19	1.83	7.90	76.42	13.11	0.41	0.14	100.0

Table 30

EGEGIK COMMERCIAL CATCH, AGE COMPOSITION OF RED SALMON,
BOTH SEXES COMBINED, 1965

	4 ₁	4 ₂	5 ₂	Age Group		6 ₄	7 ₄	Total
				5 ₃	6 ₃			
MALES:								
Number	-	34,475	89,904	1,637,545	104,120	2,961	507	1,869,512
Percent	-	1.84	4.81	87.59	5.57	0.16	0.03	100.00
FEMALES:								
Number	2,431	23,957	103,534	1,001,128	171,792	5,320	1,885	1,310,047
Percent	0.19	1.83	7.90	76.42	13.11	0.41	0.14	100.00
SEXES COMBINED:								
Number	2,431	58,432	193,438	2,638,673	275,912	8,281	2,392	3,179,559
Percent	0.08	1.84	6.08	82.99	8.68	0.26	0.07	100.00

Table 31

EGEGIK RIVER DAILY RED SALMON ESCAPEMENT COUNTS, 1965

Date	Daily Counts	Daily Percent of Total	Accum. Counts
6/25	0	0	0
26	0	0	0
27	0	0	0
28	0	0	0
29	0	0	0
30	0	0	0
7/ 1	66	0	66
2	8,538	0.59	8,604
3	22,548	1.56	31,152
4	37,968	2.63	69,120
5	35,514	2.46	104,634
6	91,134	6.31	195,768
7	208,248	14.42	404,016
8	232,536	16.10	636,552
9	28,692	1.99	665,244
10	94,806	6.56	760,050
11	146,598	10.15	906,648
12	104,880	7.26	1,011,528
13	109,086	7.55	1,120,614
14	49,566	3.43	1,170,180
15	84,330	5.84	1,254,510
16	94,290	6.53	1,348,800
17	38,874	2.69	1,387,674
18	18,210	1.26	1,405,884
19	20,706	1.43	1,426,590
20	7,242	0.50	1,433,832
21	4,518	0.31	1,438,350
22	5,340	0.37	1,443,690
23	732	0.05	1,444,422
24	186	0.01	1,444,608
TOTALS	1,444,608	100.00	1,444,608

Table 32

EGEGIK RIVER ESCAPEMENT, SEX COMPOSITION BY DATE FOR RED SALMON, 1965

Date	No. of Samples	No. in Samples		Percent		Escapement	No. in Escapement	
		Males	Females	Males	Females		Males	Females
6/25-7/4	7	71	112	38.8	61.2	69,120	26,819	42,301
	5	78	112	41.1	58.9	35,514	14,596	20,918
	6	56	105	34.8	65.2	91,134	31,715	59,419
	7-8	72	195	27.0	73.0	440,784	119,012	321,772
	9-10	106	223	32.2	67.8	123,498	39,766	83,732
	11	53	132	28.6	71.4	146,598	41,927	104,671
	12	52	140	27.1	72.9	104,880	28,422	76,458
	13	57	135	29.7	70.3	109,086	32,399	76,687
	14	41	121	25.3	74.7	49,566	12,540	37,026
	15-24	57	123	31.7	68.3	274,428	86,994	187,434
TOTALS	77	643	1,398	30.06	69.94	1,444,608	434,190	1,010,418

Table 33

EGEGIK RIVER ESCAPEMENT, AGE COMPOSITION OF MALE RED SALMON BY DATE, 1965

Date	No. of Samples	No. of Fish	Percent					Total
			4 ₂	5 ₂	5 ₃	6 ₃	6 ₄	
6/25-7/4	7	71	- -	4.2	90.2	5.6	- -	100.0
5	7	78	- -	5.1	91.0	3.9	- -	100.0
6	6	56	1.8	7.1	85.7	5.4	- -	100.0
7-8	10	72	- -	5.6	84.7	8.3	1.4	100.0
9-10	13	106	- -	2.8	85.9	10.4	0.9	100.0
11	7	53	1.9	5.7	83.0	9.4	- -	100.0
12	7	52	5.8	7.7	84.6	1.9	- -	100.0
13	7	57	3.5	10.5	77.2	7.0	1.8	100.0
14	6	41	2.4	- -	87.8	- -	9.8	100.0
15-24	7	57	3.5	7.0	84.2	5.3	- -	100.0
TOTALS	77	643						
WEIGHTED PERCENTAGES			1.73	5.98	84.69	6.72	0.88	100.00

Table 34

EGEGIK RIVER ESCAPEMENT, AGE COMPOSITION OF FEMALE RED SALMON BY DATE, 1965

Date	No. of Samples	No. of Fish	Percent				Total	
			4 ₂	5 ₂	5 ₃	6 ₃		6 ₄
6/25-7/4	7	112	- -	0.9	95.5	3.6	- -	100.0
5	7	112	- -	3.6	86.6	9.8	- -	100.0
6	6	105	- -	2.8	88.6	8.6	- -	100.0
7-8	10	195	- -	4.1	92.3	3.6	- -	100.0
9-10	13	223	0.5	2.2	91.0	5.8	0.5	100.0
11	7	132	0.8	0.8	93.1	5.3	- -	100.0
12	7	140	- -	4.3	92.1	3.6	- -	100.0
13	7	135	0.7	2.2	91.9	5.2	- -	100.0
14	6	121	0.8	2.5	94.2	2.5	- -	100.0
15-24	7	123	2.4	0.8	91.1	5.7	- -	100.0
TOTALS	77	1,398						
WEIGHTED PERCENTAGES			0.65	2.66	92.09	4.56	0.04	100.00

Table 35
 EGEGIK RIVER ESCAPEMENT, AGE COMPOSITION OF RED SALMON
 BOTH SEXES COMBINED, 1965

	Age Group					Total
	4_2	5_2	5_3	6_3	6_4	
MALES:						
Number	7,496	25,970	367,730	29,158	3,836	434,190
Percent	1.73	5.98	84.69	6.72	0.88	100.00
FEMALES:						
Number	6,587	26,843	930,519	46,050	419	1,010,418
Percent	0.65	2.66	92.09	4.56	0.04	100.00
SEXES COMBINED:						
Number	14,083	52,813	1,298,249	75,208	4,255	1,444,608
Percent	0.97	3.66	89.87	5.21	0.29	100.00

UGASHIK DISTRICT

The fishing area in the Ugashik district (Figure 4) remained similar to that of 1964 and no boundary changes were employed during the 1965 season.

The initial gear registration in this district was 223 units, a reduction of 49 (18%) from the 1964 level. The amount of gear that actively participated in the 1965 harvest was approximately 85 drift boats and 65 set nets.

Only 1,922,302 red salmon of a predicted 3.68 million returned to the district in 1965. Even though the return was not as large as predicted, the total catch of 925,690 was the largest since 1954 and the escapement of 996,612 was the largest since the parent year, 1960, and the third largest since 1951.

As in the Naknek-Kvichak and Egegik districts, the Ugashik fishery operated almost continuously early in the season. By July 9 only 605,041 had entered the commercial catch and hopes for a large return were gone. Only three fishery periods (one 24-hour and two 12-hour periods) were allowed for the remainder of the week and by July 17 the desired escapement goal was assured.

The Ugashik district red salmon catch accounted for 3.8% of the total Bristol Bay catch. In addition to the large red salmon catch, 14,971 chum salmon, and 4,042 king salmon were also harvested.

Figure 4. 1965 BEASEK COMMERCIAL FISHING DISTRICT

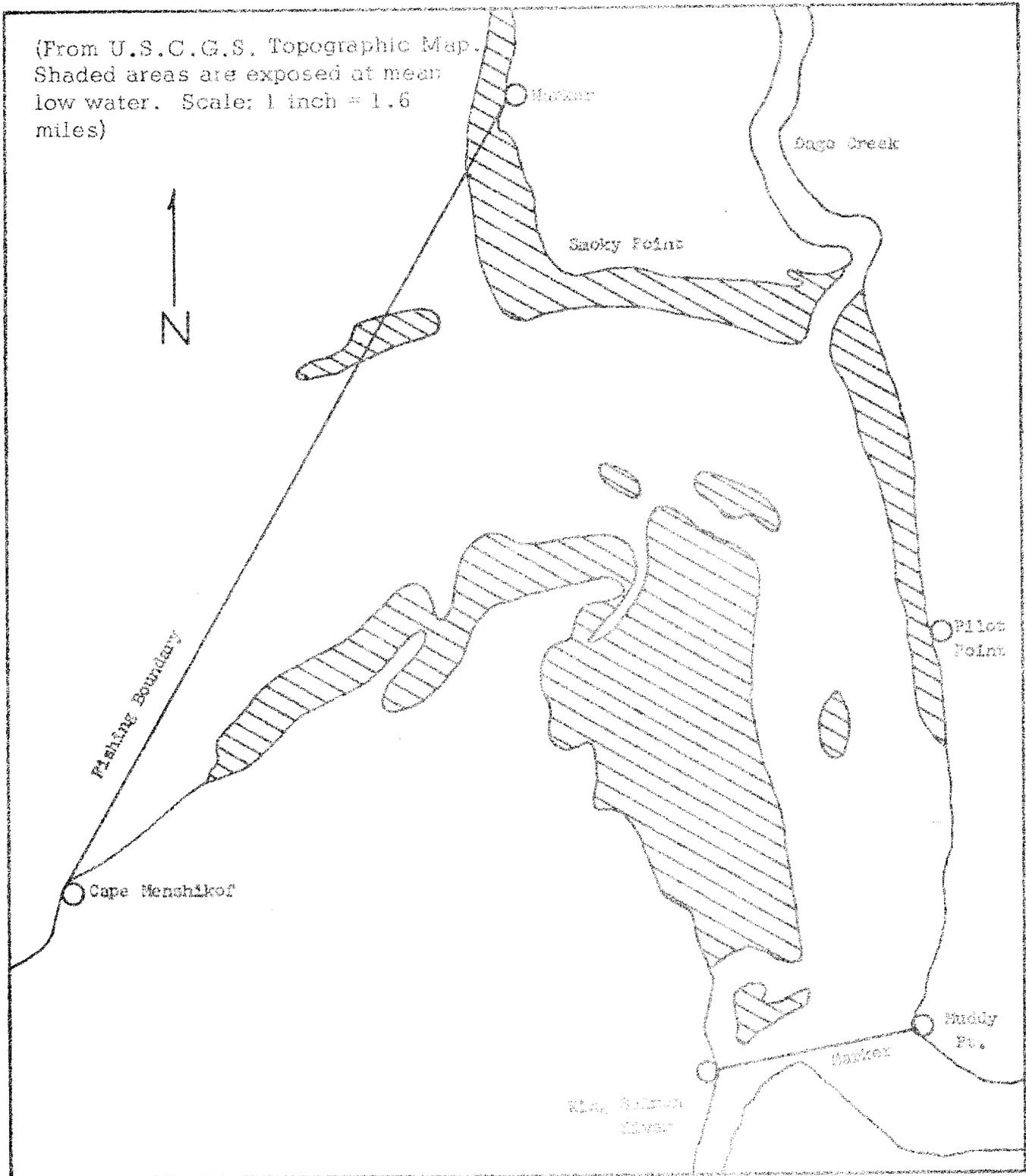


Table 36

UGASHIK DISTRICT, CATCH AND ESCAPEMENT OF RED SALMON BY AGE GROUP,
BOTH SEXES COMBINED, 1965

	3 ₂	4 ₁	4 ₂	Age Group		5 ₃	6 ₂	6 ₃	Total
				4 ₃	5 ₂				
MALES:									
Number	441	1,846	121,587	1,118	70,790	661,750	-	37,042	894,574
Percent	0.05	0.21	13.59	0.12	7.91	73.98	-	4.14	100.00
FEMALES:									
Number	-	268	90,992	938	151,228	722,098	306	61,898	1,027,728
Percent	-	0.03	8.85	0.09	14.72	70.26	0.03	6.02	100.00
SEXES COMBINED:									
Number	441	2,114	212,579	2,056	222,018	1,383,848	306	98,940	1,922,302
Percent	0.02	0.11	11.06	0.11	11.55	71.99	0.01	5.15	100.00

Table 37
 UGASHIK COMMERCIAL CATCH
 SEX COMPOSITION OF RED SALMON BY FISHING PERIOD, 1965

Period	No. of Samples	No. in Samples		Percent		Commercial Catch	No. in Catch	
		Males	Females	Males	Females		Males	Female
To 6/26	1	47	22	68.1	31.9	28,694	19,541	9,153
28 - 7/2	3	319	236	57.5	42.5	180,354	103,704	76,650
3-6	3	347	216	61.6	38.4	238,891	147,157	91,734
8-9	3	301	224	57.3	42.7	157,102	90,019	67,083
10-11	2	157	119	56.9	43.1	161,995	92,175	69,820
13-9/4	1	34	17	66.7	33.3	158,654	105,822	52,832
TOTALS	13	1,205	834	60.32	39.68	925,690	558,418	367,27

Table 38
 UGASHIK COMMERCIAL CATCH
 AGE COMPOSITION OF MALE RED SALMON BY FISHING PERIOD, 1965

Period	No. of Samples	No. of Fish	Age Group						Total
			3 ₂	4 ₁	4 ₂	5 ₂	5 ₃	6 ₃	
To 6/26	1	47	-	2.1	27.7	19.1	51.1	-	100.0
28 - 7/2	3	319	-	-	18.2	9.1	69.0	3.7	100.0
3 - 6	3	347	0.3	0.6	17.9	6.0	71.7	3.5	100.0
8 - 9	3	301	-	-	13.3	9.9	67.8	9.0	100.0
10-11	2	157	-	0.6	10.8	7.0	71.4	10.2	100.0
13-9/4	1	34	-	-	5.9	14.7	76.5	2.9	100.0
TOTALS	13	1,205							
WEIGHT PERCENTAGES			0.08	0.33	14.11	9.48	70.71	5.29	100.0

Table 39
UGASHIK COMMERCIAL CATCH
AGE COMPOSITION OF FEMALE RED SALMON BY FISHING PERIOD, 1965

Period	No. of Samples	No. of Fish	Age Group						Total
			4_1	4_2	5_2 Percent	5_3	6_2	6_3	
To 6/26	1	22	-	9.1	54.5	18.2	-	18.2	100.0
28 - 7/2	3	236	-	10.6	46.6	31.8	0.4	10.6	100.0
3 - 6	3	216	-	8.8	29.2	53.7	-	8.3	100.0
8 - 9	3	224	0.4	7.6	18.3	60.3	-	13.4	100.0
10-11	2	119	-	4.2	31.1	52.1	-	12.6	100.0
13-9/4	1	17	-	-	23.5	58.8	-	17.7	100.0
TOTALS	13	834							
WEIGHTED PERCENTAGES			0.07	6.83	31.01	49.88	0.08	12.13	100.0

Table 40

UGASHIK COMMERCIAL CATCH, AGE COMPOSITION OF RED SALMON,
BOTH SEXES COMBINED, 1965

	Age Group							Total
	3 ₂	4 ₁	4 ₂	5 ₂	5 ₃	6 ₂	6 ₃	
MALES:								
Number	441	1,846	78,798	52,919	394,854	-	29,560	558,418
Percent	0.08	0.33	14.11	9.48	70.71	-	5.29	100.00
FEMALES:								
Number	-	268	25,063	113,899	183,194	306	44,542	367,272
Percent	-	0.07	6.83	31.01	49.88	0.08	12.13	100.00
SEXES COMBINED:								
Number	441	2,114	103,861	166,818	578,048	306	74,102	925,690
Percent	0.05	0.23	11.22	18.02	62.44	0.03	8.01	100.00

Table 41

UGASHIK RIVER DAILY RED SALMON ESCAPEMENT COUNTS, 1965

Date	Daily Counts	Daily Percent of Total	Accum. Counts
7/ 1	42	0	42
2	102	0.01	144
3	0	0.00	144
4	0	0.00	144
5	0	0.00	144
6	78	0.01	222
7	12	0.00	234
8	5,010	0.50	5,244
9	6,990	0.70	12,234
10	2,622	0.26	14,856
11	3,090	0.31	17,946
12	8,754	0.88	26,700
13	3,006	0.30	29,706
14	7,854	0.79	37,560
15	36,354	3.65	73,914
16	145,932	14.64	219,846
17	70,404	7.07	290,215
18	69,060	6.93	359,310
19	34,314	3.44	393,624
20	60,444	6.07	454,068
21	63,750	6.40	517,818
22	60,150	6.04	577,968
23	109,446	10.98	687,414
24	67,440	6.77	754,854
25	32,232	3.23	787,086
26	29,946	3.00	817,032
27	46,326	4.65	863,358
28	59,634	5.98	922,992
29	44,262	4.44	967,254
30	14,844	1.49	982,098
31	5,592	0.56	987,690
8/ 1	3,366	0.34	991,056
2	1,692	0.17	992,748
3	1,650	0.17	994,398
4	1,308	0.13	995,706
5	732	0.07	996,438
6	174	0.02	996,612
TOTALS	996,612	100.00	996,612

Table 42
 UGASHIK RIVER ESCAPEMENT, SEX COMPOSITION OF RED SALMON BY DATE
 1965

Date	No. of Samples	No. in Samples		Percent		Escapement	No. in Escapement	
		Males	Females	Males	Females		Males	Females
7/1-10	9	98	149	39.7	60.3	14,856	5,898	8,958
11	8	78	127	38.0	62.0	3,090	1,174	1,916
12	6	57	92	38.3	61.7	8,754	3,353	5,401
13-14	5	36	94	27.7	72.3	10,860	3,008	7,852
15-16	7	57	131	30.3	69.7	182,286	55,233	127,053
17	6	41	119	25.6	74.4	70,404	18,023	52,381
18	7	49	143	25.5	74.5	69,060	17,610	51,450
19	7	60	123	32.8	67.2	34,314	11,255	23,059
20	6	42	117	26.4	73.6	60,444	15,957	44,487
21	6	56	90	38.4	61.6	63,750	24,480	39,270
22	6	47	117	28.7	71.3	60,150	17,263	42,887
23-24	7	67	111	37.6	62.4	176,886	66,509	110,377
25	6	51	109	31.9	68.1	32,232	10,282	21,950
26-27	8	77	124	38.3	61.7	76,272	29,212	47,060
28-8/6	7	79	106	42.7	57.3	133,254	56,899	76,355
TOTALS	101	895	1,752	33.73	66.27	996,612	336,156	660,456

Table 43

UGASHIK RIVER ESCAPEMENT, AGE COMPOSITION OF MALE RED SALMON BY DATE,
1965

Date	No. of Samples	No. of Fish	Percent					Total
			4 ₂	4 ₃	5 ₂	5 ₃	6 ₃	
7/1-10	9	98	34.7	- -	8.2	57.1	- -	100.0
11	8	78	16.7	1.3	12.8	66.6	2.6	100.0
12	6	57	15.8	- -	8.8	66.6	8.8	100.0
13-14	5	36	22.2	- -	2.8	66.7	8.3	100.0
15-16	7	57	8.8	- -	5.3	85.9	- -	100.0
17	6	41	19.5	- -	2.4	73.2	4.9	100.0
18	7	49	12.3	- -	10.2	75.5	2.0	100.0
19	7	60	21.7	- -	5.0	73.3	- -	100.0
20	6	42	4.8	- -	9.5	80.9	4.8	100.0
21	6	56	8.9	- -	- -	87.5	3.6	100.0
22	6	47	8.5	2.1	6.4	78.7	4.3	100.0
23-24	7	67	11.9	- -	4.5	83.6	- -	100.0
25	6	51	11.8	- -	7.8	80.4	- -	100.0
26-27	8	77	14.3	- -	3.9	80.5	1.3	100.0
28-8/6	7	79	15.2	1.3	6.3	72.1	5.1	100.0
TOTALS		101	895					
WEIGHTED PERCENTAGES			12.73	0.33	5.32	79.40	2.22	100.00

Table 44

UGASHIK RIVER ESCAPEMENT, AGE COMPOSITION OF FEMALE RED SALMON BY DATE
1965

Date	No. of Samples	No. of Fish	Percent					Total
			4 ₂	4 ₃	5 ₂	5 ₃	6 ₃	
7/1-10	9	149	12.1	- -	11.4	76.5	- -	100.0
11	8	127	12.6	- -	3.9	79.6	3.9	100.0
12	6	92	10.9	- -	8.7	76.1	4.3	100.0
13-14	5	94	18.1	3.2	8.5	70.2	- -	100.0
15-16	7	131	9.1	- -	4.6	85.5	0.8	100.0
17	6	119	13.4	- -	8.4	74.0	4.2	100.0
18	7	143	7.0	- -	8.4	81.8	2.8	100.0
19	7	123	8.9	- -	3.3	78.9	8.9	100.0
20	6	117	6.0	- -	3.4	88.0	2.6	100.0
21	6	90	8.9	- -	7.8	82.2	1.1	100.0
22	6	117	7.7	- -	6.8	82.9	2.6	100.0
23-24	7	111	7.2	- -	3.6	85.6	3.6	100.0
25	6	109	10.1	- -	2.8	85.3	1.8	100.0
26-27	8	124	15.3	- -	4.0	78.3	2.4	100.0
28-8/6	7	106	15.1	0.9	7.6	73.6	2.8	100.0
TOTALS	101	1,752						
WEIGHTED PERCENTAGES			9.98	0.14	5.65	81.60	2.63	100.00

Table 45
 UGASHIK RIVER ESCAPEMENT, AGE COMPOSITION OF RED SALMON,
 BOTH SEXES COMBINED, 1965

	Age Group					Total
	4 ₂	4 ₃	5 ₂	5 ₃	6 ₃	
MALES:						
Number	42,789	1,118	17,871	266,896	7,482	336,156
Percent	12.73	0.33	5.32	79.40	2.22	100.00
FEMALES:						
Number	65,929	938	37,329	538,904	17,356	660,456
Percent	9.98	0.14	5.65	81.60	2.63	100.00
SEXES COMBINED:						
Number	108,718	2,056	55,200	805,800	24,838	996,612
Percent	10.91	0.21	5.54	80.85	2.49	100.00

NUSHAGAK DISTRICT

The Nushagak district is comprised of three sections: Nushagak, Igushik and Snake. A map of the district is shown in Figure 5. Shaded areas are exposed at mean low water. The fishing boundaries have remained the same since 1960. Final catch and escapement figures are given in Table 46.

The Snake River section of the Nushagak district was closed to commercial fishing again in 1965 as it has been since 1961. This closure was necessitated by the severe decline in the sockeye returns to the Snake River in recent years. Although the Snake River section is closed to commercial fishing, it is certain that sockeye destined for the Snake River are taken in the Nushagak fishery. For this reason, Nushagak commercial catch is pro-rated to the Snake River as well as to the Wood, Igushik and Nuyakuk rivers. Due to lack of funds and because of this expected low return, the counting tower was discontinued on the Snake River in 1965. The total estimated escapement of 12,000 sockeye, based on spawning ground surveys, indicates the importance of providing maximum protection for this system.

The 1965 red salmon return of 1,892,589 sockeye to the Nushagak district was poor as predicted. During the regulatory period, June 25-July 18, a total of 319 fishing hours were allowed in the Nushagak section and 268 fishing hours for the Igushik section (Table 1). This represents only a slight decrease in fishing time as compared to 1964 when 321 fishing hours were allowed for the Nushagak district.

Weather conditions were abnormally cool throughout the fishing season following a late spring break up and a severe winter. Fishing efforts were hampered by several days of inclement weather. Vessels were restricted to certain sheltered fishing areas and some difficulty was encountered by the set net fishery.

Considering the poor return, a fair to good escapement was obtained in all systems of the district. The one bright spot in the 1965 run was the escapement of 203,070 salmon to the Tikchik Lake system. This represents the largest escapement to this system since 1948 when an estimated 303,000 red salmon entered the system.

The red salmon catch of 793,323 in the Nushagak system represents 74.9% of the district's total catch of 1,059,613 salmon of all species. The 1965 red salmon catch represents a 16.3% decrease under the 14-year (1951-64) average catch of 948,296 sockeye. The king salmon catch of 85,910 represents a 44.5% increase over the 14-year (1951-64) average catch of 58,766 kings. The small chum catch of 177,434, lowest since 1957, was primarily due to curtailment of canning operations in the Nushagak district during the latter part

NUSHAGAK DISTRICT (Continued)

of July. The coho catch of 2,851 fish was the lowest catch in 11 years. Pink salmon enter this district in harvestable numbers only during the even years.

The Nushagak district has had an increased effort during the past several years for both king salmon and pinks (during even years). The 1965 fishing effort on red salmon, during the regulatory period, was the lowest since statehood. Most of the normal effort was transferred to the Naknek-Kvichak district where a record breaking return was being experienced. Three hundred and fifty-seven set nets comprised the largest effort in the district.

Sampling procedures remained the same as in 1964. An additional catch sampler operated from the Pacific American Fisheries cannery at Dillingham. More effort was made to obtain data from the king and chum fishery.

Sample sex and age composition data for the Igushik catch is given in Tables 51-53. These samples represent a relatively pure sample of Igushik fish harvested (by set net and drift skiff) at the mouth of the Igushik River. To prevent biasing the Nushagak district sample with this pure Igushik sample, the Igushik sample sex and age composition was applied to the pure Igushik catch (obtained from cannery records and subtracted from the total Nushagak catch) while the Nushagak district sample data was applied to the Nushagak district catch minus the Igushik catch. The fish from these two groups were then combined to obtain the total Nushagak-Igushik district catch. It was necessary to combine the Igushik catch with the Nushagak district catch (prior to pro-rating this catch to the individual systems) since some Igushik fish are harvested in the Nushagak district.

The method described on pages 18-19 in the Naknek-Kvichak narrative was used to apportion the Nushagak-Igushik commercial catch to the individual river systems.

Figure 5. 1965 NUSHAGAK COMMERCIAL FISHING DISTRICT.

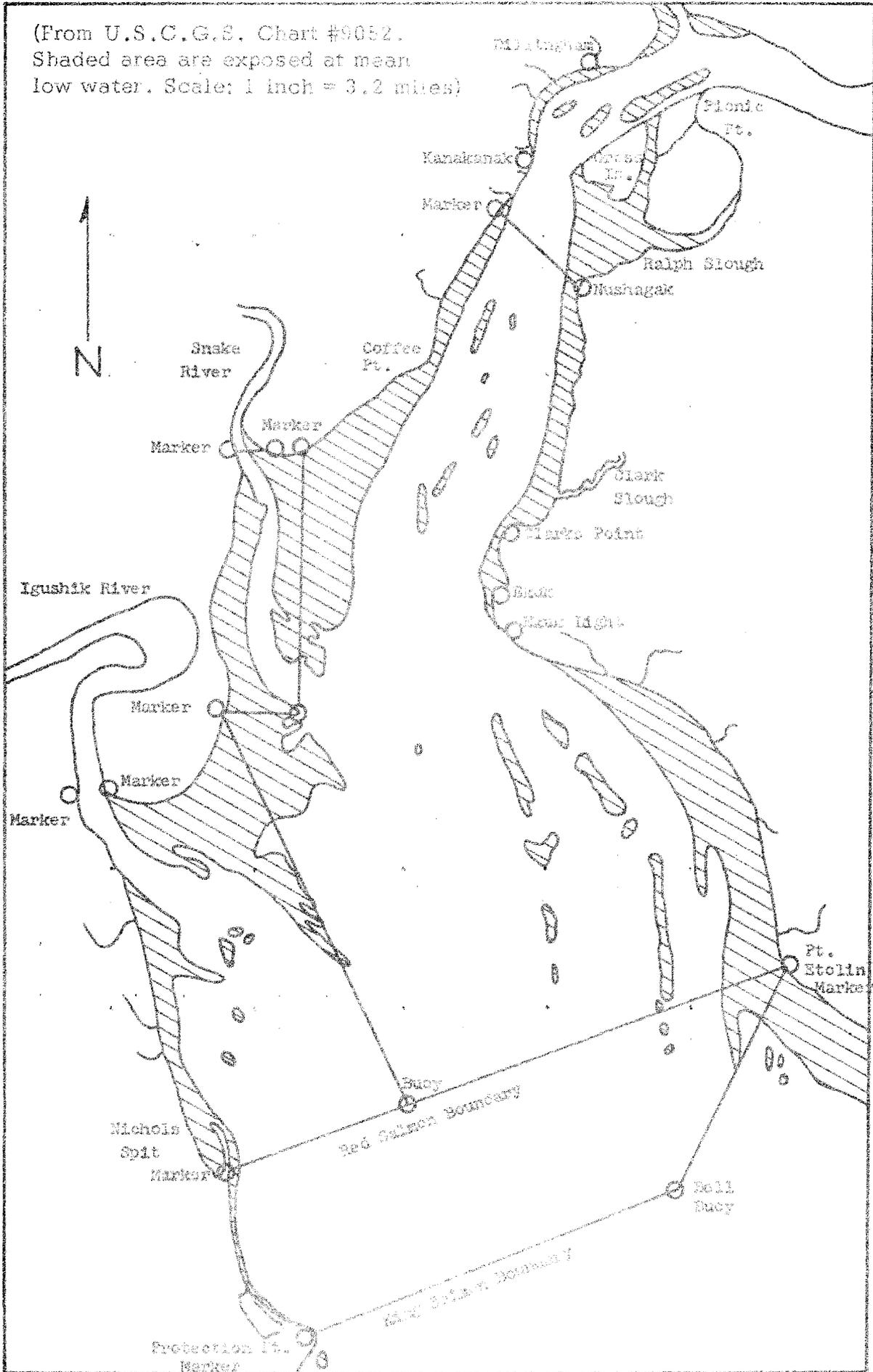


Table 46

NUSHAGAK-IGUSHIK DISTRICT, CATCH AND ESCAPEMENT BY AGE GROUP, RED SALMON,
1965

70

	3 ₁	3 ₂	4 ₁	4 ₂	5 ₂	5 ₃	6 ₂	6 ₃	Total
WOOD RIVER									
Escapement	599	1,586	1,269	161,746	442,087	44,800	615	22,454	675,156
Catch	-	-	5,728	63,828	329,588	50,374	-	18,978	468,496
Subtotal	599	1,586	6,997	225,574	771,675	95,174	615	41,432	1,143,652
Percent	0.05	0.14	0.61	19.73	67.48	8.32	0.05	3.62	100.00
IGUSHIK RIVER									
Escapement	-	-	160	20,851	131,931	18,820	-	9,078	180,840
Catch	-	-	711	8,222	98,160	18,428	-	7,690	133,211
Subtotal	-	-	871	29,073	230,091	37,248	-	16,768	314,051
Percent	-	-	0.28	9.26	73.26	11.86	-	5.34	100.00
SNAKE RIVER									
Escapement	-	-	-	3,325	7,736	433	-	506	12,000
Catch	-	-	-	1,102	5,759	863	-	422	8,146
Subtotal	-	-	-	4,427	13,495	1,296	-	928	20,146
Percent	-	-	-	21.97	66.99	6.43	-	4.61	100.00
NUYAKUK RIVER									
Escapement	-	-	4,559	23,653	161,388	9,932	-	3,538	203,070
Catch	-	-	20,642	8,926	119,209	9,536	-	2,973	161,286
Subtotal	-	-	25,201	32,579	280,597	19,468	-	6,511	364,356
Percent	-	-	6.92	8.94	77.01	5.34	-	1.79	100.00
NUSHAGAK-MULCHATNA									
Escapement	-	-	633	3,285	22,413	1,379	-	490	28,200
Catch	-	-	2,871	1,220	16,351	1,331	-	411	22,184
Subtotal	-	-	3,504	4,505	38,764	2,710	-	901	50,384
Percent	-	-	6.95	8.94	76.94	5.38	-	1.79	100.00
TOTAL NUSHAGAK-IGUSHIK DISTRICT									
Escapement	599	1,586	6,621	212,860	765,555	75,364	615	36,066	1,099,266
Catch	-	-	29,952	83,298	569,067	80,532	-	30,474	793,323
Subtotal	599	1,586	36,573	396,158	1,334,622	155,896	615	66,540	1,892,589
Percent	0.03	0.08	1.93	15.65	70.52	8.24	0.03	3.52	100.00

Table 47

NUSHAGAK-IGUSHIK COMMERCIAL CATCH
SEX COMPOSITION OF RED SALMON BY FISHING PERIOD, 1965

Period	No. of Samples	No. in Samples		Percent		Commercial Catch	No. in Catch	
		Males	Females	Males	Females		Males	Females
5/30-6/26	15	240	652	26.9	73.1	82,491	22,190	60,301
29	4	125	279	30.9	69.1	111,627	34,493	77,134
7/2-3	3	166	256	39.3	60.7	158,799	62,408	96,391
7	3	157	217	42.0	58.0	63,583	26,705	36,878
8	1	61	77	44.2	55.8	78,319	34,617	43,702
9-24	7	433	376	53.5	46.5	235,718	126,109	109,609
TOTALS	33	1,182	1,857	41.96	58.04	730,537	306,522	424,015

Table 48

NUSHAGAK-IGUSHIK COMMERCIAL CATCH
AGE COMPOSITION OF MALE RED SALMON BY FISHING PERIOD, 1965

Period	No. of Samples	No. of Fish	Age Group					Totals
			4_1	4_2	5_2 Percent	5_3	6_3	
5/30-6/26	15	240	1.2	12.5	79.6	3.8	2.9	100.0
29	4	125	1.6	10.4	75.2	9.6	3.2	100.0
7/2-3	3	166	6.0	13.9	56.6	21.7	1.8	100.0
7	3	157	3.2	23.6	54.1	15.3	3.8	100.0
8	1	61	6.6	21.3	54.1	18.0	---	100.0
9-24	7	433	2.1	19.6	56.3	17.6	4.4	100.0
TOTALS	33	1,182						
WEIGHTED PERCENTAGES			3.38	17.43	59.73	16.38	3.08	100.00

Table 49
 NUSHAGAK-IGUSHIK COMMERCIAL CATCH
 AGE COMPOSITION OF FEMALE RED SALMON BY PERIOD, 1965

Period	No. of Samples	No. of Fish	Age Group					Totals
			4_1	4_2	5_2 Percent	5_3	6_3	
5/30-6/26	15	652	4.0	1.7	89.1	2.1	3.1	100.0
29	4	279	1.8	3.6	87.1	3.6	3.9	100.0
7/2-3	3	256	5.5	1.9	84.0	4.7	3.9	100.0
7	3	217	6.0	5.1	75.6	6.4	6.9	100.0
8	1	77	5.2	10.4	80.5	1.3	2.6	100.0
9-24	7	376	5.1	12.2	72.1	7.7	2.9	100.0
TOTALS	33	1,857						
WEIGHTED PERCENTAGES			4.52	6.00	81.12	4.70	3.66	100.00

Table 50

IGUSHIK COMMERCIAL CATCH
SEX COMPOSITION OF RED SALMON BY FISHING PERIOD, 1965

Period	No. of Samples	No. in Samples		Percent		Commercial Catch	No. in Catch	
		Males	Females	Males	Females		Males	Females
5/30-6/26	4	174	371	31.9	68.1	20,782		
29						10,303	9,916	21,169
7/2-3						6,688		
7	1	69	111	38.3	61.7	3,608	3,943	6,353
8						6,573		
9-10	1	81	72	52.9	47.1	3,461	5,308	4,726
12-19	1	66	64	50.8	49.2	11,371	5,776	5,595
TOTALS	7	390	618	39.73	60.27	62,786	24,943	37,843

Note: 5/30 - 6/26 sample used to weight 6/29 catch.

7/7 sample used to weight 7/2-3 catch.

7/9 - 10 sample used to weight 7/8 catch.

Table 51
 IGUSHIK COMMERCIAL CATCH
 AGE COMPOSITION OF MALE RED SALMON BY FISHING PERIOD, 1965

Period	No. of Samples	No. of Fish	Age Group					Totals
			4 ₁	4 ₂	5 ₂	5 ₃	6 ₃	
			Percent					
5/30-6/26	4	174	---	13.8	67.2	14.4	4.6	100.0
29	-	---	---	---	---	---	---	---
7/2-3	-	---	---	---	---	---	---	---
7	1	69	1.5	15.9	42.0	37.7	2.9	100.0
8	-	---	---	---	---	---	---	---
9-10	1	81	1.2	6.2	59.3	17.3	16.0	100.0
12-19	1	66	---	12.1	47.0	31.8	9.1	100.0
TOTALS	7	390						
WEIGHTED PERCENTAGES			0.49	12.12	56.86	22.73	7.80	100.00

Note: 5/30 - 6/26 sample used to weight 6/29 catch.

7/7 sample used to weight 7/2-3 catch.

7/9 - 10 sample used to weight 7/8 catch.

Table 52

IGUSHIK COMMERCIAL CATCH
AGE COMPOSITION OF FEMALE RED SALMON BY FISHING PERIOD, 1965

Period	No. of Samples	No. of Fish	Age Group					Totals
			⁴ ₁	⁴ ₂	⁵ ₂ Percent	⁵ ₃	⁶ ₃	
5/30-6/26	4	371	0.8	3.0	83.8	4.6	7.8	100.0
29								
7/2-3								
7	1	111		5.4	73.9	11.7	9.0	100.0
8								
9-10	1	72	2.8	5.6	47.2	26.4	18.0	100.0
12-19	1	64		3.1	56.3	31.2	9.4	100.0
TOTALS	7	618						
WEIGHTED PERCENTAGES			0.80	3.74	73.50	12.45	9.51	100.00

Note: 5/30 - 6/26 sample used to weight 6/29 catch.

7/7 sample used to weight 7/2-3 catch.

7/9-10 sample used to weight 7/8 catch.

Table 53

NUSHAGAK-IGUSHIK DISTRICT COMMERCIAL CATCH, AGE COMPOSITION OF RED SALMON,
BOTH SEXES COMBINED, 1965

	Age Group					Total
	4_1	4_2	5_2	5_3	6_3	
MALES:						
Number	10,473	56,452	197,282	55,879	11,379	331,465
Percent	3.16	17.03	59.52	16.86	3.43	100.00
FEMALES:						
Number	19,479	26,846	371,785	24,653	19,095	461,858
Percent	4.22	5.81	80.50	5.34	4.13	100.00
SEXES COMBINED:						
Number	29,952	83,298	569,067	80,532	30,474	793,323
Percent	3.78	10.50	71.73	10.15	3.84	100.00

Table 54

WOOD RIVER DAILY RED SALMON ESCAPEMENT COUNTS, 1965

Date	Daily Counts	Daily Percent of Total	Accum. Counts
6/22	60	0.01	60
23	42	0.01	102
24	72	0.01	174
25	30	0.00	204
26	96	0.01	300
27	96	0.01	396
28	270	0.04	666
29	174	0.03	840
30	426	0.06	1,266
7/ 1	510	0.08	1,776
2	486	0.07	2,262
3	450	0.07	2,712
4	2,922	0.43	5,634
5	33,762	5.00	39,396
6	118,356	17.53	157,752
7	173,364	25.68	331,116
8	133,224	19.73	464,340
9	91,746	13.59	556,086
10	58,878	8.72	614,964
11	18,240	2.70	633,204
12	6,960	1.03	640,164
13	4,788	0.71	644,952
14	2,364	0.35	647,316
15	7,692	1.14	655,008
16	5,646	0.84	660,654
17	4,056	0.60	664,710
18	5,724	0.85	670,434
19	2,796	0.41	673,230
20	726	0.11	673,956
21	654	0.10	674,610
22	396	0.06	675,006
23	84	0.01	675,090
24	66	0.01	675,156
TOTALS	675,156	100.00	675,156

Table 55
 WOOD RIVER ESCAPEMENT, SEX COMPOSITION OF RED SALMON
 BY DATE, 1965

Date	No. of Samples	No. in Samples		Percent		Escapement	No. in Escapement	
		Males	Females	Males	Females		Males	Females
6/22-7/5	7	30	72	29.4	70.6	39,396	11,582	27,814
6	8	71	131	35.1	64.9	118,356	41,543	76,813
7-8	14	138	199	40.9	59.1	306,588	125,394	181,194
9	6	68	95	34.0	66.0	91,746	31,194	60,552
10-11	9	95	127	42.8	57.2	77,118	33,007	44,111
12-24	3	27	43	38.6	61.4	41,952	16,193	25,759
TOTALS	47	429	667	38.35	61.65	675,156	258,913	416,243

Table 56
 WOOD RIVER ESCAPEMENT, AGE COMPOSITION OF MALE RED SALMON
 BY DATE, 1965

Date	No. of Samples	No. of Fish	Percent							Totals
			3 ₁	3 ₂	4 ₁	4 ₂	5 ₂	5 ₃	6 ₃	
6/22-7/5	7	30	--	--	--	16.7	60.0	16.7	6.6	100.0
6	8	71	---	1.4	---	21.1	64.8	11.3	1.4	100.0
7-8	14	138	--	--	--	29.7	65.2	3.6	1.5	100.0
9	6	68	--	--	--	29.4	60.3	5.9	4.4	100.0
10-11	9	95	--	--	1.1	17.9	66.3	6.3	8.4	100.0
12-24	3	27	3.7	--	--	40.7	51.9	--	3.7	100.0
TOTALS	47	429								
WEIGHTED PERCENTAGES			0.23	0.22	0.14	26.89	63.62	5.82	3.08	100.00

Table 57
 WOOD RIVER ESCAPEMENT, AGE COMPOSITION OF FEMALE RED SALMON
 BY DATE, 1965

Date	No. of Samples	No. of Fish	Age Group						Totals	
			3 ₂	4 ₁	4 ₂	5 ₂	5 ₃	6 ₂		6 ₃
6/22-7/5	7	72	1.4	--	23.6	61.1	8.3	--	5.6	100.0
6	8	131	0.8	--	17.5	71.0	5.3	0.8	4.6	100.0
7-8	14	199	--	0.5	18.6	70.4	8.0	--	2.5	100.0
9	6	95	--	--	26.3	62.1	6.3	--	5.3	100.0
10-11	9	127	--	--	25.2	63.7	8.7	--	2.4	100.0
12-24	3	43	--	--	44.2	48.8	4.7	--	2.3	100.0
TOTALS	47	667								
WEIGHTED PERCENTAGES			0.24	0.22	22.13	66.64	7.14	0.15	3.48	100.00

Table 58
WOOD RIVER ESCAPEMENT, AGE COMPOSITION FOR RED SALMON,
BOTH SEXES COMBINED, 1965

	Age Group								Total
	3 ₁	3 ₂	4 ₁	4 ₂	5 ₂	5 ₃	6 ₂	6 ₃	
MALES:									
Number	599	582	363	69,611	164,724	15,061	- -	7,973	258,913
Percent	0.23	0.22	0.14	26.89	63.62	5.82	- -	3.08	100.00
FEMALES:									
Number	- -	1,004	906	92,135	277,363	29,739	615	14,481	416,243
Percent	- -	0.24	0.22	22.13	66.64	7.14	0.15	3.48	100.00
SEXES COMBINED:									
Number	599	1,586	1,269	161,746	442,087	44,800	615	22,454	675,156
Percent	0.09	0.23	0.19	23.96	65.48	6.63	0.09	3.33	100.00

Table 59

IGUSHIK RIVER DAILY RED SALMON ESCAPEMENT COUNTS

1965

Date	Daily Counts	Daily Percent of Total	Accum. Counts
6/24	4	0.00	4
25	0	0.00	4
26	6	0.00	10
27	36	0.02	46
28	12	0.01	58
29	1,272	0.70	1,330
30	3,786	2.09	5,116
7/ 1	3,792	2.10	8,908
2	7,182	3.97	16,090
3	4,962	2.74	21,052
4	2,760	1.53	23,812
5	2,940	1.63	26,752
6	1,440	0.80	28,192
7	1,002	0.55	29,194
8	8,474	4.69	37,668
9	20,946	11.58	58,614
10	27,606	15.27	86,220
11	29,712	16.43	115,932
12	28,140	15.56	144,072
13	14,106	7.80	158,178
14	7,026	3.89	165,204
15	2,352	1.30	167,556
16	1,542	0.85	169,098
17	1,668	0.92	170,766
18	1,644	0.91	172,410
19	2,340	1.29	174,750
20	1,722	0.95	176,472
21	1,656	0.92	178,128
22	780	0.43	178,908
23	258	0.14	179,166
24	648	0.36	179,814
25	408	0.23	180,222
26	414	0.23	180,636
27	186	0.10	180,822
28	18	0.01	180,840
TOTALS	180,840	100.00	180,840

Table 60

IGUSHIK RIVER ESCAPEMENT, SEX COMPOSITION OF RED SALMON BY DATE, 1965

Date	No. of Samples	No. in Samples		Percent		Escapement	No. in Escapement		
		Males	Females	Males	Females		Males	Females	
6/24-7/3	7	69	66	51.1	48.9	21,052	10,758	10,294	
	4	7	65	92	41.4	58.6	2,760	1,143	1,617
	5	4	39	58	40.2	59.8	2,940	1,182	1,758
	6	17	182	239	43.2	56.8	1,440	622	818
	8-9	13	103	216	32.3	67.7	30,422	9,826	20,596
	10	10	88	160	35.5	64.5	27,606	9,800	17,806
	11	9	64	144	30.8	69.2	29,712	9,151	20,561
	12	12	104	187	35.7	64.3	28,140	10,046	18,094
	13-16	7	61	126	32.6	67.4	25,026	8,158	16,868
	17-18	16	117	311	27.3	72.7	3,312	904	2,408
	19-28	5	71	63	53.0	47.0	8,430	4,468	3,962
TOTALS	107	963	1,662	36.53	63.47	180,840	66,058	114,782	

Table 61
 IGUSHIK RIVER ESCAPEMENT, AGE COMPOSITION OF MALE RED SALMON
 BY DATE, 1965

Date	No. of Samples	No. of Fish	Age Group				Totals	
			⁴ ₁	⁴ ₂	⁵ ₂	⁵ ₃		⁶ ₃
			Percent					
6/24-7/3	7	69	- -	18.9	73.9	5.8	1.4	100.0
4	7	65	- -	18.5	75.4	- -	6.1	100.0
5	4	39	- -	15.4	69.2	7.7	7.7	100.0
6	17	182	0.5	17.0	74.7	3.9	3.9	100.0
7-9	13	103	- -	16.5	67.0	10.7	5.8	100.0
10	10	88	- -	13.6	76.2	6.8	3.4	100.0
11	9	64	- -	9.4	78.1	7.8	4.7	100.0
12	12	104	- -	10.6	69.2	12.5	7.7	100.0
13-16	7	61	- -	14.8	75.4	1.6	8.2	100.0
17-18	16	117	- -	18.8	63.2	10.3	7.7	100.0
19-28	5	71	- -	5.6	83.1	5.7	5.6	100.0
TOTALS	107	963						
WEIGHTED PERCENTAGES			0.00	13.68	73.70	7.43	5.19	100.00

Table 62
 IGUSHIK RIVER ESCAPEMENT, AGE COMPOSITION OF FEMALE RED SALMON
 BY DATE, 1965

Date	No. of Samples	No. of Fish	Percent					Totals	
			4 ₁	4 ₂	5 ₂	5 ₃	6 ₃		
6/24-7/3	7	66	1.5	4.5	84.9	7.6	1.5	100.0	
	4	7	92	--	12.0	77.2	6.5	4.3	100.0
	5	4	58	--	5.2	89.7	3.4	1.7	100.0
	6	17	239	0.4	9.6	81.2	6.3	2.5	100.0
	7-9	13	216	--	9.7	68.5	16.7	5.1	100.0
	10	10	160	--	9.4	76.2	9.4	5.0	100.0
	11	9	144	--	13.9	65.3	13.9	6.9	100.0
	12	12	187	--	12.3	69.0	13.9	4.8	100.0
	13-16	7	126	--	7.9	77.0	11.1	4.0	100.0
	17-18	16	311	--	13.8	74.9	4.8	6.5	100.0
	19-28	5	63	--	14.3	66.7	11.1	7.9	100.0
TOTALS			107	1,662					
WEIGHTED PERCENTAGES				0.14	10.29	72.53	12.12	4.92	100.00

Table 63
 IGUSHIK RIVER ESCAPEMENT, AGE COMPOSITION OF RED SALMON,
 BOTH SEXES COMBINED, 1965

	$\begin{matrix} 4 \\ 1 \end{matrix}$	Age Group $\begin{matrix} 4 \\ 2 \end{matrix}$	$\begin{matrix} 5 \\ 2 \end{matrix}$	$\begin{matrix} 5 \\ 3 \end{matrix}$	$\begin{matrix} 6 \\ 3 \end{matrix}$	Totals
MALES:						
Number	3	9,038	48,681	4,905	3,431	66,058
Percent	0.00	13.68	73.70	7.43	5.19	100.00
FEMALES:						
Number	157	11,813	83,250	13,915	5,647	114,782
Percent	0.14	10.29	72.53	12.12	4.92	100.00
SEXES COMBINED:						
Number	160	20,851	131,931	18,820	9,078	180,840
Percent	0.09	11.53	72.95	10.41	5.02	100.00

1965 SNAKE RIVER ESCAPEMENT DATA

In 1965, a counting tower was not operated on the Snake River because of lack of funds and a forecast for a return of only 50,000 sockeye. Escapement was enumerated from towers during the years 1960-64. In order to arrive at some estimate of escapement, spawning ground surveys were conducted which resulted in an estimate of 12,000 sockeye in the Snake River system. Sampling was conducted on July 13-14 to obtain sex and age class composition of the Snake River escapement. The following table summarizes the data collected during the 1965 season.

Sampling indicated 51.20 % males, 48.80% females.

Table 64

1965 SNAKE RIVER ESCAPEMENT, AGE COMPOSITION OF RED SALMON BY SEX

	Age Group				Total
	4 ₂	5 ₂	5 ₃	6 ₃	
MALES:					
Number	939	4,627	361	217	6,144
Percent	15.29	75.30	5.88	3.53	100.00
FEMALES:					
Number	2,386	3,109	72	289	5,856
Percent	40.74	53.09	1.23	4.94	100.00
SEXES COMBINED:					
Number	3,325	7,736	433	506	12,000
Percent	27.71	64.46	3.61	4.22	100.00

Table 65

NUYAKUK RIVER DAILY RED SALMON ESCAPEMENT COUNTS, 1965

Date	Daily Counts	Daily Percent of Total	Accum. Counts
7/ 5	36	0.02	36
6	156	0.09	192
7	174	0.09	366
8	156	0.08	522
9	18	0.01	540
10	30	0.02	570
11	48	0.02	618
12	960	0.47	1,578
13	5,286	2.60	6,864
14	29,190	14.37	36,054
15	44,688	22.01	80,742
16	30,366	14.95	111,108
17	18,210	8.97	129,318
18	22,650	11.15	151,968
19	15,930	7.84	167,898
20	8,700	4.28	176,598
21	6,060	2.98	182,658
22	3,486	1.72	186,144
23	2,460	1.21	188,604
24	2,016	0.99	190,620
25	2,484	1.22	193,104
26	1,464	0.72	194,568
27	1,830	0.90	196,398
28	894	0.44	197,292
29	1,080	0.53	198,372
30	708	0.35	199,080
31	1,002	0.49	200,082
8/ 1	822	0.41	200,904
2	384	0.19	201,288
3	300	0.15	201,588
4	234	0.12	201,822
5	192	0.10	202,014
6	288	0.14	202,302
7	306	0.15	202,608
8	462	0.23	203,070
TOTALS	203,070	100.00	203,070

Table 66

NUYAKUK RIVER ESCAPEMENT, SEX COMPOSITION OF RED SALMON BY DATE, 1965

Date	No. of Samples	No. in Samples		Percent		Escapement	No. in Escapement	
		Males	Females	Males	Females		Males	Females
7/5-13	7	86	44	66.2	33.8	6,864	4,544	2,320
14	8	77	140	35.5	64.5	29,190	10,362	18,828
15	9	86	138	38.4	61.6	44,688	17,160	27,528
16	8	75	136	35.5	64.5	30,366	10,780	19,586
17	5	51	80	38.9	61.1	18,210	7,084	11,126
18	7	72	104	40.9	59.1	22,650	9,264	13,386
19	4	57	52	52.3	47.7	15,930	8,331	7,599
20	6	52	71	42.3	57.7	8,700	3,680	5,020
21	4	57	53	51.8	48.2	6,060	3,139	2,921
22-8/8	8	89	110	44.7	55.3	20,412	9,124	11,288
TOTALS	66	702	928	41.10	58.90	203,070	83,468	119,602

Table 67

NUYAKUK RIVER ESCAPEMENT, AGE COMPOSITION OF MALE RED SALMON BY DATE, 1965

Date	No. of Samples	No. of Fish	Age Group				Total	
			4_1	4_2	5_2 Percent	5_3		6_3
7/5-13	7	86	- -	14.0	82.5	3.5	- -	100.0
14	8	77	- -	11.7	79.2	5.2	3.9	100.0
15	9	86	- -	11.6	84.9	2.3	1.2	100.0
16	8	75	1.3	9.4	86.7	1.3	1.3	100.0
17	5	51	- -	5.9	84.3	7.8	2.0	100.0
18	7	72	- -	13.9	83.3	1.4	1.4	100.0
19	4	57	3.5	14.0	79.0	3.5	- -	100.0
20	6	52	- -	7.7	88.5	3.8	- -	100.0
21	4	57	3.5	7.0	87.7	1.8	- -	100.0
22-8/8	8	89	12.4	10.1	76.4	1.1	- -	100.0
TOTALS	66	702						
WEIGHTED PERCENTAGES			2.01	10.96	82.81	3.00	1.22	100.00

Table 68

NUYAKUK RIVER ESCAPEMENT, AGE COMPOSITION OF FEMALE RED SALMON BY DATE, 1965

Date	No. of Samples	No. of Fish	Percent					Total
			4 ₁	4 ₂	5 ₂	5 ₃	6 ₃	
7/5-13	7	44	- -	11.4	72.7	15.9	- -	100.0
14	8	140	- -	15.7	70.7	11.4	2.2	100.0
15	9	138	- -	10.9	76.8	7.2	5.1	100.0
16	8	136	- -	17.7	71.3	8.8	2.2	100.0
17	5	80	- -	18.8	76.2	3.8	1.2	100.0
18	7	104	- -	7.7	86.5	4.8	1.0	100.0
19	4	52	11.6	1.9	84.6	1.9	- -	100.0
20	6	71	4.2	9.9	85.9	- -	- -	100.0
21	4	53	1.9	11.3	86.8	- -	- -	100.0
22-8/8	8	110	15.4	6.4	78.2	- -	- -	100.0
TOTALS	66	928						
WEIGHTED PERCENTAGES			2.41	12.13	77.15	6.21	2.10	100.00

Table 69

NUYAKUK RIVER ESCAPEMENT, AGE COMPOSITION OF RED SALMON, BOTH SEXES COMBINED
1965

	⁴ ₁	⁴ ₂	Age Group ⁵ ₂	⁵ ₃	⁶ ₃	Totals
MALES:						
Number	1,673	9,148	69,122	2,503	1,022	83,468
Percent	2.01	10.96	82.81	3.00	1.22	100.00
FEMALES:						
Number	2,886	14,505	92,266	7,429	2,516	119,602
Percent	2.41	12.13	77.15	6.21	2.10	100.00
SEXES COMBINED:						
Number	4,559	23,653	161,388	9,932	3,538	203,070
Percent	2.25	11.65	79.47	4.89	1.74	100.00

TOGIAC DISTRICT

The 1965 Togiak fishing district was composed of seven sections as shown in Figure 6. The one major change from the 1964 district was the establishment of the new Nunavarchak section.

The total 1965 inshore return of 330,000 sockeye was slightly above the prediction of 280,000. Of the 330,000 returning sockeye, 217,000 (65.8%) were harvested and 113,000 were allowed to reach the spawning grounds. The 1965 harvest represents the second largest catch recorded (since 1954) and was exceeded only by the 1964 commercial catch of 251,000 sockeye. The 1965 escapement of 88,000 sockeye to the Togiak River was 12.9% below the 14-year (1951-64) average of 101,000 spawners.

In addition to the sockeye harvest, other species were harvested as follows:

Kings:	10,909
Cohos:	521
Pinks:	91
Chums:	111,521

Figure 9. 1968 TOGIAK COMMERCIAL FISHING DISTRICT

(From U.S.C.G.S. Chart #8802.
Shaded areas are exposed at mean
low water. Scale: 1 inch = 10 miles)

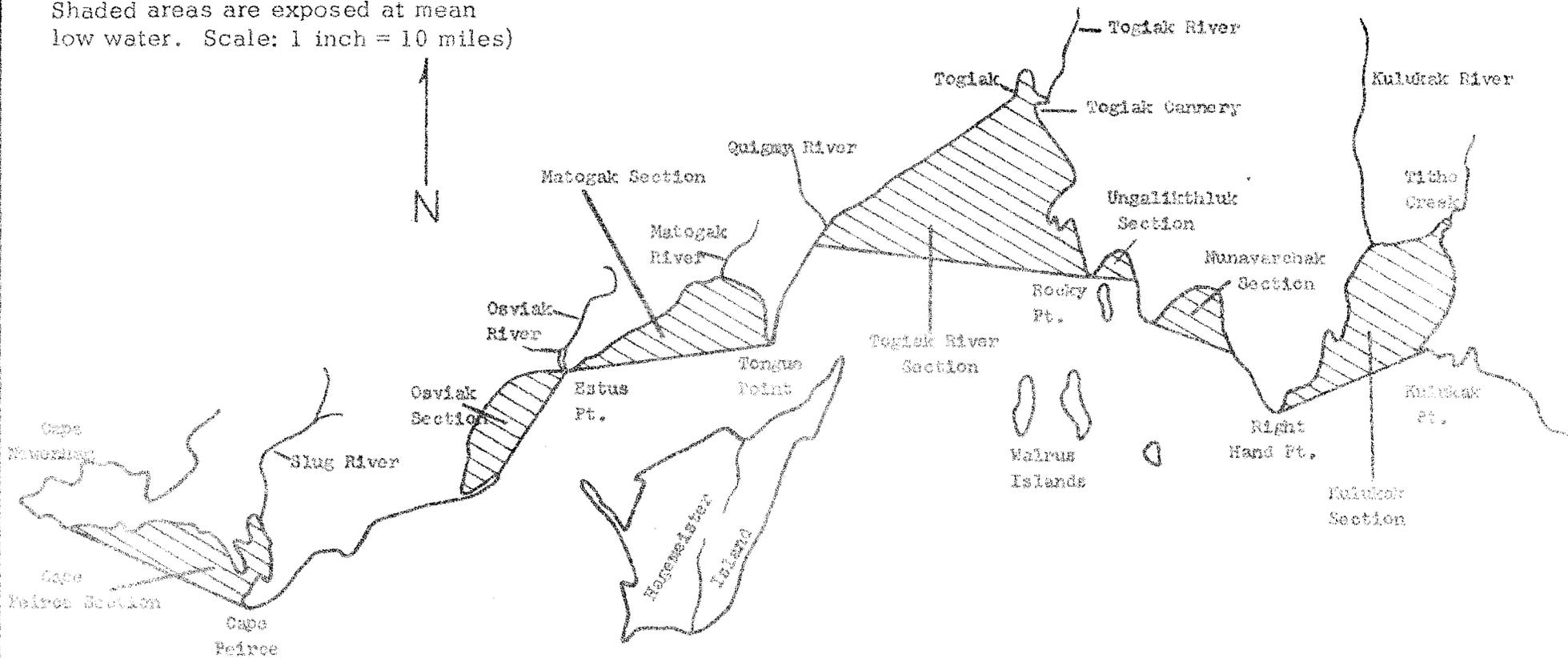


Table 70

TOGIAK DISTRICT CATCH AND ESCAPEMENT,
AGE COMPOSITION OF RED SALMON, 1965

	4_1	4_2	Age Group 5_2	5_3	6_3	Total
COMMERCIAL CATCH:						
Number	2,340	42,697	155,563	13,461	3,039	217,100
Percent	1.08	19.67	71.65	6.20	1.40	100.00
ESCAPEMENT:						
Number	121	38,981	63,519	7,523	2,642	112,786
Percent	0.11	34.56	56.32	6.67	2.34	100.00
TOTAL DISTRICT:						
Number	2,461	81,678	219,082	20,984	5,681	329,886
Percent	0.75	24.76	66.41	6.36	1.72	100.00

Table 71
 TOGIAK COMMERCIAL CATCH
 SEX COMPOSITION OF RED SALMON BY FISHING PERIOD, 1965

Period	No. in Samples	No. in Samples		Percent		Commercial Catch	No. in Catch	
		Males	Females	Males	Females		Males	Females
To 6/26	9	77	212	26.7	73.4	6,934	1,844	5,090
6/28 - 7/3	5	126	283	30.8	69.2	43,338	13,348	29,990
5 - 10	6	207	429	32.5	67.5	80,143	26,046	54,097
12 - 15	3	147	195	43.0	57.0	34,073	14,549	19,524
16 <u>1/</u>	1	28	40	41.2	58.8	-----	-----	-----
19 - 21	2	128	153	45.6	54.4	31,424	14,109	17,315
21 - 24 <u>2/</u>	3	131	165	44.3	55.7	-----	-----	-----
26 - 8/7	5	216	286	43.0	57.0	21,188	9,111	12,077
TOTALS	34	1,060	1,763	36.4	63.6	217,100	79,007	138,093

1/ This sample was taken from fish harvested in the Ungalikthluk section while the main Togiak section was closed. However, since these fish were recorded as Togiak fish in the commercial catch and combined with those fish harvested during the period 7/12-15. The two samples were combined and applied to the total catch for the period 7/12-16.

2/ Refer to footnote 1/. The samples from this period were combined with the sample of 7/19-21.

Table 72
 TOGIAK COMMERCIAL CATCH
 AGE COMPOSITION OF MALE RED SALMON BY FISHING PERIOD, 1965

Period	No. of Samples	No. of Fish	Age Group					Total
			4_1	4_2	5_2 Percent	5_3	6_3	
To 6/26	9	77	1.3	11.7	83.1	2.6	1.3	100.0
6/28 - 7/3	5	126	2.4	27.8	60.3	7.9	1.6	100.0
5 - 10	6	207	0.5	29.0	60.8	8.7	1.0	100.0
12 - 15	3	147	1.4	27.2	58.5	12.2	0.7	100.0
16	1	28	7.1	28.6	57.2	7.1	---	100.0
19 - 21	2	128	3.1	28.9	56.3	8.6	3.1	100.0
21 - 24	3	131	---	26.7	55.7	14.5	3.1	100.0
26 - 8/7	5	216	---	35.2	58.8	5.5	0.5	100.0
TOTALS	34	1,060						
WEIGHTED PERCENTAGES			1.31	28.58	59.69	9.07	1.35	100.00

Table 73

TOGIAK COMMERCIAL CATCH
AGE COMPOSITION OF FEMALE RED SALMON BY FISHING PERIOD, 1965

Period	No. of Samples	No. of Fish	Age Group					Total
			4_1	4_2	5_2	5_3	6_3	
To 6/26	9	212	2.8	1.9	93.4	0.5	1.4	100.0
6/28 - 7/3	5	283	0.7	4.6	89.4	3.9	1.4	100.0
5 - 10	6	429	1.4	11.4	83.7	2.3	1.2	100.0
12 - 15	3	195	---	21.0	69.7	7.2	2.1	100.0
16	1	40	---	25.0	65.0	10.0	---	100.0
19 - 21	2	153	2.0	24.8	66.7	5.2	1.3	100.0
21 - 24	3	165	0.6	18.2	67.3	11.5	2.4	100.0
26 - 8/7	5	286	---	37.4	53.9	7.3	1.4	100.0
TOTALS	34	1,763						
WEIGHTED PERCENTAGES			0.95	14.56	78.50	4.56	1.43	100.00

Table 74
 TOGIAK COMMERCIAL CATCH
 AGE COMPOSITION OF RED SALMON, 1965

	Age Group					
	4 ₁	4 ₂	5 ₂	5 ₃	6 ₃	Total
MALES:						
Number	1,021	22,595	47,157	7,165	1,069	79,007
Percent	1.29	28.60	59.69	9.07	1.35	100.00
FEMALES:						
Number	1,319	20,102	108,406	6,296	1,970	138,093
Percent	0.95	14.56	78.50	4.56	1.43	100.00
SEXES COMBINED:						
Number	2,340	42,697	155,563	13,461	3,039	217,100
Percent	1.08	19.67	71.65	6.20	1.40	100.00

Table 75

TOGIAK RIVER DAILY RED SALMON ESCAPEMENT COUNTS, 1965

Date	Daily Counts	Daily Percent of Total	Accum. Counts
7/ 6	24	0.03	24
7	0	0.00	24
8	30	0.03	54
9	264	0.30	318
10	1,224	1.38	1,542
11	3,720	4.21	5,262
12	6,378	7.22	11,640
13	2,382	2.69	14,022
14	4,188	4.74	18,210
15	2,790	3.16	21,000
16	4,572	5.17	25,572
17	2,442	2.76	28,014
18	1,986	2.25	30,000
19	1,968	2.23	31,968
20	3,096	3.50	35,064
21	6,342	7.18	41,406
22	5,004	5.66	46,410
23	5,730	6.48	52,140
24	4,122	4.66	56,262
25	1,494	1.69	57,756
26	2,940	3.33	60,696
27	2,730	3.09	63,426
28	2,496	2.82	65,922
29	3,474	3.93	69,396
30	2,388	2.70	71,784
31	1,878	2.12	73,662
8/ 1	1,122	1.27	74,784
2	1,272	1.44	76,056
3	1,554	1.76	77,610
4	654	0.74	78,264
5	882	1.00	79,146
6	1,344	1.52	80,490
7	804	0.91	81,294
8	888	1.00	82,182
9	594	0.67	82,776
10	978	1.11	83,754
11	840	0.95	84,594
12	492	0.56	85,086
13	486	0.55	85,572
14	342	0.39	85,914
15	366	0.41	86,280
16	618	0.70	86,898
17	432	0.49	87,330
18	438	0.50	87,768
19	462	0.52	88,230
20	156	0.18	88,386
TOTALS	88,386	100.00	88,386

Table 76

TOGIAC RIVER ESCAPEMENT, SEX COMPOSITION OF RED SALMON BY DATE, 1965

Date	No. of Samples	No. in Samples		Percent		Escapement	No. in Escapement	
		Males	Females	Males	Females		Males	Females
7/6-16	6	50	53	48.5	51.5	25,572	12,402	13,170
17-19	5	31	66	32.0	68.0	6,396	2,047	4,349
20-21	5	44	65	40.4	59.6	9,438	3,813	5,625
22-23	9	94	89	51.4	48.6	10,734	5,517	5,217
24-29	7	61	70	46.6	53.4	17,256	8,041	9,215
30	5	54	49	52.4	47.6	2,388	1,251	1,137
7/31-8/1	4	37	46	44.6	55.4	3,000	1,338	1,662
2-20	4	46	51	47.4	52.6	13,602	6,447	7,155
TOTALS	45	417	489	46.22	53.78	88,386	40,856	47,530

Table 77

TOGIK RIVER ESCAPEMENT, AGE COMPOSITION OF MALE RED SALMON BY DATE, 1965

Date	No. of Samples	No. of Fish	Percent				Total
			4 ₂	5 ₂	5 ₃	6 ₃	
7/6-16	6	50	42.0	52.0	6.0	- -	100.0
17-19	5	31	19.3	61.3	12.9	6.5	100.0
20-21	5	44	27.3	56.8	13.6	2.3	100.0
22-23	9	94	38.3	52.1	8.5	1.1	100.0
24-29	7	61	32.8	54.1	11.5	1.6	100.0
30	5	54	42.6	53.7	3.7	- -	100.0
7/31-8/1	4	37	54.1	40.5	5.4	- -	100.0
2-20	4	46	32.6	65.2	- -	2.2	100.0
TOTALS	45	417					
WEIGHTED PERCENTAGES			36.11	55.10	7.44	1.35	100.00

Table 78

TOGIAC RIVER ESCAPEMENT, AGE COMPOSITION OF FEMALE RED SALMON BY DATE, 1965

Date	No. of Samples	No. of Fish	Percent					Totals
			4 ₁	4 ₂	5 ₂	5 ₃	6 ₃	
7/6-16	6	53	- -	35.8	58.5	1.9	3.8	100.0
17-19	5	66	- -	28.8	60.6	6.1	4.5	100.0
20-21	5	65	- -	20.0	67.7	7.7	4.6	100.0
22-23	9	89	1.1	25.9	52.8	18.0	2.2	100.0
24-29	7	70	- -	25.7	65.7	5.7	2.9	100.0
30	5	49	- -	38.8	59.2	2.0	- -	100.0
7/31-8/1	4	46	2.2	36.9	50.0	8.7	2.2	100.0
2-20	4	51	- -	54.9	39.2	3.9	2.0	100.0
TOTALS	45	489						
WEIGHTED PERCENTAGES			0.20	33.23	57.37	6.01	3.19	100.00

Table 79

TOGIAC RIVER ESCAPEMENT, AGE COMPOSITION OF RED SALMON BY DATE, 1965

	Age Group					Totals
	4_1	4_2	5_2	5_3	6_3	
MALES:						
Number	--	14,755	22,510	3,038	553	40,856
Percent	--	36.11	55.10	7.44	1.35	100.00
FEMALES:						
Number	94	15,794	27,267	2,858	1,517	47,530
Percent	0.20	33.23	57.37	6.01	3.19	100.00
SEXES COMBINED:						
Number	94	30,549	49,777	5,896	2,070	88,386
Percent	0.11	34.56	56.32	6.67	2.34	100.00

Table 80

TOGIAK TRIBUTARIES, KULAKAK SYSTEM AND TOTAL TOGIAK DISTRICT
RED SALMON ESCAPEMENT BY AGE CLASS, 1965

	Age Group					Total
	⁴ ₁	⁴ ₂	⁵ ₂	⁵ ₃	⁶ ₃	
TOGIAK TRIBUTARIES ^{1/}	9	2,799	4,562	540	190	8,100
KULAKAK SYSTEMS ^{1/}	18	5,633	9,180	1,087	382	16,300
TOGIAK RIVER	94	30,549	49,777	5,896	2,070	88,386
TOTAL TOGIAK DISTRICT						
Number	121	38,981	63,519	7,523	2,642	112,786
Percent	0.11	34.56	56.32	6.67	2.34	100.00

^{1/} Age composition (sexes combined) of Togiak River escapement used for these systems.

NORTH SIDE ALASKA PENINSULA FISHING DISTRICT

The important sockeye fishing areas on the north side of the Alaska Peninsula are shown in Figure 7. The area designations indicated here correspond to the partitioning of the catch found in the following tables.

The 1965 run to the north side of the Alaska Peninsula was concentrated between Nelson Lagoon and Port Heiden, with the remainder of the area being very light. At Nelson Lagoon, the runs were weaker than normal, and the Bear River run was very weak (totaling only 163,000) with the second peak being only slightly larger than the first. There have been some indication in the past that these two systems vary much in the same manner. The magnitude and timing of the Bear River run closely approximated that of the 1960 parent escapement (185,000). The Sandy River run of 20,000 was considerably below the normal 150,000 run. Although the runs usually peak about July 4, the Bear River fishery did not commence until July 7 and, therefore, almost the entire Sandy River run reached the spawning grounds.

The Three Hills and Ilnik fisheries were conducted through early July. The 60,000 catch represented a low return and did not approach expectations of the excellent 1960 parent escapement of 85-100,000 in the Ilnik systems. Half the catch was taken in the Three Hills section which appears to be a milling area of Bear River as well as Ilnik fish. There was a small setnet fishery conducted on the Port Heiden runs (10,000 caught, 20,000 escaping), with the catch being air-freighted to Anchorage either fresh or frozen. The frozen fish were processed at the small plant newly constructed by Port Heiden processors.

Figure 7. MAP OF IMPORTANT RED SALMON STATISTICAL AREAS ON NORTH SIDE OF ALASKA PENINSULA, 1965.

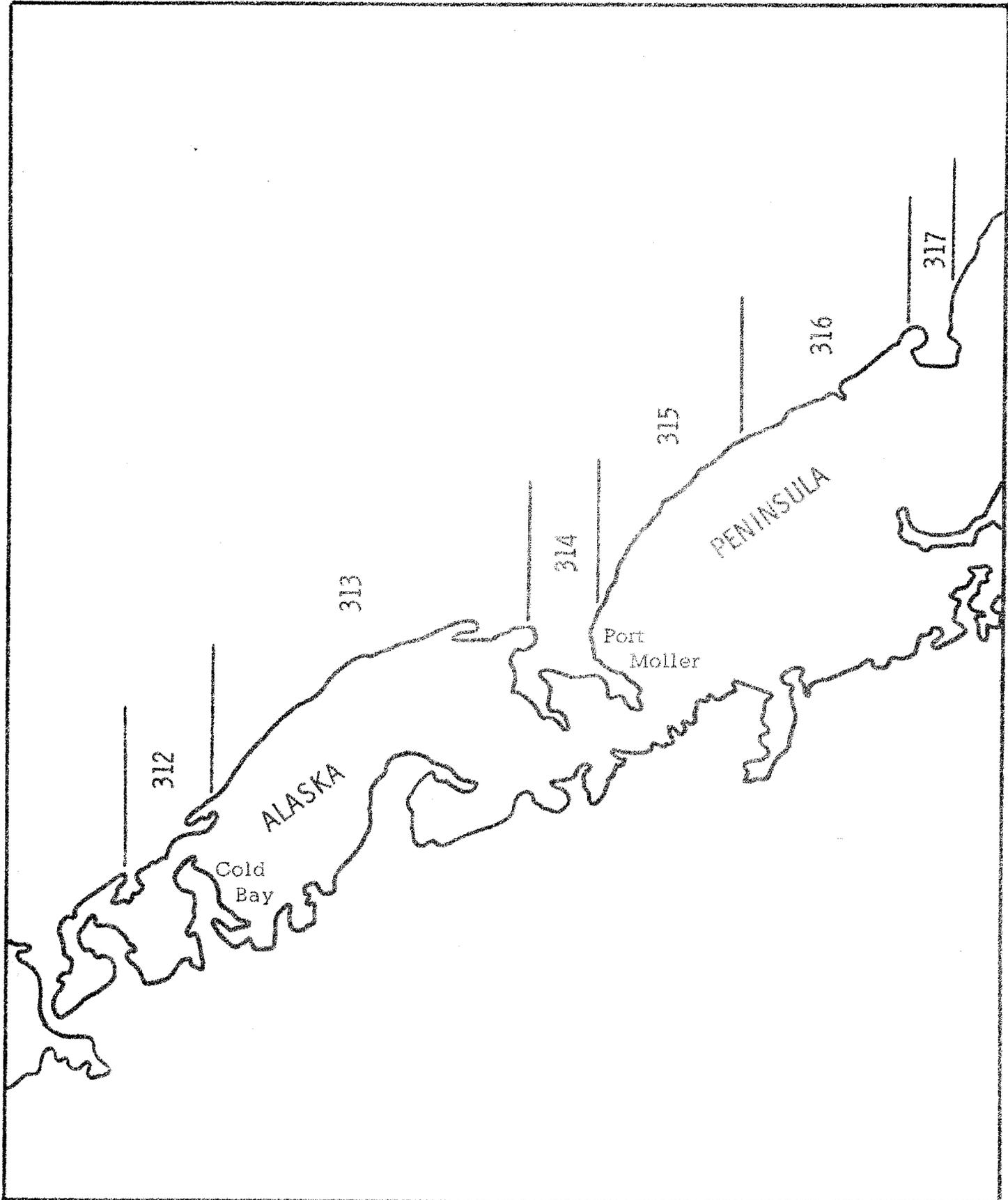


Table 81

BEAR RIVER DAILY RED SALMON ESCAPEMENT COUNTS, 1965

Date	Daily Counts	Daily % of Total	Accum. Count
		0.97	1,000 ^{1/}
June 28	37	0.04	1,037
29	579	0.56	1,616
30	980	0.96	2,596
July 1	1,209	1.18	3,805
2	977	0.95	4,782
3	664	0.65	5,446
4	586	0.57	6,032
5	2,673	2.61	8,705
6	3,519	3.44	12,224
7	1,387	1.35	13,611
8	1,058	1.03	14,669
9	1,828	1.79	16,497
10	1,646	1.61	18,143
11	1,047	1.02	19,190
12	642	0.63	19,832
13	860	0.84	20,692
14	1,329	1.30	22,021
15	2,041	1.99	24,062
16	3,915	3.82	27,977
17	1,799	1.76	29,776
18	1,348	1.32	31,014
19	555	0.54	31,569
20	1,859	1.82	33,428
21	1,787	1.74	35,215
22	2,385	2.33	37,600
23	4,615	4.51	42,215
24	444	0.43	42,659
25	2,041	1.99	44,700
26	2,101	2.05	46,801
27	874	0.85	47,675
28	3,353	3.27	51,028
29	4,542	4.44	55,570
30	1,650	1.61	57,220
31	2,991	2.92	60,211
Aug. 1	1,818	1.77	62,029
2	1,272	1.24	63,301
3	2,260	2.21	65,561
4	2,178	2.13	67,739
5	2,031	1.98	69,770
6	1,240	1.21	71,010
7	1,225	1.20	72,235
8	1,249	1.22	73,484
9	730	0.71	74,214
10	464	0.45	74,678
11	1,148	1.12	75,826

Continued.....

Table 81 (Cont.)

BEAR RIVER DAILY RED SALMON ESCAPEMENT COUNTS, 1965

Date	Daily Counts	Daily % of Total	Accum. Counts
Aug. 12	3,144	3.07	78,970
13	2,011	1.96	80,981
14	676	0.66	81,657
15	2,931	2.86	84,588
16	4,196	4.10	88,784
17	2,545	2.49	91,329
18	2,275	2.22	93,604
19	1,140	1.11	94,744
20	1,367	1.33	96,111
21	1,021	1.00	97,132
22	1,588	1.55	98,720
23	957	0.93	99,677
24	622	0.61	100,299
25	1,187	1.16	101,486
26	818	0.80	102,304
27	18	0.02	102,322
TOTALS	102,322	100.00	102,322

1/ Aerial survey.

Table 82

NELSON RIVER DAILY RED SALMON ESCAPEMENT COUNTS, 1965

Date	Daily Counts	Daily Percent of Total	Accum. Counts
July 4	-----	17.24	5,600 ^{1/}
5	1,065	3.28	6,665
6	2,474	7.62	9,139
7	2,600 ^{2/}	8.00	11,739
8	0 ^{2/}	0	11,739
9	1,261	3.88	13,000
10	1,391	4.28	14,391
11	386	1.19	14,777
12	821	2.53	15,598
13	2,884	8.88	18,482
14	1,421	4.37	19,903
15	951	2.93	20,854
16	900 ^{2/}	2.77	21,754
17	393	1.21	22,147
18	861	2.55	23,008
19	909	2.80	23,917
20	1,496	4.60	25,413
21	729	2.24	26,142
22	1,142	3.52	27,284
23	752	2.31	28,036
24	476	1.47	28,512
25	0 ^{2/}	0	28,512
26	627 ^{2/}	1.93	29,139
27	204 ^{2/}	0.63	29,343
28	424	1.31	29,767
29	291	0.89	30,058
30	126	0.39	30,184
31	1,172	3.61	31,356
Aug. 1	434	1.34	31,790
2	182	0.56	31,972
3	139	0.43	32,111
4	6	0.02	32,117
5	57	0.17	32,174
6	55	0.17	32,229
7	5	0.02	32,234
8	57	0.17	32,291
9	-37	0.11	32,254
10	-15	0.05	32,239
11	92	0.28	32,331
12	66	0.20	32,397
13	98	0.30	32,495

continued

Table 82 (Cont.)

NELSON RIVER DAILY RED SALMON ESCAPEMENT COUNTS, 1965

Date	Daily Counts	Daily Percent of Total	Accum. Counts
14	-12	-0.04	32,483
15	-14	-0.04	32,469
16	18	0.05	32,487
TOTALS	32,487	100.00	32,487 ^{3/}

1/ Aerial survey

2/ Incomplete count, hence daily escapement estimated.

3/ Total escapement estimate is probably low because of adverse counting conditions and interruptions associated with relocating the tower several miles upstream.

Aerial surveys showed an estimate of 43,000 reds above the tower site.

Table 83

NORTH SIDE ALASKA PENINSULA

Estimates of numbers of red salmon based on aerial surveys
of some important red salmon producing rivers, 1965

Statistical Area	River or System	Date	Estimated Red Salmon Escapement	Remarks
311	Urilia Bay	Aug. 17	7,200	Christianson's Lagoon - 3 streams
312	Applegate Cove	Aug. 17	0	2 streams
	Moffet Bay	July 26	4,750	1 stream
313	Cathedral River	July 26	-----	Too muddy for survey
	Trader Mtn. Creek	July 4	100	
	David's River	Aug. 21	2,000	River muddy
	Caribou River	Aug. 22	-----	River muddy
	Nelson River and Hoodoo Lake	July 4	6,080	
		July 17	28,000	
		July 18	25,000	
		July 27	29,200	
		Aug. 22	43,400	
315	King Salmon River	Aug. 22	-----	
316	Ocean River	July 28	1,200	
		Aug. 21	1,600	
	Willie Creek	July 17	2,500	
		July 28	2,700	
		Aug. 21	2,400	
	Ilnik	July 17	2,000	
		July 28	5,500	
		Aug. 21	7,030	
	East End of Ilnik Lagoon	Aug. 21	1,030	1 stream - Independent of the Ilnik system.
517	Meshik River	July 28	18,400	
		Aug. 21	11,550	
518	Cinder River	July 28	8,400	
		Aug. 22	1,230	

Table 84

NORTH SIDE ALASKA PENINSULA

Catch by week for statistical areas where red salmon catches occurred, 1965

Red salmon catch for area 311 (North side Unimak Island)

<u>Week of Catch</u>	<u>Red Salmon Catch</u>	<u>Accumulative Catch</u>	<u>Number of Boat - Day</u>
May 30-June 5	11	11	1
June 6-12	314	325	1
June 13-19	727	1,052	3
June 20-26	1,978	3,030	1
June 27-July 3	1,493	4,523	3
July 4-10	1,282	5,805	7
July 11-17	1,390	7,195	3
July 18-24	377	7,572	1
July 25-31	2,108	9,680	4
August 1-7	1,407	11,087	2
August 8-14	-----	11,087	-
August 15-21	-----	11,087	-
August 22-28	-----	11,087	-
August 29-Sept. 4	2,576	13,663	7
Sept. 5-11	59	13,722	2

Red salmon catch for area 312 (Izembek Bay)

June 27-July 3	104	104	3
July 4-10	29	133	1
July 11-17	277	410	10

Red salmon catch for area 313 (Nelson Lagoon)

June 13-19	3,406	3,406	110*
June 20-26	9,954	13,360	129
June 27-July 3	8,912	22,272	122
July 4-10	14,185	36,457	136
July 11-17	7,570	44,027	128
July 18-24	3,592	47,619	63
July 25-31	2,760	50,379	62
August 1-7	1,359	51,738	51
August 8-14	1,076	52,814	48
August 15-21	536	53,350	71
August 22-28	418	53,768	82
August 29-Sept. 4	61	53,829	84
Sept. 5-11	10	53,839	55

*These figures represent landings and are approximate double the actual boat-catch

Red salmon catch for area 315 (Bear and Sandy Rivers)

June 27-July 3	667	667	2
July 4-10	8,855	9,522	30
July 11-17	3,319	12,841	19

Table 84 (Cont.)

NORTH SIDE ALASKA PENINSULA

<u>Week of Catch</u>	<u>Red Salmon Catch</u>	<u>Accumulative Catch</u>	<u>Number of Boat - Days</u>
July 18-24	6,602	19,443	30
July 25-31	18,366	37,809	61
August 1-7	11,324	49,133	55
August 8-14	8,945	58,078	34
August 15-21	3,884	61,962	18

Red salmon catch for area 316 (Ilnik)

July 4-10	30,446	30,446	63
July 11-17	23,336	53,782	67
July 18-24	4,584	58,366	26

Red salmon catch for area 317

June 13-19	67	67	39*
June 20-26	1,319	1,386	40
June 27-July 3	2,578	3,964	34
July 4-10	984	4,948	38
July 11-17	2,799	7,747	35
July 18-24	1,631	9,378	39
July 25-31	259	9,637	22
August 1-7	19	9,656	2

*These figures represent landings and are approximate double the actual boat-days.

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