ADF&G TECHNICAL DATA REPORT NO. 43
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STATE OF ALASKA
Jay S. Hammond, Governor

BRISTOL BAY SOCKEYE SALMON (*Oncorhynchus nerka*) 1976

A Compilation of Catch and Escapement Data

Compiled and Edited by:
Charles P. Meacham and Richard Randall

1979

ALASKA DEPARTMENT OF FISH AND GAME
Subport Building, Juneau, Alaska 99801

Ronald O. Skoog
Commissioner

ADF&G TECHNICAL DATA REPORTS

This series of reports is designed to facilitate prompt reporting of data from studies conducted by the Alaska Department of Fish and Game, especially studies which may be of direct and immediate interest to scientists of other agencies.

The primary purpose of these reports is presentation of data. Description of programs and data collection methods is included only to the extent required for interpretation of the data. Analysis is generally limited to that necessary for clarification of data collection methods and interpretation of the basic data. No attempt is made in these reports to present analysis of the data relative to its ultimate or intended use.

Data presented in these reports is intended to be final, however, some revisions may occasionally be necessary. Minor revision will be made via errata sheets. Major revisions will be made in the form of revised reports.

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INTRODUCTION

This publication is the fourteenth in a series of annual catch and escapement statistics for the Bristol Bay sockeye salmon fishery.

Personnel of the Alaska Department of Fish and Game, Division of Commercial Fisheries collected all data and aged all scales for both the catch and escapement. Final harvest data was compiled from fish tickets by the statistics section. Age-weight-length (AWL) data, collected by field crews was keypunched by the Division of Data Processing, Alaska Department of Administration. Final compilation and tabulation of catch, escapement, and AWL data was accomplished by Jerry Hautamaki of the University of Washington Computer Center in Seattle under contract to the Alaska Department of Fish and Game and by Nancy Graves, programmer, Alaska Department of Fish and Game, Anchorage.

METHODS AND MATERIALS

Much of the data used in this report were collected by field crews and catch samplers stationed at counting towers and selected canneries throughout Bristol Bay. Figure 1 shows the approximate location of these projects.

Tower crews collected daily samples using beach seines. Cannery samplers obtained their samples as fish were unloaded from scows. Catch sample sizes were based on statistical analysis of past sampling efforts which indicated that a 600-fish sample per fishing period provided data sufficiently precise for estimation of age and sex composition. Cannery catch samplers attempted to spread their samples as much as possible among delivering scows.

Escapement enumeration of sockeye salmon was conducted on ten river systems in Bristol Bay in 1976. These were: Kvichak, Branch, Naknek, Egegik, Ugashik, Wood, Igushik, Nuyakuk, Snake, and Togiak. Escapement counts were made from towers located on the banks of each of the rivers except at Snake River where a weir has been constructed just below the lake outlet. Tower counts are conducted for ten minutes on each bank, each hour. The counts are expanded to estimate hourly escapements and the expanded counts are summed to determine the daily escapement total.

BRISTOL BAY FISHERY - 1976

After a general decline in runs since 1972 the return of sockeye salmon to the Bristol Bay watershed amounted to almost 11.5 million fish in 1976. This was only slightly above the pre-season forecasted return of 11.1 million. In addition, the commercial harvest of 5.6 million sockeye was nearly equal to the pre-season forecasted harvest of 5.7 million and surpassed the non-peak year average of 5.1 million since 1957. Escapement goals were achieved or exceeded in 9 of 11 river systems in Bristol Bay with only one major system (Ugashik) falling substantially short of the desired escapement.

The utilization of short fishing periods this season proved valuable in gauging the development of run strength to individual districts. This fishing pattern along with the standard comprehensive program of offshore test fishing, aerial surveys, and escapement enumeration eventually provided an accurate picture of run development which in turn permitted a balanced distribution between the catch and subsequent escapement.

The sliding gear schedule which adjusted the maximum amount of gear allowed per fishermen, based on the relationship between the forecasted run and amount of licensed gear, was repealed for 1976 and replaced with the previous standard compliment of gear: 150 fathoms of drift gear and 50 fathoms of set net gear. Registered vessels and fishing effort were down only slightly from the long term average with 2,176 units of gear and 1,669 fishing vessels indicating their pre-season intentions to fish in Bristol Bay in 1976. District registration was similar to previous years with Naknek-Kvichak and Nushagak districts accounting for over 75% of the total. Of the total licensed gear it is estimated that only 1,590 units, or 73% of those registering, actually participated in the fishery.

Salmon price negotiations between the industry and fishermen groups in Bristol Bay were concluded early in the season and little fishing time was lost. Fishermen in both the Naknek-Kvichak and Egegik districts lost some fishing time due to unresolved fish prices, however other major districts were not affected.

For the third consecutive year the Japanese high seas mothership salmon fleet refrained from fishing in areas where Bristol Bay sockeye migrate in late May and early June. Total Japanese high seas interception of the 1976 Bristol Bay sockeye run amounted to 257 thousand fish taken as immatures in 1975 and 677 thousand harvested as matures in 1976 for a total of 934 thousand fish or 8% of the total run. This level of interception is well below the 20-year average of 12% of the total run.

The South Unimak-Shumagin Island fishery which also intercepts sockeye salmon bound for Bristol Bay was managed under a quota system again this year. The actual sockeye catch in the Shumagin area of 73 thousand closely matched the quota there while the catch of 245 thousand by the South Unimak fishery was well below its quota.

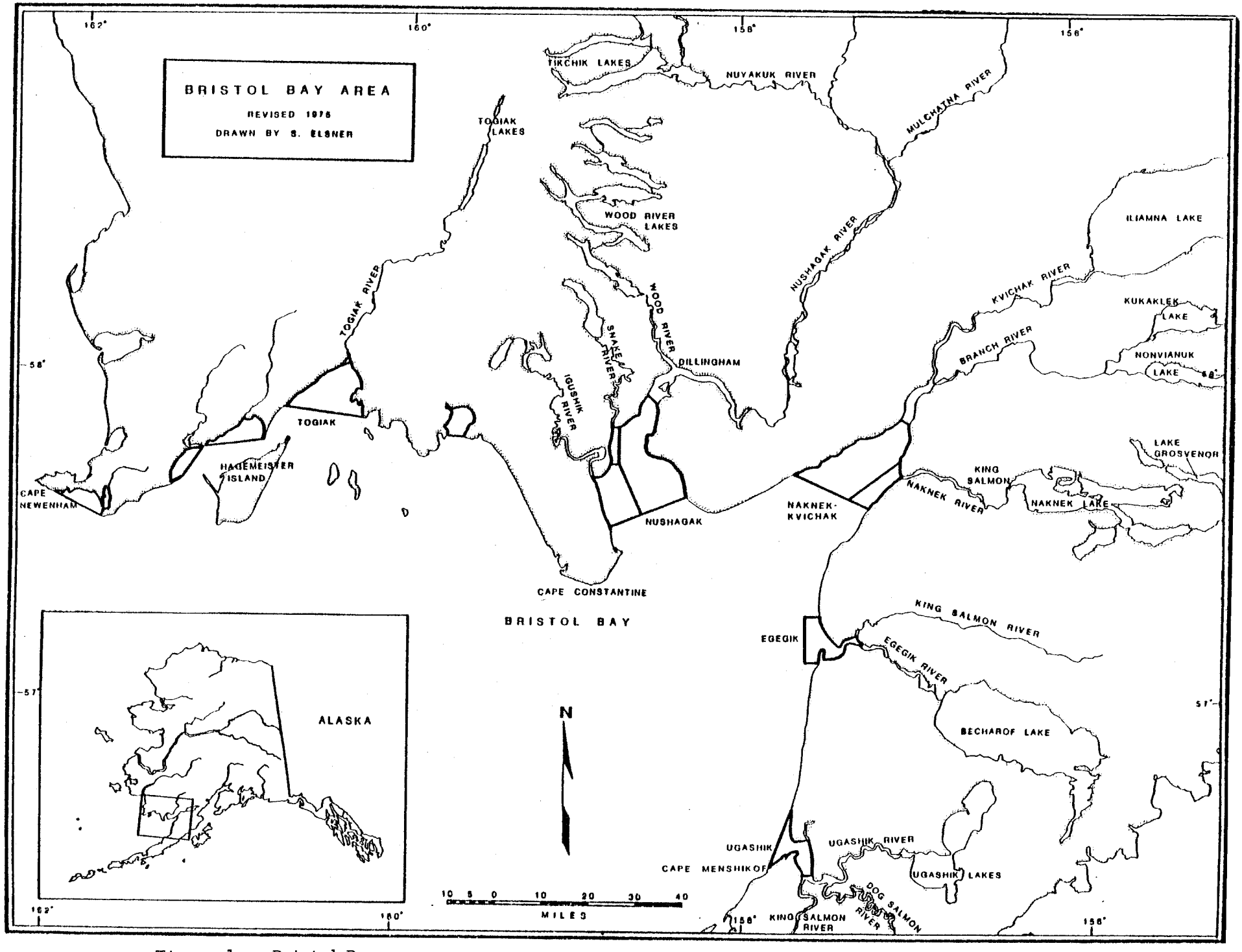

Figure 1. Bristol Bay area map.

TABLE 1 BRISTOL BAY SOCKEYE SALMON INSHORE RETURN, BY RIVER SYSTEM, 1976

SYSTEM	CATCH	ESCAPEMENT	TOTAL RETURN
KVICHAK RIVER	1,458,180	1,965,282	3,423,462
BRANCH RIVER	55,396	81,822	137,218
NAKNEK RIVER	1,033,700	1,320,750	2,354,450
SUB-TOTAL NAKNEK-KVICHAK DISTRICT	2,547,276	3,367,854	5,915,130
EGEGIK RIVER	1,329,788	509,160	1,838,948
UGASHIK RIVER	174,923	341,808	516,731 1/
IGUSHIK RIVER	142,211	186,120	328,331
SNAKE RIVER	11,037	12,728	23,765
WOOD RIVER	625,735	817,008	1,442,743
NUSHAGAK-MULCHATNA RIVER	55,703	45,200	100,903
NUYAKUK RIVER	430,736	425,220	855,956
SUB-TOTAL NUSHAGAK-IGUSHIK DISTRICT	1,265,422	1,486,276	2,751,698
TOGIAK RIVER	301,883	158,190	460,073 2/
TOTAL BAY	5,619,292	5,863,288	11,482,580

1/ DOES NOT INCLUDE 14,500 SOCKEYE SALMON ESTIMATED BY AERIAL SURVEY OF THE MOTHER GOOSE SYSTEM.

2/ DOES NOT INCLUDE 42,400 SOCKEYE SALMON ESTIMATED BY AERIAL SURVEY OF TOGIAK AND KULUKAK TRIBUTARY STREAMS.

TABLE 2 BRISTOL BAY SOCKEYE SALMON INSHORE RETURN, OCEAN AGE GROUP BY RIVER SYSTEM, 1976

SYSTEM	OCEAN AGE GROUP 1	2	3	4	TOTAL
KVICHAK					
NUMBER	1,206	2,592,209	830,047	--	3,423,462
PERCENT	.03	75.72	24.25	--	29.81
BRANCH					
NUMBER	--	111,479	25,739	--	137,218
PERCENT	--	81.24	18.76	--	1.20
NAKNEK					
NUMBER	2,482	1,540,252	811,716	--	2,354,450
PERCENT	.10	65.42	34.48	--	20.50
SUB-TOTAL NAKNEK-KVICHAK					
NUMBER	3,688	4,243,940	1,667,502	--	5,915,130
PERCENT	.06	71.75	28.19	--	51.51
EGEGIK					
NUMBER	1,870	1,488,402	346,480	2,196	1,838,948
PERCENT	.10	80.94	18.84	.12	16.02
UGASHIK					
NUMBER	--	290,683	225,338	710	516,731 1/
PERCENT	--	56.25	43.61	.14	4.50
IGUSHIK					
NUMBER	--	135,975	191,503	853	328,331
PERCENT	--	41.41	58.33	.26	2.86
SNAKE					
NUMBER	--	21,461	2,304	--	23,765
PERCENT	--	90.31	9.69	--	.21
WOOD					
NUMBER	750	893,118	548,875	--	1,442,743
PERCENT	.05	61.91	38.04	--	12.56
NUSHAGAK-MULCHATNA					
NUMBER	--	8,647	91,369	887	100,903
PERCENT	--	8.57	90.55	.88	.88
NUYAKUK					
NUMBER	--	70,175	785,308	473	855,956
PERCENT	--	8.20	91.75	.05	7.45
SUB-TOTAL NUSHAGAK-IGUSHIK					
NUMBER	750	1,129,376	1,619,359	2,213	2,751,698
PERCENT	.03	41.04	58.85	.08	23.96
TOGIAK					
NUMBER	--	136,205	323,106	762	460,073 2/
PERCENT	--	29.60	70.23	.17	4.01
TOTAL BAY					
NUMBER	6,308	7,288,606	4,181,785	5,881	11,482,580
PERCENT	.05	63.48	36.42	.05	100.00

1/ DOES NOT INCLUDE 14,500 SOCKEYE SALMON ESTIMATED BY AERIAL SURVEY OF THE MOTHER GOOSE SYSTEM.

2/ DOES NOT INCLUDE 42,400 SOCKEYE SALMON ESTIMATED BY AERIAL SURVEY OF TOGIAK AND KULUKAK TRIBUTARY STREAMS.

TABLE 3 BRISTOL BAY SOCKEYE SALMON INSHORE RETURN, AGE GROUP BY RIVER SYSTEM, NUMBER 1976

RIVER SYSTEM	AGE GROUP 31	32	41	42	43	52	53	62	63	64	73	74	TOTAL
KVICHAK	--	--	--	233,141	1,206	81,129	1,982,321	--	739,696	376,747	--	9,222	3,423,462
BRANCH	--	--	--	82,986	--	24,141	28,493	--	1,598	--	--	--	137,218
NAKNEK	--	--	--	224,227	2,482	487,284	1,304,700	--	322,194	11,325	--	2,238	2,354,450
SUB-TOTAL NAKNEK-KVICHAK	--	--	--	540,354	3,688	592,554	3,315,514	--	1,063,488	388,072	--	11,460	5,915,130
EGEGIK	--	--	847	52,128	1,870	94,655	1,349,741	732	152,242	86,533	1,464	98,736	1,838,948
UGASHIK	--	--	--	31,181	--	200,015	257,402	710	23,578	2,100	--	1,745	516,731
IGUSHIK	--	--	3,239	81,276	--	143,268	54,699	853	44,996	--	--	--	328,331
SNAKE	--	--	--	5,508	--	2,035	15,953	--	269	--	--	--	23,765
WOOD	996	750	19,164	710,227	--	502,603	181,895	--	26,476	--	--	632	1,442,743
NUSHAGAK-MULCHATNA	233	--	17,768	6,530	--	67,925	1,884	887	5,676	--	--	--	100,903
NUYAKUK	--	--	9,090	45,926	--	684,126	24,249	473	92,092	--	--	--	855,956
SUB-TOTAL NUSHAGAK-IGUSHIK	1,229	750	49,261	849,467	--	1,399,957	278,680	2,213	169,509	--	--	632	2,751,698
TOGIAK	591	--	1,815	80,731	--	262,438	54,754	593	58,853	129	169	--	460,073
TOTAL BAY	1,820	750	51,923	1,553,861	5,558	2,549,619	5,256,091	4,248	1,467,670	476,834	1,633	112,573	11,482,580

1/ DOES NOT INCLUDE 42,400 SOCKEYE SALMON ESTIMATED BY AERIAL SURVEY OF TOGIAK ANK KULUKAK TRIBUTARY STREAMS.

TABLE 4 BRISTOL BAY SOCKEYE SALMON INSHORE RETURN, AGE GROUP BY RIVER SYSTEM, PERCENT 1976

RIVER SYSTEM	AGE GROUP 31	32	41	42	43	52	53	62	63	64	73	74	TOTAL
KVICHAK	--	--	--	6.81	.04	2.37	57.90	--	21.61	11.00	--	.27	29.81
BRANCH	--	--	--	60.48	--	17.59	20.77	--	1.16	--	--	--	1.20
NAKNEK	--	--	--	9.52	.11	20.70	55.41	--	13.68	.48	--	.10	20.50
SUB-TOTAL NAKNEK-KVICHAK	--	--	--	9.14	.06	10.02	56.05	--	17.98	6.56	--	.19	51.51
EGEGIK	--	--	.05	2.83	.10	5.15	73.40	.04	8.28	4.70	.08	5.37	16.02
UGASHIK	--	--	--	6.03	--	38.71	49.81	.14	4.56	.41	--	.34	4.50
IGUSHIK	--	--	.99	24.75	--	43.64	16.66	.26	13.70	--	--	--	2.86
SNAKE	--	--	--	23.18	--	8.56	67.13	--	1.13	--	--	--	.21
WOOD	.07	.05	1.33	49.23	--	34.84	12.61	--	1.83	--	--	.04	12.56
NUSHAGAK-MULCHATNA	.23	--	17.61	6.47	--	67.32	1.87	.88	5.62	--	--	--	.88
NUYAKUK	--	--	1.06	5.37	--	79.93	2.83	.05	10.76	--	--	--	7.45
SUB-TOTAL NUSHAGAK-IGUSHIK	.04	.03	1.79	30.87	--	50.88	10.13	.08	6.16	--	--	.02	23.96
TOGIAK	.13	--	.39	17.55	--	57.04	11.90	.13	12.79	.03	.04	--	4.01
TOTAL BAY	.02	.01	.45	13.53	.05	22.20	45.78	.04	12.78	4.15	.01	.98	100.00

TABLE 5. Emergency order fishing periods and general announcements by district, Bristol Bay, 1976.1/

Emergency Order Number	Date and Time	Hours Open
NAKNEK-KVICHAK DISTRICT		
4	June 25 9 am - June 25 9 pm	12
7	June 27 11 am - June 27 11 pm	12
9	June 29 12 N - June 29 12 MN	12
14	July 5 4 am - July 5 4 pm	12
17	July 6 5 am - July 6 5 pm	12
Naknek Section only		
12	July 3 2 am - July 3 2 pm	12
18	July 6 5 pm - July 7 5 am	12
21	July 10 9 am - July 11 9 am	24
22	July 11 9 am - July 17 9 am	6 days 2/
Kvichak Section only		
22	July 11 10 am - July 11 10 pm	12
24	July 11 10 pm - July 17 9 am	5 days 2/ 11 hrs.
EGEGIK DISTRICT		
4	June 24 7 am - June 24 7 pm	12
6	June 26 8 am - June 26 8 pm	12
9	June 29 11 am - June 29 11 pm	12
10	July 1 1 pm - July 2 1 am	12
12	July 3 2 am - July 3 2 pm	12
13	July 4 3 am - July 4 3 pm	12
16	July 6 4 am - July 6 4 pm	12
20	July 8 7 pm - July 9 7 am	12
21	July 10 8 am - July 10 8 pm	12
22	July 11 9 am - July 11 9 pm	12
UGASHIK DISTRICT		
4	June 25 9 am - June 25 9 pm	12
7	June 27 9 am - June 27 9 pm	12
9	June 29 11 am - June 29 11 pm	12
10	July 1 12 N - July 1 12 MN	12
12	July 3 2 pm - July 4 2 am	12
15	July 6 4 am - July 6 4 pm	12
19	July 8 6 am - July 8 6 pm	12
21	July 10 8 am - July 10 8 pm	12
25	July 12 10 am - July 13 10 am	24
27	July 15 12 N - July 15 12 MN	12
NUSHAGAK DISTRICT		
2	June 17 5 pm - June 18 5 pm	24
3	June 22 8 am - June 22 8 pm	12
5	June 25 10 am - June 25 10 pm	12
8	June 28 11 am - June 28 11 pm	12
11	July 2 4 pm - July 3 4 am	12
18	July 6 6 pm - July 7 6 am	12
23	July 11 10 pm - July 12 10 am	12
26	July 13 1 pm - July 14 1 pm	24
27	July 15 3 pm - July 17 9 am	42
29	July 26 9 am - July 28 12 N	51 3/
30	July 29 12 N - July 31 9 am	45 3/
Igushik Section only		
17	July 6 6 pm - July 7 6 am	12
TOGIAK DISTRICT 4/		
Togiak River and Kulukak Sections only		
25	July 12 9 am - July 13 9 am	24 3/
26	July 12 9 pm - July 16 9 am	3-1/2 days
Togiak River Section only		
28	July 23 9 am - July 25 9 am	48
31	July 30 9 am - July 31 9 pm	36

1/ Emergency order period: Naknek-Kvichak, Egegik, and Ugashik districts from 9 a.m. June 23 until 9 a.m. July 17; Nushagak district from 9 a.m. June 16 until 9 a.m. July 17.

2/ Fishing continued until the end of emergency order period when regular 5-day per week fishing periods resumed.

3/ Closed to fishing.

4/ Togiak River section open 9 a.m. Monday until 9 a.m. Friday while the Osviak, Matogak, Cape Peirce and Kulukak sections are open 9 a.m. Monday until 9 a.m. Saturday unless altered by emergency order.

NAKNEK-KVICHAK DISTRICT

Pre-season expectations in this district indicated an inshore run of about 6.7 million sockeye salmon with a probable harvest of 3.7 million after escapement requirements were met. Harvestable numbers of fish in excess of escapement goals were expected to allow some early fishing to assist in monitoring early season run development.

Several early fishing periods were allowed in the Naknek-Kvichak district in late June to test run strength. Two of these short 12-hour periods on June 25 and June 27 produced only minimal catches due to an unresolved fishermen-industry price dispute.

No significant buildup of fish was evident within or above the fishing district through July 1. It was suspected that the unusually late spring breakup and colder than normal water temperatures may have caused a delay in the migration of fish into the rivers.

A rapid buildup into the Naknek River was apparent after this date and prompted the announcement of a 12-hour fishing period for the Naknek section only for July 3. A buildup was also detected in the Kvichak River beginning on July 4 and along with accelerating escapements into the Naknek River permitted a 12-hour period for the entire district on July 5. This pattern continued for another day and additional fishing time was announced for the entire district during the ensuing 2 days.

Escapement rates began a decline after July 6 and suggested normal peak run timing had occurred. Since escapements were still lagging through July 8, concern over the fate of the sockeye run in this district was becoming acute. On July 9 the situation again reversed itself when escapement rates began a dramatic increase and test fishing indicated a significant buildup of fish was occurring within the district. Additional fishing time was announced for the Naknek section for July 10 and since the escapement goal in the Naknek River was achieved on the same day, fishing time was extended through the end of the emergency order period on July 17. A 12-hour period was also announced for the Kvichak section for July 11 and subsequently extended for continuous fishing through the end of the regulatory period along with the Naknek section.

The final escapement into the Kvichak River was 1,965,000 and only slightly below the goal of 2 million. The Naknek escapement of 1,321,000 exceeded the goal of 800 thousand and was due primarily to efforts to protect Kvichak River stocks.

Age composition of the sockeye run was dominated by 5-year fish (66%) from the 1971 brood year with smaller contributions from 4 and 6-year fish (9% and 25%, respectively).

Sockeye salmon are harvested as mixed stocks. The fish in the catch are apportioned to the individual river systems by comparing the age and sex composition of the catch samples with that of the escapement samples from the three contributing river systems. The details of this method are described by McCurdy and Schroeder (1968).

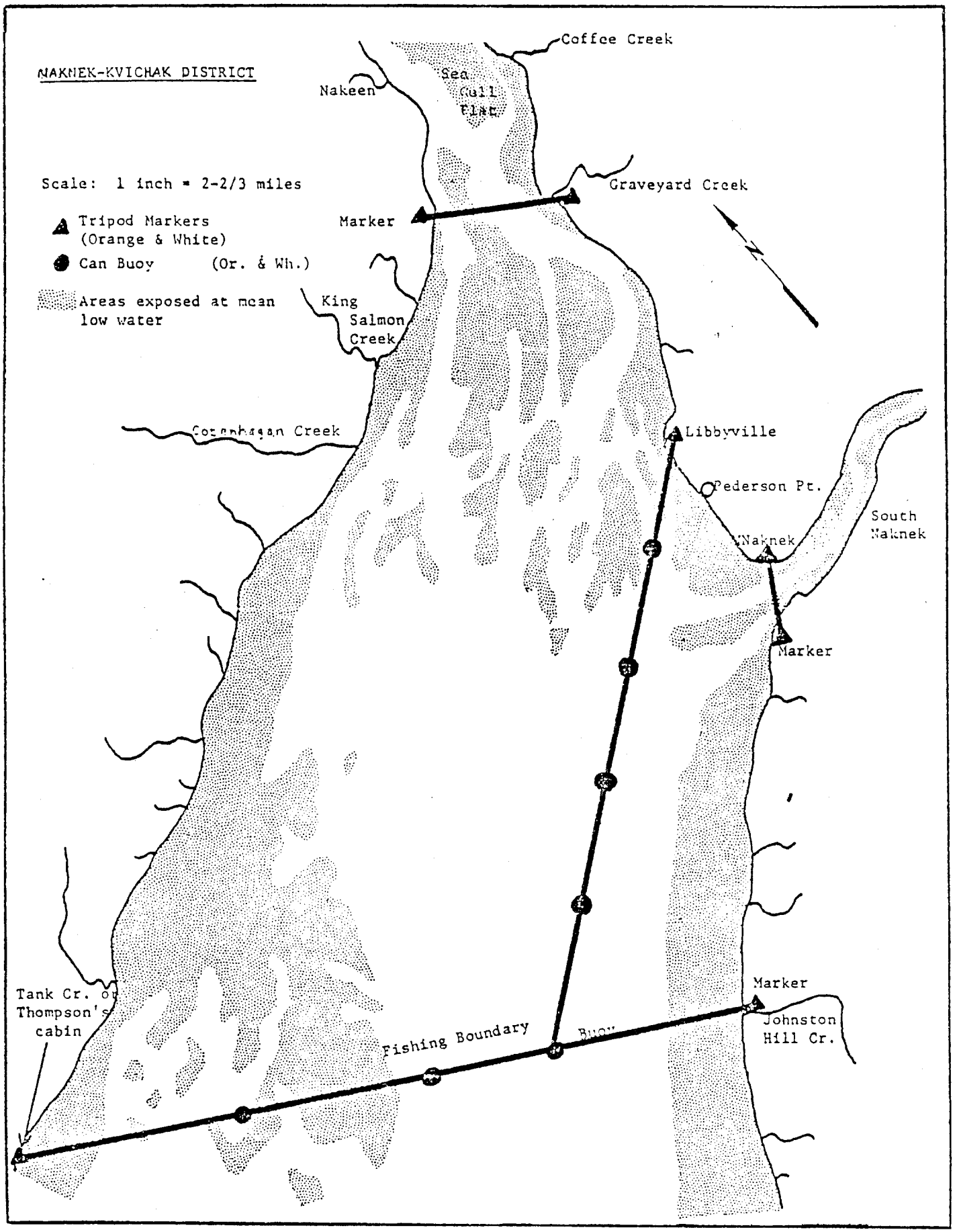

Figure 2. Naknek-Kvichak District commercial fishing boundaries, 1976.

TABLE 6 NAKNEK-KVICHAK DISTRICT INSHORE RETURN OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1976

	AGE GROUP							
	42	43	52	53	63	64	74	TOTAL
MALES								
ESCAPEMENT	158,740	3,688	119,370	936,435	177,867	77,478	1,206	1,474,784
CATCH	121,400	--	171,032	876,201	255,563	109,416	5,315	1,538,927
TOTAL	280,140	3,688	290,402	1,812,636	433,430	186,894	6,521	3,013,711
PERCENT	9.29	.12	9.64	60.15	14.38	6.20	.22	50.95
FEMALES								
ESCAPEMENT	200,446	--	162,891	1,086,767	298,343	142,417	2,206	1,893,070
CATCH	59,768	--	139,261	416,111	331,715	58,761	2,733	1,008,349
TOTAL	260,214	--	302,152	1,502,878	630,058	201,178	4,939	2,901,419
PERCENT	8.97	--	10.41	51.80	21.72	6.93	.17	49.05
SEXES COMBINED								
ESCAPEMENT	359,186	3,688	282,261	2,023,202	476,210	219,895	3,412	3,367,854
CATCH	181,168	--	310,293	1,292,312	587,278	168,177	8,048	2,547,276
TOTAL	540,354	3,688	592,554	3,315,514	1,063,488	388,072	11,460	5,915,130
PERCENT	9.14	.06	10.02	56.05	17.98	6.56	.19	100.00

TABLE 7 NAKNEK-KVICHAK DISTRICT COMMERCIAL CATCH OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1976

PERIOD NUMBER	DATE	NO. OF FISH SAMPLED	COUNT		PERCENT		CATCH	NUMBER IN CATCH	
			MALES	FEMALES	MALES	FEMALES		MALES	FEMALES
1	06/21-07/06	936	628	308	67.09	32.91	1,191,294	799,287	392,007
2	07/07-08/14	901	492	409	54.61	45.39	1,355,982	740,447	615,535
TOTAL		1,837	1,120	717	60.45	39.55	2,547,276	1,539,734	1,007,542

TABLE 8 NAKNEK-KVICHAK DISTRICT COMMERCIAL CATCH OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1976

SAMPLE PERIOD	DATE		AGE GROUP 42	52	53	63	64	74	TOTAL
MALES									
1	06/21-	COUNT	59,819	59,819	507,828	108,184	59,819	3,818	799,287
	07/06	PERCENT	7.48	7.48	63.54	13.54	7.48	.48	51.91
2	07/07-	COUNT	61,704	111,368	368,719	147,487	49,664	1,505	740,447
	08/14	PERCENT	8.33	15.04	49.80	19.92	6.71	.20	48.09
COLUMN		COUNT	121,523	171,187	876,547	255,671	109,483	5,323	1,539,734
TOTALS		PERCENT	7.89	11.12	56.93	16.60	7.11	.35	100.00
FEMALES									
1	06/21-	COUNT	19,091	45,819	203,640	105,638	16,546	1,273	392,007
	07/06	PERCENT	4.87	11.69	51.95	26.95	4.22	.32	38.91
2	07/07-	COUNT	40,634	93,309	212,202	225,746	42,139	1,505	615,535
	08/14	PERCENT	6.60	15.16	34.47	36.67	6.85	.24	61.09
COLUMN		COUNT	59,725	139,128	415,842	331,384	58,685	2,778	1,007,542
TOTALS		PERCENT	5.93	13.81	41.27	32.89	5.82	.28	100.00
SEXES COMBINED									
1	06/21-	COUNT	78,910	105,638	711,468	213,822	76,365	5,091	1,191,294
	07/06	PERCENT	6.62	8.87	59.72	17.95	6.41	.43	46.77
2	07/07-	COUNT	102,338	204,677	580,921	373,233	91,803	3,010	1,355,982
	08/14	PERCENT	7.55	15.09	42.84	27.53	6.77	.22	53.23
COLUMN		COUNT	181,248	310,315	1,292,389	587,055	168,168	8,101	2,547,276
TOTALS		PERCENT	7.11	12.18	50.74	23.05	6.60	.32	100.00

TABLE 9 KVICHAK RIVER APPORTIONED CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1976

	AGE GROUP							
	42	43	52	53	63	64	74	TOTAL
CATCH								
MALES								
NUMBER	44,470	--	16,199	499,808	201,931	104,845	5,315	872,568
PERCENT	5.10	--	1.86	57.28	23.14	12.01	.61	59.84
FEMALES								
NUMBER	29,971	--	24,699	262,579	209,138	57,730	1,495	585,612
PERCENT	5.12	--	4.22	44.84	35.71	9.86	.25	40.16
SEXES COMBINED								
NUMBER	74,441	--	40,898	762,387	411,069	162,575	6,810	1,458,180
PERCENT	5.11	--	2.80	52.28	28.19	11.15	.47	100.00
ESCAPEMENT								
MALES								
NUMBER	58,172	1,206	11,336	534,177	140,532	74,237	1,206	820,866
PERCENT	7.09	.15	1.38	65.07	17.12	9.04	.15	41.77
FEMALES								
NUMBER	100,528	--	28,895	685,757	188,095	139,935	1,206	1,144,416
PERCENT	8.78	--	2.52	59.92	16.44	12.23	.11	58.23
SEXES COMBINED								
NUMBER	158,700	1,206	40,231	1,219,934	328,627	214,172	2,412	1,965,282
PERCENT	8.08	.06	2.05	62.07	16.72	10.90	.12	100.00
CATCH AND ESCAPEMENT								
MALES								
NUMBER	102,642	1,206	27,535	1,033,985	342,463	179,082	6,521	1,693,434
PERCENT	6.06	.07	1.63	61.06	20.22	10.58	.38	49.47
FEMALES								
NUMBER	130,499	--	53,594	948,336	397,233	197,665	2,701	1,730,028
PERCENT	7.54	--	3.10	54.82	22.96	11.42	.16	50.53
SEXES COMBINED								
NUMBER	233,141	1,206	81,129	1,982,321	739,696	376,747	9,222	3,423,462
PERCENT	6.81	.04	2.37	57.90	21.61	11.00	.27	100.00

TABLE 10 KVICHAK RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1976

DATE	DAILY COUNT	ACCUMULATIVE COUNT	DAILY PERCENT OF TOTAL	ACCUMULATIVE PERCENT
JUNE 25	468	468	0.02	0.02
26	780	1,248	0.04	0.06
27	318	1,566	0.02	0.08
28	204	1,770	0.01	0.09
29	360	2,130	0.02	0.11
30	240	2,370	0.01	0.12
JULY 1	180	2,550	0.01	0.13
2	1,662	4,212	0.08	0.21
3	12,174	16,386	0.62	0.83
4	104,652	121,038	5.33	6.16
5	191,208	312,246	9.73	15.89
6	323,244	635,490	16.45	32.34
7	251,628	887,118	12.80	45.14
8	64,356	951,474	3.27	48.41
9	25,812	977,286	1.31	49.72
10	74,736	1,052,022	3.80	53.52
11	204,390	1,256,412	10.40	63.92
12	268,680	1,525,092	13.67	77.59
13	214,416	1,739,508	10.91	88.50
14	118,704	1,858,212	6.04	94.54
15	34,566	1,892,778	1.76	96.30
16	18,378	1,911,156	0.94	97.24
17	9,432	1,920,588	0.48	97.72
18	10,410	1,930,998	0.53	98.25
19	12,684	1,943,682	0.65	98.90
20	7,464	1,951,146	0.38	99.28
21	8,340	1,959,486	0.42	99.70
22	3,726	1,963,212	0.19	99.89
23	2,070	1,965,282	0.11	100.00

TABLE 11 KVICHAK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1976

PERIOD NUMBER	DATE	NO. OF FISH SAMPLED	COUNT MALES	COUNT FEMALES	PERCENT MALES	PERCENT FEMALES	ESCAPEMENT	NUMBER IN ESCAPEMENT MALES	NUMBER IN ESCAPEMENT FEMALES
1	06/25-07/10	808	346	462	42.82	57.18	1,052,022	450,495	601,527
2	07/11-07/23	757	307	450	40.55	59.45	913,260	370,371	542,889
TOTAL		1,565	653	912	41.77	58.23	1,965,282	820,866	1,144,416

TABLE 12 KVICHAK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1976

SAMPLE PERIOD	DATE		AGE GROUP 42	43	52	53	63	64	74	TOTAL
MALES										
1	06/25-	COUNT	36,456	--	6,510	308,576	57,289	41,664	--	450,495
	07/10	PERCENT	8.09	--	1.45	68.50	12.72	9.25	--	54.88
2	07/11-	COUNT	21,716	1,206	4,826	225,601	83,243	32,573	1,206	370,371
	07/23	PERCENT	5.86	.33	1.30	60.91	22.48	8.79	.33	45.12
COLUMN TOTALS		COUNT	58,172	1,206	11,336	534,177	140,532	74,237	1,206	820,866
		PERCENT	7.09	.15	1.38	65.07	17.12	9.04	.15	100.00
FEMALES										
1	06/25-	COUNT	54,684	--	15,624	368,468	80,724	82,027	--	601,527
	07/10	PERCENT	9.09	--	2.60	61.26	13.42	13.64	--	52.56
2	07/11-	COUNT	45,844	--	13,271	317,289	107,371	57,908	1,206	542,889
	07/23	PERCENT	8.44	--	2.44	58.44	19.78	10.67	.22	47.44
COLUMN TOTALS		COUNT	100,528	--	28,895	685,757	188,095	139,935	1,206	1,144,416
		PERCENT	8.78	--	2.52	59.92	16.44	12.23	.11	100.00
SEXES COMBINED										
1	06/25-	COUNT	91,140	--	22,134	677,044	138,013	123,691	--	1,052,022
	07/10	PERCENT	8.66	--	2.10	64.36	13.12	11.76	--	53.53
2	07/11-	COUNT	67,560	1,206	18,097	542,890	190,614	90,481	2,412	913,260
	07/23	PERCENT	7.40	.13	1.98	59.45	20.87	9.91	.26	46.47
COLUMN TOTALS		COUNT	158,700	1,206	40,231	1,219,934	328,627	214,172	2,412	1,965,282
		PERCENT	8.08	.06	2.05	62.07	16.72	10.90	.12	100.00

TABLE 13 BRANCH RIVER APPORTIONED CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1976

	AGE GROUP				
	42	52	53	63	TOTAL
CATCH					
MALES					
NUMBER	23,176	7,595	9,216	--	39,987
PERCENT	57.96	18.99	23.05	--	72.18
FEMALES					
NUMBER	6,777	5,182	2,610	840	15,409
PERCENT	43.98	33.63	16.94	5.45	27.82
SEXES COMBINED					
NUMBER	29,953	12,777	11,826	840	55,396
PERCENT	54.07	23.06	21.35	1.52	100.00
ESCAPEMENT					
MALES					
NUMBER	30,305	5,303	9,849	--	45,457
PERCENT	66.67	11.66	21.67	--	55.56
FEMALES					
NUMBER	22,728	6,061	6,818	758	36,365
PERCENT	62.50	16.67	18.75	2.08	44.44
SEXES COMBINED					
NUMBER	53,033	11,364	16,667	758	81,822
PERCENT	64.81	13.89	20.37	.93	100.00
CATCH AND ESCAPEMENT					
MALES					
NUMBER	53,481	12,898	19,065	--	85,444
PERCENT	62.59	15.10	22.31	--	62.27
FEMALES					
NUMBER	29,505	11,243	9,428	1,598	51,774
PERCENT	56.99	21.71	18.21	3.09	37.73
SEXES COMBINED					
NUMBER	82,986	24,141	28,493	1,598	137,218
PERCENT	60.48	17.59	20.77	1.16	100.00

TABLE 14 BRANCH RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1976

DATE	DAILY COUNT	ACCUMULATIVE COUNT	DAILY PERCENT OF TOTAL	ACCUMULATIVE PERCENT
JULY 2	12	12	0.02	0.02
3	6	18	0.01	0.03
4	6	24	0.01	0.04
5	18	42	0.02	0.06
6	20,148	20,190	24.62	24.68
7	5,790	25,980	7.08	31.76
8	1,026	27,006	1.25	33.01
9	1,308	28,314	1.60	34.61
10	14,208	42,522	17.36	51.97
11	23,994	66,516	29.32	81.29
12	10,590	77,106	12.94	94.23
13	3,222	80,328	3.94	98.17
14	1,020	81,348	1.25	99.42
15	414	81,762	0.51	99.93
16	60	81,822	0.07	100.00

TABLE 15 BRANCH RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1976

PERIOD NUMBER	DATE	NO. OF FISH SAMPLED	COUNT MALES	COUNT FEMALES	PERCENT MALES	PERCENT FEMALES	ESCAPEMENT	NUMBER IN ESCAPEMENT MALES	NUMBER IN ESCAPEMENT FEMALES
1	07/02-07/16	108	60	48	55.56	44.44	81,822	45,457	36,365

TABLE 16 BRANCH RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1976

SAMPLE PERIOD	DATE		AGE GROUP 42	52	53	63	TOTAL
MALES							
1	07/02-	COUNT	30,305	5,303	9,849	--	45,457
	07/16	PERCENT	66.67	11.67	21.67	--	100.00
FEMALES							
1	07/02-	COUNT	22,728	6,061	6,818	758	36,365
	07/16	PERCENT	62.50	16.67	18.75	2.08	100.00
SEXES COMBINED							
1	07/02-	COUNT	53,033	11,364	16,667	758	81,822
	07/16	PERCENT	64.81	13.89	20.37	.93	100.00

TABLE 17 NAKNEK RIVER APPORTIONED CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1976

	AGE GROUP							
	42	43	52	53	63	64	74	TOTAL
CATCH								
MALES								
NUMBER	53,754	--	147,238	367,177	53,632	4,571	--	626,372
PERCENT	8.58	--	23.51	58.62	8.56	.73	--	60.60
FEMALES								
NUMBER	23,020	--	109,380	150,922	121,737	1,031	1,238	407,328
PERCENT	5.65	--	26.85	37.05	29.89	.25	.31	39.40
SEXES COMBINED								
NUMBER	76,774	--	256,618	518,099	175,369	5,602	1,238	1,033,700
PERCENT	7.43	--	24.83	50.12	16.96	.54	.12	100.00
ESCAPEMENT								
MALES								
NUMBER	70,263	2,482	102,731	392,409	37,335	3,241	--	608,461
PERCENT	11.55	.41	16.88	64.49	6.14	.53	--	46.07
FEMALES								
NUMBER	77,190	--	127,935	394,192	109,490	2,482	1,000	712,289
PERCENT	10.84	--	17.96	55.34	15.37	.35	.14	53.93
SEXES COMBINED								
NUMBER	147,453	2,482	230,666	786,601	146,825	5,723	1,000	1,320,750
PERCENT	11.16	.19	17.46	59.56	11.12	.43	.08	100.00
CATCH AND ESCAPEMENT								
MALES								
NUMBER	124,017	2,482	249,969	759,586	90,967	7,812	--	1,234,833
PERCENT	10.04	.20	20.24	61.52	7.37	.63	--	52.45
FEMALES								
NUMBER	100,210	--	237,315	545,114	231,227	3,513	2,238	1,119,617
PERCENT	8.95	--	21.20	48.69	20.65	.31	.20	47.55
SEXES COMBINED								
NUMBER	224,227	2,482	487,284	1,304,700	322,194	11,325	2,238	2,354,450
PERCENT	9.52	.11	20.70	55.41	13.68	.48	.10	100.00

TABLE 18 NAKNEK RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1976

DATE	DAILY COUNT	ACCUMULATIVE COUNT	DAILY PERCENT OF TOTAL	ACCUMULATIVE PERCENT
JUNE 26	396	396	0.03	0.03
27	558	954	0.04	0.07
28	4,212	5,166	0.32	0.39
29	9,660	14,826	0.73	1.12
30	354	15,180	0.03	1.15
JULY 1	43,074	58,254	3.26	4.41
2	131,292	189,546	9.94	14.35
3	208,014	397,560	15.75	30.10
4	74,538	472,098	5.64	35.74
5	133,884	605,982	10.14	45.88
6	60,402	666,384	4.57	50.45
7	28,386	694,770	2.15	52.60
8	56,646	751,416	4.29	56.89
9	181,470	932,886	13.74	70.63
10	235,926	1,168,812	17.86	88.49
11	58,632	1,227,444	4.44	92.93
12	10,236	1,237,680	0.78	93.71
13	7,740	1,245,420	0.59	94.30
14	10,224	1,255,644	0.77	95.07
15	7,770	1,263,414	0.59	95.66
16	10,656	1,274,070	0.81	96.47
17	9,150	1,283,220	0.69	97.16
18	13,728	1,296,948	1.04	98.20
19	10,920	1,307,868	0.83	99.03
20	6,474	1,314,342	0.49	99.52
21	2,634	1,316,976	0.20	99.72
22	2,412	1,319,388	0.18	99.90
23	1,362	1,320,750	0.10	100.00

TABLE 19 NAKNEK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1976

PERIOD NUMBER	DATE	NO. OF FISH SAMPLED	COUNT MALES	COUNT FEMALES	PERCENT MALES	PERCENT FEMALES	ESCAPEMENT	NUMBER IN ESCAPEMENT MALES	NUMBER IN ESCAPEMENT FEMALES
1	06/26-07/05	606	297	309	49.01	50.99	605,982	296,991	308,991
2	07/06-07/23	576	251	325	43.58	56.42	714,768	311,470	403,298
TOTAL		1,182	548	634	46.07	53.93	1,320,750	608,461	712,289

TABLE 20 NAKNEK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1976

SAMPLE PERIOD	DATE		AGE GROUP 42	43	52	53	63	64	74	TOTAL
MALES										
1	06/26-	COUNT	37,999	--	31,999	209,994	14,999	2,000	--	296,991
	07/05	PERCENT	12.79	--	10.77	70.71	5.05	.67	--	48.81
2	07/06-	COUNT	32,264	2,482	70,732	182,415	22,336	1,241	--	311,470
	07/23	PERCENT	10.36	.80	22.71	58.57	7.17	.40	--	51.19
COLUMN		COUNT	70,263	2,482	102,731	392,409	37,335	3,241	--	608,461
TOTALS		PERCENT	11.55	.41	16.88	64.49	6.14	.53	--	100.00
FEMALES										
1	06/26-	COUNT	34,999	--	50,998	181,995	39,999	--	1,000	308,991
	07/05	PERCENT	11.33	--	16.50	58.90	12.94	--	.32	43.38
2	07/06-	COUNT	42,191	--	76,937	212,197	69,491	2,482	--	403,298
	07/23	PERCENT	10.46	--	19.08	52.62	17.23	.62	--	56.62
COLUMN		COUNT	77,190	--	127,935	394,192	109,490	2,482	1,000	712,289
TOTALS		PERCENT	10.84	--	17.96	55.34	15.37	.35	.14	100.00
SEXES COMBINED										
1	06/26-	COUNT	72,998	--	82,997	391,989	54,998	2,000	1,000	605,982
	07/05	PERCENT	12.05	--	13.70	64.69	9.07	.33	.16	45.88
2	07/06-	COUNT	74,455	2,482	147,669	394,612	91,827	3,723	--	714,768
	07/23	PERCENT	10.41	.35	20.66	55.21	12.85	.52	--	54.12
COLUMN		COUNT	147,453	2,482	230,666	786,601	146,825	5,723	1,000	1,320,750
TOTALS		PERCENT	11.16	.19	17.46	59.56	11.12	.43	.08	100.00

EGEGIK DISTRICT

A return of 1.4 million sockeye salmon was expected to produce a harvestable surplus of 800 thousand fish after attainment of the escapement goal of 600 thousand. This compares to a long term average commercial harvest of 1.1 million sockeye for this district.

Gear registration for the district was down from previous levels with a total of 203 units of drift gear and 119 units of set gear. Due to the earlier run timing in Egegik relative to adjacent districts, an early season influx of 30-35 boats occurred this year in anticipation of early fishing time. Actual peak effort amounted to 301 units during a 12-hour period on June 29. Price disputes between the industry and fishermen disrupted fishing until the peak period in late June so that only about half of the available effort participated prior to that time.

Less than 13 thousand sockeye had been harvested by the beginning of the emergency order period on June 23. By this time the ultimate strength of the run was not apparent, however a gradual buildup was occurring within the fishing district. Two 12-hour fishing periods on June 24 and 26 produced an additional catch of only 28 thousand fish and suggested only an insignificant buildup although unresolved price disputes reduced effort during these periods. During subsequent fishing, catches increased sharply and peaked during a 12-hour opening on July 3. Eight separate fishing periods were permitted between June 29 and July 11 after which the district was closed until regular weekly fishing resumed on July 19. The cumulative sockeye harvest of over 1.3 million fish was 24% of the total bay catch for the season.

The final sockeye escapement to this system amounted to 509 thousand fish and although it was short of the optimum goal of 600 thousand it fell within the management range of 500 thousand to 700 thousand. This compares with a 20-year average escapement of 836 thousand.

Age composition of the sockeye run was dominated by 5-year fish (79%) from the 1971 spawning with only a minor contribution from 4 and 6-year fish (3% and 13%, respectively).

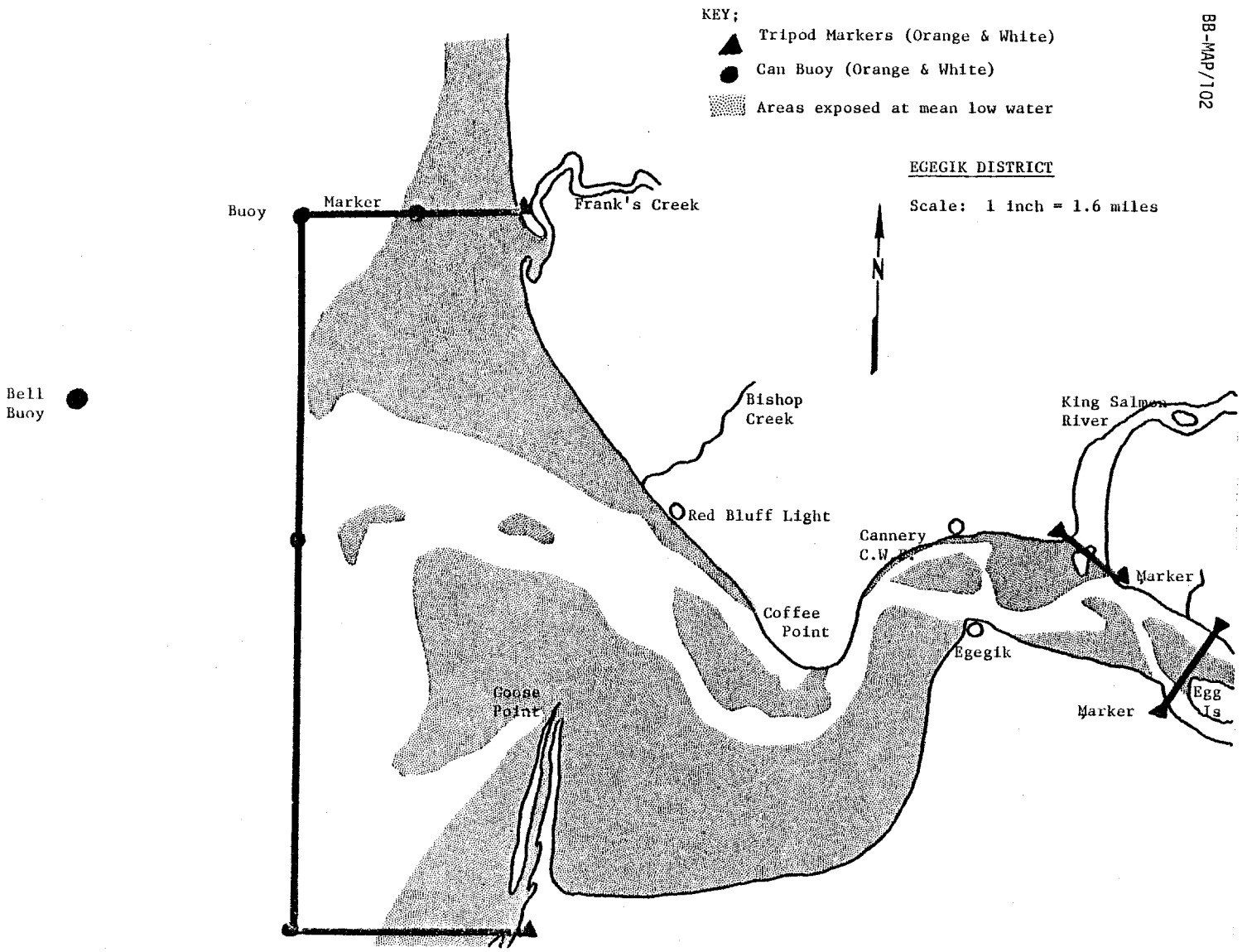

Figure 3. Egegik District commercial fishing boundaries, 1976.

TABLE 21 EGEGIK RIVER CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1976

	AGE GROUP										
	41	42	43	52	53	62	63	64	73	74	TOTAL
CATCH											
MALES											
NUMBER	847	25,845	--	40,174	533,648	732	46,335	32,203	1,464	17,874	699,122
PERCENT	.12	3.70	--	5.75	76.33	.10	6.63	4.60	.21	2.56	52.57
FEMALES											
NUMBER	--	18,566	--	36,900	444,843	--	67,293	22,381	--	40,683	630,666
PERCENT	--	2.94	--	5.85	70.54	--	10.67	3.55	--	6.45	47.43
SEXES COMBINED											
NUMBER	847	44,411	--	77,074	978,491	732	113,628	54,584	1,464	58,557	1,329,788
PERCENT	.06	3.34	--	5.80	73.58	.06	8.55	4.10	.11	4.40	100.00
ESCAPEMENT											
MALES											
NUMBER	--	4,912	1,870	8,415	175,471	--	15,106	16,462	--	19,596	241,832
PERCENT	--	2.03	.77	3.48	72.56	--	6.25	6.81	--	8.10	47.50
FEMALES											
NUMBER	--	2,805	--	9,166	195,779	--	23,508	15,487	--	20,583	267,328
PERCENT	--	1.05	--	3.43	73.24	--	8.79	5.79	--	7.70	52.50
SEXES COMBINED											
NUMBER	--	7,717	1,870	17,581	371,250	--	38,614	31,949	--	40,179	509,160
PERCENT	--	1.52	.37	3.45	72.91	--	7.58	6.28	--	7.89	100.00
CATCH AND ESCAPEMENT											
MALES											
NUMBER	847	30,757	1,870	48,589	709,119	732	61,441	48,665	1,464	37,470	940,954
PERCENT	.09	3.27	.20	5.16	75.36	.08	6.53	5.17	.16	3.98	51.17
FEMALES											
NUMBER	--	21,371	--	46,066	640,622	--	90,801	37,868	--	61,266	897,994
PERCENT	--	2.38	--	5.13	71.34	--	10.11	4.22	--	6.82	48.83
SEXES COMBINED											
NUMBER	847	52,128	1,870	94,655	1,349,741	732	152,242	86,533	1,464	98,736	1,838,948
PERCENT	.05	2.83	.10	5.15	73.40	.04	8.28	4.70	.08	5.37	100.00

TABLE 22 EGEGIK DISTRICT COMMERCIAL CATCH OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1976

PERIOD NUMBER	DATE	NO. OF FISH SAMPLED	COUNT MALES	COUNT FEMALES	PERCENT MALES	PERCENT FEMALES	CATCH	NUMBER IN CATCH MALES	NUMBER IN CATCH FEMALES
1	06/14-07/03	804	464	340	57.71	42.29	681,188	393,123	288,065
2	07/04-08/14	886	418	468	47.18	52.82	648,600	305,999	342,601
TOTAL		1,690	882	808	52.57	47.43	1,329,788	699,122	630,666

TABLE 23 EGEGIK DISTRICT COMMERCIAL CATCH OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1976

SAMPLE PERIOD	DATE		AGE GROUP 41	42	52	53	62	63	64	73	74	TOTAL
MALES												
1	06/14-	COUNT	847	17,792	26,265	290,606	--	33,890	16,098	--	7,625	393,123
	07/03	PERCENT	.22	4.53	6.68	73.92	--	8.62	4.09	--	1.94	56.23
2	07/04-	COUNT	--	8,053	13,909	243,042	732	12,445	16,105	1,464	10,249	305,999
	08/14	PERCENT	--	2.63	4.55	79.43	.24	4.07	5.26	.48	3.35	43.77
COLUMN TOTALS		COUNT	847	25,845	40,174	533,648	732	46,335	32,203	1,464	17,874	699,122
		PERCENT	.12	3.70	5.75	76.33	.10	6.63	4.60	.21	2.56	100.00
FEMALES												
1	06/14-	COUNT	--	12,709	23,723	197,409	--	37,279	8,472	--	8,473	288,065
	07/03	PERCENT	--	4.41	8.24	68.53	--	12.94	2.94	--	2.94	45.68
2	07/04-	COUNT	--	5,857	13,177	247,434	--	30,014	13,909	--	32,210	342,601
	08/14	PERCENT	--	1.71	3.85	72.22	--	8.76	4.06	--	9.40	54.32
COLUMN TOTALS		COUNT	--	18,566	36,900	444,843	--	67,293	22,381	--	40,683	630,666
		PERCENT	--	2.94	5.85	70.54	--	10.67	3.55	--	6.45	100.00
SEXES COMBINED												
1	06/14-	COUNT	847	30,501	49,988	488,015	--	71,169	24,570	--	16,098	681,188
	07/03	PERCENT	.12	4.48	7.34	71.64	--	10.45	3.61	--	2.36	51.23
2	07/04-	COUNT	--	13,910	27,086	490,476	732	42,459	30,014	1,464	42,459	648,600
	08/14	PERCENT	--	2.14	4.18	75.62	.11	6.55	4.63	.22	6.55	48.77
COLUMN TOTALS		COUNT	847	44,411	77,074	978,491	732	113,628	54,584	1,464	58,557	1,329,788
		PERCENT	.06	3.34	5.80	73.58	.06	8.55	4.10	.11	4.40	100.00

TABLE 24 EGEGIK RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1976

DATE	DAILY COUNT	ACCUMULATIVE COUNT	DAILY PERCENT OF TOTAL	ACCUMULATIVE PERCENT
JUNE 30	54	54	0.01	0.01
JULY 1	24	78	0.	0.01
2	246	324	0.05	0.06
3	6,324	6,648	1.24	1.30
4	15,126	21,774	2.97	4.27
5	5,442	27,216	1.07	5.34
6	28,284	55,500	5.56	10.90
7	41,946	97,446	8.24	19.14
8	36,678	134,124	7.20	26.34
9	13,824	147,948	2.72	29.06
10	22,782	170,730	4.47	33.53
11	14,790	185,520	2.91	36.44
12	82,602	268,122	16.22	52.66
13	63,084	331,206	12.39	65.05
14	34,038	365,244	6.69	71.74
15	14,334	379,578	2.82	74.56
16	4,842	384,420	0.95	75.51
17	2,490	386,910	0.49	76.00
18	14,910	401,820	2.93	78.93
19	24,708	426,528	4.85	83.78
20	61,116	487,644	12.00	95.78
21	2,334	489,978	0.46	96.24
22	8,862	498,840	1.74	97.98
23	4,500	503,340	0.88	98.86
24	1,764	505,104	0.35	99.21
25	1,842	506,946	0.36	99.57
26	1,434	508,380	0.28	99.85
27	780	509,160	0.15	100.00

TABLE 25 EGEGIK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1976

PERIOD NUMBER	DATE	NO. OF FISH SAMPLED	COUNT MALES	COUNT FEMALES	PERCENT MALES	PERCENT FEMALES	ESCAPEMENT	NUMBER IN ESCAPEMENT MALES	NUMBER IN ESCAPEMENT FEMALES
1	06/30-07/12	522	237	285	45.40	54.60	268,122	121,734	146,388
2	07/13-07/27	572	285	287	49.83	50.17	241,038	120,098	120,940
TOTAL		1,094	522	572	47.50	52.50	509,160	241,832	267,328

TABLE 26 EGEGIK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1976

SAMPLE PERIOD	DATE		AGE GROUP 42	43	52	53	63	64	74	TOTAL
MALES										
1	06/30-	COUNT	1,541	1,027	4,623	92,456	6,678	7,191	8,218	121,734
	07/12	PERCENT	1.27	.84	3.80	75.95	5.49	5.91	6.75	50.34
2	07/13-	COUNT	3,371	843	3,792	83,015	8,428	9,271	11,378	120,098
	07/27	PERCENT	2.81	.70	3.16	69.12	7.02	7.72	9.47	49.66
COLUMN		COUNT	4,912	1,870	8,415	175,471	15,106	16,462	19,596	241,832
TOTALS		PERCENT	2.03	.77	3.48	72.56	6.25	6.81	8.10	100.00
FEMALES										
1	06/30-	COUNT	1,541	--	4,109	114,029	15,923	4,109	6,677	146,388
	07/12	PERCENT	1.05	--	2.81	77.89	10.88	2.81	4.56	54.76
2	07/13-	COUNT	1,264	--	5,057	81,750	7,585	11,378	13,906	120,940
	07/27	PERCENT	1.05	--	4.18	67.60	6.27	9.41	11.50	45.24
COLUMN		COUNT	2,805	--	9,166	195,779	23,508	15,487	20,583	267,328
TOTALS		PERCENT	1.05	--	3.43	73.24	8.79	5.79	7.70	100.00
SEXES COMBINED										
1	06/30-	COUNT	3,082	1,027	8,732	206,485	22,601	11,300	14,895	268,122
	07/12	PERCENT	1.15	.38	3.26	77.01	8.43	4.21	5.56	52.66
2	07/13-	COUNT	4,635	843	8,849	164,765	16,013	20,649	25,284	241,038
	07/27	PERCENT	1.92	.35	3.67	68.36	6.64	8.57	10.49	47.34
COLUMN		COUNT	7,717	1,870	17,581	371,250	38,614	31,949	40,179	509,160
TOTALS		PERCENT	1.52	.37	3.45	72.91	7.58	6.28	7.89	100.00

UGASHIK DISTRICT

With an inshore run of 689 thousand sockeye salmon forecast for this district the prospects for limited mid-season fishing time appeared likely for the first time in 5 years. A run of this size would have permitted a minimal harvest of 189 thousand fish above escapement requirements.

Registered fishing effort in the Ugashik district was up 62% over levels of the previous year. A total of 51 units of drift gear and 30 units of set gear were registered to fish Ugashik this season. Since the run doesn't usually peak in this district until the second week of July most drift fishermen transferred to other districts late in June in anticipation of early fishing time elsewhere. Actual peak effort occurred during a 24-hour period on July 12-13 when an influx of fishermen from other districts increased effort.

Catches are normally minimal prior to July 1 at Ugashik so the price dispute between fishermen and industry that delayed fishing in other districts in Bristol Bay was not a factor here.

Six 12-hour fishing periods were allowed between June 25 and July 6 in order to monitor run development. Sockeye catches were moderate and gradually increasing and in conjunction with escapement estimates suggested that the run was near the forecasted level.

Fair catches during two subsequent 12-hour periods on July 8 and 10 brought the cumulative harvest to almost 100 thousand.

The first indication that the run was not developing as forecasted came during a 12-hour period on July 15 when catches dropped off sharply. In the face of declining and lagging escapements the fishery remained closed for the duration of the emergency order period. The season catch of 175 thousand approached the pre-season forecast but was still below the long term average of 323 thousand.

The final sockeye escapement to the Ugashik district amounted to 324 thousand fish and was only 68% of the optimum goal of 500 thousand. Although the final escapement was less than the goal it was the second largest escapement since 1971. An additional 14,500 sockeye salmon were counted during aerial surveys of the Mother Goose Lake system but in the absence of age and sex composition samples from these stocks they are not included in the summary tables that follow.

Age composition of the sockeye run to Ugashik this year was predominantly 5-year fish (89%) from the 1971 brood year with only a minor contribution of 4 and 6-year fish (6% and 5%, respectively).

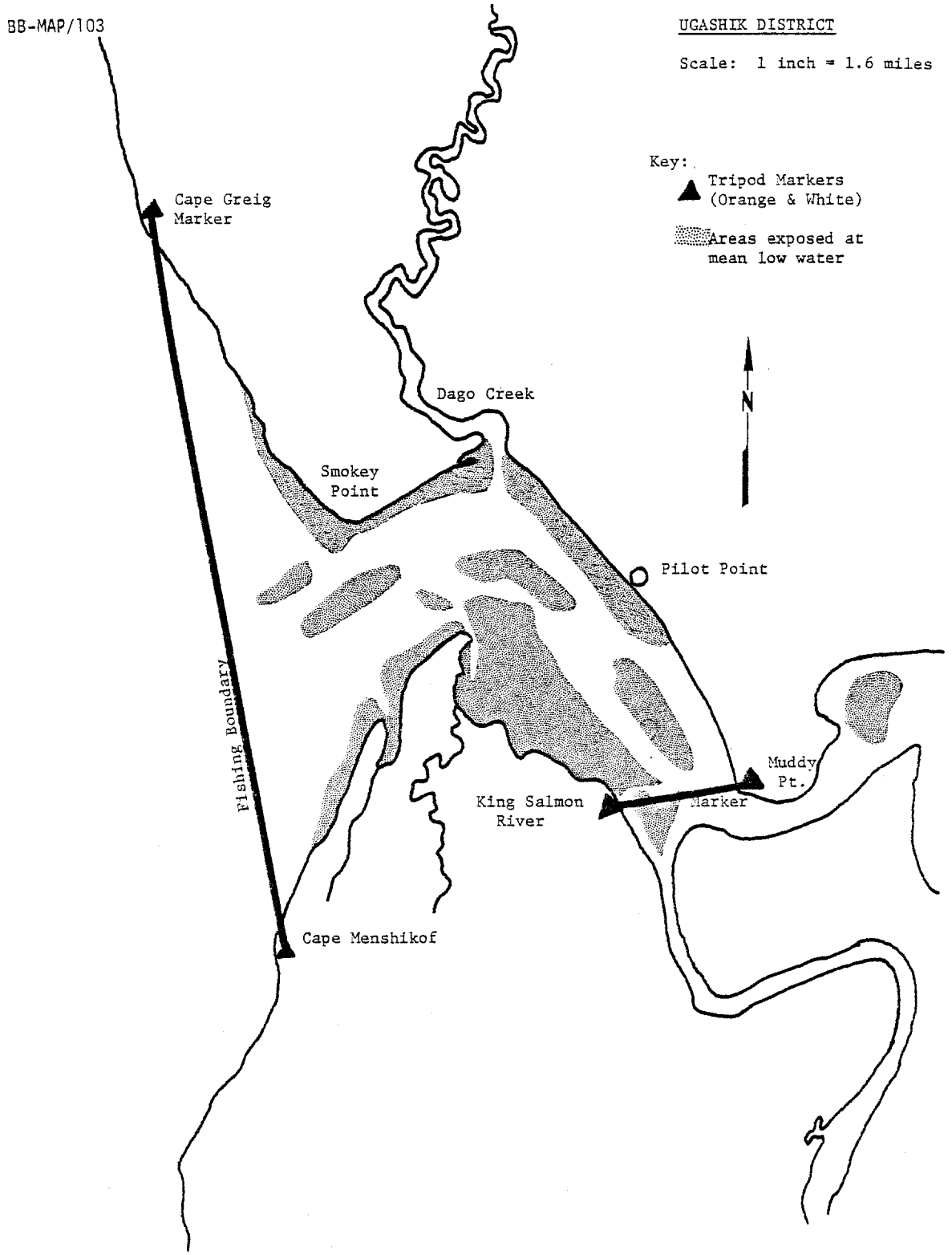

Figure 4. Ugashik District commercial fishing boundaries, 1976.

TABLE 27 UGASHIK RIVER CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1976

	AGE GROUP							
	42.	52	53	62	63	64	74	TOTAL
CATCH								
MALES								
NUMBER	6,741	26,966	46,835	--	4,613	1,419	710	87,284
PERCENT	7.72	30.89	53.66	--	5.29	1.63	.81	49.90
FEMALES								
NUMBER	4,967	39,384	34,417	710	7,096	355	710	87,639
PERCENT	5.67	44.94	39.27	.81	8.10	.40	.81	50.10
SEXES COMBINED								
NUMBER	11,708	66,350	81,252	710	11,709	1,774	1,420	174,923
PERCENT	6.69	37.93	46.45	.41	6.69	1.02	.81	100.00
ESCAPEMENT								
MALES								
NUMBER	10,113	54,550	84,627	--	3,699	--	--	152,989
PERCENT	6.61	35.66	55.31	--	2.42	--	--	44.76
FEMALES								
NUMBER	9,360	79,115	91,523	--	8,170	326	325	188,819
PERCENT	4.96	41.90	48.47	--	4.33	.17	.17	55.24
SEXES COMBINED								
NUMBER	19,473	133,665	176,150	--	11,869	326	325	341,808 1/
PERCENT	5.70	39.11	51.53	--	3.47	.10	.09	100.00
CATCH AND ESCAPEMENT								
MALES								
NUMBER	16,854	81,516	131,462	--	8,312	1,419	710	240,273
PERCENT	7.01	33.93	54.71	--	3.46	.59	.30	46.50
FEMALES								
NUMBER	14,327	118,499	125,940	710	15,266	681	1,035	276,458
PERCENT	5.18	42.86	45.56	.26	5.52	.25	.37	53.50
SEXES COMBINED								
NUMBER	31,181	200,015	257,402	710	23,578	2,100	1,745	516,731 1/
PERCENT	6.03	38.71	49.81	.14	4.56	.41	.34	100.00

1/ DOES NOT INCLUDE 14,500 SOCKEYE SALMON ESTIMATED BY AERIAL SURVEY OF THE MOTHER GOOSE SYSTEM.

TABLE 28 UGASHIK DISTRICT COMMERCIAL CATCH OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1976

PERIOD NUMBER	DATE	NO. OF FISH SAMPLED	COUNT		PERCENT		CATCH	NUMBER IN CATCH	
			MALES	FEMALES	MALES	FEMALES		MALES	FEMALES
1	06/14-08/14	493	246	247	49.90	50.10	174,923	87,284	87,639

TABLE 29 UGASHIK DISTRICT COMMERCIAL CATCH OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1976

SAMPLE PERIOD	DATE		AGE GROUP 42	52	53	62	63	64	74	TOTAL
MALES										
1	06/14-	COUNT	6,741	26,966	46,835	--	4,613	1,419	710	87,284
	08/14	PERCENT	7.72	30.89	53.66	--	5.28	1.63	.81	100.00
FEMALES										
1	06/14-	COUNT	4,967	39,384	34,417	710	7,096	355	710	87,639
	08/14	PERCENT	5.67	44.94	39.27	.81	8.10	.40	.81	100.00
SEXES COMBINED										
1	06/14-	COUNT	11,708	66,350	81,252	710	11,709	1,774	1,420	174,923
	08/14	PERCENT	6.69	37.93	46.45	.41	6.69	1.02	.81	100.00

TABLE 30 UGASHIK RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1976

DATE		DAILY COUNT	ACCUMULATIVE COUNT	DAILY PERCENT OF TOTAL	ACCUMULATIVE PERCENT
JULY	3	0	0	0.	0.
	4	0	0	0.	0.
	5	0	0	0.	0.
	6	534	534	0.16	0.16
	7	930	1,464	0.27	0.43
	8	288	1,752	0.08	0.51
	9	216	1,968	0.06	0.57
	10	12	1,980	0.	0.57
	11	18	1,998	0.01	0.58
	12	26,796	28,794	7.84	8.42
	13	124,344	153,138	36.38	44.80
	14	33,588	186,726	9.83	54.63
	15	28,620	215,346	8.37	63.00
	16	576	215,922	0.17	63.17
	17	768	216,690	0.22	63.39
	18	90	216,780	0.03	63.42
	19	47,790	264,570	13.98	77.40
	20	48,270	312,840	14.12	91.52
	21	4,284	317,124	1.25	92.77
	22	3,168	320,292	0.93	93.70
	23	1,560	321,852	0.46	94.16
	24	2,148	324,000	0.63	94.79
	25	4,290	328,290	1.26	96.05
	26	2,490	330,780	0.73	96.78
	27	2,400	333,180	0.70	97.48
	28	2,430	335,610	0.71	98.19
	29	1,356	336,966	0.40	98.59
	30	618	337,584	0.18	98.77
	31	1,164	338,748	0.34	99.11
AUG.	1	1,470	340,218	0.43	99.54
	2	684	340,902	0.20	99.74
	3	906	341,808 1/	0.26	100.00

1/ DOES NOT INCLUDE 14,500 SOCKEYE SALMON ESTIMATED BY AERIAL SURVEY OF THE MOTHER GOOSE SYSTEM.

TABLE 31 UGASHIK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1976

PERIOD NUMBER	DATE	NO. OF FISH SAMPLED	COUNT MALES	COUNT FEMALES	PERCENT MALES	PERCENT FEMALES	ESCAPEMENT	NUMBER IN ESCAPEMENT MALES	NUMBER IN ESCAPEMENT FEMALES
1	07/03-07/14	574	242	332	42.16	57.84	186,726	78,724	108,002
2	07/15-08/03	355	170	185	47.89	52.11	155,082	74,265	80,817
TOTAL		929	412	517	44.76	55.24	341,808 1/	152,989	188,819

1/ DOES NOT INCLUDE 14,500 SOCKEYE SALMON ESTIMATED BY AERIAL SURVEY OF THE MOTHER GOOSE SYSTEM.

TABLE 32 UGASHIK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1976

SAMPLE PERIOD	DATE		AGE GROUP 42	52	53	63	64	74	TOTAL
MALES									
1	07/03-	COUNT	6,181	23,097	47,494	1,952	--	--	78,724
	07/14	PERCENT	7.85	29.34	60.33	2.48	--	--	51.46
2	07/15-	COUNT	3,932	31,453	37,133	1,747	--	--	74,265
	08/03	PERCENT	5.29	42.35	50.00	2.35	--	--	48.54
COLUMN		COUNT	10,113	54,550	84,627	3,699	--	--	152,989
TOTALS		PERCENT	6.61	35.66	55.31	2.42	--	--	100.00
FEMALES									
1	07/03-	COUNT	4,554	39,362	60,507	2,928	326	325	108,002
	07/14	PERCENT	4.22	36.45	56.02	2.71	.30	.30	57.20
2	07/15-	COUNT	4,806	39,753	31,016	5,242	--	--	80,817
	08/03	PERCENT	5.95	49.19	38.38	6.49	--	--	42.80
COLUMN		COUNT	9,360	79,115	91,523	8,170	326	325	188,819
TOTALS		PERCENT	4.96	41.90	48.47	4.33	.17	.17	100.00
SEXES COMBINED									
1	07/03-	COUNT	10,735	62,459	108,001	4,880	326	325	186,726
	07/14	PERCENT	5.75	33.45	57.84	2.61	.18	.17	54.63
2	07/15-	COUNT	8,738	71,206	68,149	6,989	--	--	155,082
	08/03	PERCENT	5.63	45.92	43.94	4.51	--	--	45.37
COLUMN		COUNT	19,473	133,665	176,150	11,869	326	325	341,808 1/
TOTALS		PERCENT	5.70	39.11	51.53	3.47	.10	.09	100.00

1/ DOES NOT INCLUDE 14,500 SOCKEYE SALMON ESTIMATED BY AERIAL SURVEY OF THE MOTHER GOOSE SYSTEM.

NUSHAGAK DISTRICT

The pre-season forecast indicated a return of 2.1 million fish to this district with a probable harvest of 0.9 million beyond escapement requirements. Due to the distribution of the returns amongst the various contributing river systems it was anticipated that separate openings for the Igushik and/or Nushagak sections would be required to balance catch and escapement with the strength of the runs bound for these systems.

Gear registration totaled 685 units, somewhat below the levels of previous years. There were 479 units of drift gear and 206 units of set gear registered to fish this district. Peak effort developed during the period on July 2 and remained stable through July 17.

Between June 22 and July 3 four 12-hour fishing periods were permitted and sockeye catches remained small until a very large harvest of 516 thousand occurred during the period on July 2-3. Further buildup of fish was not evident until July 6 when an additional opening was announced. After an extended closure, escapements again began building and another 12-hour opening was announced for July 11-12. Except for two short closures after this time the district remained open for continuous fishing throughout the remainder of the regulatory period.

In-season manipulation of fishing time resulted in near optimum sockeye escapements in all river systems. Overall the Nushagak district escapement of 1.5 million sockeye was well above the 20-year average of 1.3 million.

Age composition of the sockeye return to this district was 33% 4-year fish, 61% 5-year fish, and 6% 6-year fish.

The Nushagak district sockeye catch was apportioned to the various rivers in the district by comparing the age and sex composition of the catch sample with that of the river escapement samples.

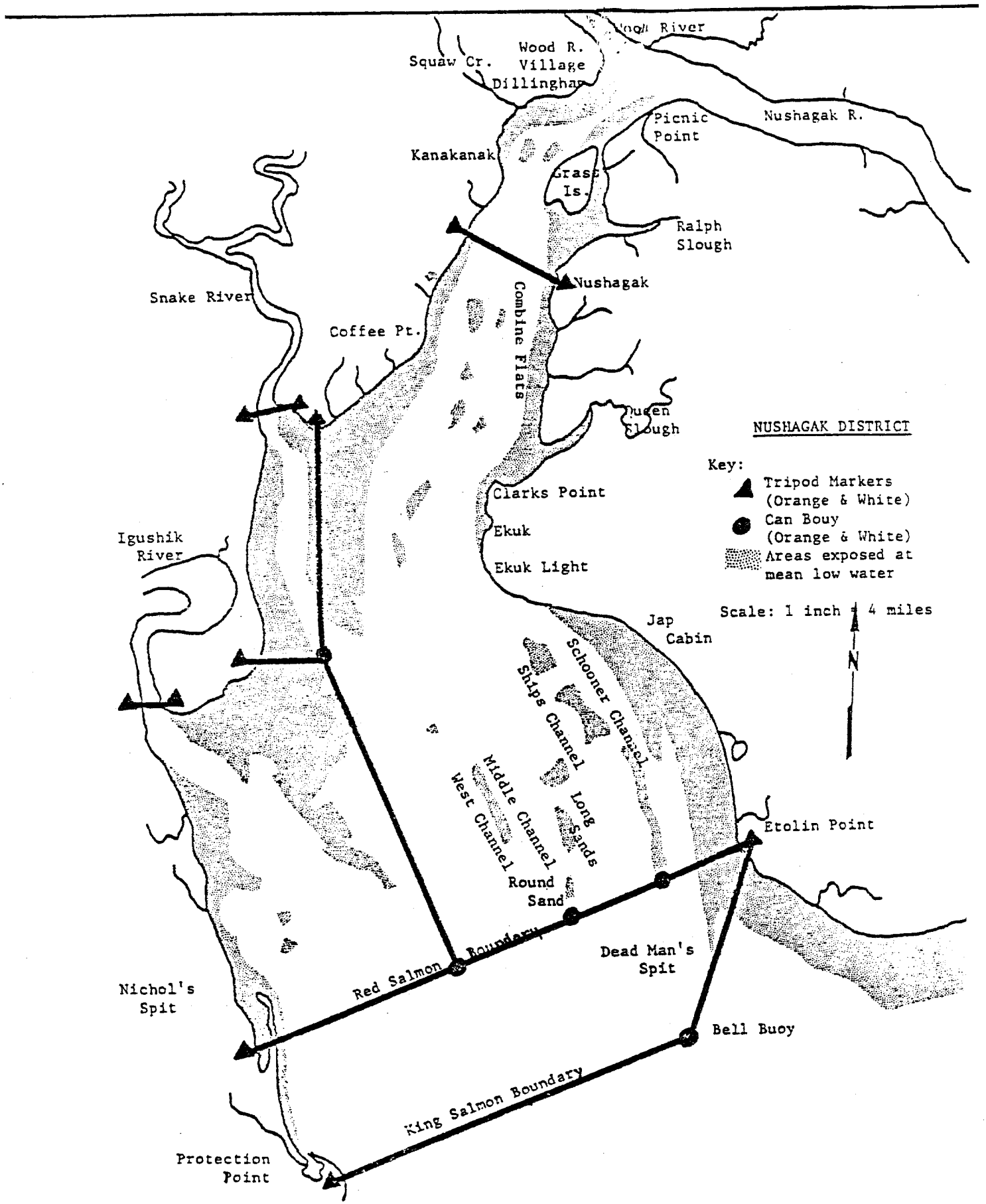

Figure 5. Nushagak-Igushik District commercial fishing boundaries, 1976.

TABLE 33 NUSHAGAK-IGUSHIK DISTRICT INSHORE RETURN OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1976

	AGE GROUP									
	31	32	41	42	52	53	62	63	74	TOTAL
MALES										
ESCAPEMENT	233	--	2,879	221,706	257,510	52,005	78	34,725	--	569,136
CATCH	--	--	10,923	163,162	259,515	61,385	647	30,226	--	525,858
TOTAL	233	--	13,802	384,868	517,025	113,390	725	64,951	--	1,094,994
PERCENT	.02	--	1.26	35.15	47.22	10.35	.07	5.93	--	39.79
FEMALES										
ESCAPEMENT	749	750	6,818	322,389	433,727	95,818	608	56,281	--	917,140
CATCH	247	--	28,641	142,210	449,205	69,472	880	48,277	632	739,564
TOTAL	996	750	35,459	464,599	882,932	165,290	1,488	104,558	632	1,656,704
PERCENT	.06	.05	2.14	28.04	53.29	9.98	.09	6.31	.04	60.21
SEXES COMBINED										
ESCAPEMENT	982	750	9,697	544,095	691,237	147,823	686	91,006	--	1,486,276
CATCH	247	--	39,564	305,372	708,720	130,857	1,527	78,503	632	1,265,422
TOTAL	1,229	750	49,261	849,467	1,399,957	278,680	2,213	169,509	632	2,751,698
PERCENT	.04	.03	1.79	30.87	50.88	10.13	.08	6.16	.02	100.00

TABLE 34 NUSHAGAK SECTION COMMERCIAL CATCH OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1976

PERIOD NUMBER	DATE	NO. OF FISH SAMPLED	COUNT MALES	COUNT FEMALES	PERCENT MALES	PERCENT FEMALES	CATCH	NUMBER IN CATCH MALES	NUMBER IN CATCH FEMALES
1	06/07-07/01	828	407	421	49.15	50.85	97,006	47,683	49,323
2	07/02-07/10	1,107	455	652	41.10	58.90	715,077	293,912	421,165
3	07/11-08/28	1,624	651	973	40.09	59.91	412,297	165,274	247,023
TOTAL		3,559	1,513	2,046	41.40	58.60	1,224,380	506,869	717,511

TABLE 35 NUSHAGAK SECTION COMMERICAL CATCH OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1976

SAMPLE PERIOD	DATE		AGE GROUP 31	41	42	52	53	62	63	74	TOTAL
MALES											
1	06/07-	COUNT	--	586	15,348	22,611	5,858	--	3,280	--	47,683
	07/01	PERCENT	--	1.23	32.19	47.42	12.29	--	6.88	--	9.41
2	07/02-	COUNT	--	6,459	97,540	134,360	36,174	646	18,733	--	293,912
	07/10	PERCENT	--	2.20	33.19	45.71	12.31	.22	6.37	--	57.98
3	07/11-	COUNT	--	3,808	44,428	93,427	17,010	--	6,601	--	165,274
	08/28	PERCENT	--	2.30	26.88	56.53	10.29	--	3.99	--	32.61
COLUMN		COUNT	--	10,853	157,316	250,398	59,042	646	28,614	--	506,869
TOTALS		PERCENT	--	2.14	31.04	49.40	11.65	.13	5.64	--	100.00
FEMALES											
1	06/07-	COUNT	--	2,577	9,138	31,398	2,812	--	3,398	--	49,323
	07/01	PERCENT	--	5.23	18.53	63.66	5.70	--	6.89	--	6.87
2	07/02-	COUNT	--	16,149	81,391	254,508	41,987	646	25,838	646	421,165
	07/10	PERCENT	--	3.83	19.33	60.43	9.97	.15	6.13	.15	58.70
3	07/11-	COUNT	254	9,901	46,968	150,803	22,595	254	16,248	--	247,023
	08/28	PERCENT	.10	4.01	19.01	61.05	9.15	.10	6.58	--	34.43
COLUMN		COUNT	254	28,627	137,497	436,709	67,394	900	45,484	646	717,511
TOTALS		PERCENT	.04	3.99	19.16	60.86	9.39	.13	6.34	.09	100.00
SEXES COMBINED											
1	06/07-	COUNT	--	3,163	24,486	54,009	8,670	--	6,678	--	97,006
	07/01	PERCENT	--	3.26	25.24	55.68	8.94	--	6.88	--	7.92
2	07/02-	COUNT	--	22,608	178,931	388,868	78,161	1,292	44,571	646	715,077
	07/10	PERCENT	--	3.16	25.02	54.38	10.93	.18	6.24	.09	58.40
3	07/11-	COUNT	254	13,709	91,396	244,230	39,605	254	22,849	--	412,297
	08/28	PERCENT	.06	3.32	22.17	59.24	9.61	.06	5.54	--	33.68
COLUMN		COUNT	254	39,480	294,813	687,107	126,436	1,546	74,098	646	1,224,380
TOTALS		PERCENT	.02	3.22	24.08	56.12	10.33	.13	6.05	.05	100.00

TABLE 36 IGUSHIK SECTION COMMERCIAL CATCH OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1976

PERIOD NUMBER	DATE	NO. OF FISH SAMPLED	COUNT		PERCENT		CATCH	NUMBER IN CATCH	
			MALES	FEMALES	MALES	FEMALES		MALES	FEMALES
1	06/07-08/28	995	462	533	46.43	53.57	41,042	19,057	21,985

TABLE 37 IGUSHIK SECTION COMMERICAL CATCH OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1976

SAMPLE PERIOD	DATE		AGE GROUP 41	42	52	53	63	TOTAL
MALES								
1	06/07-	COUNT	41	5,858	9,157	2,351	1,650	19,057
	08/28	PERCENT	.22	30.74	48.05	12.34	8.66	100.00
FEMALES								
1	06/07-	COUNT	--	4,702	12,416	2,062	2,805	21,985
	08/28	PERCENT	--	21.39	56.47	9.38	12.76	100.00
SEXES COMBINED								
1	06/07-	COUNT	41	10,560	21,573	4,413	4,455	41,042
	08/28	PERCENT	.10	25.73	52.56	10.75	10.86	100.00

TABLE 38 WOOD RIVER APPORTIONED CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1976

	AGE GROUP								
	31	32	41	42	52	53	63	74	TOTAL
CATCH									
MALES									
NUMBER	--	--	2,823	133,491	88,384	42,472	2,607	--	269,777
PERCENT	--	--	1.05	49.48	32.76	15.74	.97	--	43.11
FEMALES									
NUMBER	247	--	12,593	121,010	166,119	43,481	11,876	632	355,958
PERCENT	.07	--	3.54	33.99	46.67	12.21	3.34	.18	56.89
SEXES COMBINED									
NUMBER	247	--	15,416	254,501	254,503	85,953	14,483	632	625,735
PERCENT	.04	--	2.46	40.67	40.67	13.74	2.32	.10	100.00
ESCAPEMENT									
MALES									
NUMBER	--	--	750	181,391	87,697	35,978	2,998	--	308,814
PERCENT	--	--	.24	58.74	28.40	11.65	.97	--	37.80
FEMALES									
NUMBER	749	750	2,998	274,335	160,403	59,964	8,995	--	508,194
PERCENT	.15	.15	.59	53.98	31.56	11.80	1.77	--	62.20
SEXES COMBINED									
NUMBER	749	750	3,748	455,726	248,100	95,942	11,993	--	817,008
PERCENT	.09	.09	.46	55.78	30.37	11.74	1.47	--	100.00
CATCH AND ESCAPEMENT									
MALES									
NUMBER	--	--	3,573	314,882	176,081	78,450	5,605	--	578,591
PERCENT	--	--	.62	54.42	30.43	13.56	.97	--	40.10
FEMALES									
NUMBER	996	750	15,591	395,345	326,522	103,445	20,871	632	864,152
PERCENT	.12	.09	1.80	45.75	37.79	11.97	2.41	.07	59.90
SEXES COMBINED									
NUMBER	996	750	19,164	710,227	502,603	181,895	26,476	632	1,442,743
PERCENT	.07	.05	1.33	49.23	34.84	12.61	1.83	.04	100.00

TABLE 39 WOOD RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1976

DATE		DAILY COUNT	ACCUMULATIVE COUNT	DAILY PERCENT OF TOTAL	ACCUMULATIVE PERCENT
JUNE	20	12	12	0.	0.
	24	144	156	0.02	0.02
	25	822	978	0.10	0.12
	26	432	1,410	0.05	0.17
	27	120	1,530	0.02	0.19
	28	642	2,172	0.08	0.27
	29	570	2,742	0.07	0.34
	30	276	3,018	0.03	0.37
JULY	1	90	3,108	0.01	0.38
	2	102	3,210	0.01	0.39
	3	276	3,486	0.03	0.42
	4	22,038	25,524	2.70	3.12
	5	119,832	145,356	14.67	17.79
	6	88,680	234,036	10.85	28.64
	7	86,064	320,100	10.53	39.17
	8	26,670	346,770	3.26	42.43
	9	23,250	370,020	2.85	45.28
	10	93,792	463,812	11.48	56.76
	11	132,282	596,094	16.19	72.95
	12	99,432	695,526	12.17	85.12
	13	40,512	736,038	4.96	90.08
	14	16,962	753,000	2.08	92.16
	15	12,012	765,012	1.47	93.63
	16	9,336	774,348	1.14	94.77
	17	12,228	786,576	1.50	96.27
	18	9,774	796,350	1.20	97.47
	19	7,002	803,352	0.86	98.33
	20	4,584	807,936	0.56	98.89
	21	5,010	812,946	0.61	99.50
	22	3,084	816,030	0.38	99.88
	23	474	816,504	0.06	99.94
	24	504	817,008	0.06	100.00

TABLE 40 WOOD RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1976

PERIOD NUMBER	DATE	NO. OF FISH SAMPLED	COUNT MALES	COUNT FEMALES	PERCENT MALES	PERCENT FEMALES	ESCAPEMENT	NUMBER IN ESCAPEMENT MALES	NUMBER IN ESCAPEMENT FEMALES
1	06/20-07/24	1,090	412	678	37.80	62.20	817,008	308,814	508,194

TABLE 41 WOOD RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1976

SAMPLE PERIOD	DATE		AGE GROUP 31	32	41	42	52	53	63	TOTAL
MALES										
1	06/20-	COUNT	--	--	750	181,391	87,697	35,978	2,998	308,814
	07/24	PERCENT	--	--	.24	58.74	28.40	11.65	.97	100.00
FEMALES										
1	06/20-	COUNT	749	750	2,998	274,335	160,403	59,964	8,995	508,194
	07/24	PERCENT	.15	.15	.59	53.98	31.56	11.80	1.77	100.00
SEXES COMBINED										
1	06/20-	COUNT	749	750	3,748	455,726	248,100	95,942	11,993	817,008
	07/24	PERCENT	.09	.09	.46	55.78	30.37	11.74	1.47	100.00

TABLE 42 IGUSHIK RIVER APPORTIONED CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1976

	AGE GROUP						
	41	42	52	53	62	63	TOTAL
CATCH							
MALES							
NUMBER	812	14,674	28,094	11,388	--	11,760	66,728
PERCENT	1.22	21.99	42.10	17.07	--	17.62	46.92
FEMALES							
NUMBER	1,784	14,282	44,414	14,150	853	--	75,483
PERCENT	2.36	18.92	58.84	18.75	1.13	--	53.08
SEXES COMBINED							
NUMBER	2,596	28,956	72,508	25,538	853	11,760	142,211
PERCENT	1.82	20.36	50.99	17.96	.60	8.27	100.00
ESCAPEMENT							
MALES							
NUMBER	214	19,942	27,875	9,649	--	13,509	71,189
PERCENT	.30	28.01	39.16	13.55	--	18.98	38.25
FEMALES							
NUMBER	429	32,378	42,885	19,512	--	19,727	114,931
PERCENT	.37	28.17	37.31	16.98	--	17.17	61.75
SEXES COMBINED							
NUMBER	643	52,320	70,760	29,161	--	33,236	186,120
PERCENT	.34	28.11	38.02	15.67	--	17.86	100.00
CATCH AND ESCAPEMENT							
MALES							
NUMBER	1,026	34,616	55,969	21,037	--	25,269	137,917
PERCENT	.75	25.10	40.58	15.25	--	18.32	42.01
FEMALES							
NUMBER	2,213	46,660	87,299	33,662	853	19,727	190,414
PERCENT	1.16	24.50	45.85	17.68	.45	10.36	57.99
SEXES COMBINED							
NUMBER	3,239	81,276	143,268	54,699	853	44,996	328,331
PERCENT	.99	24.75	43.64	16.66	.26	13.70	100.00

TABLE 43 IGUSHIK RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1976

DATE		DAILY COUNT	ACCUMULATIVE COUNT	DAILY PERCENT OF TOTAL	ACCUMULATIVE PERCENT
JUNE	26	36	36	0.02	0.02
	27	0	36	0.	0.02
	28	156	192	0.08	0.10
	29	0	192	0.	0.10
	30	600	792	0.32	0.42
JULY	1	828	1,620	0.45	0.87
	2	324	1,944	0.17	1.04
	3	1,632	3,576	0.88	1.92
	4	1,812	5,388	0.97	2.89
	5	2,460	7,848	1.32	4.21
	6	5,364	13,212	2.88	7.09
	7	13,668	26,880	7.34	14.43
	8	13,578	40,458	7.30	21.73
	9	11,664	52,122	6.27	28.00
	10	12,564	64,686	6.75	34.75
	11	14,640	79,326	7.87	42.62
	12	20,166	99,492	10.84	53.46
	13	13,824	113,316	7.43	60.89
	14	9,822	123,138	5.28	66.17
	15	8,460	131,598	4.55	70.72
	16	6,510	138,108	3.50	74.22
	17	8,496	146,604	4.57	78.79
	18	11,202	157,806	6.02	84.81
	19	7,338	165,144	3.94	88.75
	20	4,884	170,028	2.62	91.37
	21	6,792	176,820	3.65	95.02
	22	4,884	181,704	2.62	97.64
	23	2,298	184,002	1.23	98.87
	24	1,194	185,196	0.64	99.51
	25	678	185,874	0.36	99.87
	26	246	186,120	0.13	100.00

TABLE 44 IGUSHIK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1976

PERIOD NUMBER	DATE	NO. OF FISH SAMPLED	COUNT MALES	COUNT FEMALES	PERCENT MALES	PERCENT FEMALES	ESCAPEMENT	NUMBER IN ESCAPEMENT MALES	NUMBER IN ESCAPEMENT FEMALES
1	06/26-07/26	868	332	536	38.25	61.75	186,120	71,189	114,931

TABLE 45 IGUSHIK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1976

SAMPLE PERIOD	DATE		AGE GROUP 41	42	52	53	63	TOTAL
MALES								
1	06/26-	COUNT	214	19,942	27,875	9,649	13,509	71,189
	07/26	PERCENT	.30	28.01	39.16	13.55	18.98	100.00
FEMALES								
1	06/26-	COUNT	429	32,378	42,885	19,512	19,727	114,931
	07/26	PERCENT	.37	28.17	37.31	16.98	17.16	100.00
SEXES COMBINED								
1	06/26-	COUNT	643	52,320	70,760	29,161	33,236	186,120
	07/26	PERCENT	.34	28.11	38.02	15.67	17.86	100.00

TABLE 46 SNAKE RIVER APPORTIONED CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1976

	AGE GROUP				
	42	52	53	63	TOTAL
CATCH					
MALES					
NUMBER	1,224	429	5,023	--	6,676
PERCENT	18.33	6.43	75.24	--	60.49
FEMALES					
NUMBER	802	601	2,805	153	4,361
PERCENT	18.39	13.78	64.32	3.51	39.51
SEXES COMBINED					
NUMBER	2,026	1,030	7,828	153	11,037
PERCENT	18.36	9.33	70.92	1.39	100.00
ESCAPEMENT					
MALES					
NUMBER	1,664	425	4,256	--	6,345
PERCENT	26.22	6.70	67.08	--	49.85
FEMALES					
NUMBER	1,818	580	3,869	116	6,383
PERCENT	28.48	9.09	60.61	1.82	50.15
SEXES COMBINED					
NUMBER	3,482	1,005	8,125	116	12,728
PERCENT	27.36	7.90	63.83	.91	100.00
CATCH AND ESCAPEMENT					
MALES					
NUMBER	2,888	854	9,279	--	13,021
PERCENT	22.18	6.56	71.26	--	54.79
FEMALES					
NUMBER	2,620	1,181	6,674	269	10,744
PERCENT	24.39	10.99	62.12	2.50	45.21
SEXES COMBINED					
NUMBER	5,508	2,035	15,953	269	23,765
PERCENT	23.18	8.56	67.13	1.13	100.00

TABLE 47 SNAKE RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1976

DATE	DAILY COUNT	ACCUMULATIVE COUNT	DAILY PERCENT OF TOTAL	ACCUMULATIVE PERCENT
JUNE 29	7	7	0.05	0.05
JULY 3	14	21	0.11	0.16
4	0	21	0.	0.16
5	0	21	0.	0.16
6	443	464	3.48	3.64
7	958	1,422	7.53	11.17
8	841	2,263	6.61	17.78
9	760	3,023	5.97	23.75
10	286	3,309	2.25	26.00
11	111	3,420	0.87	26.87
12	1,508	4,928	11.85	38.72
13	2,155	7,083	16.93	55.65
14	1,922	9,005	15.10	70.75
15	879	9,884	6.91	77.66
16	634	10,518	4.98	82.64
17	220	10,738	1.73	84.37
18	264	11,002	2.07	86.44
19	17	11,019	0.13	86.57
20	62	11,081	0.49	87.06
21	608	11,689	4.78	91.84
22	125	11,814	0.98	92.82
23	263	12,077	2.07	94.89
24	235	12,312	1.85	96.74
25	80	12,392	0.63	97.37
26	35	12,427	0.27	97.64
27	138	12,565	1.08	98.72
28	0	12,565	0.	98.72
29	64	12,629	0.50	99.22
30	30	12,659	0.23	99.45
31	25	12,684	0.20	99.65
AUG. 1	6	12,690	0.05	99.70
2	5	12,695	0.04	99.74
3	1	12,696	0.01	99.75
4	11	12,707	0.09	99.84
8	2	12,709	0.01	99.85
10	6	12,715	0.05	99.90
13	5	12,720	0.04	99.94
14	2	12,722	0.01	99.95
16	4	12,726	0.03	99.98
17	1	12,727	0.01	99.99
19	1	12,728	0.01	100.00

TABLE 48 SNAKE RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1976

PERIOD NUMBER	DATE	NO. OF FISH SAMPLED	COUNT MALES	COUNT FEMALES	PERCENT MALES	PERCENT FEMALES	ESCAPEMENT	NUMBER IN ESCAPEMENT MALES	NUMBER IN ESCAPEMENT FEMALES
1	06/29-08/19	329	164	165	49.85	50.15	12,728	6,345	6,383

TABLE 49 SNAKE RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1976

SAMPLE PERIOD	DATE		AGE GROUP 42	52	53	63	TOTAL
MALES							
1	06/29-	COUNT	1,664	425	4,256	--	6,345
	08/19	PERCENT	26.22	6.71	67.07	--	100.00
FEMALES							
1	06/29-	COUNT	1,818	580	3,869	116	6,383
	08/19	PERCENT	28.48	9.09	60.61	1.82	100.00
SEXES COMBINED							
1	06/29-	COUNT	3,482	1,005	8,125	116	12,728
	08/19	PERCENT	27.36	7.90	63.83	.91	100.00

TABLE 50 NUYAKUK RIVER APPORTIONED CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1976

	AGE GROUP						
	41	42	52	53	62	63	TOTAL
CATCH							
MALES							
NUMBER	3,444	12,001	129,148	2,135	--	14,979	161,707
PERCENT	2.13	7.42	79.87	1.32	--	9.26	37.54
FEMALES							
NUMBER	3,834	5,396	217,157	8,529	20	34,093	269,029
PERCENT	1.42	2.01	80.72	3.17	.01	12.67	62.46
SEXES COMBINED							
NUMBER	7,278	17,397	346,305	10,664	20	49,072	430,736
PERCENT	1.69	4.04	80.40	2.48	--	11.39	100.00
ESCAPEMENT							
MALES							
NUMBER	906	16,302	128,155	1,811	--	17,208	164,382
PERCENT	.55	9.92	77.96	1.10	--	10.47	38.66
FEMALES							
NUMBER	906	12,227	209,666	11,774	453	25,812	260,838
PERCENT	.35	4.69	80.38	4.51	.17	9.90	61.34
SEXES COMBINED							
NUMBER	1,812	28,529	337,821	13,585	453	43,020	425,220
PERCENT	.42	6.71	79.45	3.19	.11	10.12	100.00
CATCH AND ESCAPEMENT							
MALES							
NUMBER	4,350	28,303	257,303	3,946	--	32,187	326,089
PERCENT	1.33	8.68	78.91	1.21	--	9.87	38.10
FEMALES							
NUMBER	4,740	17,623	426,823	20,303	473	59,905	529,867
PERCENT	.89	3.33	80.55	3.83	.09	11.31	61.90
SEXES COMBINED							
NUMBER	9,090	45,926	684,126	24,249	473	92,092	855,956
PERCENT	1.06	5.37	79.93	2.83	.05	10.76	100.00

TABLE 51 NUYAKUK RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1976

DATE		DAILY COUNT	ACCUMULATIVE COUNT	DAILY PERCENT OF TOTAL	ACCUMULATIVE PERCENT
JULY	6	336	336	0.08	0.08
	7	90	426	0.02	0.10
	8	276	702	0.06	0.16
	9	1,740	2,442	0.41	0.57
	10	18,186	20,628	4.28	4.85
	11	44,490	65,118	10.46	15.31
	12	39,780	104,898	9.35	24.66
	13	33,684	138,582	7.92	32.58
	14	25,710	164,292	6.05	38.63
	15	42,468	206,760	9.99	48.62
	16	50,298	257,058	11.83	60.45
	17	49,296	306,354	11.59	72.04
	18	44,514	350,868	10.47	82.51
	19	22,818	373,686	5.36	87.87
	20	11,004	384,690	2.59	90.46
	21	6,756	391,446	1.59	92.05
	22	6,846	398,292	1.61	93.66
	23	12,252	410,544	2.88	96.54
	24	4,500	415,044	1.06	97.60
	25	2,208	417,252	0.52	98.12
	26	1,176	418,428	0.28	98.40
	27	924	419,352	0.22	98.62
	28	738	420,090	0.17	98.79
	29	690	420,780	0.16	98.95
	30	756	421,536	0.18	99.13
	31	624	422,160	0.15	99.28
AUG.	1	690	422,850	0.16	99.44
	2	594	423,444	0.14	99.58
	3	756	424,200	0.18	99.76
	4	846	425,046	0.20	99.96
	5	174	425,220	0.04	100.00

TABLE 52 NUYAKUK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1976

PERIOD NUMBER	DATE	NO. OF FISH SAMPLED	COUNT MALES	COUNT FEMALES	PERCENT MALES	PERCENT FEMALES	ESCAPEMENT	NUMBER IN ESCAPEMENT MALES	NUMBER IN ESCAPEMENT FEMALES
1	07/06-08/05	939	363	576	38.66	61.34	425,220	164,382	260,838

TABLE 53 NUYAKUK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1976

SAMPLE PERIOD	DATE		AGE GROUP 41	42	52	53	62	63	TOTAL
MALES									
1	07/06-	COUNT	906	16,302	128,155	1,811	--	17,208	164,382
	08/05	PERCENT	.55	9.92	77.96	1.10	--	10.47	100.00
FEMALES									
1	07/06-	COUNT	906	12,227	209,666	11,774	453	25,812	260,838
	08/05	PERCENT	.35	4.69	80.38	4.51	.17	9.90	100.00
SEXES COMBINED									
1	07/06-	COUNT	1,812	28,529	337,821	13,585	453	43,020	425,220
	08/05	PERCENT	.42	6.71	79.45	3.19	.11	10.12	100.00

TABLE 54 NUSHAGAK-MULCHATNA RIVER APPORTIONED CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1976

	AGE GROUP							
	31	41	42	52	53	62	63	TOTAL
CATCH								
MALES								
NUMBER	--	3,844	1,772	13,460	367	647	880	20,970
PERCENT	--	18.33	8.45	64.19	1.75	3.08	4.20	37.65
FEMALES								
NUMBER	--	10,430	720	20,914	507	7	2,155	34,733
PERCENT	--	30.03	2.07	60.21	1.46	.02	6.21	62.35
SEXES COMBINED								
NUMBER	--	14,274	2,492	34,374	874	654	3,035	55,703
PERCENT	--	25.63	4.47	61.71	1.57	1.17	5.45	100.00
ESCAPEMENT								
MALES								
NUMBER	233	1,009	2,407	13,358	311	78	1,010	18,406
PERCENT	1.27	5.48	13.08	72.57	1.69	.42	5.49	40.72
FEMALES								
NUMBER	--	2,485	1,631	20,193	699	155	1,631	26,794
PERCENT	--	9.27	6.09	75.36	2.61	.58	6.09	59.28
SEXES COMBINED								
NUMBER	233	3,494	4,038	33,551	1,010	233	2,641	45,200
PERCENT	.52	7.73	8.93	74.23	2.23	.52	5.84	100.00
CATCH AND ESCAPEMENT								
MALES								
NUMBER	233	4,853	4,179	26,818	678	725	1,890	39,376
PERCENT	.59	12.33	10.61	68.11	1.72	1.84	4.80	39.02
FEMALES								
NUMBER	--	12,915	2,351	41,107	1,206	162	3,786	61,527
PERCENT	--	20.99	3.82	66.81	1.96	.26	6.16	60.98
SEXES COMBINED								
NUMBER	233	17,768	6,530	67,925	1,884	887	5,676	100,903
PERCENT	.23	17.61	6.47	67.32	1.87	.88	5.62	100.00

TABLE 55 NUSHAGAK-MULCHATNA RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1976

DATE	DAILY COUNT	ACCUMULATIVE COUNT	DAILY PERCENT OF TOTAL	ACCUMULATIVE PERCENT
JULY 6	0	0	0.	0.
AUG. 5	45,200 *	45,200	100.00	100.00

FOOTNOTES:

* TOTAL ESCAPEMENT COUNTS ESTIMATED FROM AERIAL SURVEY.

TABLE 56 NUSHAGAK-MULCHATNA RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1976

PERIOD NUMBER	DATE	NO. OF FISH SAMPLED	COUNT MALES	COUNT FEMALES	PERCENT MALES	PERCENT FEMALES	ESCAPEMENT	NUMBER IN ESCAPEMENT MALES	NUMBER IN ESCAPEMENT FEMALES
1	07/06-08/05	582	237	345	40.72	59.28	45,200	18,406	26,794

TABLE 57 NUSHAGAK-MULCHATNA RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1976

SAMPLE PERIOD	DATE		AGE GROUP 31	41	42	52	53	62	63	TOTAL
MALES										
1	07/06-	COUNT	233	1,009	2,407	13,358	311	78	1,010	18,406
	08/05	PERCENT	1.27	5.49	13.08	72.57	1.69	.42	5.49	100.00
FEMALES										
1	07/06-	COUNT	--	2,485	1,631	20,193	699	155	1,631	26,794
	08/05	PERCENT	--	9.28	6.09	75.36	2.61	.58	6.09	100.00
SEXES COMBINED										
1	07/06-	COUNT	233	3,494	4,038	33,551	1,010	233	2,641	45,200
	08/05	PERCENT	.52	7.73	8.93	74.23	2.23	.52	5.84	100.00

TOGIAK DISTRICT

The forecasted sockeye salmon run to the Togiak district indicated a harvest of 173 thousand in excess of the escapement requirements of 100 thousand.

The Togiak district salmon fishery is the only one in Bristol Bay where weekly openings are established prior to the season and then adjusted as required during the course of the salmon run. Since the actual returns of sockeye salmon to the district were much stronger than forecasted, additional fishing time was permitted beyond the regular weekly fishing periods.

Pre-season gear registration in this district amounted to 130 units and was up considerably over the level of the previous year.

Due to the large catches and the limited local processing capacity, fishermen were frequently placed on restrictive daily catch limits this season and several companies were required to suspend all buying operations for varying periods due to heavy fishing.

Aerial reconnaissance of escapements began on July 6 and since escapements were minimal by that time a partial closure of Togiak section for the following week was required. Good sockeye catches continued through the last week of July and extensions of fishing time were permitted thereafter.

The total sockeye harvest of 302 thousand was a record catch for this district while the total inshore run was also a record return.

The final sockeye salmon escapement into Togiak River was 158 thousand and is above the optimum escapement goal. An additional 42,400 sockeye salmon were counted during aerial surveys of numerous tributary streams but in the absence of age and sex composition samples from these stocks they are not included in the summary tables that follow.

Age composition of the sockeye run was dominated by 5-year fish (69%) from the 1971 escapement with smaller contributions from 4 and 6-year brood stocks (18% and 13%, respectively).

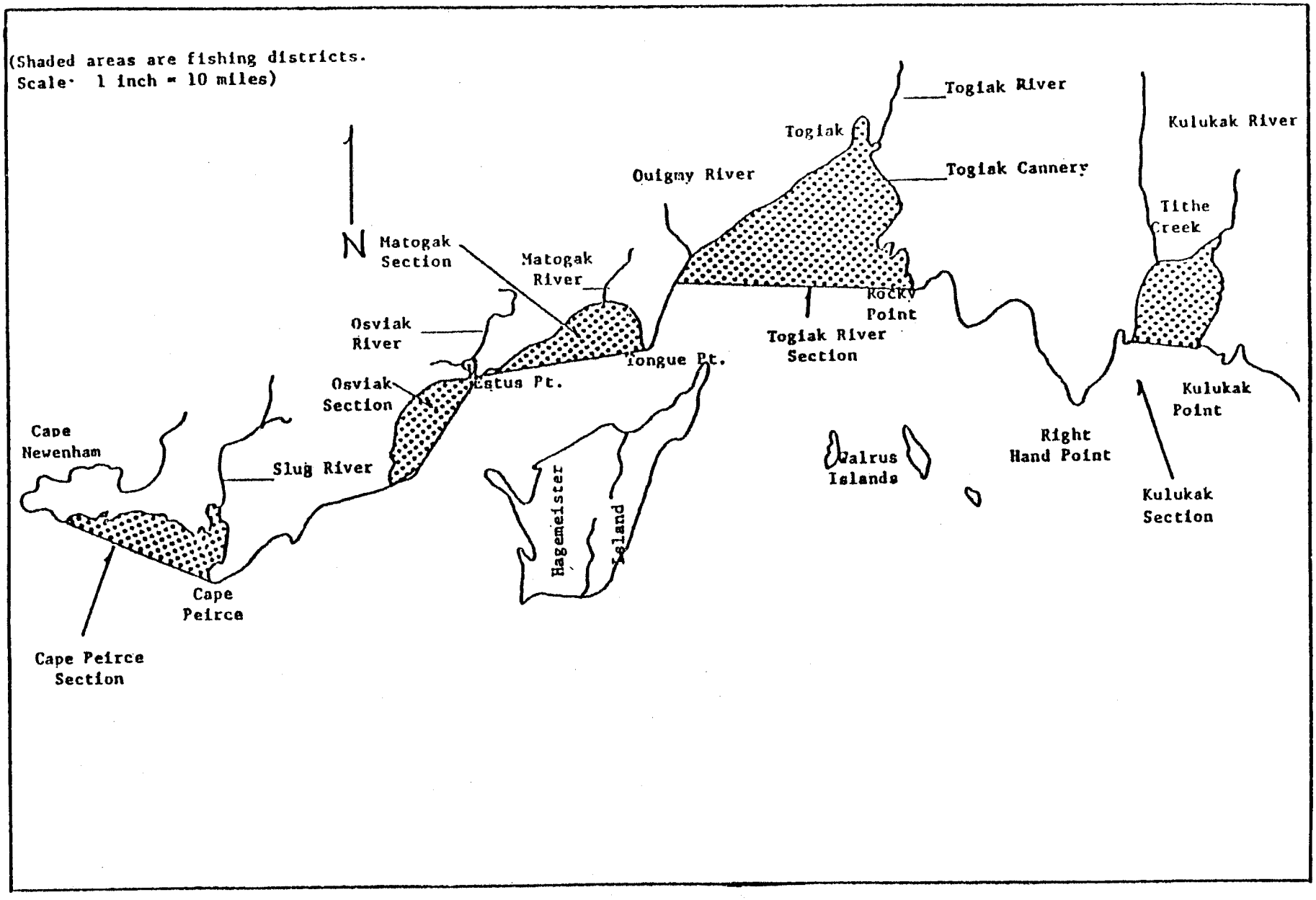

Figure 6. Togiak District commercial fishing boundaries, 1976.

TABLE 58 TOGIAK RIVER CATCH AND ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION AND AGE GROUP, 1976

	AGE GROUP									
	31	41	42	52	53	62	63	64	73	TOTAL
CATCH										
MALES										
NUMBER	169	843	21,643	70,829	14,388	169	15,578	--	169	123,788
PERCENT	.14	.68	17.48	57.22	11.62	.14	12.58	--	.14	41.01
FEMALES										
NUMBER	422	761	29,770	97,538	24,759	213	24,503	129	--	178,095
PERCENT	.24	.43	16.71	54.77	13.90	.12	13.76	.07	--	58.99
SEXES COMBINED										
NUMBER	591	1,604	51,413	168,367	39,147	382	40,081	129	169	301,883
PERCENT	.19	.53	17.03	55.77	12.97	.13	13.28	.04	.06	100.00
ESCAPEMENT										
MALES										
NUMBER	--	--	11,179	45,137	6,116	--	8,437	--	--	70,869
PERCENT	--	--	15.77	63.69	8.63	--	11.91	--	--	44.80
FEMALES										
NUMBER	--	211	18,139	48,934	9,491	211	10,335	--	--	87,321
PERCENT	--	.24	20.77	56.04	10.87	.24	11.84	--	--	55.20
SEXES COMBINED										
NUMBER	--	211	29,318	94,071	15,607	211	18,772	--	--	158,190 1/
PERCENT	--	.13	18.53	59.47	9.87	.13	11.87	--	--	100.00
CATCH AND ESCAPEMENT										
MALES										
NUMBER	169	843	32,822	115,966	20,504	169	24,015	--	169	194,657
PERCENT	.09	.43	16.86	59.57	10.53	.09	12.34	--	.09	42.31
FEMALES										
NUMBER	422	972	47,909	146,472	34,250	424	34,838	129	--	265,416
PERCENT	.16	.37	18.05	55.19	12.90	.16	13.12	.05	--	57.69
SEXES COMBINED										
NUMBER	591	1,815	80,731	262,438	54,754	593	58,853	129	169	460,073 1/
PERCENT	.13	.39	17.55	57.04	11.90	.13	12.79	.03	.04	100.00

1/ DOES NOT INCLUDE 42,400 SOCKEYE SALMON ESTIMATED BY AERIAL SURVEY OF TOGIAK AND KULUKAK TRIBUTARY STREAMS.

TABLE 59 TOGIAK DISTRICT COMMERCIAL CATCH OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1976

PERIOD NUMBER	DATE	NO. OF FISH SAMPLED	COUNT MALES	COUNT FEMALES	PERCENT MALES	PERCENT FEMALES	CATCH	NUMBER IN CATCH MALES	NUMBER IN CATCH FEMALES
1	06/14-07/04	639	319	320	49.92	50.08	53,592	26,754	26,838
2	07/05-07/18	900	361	539	40.11	59.89	152,177	61,040	91,137
3	07/19-08/25	745	279	466	37.45	62.55	96,114	35,994	60,120
TOTAL		2,284	959	1,325	41.01	58.99	301,883	123,788	178,095

TABLE 60 TOGIAK DISTRICT COMMERCIAL CATCH OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1976

SAMPLE PERIOD	DATE		AGE GROUP 31	41	42	52	53	62	63	64	73	TOTAL
MALES												
1	06/14-	COUNT	--	336	3,606	18,451	1,677	--	2,684	--	--	26,754
	07/04	PERCENT	--	1.25	13.48	68.97	6.27	--	10.03	--	--	21.61
2	07/05-	COUNT	169	507	11,329	39,735	3,551	169	5,411	--	169	61,040
	07/18	PERCENT	.28	.83	18.56	65.10	5.82	.28	8.86	--	.28	49.31
3	07/19-	COUNT	--	--	6,708	12,643	9,160	--	7,483	--	--	35,994
	08/25	PERCENT	--	--	18.64	35.13	25.45	--	20.79	--	--	29.08
COLUMN TOTALS		COUNT	169	843	21,643	70,829	14,388	169	15,578	--	169	123,788
		PERCENT	.14	.68	17.48	57.22	11.62	.14	12.58	--	.14	100.00
FEMALES												
1	06/14-	COUNT	84	84	3,858	18,032	1,006	84	3,690	--	--	26,838
	07/04	PERCENT	.31	.31	14.38	67.19	3.75	.31	13.75	--	--	15.07
2	07/05-	COUNT	338	677	13,527	60,025	6,594	--	9,976	--	--	91,137
	07/18	PERCENT	.37	.74	14.84	65.86	7.24	--	10.95	--	--	51.17
3	07/19-	COUNT	--	--	12,385	19,481	17,159	129	10,837	129	--	60,120
	08/25	PERCENT	--	--	20.60	32.40	28.54	.21	18.03	.21	--	33.76
COLUMN TOTALS		COUNT	422	761	29,770	97,538	24,759	213	24,503	129	--	178,095
		PERCENT	.24	.43	16.71	54.77	13.90	.12	13.76	.07	--	100.00
SEXES COMBINED												
1	06/14-	COUNT	84	420	7,464	36,483	2,683	84	6,374	--	--	53,592
	07/04	PERCENT	.16	.78	13.93	68.07	5.01	.16	11.89	--	--	17.75
2	07/05-	COUNT	507	1,184	24,856	99,760	10,145	169	15,387	--	169	152,177
	07/18	PERCENT	.33	.78	16.33	65.56	6.67	.11	10.11	--	.11	50.41
3	07/19-	COUNT	--	--	19,093	32,124	26,319	129	18,320	129	--	96,114
	08/25	PERCENT	--	--	19.87	33.42	27.38	.14	19.06	.13	--	31.84
COLUMN TOTALS		COUNT	591	1,604	51,413	168,367	39,147	382	40,081	129	169	301,883
		PERCENT	.19	.53	17.03	55.77	12.97	.13	13.28	.04	.06	100.00

TABLE 61 TOGIAK RIVER DAILY SOCKEYE SALMON ESCAPEMENT COUNTS, 1976

DATE		DAILY COUNT	ACCUMULATIVE COUNT	DAILY PERCENT OF TOTAL	ACCUMULATIVE PERCENT
JULY	7	30	30	0.02	0.02
	8	42	72	0.03	0.05
	9	570	642	0.36	0.41
	10	4,218	4,860	2.67	3.08
	11	5,484	10,344	3.47	6.55
	12	5,322	15,666	3.36	9.91
	13	6,480	22,146	4.10	14.01
	14	7,554	29,700	4.77	18.78
	15	8,724	38,424	5.51	24.29
	16	11,334	49,758	7.16	31.45
	17	10,620	60,378	6.71	38.16
	18	8,280	68,658	5.23	43.39
	19	7,926	76,584	5.01	48.40
	20	7,050	83,634	4.46	52.86
	21	9,480	93,114	5.99	58.85
	22	7,566	100,680	4.78	63.63
	23	9,972	110,652	6.30	69.93
	24	9,486	120,138	6.00	75.93
	25	5,574	125,712	3.52	79.45
	26	4,290	130,002	2.71	82.16
	27	2,754	132,756	1.74	83.90
	28	3,084	135,840	1.95	85.85
	29	4,506	140,346	2.85	88.70
	30	7,272	147,618	4.60	93.30
	31	2,604	150,222	1.65	94.95
AUG.	1	3,522	153,744	2.23	97.18
	2	2,340	156,084	1.48	98.66
	3	1,644	157,728	1.04	99.70
	4	390	158,118	0.25	99.95
	5	72	158,190 1/	0.05	100.00

1/ DOES NOT INCLUDE 42,400 SOCKEYE SALMON ESTIMATED BY AERIAL SURVEY OF TOGIAK AND KULUKAK TRIBUTARY STREAMS.

TABLE 62 TOGIAK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX COMPOSITION BY SAMPLE PERIOD, 1976

PERIOD NUMBER	DATE	NO. OF FISH SAMPLED	COUNT MALES	COUNT FEMALES	PERCENT MALES	PERCENT FEMALES	ESCAPEMENT	NUMBER IN ESCAPEMENT MALES	NUMBER IN ESCAPEMENT FEMALES
1	07/07-08/05	750	336	414	44.80	55.20	158,190	70,869	87,321

TABLE 63 TOGIAK RIVER ESCAPEMENT OF SOCKEYE SALMON, SEX AND AGE GROUP BY SAMPLE PERIOD, 1976

SAMPLE PERIOD	DATE		AGE GROUP 41	42	52	53	62	63	TOTAL
MALES									
1	07/07-	COUNT	--	11,179	45,137	6,116	--	8,437	70,869
	08/05	PERCENT	--	15.77	63.69	8.63	--	11.90	100.00
FEMALES									
1	07/07-	COUNT	211	18,139	48,934	9,491	211	10,335	87,321
	08/05	PERCENT	.24	20.77	56.04	10.87	.24	11.84	100.00
SEXES COMBINED									
1	07/07-	COUNT	211	29,318	94,071	15,607	211	18,772	158,190
	08/05	PERCENT	.13	18.53	59.47	9.87	.13	11.87	100.00

LITERATURE CITED

McCurdy, M.L. and T.R. Schroeder, 1972. Bristol Bay sockeye salmon (*Oncorhynchus nerka*) 1971. A compilation of catch and escapement data. Alaka Department of Fish and Game. Technical Data Report No. 7, 102p.

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