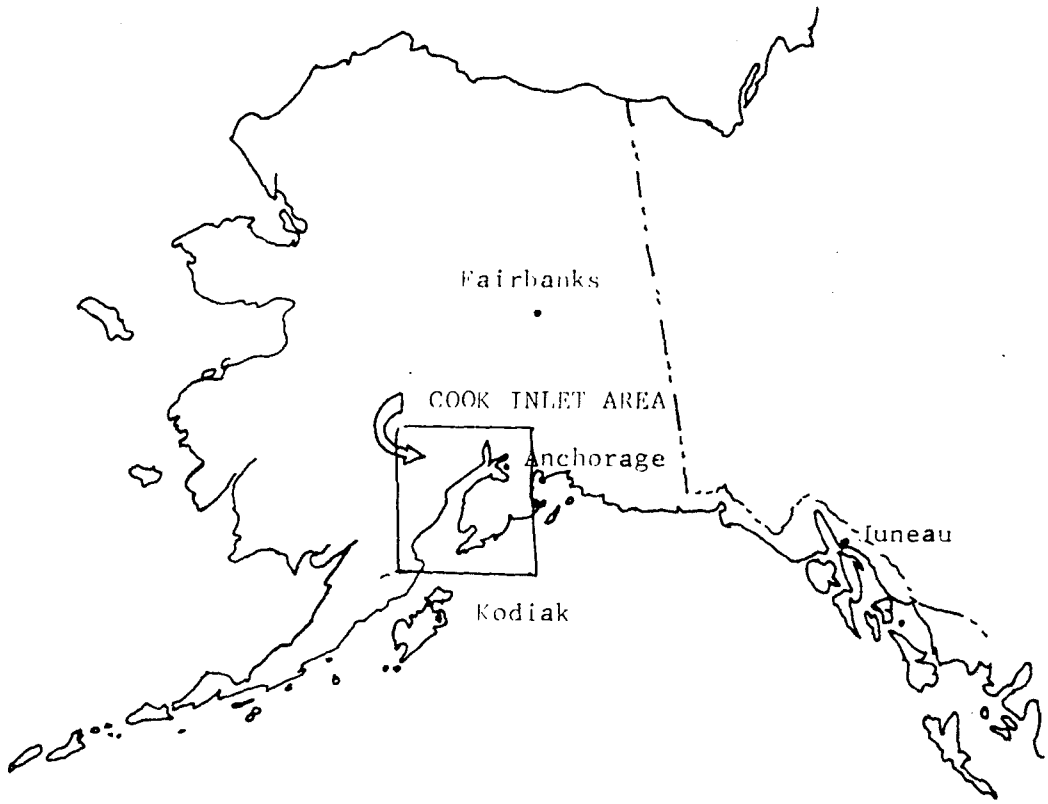
Louis H. Barton

COOK INLET
ANNUAL MANAGEMENT REPORT
1972



ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISH

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES

ANNUAL MANAGEMENT REPORT

1972

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PREFACE

The 1972 Cook Inlet Annual Management report is divided into two main sections, each having a separate numbering system. The first Section (I) of the report gives a general overview on the Cook Inlet Management area and then deals specifically with the salmon gill net fishery of the Northern and Central districts of upper Cook Inlet. The second Section (II) presents information on lower Cook Inlet which includes the Southern, Outer, Kamishak, and Eastern districts. Statistics on the shellfish and herring fisheries as well as the salmon seine fishery appear in this second section of the report.

There is some overlap between the two sections of the report, for instance, the SUBSISTENCE FISHERY REPORT which appears in the Appendix of Section I, contains data on the lower as well as the upper Inlet. Also, some of the license statistics appearing in Section I and some of the salmon catch tables in the Appendix of Section I contain statistics on districts in both the upper and lower Inlet.

Data in this report supercedes information presented in previous management reports. Corrections or comments on the contents of this report should be directed to the area office at Homer.

ACKNOWLEDGEMENTS

The Cook Inlet Management staff during 1972 consisted of the following personnel:

Donald M. Stewart	Area Management Biologist	Jan. 1 - Aug. 15
Loren B. Flagg	Assistant Area Mgt. Biologist Area Management Biologist	Jan. 1 - Aug. 15 Aug. 16 - Dec. 31
David A. Daisy	Asst. Area Mgt. Biologist	Jan. 1 - Dec. 31
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Wilma Jones	Clerk Typist III	Jan. 1 - June 9
Jean Calhoun	Clerk Typist III	July 10 - Dec. 31
Hazel Vanderbrink	Fish Ticket Editor	April 17 - Nov. 14

The Cook Inlet Research staff during 1972 consisted of the following personnel:

Allen S. Davis	Salmon Project Leader	Jan. 1 - Dec. 31
Thomas Namtvedt	Assistant Project Leader	Jan. 1 - Dec. 31
Daniel Hennick	Shellfish Project Leader	Jan. 1 - Dec. 31

The Cook Inlet staff has much appreciated the support and capable leadership of their Regional Supervisors, Kenneth R. Middleton (Management) and Steven Pennoyer (Research). The staff would also like to acknowledge the many temporary employees who assisted with the various field projects in the Cook Inlet area. A list of these employees appears in the Appendix of Section I. The assistance of Bruce Barrett, Regional Fisheries Biologist assigned to the Central Region, was also appreciated for his work in Cook Inlet during the summer of 1972.

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INTRODUCTION

Cook Inlet Management Area

The Cook Inlet area includes, in addition to Cook Inlet, those waters between Cape Douglas on the Alaska Peninsula and Cape Fairfield in Blying Sound east of Seward. Six fishing districts are described in the area: two in Cook Inlet north of Homer (the Northern and Central districts), two near the entrance which include the Kamishak Bay district on the Alaska Peninsula and Kachemak Bay on the Kenai Peninsula (the Southern district), and two bordering the eastern coast of the Kenai Peninsula (the Outer and Eastern districts). (Figure 1)

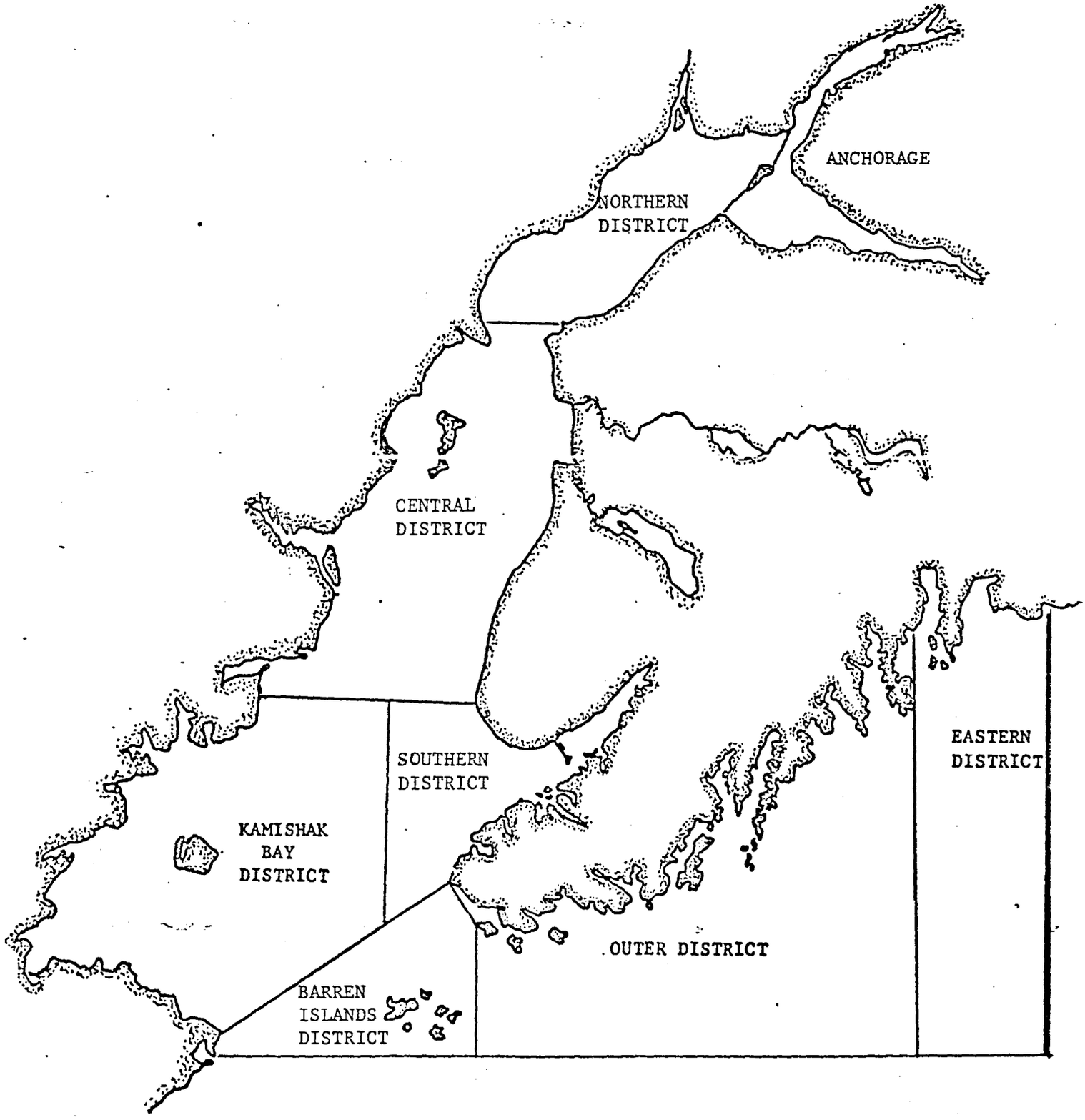
Salmon

Cook Inlet is characterized by exceeding strong tidal currents and, on occasion, strong winds. Most of the major salmon streams entering Cook Inlet are glacial; the waters north of Ninilchik are therefore very turbid and ideal for gill netting, although very little drift gill net effort occurred prior to 1947. Seining in these waters is impractical due to the currents. Set gill nets are successfully operated from shore or at anchored locations offshore. Traps were operated in the Inlet from 1897 until 1958. Outside of the Inlet seines are the principle gear used.

Salmon were first taken in the area in 1882 although no records of the number of fish harvested are available until 1893. Red salmon were the dominant species followed by lesser catches of kings and cohos in nearly equal numbers. Pink and chum salmon became important in the catch after 1912.

Figure 1

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
COOK INLET - RESURRECTION BAY AREA



The two districts in upper Cook Inlet (north of Anchor Point) are generally termed the gill net districts as only gill nets are permitted. Furthermore, only set gill nets are allowed in the Northern district where mobile gear has not been used since 1953. Primarily pink salmon are harvested in the Northern district, followed by reds and cohos. In the other gill net district, the Central, pinks and reds are taken in roughly equal proportions. King salmon have been an important species in the gill net districts but, due to their decline from earlier years, have been protected by late opening dates since 1964.

The bulk of the salmon caught in the gill net districts are typically taken during a relatively brief time. As the major salmon streams entering the Inlet are silty, escapement enumeration is nearly impossible. Escapement estimates are in part based upon the size of the commercial catch, upon test fishing at or near the major stream mouths, and more recently with the aid of sonar counting devices.

Salmon move through the Central district in a generally predictable pattern. Chum salmon are rarely caught on the east side beaches, for example. Some tide rips, up which salmon move in some concentrations, harbor more red salmon than chums, and vice versa.

All five species of salmon may be found in the district simultaneously, but each species has a normal period of greatest abundance. The early kings can be expected in late May. Early red salmon (locally called "bluebacks") bound for Kasilof and Kenai rivers and apparently for some minor systems along the east and west sides of Cook Inlet, appear in early June and run until the third week of that month.

Shortly after June 25 red salmon increase rapidly, reaching a peak in abundance usually between about July 18 and 22. The red salmon are followed by the chums, and the chum run peaks within a very few days of the peak of the red run. In years of great abundance of pinks, they are found in large numbers from about July 18 until after July 25; during some years pinks continue to arrive in strength starting the first week of August on the east side beaches bound for the Kenai and Kasilof rivers.

Coho salmon peak in late July in the district, and this species continues to appear in decreasing numbers throughout the fall months. Fresh run fish of this species may be found in the Central district as late as December.

The proportion of catch varies between set net and drift gear, depending largely upon weather, tides, and the species of fish involved. In years when strong southwesterly winds and large tides occur, red salmon bound for the Kenai and Kasilof rivers are pushed onto the beach and/or into the Northern district from whence they follow the beaches attempting to find their home streams; at such times the set net gear on the east side beaches make large catches, and drift catches fall off.

Strong tidal action along beaches of much of the Central district makes it difficult for fishermen to anchor set nets offshore. However, a few locations on the east side beaches between Ninilchik and Cape Kasilof permit use of offshore nets.

During a normal season drift fishermen usually start fishing east of Chisik Island, and as the season progresses, they move east and north, following concentrations of fish, until the latter part of the run, the bulk of drift fishing boats are almost wholly within the northern portion of

the Central district, east of Kalgin Island. Many drifters find it worthwhile to drift as far north as the Boulder Point boundary which separates the Northern from the Central district.

The Southern district, which includes Kachemak Bay, yields primarily pink salmon although other species are harvested. Set net fishermen of this district catch most of the red salmon taken there, while the seiners rely mostly upon pinks and chums. Some of the reds taken here are bound for streams farther up the Inlet. Pinks are bound mostly for the clear water drainages within the district.

The Kamishak Bay district is a difficult area in which to travel, much less fish, and few fishermen are willing to venture into the area for salmon. Cannery operators are reluctant to provide tender service for fishermen in the area when tenders can be used to haul fish from other districts. Hand purse seines and beach seines are the only legal gear. This district is unquestionably the most difficult of the seven within the management area to fish for salmon. At least half of a fisherman's time is spent awaiting weather. Because of the light fishing pressure, and the constant weather problem a seven-day-a-week fishing period has been provided within this district for the past several years. Pinks and chums provide the bulk of the catch.

The Outer district includes that stretch of coastline from Point Adam, at the very southwest tip of the Kenai Peninsula, to the latitude of Bear Glacier, which is adjacent to Resurrection Bay. This is an area of many fiord-like bays and short, often precipitous streams, some of which are glacier fed. Hand purse seines and beach seines are the only types of salmon gear allowed, however, most of the seine fishermen who license in Cook Inlet fish part of each season in the Outer district. Pinks and chums are the chief species harvested.

Because the highly productive streams are clear, and salmon may be observed during aerial surveys, the Outer district lends itself to relatively intensive management methods. When spawning escapement is judged sufficient, surplus fish can be harvested; when escapement is weak, the area can be closed to fishing.

The Eastern district is the least important commercial salmon producing district in the management area; it extends from the latitude of Bear Glacier (where it adjoins the Outer district), includes all of Resurrection Bay and Day Harbor, and ends at the latitude of Cape Fairfield, which is the eastern-most boundary of the management area. There are few streams within the district, and these produce mainly pink, chum and coho salmon.

Gear levels in Cook Inlet have increased dramatically in recent years. Drift gill net registration totalled 288 in 1960 (75% residents). By 1970, the number of drift licenses reached 757, of which about 30% were non-residents. Set gill net licenses also increased but less dramatically - 570 in 1960 and 772 in 1970. About 92% of the set netters are residents. During the same period, purse seine registration fluctuated between 58 in 1967 and 112 in 1963, 95% residents.

Since 1952 salmon fishing during the major part of the run has usually been held to two 24-hour fishing periods a week. If more fishing time were allowed with the present level of gear efficiency there would be a very real danger that the all-important spawning escapement would not be achieved. There is so much gear in the gill net fishery that it is conceivable that during any 24-hour fishing period, usual circumstances could combine to allow a catch that could be damaging to the future of the fishery -- and the

evidence of this happening would not be available until after such a catch was made.

Premised upon strigent gear restrictions, which include the prohibition of power blocks to retrieve seine gear, and considering the known level of gear efficiency, open fishing periods or areas are established in two ways in the Cook Inlet area. In the Southern, Outer and Kamishak Bay districts where escapement can be observed from low flying aircraft, fishing is based on observed escapement. In the gill net fishery in the silty portion of the Inlet, where all major drainages are turbid, visual enumeration of salmon escapement is impossible. During the normal several-week buildup to a peak of this fishery, a trend and a measure of strength of the run can generally be obtained by comparative catches by species, by date, as a method of management. In essence, the entire fishery is acting as a test fishery; i.e., sampling the strength of the run.

Management of the salmon fisheries, using comparisons with past catches, plus data provided by test fishing and counting towers, obviously has many drawbacks. However, it does have the advantage of providing information immediately, at the time the fishery is active, and at a time when liberalization or restriction of the fishery can be of benefit.

Shellfish

King crab, tanner crab, dungeness crab and shrimp are harvested commercially in the Southern, Outer, Kamishak and Eastern districts of Cook Inlet. There is virtually no fishing for these species north of Anchor Point. King crab is most important to the area and the catch has averaged about 4.6 million pounds since 1960. The Board of Fish and Game established a seasonal quota in 1969 of 4.5 million pounds in an attempt to stabilize annual fluctuations in the catch and maintain a healthy stock of all age classes.

The quota was increased for the 1972 season to 5.5 million pounds on the strength of stocks in the Kamishak and Barren Island districts.

Tanner crab were first fished commercially in 1968 and since then the fishery has developed very rapidly with the 1972 catch exceeding 4 million pounds. Effort in the early years of the fishery was concentrated in Kachemak Bay, however, the fishery has recently expanded to the Kamishak Bay and Eastern districts. Continued expansion of this fishery is expected and regulation controls will be needed in the near future.

There was an active trawl fishery for shrimp in Cook Inlet during the early sixties before the earthquake destroyed processing facilities in Seldovia and Seward. Five years elapsed before any significant effort in this fishery resumed in 1969. The present trawl fishery is located primarily in Kachemak Bay and is regulated by a 5 million pound seasonal quota. There is also a limited pot fishery in Kachemak Bay and this fishery is presently expanding as market conditions improve.

Other Species

The only other significant fishery in Cook Inlet at the present time is the herring fishery, primarily directed at sac roe. This fishery has developed since 1969 and fishing effort has been concentrated in Resurrection and Kachemak Bays. The drop in catch and effort in this fishery during the last two years is related both to market problems and harsh environmental conditions.

1972 SEASON SUMMARY

Salmon Fishery

The 1972 commercial salmon catch for Cook Inlet totaled 2,399,996 fish which was the lowest recorded even-year harvest since 1930. The catch was comprised of 16,174 kings (.67%), 937,721 sockeye (39.07%), 83,167 cohos (3.47%), 657,243 pinks (27.39%), and 705,691 chums (29.40%). (Table 1)

The Central district contributed by far the largest share of the catch with 2,014,966 total salmon (83.96%). The Northern district had the second largest catch with 220,605 salmon (9.19%) followed by the Outer district with 70,942 salmon (2.96%), Southern district with 46,759 salmon (1.94%), Kamishak district with 26,794 salmon (1.12%) and finally the Eastern district with 19,930 salmon (.83%).

The drift gill net catch accounted for 1,208,262 salmon (50.34%), set nets took 1,064,551 salmon (44.36%), seines 126,271 salmon (5.26%) and troll gear accounted for 912 salmon (.04%).

Salmon gear registrations for 1972 totaled 1,368, down from the all time high in 1970 of 1,643 registrations, (Table 2). The greatest reduction was in the drift gill net gear category as there were only 571 registrations in 1972 compared to 710 in 1971 and 757 in 1970. The decrease in registrations is most likely due to the three successive poor red salmon runs experienced in Cook Inlet (1969-1971). Of the total 1972 registrations for all salmon gear 86 percent were residents and 14 percent nonresidents.

Table 1. Cook Inlet total salmon catch, by species, 1954-1972.

Year	Kings	Sockeyes	Cohos	Pinks	Chums	Total
1954[1/]	65,325	1,246,672	336,685	2,460,051	775,659	4,884,392
1955	46,499	1,064,128	180,452	1,286,008	317,053	2,894,140
1956	65,310	1,295,095	207,534	1,803,295	870,269	4,241,503
1957	42,767	670,629	127,199	306,841	1,207,920	2,355,356
1958	22,847	496,842	241,561	2,598,314	596,179	3,955,743
1959	32,783	634,313	112,664	137,255	411,157	1,328,172
1960[2/]	27,539	948,040	314,153	2,023,252	766,079	4,089,063
1961	19,778	1,185,079	119,397	337,394	405,221	2,066,869
1962	20,270	1,172,859	358,051	4,960,030	1,149,841	7,661,051
1963	17,632	958,101	203,876	234,052	525,537	1,939,198
1964	4,622	990,709	462,114	4,287,378	1,402,419	7,147,242
1965	9,751	1,426,352	154,363	139,561	344,052	2,074,079
1966	8,586	1,867,372	295,042	2,585,616	661,883	5,418,499
1967	8,035	1,409,107	180,455	407,717	382,282	2,387,596
1968	4,600	1,200,138	473,645	2,862,939	1,183,037	5,724,359
1969	12,462	815,050	101,575	235,866	331,058	1,496,011
1970	8,054	750,111	276,770	1,352,389	999,005	3,386,329
1971	19,838	658,537	105,197	428,495	475,631	1,687,698
1972	16,174	937,721	83,167	657,243	705,691	2,399,996
Total	452,872	19,726,905	4,333,900	29,103,696	13,509.973	67,137,296
19 year Average	23,835	1,038,258	228,100	1,531,773	711,051	3,533,017
Percent	.67	29.39	6.46	43.36	20.12	100.00

1/ 1954-1959 data - Fish and Wildlife Service Statistical Digest 50.

2/ 1960-1972 data - Alaska Department of Fish and Game IBM Salmon Report.

Table 2. Cook Inlet Alaska salmon net gear registration, 1960-1972.

GEAR	RESIDENCY	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Drift gill net	R	221	279	260	333	323	329	328	350	407	479	537	519	419
	NR	67	93	112	139	145	145	176	186	204	208	220	191	152
	Total	288	372	372	472	468	474	504	536	611	687	757	710	571
Set gill net	R	511	564	589	626	596	556	580	554	638	686	707	693	672
	NR	59	22	28	34	35	34	48	50	43	42	65	38	35
	Total	570	586	617	660	631	590	628	604	681	728	772	731	707
Hand purse seine	R	86	85	84	102	102	66	72	53	85	72	86	80	71
	NR	9	4	7	10	6	6	5	5	6	3	3	1	1
	Total	95	89	91	112	108	72	77	58	91	75	89	81	72
Troll	R	0	8	9	12	3	6	8	11	10	21	23	40	17
	NR	0	0	0	1	0	2	4	2	1	2	2	1	1
	Total	0	8	9	13	3	8	12	13	11	23	25	41	18
Year's total	R	818	936	942	1,073	1,024	957	988	968	1,140	1,258	1,353	1,332	1,179
	NR	135	119	147	184	186	187	233	243	254	255	290	231	189
	Total	953	1,055	1,089	1,257	1,210	1,144	1,221	1,211	1,394	1,513	1,643	1,563	1,368

Shellfish Fishery

This section is presented as an overview of the Cook Inlet shellfisheries. Detailed data tables are presented in the sections for specific management units.

The 1972 shrimp harvest of 5.5 million pounds was the second greatest on record. The catch for 1971 was 5.4 million pounds and for 1970, the record year, it was 5.8 million pounds. In past years the trawl fishery accounted for over 99 percent of the total shrimp catches. A record catch of 171 thousand pounds of pot caught shrimp in 1972 accounted for three percent of the total catch. Pot catches were 53 thousand pounds in 1971 and 9 thousand pounds in 1970.

The 1972 Cook Inlet king crab harvest of 4.6 million pounds exceeded the 1971 catch by one-half million pounds and was the highest on record since 1964. The Southern district, which includes the Kachemak Bay area accounted for 1.9 million pounds and the total for all other districts was 2.7 million pounds.

The total catch of tanner crabs during 1972 amounted to 4.8 million pounds which was the highest on record since the fishery developed. This large catch was due to an increased effort as 1,098 landings were made compared to 613 landings in 1971. The major part of the catch 2.9 million pounds, was taken in the Southern district, 1.2 million pounds were taken in the Kamishak district, and for the first time a substantial effort in the Eastern and Outer districts yielded over 700 thousand pounds.

The total 1972 Dungeness crab harvest in Cook Inlet was 38,930 pounds all from the Southern district. This was less than half the 1971 catch of 96,846 pounds. The 1970 harvest was 208,577 pounds. Lack of market interest and effort were the basic reasons for this low catch figure.

The 1972 razor clam harvest, all from the Polly Creek area in the Central district was 31,360 pounds in the shell. A dredge operation accounted for 806 pounds of this total, the balance was harvested by hand operated shovels. In 1971 the harvest was 14,755 pounds.

Herring Fishery

The 1972 herring roe fishery in the Cook Inlet Management Area was a failure for the second year in a row. The total catch for the area was 96 tons with 95 tons harvested from Resurrection Bay in the Eastern district and 1 ton from Kachemak Bay in the Southern district. This fishery is discussed in detail in Section II of this report.

SALMON FISHERY

Northern district

The Fishery: In addition to the regular fishing time the Northern district was allotted two early 12-hour periods, one on June 5 and the other on June 12, to test the strength of the king salmon run. The gill net mesh size for these two periods only was set at seven inches minimum. The normal allowable mesh size is six inches maximum.

The early two king periods were very much a disappointment. A total of 3,700 kings were taken during these two periods which was 25 percent below the harvest taken in the 1971 test fishery. In addition king catches at the Susitna Station test fish site on the Susitna River were poor. Since the two 12-hour periods and test fishing indicated a weak run, the next scheduled period on June 19 was closed. The next open period on June 23 was cut to six hours with fishing time set on the ebb in a further attempt to hold down the harvest.

Fishing time returned to the normal two 12-hour periods per week on June 26 and no further adjustments were made in the district until July 26 when an additional 12-hour period was allowed. Sockeye escapement in the Northern district, with the exception of Fish Creek, appeared quite good and additional time was warranted. The catch of other species up to this time was very disappointing. Pink catches were running about half of what was expected and coho and chums were down also. The catch peaked out

in the Northern district on July 28 when 56,000 salmon were taken. Catches on the next period (July 31) fell sharply, indicating that the bulk of the salmon were through the district. On August 2, the Northern district, along with the rest of the gill net area, was given one additional 12-hour period per week for the remainder of the season since sockeye escapement was satisfactory and effort had fallen off. Table 3 shows the 1972 catch by period for the district.

The Northern district catch since 1954 is presented in Table 4. The 1972 catch of 220,605 salmon was about ten percent of the gill net area catch and nine percent of the total Cook Inlet catch. The 1972 catch was 64 percent below the average even-year catch since 1954, making it the lowest even-year catch during that time. It should be noted that 1972 was the first even-year with only 24 hours per week base fishing time. In 1969 and 1970 base fishing time was 36 hours per week and prior to 1969 fishing time was 48 hours per week. The reduced fishing time since 1968 has definitely had the effect of reducing the catch for all species of salmon.

A total of 4,912 kings were harvested in 1972 which was 41 percent below the 19-year average and about one-half of the 1971 catch.

The sockeye catch of 85,737 was about 12 percent below the 19-year average. Considering the amount of time fished, the catch seemed to indicate a normal run.

Coho salmon are predominantly four-year fish in the Inlet and tend to run in greatest strength on even years. The 1972 catch of 19,346 cohos was 83 percent below the even-year average since 1954 being by far the lowest coho catch for any year since that time. Since coho escapement was

Table 3. 1972 Cook Inlet salmon catch by period for Northern district.[1/]

Period	Date	Kings	Reds	Cohos	Pinks	Chums	Totals
1	6/5	663	42	1			706
2	6/12	3,032	128				3,160
3	6/19						closed
4[2/]	6/23	547	32				579
5	6/26	225	35	2	2		264
6	6/30	265	487	12	24	3	791
7	7/3	43	213	16	17	10	299
8	7/5						closed
9	7/7	42	1,105	26	274		1,447
10	7/10	33	6,364	513	6,491	45	13,446
11	7/14	5	1,129	100	1,939	1	3,174
12	7/17	14	4,431	1,013	15,308	73	20,839
13	7/21	18	18,499	2,704	11,459	2,446	35,126
14	7/24	8	19,964	3,385	25,846	2,008	51,211
15	7/26	9	5,761	1,494	10,700	373	18,337
16	7/28	3	25,407	7,365	15,859	7,532	56,166
17	7/31	2	1,607	1,356	1,669	2,601	7,235
18	8/2	1	242	213	267	209	932
19	8/4		132	190	231	246	799
20	8/7		47	135	84	119	385
21	8/9		54	173	421	132	780
22	8/11	1	6	18	122	122	269
23	8/14		43	161	70	438	712
24	8/16		3	82	31	413	529
25	8/18		1	67	10	2,318	2,396
26	8/21		2	20	1	106	129
27	8/23	1	2	60	4	548	615
28	8/25		1	7		12	20
29	8/28			5		4	9
30	8/30					9	9
31	9/1			82	1	3	86
32	9/4			26		3	29
33	9/6			19		2	21
34	9/8			43		1	44
35	9/11						0
36	9/13			58		3	61
Totals		4,912	85,737	19,346	90,830	19,780	220,605

1/ Taken from 1972 IBM statistical run.
2/ All fishing periods 12 hours except period 4 was 6 hours.

Table 4 . Salmon catch, by species, Northern District, 1954-1972

Year	Kings	Sockeyes	Cohos	Pinks	Chums	Total
1954	22,585	120,508	139,464	347,040	84,571	714,168
1955	20,522	52,927	46,365	3,226	40,321	163,361
1956	18,457	114,612	80,322	398,851	169,545	781,787
1957	21,422	90,431	44,416	1,678	101,454	259,401
1958	9,308	69,222	100,813	408,043	92,227	679,613
1959	13,222	134,930	41,230	2,348	50,699	242,429
1960	8,218	148,247	144,377	442,185	117,739	860,766
1961	7,755	77,374	40,975	10,765	61,103	197,972
1962	9,778	130,934	172,562	279,599	143,757	736,630
1963	7,345	109,463	63,540	8,940	43,694	232,982
1964	168	160,264	167,928	586,386	126,958	1,041,704
1965	300	31,412	21,752	4,848	16,775	75,087
1966	404	131,080	80,550	371,960	35,598	619,592
1967	184	118,065	43,854	8,460	38,384	208,947
1968	471	140,575	156,648	534,839	58,454	890,987
1969	2,904	38,065	20,425	7,620	11,836	80,850
1970	1,458	66,460	82,735	174,207	22,422	347,282
1971	9,598	40,533	22,094	8,423	16,603	97,251
1972	4,912	85,737	19,346	90,830	19,780	220,605
Total	159,011	1,860,839	1,489,396	3,690,248	1,251,920	8,451,414
19 year average	8,369	97,939	78,389	194,224	65,890	444,811
Percent	1.9	22.0	17.6	43.7	14.8	100.0

poor even in areas where no commercial fishery was held, the commercial fishing probably had little to do with the decline. It appears that natural conditions such as adverse spawning and/or rearing conditions or above average ocean mortality are the main causes. The even-year coho stocks, as judged by catch, were in a very healthy condition as recently as 1968, which coincidentally was the last year two 24-hour periods were fished during the main season and five 24-hour periods per week were fished after the main run. It appears that coho catches are more directly related to fishing time than catches of other species. This may be due to the fact that the coho run is spread over a longer period of time and that cohos run through all parts of the Inlet to just about every anadromous stream. In other words they are more evenly distributed than other species in both timing and area of occurrence. This in turn makes them less susceptable to a heavy harvest during infrequent and short fishing periods.

Pink salmon are exclusively two year fish and like coho run in greatest strength on even years. The 1972 catch of 90,830 was extremely poor for pinks in fact the lowest even-year catch since 1954. The 1972 catch was 75 percent below the even-year average.

The Northern district chum catch since 1969 has averaged about 17,000. The 1972 catch of 19,780 falls just above that average, however, it is about 70 percent below the average since 1954. The Susitna River which empties into the Northern district is thought to account for about 80 percent of the chum production. Most of the chums produced in the Susitna are taken in the Central district drift net fishery. Since this fishery has not experienced the same decline in catches as the Northern district,

it would appear that the poor chum catches in the Northern district are the result of a reduced fishing time rather than a reduction in the run size. The point should be made for the Northern district that it is a set net fishery only and thus much less efficient than the Central district. Because of the tremendous tidal fluctuations in the area the tide stage fished is critical in the set net operation. With 12-hour periods, there is sometimes only one or two hours during the period when nets are fishing inefficiently. Another factor in analyzing recent Northern district catches is the reduction in gear in this area. (See Table 5)

Field Operations

Effort Surveys: Aerial surveys of the fishery were made periodically during the season in order to assess the amount of gear in use. Surveys began with the first king salmon test period on June 5 and ended on July 31. A total of seven surveys were flown. Table 6 lists each survey by date broken down by section of beach. The lowest effort of the season was on June 26 with 101 nets fishing and the highest recorded effort was on July 28 with 230 nets fishing. Table 5 gives the high, low and mean effort per year since 1963. Effort in 1972 was 18 percent below the average since 1966 and was the lowest effort recorded since surveys were started in the early 60's. There are two basic reasons for this: (1) The drift fishery in the Central district has developed to the point where it is harvesting a much larger percentage of Northern district bound fish thus leaving less fish for Northern district set netters to harvest. This has caused some fishermen to drop entirely out of the fishery while others have simply

Table 5. Northern district set net effort[1/], 1963 - 1972.

YEAR	HIGH	LOW	MEAN
1963 [2/]	464	184	294
1964 [2/]	443	176	295
1965 [3/]	446	94	321
1966	429	8	256
1967	303	74	202
1968	398	164	280
1969	300	134	221
1970	440	95	211
1971	189	84	143
1972	230	101	173
Average [3/]	327	94	212

1/ Number of 35 fathom units fishing.

2/ Includes Northern district boundary to Kustatan and East Forelands to Boulder Point.

3/ Includes East Forelands to Boulder Point.

4/ From August 1966 to 1972

Table 6. Aerial surveys of the Northern district, Cook Inlet, 1972.

	Units of Set net gear 1/			
Date	Fire Island	East Side	West Side	Total
6/5	8	77	65	150
6/12	7	76	73	156
6/26	3	42	56	101
7/10	5	59	117	181
7/17	6	64	120	190
7/28	6	83	141	230
7/31	5	77	123	205
Seasonal Average	6	68	99	173
Percent	3.4	39.4	57.2	100.0

1/ One unit equals 35 fathoms.

resorted to fishing less gear. (2) Because of the short 12-hour fishing periods, most fishermen have found it impossible to fish a full complement of gear on certain tides. With 24-hour periods fishermen could always count on fishing a complete tidal range, however, with 12-hour periods sometimes the best stage of tide for a certain site or net location does not occur within the period.

Susitna Station: The sampling site at Susitna station, located just below the confluence of the Susitna and Yenta Rivers, was operated again in 1972. This was the fourth year of operation at this site. The site was established to provide an index of salmon run timing and species composition plus A.W.L. data. In addition observations were made on air and water temperatures, river level and sky cover.

Salmon were captured with a fishwheel and gill nets. The four basket fishwheel was operated from May 28 to August 4. The wheel was generally fished daily from 0830 to 2030. On a catch per unit of effort basis, sockeye fishwheel catches in 1972 exceeded the 1970 level but were below the 1971 level. Pink salmon fishwheel catches were less than 1970, the parent year. The fishwheel caught a total of only 37 king salmon which compares to 86 in 1971 and 161 in 1970. (Table 7)

Set gill netting was conducted daily at two locations in the river for approximately one hour at each site. All gear was 12 feet in depth but varied from 25 feet to 60 feet in length and 4 7/8 inches to 7 inches in mesh size. The gill netting provided additional information on timing and A.W.L. relationships.

Table 7. Susitna Station Cumulative Fishwheel Catches and Hours of Effort, 1970-1972

	1970						1971						1972					
Date	hrs.	King	Red	Chum	Pink	Silver	hrs.	King	Red	Chum	Pink	Silver	hrs.	King	Red	Chum	Pink	Silver
5-25	12	1	2															
26	12	4	5															
27	12	5	9															
28	12	8	12										6					
29	12	15	19										11.5		1			
30	5	17	22				12	1					12		1			
31	16.5	26	37				12	2					11.75		2			
6- 1	12	28	45				12	7	3				12	1	4			
2	12	29	47				12	9	7				12	2	5			
3	12	30	48				12	10	12				12	3	8			
4	1/	30	48				12	15	16				10	3	8			
5	1/	30	48				3.5	15	20				12	6	24			
6	12	34	54				4	15	21				12	7	27			
7	24	44	70				0	15	21				12	8	31			
8	12	48	72				8.5	15	22				10	9	31			
9	12	50	76				11.75	19	25				12	11	32			
10	10	55	81				12	19	27				12	15	36			
11	12	67	101				12	20	28				12	17	38			
12	22	72	116				7	20	29				12	18	39			
13	11	72	117				11.75	22	30				12	19	40			
14	24	95	134				11.75	24	32				12	21	40			
15	24	104	140				12	25	35				12	22	40			
16	24	117	143				12	27	37									
17	24	127	153				12	32	39									
18	24	136	163				12	37	41									
19	24	137	167				12	51	45									
20	24	137	169				12	62	50				5 2/	22	41			
21	24	138	170				11.75	69	55				13 3/	22	41			
22	24	141	172				11.75	76	56				20.5	24	42			
23	24	146	177				12	78					20.5	26	43			
24	24	150	178				12	82					12	27	43			
25	24	150	179				12	86					12	29	43			
26	24	152					4.5						12	30	43			
27	24	152											12	31	43			

1/ Wheel converted from two to four baskets.
2/ Converted to two baskets.
3/ Converted to four baskets after twelve hours.

Table 7 continued:

Susitna Station Cumulative Fishwheel Catches (continued).

	1970						1971						1972					
Date	hrs.	King	Red	Chum	Pink	Silver	hrs.	King	Red	Chum	Pink	Silver	hrs.	King	Red	Chum	Pink	Silver
6-28	24	154											12	31	44			
29	24	155											12	31	45			
30	24	155	1										12	32	46			
7- 1	24	155	3										12	34	47			
2	24	156	4										12	35				
3	24	157	4										12	36				
4	24	157	4										12	37				
5	24	157	5			1							12					
6	24	157	8			1							12					
7	24	159	15			1							12					
8	24	161	20			3							--					
9	24		24		3	5							12		1		1	
10	24		36	1	10	6							12		2		5	
11	24		49	2	20	13							12		3		11	
12	24		53	3	21	18							12		8		17	
13	22		59	3	27	22							12		14		21	
14	24		79	3	35	32							12		16		26	
15	24		108	3	47	46							12		17		31	
16	24		110	4	49	50							12		17		32	
17	24		119	4	60	67							12		17		36	
18	12		121	4	72	71							12		21		43	
19	24		128	4	92	76							12		23		81	
20	24		135	4	104	82							12		24		115	
21	24		143	5	199	92							12		39	3	185	
22	24		229	8	736	152							12		137	16	324	1
23	23.5		296	11	1386	207							12		240	38	600	2
24	24		318	13	1796	241							12		255	56	876	2
25	24		339	15	2393	285							12		266	61	1168	2
26	24		347	19	3193	311							12		274	61	1249	2
27	24		356	34	3630	338							12		282	61	1360	3
28	24		356	39	3878	353							12		290	62	1415	3
29	24		358	39	3960	360							12		389	76	1494	7
30	24		358	39	4007	362	3.5		5		7	5	12		470	112	1527	10
31	24		360	39	4029	363	12		13	1	53	21	12		508	119	1586	13

Table 7 continued:

Susitna Station Cumulative Fishwheel Catches (continued).

	1970						1971						1972					
Date	hrs.	King	Red	Chum	Pink	Silver	hrs.	King	Red	Chum	Pink	Silver	hrs.	King	Red	Chum	Pink	Silver
8- 1	24		363	39	4049	366	12		17	1	68	26	12		514	127	1616	15
2	24		365	39	4080	373	12		25	1	84	26	12		515	130	1624	15
3	24		368	39	4101	376	12		182	2	89	30	12		516	131	1629	17
4	24		371	39	4113	378	12		1978	50	107	75	12		516	133	1631	17
5	24		372	39	4132	384	12		2114	65	113	99						
6	23.5		376	40	4151	392	12		2129	82	116	133						
7	24		379	41	4157	401	12		2138	94	121	161						
8	24		383	47	4162	403	2.5		2138	94	121	161						
9	24		384	59	4164	407	0		2138	94	121	161						
10	24		386	66	4168	411	6		2145	95	121	162						
11	17			78	4170		12		2155	99	123	163						
12							12		2164	121	130	167						
13							8.5		2173	137	134	169						
Season Total	1626.5	161	565	78	4170	411	424	86	2229	137	134	169	756.5	37	563	133	1631	177

Talachulitna Tower: The Talachulitna River is a major salmon producing system in the Susitna Basin. In past years runs of pinks have been estimated at one million and runs of sockeye have reached fifty thousand. In addition, chum, coho, and king salmon also use the system extensively. In view of this, it was decided to enumerate the various runs into the Talachulitna and since the river was too large for a weir, counting towers were utilized.

Table 8 gives the expanded total daily count by species for 1972. An estimated 232,287 salmon passed into the Talachulitna while the towers were in operation. The total number of salmon enumerated is reasonably accurate; however, there is some question as to the accuracy of the species breakdown since difficulty was enountered in separating between chum and sockeye salmon.

Fish Creek: The Fish Creek that drains Big Lake and empties into Knik Arm has been continuously enumerated for salmon since 1936. Table 9 shows the dates of operation, the count by species, and the method of enumeration for each year from 1936 to 1972. This year the weir was operated until September 8 which was late enough to allow the total escapement of all species to be documented.

The sockeye escapement of 6,981 was the second lowest ever recorded approaching the all-time low of 6,242 in 1969. In addition to sockeye, 709 coho, 57 pink, 2 kings and 1 chum were counted through the weir.

The pink run, which is a stock with a predominant even-year cycle, showed a marked decline. The parent stock, 170, numbered 3,940. The

Table 8. Talachulitna River tower counts of salmon, 1972.

Date	King		Sockeye		Chum		Pink		Coho	
	Daily	Accum.	Daily	Accum.	Daily	Accum.	Daily	Accum.	Daily	Accum.
7/10	48	48								
11	28	76	12	12						
12	32	108	4	16						
13	24	132	-4	12						
14	4	136	0	12						
15	20	156	0	12						
16	13	169	0	12						
17	9	178	9	21			105	105		
18	3	181	1	22			113	218		
19	3	184	1	23			117	335		
20	5	189	2	25			362	697		
21	8	197	0	25			469	1,166		
22	0	197	0	25			1,504	2,670		
23	16	213	0	25			1,425	4,095		
24	48	261	3	28			1,825	5,920		
25	122	383	0	28	1,030	1,030	9,965	15,885		
26	13	396	432	460	1,002	2,032	39,592	55,477		
27	3	399	2,006	2,466	1,692	3,724	28,554	84,031		
28	-6	393	3,087	5,553	1,743	5,467	32,751	116,782		
29	5	398	1,785	7,338	1,241	6,708	21,089	137,871		
30	4	402	841	8,179	934	7,642	11,579	149,450		
31	0		467	8,646	1,022	8,664	13,546	162,996		
8/ 1	0		963	9,609	703	9,367	12,213	175,209		
2	0		1,723	11,332	795	10,162	10,745	185,954		
3	0		1,585	12,917	569	10,731	5,577	191,531		
4	0		1,073	13,990	502	11,233	3,214	194,745		
5	0		669	14,659	282	11,515	1,750	196,495		
6	0		397	15,056	290	11,805	1,631	198,126	8	8
7	0		282	15,338	224	12,029	1,359	199,485	21	29
8	0		190	15,528	158	12,187	895	200,380	13	42
9	0		82	15,610	127	12,314	716	201,096	20	62
10	0		49	15,659	139	12,453	613	201,709	138	200
11	0		27	15,686	114	12,567	439	202,148	112	312
12	3	405	22	15,708	120	12,687	350	202,498	64	376
13	0		13	15,721	66	12,753	312	202,810	55	431
14	0		9	15,730	30	12,783	105	202,915	23	454

Table 9. Fish Creek Salmon escapement counts 1936-1972.

Year	Method of Enumeration	Dates of Operation	Count through July 31			Count for entire season		
			Sockeye	Coho	Pink	Sockeye	Coho	Pink
1936	Weir	7/15-8/11	183,722			203,039		
1937	Weir	7/21-8/9	25,031			50,617	489	
1938	Weir	7/10-8/8	115,531	14,549		182,463	19,417	
1939	Weir	7/11-8/12	57,220		332	116,588	2,764	332
1940	Weir	7/4-8/12	293,880			306,982	16,546	
1941	Weir	7/4-8/9	39,032	6,886		55,077	9,720	
1942-1945	No counts made 1/							
1946	Est. ground count					57,000		
1947	Est. ground count					150,000		
1948	Est. ground count					150,000		
1949	Weir	7/9-8/17	61,219	105		68,240	1,642	
1950	Weir	7/9-8/17	9,873	189		29,659	1,042	699
1951	Weir	7/4-8/16	27,278	861		34,704	1,953	
1952	Weir	7/12-8/9	91,125	265		92,724	277	
1953	Weir	7/11-8/5	44,385	50		54,343	71	
1954	Weir	7/13-8/9	17,483	252		20,904	1,057	
1955	Weir	7/8-8/8	30,112	3,984	8	32,724	4,417	8
1956	Weir	7/8-7/31	32,663	22	32			
1957	Weir	7/12-8/25	12,443			15,630	346	

Table 9 continued:

Fish Creek salmon escapement counts 1936-1972 (con't).

Year	Method of Enumeration	Dates of Operation	Count through July 31			Count for entire season		
			Sockeye	Coho	Pink	Sockeye	Coho	Pink
1958	Weir	7/4-7/28	17,573	592				
1959	Counting screen	7/10-8/2	77,416					
1960	Counting screen	7/4-7/31	80,000					
1961	Counting screen	7/4-7/31	40,000					
1962	Counting screen	7/4-7/31	60,000					
1963	Counting screen	7/4-8/1	119,024	1,814				
1964	Counting screen	7/4-7/31	65,000					
1965	Counting screen	7/4-8/8	11,584	136	112	16,544	792	584
1966	Counting screen	7/5-7/31	41,312		10,760			
1967	Counting screen	7/3-7/31	22,624	984	168			
1968	Counting screen	7/1-7/31	19,616	2,088	48,128			
1969	Weir	7/4-9/2	6,243	11		12,456	4,253	
1970	Weir	7/4-8/8	19,881	574	2,704	25,000 2/	1,048	3,940
1971	Weir	7/3-8/7	18,961	150		32,000 3/	583	
1972	Weir	7/2-9/8	3,371	64	13	6,981	709	57

1/ Rating of Poor, Fair, or good given only.

2/ Includes estimated 3,500 sockeye salmon still behind weir when it washed out 8/8/70.

3/ Includes estimated 500 sockeye salmon still behind weir when it was removed 8/7/71.

greatest recorded run of pinks occurred in 1968 when 48,128 were counted through by July 31. This extremely small run of pinks (57) most likely stems from the severity of environmental conditions in the winter of 1970-71.

The coho run this year was also considerably below historic levels. In 1968, the parent year for the 1972 coho run, 2,088 were counted through July 31. The low water conditions present in 1968 may well be the primary cause of the failure of the 1972 coho run into Fish Creek.

Escapement Surveys: Previous escapement surveys in the Northern district, with the exception of king salmon surveys, have been performed on a very irregular basis. In view of the large percentage of the gill net area spawning systems that are located in the Northern district, an indexing system of the various spawning areas was initiated in 1972. Forty-nine index areas were established in the Northern district, 22 of which had been established by the U. S. Fish and Wildlife Service prior to statehood. The initial emphasis was on red salmon.

Surveys were made by air, boat, or on foot, aerial surveys were conducted with a PA-18 supercub, and Bell G4A and Jet Ranger helicopters. Boat surveys were conducted from an Avon inflatable rubber boat. Surveys began on July 20 and ended on September 16, which encompasses the peak of spawning for most of the area.

Of the 40 areas surveyed 22 were selected as being representative of the Northern district. The peak count for these index areas is given in Table 10 . A comparison of this data with previous years is difficult due to inadequate survey coverage in previous years.

Table 10. Susitna Basin Index Areas Maximum Counts, 1972.

Lake/Stream	Date Surveyed	No. Sockeye	Survey Method 1/
Hewitt Creek	8/23	137	G
Hewitt Lake	8/23	990	B
Huckleberry Creek	8/23	1	G
N. Judd Springs	9/16	100	H
S. Judd Springs	9/16	540	H
No. 2 Judd Springs	9/16	180	H
Judd Lake	9/16	4900	H
Larsen Lake	9/7	300 (60)	S
Lake Stephan	8/21	38	B
Nancy Creek	9/11	0	
Nancy Lake	9/11	1979 (440) 2/	B
Prarie Creek	8/22	202	G
Red Shirt Lake	8/29	160	S
Role Jo Creek	8/16	40	B (mouth only)
Shell Lake	8/29	640 (50)	S
Slim Creek	8/25	63	G
Spring Creek	8/29	33	G
"T" Creek	8/26	182	G
Talachulitna Creek	9/16	390	H
Upper Talachulitna Creek	9/16	130 (5)	H
Upper Talachulitna River	9/16	30	H
Whiskey Lake	8/29	20	S

1/ G: ground, S: supercub, B: boat, H: helicopter

2/ No. dead in bracketts ().

King salmon escapement surveys in the Northern district were conducted by the Sport Fish Division again in 1972. Table 11 summarizes the results. Survey conditions were much better in 1972 than 1971 and the results were much more favorable.

Central district

The Fishery: A total of 2,014,966 salmon were harvested in the Central district in 1972. The catch by species was 11,174 kings, 794,087 sockeye, 61,587 cohos, 537,750 pinks, and 610,368 chums. This was the lowest even-year catch since 1954 and was 38 percent below the even-year average since that time.

One phenomenon occurred in 1972 that tended to hold the catch down in the Central district. Clear water and calm weather conditions prevailed throughout the season causing a reduction in efficiency of gill nets during the 12-hour daylight periods. Observations were made during the season of salmon swimming along the nets and passing around the ends rather than swimming into the nets and being gilled. This condition tended to hold down the harvest and allowed excellent escapement on sockeye salmon. Fishing time was not restricted during 1972, in fact there were several time additions in selected areas of the district.

The 1972 catch by species by date for the Central district is presented in Table 12, and the catch by species since 1954 appears in Table 13 . The king salmon catch of 11,174 was the best since 1961 although still about 4,000 below the average since 1954. The sockeye catch of 794,087 was the highest since 1968 and only about one hundred thousand below the average since 1954. The coho catch of 61,587 was the worst for an even

Table 11. Upper Cook Inlet king salmon escapement counts, 1972.

Stream	Number of Fish	Type of Survey
Deshka River	1,780	Ground count
Lake Creek	920	" "
Alexander Creek	202	" "
Chuit River	417	Aerial count
Talachulitna River	405	Tower count
Ship Creek	121	Ladder count
Willow Creek	370	Ground count
Montana Creek	317	" "
Little Willow Creek	99	Aerial count
Prairie Creek	630	" "
Moose Creek	21	Ground count
Peters Creek	95	Aerial count
Theodore Creek	79	" "
Indian Creek	35	" "
N.F. Kashwitna River	31	" "
Ryers Creek	7	" "
Troublesome Creek	5	" "
Portage Creek	68	" "
Lewis River	7	" "
Campbell Creek	47	Ground count
Bear Creek	12	Aerial count
Coal Creek	20	" "
Canyon Creek	8	" "

Table 12. 1972 Cook Inlet salmon catch by period for Central district.[1/]

Period	Date	Kings	Reds	Cohos	Pinks	Chums	Totals
1	6/5	2					2
2	6/12	5	1				6
3	6/19	3,028	5,460		2	1	8,491
4	6/23	1,151	3,594	1	7	6	4,759
5	6/26	615	4,503	7	7	10	5,142
6	6/30	601	8,938	117	2,266	163	12,085
7	7/3	308	14,508	174	618	1,002	16,610
8[2/]	7/5	74	8,868	226	350	522	10,040
9	7/7	586	46,718	658	8,114	7,881	63,957
10	7/10	1,313	68,189	1,715	12,333	24,032	107,582
11	7/14	330	110,917	3,309	20,426	71,420	206,402
12	7/17	1,136	174,753	5,493	31,609	65,742	278,733
13	7/21	635	201,282	4,448	32,536	38,448	277,349
14	7/24	388	72,752	4,802	34,608	40,685	153,235
15	7/26	240	37,496	4,758	47,438	48,655	138,587
16	7/28	199	21,448	6,286	78,146	69,429	175,508
17	7/31	130	6,283	4,305	68,062	59,903	138,683
18	8/2	56	3,529	3,512	52,956	41,100	101,153
19[3/]	8/4	98	2,467	3,614	64,230	29,239	99,648
20[3/]	8/7	110	1,320	3,694	46,428	22,069	73,621
21	8/9	52	474	2,497	17,270	38,387	58,680
22	8/11	36	160	1,559	11,574	40,192	53,521
23	8/14	27	103	1,296	5,112	1,995	8,533
24	8/16	17	110	973	2,296	3,499	6,895
25	8/18	21	91	1,113	623	2,546	4,394
26	8/21	6	9	679	375	744	1,813
27	8/23	7	14	1,164	256	586	2,027
28	8/25	2	4	601	79	842	1,528
29	8/28		2	875	20	692	1,589
30	8/30		1	504	6	157	668
31	9/1		5	955	1	306	1,267
32	9/4			748	1		749
33	9/6	1		340		1	342
34	9/8			620	1		621
35	9/11			364			364
36	9/13			9			9
37	9/15			95			95
38	9/18			30			30
39	9/20			29			29
Totals		11,174	793,999	61,570	537,750	610,254	2,014,747

1/ Taken from 1972 IBM statistical run.
2/ Only Chisik and part of Iliamna subdistricts open.
3/ All fishing periods 12 hours except periods 19 and 20 were 24 hours.

Table 13. Salmon catch, by species, Central District, 1954-1972

Year	Kings	Sockeyes	Cohos	Pinks	Chums	Total
1954	41,195	1,086,538	182,061	1,842,267	425,497	3,577,558
1955	25,404	974,601	124,412	98,454	208,022	1,430,893
1956	46,518	1,144,177	117,867	1,196,524	612,506	3,117,592
1957	20,831	553,281	81,018	19,550	900,016	1,574,696
1958	13,419	408,170	138,952	1,240,505	379,470	2,180,516
1959	19,426	471,966	61,619	10,506	239,134	802,651
1960	19,294	785,292	167,125	981,465	542,258	2,495,434
1961	11,982	1,084,929	76,803	23,252	288,525	1,485,491
1962	10,432	1,016,639	177,762	2,432,090	864,177	4,501,100
1963	10,191	833,517	133,600	21,496	343,333	1,342,137
1964	4,363	809,791	285,713	2,645,575	952,128	4,697,570
1965	9,441	1,380,775	131,717	19,049	299,538	1,840,520
1966	8,121	1,721,369	209,353	1,634,416	497,223	4,070,482
1967	7,675	1,261,997	133,875	23,769	258,453	1,685,769
1968	4,065	964,321	312,112	1,742,154	1,049,449	4,072,101
1969	9,494	654,189	80,527	25,802	258,019	1,028,031
1970	6,489	662,574	189,175	603,319	753,173	2,214,730
1971	10,167	595,770	78,542	27,201	310,426	1,022,106
1972	11,174	794,087	61,587	537,750	610,368	2,014,966
Total	289,681	17,203,983	2,743,820	15,125,144	9,791,715	45,154,343
19 year average	15,246	905,473	144,412	796,060	515,353	2,376,544
Percent	0.6	38.1	6.1	33.5	21.7	100

or odd year, since 1954. The pink harvest of 537,750 was also low, in fact it was the lowest even-year catch since 1954. The 1972 chum catch of 610,368 in the Central district was nearly one hundred thousand above the average for all years since 1954; however, it was ten percent below the even-year average since that time.

In analyzing the above catches in respect to how they relate to long-term averages, one must look at many facets of the 1972 season. The units of active gear, the number of fishing hours allowed, and the unusual clear water conditions experienced were all factors influencing the low even-year catch. The number of active drift boats in 1972 was 457, the lowest since 1966 which is the earliest year we have records for. The number of active set net fishermen, 495, was the lowest for an even year since 1966. (Table 14) The total number of fishing hours for the season was the lowest for an even year in the history of Cook Inlet and only one odd-numbered year, 1971, had less hours allowed. The unusual clear water conditions have already been mentioned and although there is no way of accurately assessing the effect on the salmon harvest, it was unquestionably an influence in holding it down.

There were five emergency orders issued in 1972 which affected the salmon fishery in the Central district. The first opened the Chisik subdistrict and the Northern portion of Iliamna subdistrict to one extra 12-hour period on July 5. This was to allow extra fishing time on the peak of the sockeye run to the lower west side of the district. The Grecian (also Cresent) River, which is the major indicator for this run, had excellent escapement and extra time was warranted. This was the only emergency order put into effect during the major portion of the sockeye run.

Table 14. Cook Inlet salmon gear registered vs salmon gear fished.[1/]

	1966	1967	1968	1969	1970	1971	1972
Drift Nets Registered	504	536	611	687	757	710	571
Drift Nets Fished	489	521	599	608	625	463	457
Difference	15	15	12	79	132	247	114
Percent	3.0	2.8	2.0	11.5	17.4	34.8	19.9
Set Nets Registered	628	604	681	728	772	731	707
Set Nets Fished	616	491	632	462	522	436	495
Difference	12	113	49	266	250	295	212
Percent	1.9	18.7	7.2	36.5	32.4	40.4	29.9
Hand Purse Seines Registered	77	58	91	75	89	81	72
Hand Purse Seines Fished	75	54	88	58	80	49	51
Difference	2	4	3	17	9	32	21
Percent	2.6	6.9	3.3	22.7	10.1	39.5	29.1
Troll Registered	12	13	11	23	25	41	18
Troll Fished	5	3	0	0	8	4	3
Difference	7	10	11	23	17	37	15
Percent	58.3	76.9	100.0	100.0	68.0	90.2	83.3

1/ Registered gear taken from Homer office statistics.
Gear Fished taken from IBM statistical runs.

The second emergency order allowed an extra 12-hour period on July 26 for the entire gill net area with the justification being good overall sockeye escapement. Effort dropped off sharply after the sockeye run was over and commencing August 2 an extra 12-hour period per week was allowed throughout the district.

There was an excellent late pink run to the Kenai-Kasilof systems and two, 24-hour periods were allowed, one on August 4, and the other on August 7. These were the two final emergency orders issued during the main course of the salmon season in the Central district during 1972.

Field Operations

Escapement: The Kenai and Kasilof River systems are the major spawning systems in the Central district being utilized by all salmon species except chums. These rivers are at present the only systems in the Central district monitored on a daily basis for salmon escapement.

The main streams of both the Kenai and Kasilof rivers are turbid and prior to 1968, escapement into these systems was derived by surveying the clear water spawning areas. This gave only a rough indication at best of escapement plus the surveys could only be accomplished when the fish were on the spawning beds, which was well after the commercial fishing season. The data thus had little use in season management purposes. In 1968 sonar counters were installed in the main stems of both systems. Not only could the counters provide more accurate escapement information but they were located close enough to the fishery so that the information could be used for in-season management. The mechanics of the counters

have caused some problems, particularly in 1971, but as a whole they have proved to be an extremely useful tool. A detailed description of the operation and method of use of the sonar counters is presented by Davis (1971). Details of the 1972 operation can be found in Davis' 1972 Cook Inlet Sockeye Annual Technical Report.

In 1972 a total of 348,261 salmon were enumerated past the Kasilof River counters. Species composition apportioned by the fishwheel catch is given in Table 15 for the Kenai River and Table 16 for the Kasilof River. The sockeye counts for both of these systems were on the high end of the preferred escapement range. The Russian River which is the main spawning system in the Kenai, had a late run escapement of 78,842 sockeye which is about 30,000 above the 50,000 escapement goal. The present desired sockeye escapement ranges are 150,000 to 250,000 (mid-point 200,000) for the Kenai River and 75,000 to 150,000 (mid-point 100,000) for the Kasilof River.

Figures 2 and 3 graphically compare timing of the 1972 run with previous years in the Kenai and Kasilof respectively. The timing of the run into the Kenai was similar to other years except that the bulk of the escapement occurred over a shorter period than normal. The timing into the Kasilof was about 12 days later than normal and 68 percent of the Kasilof escapement came in the three-day period from July 22 to 24.

The surveys conducted on the clear water streams of both the Kenai and Kasilof systems were in general accord with the sonar counts.

Russian River Studies: During 1972, the Russian River weir operation and sampling program was turned over entirely to the Sport Fish Division for funding and operation. Some assistance in planning and weir installation was provided by Commercial Fisheries Division research personnel. Since the

Table 15. Sonar counts apportioned by fishwheel catches from Kenai River, 1972.

Date	SONAR South Bank	SONAR North Bank	SONAR Total	FISHWHEEL	Sockeye	King	Coho	Pink	Total
June 15 - July 21	18,076	40,136	58,212	F.W. Catch	248	1	4	3	256
				Sonar Count	56,407	234	931	640	
July 22 - July 23	5,174	48,764	53,938	F.W. Catch	186	1	3	1	191
				Sonar Count	52,535	425			
July 24	3,471	31,911	35,382	F.W. Catch	157		2		159
				Sonar Count	34,957		425		
July 25 - July 31	4,991	124,813	129,804	F.W. Catch	249	1	1	6	257
				Sonar Count	125,780	519	519	2,986	
TOTAL: (June 15-July 31 only)	31,712	245,624	277,336	F.W. Catch	840	3	10	10	863
				Sonar Count	269,679		7,657	(other species)	

Table 16. Sonar counts apportioned by fishwheel catches from Kasilof River, 1972.

Date	SONAR South Bank	SONAR North Bank	SONAR Total	FISHWHEEL	Sockeye	King	Coho	Pink	Total
June 5 - July 10	373	5,449	5,822	F.W. Catch	151	1		2	154
				Sonar Count	5,712	34		76	5,822
July 11 - July 13	779	3,147	3,926	F.W. Catch	147			5	152
				Sonar Count	3,796			130	3,926
July 15 - July 20	1,961	5,939	7,900	F.W. Catch	294	1		1	296
				Sonar Count	7,852	24		24	7,900
July 21	1,962	3,630	5,592	F.W. Catch	274	1		1	276
				Sonar Count	5,548	22		22	5,592
July 22	1,735	21,568	23,303	F.W. Catch	211			2	213
				Sonar Count	23,093			210	23,303
July 23- July 25	3,661	52,133	55,794	F.W. Catch	311				311
				Sonar Count	55,794				55,794
July 26 - August 2	3,046	8,119	11,165	F.W. Catch	169	6	1	10	186
				Sonar Count	10,149	357	56	603	11,165
TOTAL	13,517	99,985	113,502	F.W. Catch	1,557	9	1	21	1,588
				Sonar Count	111,944	437	56	1,065	113,502

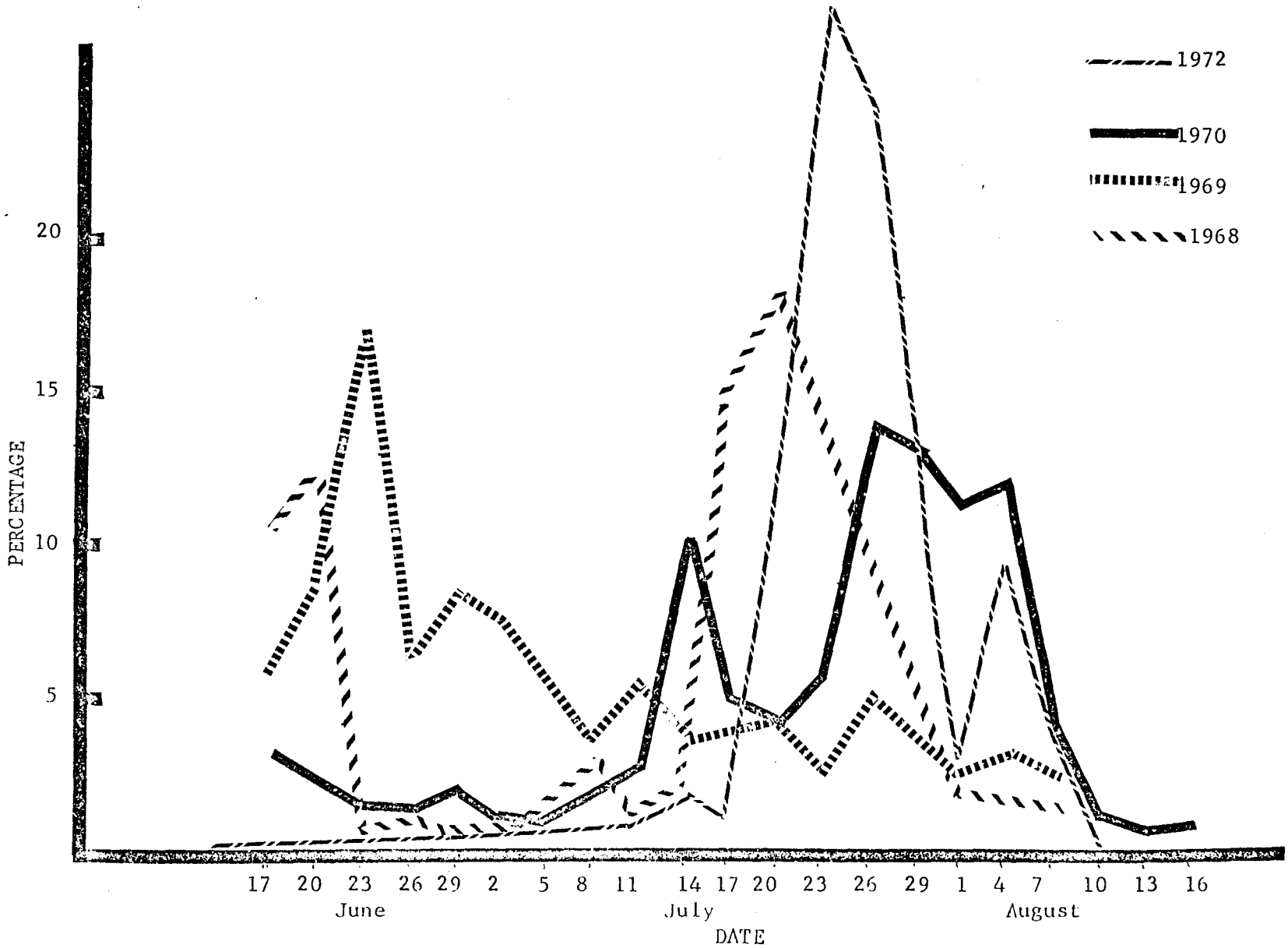


Figure 2. Sockeye counts by percentage at three-day intervals for the Kenai River, 1968, 69, 70, and 72.

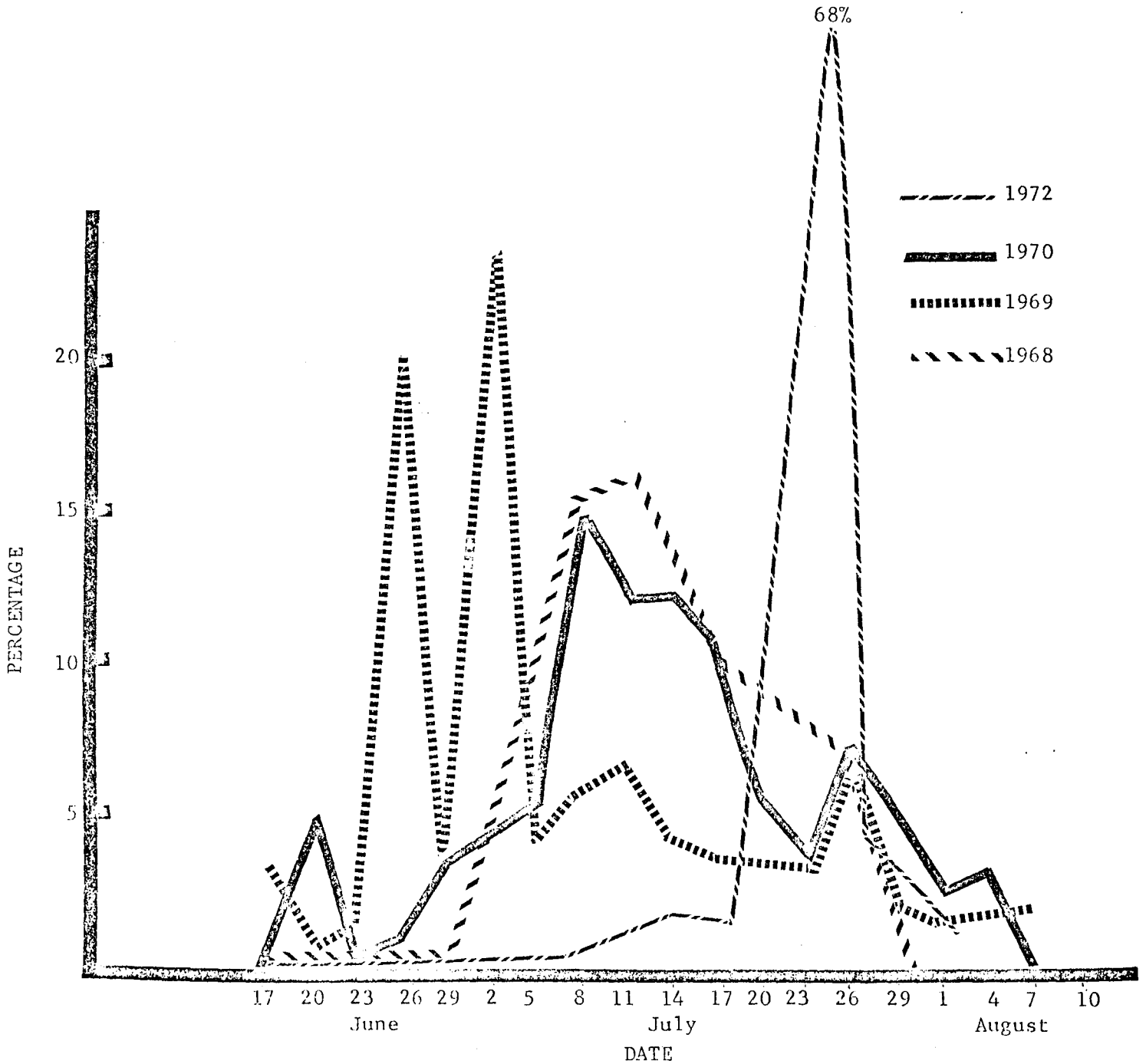


Figure 3. Sonar counts by percentage at three-day intervals for the Kasilof River, 1968, 1969, 1970, and 1972.

Russian River is one of the major producers of sockeye salmon in the Kenai River Drainage and sockeye salmon from this system undoubtedly are harvested in the commercial fishery the results of the Sport Fish Division work in the system will be presented in this report.

Operation of the weir for adult salmon was essentially the same as it had been since the installation of the weir in 1969. The weir was installed June 15 and operated through August 27. Salmon passing through the weir were enumerated on a daily basis. Fish were observed for the presence of tags and their general condition. Fish were sampled daily for scales and length for routine sampling and age information.

Table 17 shows Russian River sockeye salmon escapements from 1960 to present. The early run escapement which was completed July 29, totaled 9,273 fish. The sport fish harvest of the early run was 3,650. A reasonably low percentage of the fish were scarred, indicating that the 1972 closure imposed on the sport fishery near the confluence of the Russian River and the Kenai River probably had some effect on the quality of the spawning escapement. This closure gave some protection to the fish which were schooled up near the confluence of the two rivers and prior to 1972 had been quite susceptible to the sport fishery.

The late run escapement from July 30 to August 18 amounted to 78,842. This is the highest observed escapement in the 13-year hsitory of enumeration of the run. The sport fish harvest on the late run was 17,280 fish. The total escapement of both early and late runs was 88,115 fish which is the highest total escapement for the Russian River tabulated to date since 1960.

The peak of the early run passed through the weir between July 1 and July 12. Some early fish were still moving through the weir until late July. The late run escapement totaled 78,842 salmon, of which 160 were estimated to be jack salmon. There were also 666 coho and 172 king salmon tabulated through the weir.

Table 17. Russian River sockeye salmon escapements and sport fish catch 1960 - 1972

Year	Early run escapement (thru July 15)	Sport fish census	Late run (July 16 on)	Sport fish census	Total river run	Total escapement
1960	9,115		34,839		43,954	43,954
1961	7,791		18,669		26,460	26,460
1962		3,400	55,653	1,300	60,353	55,653
1963	15,311	3,670	51,100	1,390	71,471	66,411
1964	12,782	4,970	46,921	1,885	66,558	59,703
1965	21,776	7,760	21,459	2,940	53,935	43,235
1966	16,915	16,365	34,521	5,455	73,256	51,436
1967	13,706	8,500	49,458	3,638	75,302	63,164
1968	9,204	8,255	48,862	4,445	70,766	58,066
1969	5,000 1/	5,375	30,020 2/	1,075	43,342	35,020
1970	5,451	5,750	28,200 3/	600	40,001	33,651
1971	2,654 4/	2,700	54,429 5/	10,700	70,483	57,083
1972	9,273	3,650	78,842	17,280	109,045	88,115

1960-67 escapement counts are based on tower counts for 15 minutes per hour for 12 hours then skipping 16 hours and counting again 15 minutes per hour for 12 hours and then expanding by 9.33.

1968 early escapement based on 15 minute hour counts for 24 hours and then expanding by 4. Late escapement based on procedures followed in 1960-67.

1/ early escapement is a spawning ground estimate; fish were passing through the weir undetected. Late escapement is a total count - weir made fishproof.

2/ count includes 1,100 sockeye salmon counted in Lower Russian River after weir removal.

3/ 1970 count includes 2,000 estimated at falls after weir removal.

4/ early run through July 27.

5/ does not include fish in falls or mortality data collected from fence in lower river (approximately 10,000 sockeye salmon were unable to ascend the falls and probably did not spawn).

6/ early run through July 29.

Beach Survey: Since 1964 one temporary employee has been assigned the task of driving the east side beach of the Central district from the Kenai River south to Ninilchik. The major objective of this survey is to obtain average catch per unit of effort by species and location, and relay this information to the Homer office. A secondary but equally important function of the beach survey is to act as liason for the Alaska Department of Fish and Game and the east side set net fishermen. The Beach Survey man also assists with scale sampling and sonar operations.

Detailed accounts of the beach surveys can be found in the annual beach survey reports on file in the Homer office.

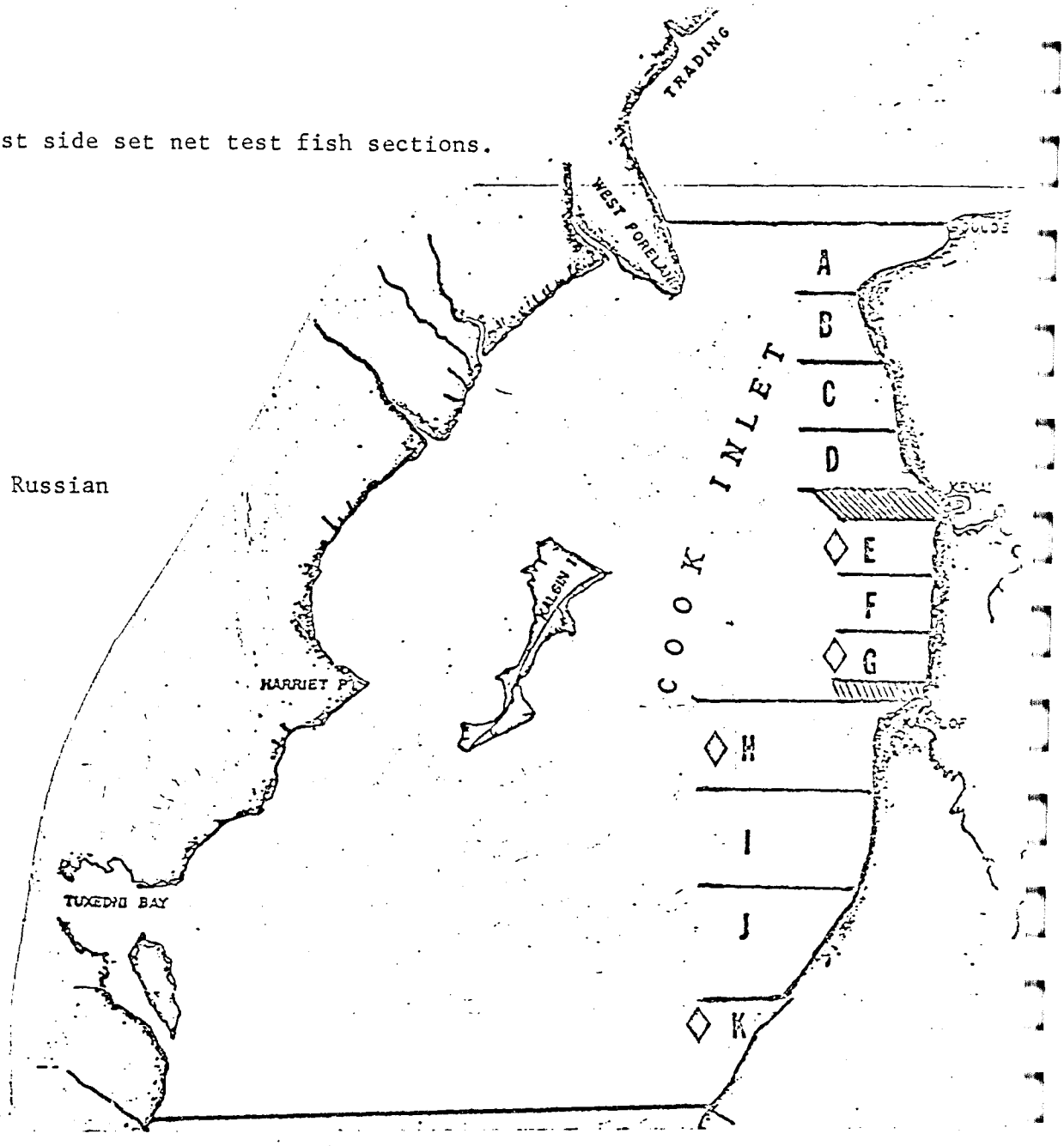
Test Fishing: After the problems encountered in assessing the run in 1971, it was decided to experiment with different types of test fishing in the Central district to see if this might help in determining timing and species composition at a time when this information would still be useful for management purposes.

Four different test fishing operations were employed in 1972. These were (1) set netting on the east side beaches prior to the regular fishing season, (2) set netting on the east side beaches during the regular season, (3) drift netting during the regular season, and (4) set netting in the Kenai and Kasilof Rivers during the regular season. The drift netting and set netting in the rivers was conducted by Fish and Game personnel.

Set Net Test Fishing: The early test fishing on the east side beaches prior to the season was done to determine the percentage of Russian River bound fish in the early sockeye run. Four sites (Figure 4) were fished on June 11 and again on June 16. Each site was fished until about 100

Figure 4. East side set net test fish sections.

Sections used in early Russian River test fishery



SECTION BOUNDARIES

Section	North Boundary	South Boundary
A	Northern District Boundary	East Foreland
B	East Foreland	Southernmost Nikiski Dock
C	Southernmost Nikiski Dock	Salamatof
D	Salamatof	Kenai River
E	Kenai River	4 miles south of Kenai River Light
F	4 miles south of Kenai River Light	7 miles south of Kenai River Light
G	7 miles south of Kenai River Light	Kasilof River
H	Kasilof River	The Sisters Rocks
I	The Sisters Rocks	Clam Gulch Tower
J	Clam Gulch Tower	7 miles north of Ninilchik Light
K	7 miles north of Ninilchik Light	Ninilchik Light

sockeye were caught. If it appeared that a lot of kings were also being taken the fishing was cut short. All sockeye caught were sampled for age, length, and sex, then released if unharmed or sold to the canneries if injured or dead.

The percentage of Russian River bound fish was determined by the fresh water circuli counts of the scales collected from the various sites. Basically early Russian River sockeye are two-check fish with a distinct number of circuli. This characteristic appeared reasonably definitive for the Russian River race of sockeye in previous years.

The table below gives the percentage of Russian River fish found in the test fishery for each site by date.

June 11		June 16	
Site	Percent Bound For Russian River	Site	Percent Bound For Russian River
1	52.8	1	33.3
2	35.4	2	46.6
3	23.7	3	38.9
4	25.9	4	notfished
	Ave. 34.5		Ave. 39.6

The test fishery on the east side beaches during the regular season was initiated to determine its usefulness as an indicator of the timing of the various runs of salmon on the east side. The entire set net area on the east side of the Central district was included in the test fishery. This area was divided into 11 sections (see map Figure 4). One fisherman from each section was selected by chance, to test

fish his section for the season. There was an exception to this in Section E during the second test fishery. Due to Section E's proximity to the Kenai River one fisherman fished the northern boundary and one fished the southern boundary.

It was originally planned to have three test fish periods, one each Wednesday, during the month of July. In this way there would be catch information available for the gap between the regular periods on Monday and Friday. However, there was a general fishery on July 26, so no test fishery was held on that date.

The number of nets fished per site was varied between the two test periods. During the first period the test fishermen were allowed to set three 35 fathom nets for four consecutive hours and during the second test period the fishermen were allowed to fish one 35 fathom net for four hours. The fishermen were allowed to select the time they fished.

The results of the two test fish periods are given in Table 18 . Several years of data would have to be compiled for a test fishery of this sort to be useful. Even then with so many variables involved, tide differences, weather, different fishermen, water clarity, etc., the information collected would be difficult if not impossible to analyze on a comparative basis. On top of this, the test fishery created a lot of hard feelings along the beach. No fisherman likes to sit idle while his neighbor is fishing and making money. A test fishery of this sort is not worth the limited amount of information that can be derived from it.

Drift Test Fishing: The drift test fishery was initiated to determine the possibility of mapping the progress of salmon through the Inlet,

Table 18. Catches by date by beach section, east side, Cook Inlet set net test fishery, 1972.

July 12

Section 1/	Kings	Reds	Cohos	Pinks	Chums
A		103		89	
B	5	245	6	54	
C	25	190	8	86	
D	5	181	1	62	
E south	3	343	3	149	
F	16	241	2	60	
G	16	766	5	235	3
H	2	473	1	56	2
I	3	72	11		
J	116	2	19		
K	4	379	1	201	

July 19

A		26	3	11
B		41		23
C	2	21	13	7
D	4	21	1	17
E north		341	28	18
E south	2	812	14	42
F	7	48	2	39
G	2	97	13	59
H	2	367	21	1
I		94		4
J		197	3	23
K		Did not fish		

spotting any areas of concentration and obtaining species composition. For the drift test fishery in 1972 four fishermen were selected, by chance, from among those qualified to test fish for the entire season. To qualify a fisherman needed to have drift gill netted in Cook Inlet for at least five years. The test fish days were each Wednesday and Sunday in July starting July 5. A general fishery was held on July 26 so there was no test fishery on that date.

Three areas were mapped out for the drift test fishery. These were the waters south of Kalgin Island between east and west rip, the waters east of Kalgin Island between east and west rip, and the waters north of Kalgin Island between east and west rip. Two boats worked the area east of Kalgin Island for the entire season and two boats worked the area south of Kalgin Island for the first four test periods, then the area north of Kalgin Island for the last three test periods.

For each area being worked on a given test period one boat would position itself at the starting point between the east rip and middle rip and the other boat would position itself on the starting point between middle rip and west rip. Fishing would begin at lower low water slack and the boats would work their way north with the tide making at least three sets each about 30 minutes duration. The mean fishing time and the catch by species was recorded for each set. From this the catch per 1,000 fathom minutes was calculated. Table 19 gives this catch by area and date.

The data obtained from the drift test fishery would only be useful on a comparative basis. However, as with the set net fishery, there are so many uncontrollable variables involved that the data would be difficult

Table 19. Central district Cook Inlet drift test fish catch[1], 1972.

East of Kalgin Island

Date	Red	Coho	Pink	Chum
7/5	1.7	0	.3	0
7/9	.2	0	.2	.5
7/12	3.5	>.1	.6	1.2
7/16	.2	0	1.5	1.7
7/20	3.1	>.1	.3	1.6
7/23	.7	0	<.1	.5
7/30[2]	.1	>.1	.4	6.0
South of Kalgin Island				
7/5	.2	0	0	0
7/9	.5	0	.25	1.2
7/12	6.4	>.1	2.8	4.3
7/16	1.1	>.1	.3	4.7
North of Kalgin Island				
7/20	7.6	>.1	.4	5.7
7/23	3.2	.4	.7	8.2
7/30[2]	0	0	>.1	1.5

[1] Catch per 1,000 fathom minutes.

[2] Only 2 boats participating.

to analyze. The clarity of the water from year to year, weather, and sea conditions, tide fluctuations, amount of debris in the Inlet, and the varying skill of the fishermen are some of the variables that would make an intelligent analysis difficult if not impossible.

River Test Fishing: The river set net test fishing program serves as a check against the sonar counters and as a method of determining timing and species composition in the Kenai and Kasilof Rivers. The sites utilized in 1972 were located in the upper intertidal portion of the rivers. The Kenai site was about 1 1/4 miles up river from the Columbia-Wards cannery and the Kasilof site was at Ed Trujillos, about two miles from the mouth.

The sites were fished each high tide from one hour before high water slack to high water slack, with 75 feet of 5 1/8 inch gill net, 12 feet deep. The nets were fished at high water slack to reduce the effect of the river current on the efficiency of the gear. The catch results were computed as catch per 1,000 foot minutes.

Figures 5 and 6 compare the catch index with the sonar counts and the height fluctuation of the tides. The test catches appear to have a much closer relationship to tidal height than to the sonar counts. There are some mechanical problems involved with set netting in the rivers that influences the catch but the basic problem seems to be that there is little relationship between the movement of fish intertidally and their subsequent movement over the sonar counters. This could be due to a milling tendency and/or mixing of stocks at the mouths of the rivers at high tide.

Figure 5. Comparison of river test fish catch, sonar counts, and tidal height, Kenai River, 1972.

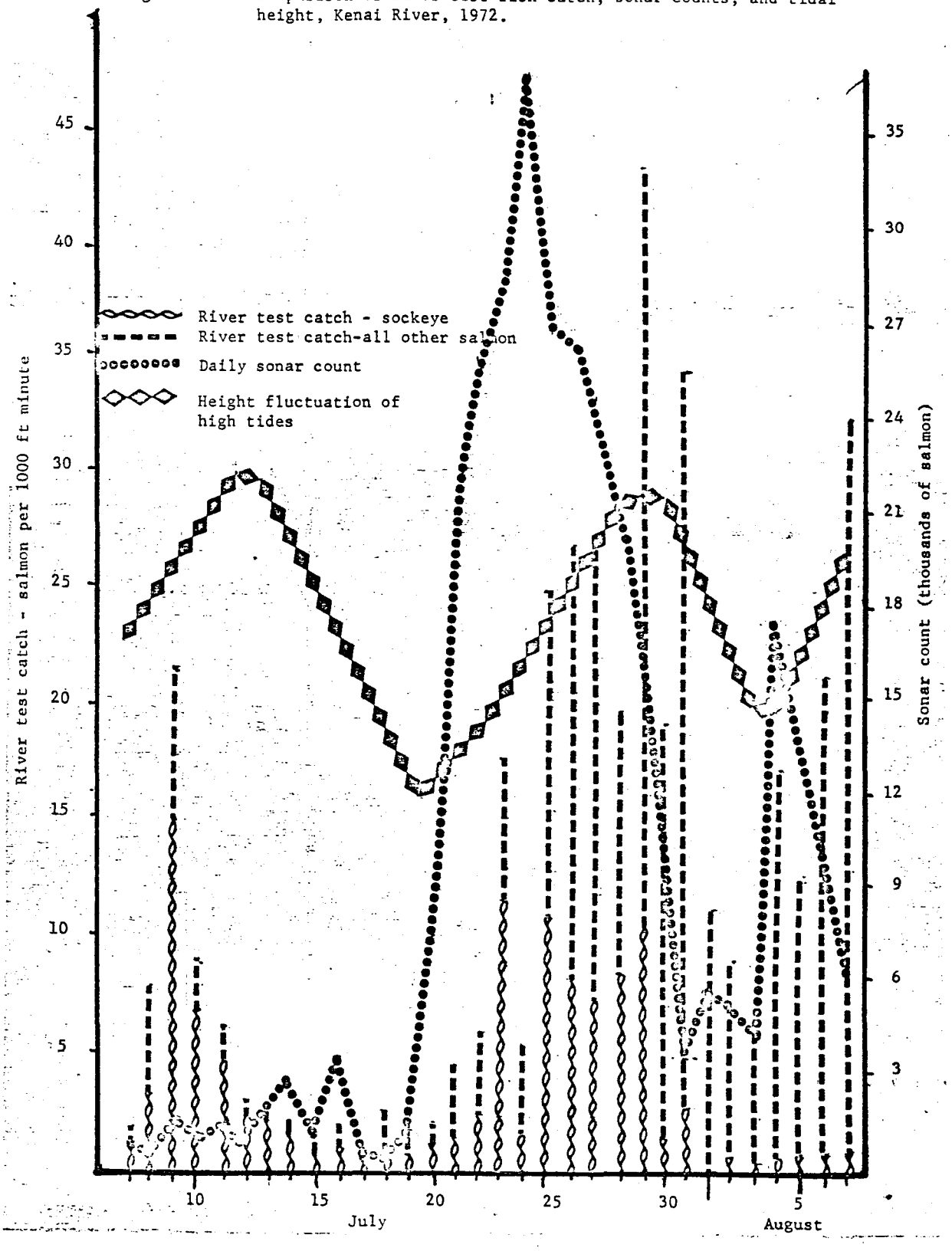
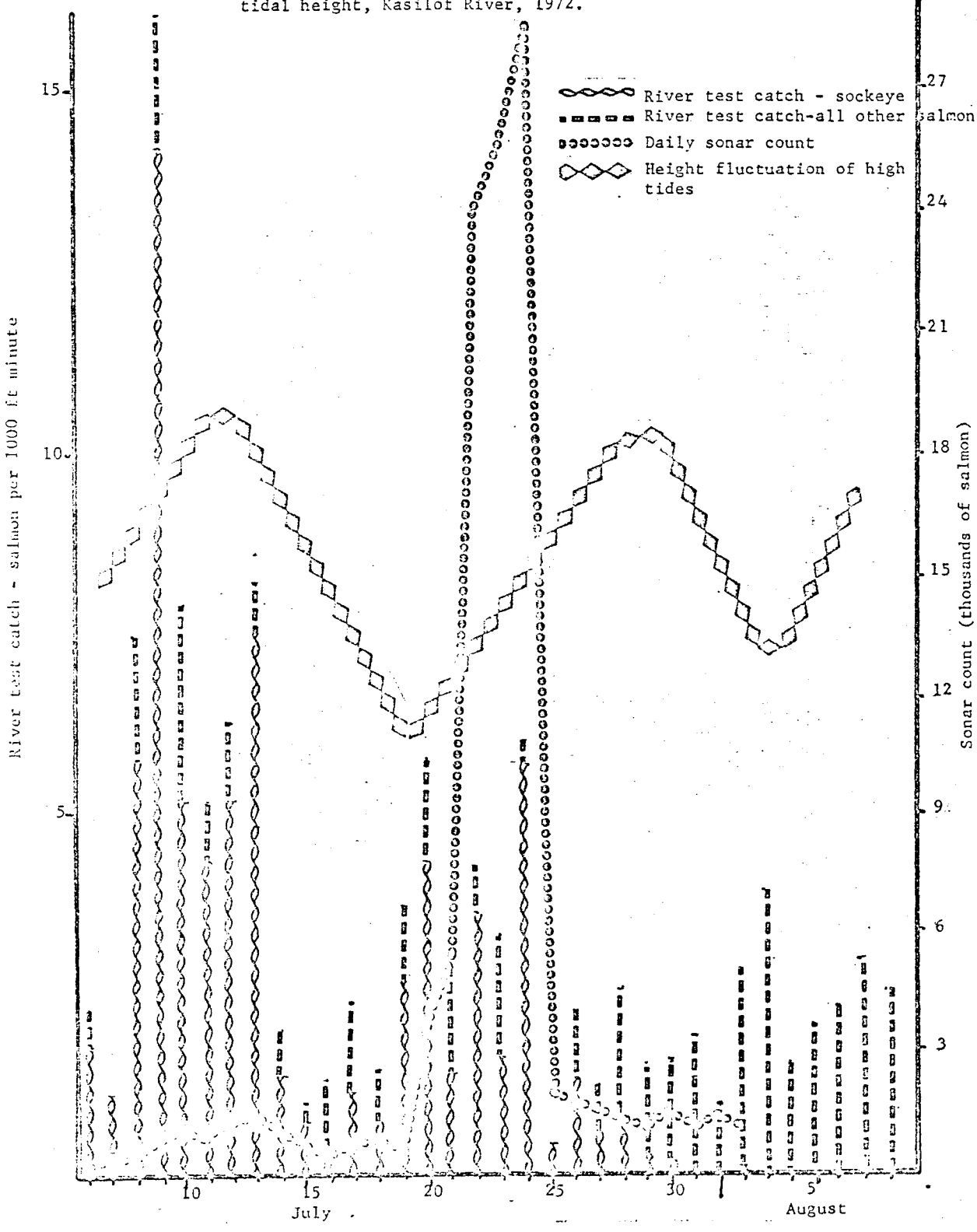


Figure 6. Comparison of river test fish catch, sonar counts, and tidal height, Kasilof River, 1972.



Commercial Catch Sampling: Sockeye salmon taken in the Central district fishery were sampled for age, length, and sex after each fishing period. Samples were taken from both the set net and drift fishery. Table 20 gives the age data for sockeye harvested in the Central district.

It is interesting to note the change in the age composition during the course of the season. In the set net fishery a higher percentage of older larger fish are taken during the early periods and as the fishery progresses the percentage of younger fish increases and the percentage of older sockeye decreases. The drift fishery tends to catch larger fish over the entire season. A more detailed presentation of AWL data appears in Davis' 1972 Cook Inlet Sockeye Annual Technical Report.

Table 20. Age data for sockeye salmon harvested in the Central district 1972.

SET NET FISHERY

AGE CLASS		4_2	5_2	6_2	5_3	6_3	7_3	6_4	7_4	n
Period	Dates			Percentage In Each Age Class						
4	6/23									
5	6/26									
6	6/30	7.4	54.0	5.6	6.2	26.2	.6			193
7	7/3									
9	7/7	5.8	48.9	5.6	6.8	30.5	2.4			199
10	7/10	2.8	61.3	3.3	5.0	25.4	1.6		.6	181
11	7/14									
12	7/17	28.7	44.7	1.8	8.3	15.7	.6	.2		301
13	7/21									
14	7/24									
15	7/26	38.3	29.0	1.6	14.4	15.9	.7	.1		429
Total Set Net Avg. Percent		29.2	37.2	2.3	11.6	18.6	.9	.1	.1	

DRIFT NET FISHERY

3-9	6/19-7/7	18.9	45.6	2.6	9.8	21.5	1.6			249
10	7/10									
11	7/14	13.1	56.9	7.2	3.6	18.0	1.2			167
12	7/17	24.6	42.5	3.6	13.8	14.3	1.2			167
13	7/21									
14	7/24	5.1	53.2	4.0	4.3	30.0	1.7	.2	1.5	171
15	7/26	32.2	19.5	.7	24.3	21.9	.7		.3	165
Total Drift Avg. Percent		15.2	48.5	4.3	8.5	21.5	1.4	T	.5	

APPENDIX A

Appendix
Table 1. Commercial, gear, vessel license count; Cook Inlet; Area H; 1972

Code	License Type	Resident	Non-resident	Totals
01	Hand purse seine	71	1	72
02	Beach seine	13		13
03	Drift gill net	419	152	571
04	Set gill net	672	35	707
05	Troll	17	1	18
06	Longline	228	10	238
07	Otter trawl	8		8
09	Shellfish pots	98	4	102
17	Beam trawl	4		4
18	Clamdigger	60	16	76
19	Scallop dredge	1	1	2
	Vessels (with names)	589	160	749
	Vessels, misc. skiffs, dorries with no names	500	23	523
	Commercial Fishermen	2,111	483	2,594

Appendix
Table 2 . Cook Inlet-Resurrection Bay area processors and related data, 1972.

Commercial Operator	Plant Location	Product	Average Price to fishermen
Alaskan Seafoods, Inc. Box 173 Homer, Alaska 99603	Homer Spit	Frozen:	
		Cohos	.39 per lb.
		Reds	.35 per lb.
		Pinks	.17 per lb.
		Chums	.20 per lb.
		Halibut	.55 per lb.
		King Crab (whole)	.31 per lb.
		Dungeness Crab (whole)	.38 per lb.
		Tanner Crab (whole)	.12 per lb.
		Shrimp (whole)	.05 per lb.
		Shrimp (machine picked)	.05 per lb.
Alaskan Scallop Fleet, Inc. P.O. Box 7 Seward, Alaska 99664	Lowell Point Rd. Seward	Frozen:	
		Scallops (fresh)	1.15 per lb.
Brinkley's, Inc. Box 77 Sterling, Alaska	Sterling	Canned Smoked - 6 oz. cans:	
		Kings	.50 per lb.
		Reds	.38 per lb.
		Cohos	.44 per lb.
		Chums	.22 per lb.
		Canned Smoked - 1 lb. cans:	
		Pinks	.21 per lb.
Columbia Wards Fisheries Box 30 University Station Seattle, Washington 98105	Kenai	Canned #1:	
		Kings	.44 per lb.
		Reds	.33 per lb.
		Cohos	.22 per lb.
		Pinks	.18 per lb.
		Chums	.17 per lb.
		Frozen:	
		Kings	.50 per lb.
		Chums	.17 per lb.

Appendix
Table 2 cont'd.

Commercial Operator	Plant Location	Product	Average Price to fishermen
Laura Hermansen 3718 E. 68th Anchorage, Alaska	So. Humpy Point	Fresh:	
		Kings	
		Reds	
		Cohos	
		Pinks	
Torvald Jensen & Co. Box 23 Ninilchik, Alaska	1 mile so. of Ninilchik Village	Smoked:	
		Kings	.50 per lb.
		Reds	.35 per lb.
		Cohos	.35 per lb.
Keener Packing Co. Rt. 2 Soldotna, Alaska 99669	Kalifonsky Beach Rd.	Smoked - 1/2 flats:	
		Kings	.45 per lb.
		Reds	.32 per lb.
		Cohos	.25 per lb.
Kenai Meats & Provisions Box 3979 Kenai, Alaska	Kenai	Frozen:	
		Kings	.53 per lb.
Kenai Packers 1455 N. Northlake Pl. Seattle, Washington 98103	Kenai	Frozen:	
		Chums	.16 per lb.
		Kings	.50 per lb.
		Canned - 1#	
		Reds	.33 per lb.
		Pinks	.20 per lb.
		Chums	.16 per lb.
		Canned - 1/2#	
		Reds	.33 per lb.
		Cohos	.25 per lb.
		Pinks	.20 per lb.
		Chums	.16 per lb.

Appendix
Table 2 cont'd.

Commercial Operator	Plant Location	Product	Average Price to fishermen
Kenai Packers cont'd.		Canned - 1/4#	
		Reds	.33 per lb.
		Cohos	.25 per lb.
Osmar's Ocean Specialties Box 38 Clam Gulch, Alaska 99568	Clam Gulch	Frozen - fresh:	
		Kings	.50 per lb.
		Reds	.30 per lb.
		Cohos	.35 per lb.
		Pinks	.20 per lb.
		Chums	.17 per lb.
		Halibut (dressed)	
R-Lee Seafoods, Inc. Rt. 2 Soldotna, Alaska 99669	Mile 11 Kalifonsky Beach Rd.	Frozen:	
		Kings	.50 per lb.
		Reds	.36 per lb.
		Cohos	.24 per lb.
		Pinks	.20 per lb.
		Chums	.205 per lb.
		Halibut	.60 per lb.
Sea-Nik Foods P.O. Box 73 Ninilchik, Alaska 99639	Ninilchik	Frozen:	
		Kings	.50 per lb.
		Reds	.33 per lb.
		Cohos	.40 per lb.
		Pinks	.18 per lb.
		Chums	.20 per lb.

Appendix
Table 2 cont'd.

Commercial Operator	Plant Location	Product	Average Price to fishermen
Sea Shop Box 455 Homer, Alaska 99603	Homer Spit	Frozen:	
		Halibut	.60 lg. per lb.
			.30 chk. " "
		Herring - bait	.04 per lb.
		King Crab - whole	.30 per lb.
		Shrimp - in shell	.40 per lb.
		Fresh:	
		Halibut	.60 lg. per lb.
			.30 chk. " "
		King Crab - whole	.30 per lb.
		Dungeness Crab - whole	.40 per lb.
		Tanner Crab - whole	.12 per lb.
		Shrimp - in shell	.40 per lb.
Seward Fisheries Box 516 Seward, Alaska 99664	Seward and Ninilchik	Canned - 1#:	
		Kings	.51 per lb.
		Reds	.35 per lb.
		Cohos	.30 per lb.
		Pinks	.20 per lb.
		Chums	.21 per lb.
		Frozen:	
		Kings	.51 per lb.
		Reds	.35 per lb.
		Cohos	.30 per lb.
		Pinks	.20 per lb.
		Chums	.21 per lb.
		Halibut - dressed	.62 per lb.
		Herring - bait	.02 per lb.
		Black Cod (Sablefish)	.20 per lb.
		King Crab- whole	.43 per lb.
		Tanner Crab-whole	.12 per lb.
		Shrimp-whole	.07 per lb.
		Razor Clams	.17 per lb.
		Scallops	1.20 per lb.

Appendix
Table 2 cont'd.

Commercial Operator	Plant Location	Product	Average Price to fishermen
Seward Fisheries cont'd.		Frozen:	
		Red Snapper	.18 per lb.
		Ling Cod	.18 per lb.
		Gray Cod (bait)	.18 per lb.
		Salted:	
		Herring sac roe	.02 per lb.
		Herring roe on kelp	.50 per lb.
Charles L. Simon Seafoods Rt. 2 Kasilof, Alaska	Kasilof	Frozen:	
		Kings	.36 per lb.
		Reds	.35 per lb.
		Cohos	.38 per lb.
		Pinks	.17 per lb.
Sportsmans Lodge Cooper Landing Alaska 99572	Cooper Landing	Smoked - 1# cans	
		Reds	.40 per lb.
Smoked Alaskan Seafoods Clam Gulch Alaska 99568	Clam Gulch	Smoked - 8 oz. cans	
		Kings	.35 per lb.
		Reds	.32 per lb.
		Cohos	.25 per lb.
10th and M Lockers & Cold Storage, Inc. 1020 M St. Anchorage, Alaska 99501	Anchorage	Frozen - fresh:	
		Kings	.75 per lb.
		Reds	.60 per lb.
		Cohos	.65 per lb.
		Razor Clams	.35 per lb.

Appendix
Table 2 cont'd.

Commercial Operator	Plant Location	Product	Average Price to fishermen
Tidewater Packing Co. P.O. Box 1842 Anchorage, Alaska 99501	Anchorage	Canned: 1/2 flats	
		Kings	.55 per lb.
		Reds	.28 per lb.
		Cohos	.19 per lb.
		Pinks	.15 per lb.
		Chums	.13 per lb.
		Fresh:	
		Kings	.55 per lb.
		Reds	.28 per lb.
Wakefield Seafoods, Inc. 1501 W. Commonwealth Fullerton, California 92634	Seldovia	Frozen:	
		King Crab - sections	.32 per lb.
		King Crab - meat	.32 per lb.
		Dungeness Crab - whole	.40 per lb.
		Dungeness Crab - sections	.40 per lb.
		Tanner Crab - meat	.11 per lb.
Whitney-Fidalgo Seafoods, Inc. 2360 W. Commodore Way Seattle, Washington 98199	Anchorage	Frozen: fresh	
		Kings	.48 per lb.
		Reds	.40 per lb.
		Cohos	.37 per lb.
		Pinks	.25 per lb.
		Chums	.28 per lb.
		Halibut-dressed	.61 per lb.
		Halibut-fletches	.61 per lb.
		Halibut-cheeks	.61 per lb.
		Black Cod (Sablefish)	.16 per lb.
		Razor Clams	.25 per lb.

Appendix
Table 2 cont'd.

Commercial Operator	Plant Location	Product	Average Price to fishermen
Whitney-Fidalgo Seafoods, Inc. cont'd.		Frozen: fresh	
		Shee Fish	.25 per lb.
		White Fish	.25 per lb.
		Dolly Varden	.25 per lb.
		Artic Char	.25 per lb.
		Frozen: cooked	
		King Crab - sections	.31 per lb.
		Dungeness Crab - whole	.40 per lb.
		Tanner Crab - sections	.11 per lb.
		Shrimp - whole	.41 per lb.
		Salted:	
		Herring - sac roe	.02 per lb.
		Canned: 1 lb. cans	
		Reds "	.40 per lb.
		Cohos "	.37 per lb.
		Pinks "	.25 per lb.
		Chums "	.28 per lb.
		Canned: 1/2# cans	
		Kings "	.48 per lb.
		Reds "	.40 per lb.
		Cohos "	.37 per lb.
		Pinks "	.25 per lb.
		Chums "	.28 per lb.

Appendix
Table 3. Cook Inlet, per cent of salmon catch, by gear, 1960-1972.

Year	Percent Seine	Percent Drift	Percent Set Net
1960	17	26	57
1961	18	50	32
1962	30	25	45
1963	19	46	35
1964	19	35	46
1965	8	70	22
1966	11	35	54
1967	19	50	31
1968	12	47	41
1969	18	50	32
1970	24	46	30
1971	32	44	24
1972	5	50	45
Average	18	44	38

Appendix
Table 4. Cook Inlet aircraft charter - by district, 1966 - 1972.

	Southern and Outer		Kamishak		Central		Northern		Cook Inlet Total
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount
1966	$2,011.	18.4	$1,019.	9.3	$2,630.	24.3	$5,286.	48.3	$10,946.
1967	1,178.	14.2	537.	6.4	1,988.	23.8	4,608.	55.4	8,311.
1968	1,638.	15.3	296.	2.8	2,999.	27.1	5,804.	54.6	10,737.
1969	2,145.	18.9	945.	8.3	1,775.	15.7	6,494.	57.2	11,359.
1970	3,424.	36.3	1,556.	16.5	2,286.	24.2	2,173.	23.0	9,439.
1971	5,655.	53.3	1,215.	11.5	2,488.	23.4	1,254.	11.8	10,612.
1972	4,273.	36.0	1,911.	16.1	3,742.	31.6	1,927.	16.3	11,853.
TOTAL	20,324	27.7	7,479	10.2	17,908	24.4	27,546	37.6	73,257

Appendix
Table 5. Aerial surveys of Central district, Cook Inlet, 1972.

	UNITS OF SET NET GEAR 1/					DRIFT UNITS 2/
Date	Ninilchik to Kasilof	Kalifonsky	Kenai to Boulder Point	Kalgin Island	Lower West Side 4/	Central Drift Boats 3/
6-19	131	86	103	95	36 5/	
6-23	220	76	105	86	78	
7-3				73	61	25
7-5						35
7-7	330	99	70	110	127	185
7-10						270
7-17	286	87	116	108	110	312
7-21						365
7-24	381	84	124	88	76	291
7-26		67	137	54		159
7-28	219	62	86			273
7-31						139
8-2	191	41	100			109

1/ One unit equals 35 fathoms.

2/ One unit equals 150 fathoms.

3/ Total observed not necessarily total fished.

4/ Harriet Point to Chinitna Bay.

5/ Incomplete count.

Appendix
Table 6. Fish Creek sockeye salmon age analysis, 1972.

Total

	1.1	1.2	1.3	2.2	2.3	Total
Number	1	30	60	1	1	93
Percent	1.1	32.3	64.5	1.1	1.1	100.0

Freshwater Age

	1 check	2 check
Number	91	2
Percent	97.8	2.2

Ocean Age

	.1-Oc.	.2-Oc.	.3-Oc.
Number	1	31	61
Percent	1.1	33.4	65.6

Brood Year

	1966	1967	1968	1969
Number	1	61	30	1
Percent	1.1	65.6	32.3	1.1

Sex Ratio

	Male	Female
Number		
Percent	36.7	63.3

Appendix Table 7. Annual total catches in thousands of fish, and annual total fishing effort, in thousands of standard units,[a] for salmon in Cook Inlet, 1936-1972.[d]

	PINK				SOCKEYE		CHUM		COHO		CHINOOK[c]
	Southern Section		Northern Section		S.and N.Sections		S.and N.Sections		S.and N.Sections		S.and N. Sections
Year	Catch	Effort[b]	Catch	Effort	Catch	Effort	Catch	Effort[b]	Catch	Effort[b]	Catch
1936	526		357	24.3	2,542	3.6	269		354	5.1	79
1937	457		31		1,561	4.1	180		216	10.9	55
1938	345		505	35.6	2,422	6.5	192		223	12.2	59
1939	292		22		2,315	3.9	232		166	8.0	63
1940	1,659		1,244	25.9	1,652	5.3	369		574	7.8	67
1941	692		24		1,236	6.0	272		370	8.0	105
1942	695		269	35.6	1,486	6.3	401		645	7.5	96
1943	1,361		66		1,455	5.3	302		273	5.8	111
1944	1,446		368	40.5	1,919	7.0	277		252	9.0	86
1945	1,302		43		1,526	6.0	306		327	13.9	69
1946	870		431	37.3	1,466	6.0	352		577	10.0	65
1947	1,396		43		1,433	6.3	262		435	10.4	101
1948	591		1,000	42.1	2,031	9.2	430		393	12.6	105
1949	366		13		2,252	6.5	230		264	10.7	111
1950	311		779	42.1	2,636	11.6	461		326	11.2	161
1951	378		29		2,480	6.0	285		273	6.8	187
1952	972		1,260	45.4	1,502	13.7	444		223	9.7	74
1953	513		35		1,485	11.6	532		225	12.9	88
1954	262	1.5	2,190	21.7	1,235	6.9	773	6.4	333	13.1	65
1955	1,128	1.1	102		1,058	6.1	313	5.7	174	17.2	46

a/ Seine boat-landings for pink salmon of Southern Section; set gill net boat-landings for pink and coho salmon of the Northern Section; drift gill net boat-landings for sockeye and chum salmon.

b/ Not estimated 1936-1953

c/ Fishing effort not estimated.

d/ Data source: 1936-1967 INPFC document 1134
1968-1972 ADF&G IBM runs

Appendix Table 7. continued: Annual total catches in thousands of fish, and annual total fishing effort, in thousands of standard units,[a] for salmon in Cook Inlet, 1936-72. (continued) [d]

	PINK				SOCKEYE		CHUM		COHO		CHINOOK[c]
	Southern Section		Northern Section		S.and N.Sections		S.and N.Sections		S.and N.Sections		S.and N.Sections
Year	Catch	Effort[b]	Catch	Effort	Catch	Effort	Catch	Effort[b]	Catch	Effort[b]	Catch
1956	191	0.8	1,595	28.1	1,294	8.3	870	6.1	204	17.9	66
1957	284	1.3	21		667	9.5	1,204	5.6	125	15.2	42
1958	817	1.3	1,649	27.2	493	13.6	596	6.9	241	18.4	22
1959	82	0.7	13		625	10.3	409	4.6	106	12.5	31
1960	552	1.4	1,412	17.6	937	9.0	768	4.8	313	17.6	27
1961	293	1.0	34		1,153	4.1	404	3.9	119	12.1	20
1962	2,107	2.2	2,715	17.7	1,164	6.9	1,149	4.9	353	16.3	20
1963	205	1.0	28		957	4.8	524	4.6	202	14.1	17
1964	1,010	1.9	3,254	19.1	991	11.6	1,402	8.1	462	17.3	4
1965	108	0.3	31		1,424	3.9	343	3.9	154	13.1	9
1966	400	0.7	2,046	15.5	1,867	6.7	656	6.1	296	15.5	9
1967	358	0.7	46		1,406	5.1	380	5.3	180	9.7	7
1968	544	0.7	2,277	11.9	1,125	5.4	1,183	5.4	474	11.9	5
1969	202	0.5	33	4.8	716	4.6	331	4.6	101	4.8	12
1970	535	0.9	777	7.0	750	5.5	999	5.5	277	7.0	8
1971	393	0.3	36	4.0	658	1.9	476	1.9	105	4.0	20
1972	10	0.15	629	6.0	934	3.4	697	3.4	82	6.0	16

a/ Seine boat-landings for pink salmon of Southern Section; set gill net boat-landings for pink and coho salmon of the Northern Section, drift gill net boat-landings for sockeye and chum salmon.

b/ Not estimated 1936-1953

c/ Fishing effort not estimated. d/ Data source: 1936-1967 INPFC document 1134

Appendix Table 8. 1968 Cook Inlet salmon catch by stat area and gear.[1/]

NORTHERN DISTRICT		KINGS	REDS	COHOS	PINKS	CHUMS	TOTALS
Set net	247	471	140,575	156,648	534,839	58,454	890,987
CENTRAL DISTRICT							
Drift	244	136	451,389	138,135	733,016	852,780	2,175,456
	245	47	113,414	27,955	140,288	147,836	429,540
	246		2,147	1,519	8,490	7,513	19,669
Total drift		183	566,950	167,609	881,794	1,008,129	2,624,665
Set net	244	3,304	317,535	80,828	785,887	1,563	1,189,117
	245	439	47,271	47,433	51,356	37,760	184,259
	246	139	32,565	16,242	23,117	1,997	74,060
Total set net		3,882	397,371	144,503	860,360	41,320	1,447,436
Seine	245		8	1,690	1,204	11,211	14,113
Central total		4,065	964,329	313.802	1,743,358	1,060,660	4,086,214
SOUTHERN DISTRICT							
Seine	241	30	2,975	3,229	141,419	3,114	150,767
Set net	241	31	15,741	1,431	12,614	1,289	31,106
Southern total		61	18,716	4,660	154,033	4,403	181,873
OUTER DISTRICT							
Seine	232		4	3	13,155	84	13,246
	241					115	115
	242	1	16	21	88,353	13,309	101,700
Outer total		1	20	24	101,508	13,508	115,061
KAMISHAK DISTRICT							
Seine	243		491	53	170,376	23,009	193,929
	248		1	48	27,877	26,452	54,378
Kamishak total			492	101	198,253	49,461	248,307
EASTERN DISTRICT							
Drift	231	2	65,750	4	5	11	65,772
Seine	231		8,734		37,374	721	46,829
	232		1,534	85	103,338	6,974	111,931
	233			1	4,085	140	4,226
Eastern total		2	76,018	90	144,802	7,846	228,758
1968 Summary by gear							
01, Seine		31	13,763	5,130	587,181	85,129	691,234
03, Drift		185	632,700	167,613	881,799	1,008,140	2,690,437
04, Set net		4,384	553,687	302,582	1,407,813	101,063	2,369,529
TOTAL CATCH		4,600	1,200,150	475,325	2,876,793	1,194,332	5,751,200

Appendix Table 9. 1969 Cook Inlet salmon catch by stat area and gear.[1/]

NORTHERN DISTRICT		KINGS	REDS	COHOS	PINKS	CHUMS	TOTALS
Set net	247	2,904	38,065	20,425	7,620	11,836	80,850
CENTRAL DISTRICT							
Drift	244	240	294,754	25,021	6,423	171,674	498,112
	245	123	77,007	8,033	1,813	66,823	153,799
Total Drift		363	371,761	33,054	8,236	238,497	651,911
Set net	244	5,834	210,877	18,988	10,968	399	247,066
	245	1,768	42,691	20,370	2,744	16,651	84,224
	246	1,518	28,500	8,022	2,970	311	41,321
Total set net		9,120	282,068	47,380	16,682	17,361	372,611
Seine	245	11	360	93	884	2,161	3,509
Central total		9,494	654,189	80,527	25,802	258,019	1,028,031
SOUTHERN DISTRICT							
Seine	241	26	1,008	239	60,036	1,302	62,611
Set net	241	33	11,570	246	10,717	1,298	23,864
Southern total		59	12,578	485	70,753	2,600	86,475
OUTER DISTRICT							
Seine	232,241		92	11	51,533	5,400	57,036
KAMISHAK DISTRICT							
Seine	243,248	2	10,723	121	80,157	53,193	144,196
EASTERN DISTRICT							
Seine	231		294				294
Drift	231	3	99,109	6	1	10	99,129
Eastern total		3	99,403	6	1	10	99,423
1969 Cook Inlet Summary by gear							
01, Seine		39	12,477	464	192,610	62,056	267,646
03, Drift		366	470,870	33,060	8,237	238,507	751,040
04, Set net		12,057	331,703	68,051	35,019	30,495	477,325
TOTAL CATCH		12,462	815,050	101,575	235,866	331,058	1,496,011

1/ Taken from 1969 IBM statistical run.

Appendix Table 10. 1970 Cook Inlet salmon catch by stat area and gear.[1/]

NORTHERN DISTRICT		KINGS	REDS	COHOS	PINKS	CHUMS	TOTALS
Set net	247	1,460	66,419	82,529	173,694	22,493	346,595
CENTRAL DISTRICT							
Drift	244	211	320,121	77,519	265,901	494,514	1,158,266
	245	147	139,544	32,188	67,508	183,017	422,404
Total Drift		358	459,665	109,707	333,409	677,531	1,580,670
Set net	244	5,367	142,421	30,264	281,396	1,228	460,676
	245	781	32,900	31,737	11,157	45,646	122,221
	246	381	29,776	20,742	14,104	2,814	67,817
Total set net		6,529	205,097	82,743	306,657	49,688	650,714
Seine	245		33	194	135	25,455	25,817
Central total		6,887	664,795	192,644	640,201	752,674	2,257,201
SOUTHERN DISTRICT							
Seine	241	64	665	2,390	189,554	6,298	198,971
Set net	241	26	11,455	1,154	18,512	1,575	32,722
Southern total		90	12,120	3,544	208,066	7,873	231,693
OUTER DISTRICT							
Seine	232	2	4,129	19	59,518	6,602	70,270
	241		22	90	9,819	50,855	60,786
	242	3	26	134	233,422	61,292	294,877
Outer total		5	4,177	243	302,759	118,749	425,933
KAMISHAK DISTRICT							
Seine	243		2,840	53	10,215	14,690	27,798
	248		6	165	12,285	81,151	93,607
Kamishak total			2,846	218	22,500	95,841	121,405
EASTERN DISTRICT							
Drift	231	4	1,598	7	26	7	1,642
Troll	231	6	97	657	7	1	768
Seine	231	1	60	27	40,193	625	40,906
Eastern total		11	1,755	691	40,226	633	43,316
1970 Summary by gear							
01, Seine		70	7,781	3,072	555,141	246,968	813,032
03, Drift		362	461,263	109,714	333,435	677,538	1,582,312
04, Set net		8,015	282,971	166,426	498,863	73,756	1,030,031
05, Troll		6	97	657	7	1	768
TOTAL CATCH		8,453	752,112	279,869	1,387,446	998,263	3,426,143

1/ Totals vary from final stat run due to errors in the IBM run.

Appendix Table 11. 1971 Cook Inlet salmon catch by stat area and gear.[1/]

NORTHERN DISTRICT		KINGS	REDS	COHOS	PINKS	CHUMS	TOTALS
Set net	247	9,598	40,533	22,094	8,423	16,603	97,251
CENTRAL DISTRICT							
Drift	244	88	368,278	26,161	5,040	188,061	587,628
	245	149	54,829	9,330	1,393	86,506	152,207
Total drift		237	423,107	35,491	6,433	274,567	739,835
Set net	244	7,055	111,505	16,589	18,097	128	153,374
	245	1,598	37,086	18,110	1,449	32,170	90,413
	246	1,277	24,058	8,078	1,188	477	35,078
Total set net		9,930	172,649	42,777	20,734	32,775	278,865
Seine	245		14	274	34	3,084	3,406
Central total		10,167	595,770	78,542	27,201	310,426	1,022,106
SOUTHERN DISTRICT							
Seine	241		5	1,702	41,495	1,505	44,707
Set net	241	41	18,398	1,449	8,564	1,352	29,804
Southern total		41	18,403	3,151	50,059	2,857	74,511
OUTER DISTRICT							
Seine	232	11	1,626	17	119,661	56	121,371
	241			54	10,426	114,489	124,969
	242		4	103	180,630	4,450	185,187
Outer total		11	1,630	174	310,717	118,995	431,527
KAMISHAK DISTRICT							
Seine	243		2	7	15,708	1,599	17,316
	248		1	114	16,386	24,728	41,229
Kamishak total			3	121	32,094	26,327	58,545
EASTERN DISTRICT							
Drift	231	16	2,198			422	2,636
Troll	231	5		1,102	1	1	1,109
	233			13			13
Eastern total		21	2,198	1,115	1	423	3,758
1971 Summary by gear							
01, Seine		11	1,652	2,271	384,340	149,911	538,185
03, Drift		253	425,305	35,491	6,433	274,989	742,471
04, Set net		19,569	231,580	66,320	37,721	50,730	405,920
05, Troll		5		1,115	1	1	1,122
TOTAL CATCH		19,838	658,537	105,197	428,495	475,631	1,687,698

1/ Taken from 1971 IBM statistical run.

Appendix Table 12. 1972 Cook Inlet salmon catch by stat area and gear[1/]

NORTHERN DISTRICT		KINGS	REDS	COHOS	PINKS	CHUMS	TOTALS
Set net	247	4,912	85,737	19,346	90,830	19,780	220,605
CENTRAL DISTRICT							
Drift	244	168	415,304	17,119	104,296	476,352	1,013,239
	245	207	90,977	4,458	10,827	88,419	194,888
Total drift		375	506,281	21,577	115,123	564,771	1,208,127
Set net	244	8,600	204,617	24,673	403,706	1,729	643,325
	245	1,352	53,980	12,013	11,497	38,179	117,021
	246	847	29,196	3,287	7,416	2,000	42,746
Total set net		10,799	287,793	39,973	422,619	41,908	803,092
Seine	245		13	37	8	3,689	3,747
Central total		11,174	794,087	61,587	537,750	610,368	2,014,966
SOUTHERN DISTRICT							
Set net	241	69	31,340	323	6,303	2,819	40,854
Seine	241		5	960	2,823	2,117	5,905
Southern total		69	31,345	1,283	9,126	4,936	46,759
OUTER DISTRICT							
Seine	232	7	26,420	3	682	2,434	29,546
	241		3	14	323	41,056	41,396
Outer total		7	26,423	17	1,005	43,490	70,942
KAMISHAK DISTRICT							
Seine	243		47	5	334	6,504	6,890
	248			26	8	19,870	19,904
Kamishak total			47	31	342	26,374	26,794
EASTERN DISTRICT							
Troll	231	10		902			912
Drift	231	2	77		1	55	135
Seine	231		5	1	18,189	688	18,883
Eastern total		12	82	903	18,190	743	19,930
1972 Summary by gear							
01, Seine		7	26,493	1,046	22,367	76,358	126,271
03, Drift		377	506,358	21,577	115,124	564,826	1,208,262
04, Set net		15,780	404,870	59,642	519,752	64,507	1,064,551
05, Troll		10		902			912
TOTAL CATCH		16,174	937,721	83,167	657,243	705,691	2,399,996

1/ Taken from the 1972 IBM statistical run.

Appendix Table 13.

COOK INLET RED SALMON CATCH IN THOUSANDS, BY DAY, NORTH OF ANCHOR POINT, 1966-1972. 1/ 2/

DATE	1966	1967	1968	1969	1970	1971	1972
JUNE 17					1		
18				7		4	
19					2		5 North. closed
20			5	6			
21						1	
22		8			2		
23	9			7			4
24			8		2		
25				7		2	
26		6			5		4
27	17		12	7			
28						3	
29		16			7		
30	38			19			9
JULY 1			31		18		
2				26		8	
3		32			28		16
4	49		64	31			
5						23	9 North. & part of Cent. closed
6		100			52		
7	74			50			47

Appendix Table 13 continued:

COOK INLET RED SALMON CATCH IN THOUSANDS, BY DAY, NORTH OF ANCHOR POINT, 1966-1972.

DATE	1966	1967	1968	1969	1970	1971	1972
JULY 8			115		7	Cent. Dis. closed	
9				83		53	
10		118			110		75
11	164		194	107			
12						25 Partly closed	
13		200			47		
14	487			104			112
15			218		64		
16							
17		296			90		177
18	406		194	104			
19							
20	218	363			163		
21			24	65		369	219
22	191		100		83		
23							
24		187	72		Cent.Dis. closed 5		93
25	65			56			
26	34		45				43
27	34	7			19		
28	18						46

Appendix Table 13 continued:

COOK INLET RED SALMON CATCH IN THOUSANDS, BY DAY, NORTH OF ANCHOR POINT, 1966-1972.

DATE	1966	1967	1968	1969	1970	1971	1972
JULY 29	13				11		
30	8						
31	6	23	9		4	100	8
AUG. 1	3			6			
2	3	15	6				4
3	2				3	23	
4	2	4		3			2
5	1		6		1		
6	1					2	
7	1	3			2		1
8	1						
9	1			1		.1	1
10	1				1		

1/ Gill net districts only.

2/ Fishing Time: 1966-1968, 24-hour periods; 1969, 12-hour periods; 1970, 12-hour periods prior to July 15; 16 hour periods from July 15 on; 1971-1972, 12-hour periods.

Appendix Table 14

Kenai River Sonar Counts

1968--1973 1/

	1968	cum	1969	cum	1970	cum	1972	cum	1973	cum
June 15	503	503	999	999	552	552	466	466		
16	342	845	2,251	3,250	758	1,310	804	1,270		
17	342	1,187	912	4,162	1,101	2,411	521	1,791	2,890	2,890
18	181	1,368	1,121	5,283	1,185	3,596	335	2,126	1,489	4,379
19	271	1,639	1,152	6,435	421	4,017	512	2,638	784	5,163
20	199	1,838	4,129	10,564	392	4,409	289	2,927	912	6,075
21	126	1,964	6,580	17,144	312	4,721	397	3,324	791	6,866
22	147	2,111	3,987	21,131	519	5,240	734	4,058	1,008	7,874
23	589	2,700	2,021	23,152	352	5,592	816	4,874	822	8,696
24	132	2,832	1,041	24,193	331	5,923	980	5,854	541	9,237
25	1,172	4,004	2,269	26,462	375	6,298	367	6,221	475	9,712
26	134	4,138	1,251	27,713	463	6,761	414	6,635	583	10,295
27	193	4,331	2,238	29,951	664	7,425	243	6,878	144	10,439
28	224	4,555	2,066	32,017	467	7,892	211	7,089	154	10,593
29	131	4,686	1,766	33,783	517	8,409	593	7,682	77	10,670
30	187	4,873	1,687	35,470	360	8,769	751	8,433	61	10,731
July 1	488	5,361	1,901	37,371	164	8,933	410	8,843	51	10,782
2	238	5,599	1,818	39,189	251	9,184	925	9,768	93	10,875
3	379	5,978	1,934	41,123	304	9,488	674	10,442	145	11,020
4	882	6,860	1,101	42,224	290	9,778	655	11,097	265	11,285
5	1,067	7,927	904	43,128	349	10,127	320	11,417	592	11,877
6	663	8,590	1,021	44,149	315	10,442	360	11,777	2,992	14,869
7	1,338	9,928	766	44,915	470	10,912	544	12,321	1,492	16,361
8	1,772	11,700	894	45,809	774	11,686	498	12,819	1,056	17,417
9	304	12,004	2,384	48,193	790	12,476	1,623	14,442	2,935	20,352
10	177	12,181	825	49,018	471	12,947	993	15,435	6,991	27,343
11	399	12,580	843	49,861	946	13,893	1,634	17,069	4,163	31,506
12	342	12,922	967	50,828	1,194	15,087	675	17,744	8,124	39,630
13	1,248	14,170	750	51,578	3,608	18,695	1,795	19,539	18,293	57,923

1/ Sonar counts malfunctioned during 1971.

Appendix Table 14 continued:

Kenai River Sonar Counts cont.

1968--1973

	1968	cum	1969	cum	1970	cum	1972	cum	1973	cum
July 14	1,585	15,755	626	52,204	3,319	22,014	3,459	22,998	12,057	69,980
15	6,558	22,313	832	53,036	2,342	24,356	1,071	24,069	10,175	80,155
16	6,399	28,712	731	53,767	885	25,241	3,746	27,815	10,702	90,857
17	5,331	34,043	667	54,434	549	25,790	634	28,449	8,992	99,849
18	8,524	42,567	527	54,961	1,357	27,147	388	28,837	9,518	109,367
19	5,428	47,995	1,588	56,549	998	28,145	584	29,421	12,000	121,367
20	8,543	56,538	365	56,914	1,150	29,295	7,834	37,255	22,490	143,857
21	2,721	59,259	443	57,357	1,093	30,388	20,957	58,212	25,785	169,642
22	6,114	65,373	397	57,754	958	31,346	26,196	84,408	26,172	195,814
23	7,265	72,638	628	58,382	2,777	34,123	27,742	112,150	39,066	234,880
24	5,560	78,198	756	59,138	2,695	36,818	35,382	147,532	35,589	270,469
25	4,768	82,966	1,524	60,662	3,513	40,331	26,734	174,266	25,491	295,960
26	2,992	85,958	661	61,323	5,304	45,635	26,585	200,851	21,517	317,477
27	4,518	90,476	567	61,890	3,973	49,608	24,478	225,329	14,618	332,095
28	2,115	92,591	626	62,516	3,723	53,331	21,063	246,932	13,127	345,222
29	4,727	97,318	666	63,182	3,193	56,524	18,273	264,665	8,313	353,535
30	1,868	99,186	585	63,767	2,956	59,480	8,746	273,411	8,799	362,334
31	3,064	102,250	556	64,323	3,412	62,892	3,925	277,336	3,570	365,904
Aug. 1	1,971	104,221	528	64,851	3,132	66,024	6,357	283,693	3,002	368,906
2	1,596	105,817	665	65,516	3,449	69,473	6,190	289,883	2,573	371,479
3	3,739	109,556	858	66,374	3,091	72,564	4,207	294,090	3,173	374,650
4	4,934	114,490	884	67,258	3,511	76,075	17,472	311,562	2,262	376,912
5	5,169	119,659	716	67,974	4,547	80,662	12,743	324,305	1,275	378,187
6	7,765	127,424	442	68,416	2,748	83,370	8,186	332,491	845	379,032
7	133	127,557	269	68,685	1,393	84,763	5,920	338,411	1,316	380,348
8			157	68,842	949	85,712	5,998	344,409	518	380,866

1/ Sonar counters malfunctioned during 1971.

Appendix Table 15

Kenai River Sockeye Sonar Counts

1968--1973 1/

	1968	cum	1969	cum	1970	cum	1972	cum	1973	cum
June 15	423	423	739	739	465	465	452	452		
16	288	711	1,666	2,405	638	1,103	779	1,231		
17	288	999	675	3,080	928	2,031	505	1,736	2,812	2,812
18	152	1,151	830	3,910	999	3,030	325	2,061	1,449	4,261
19	228	1,379	852	4,762	355	3,385	496	2,557	763	5,024
20	167	1,546	3,055	7,817	331	3,716	280	2,837	887	5,911
21	106	1,652	5,026	12,843	263	3,979	385	3,222	770	6,681
22	124	1,776	2,950	15,793	438	4,417	711	3,933	981	7,662
23	495	2,271	1,496	17,289	297	4,714	791	4,724	800	8,462
24	111	2,382	770	18,059	279	4,993	950	5,674	526	8,988
25	986	3,368	1,679	19,738	316	5,309	356	6,030	462	9,450
26	113	3,481	926	20,664	390	5,699	401	6,431	567	10,017
27	162	3,643	1,656	22,320	560	6,259	236	6,667	140	10,157
28	188	3,831	1,529	23,849	394	6,653	205	6,872	150	10,307
29	110	3,941	1,307	25,156	436	7,089	575	7,447	75	10,382
30	157	4,098	1,248	26,404	304	7,393	728	8,175	59	10,441
July 1	410	4,508	1,407	27,811	138	7,531	397	8,572	50	10,491
2	200	4,708	1,345	29,156	212	7,743	896	9,468	91	10,582
3	319	5,027	1,431	30,587	256	7,999	653	10,121	141	10,723
4	742	5,769	815	31,402	245	8,244	635	10,756	258	10,981
5	897	6,666	669	32,071	294	8,538	310	11,066	576	11,557
6	558	7,224	756	32,827	266	8,804	349	11,415	2,911	14,468
7	1,260	8,484	567	33,394	396	9,200	527	11,942	1,452	15,920
8	1,669	10,153	662	34,056	653	9,853	483	12,435	1,028	16,948
9	286	10,439	1,764	35,820	666	10,519	1,573	13,998	2,856	19,804
10	167	10,606	610	36,430	397	10,916	962	14,960	6,802	26,606
11	376	10,982	624	37,054	798	11,714	1,583	16,543	4,051	30,657
12	322	11,304	716	37,770	1,007	12,721	654	17,197	7,905	38,562
13	1,176	12,480	696	38,466	3,042	15,763	1,739	18,936	17,800	56,362

1/ Sonar counters malfunctioned during 1971.

Appendix Table 15 continued:

Kenai River Sockeye Sonar Counts cont.

1968--1973 1/

	1968	cum	1969	cum	1970	cum	1972	cum	1973	cum
July 14	1,493	13,973	581	39,047	2,798	18,561	3,352	22,288	11,732	68,094
15	6,178	20,151	772	39,819	1,974	20,535	1,038	23,326	9,809	77,903
16	6,028	26,179	678	40,497	746	21,281	3,630	26,956	10,317	88,220
17	5,022	31,201	619	41,116	438	21,719	614	27,570	8,668	96,888
18	7,921	39,122	489	41,605	1,082	22,801	376	27,946	9,175	106,063
19	5,044	44,166	1,474	43,079	795	23,596	566	28,512	11,568	117,631
20	7,939	52,105	339	43,418	917	24,513	7,591	36,103	21,680	139,311
21	2,528	54,633	411	43,829	871	25,384	20,307	56,410	24,831	164,142
22	5,873	60,506	368	44,197	764	26,418	25,515	81,925	25,204	189,346
23	6,980	67,486	583	44,780	2,213	28,361	27,021	108,946	37,946	226,967
24	4,576	72,062	702	45,482	2,148	30,509	34,957	143,903	35,376	262,343
25	3,924	75,986	1,414	46,896	2,800	33,309	25,905	169,808	25,338	287,681
26	1,453	77,439	657	47,553	4,227	37,536	25,761	195,569	20,829	308,510
27	2,193	79,632	564	48,117	3,167	40,703	23,719	219,288	14,150	322,660
28	1,027	80,659	622	48,739	2,967	43,670	20,410	239,698	12,707	335,367
29	2,295	82,954	662	49,401	2,545	46,215	17,707	257,405	7,698	343,065
30	907	83,861	581	49,982	2,356	48,571	8,475	265,880	8,148	351,213
31	778	84,639	399	50,381	2,719	51,290	3,803	269,683	3,306	354,519
Aug. 1	500	85,139	379	50,760	2,496	53,786			2,780	357,299
2	405	85,544	477	51,237	2,749	56,535			2,383	359,682
3	949	86,493	616	51,853	2,464	58,999			2,936	362,618
4	411	86,904	635	52,488	2,798	61,797			2,095	364,713
5	431	87,335	514	53,002	1,455	63,252			1,181	365,894
6	1,397	88,732	317	53,319	879	64,135			783	366,677
7	23	88,755	193	53,512	446	64,577			1,219	367,896
8			113	53,625	304	64,881			480	368,376

1/ Sonar counters malfunctioned during 1971.

Appendix Table 16

Kasilof River Sonar Counts
1968--1973 1/

	1968	cum	1969	cum	1970	cum	1972	cum	1973	cum
June 15	650	650	255	255	1,290	1,290	22	22		
16	53	703	26	281	38	1,328	118	140		
17	57	760	1,457	1,738	85	1,413	28	168		
18	53	813	79	1,817	313	1,726	23	191		
19	68	881	75	1,892	52	1,778	23	214	15	15
20	226	1,107	207	2,099	1,532	3,310	33	247	40	55
21	240	1,347	182	2,281	60	3,370	9	256	59	114
22	65	1,412	230	2,511	66	3,436	42	298	70	184
23	64	1,476	190	2,701	65	3,501	31	329	89	273
24	100	1,576	1,517	4,218	86	3,587	39	368	88	361
25	206	1,782	7,472	11,690	175	3,762	20	388	46	407
26	139	1,921	796	12,486	188	3,950	30	418	116	523
27	204	2,125	223	12,709	322	4,272	84	502	79	602
28	0	2,125	407	13,116	397	4,669	118	620	88	690
29	0	2,125	882	13,998	619	5,288	52	672	352	1,042
30	349	2,474	1,387	15,385	707	5,995	194	866	311	1,353
July 1	666	3,140	1,912	17,297	635	6,630	299	1,165	503	1,856
2	2,161	5,301	8,210	25,507	515	7,145	318	1,483	392	2,248
3	2,298	7,599	631	26,138	992	8,137	242	1,725	1,092	3,340
4	3,039	10,638	652	26,790	462	8,599	185	1,910	916	4,256
5	4,425	15,063	812	27,602	645	9,244	343	2,253	980	5,286
6	6,571	21,634	1,196	28,798	1,084	10,328	236	2,489	877	6,113
7	2,765	24,399	765	29,563	1,792	12,120	442	2,931	830	6,943
8	4,624	29,023	945	30,508	2,741	14,861	528	3,459	854	7,797
9	0	29,023	1,247	31,755	1,741	16,602	1,084	4,543	950	8,747
10	5,937	34,960	1,247	33,002	1,538	18,140	1,279	5,822	1,522	10,269
11	8,952	43,912	858	33,860	1,248	19,388	1,077	6,899	3,548	13,817
12	5,967	49,879	652	34,512	1,321	20,709	1,376	8,275	1,699	15,516
13	2,926	52,805	654	35,166	1,670	22,379	1,473	9,748	2,120	17,636

1/ Sonar counters malfunctioned in 1971.

Appendix Table 16 continued:

Kasilof River Sonar Counts
1968--1973 1/

	1968	cum	1969	cum	1970	cum	1972	cum	1973	cum
July 14	3,851	56,656	829	35,995	1,756	24,135	997	10,745	1,632	19,268
15	3,574	60,230	528	36,523	1,535	25,760	822	11,567	2,023	21,291
16	3,104	63,334	459	36,982	1,652	27,322	342	11,909	1,346	22,637
17	3,248	66,582	714	37,696	1,164	28,486	857	12,766	2,353	24,990
18	3,495	70,077	537	38,233	796	29,282	787	13,553	1,162	26,152
19	3,282	73,359	652	38,885	761	30,043	556	14,109	989	27,141
20	2,181	75,540	661	39,546	843	30,886	3,539	17,648	3,213	30,354
21	3,340	78,880	455	40,001	575	31,461	5,592	23,240	984	31,388
22	2,649	81,529	653	40,654	338	31,799	23,303	46,543	1,205	32,543
23	2,157	83,686	532	41,186	635	32,434	25,606	72,149	2,099	34,642
24	2,506	86,192	733	41,919	862	33,926	28,372	100,521	1,604	36,246
25	1,932	88,124	1,539	43,458	1,350	34,646	1,816	102,337	1,254	37,500
26	2,086	90,210	1,088	44,546	931	35,577	1,932	104,269	852	38,352
27	662	90,872	377	44,923	810	36,387	1,867	106,136	906	39,258
28	741	91,613	290	45,213	472	36,859	1,666	107,802	487	39,745
29	635	92,248	336	45,549	915	37,774	1,302	109,104	386	40,131
30	460	92,708	303	45,852	469	38,243	1,175	110,279	291	40,422
31			291	46,143	374	38,617	895	111,174	446	40,868
Aug. 1			245	46,388	262	38,879	1,315	112,489	199	41,067
2			284	46,672	446	39,325	1,013	113,502	293	41,360
3			222	46,894	516	39,841			331	41,691
4			482	47,376	492	40,333			266	41,957
5			364	47,740	115	40,448				
6			241	47,981						
7			363	48,344						
8			115	48,459						

1/ Sonar counters malfunctioned in 1971.

Appendix Table 17

Kasilof River Sockeye Sonar Counts
1968--1973 1/

	1968	cum	1969	cum	1970	cum	1972	cum	1973	cum
June 15	650	650	248	248	1,214	1,214	22	22		
16	53	703	25	273	36	1,250	116	138		
17	57	760	1,418	1,691	80	1,330	28	166		
18	53	813	77	1,768	295	1,625	23	189		
19	68	881	73	1,841	49	1,674	23	212	14	14
20	226	1,107	201	2,042	1,442	3,116	32	244	38	52
21	240	1,347	177	2,219	56	3,172	9	253	56	108
22	65	1,412	224	2,443	62	3,234	41	294	67	175
23	64	1,476	185	2,628	61	3,295	30	324	85	260
24	100	1,576	1,476	4,104	81	3,376	38	362	84	344
25	206	1,782	7,270	11,374	165	3,541	20	382	44	388
26	139	1,921	775	12,149	177	3,718	29	411	111	499
27	204	2,125	217	12,366	303	4,021	82	493	75	574
28	0	2,125	396	12,762	374	4,395	116	609	84	658
29	0	2,125	858	13,620	582	4,977	51	660	336	994
30	349	2,474	1,350	14,970	665	5,642	190	850	296	1,290
July 1	666	3,140	1,860	16,830	598	6,240	293	1,143	479	1,769
2	2,161	5,301	7,988	24,818	485	6,725	312	1,455	374	2,143
3	2,298	7,599	614	25,432	933	7,658	237	1,692	1,041	3,184
4	3,039	10,638	634	26,066	435	8,093	181	1,873	873	4,057
5	4,425	15,063	790	26,856	607	8,700	336	2,209	934	4,991
6	6,571	21,634	1,164	28,020	1,020	9,720	232	2,441	836	5,827
7	2,765	24,399	707	28,727	1,686	11,406	434	2,875	791	6,618
8	4,624	29,023	873	29,600	2,703	14,107	518	3,393	814	7,432
9	0	29,023	1,152	30,752	1,717	15,826	1,063	4,456	905	8,337
10	5,937	34,960	1,152	31,904	1,517	17,343	1,255	5,711	1,451	9,788
11	8,952	43,912	793	32,697	1,231	18,574	1,042	6,753	3,381	13,169
12	5,967	49,879	602	33,299	1,303	19,877	1,331	8,084	1,619	14,788
13	2,926	52,805	604	33,903	1,647	21,524	1,424	9,508	2,020	16,808

1/ Sonar counters malfunctioned during 1971.

Appendix Table 17 continued:

Kasilof River Sockeye Sonar Counts cont.
1968--1973 1/

	1968	cum	1969	cum	1970	cum	1972	cum	1973	cum
July 14	3,851	56,656	766	34,669	1,528	23,052	991	10,499	1,555	18,363
15	3,574	60,230	488	35,157	1,336	24,388	817	11,316	1,946	20,309
16	3,104	63,334	424	35,581	1,437	25,825	340	11,656	1,295	21,604
17	3,248	66,582	623	36,204	1,013	26,838	852	12,508	2,264	23,868
18	3,495	70,077	468	36,672	693	27,531	782	13,290	1,118	24,986
19	3,282	73,359	569	37,241	662	28,193	553	13,843	951	25,937
20	2,181	75,540	576	37,817	773	28,966	3,518	17,361	3,091	29,028
21	3,340	78,880	397	38,214	500	29,466	5,547	22,908	947	29,975
22	2,649	81,529	569	38,783	294	29,760	23,093	46,001	1,159	31,134
23	2,157	83,686	464	39,247	552	30,312	25,606	71,607	2,019	33,153
24	2,506	86,192	639	39,886	750	31,062	28,372	99,979	1,543	34,696
25	1,932	88,124	1,342	41,228	1,175	32,237	1,816	101,795	1,206	35,902
26	2,086	90,210	949	42,177	810	33,047	1,756	103,551	820	36,722
27	662	90,872	328	42,505	705	33,752	1,697	105,248	872	34,594
28	741	91,613	253	42,758	411	34,163	1,514	106,762	469	38,063
29	635	92,248	293	43,051	796	34,959	1,184	107,946	371	38,434
30	460	92,708	264	43,315	408	35,367	1,068	109,014	280	38,714
31			254	43,569	325	35,692	814	109,828	429	39,143
Aug. 1			214	43,783	228	35,920	1,195	111,023	191	39,334
2			248	44,031	388	36,308	921	111,944	282	39,616
3			194	44,225	449	36,757			318	39,934
4			420	44,645	428	37,185			256	40,190
5			317	44,962	100	37,285				
6			210	45,172						
7			317	45,489						
8			100	45,589						

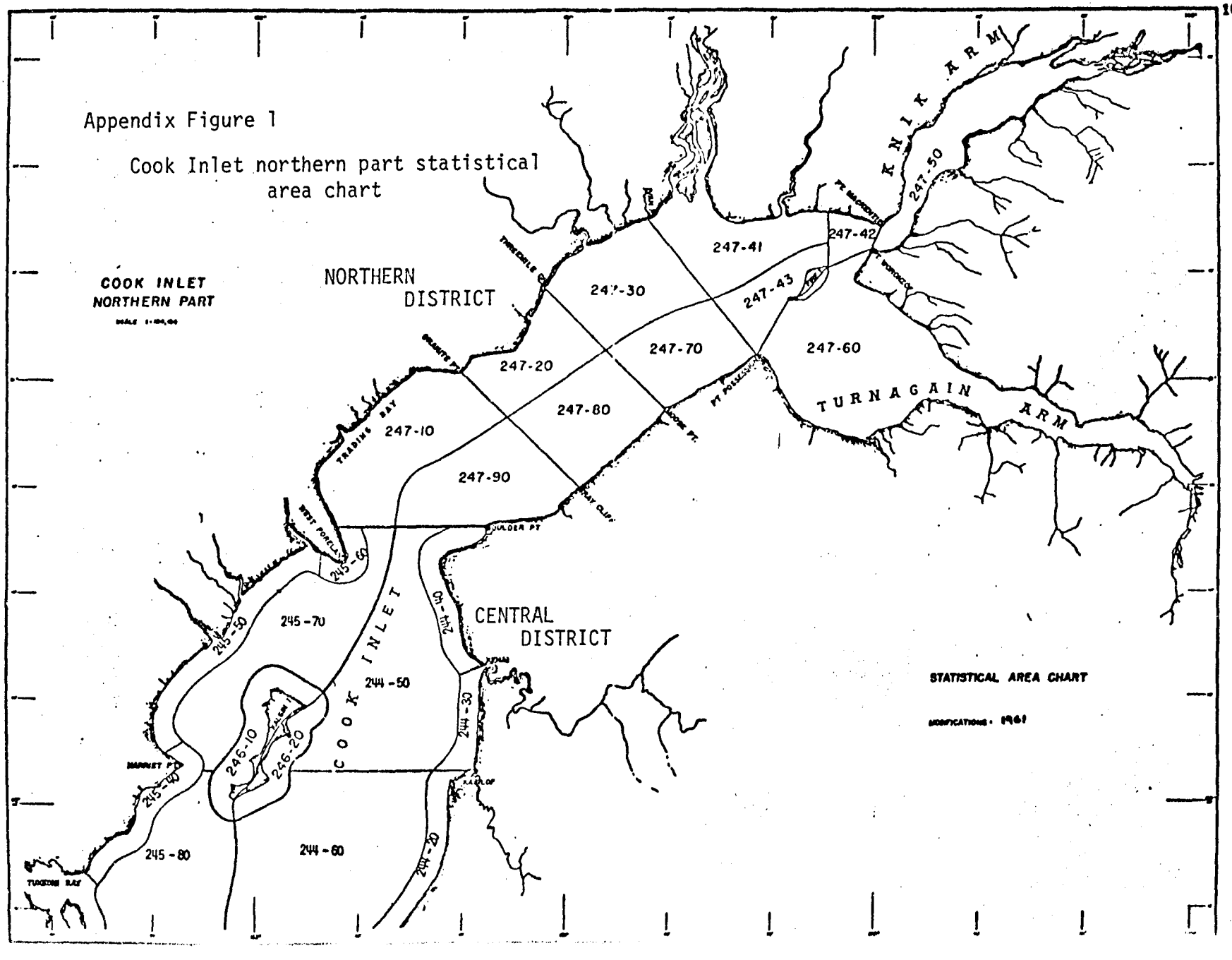
1/ Sonar counters malfunctioned during 1971.

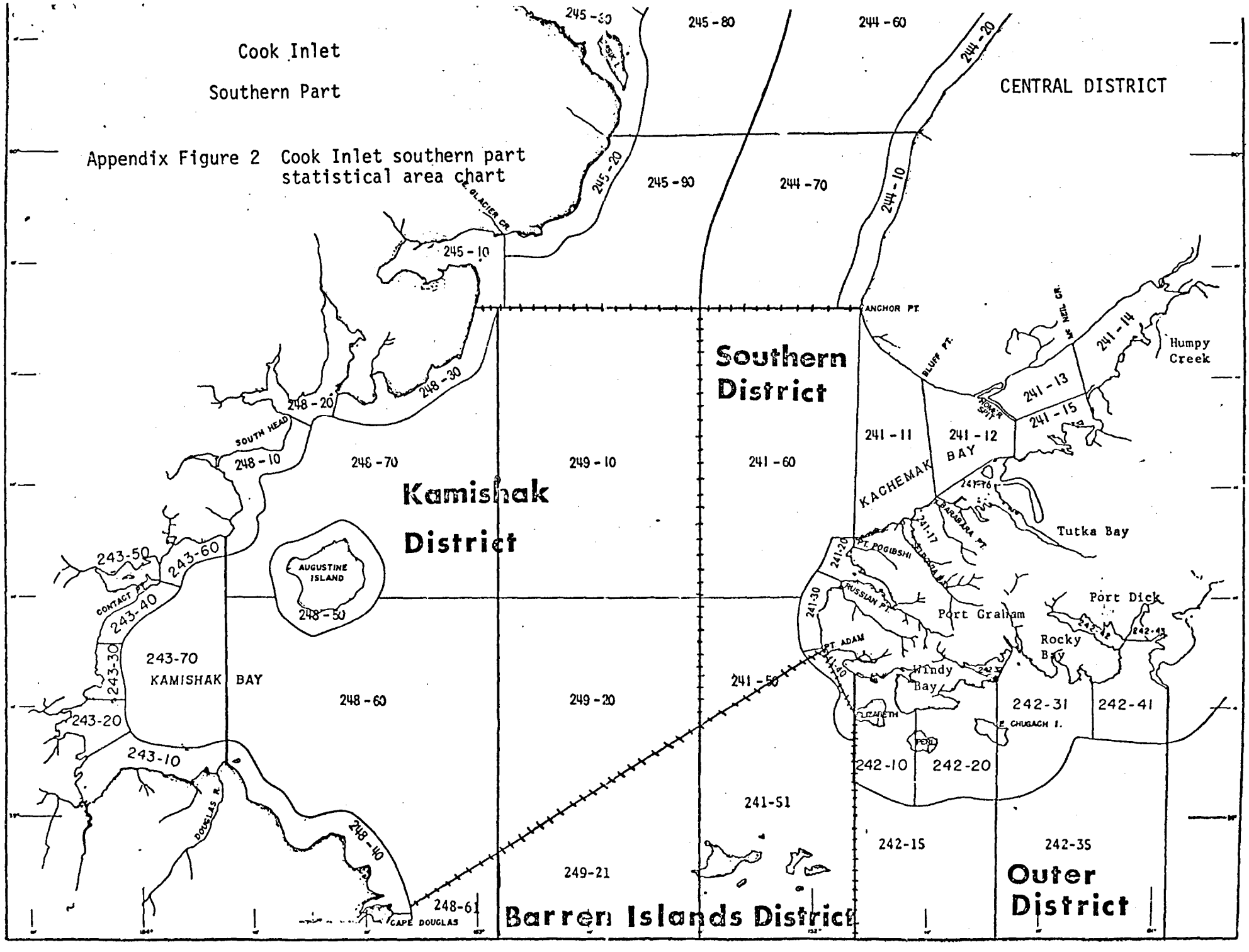
Appendix Table 18. Temporary employees working in Cook Inlet management area, 1972.

NAME	STEP	PROJECT
Albright, William	Fish Technician II	Susitna Surveys
Baker, David	Fish Technician III	Susitna Surveys
Barton, Louis	Fishery Biologist I	Beach Survey
Bell, Tim	Fish Technician II	Test Fish
Bowden, Jeffrey	Fish Technician III	Port Dick
Brooks, Lewis	Fish Technician II	Talachulitna Tower
Castoldi, Robert	Fishery Biologist I	Shellfish
Clevenger, Guy	Fish Technician I	Talachulitna Tower
Crane, Thomas	Fish Technician II	Port Dick
Garber, Mike	Fish Technician II	Test Fish
Groller, Alan	Fish Technician II	Test Fish
Harris, Kenneth	Fish Technician III	Fish Creek
Hammarstrom, Steve	Fishery Biologist I	Kenai Sonar
Hill, Ken	Fish Technician II	Kasilof Stream Surveys
Luke, Jim	Fish Technician III	Kenai Sonar
McGee, Brant	Fish Technician III	Talachulitna Tower
Mundell, Richard	Fish Technician II	Test Fish
Parker, Kenneth	Fishery Biologist I	Susitna Stream Surveys
Parry, John	Fish Technician II	Kasilof Sonar
Quigley, David	Fish Technician III	Hidden Lake
Sundstrom, Jeffery	Fishery Biologist I	Shellfish
Schaefer, Gary	Fish Technician III	Kenai Sonar
Stout, Paul	Fish Technician II	Talachulitna Tower
Tupper, Frank	Fish Technician II	Pink Salmon Forecast
Urch, Dolores	Clerk Typist II	Office Help
Vaughn, Charles	Fish Technician III	Port Dick
Watson, James	Fish Technician III	Pink Salmon Forecast
Walli, Marie	Clerk Typist II	Office Help
Webster, Keith	Fish Technician II	Test Fish

Appendix Figure 1

Cook Inlet northern part statistical area chart



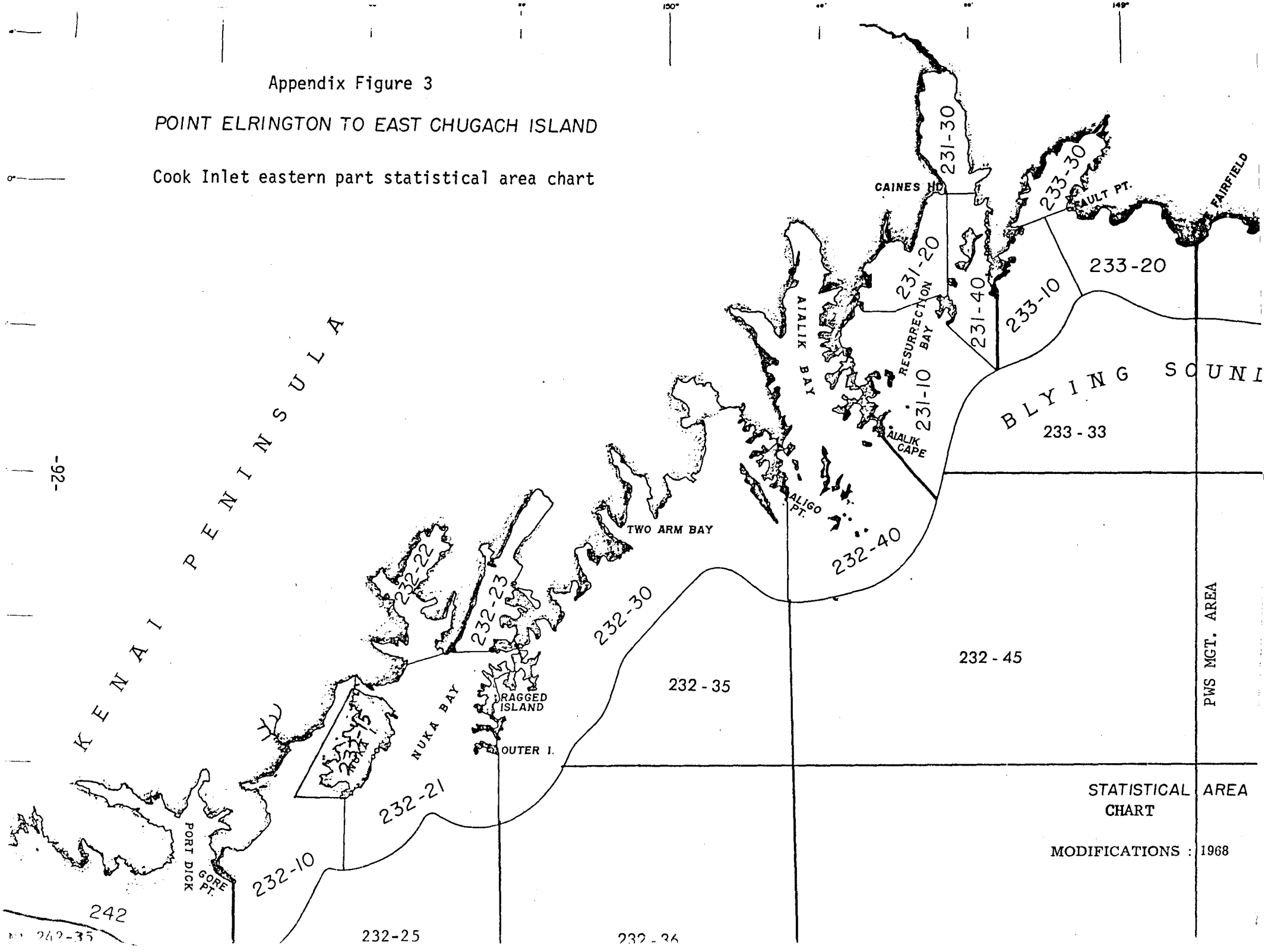


Appendix Figure 2 Cook Inlet southern part statistical area chart

Appendix Figure 3

POINT ELRINGTON TO EAST CHUGACH ISLAND

Cook Inlet eastern part statistical area chart



APPENDIX B

SUBSISTENCE FISHERY REPORT 1972

A. General Information

1. Description of Area: The Cook Inlet Area includes all waters of Alaska in Cook Inlet and Resurrection Bay north of Cape Douglas and west of Cape Fairfield, including the Barren Islands. (Figure 1)

2. Species Utilized: All five species of pacific salmon are utilized in the Cook Inlet area. Since 1962 cohos have made up 66.2 percent of the catch, sockeye 19.7 percent, pinks 8.4 percent, chums 5.4 percent, and kings 0.2 percent. (Table 1) King crab, tanner crab, dungeness crab, shrimp, smelt, herring, bottom fish, and clams are also utilized for subistence purposes, however, few records are available on degree of utilization. In actuality it is hard to define what constitutes "sport fishing" and what constitutes "subsistence fishing" for the above listed species.

3. Economic Conditions: No figures are available on the average income of those applying for subsistence permits in the Cook Inlet area. It is the personal opinion of the area management biologist that less than five or ten percent of the subsistence fishing in the area is carried out by persons in such financial positions that they actually have a legitimate need of the resource harvested in order to subsist. The type of subsistence fishing found in the Cook Inlet area could more appropriately be classified as recreational or supplemental fishing. Many people regard it as a form of sport

Figure 1

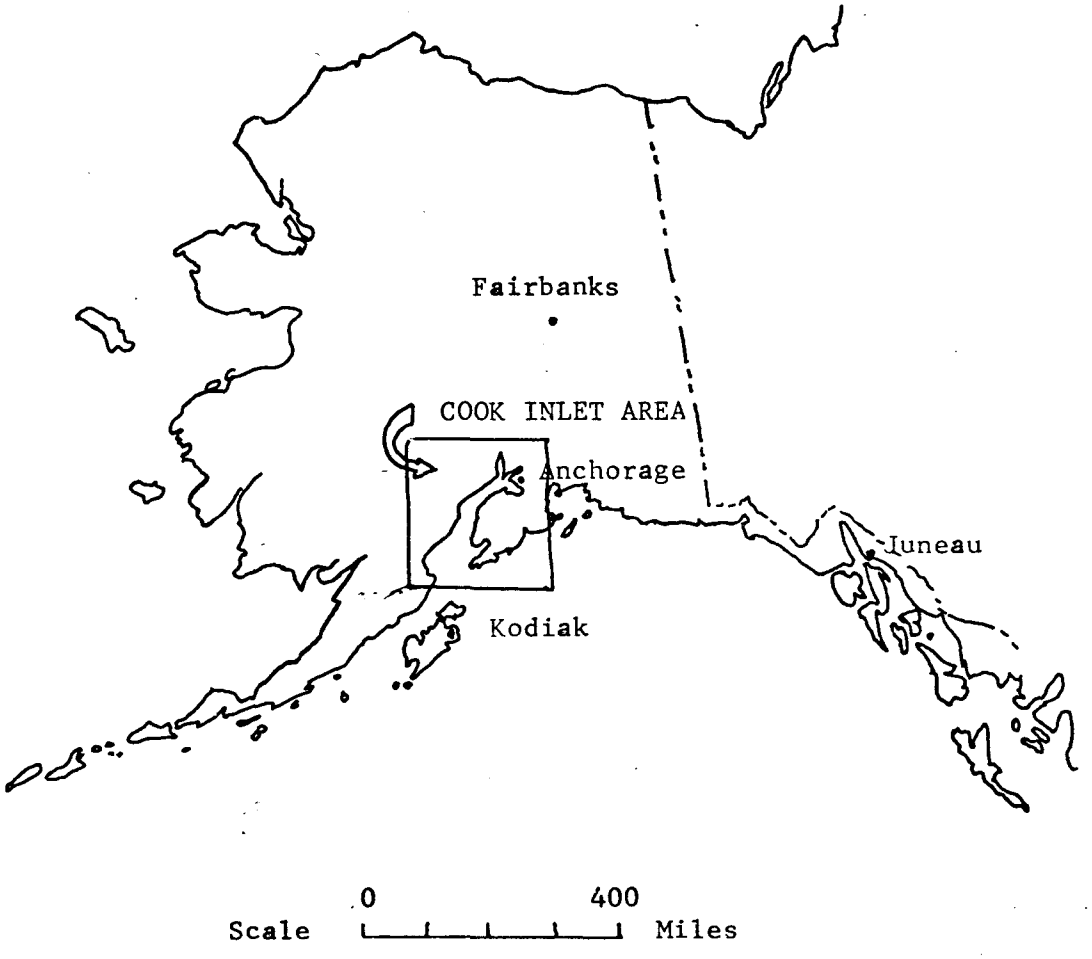

Fairbanks
COOK INLET AREA
Anchorage
Juneau
Kodiak
0
400
Scale
Miles

Table 1. Cook Inlet Subsistence catch of salmon, 1962-1972

Year	No. Permits	Did not reply	Kings	Sockeye	Coho	Chum	Pink	Total
1962	192	13	45	770	3574	391	417	5197
1963	229	13	29	859	2510	424	447	4269
1964	191	8	--	393	2463	207	368	3431
1965	190	28	--	484	2109	285	49	2927
1966	330	29	8	1656	3533	356	598	6151
1967	375	42	4	863	3105	213	73	4258
1968	386	54	10	1009	4201	236	1170	6626
1969	447	52	--	1518	2011	94	68	3691
1970	449	42	3	1218	3371	152	438	5182
1971	168	35	2	23	1697	7	44	1773
1972	170	34	1	29	1030	84	75	1219 1/
Totals	3127	350	102	8822	29604	2449	3747	44,724
Percent	---	11.2	0.2	19.7	66.2	5.5	8.4	100.0

1/ Total salmon catch was 1238, 19 salmon reported as "other".

fishing in which they not only derive recreational benefits but at the same time supplement their food stocks. There are some people in the Cook Inlet area, natives and whites alike, who are, because of either need or personal preference, trying to maintain a "live off the land" life style. To these few "subsistence" fishing may fall into a need category and may play an important part in their means of existing.

B. History of Fishery

1. Methods of Fishing: There are a variety of methods used in the Cook Inlet area as it is a multi-species utilization area.

   a. Salmon: Set nets, seines and drift nets are currently used with set nets accounting for about 95 percent of the effort. Since statehood all subsistence salmon fishing has been in conformance with commercial regulations and, therefore, areas open and methods used have been identical to those used in the commercial fishing. Prior to statehood much of the subsistence fishing took place in salmon spawning streams with gear ranging from hook and line to gill nets. Snagging was one of the more popular methods.

   b. Shellfish: King crab, tanner crab, dungeness crab and shrimp are all taken with various forms of pots. Most of the fishing takes place at or near the small boat harbors of Homer and Seward. Clams are also taken for subsistence and the method utilized is by clam shovel. The methods currently used for taking shellfish species for subsistence purposes do not differ appreciably from those used prior to statehood.

c. Smelt and Herring: Gill nets are used for taking herring and both gill nets and dip nets have been used in the Cook Inlet area for taking smelt, however, beginning in 1972 dip nets are no longer legal gear for taking smelt for subsistence purposes in the waters of the Kenai Peninsula. There is also a limited amount of hook and line snagging for smelt.

d. Freshwater species: The gear most commonly utilized for freshwater species are small mesh gill nets and seines. In the past, fishwheels and dip nets have also been used in freshwater.

2. Catches and Fishing Effort

a. Salmon: The salmon fishery is the only subsistence fishery for which reliable catch and effort data exists and this data is available only from 1962 through 1972. During these years a total of 3,127 subsistence permits were issued and all but 350 were returned. The total reported salmon catch from 1962 to 1971 is as follows: 102 kings, 8,822 sockeye, 29,604 cohos, 2,449 chums, 3,747 pinks for a total of 44,724 salmon. The numer of permits issued and the total catch by species appears in Table 1 and is depicted in graphic form in Figure 2. The 1972 salmon catch by area appears in Table 2.

b. Smelt: Catch data on smelt is only available for the past two seasons. In 1971 there were 1,387 smelt reported taken and in 1972 the reported catch was 8,542. Most of the effort has taken place along the western shoreline of the Kenai Peninsula and around Turnagain Arm.

Figure 2
Cook Inlet subsistence salmon fishery, permits issued and total catch, 1962 - 1972.

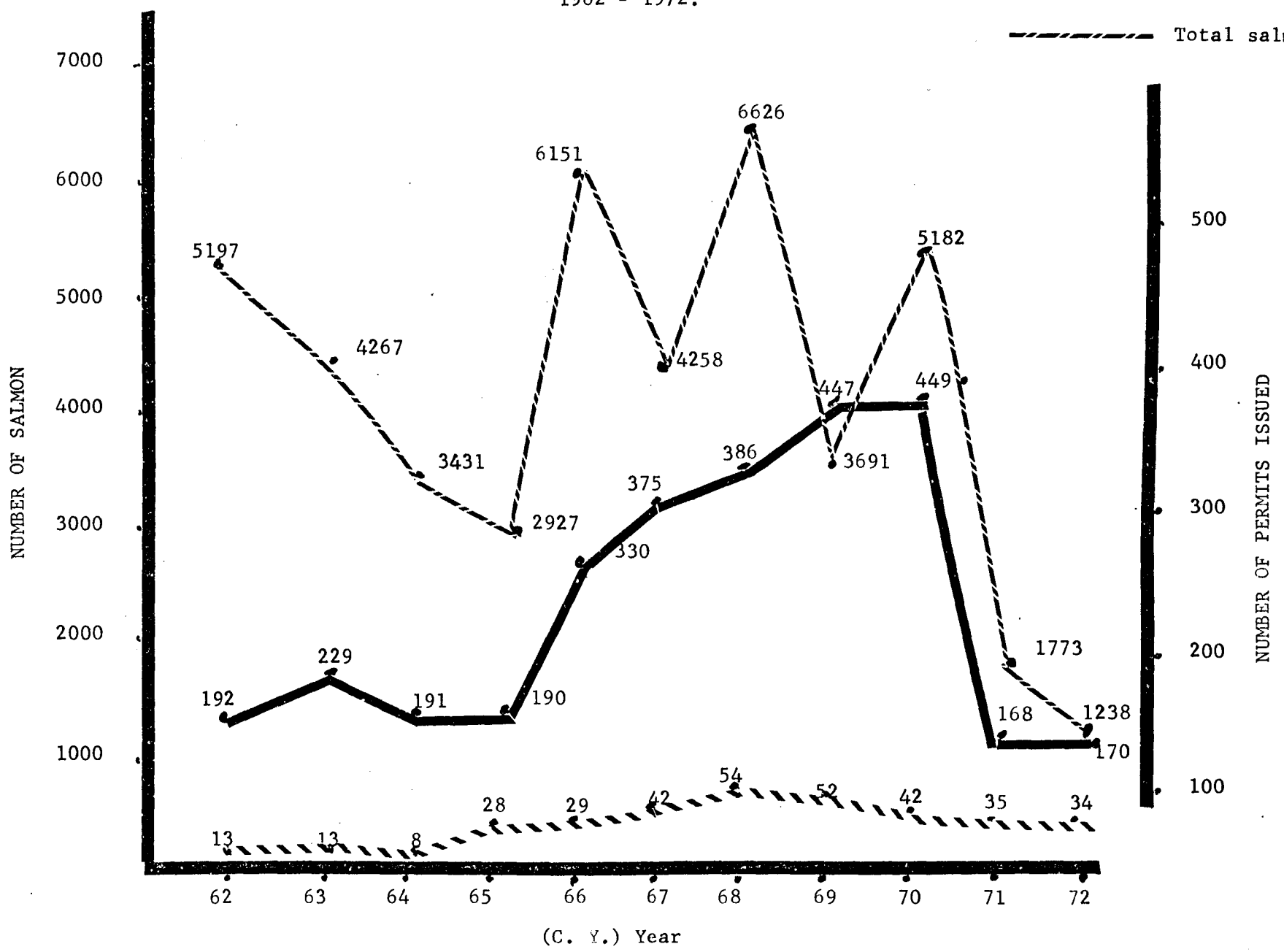


Table 2

1972 subsistence catch salmon
Cook Inlet

Location	Catch by Species: Kings	Reds	Cohos	Pinks	Chums	Other	Total	Total Permits: Issued	Returned	Did Not Fish	Fished Caught None	Caught 50 or Less	Caught 50 or More
Resurrection Bay		14					14		3	1	1	1	0
Bear Creek							0		2	2			
Total Eastern District	0	14	0	0	0	0	14	5	5	3	1	1	0
Old Knik Area									1	1			
West Point-Fire Island			3				3		1			1	
N.W. Shore Knik Arm									1	1			
Swanson River Area		4	20	10	15		49		1			1	
Mouth of Little Susitna									1	1			
Mouth of Big Susitna									1	1			
Girdwood									1	1			
Total Northern District	0	4	23	10	15	0	52	9	7	5	0	2	0

Table 2 (cont'd.)

1972 subsistence catch salmon
Cook Inlet (cont'd.)

Location	Catch by Species: Kings	Reds	Cohos	Pinks	Chums	Other	Total	Total Permits: Issued	Returned	Did Not Fish	Fished Caught None	Caught 50 or Less	Caught 50 or More
Salamatof Beach			15				15		5	1	1	3	
Cohoe									4	4			
Ninilchik									3	3			
Kalifonski			10	15			25		4	3		1	
Deep Creek			7	2			9		1			1	
Kustatan									2	2			
Total Central District	0	0	32	17	0	0	49	21	19	13	1	5	0
McNeil Creek									1		1		
Neptune Bay									1	1			
Port Graham			21	4	27		52		3	1		2	
Millers Landing		2	95	2			99		4			4	
Anchor River Area									1	1			
Halibut Cove	1				10		11		1			1	
Mud Bay		9	460	28	22	12	531		41	16	1	24	
Kachemak Bay			399	14	10	7	430		53	22	5	26	
Total Southern District	1	11	975	48	69	19	1,123	135	105	41	7	57	0
TOTAL COOK INLET	1	29	1,030	75	84	19	1,238	170	136	62	9	65	0

The number of permits issued by year since 1969 appear below:

Year	Salt Water	Kenai River	Total
1969	150	194	344
1970	157	393	550
1971	92	*	92
1972	160	*	160

*Smelt permits not required for Kenai River.

c. Shellfish: There are no permits required for taking shellfish and, therefore, no records are available on effort or catch. Almost all of the effort occurs in Kachemak and Resurrection Bays. The Sport Fish division plans a creel survey for the Kachemak Bay shellfish fishery in 1973.

d. Freshwater species: There have been relatively few permits requested for taking freshwater species and most of these have been for Lake Louise and Tyone Lakes. About 90 percent of the catch is whitefish.

3. Management Regulations: The following is a history of subsistence regulations in Cook Inlet from 1943 to 1972.

1943 through 1950

No mention made in Cook Inlet section of commercial fisheries regulations.

1951

First mention in commercial regulations. Required notification of intention to take salmon for personal use, with statement of type of gear to be used, area, time, number of fish to be taken and intended disposition of fish taken.

Fish, Ship, Campbell and Cottonwood Creeks closed to personal use.

1952

No intent to take notification required. More streams closed, including all tributaries to Knik Arm, Willow Creek (tributary to Susitna), Campbell Creek, and all streams and lakes of the Kenai Peninsula that are tributary to Cook Inlet: Provided this shall not apply to fishing with rod, hook and line for personal use.

(Apparently this was the first time many Cook Inlet streams were closed to use of nets for personal use of fish.)

1953

Above regulations same, plus added stipulation that no personal use fishing allowed within 300 feet of weirs and ladders. Snagging was prohibited for the first time.

Also, personal use fishing prohibited within 500 yards of all other streams or lakes except with hand rod, hook and line. Bay limit two (2) per day per person.

And subject to laws regulating commercial fishing 48 hours before and continuing 48 hours after each fishing period. Except for fall season and/or place greater than 25 miles from waters open to commercial fishing . . .

And in Knik Arm where 15 fathom set nets, 100 yards apart, shall be operated prior to August 6, only during hours open to commercial fishing in the Northern district.

1954

Same as 1953 with additional sections that. . . Commercial gear may be used for personal fishing during any fall season. . .

Fishing allowed in Turnagain Arm east of a line between Hope and Indian, and. . .

Fishing allowed more than 5 miles upstream from tidewater on all streams and lakes of Cook Inlet drainage south and west of the Susitna River or south of the town of Homer.

1955

General regulations and. .

Cook Inlet regulations same as 1954.

1956

Same as 1955 with added restrictions. . .

Closed Kenai & Russian Rivers within 300 yards of their confluence (this to 'Sportsmen').

Rod and line. . . limited to take two (2) salmon over 16 inches, per day per person.

1957

General regulations same as 1956.

Cook Inlet about same except for limit on take by rod and line fishermen ('.. not to exceed 10 inches' .. per person per day by hook and line, and not more than two (2) may exceed 16 inches').

1958

General same as 1957 plus. . .

A series of regulations devised to try to curb snagging. . including limiting size hoods and making it illegal to use weights with multiple hooks.

Cook Inlet same as 1957.

1959

General same as 1958.

Cook Inlet--added restrictions that. . . personal use fishing be allowed in the main stem of the Susitna River above the town of Alexander. . with nets less than 30 feet and more than 100 yards from any other set net and from tributary streams--and identified with name and address of owner.

And personal use fishing must be done in conformance with commercial regulations (This closed Knik Arm and Turnagain Arm).

Many Kenai Peninsula streams closed above markers placed from 3 to 5 miles up from mouth (Anchor, Deep Creek, Stariski and many others).

Added closure of Cooper Creek, Little Willow Creek and Montana Creek. . And . . allowed 30 yards of set nets for use in Knik Arm after August 9, also Fish Creek closed July 21 (snaggers harrassing red run).

1960

General same as 1959.

Cook Inlet--personal use fishing to be allowed on Northwest shore Knik Arm. . with nets 90 feet or less and more than 500 yards from terminus of any salmon stream. . and conform to commercial open periods in Northern district. . and identified with name and address of owner.

1961

General same as 1960.

Cook Inlet added open fishing season on clams, crabs and bottom fish. . all in conformance with commercial regulations.

Salmon for subsistence was broken into districts. . apparently this did away with fishing in main stem of Susitna River above Alexander (see subsistence regulations for Northern district 1961).

1962

General regulations added restrictions--personal use fishing must be done by permit only, issued by commissioner. . . limited subsistence fishing catch to individual regional regulations.

Cook Inlet--same as 1961.

1963

General regulations--new regulation--fish other than salmon may be taken at any time in any area of state by any method except by use of explosives or chemicals, except as hereinafter provided or as provided in the Sport Fishing Regulations of the Department.

Cook Inlet--same as 1962.

1964

General same as 1963.

Cook Inlet--new regulation--must have permit for salmon and all catches by species, location and date of catch must be reported. Freshwater species except for trout, grayling, and char may be taken for subsistence purposes via permit and these permits be issued by commissioner or his representative when deemed warranted.

Also not more than 50 salmon be taken per permit and subsistence fishing is prohibited in any area closed to commercial fishing except for parts of Knik Arm.

All districts with the exception of the Outer district, must have name and address of owner on fishing gear. The Outer district regulations were amended to conform with commercial regulations.

Another Cook Inlet regulation was amended--sports fishing licenses required for clams and/or bottom fish and crab pot floats will contain the name of owner. No sex or size limitations on crab.

1965 to 1969

Outside of minor amendments and a few changes in regulations in the different fishing districts, personal use fishing regulations are about the same for that period from 1965 to 1969.

1969 and 1970

Cook Inlet--new regulations--

Restrictions:

(a) Subsistence fishermen taking herring and smelt in the Kenai River must be physically present at all times said net is being fished.

(b) A sport fishing license is required when bottom fish are taken with fishing rod and line.

(c) A sport fishing license is required for the digging of razor clams.

Size Limits: There are no size or sex limitations on crab.

1971

Cook Inlet--new regulations--

Salmon - The subsistence fishery on the Northwest of Knik Arm was deleted.

Smelt - In the Kenai River the length of gill nets may not exceed 20 feet in length.

Smelt may be taken in that portion of the Kenai River from its mouth upstream to the Soldotna bridge from April 1 through May 31.

1972

Cook Inlet--new regulations-- Smelt - Dip nets may not be used for taking smelt in the waters of the Kenai Peninsula.

C. Problem Areas

1. Northwest Shore Knik Arm: This area is no longer a problem as it was closed to subsistence fishing in 1971. The number of permits issued for this area had increased during the mid-60's to a level of 290 during the last two years of the fishery. (1969 and 1970) The reported catch during this period averaged 3,300 salmon (Table 3). The main justification for closing this area was the declining red salmon escapements into Fish Creek which reached a low of 6,233 in 1969.

2. Mud Bay: The problem here appears to be over utilization of available fishing space rather than over-utilization of the resource. Commercial fishing, sport fishing and subsistence fishing all take place in this rather confined area of Kachemak Bay along the northeast

Table 3

Cook Inlet Subsistence salmon fishery
Permits Issued and Total Salmon Catch By District, 1967 - 1972

	Northern 1/		Central		Southern		Eastern	
Year	Permits	Total Catch	Permits	Total Catch	Permits	Total Catch	Permits	Total Catch
1967	218	2,947	13	119	51	942	91	262
1968	276	5,395	30	303	79	953	--	---
1969	290	1,563	40	400	85	1,067	32	929
1970	290	3,448	45	206	78	1,386	36	181
1971	9	10	28	138	112	1,618	19	7
1972	9	52	5	49	170	1,123	5	14

1/ Northern district represents Northwest shore at Knik Arm

side of the Homer Spit. Peak utilization occurs in mid to late August when approximately 10 seine fishermen, 50 subsistence fishermen and several hundred sports fishermen fish this area. The main species being sought are silver salmon and the subsistence catch has averaged about 1,000 since 1967. The commercial catch in the Southerndistrict has averaged 2,800 silvers since 1967 and an estimated 50 percent of these have been taken from Mud Bay proper. Sport harvest figures are not available, however, the average catch since 1967 would probably not exceed 500 fish. Commercial and subsistence harvest figures indicate no decline in abundance of silver stocks in Mud Bay. A tagging study in 1970 indicated the silver stocks of Mud Bay were mostly local stocks bound for upper Kachemak Bay and escapement indicies in this area have been consistent in recent years.

Although there is still no biological justification for closing Mud Bay, the time has perhaps come for closing a portion of Mud Bay to commercial and subsistence fishing.

For several years now proposals have been submitted to the Board of Fish and Game asking for either complete or partial closures of Mud Bay. The commercial fish staff has always opposed these closures on the basis of no biological justification.

Because of the increasing sport fish utilization there was another public proposal submitted to the Board of Fish and Game at the November 1972 meeting by a Homer commercial fisherman which asked for a partial closure of the Mud Bay area. The commercial fish staff supported this proposal, however, it was not passed.

3. Shellfish: Another potential problem is the crab and shrimp pot fisheries which have developed tremendously in the last few years. There is a great volume of gear being fished in the immediate vicinity of the Homer small boat harbor and again, rather than over-utilization of the resource the main problem may be over-utilization of area. Gear is so concentrated in this one area that navigation has been hindered. A regulation may be necessary in the near future to close a section of the bay in the immediate vicinity of the small boat harbor entrance.

D. Recommendations:

1. It is the personal opinion of the area biologist that there is a place for subsistence fishing in Cook Inlet and that it should be continued with some modifications. The 5 or 10 percent of the people who actually have a legitimate need to subsistence fish should not be denied this right just because the fishery has become recreationally orientated. Perhaps a fee could be placed on a subsistence permit or license. This might tend to eliminate some of those who are participating more for recreational reasons than need and yet keep the regulation constitutional. For those

who could show need, through an application for a waiver on the license fee, a special free permit would be granted. An income level would be established similar to that used in the Food Stamp Program and those falling below the established level would be eligible for the free permit. These measures would probably reduce subsistence fishing by 75 percent in the Cook Inlet area and the fishery would again conform with the true meaning of subsistence.

Table 4. Guidelines

COOK INLET SUBSISTENCE SALMON FISHERY, 1972

Salmon may be taken for subsistence purposes under authority of a permit which may be obtained from the local representative of the department.

Each subsistence fisherman taking salmon shall keep accurate records of the catch involved, by species, location caught, date of catch, and other such information as the department may require.

Salmon may be taken for subsistence purposes only by residents.

Identification of fishing gear shall consist of the name and address of the owner and the number of his subsistence permit.

Not more than 50 salmon may be taken under the authority of a subsistence permit.

Only one salmon subsistence permit will be issued to each person during a year.

A set gill net shall not be longer than 35 fathoms in length and 45 meshes in depth.

The operation of each set gill net shall be performed or assisted by the fisherman in whose name it is registered.

No part of a set gill net may be placed or operated within 600 feet of any part of another set gill net.

FISHING SEASONS:

NORTHERN DISTRICT: from 6:00 am July 31 until 6:00 am September 20 during open commercial fishing periods in conformance with all commercial regulations.

NORTH & SOUTH CENTRAL DISTRICTS: from 6:00 am August 18 during open commercial fishing periods in conformance with all commercial regulations.

SOUTHERN DISTRICT: from 6:00 am August 18 during open commercial fishing periods in conformance with all commercial regulations EXCEPT that set gill nets may be used in any beach area open to commercial salmon fishing.

OUTER DISTRICT: in conformance with commercial regulations.

EASTERN DISTRICT: from June 1 through June 30 during open commercial fishing periods in conformance with all commercial regulations EXCEPT that set gill nets may be used in any beach area open to commercial salmon fishing.

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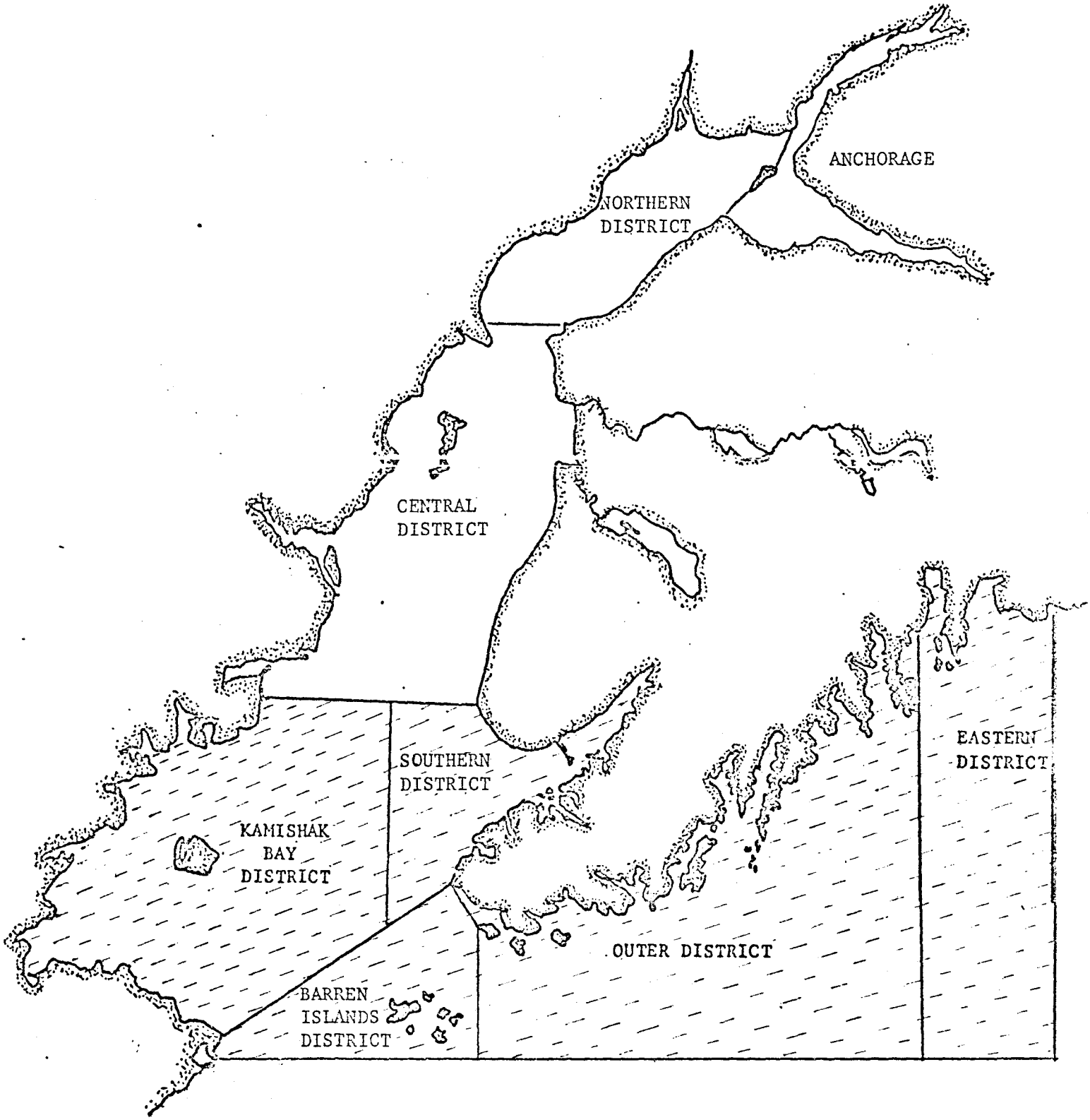
INTRODUCTION

The Southern, Kamishak, Barren Islands, Outer and Eastern districts of the Cook Inlet management area include all waters south of the latitude of Anchor Point north of Cape Douglas and west of Cape Fairfield, including the Barren Islands, southern Cook Inlet, the outer Kenai Peninsula and Resurrection Bay (Figure 1).

With the exception of razor clams practically all shellfish harvested in the Cook Inlet area are from these districts. Trawl and pot caught shrimp, king, tanner and dungeness crabs are the primary commercial species. These shellfish are also harvested by subsistence/sport fishermen. In addition, cockles, scallops and various hard shelled and soft shelled clams are utilized by subsistence/sport fishermen.

The five North American Pacific species of salmon are of commercial importance. Pink salmon are the "bread and butter" salmon for the area as a whole. Salmon are taken commercially by seines and set nets in the Southern district and by seines only in the other districts. Herring, halibut, cod, rockfish, pollock, smelt and other miscellaneous finfish are also taken by commercial and subsistence/sport fishermen.

Figure 1 Cook Inlet commercial fisheries management area



SHRIMP

Generally, 99 percent of the Cook Inlet shrimp catch is taken in the Southern district. The catch for 1972 was 5.5 million pounds. Table 1 shows the 1972 catch by month and number of vessels participating. The 1972 catch was similar to that of 1971 and slightly lower than the 1970 catch. Shrimp landings in pounds since 1960 are shown in Appendix Table 1.

Trawls

Three local boats usually fish the entire season. Two additional boats fished the fall season in 1972. A total of 438 landings were made in 1972 compared to 560 in 1971 and 533 in 1970. (Appendix Table 2) Catches per drag hour since July, 1969 are shown in Appendix Table 3.

Pots

Pot shrimp catches have fluctuated greatly over the years, ranging from 131 pounds in 1969 to the record 171 thousand pounds in 1972 (Appendix Table 4). Effort also varies. A strong market and good prices encouraged eleven vessels to participate in the shrimp pot fishery in 1972, seven on a regular basis.

KING CRAB

1972 Season

The 1972 Cook Inlet king crab harvest of 4.6 million pounds exceeded the 1971 catch by .5 million pounds and was the highest on record since 1964.

Table 1. Cook Inlet shrimp catches, 1972

Pounds and Number of Vessels

Month	Trawls	Number of Vessels	Pots	Number of Vessels	Trawls and Pots Total Pounds
January	405,730	3	1,494	1	407,224
February	641,653	4	1,463	1	643,116
March	170,868	3	14,879	11	185,747
April	77,133	3	7,879	3	85,012
May	77,318	4	7,994	4	85,312
June	539,482	5	23,211	4	562,693
July	544,454	4	24,191	4	568,645
August	569,364	3	11,752	4	581,116
September	471,921	2	16,241	6	488,162
October	651,547	3	3,242	3	654,789
November	618,781	3	29,288	6	648,069
December	608,930	5	29,752	10	638,682
Total	5,377,181	5	171,386	11	5,548,567

The Southern district, which includes Kachemak Bay, accounted for 1.9 million pounds and the total for all other districts was 2.7 million pounds. The 1972 king crab catch by district, by month is shown in Table 2. The annual catch by district, 1951-1972, is shown in Appendix Table 5.

Effort, as measured by number of landings, was greater in the Southern district during 1972 than in any other district. A total of 1,120 landings were made which was 263 more than in 1971. In the Kamishak and Outer districts there was less effort and 119 landings were made as compared to 134 landings in 1971. In the Southern district there were 236 crab per landing and in the Kamishak district the crab per landing figure was 2,733, the highest on record. Appendix Table 6 shows the landings by year since 1960. The approximate value to the fishermen for king crab during the calendar year was 1.6 million dollars, a record high (Appendix Table 7).

A significant increase in the abundance of recruit size king crab was observed in both the Southern and Kamishak districts. This was expected as a strong year class was observed during catch composition surveys and other research studies in the past two years. This strong year class molted into legal sized crab in the spring of 1972 and they accounted in part for the increased 1972 catch. In the Southern district 56 percent of the crab harvested in the summer fishery (August-December) were recruits while in the Kamishak and Outer districts 43 percent were recruits. In the winter fishery (January-March) 31 percent of the harvest were recruits in the Southern district and 34 percent in the Kamishak and Outer districts (Table 3 and Figure 2). Comparative size composition of commercially caught king crab taken in 1963 and in recent years is shown in Appendix Table 8.

Table 2 King crab landings, in pounds, by district, by month, Cook Inlet, 1972.

Month	Southern	Kamishak	Outer	Barren Islands	Eastern	Total
January	359,169	----		----		359,169
February	342,842	----		----		342,842
March	307,998	----		----		307,998
April	----	----		----		----
May	----	----		----		----
June	----	----		----		----
July	----	----		----		----
August	595,689	1,247,748		----		1,843,437
September	119,367	711,380		910		831,657
October	17,984	128,370		6,335		152,689
November	93,949	317,683		----		411,632
December	195,873	22,588		225,444		443,905
Totals	2,032,871	2,427,769		232,689		4,607,878

Table 3 King crab carapace length frequencies, 1972 - 1973 quota period.[1/]

Southern District

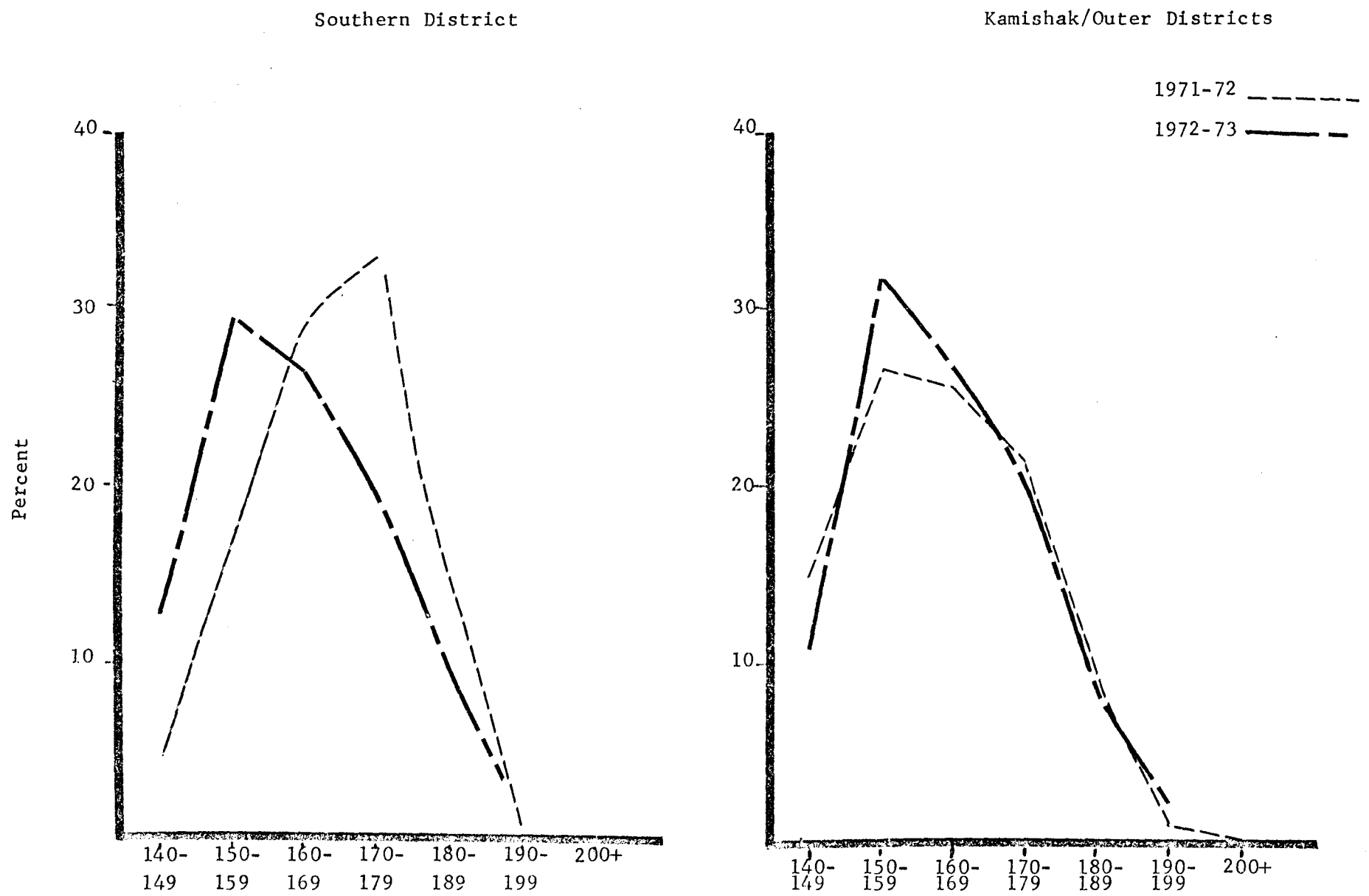
Month	140-149	%	150-159	%	160-169	%	170-179	%	180-189	%	190-200	%	200+	%	Sample Size
Aug.															
Sep.	30	(18.2)	64	(38.7)	50	(30.3)	12	(7.3)	7	(4.3)	2	(1.2)	0	0	165
Oct.	46	(38.7)	44	(37.0)	21	(17.6)	7	(5.9)	1	(0.9)	0	0	0	0	119
Nov.	38	(14.6)	91	(35.0)	82	(31.5)	39	(15.0)	10	(3.9)	0	0	0	0	260
Dec.															0
Jan.															0
Feb.	21	(9.2)	39	(17.2)	54	(23.8)	70	(30.9)	35	(15.4)	7	(0.3)	0	0	226
Mar.	40	(6.7)	160	(27.1)	158	(26.8)	139	(23.5)	81	(13.7)	11	(2.2)	0	0	589
TOTAL	175	(12.8)	398	(29.2)	365	(26.8)	267	(19.6)	134	(9.8)	20	(1.8)	0	0	1,359

Kamishak/Outer Districts

Aug.	184	(11.1)	494	(31.1)	400	(25.1)	298	(19.1)	139	(8.9)	42	(2.6)	1	(0.1)	1,558
Sep.	59	(11.3)	212	(38.3)	121	(21.8)	91	(16.4)	9	(1.6)	3	(0.5)	0	0	495
Oct.															0
Nov.	9	(4.3)	40	(19.2)	54	(26.0)	61	(29.4)	40	(19.2)	4	(1.9)	0	0	208
Dec.															0
Jan.															0
Feb.															0
Mar.	12	(5.9)	41	(20.2)	65	(32.1)	53	(26.2)	25	(12.3)	6	(3.3)	0	0	202
TOTAL	264	(10.7)	787	(31.9)	640	(25.9)	503	(20.4)	213	(8.6)	55	(2.5)	1	(0.04)	2,463

1/ Number of individuals by 10 mm group.

Figure 2. King crab carapace length frequencies, Cook Inlet.



1972-1973 Quota Period

The king crab season and quota period in Cook Inlet runs from August 1 to March 31. The quota in the Southern district is 2.0 million pounds while all other districts have a 3.5 million pound quota. In April, 1972 the basic season was lengthened by one month and the outside quota (Kamishak, Barren Islands, Outer and Eastern districts combined) was increased by 1.0 million pounds. Data indicate that catches were approximately 400,000 pounds short of the quota in the Southern district and 500,000 short in all other districts combined for the 1972-73 season. Falling below the quota does not indicate a decline in the crab stocks as all biological indicators looked good. There are three main reasons for the catch falling short of the quota. (1) Due to the increased price on tanner crab many fishermen concentrated their efforts on tanners and although they still made landings on king crab, these were only incidental to the tanner catch. The increased effort on tanners, which tend to abide separately from king crab, had the effect of diluting the potential effort on king crab. (2) Severe ice conditions in the Kamishak district during February and March, 1973 prevented boats from fishing this area until the last week of the season. Had the ice gone out of this area earlier, the outside quota would likely have been reached. (3) The total of January and February catches from the Southern district have tended to be lower during the odd numbered years than during the preceding even numbered years since 1964 (Table 4). The reason for this pattern is not known. Perhaps every other year molting and mating migration patterns of the larger male king crab or biennial cyclic abundance of food supplies may influence this pattern. The total catches recorded for January and February of 1974 may be used to predict the expected total catch for January and February of 1975 if

Table 4 Relationship between total of January and February king crab catches for alternate years in the Southern District of Cook Inlet 1964 - 1973

		Odd Years (X)	Even Years (Y)		$(X-\bar{X})$	$(Y-\bar{Y})$	$(X-\bar{X})(Y-\bar{Y})$	$(X-\bar{X})^2$	$(Y-\bar{Y})^2$
		catches in 1,000 pounds							
1.	(65)	146	320	(64)	- 64	- 60	3,840	4,096	3,600
2.	(67)	162	371	(66)	- 48	- 9	432	2,304	81
3.	(69)	108	237	(68)	-102	-143	14,586	10,404	20,449
4.	(71)	236	270	(70)	+ 26	-110	-2,860	676	12,100
5.	(73)	396	702	(72)	+186	+322	59,892	34,596	103,684
TOTALS		1,048	1,900				75,890	52,076	139,914

$$\bar{X} = \frac{1048}{5} = 209.6 \qquad \bar{Y} = \frac{1900}{5} = 380.0 \qquad byx = \frac{\sum(X-\bar{X})(Y-\bar{Y})}{\sum(X-\bar{X})^2} = \frac{75890}{52076} = \underline{\underline{1.457}}$$

$$bxy = \frac{\sum(X-\bar{X}))Y-\bar{Y})}{\sum(Y-\bar{Y})^2} = \frac{75890}{139914} = \underline{\underline{0.542}} \qquad ay = \bar{Y}-byx\bar{X} - 380.0 - (1.457)(209.6) = 74.61$$

$$ax = \bar{X}-bxy\ \bar{Y} = 209.6 - (0.542)(380.0) = 3.64$$

$$Y = byxX + ay = (1.457X + 74.61)(10^3)$$

$$X = bxyY + ax = ((0.542Y + 3.64)(10^3)$$

$$\text{Correlation Coefficient} = r = \sqrt{bxybyx} = \sqrt{(0.542)(1.457} = \sqrt{.7896} = 0.8886 \approx 0.89$$

the correlation between even and odd year catches is valid. It is possible that the 1974 catches will show a breaking point, either significantly higher or significantly lower catches than in other even years for January and February.

Each year, beginning in early February, biologists accompany commercial king crab boats to the fishing grounds to determine catch composition and timing of the reproductive cycle. The closing date of the king crab season is regulated based upon biological findings. In early 1973, because there was no fishery in the Kamishak district until the last week in March, biological efforts were concentrated in the Southern district, or the Kachemak Bay area. By mid-March molting of all king crab was well under way and egg hatching had started. By March 16, 62 percent of sublegal size and 15 percent of legal size crab were in new shell condition. By this same date, 7 percent of the female crab had completed hatching and had molted. For these reasons the Southern district was closed on March 22, ten days earlier than the automatic closing date. After the season closed most fishermen converted their gear for tanner crab and moved their pots out of areas where king crab were highly concentrated. As a result of this, handling of soft shell and female king crab was reduced.

During the last week of March 1973 three boats dropped some gear in the Kamishak district northeast of Augustine Island. They immediately located good concentrations of king crab and a request for an extension was made. The request had some merit since ice conditions had prevented fishing activity earlier and there were still 500,000 pounds to be taken on the quota. However, after examining data, it was evident that the molting and reproductive period was under way. Although only one percent of the legal size males and females had molted by March 29, 85 percent of the sublegal males had molted

and were already in new shell condition. Also, 56 percent of the crab being handled were females and egg hatching had begun. For these reasons, an extension of the calendar season was denied. Results of king crab composition surveys are shown in Table 5.

TANNER CRAB

The 1972 tanner crab catch in Cook Inlet was the highest on record since the fishery developed in 1968. The catch totaled 4.8 million pounds in 1972, compared to 2.1 million pounds in 1971, 1.3 million in 1970, 1.5 million in 1969 and 165 thousand pounds in 1968. Relatively higher prices ($.17 per pound live weight) encouraged additional effort. Forty-three boats delivered tanners from Cook Inlet in 1972, compared to 40 boats in 1971 and 25 boats in 1970. The 1972 landings totaled 956 compared to 613 in 1971 and 314 in 1970. The 1972 catch by area and pounds is shown in Table 6. The catch by month, number of boats fishing each month, the number of landings and the average weights each month for 1972 are shown in Table 7.

The average weight of tanner crab in the commercial catch during 1972 was 2.5 pounds, similar to the 2.4 pounds for 1971 and 2.9 pounds in 1970. The annual catch, the number of landings, number of vessels engaged in the fishery and the average weights since 1968 are given in Appendix Table 9.

In addition to monitoring the commercial catch, carapace width frequencies are collected (Figure 3). Catch composition surveys on the fishing grounds are made to collect pertinent data. This data will be summarized in a separate data report, which will be published as an appendix to a future area management report.

Table 5. Cook Inlet king crab catch composition surveys, 1972 - 1973.

Southern District

Date	No. Pots Sampled	Legal Males	%	Sub-legal Males	%	Females	%	Total Crab
2/10/72	15	119	49.9	5	2.1	115	48.1	239
2/11/72	27	111	8.0	7	.5	1276	91.5	1394
2/16/72	30	81	33.6	-	-	160	66.4	241
2/24/72	31	93	7.7	35	2.9	1072	89.3	1200
2/24/72	34	83	32.1	-	-	176	67.9	259
3/ 2/72	27	113	25.1	2	.4	336	74.5	451
3/ 2/72	21	115	12.0	9	.9	836	87.1	960
3/ 9/72	53	967	49.5	186	9.5	802	41.0	1955
Totals	238	1682	25.1	244	3.6	4773	71.3	6699
1/30/73	14	10	6.9	18	12.4	117	80.7	145
2/10/73	13	106	36.5	13	4.5	171	59.0	290
3/ 3/73	12	32	24.8	40	31.0	57	44.2	129
3/10/73	18	3	5.2	7	12.0	48	82.8	58
3/16/73	11	31	17.1	50	27.6	102	56.3	181
3/16/73	63	200	21.3	198	21.1	539	57.5	937
3/16/73	22	179	17.2	198	19.1	661	63.7	1038
Totals	153	561	20.2	524	18.8	1695	61.0	2780

Kamishak/Outer Districts

8/25/72	38	506	78.8	113	17.6	23	3.6	642
12/71-9/72	113	2183	79.4	260	9.5	306	11.1	2749
3/29/73	53	1448	27.9	232	4.5	3510	67.6	5190
Totals	204	4137	48.2	605	7.1	3839	44.7	8581

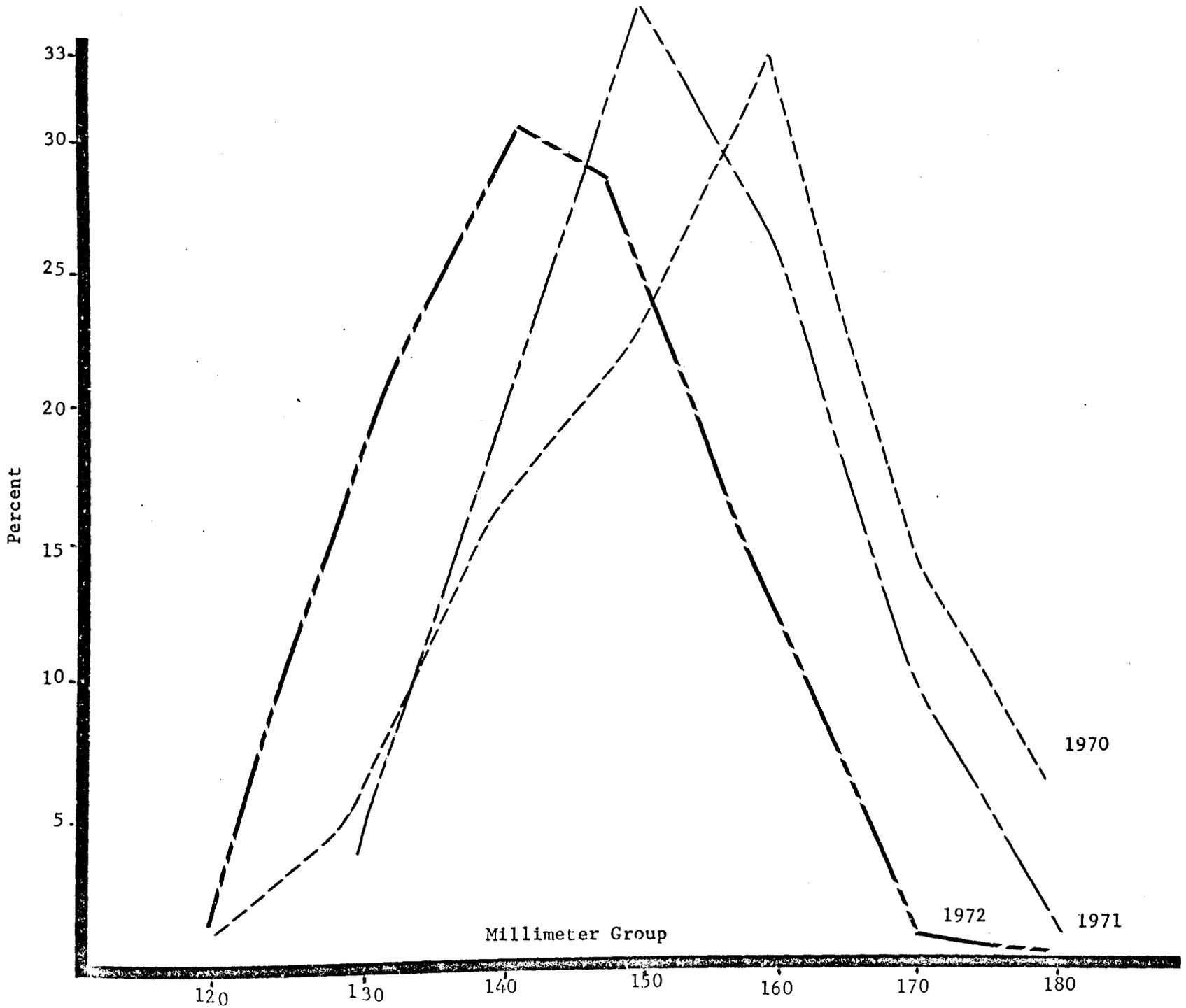
Table 6 Tanner crab landings, in pounds, by area, Cook Inlet, 1972.

Month	Southern	Kamishak	Barren Islands	Outer	Eastern	Total
January	81,104	----	----	----	87,984	169,088
February	163,554	----	----	----	----	163,554
March	642,638	136,960	----	157,383	116,567	1,053,548
April	593,642	----	----	4,650	134,322	732,614
May	618,143	215,242	----	43,530	142,170	1,019,085
June	272,748	622,760	----	----	16,289	911,797
July	9,527	162,933	----	----	----	172,460
August	1,688	----	----	----	----	1,688
September	3,226	----	----	----	----	3,226
October	13,645	12,111	----	96	----	25,852
November	252,529	6,056	----	----	----	258,585
December	289,638	2,406	676	----	3,626	296,346
TOTALS:	2,942,082	1,158,468	676	205,659	500,958	4,807,843

Table 7. Tanner crab effort and catch data, Cook Inlet, 1972.

Month	Crab	Pounds	Pounds Cum Total	No. Boats Fished	No. Landings	Ave. wt. Per Crab
January	65,419	169,088	169,088	22	76	2.6
February	59,843	163,554	332,642	27	129	2.7
March	383,186	1,053,548	1,386,190	24	231	2.7
April	282,802	732,614	2,118,804	23	164	2.6
May	424,282	1,019,085	3,137,889	25	144	2.4
June	404,933	911,797	4,049,686	20	77	2.3
July	67,413	172,460	4,222,146	12	11	2.6
August	715	1,688	4,223,834	13	19	2.4
September	1,198	3,226	4,227,060	5	5	2.7
October	9,925	25,852	4,252,912	12	33	2.6
November	87,468	258,585	4,511,497	19	94	3.0
December	103,618	296,346	4,807,843	26	124	2.9

Figure 3. Tanner crab size frequencies.



DUNGENESS CRAB

The total 1972 dungeness crab harvest in Cook Inlet was 38,930 pounds, less than half the 1971 catch of 96,846 pounds. The 1970 harvest was 208,577 pounds. The 1972 monthly catch in pounds and number of vessels fishing is given in Table 8.

The dungeness catch by month since 1966 appears in Appendix Table 10 and the total catches since 1961 are shown in Appendix Table 11.

SHELLFISH SUBSISTENCE

King, tanner and dungeness crab are all harvested to some degree by subsistence/sport fishermen. Shrimp, primarily coon-stripe, are taken using pots and ring nets.

Cockles, scallops, other hard shelled and soft shelled clams are also utilized by the subsistence/sport fishermen. Most of this activity takes place in Kachemak Bay. The amount of effort and total harvest has not been documented. The amount of man-days spent in these activities is considerable and increasing each year. The actual catch is insignificant compared to the commercial shellfish take but it is of economic (tourism) and of personal importance to those involved.

SALMON

Overview: Southern, Outer, Kamishak and Eastern districts - 1972

The 1972 salmon catch of 164.3 thousand (0.1 kings, 57.9 reds, 2.2 cohos, 28.6 pinks, 75.5 chums) was the second poorest on record since 1954. Appendix

Table 8 Cook Inlet Dungeness crab catches, 1972

Pounds and Number of Vessels

Month	Pounds	Number of Vessels
January	60	1
February	1,620	2
March	36 1/	3
April	0	0
May	0	0
June	1,715	3
July	6,081	6
August	3,568	4
September	5,085	4
October	4,517	5
November	7,031	16
December	9,662	18

1/ Incidental catches.

Table 12 shows catches by species and district since 1954. The 1972 catch by primary species by district and week for three districts appears in Table 9. The pink salmon catch by gear since 1960 is shown in Appendix Table 13. Estimated pink salmon escapements, by system, for the Southern and Outer districts since 1962 are given in Appendix Table 14. Ground stream survey results from the Southern district in 1972 are shown in Table 10. Ground stream survey results from the Outer district in 1972 are shown in Table 11. Aerial surveys of the Kamishak district from 1965-1972 are given in Appendix Table 15.

Southern district

The total salmon catch for the Southern district in 1972 was 46,759 fish and accounted for only 1.9 percent of the total Cook Inlet catch. This district catch for 1972 was the lowest on record for the years 1954-1972 (Appendix Table 16).

Pink salmon have always been the major species in the Southern district making up an average of 81 percent of the catch since 1954. The 1972 pink salmon catch of 9,126 fish was by far the lowest recorded for this 19-year period accounting for 20 percent of the total district catch. Red salmon have contributed an average of 7 percent of the catch. In 1972, a good red catch of 31,345, the second highest recorded, contributed 67 percent of the catch. The coho catch of 1,283 was about one-third of the average for this species. The chum catch of 4,936 was far below the 19-year average annual catch of 23,000 fish.

A more intensive management system went into effect in 1971 and this contributed to the lower catches in 1971 and 1972. Instead of a set opening date for seine gear in early June, which has been the practice since

Table 9. 1972 Salmon catch by week, Southern, Outer, and Kamishak Districts.[1/]

	SOUTHERN DISTRICT			OUTER DISTRICT			KAMISHAK DISTRICT		
Week	Pinks	Chums	Reds	Pinks	Chums	Reds	Pinks	Chums	Reds
24	2	38	3,557						
25	10	67	3,948						
26	33	101	3,547						
27	404	365	5,303						
28	1,247	404	6,809	17		8,470			
29	1,445	424	5,050	65	89	12,201			
30	2,249	817	2,775	370	158	2,864	334	4,689	46
31	3,730	2,270	355	349	17,360	2,076			
32				104	1,436	812		431	1
33							2	6,157	
34							6	8,646	
35	6	450	1	100	24,447			1,141	
36								5,137	
37								173	
Total	9,126	4,936	31,345	1,005	43,490	26,423	342	26,374	47

Week 24	June 4 - June 10
25	June 11- June 17
26	June 18- June 24
27	June 25- July 1
28	July 2- July 8
29	July 9- July 15
30	July 16- July 22
31	July 23- July 29
32	July 30- Aug. 5
33	Aug. 6- Aug. 12
34	Aug. 13- Aug. 19
35	Aug. 20- Aug. 26
36	Aug. 27- Sep. 2
37	Sep. 3- Sep. 9

1/ Taken from the 1972 IBM statistical run.

Table 10. Ground stream surveys, Southern district, 1972.

DATE	STREAM	SPECIES	INTER-TIDAL	STREAM	TOTAL	TEMP.	WEATHER	REMARKS
7/10	Seldovia	Chums	0	19	19	53°	Clear	no sizeable run yet
7/24	Seldovia	Chums	0	300	300	55	Clear	----------
8/ 2	Seldovia	Chums	0	200	200	53	Overcast	----------
8/16	Seldovia	Chums	100	200	300	51	Clear	dead fish show in stream
8/25	Seldovia	Chums	93	70	163	50	Overcast	very high dirty water
7/10	Seldovia	Pinks	0	0	0	53	Clear	----------
7/24	Seldovia	Pinks	0	714	714	55	Clear	----------
8/ 2	Seldovia	Pinks	2,730	1,810	4,540	53	Overcast	pinks really jumping
8/16	Seldovia	Pinks	650	1,250	1,900	51	Clear	many dead fish
8/25	Seldovia	Pinks	836	630	1,466	50	Overcast	----------
7/31	China Poot	Pinks	50	186	236	--	------	----------
8/21	China Poot	Pinks	500	1,000	1,500	57	Overcast/rain	fish at falls, 1 seal
7/ 8	Humpy Creek	Pinks	0	1	1	--	Clear	----------
7/12	Humpy Creek	Pinks	0	53	53	--	Clear	----------
7/15	Humpy Creek	Pinks	0	434	434	57	Overcast/wind	fish in 1st big pool
7/22	Humpy Creek	Pinks	0	3,000	3,000	--	Overcast	----------
7/26	Humpy Creek	Pinks	1,500	3,700	5,200	56	Clear	1 eagle
8/ 1	Humpy Creek	Pinks	500	5,400	5,900	55	Overcast	2 eagles, 1 seal
8/10	Humpy Creek	Pinks	0	6,430	6,430	55	Clear	2 eagles
8/14	Humpy Creek	Pinks	570	7,930	8,500	49	Overcast	2 eagles
8/24	Humpy Creek	Pinks	0	5,286	5,286	47	Overcast	1 seal, count is ebbing
8/31	Humpy Creek	Pinks	41	1,268	1,309	48	Overcast	1 seal, 3,000 dead fish
7/13	Port Graham	Chums	50	86	136	48	Overcast	4 eagles, several jumpers
7/20	Port Graham	Chums	195	350	545	51	Clear/wind	3 eagles
7/28	Port Graham	Chums	500	1,000	1,500	50	Clear	2 eagles
8/ 7	Port Graham	Chums	200	831	1,031	46	Overcast	2 eagles, stream high
8/18	Port Graham	Chums	80	320	400	49	Overcast	1 eagle
9/ 7	Port Graham	Chums	33	47	80	47	Clear	High waters, clear

Table 10. Ground stream surveys, Southern district, 1972. (cont'd)

DATE	STREAM	SPECIES	INTER-TIDAL	STREAM	TOTAL	TEMP.	WEATHER	REMARKS
7/13	Port Graham	Pinks	0	0	0	48	Overcast	----------
7/20	Port Graham	Pinks	0	150	150	51	Clear	----------
7/28	Port Graham	Pinks	0	300	300	50	Clear	----------
8/ 7	Port Graham	Pinks	510	1,210	1,720	46	Overcast	----------
8/18	Port Graham	Pinks	30	1,316	1,346	49	Overcast	----------
9/ 7	Port Graham	Pinks	0	30	30	47	Clear	----------
7/ 2	Tutka	Chums	0	0	0	--	Overcast	1 jumper in lagoon
7/14	Tutka	Chums	0	22	22	47	Overcast	1 land otter
7/23	Tutka	Chums	4	6	10	48	Clear	4 boats in lagoon, 33 chums in bay
8/ 3	Tutka	Chums	7	20	27	47	Overcast	2 eagles, fish lower area
8/11	Tutka	Chums	4	10	14	50	Clear	----------
8/25	Tutka	Chums	12	0	12	46	Overcast	stream high & muddy
7/ 2	Tutka	Pinks	0	0	0	--	Overcast	----------
7/14	Tutka	Pinks	12	28	40	47	Overcast	----------
7/23	Tutka	Pinks	200	100	300	48	Clear	20 in bay
8/ 3	Tutka	Pinks	1,150	320	1,470	47	Overcast	----------
8/11	Tutka	Pinks	300	190	490	50	Clear	----------
8/25	Tutka	Pinks	188	16	204	46	Overcast	----------

Table 11. Ground stream surveys, Outer district, 1972.

DATE	STREAM	SPECIES	INTER-TIDAL	STREAM	TOTAL	TEMP.	WEATHER	REMARKS
7/21	Koyuktolik	Chums	21	36	67	46	Overcast	many signs of bear
7/27	Koyuktolik	Chums	800	400	1,200	48	Clear	new tree falls
7/28	Koyuktolik upper	Chums	20	172	192	46	Clear	1 eagle sighted,2000 in ba
8/ 6	Koyuktolik left	Chums	575	490	1,065	51	Rain	1 bear, 2 eagles
8/ 6	Koyuktolik upper	Chums	1,350	488	1,838	48	Rain	high stream waters
8/22	Koyuktolik left	Chums	0	335	335	49	Rain	muddy water
8/22	Koyuktolik upper	Chums	0	1,100	1,100	48	Rain	visability poor
8/23	Koyuktolik upper	Chums	0	15,000	15,000	--	----	Ken Halpin's count visibility good
7/21	Port Chatham	Pinks	0	0	0	45	Clear	----------
8/ 5	Port Chatham	Pinks	0	80	80	46	Rain	fish only in left
8/ 6	Port Chatham	Pinks	0	0	0	46	Rain	no signs of salmon
7/21	Port Chatham	Chums	0	0	0	45	Clear	----------
8/ 5	Port Chatham	Chums	0	54	54	46	Rain	1 bear, 2 eagles
8/ 6	Port Chatham	Chums	0	0	0	46	Rain	----------
7/21	Windy Bay left	Pinks	0	0	0	47	Clear	7 eagles, 1 bear
8/15	Windy Bay left	Pinks	150	250	400	48	Clear	----------
8/15	Windy Bay right	Pinks	0	50	50			
7/21	Windy Bay right	Chums	0	101	101	47	Clear	----------
8/15	Windy Bay right	Chums	0	26	26	48	Clear	poor visability
7/20	Rocky River	Pinks	90	100	190	45	Clear	1 sea otter, 2 eagles
8/ 5	Rocky River	Pinks	0	2,715	2,715	47	Clear	lower & mid. section
8/ 9	Rocky River	Pinks	1,993	2,430	4,423	46	Clear	very high water
7/20	Rocky River	Chums	0	50	50	45	Clear	----------
8/ 5	Rocky River	Chums	237	1,647	1,884	47	Clear	----------
8/ 9	Rocky River	Chums	244	624	868	46	Clear	----------

Table 11. Ground stream surveys, Outer district, 1972. (cont'd)

DATE	STREAM	SPECIES	INTER-TIDAL	STREAM	TOTAL	TEMP.	WEATHER	REMARKS
8/ 7	Port Dick Creek	Pinks	7,900	500	8,400	43°	Light Rain	--------
8/ 9	Port Dick Creek	Pinks	8,150	1,050	9,200	43	Clear/wind	2 bears, 5 eagles
8/11	Port Dick Creek	Pinks	6,400	1,800	8,200	--	Clear/wind	counting only pinks, 1900 dead chum below weir
8/12	Port Dick Creek	Pinks	6,600	1,200	7,800	--	Overcast/wind	stream visibility poor
8/14	Port Dick Creek	Pinks	7,200	1,300	8,500	--	Overcast/wind	counting just pinks
8/16	Port Dick Creek	Pinks	8,500	1,400	9,900	--	Overcast/calm	1 eagle
8/18	Port Dick Creek	Pinks	8,400	2,020	10,420	--	Overcast/calm	1,020 above weir, 1 eagle
8/20	Port Dick Creek	Pinks	8,000	1,100	9,100	--	Light rain/wind	
8/26	Port Dick Creek	Pinks	5,100	900	6,000	--	Clear/calm	4 bears, 1 eagle,low strea
9/10	Port Dick Creek	Pinks	0	0	0	--	Clear/calm	7 eagles, 2,500 dead-int.t
8/ 7	Port Dick Creek	Chums	4,700	300	5,000	43	Light Rain	----------
8/ 9	Port Dick Creek	Chums	4,200	800	5,000	43	Clear/wind	2 bears, 5 eagles
8/11	Port Dick Creek	Chums	---	----	----	--	Clear/wind	counting only pinks 1900 dead chum below weir
8/12	Port Dick Creek	Chums	2,900	1,000	3,900	--	Overcast/wind	stream visibility poor
8/14	Port Dick Creek	Chums	0	0	0	--	Light Rain/wind	counting only pinks 2 bears, 8 eagles
8/16	Port Dick Creek	Chums	800	1,500	2,300	--	Overcast/calm	1 eagle
8/18	Port Dick Creek	Chums	0	0	0	--	Overcast/calm	1 eagle
8/20	Port Dick Creek	Chums	0	0	0	--	Lt. Rain, wind	
8/26	Port Dick Creek	Chums	400	300	700	--	Clear/calm	4 bears, 1 eagle only lower stream surveyed
9/10	Port Dick Creek	Chums	19	59	78	--	Clear/calm	2,500 fish in intertidal zone - dead.

Table 11. Ground stream surveys, Outer district, 1972. (cont'd)

DATE	STREAM	SPECIES	INTER-TIDAL	STREAM	TOTAL	TEMP.	WEATHER	REMARKS
8/10	Right Hand Creek	Pinks	12	66	78	42°	Clear/calm	at Port Dick, 1 bear, 11 eagles
8/10	Right Hand Creek	Chums	257	93	350	42	Clear/calm	at Port Dick, 1 bear, 11 eagles
8/3	Middle Creek	Pinks	7	15	22	42	Light Rain	------
8/9	Middle Creek	Pinks	45	18	63	43	Clear/wind	1 bear, 2 eagles
8/16	Middle Creek	Pinks	150	220	370	--	Clear/calm	1 eagle, 200 pinks in bay
7/26	Middle Creek	Chums	54	60	114	42	Overcast/calm	500-600 chums in bay, 4 eagles
8/3	Middle Creek	Chums	27	162	189	42	Light Rain	-------
8/9	Middle Creek	Chums	360	77	437	43	Clear/wind	2 eagles
8/16	Middle Creek	Chums	610	290	900	--	Clear/calm	1 eagle, 400 chums in bay
9/9	Middle Creek	Chums	0	59	59	--	Light Rain	8 eagles, 30-40 dead chums
8/9	Island Creek	Pinks	430	190	620	42	Clear/wind	1 bear w/2 cubs, 2 eagles
8/16	Island Creek	Pinks	970	300	1,270	--	Clear/calm	pinks at mouth
8/26	Island Creek	Pinks	550	557	1,107	--	Clear/calm	good distribution, 13 eagle
7/26	Island Creek	Chums	10	4	14	44	Overcast/calm	3 eagles, 7 woodpeckers
8/3	Island Creek	Chums	104	170	274	43	Light Rain	incomplete survey, seals
8/9	Island Creek	Chums	2,430	740	3,170	42	Clear/wind	1 bear w/2 cubs, 2 eagles
8/16	Island Creek	Chums	1,930	1,750	3,680	--	Clear/calm	chums well distributed
8/26	Island Creek	Chums	910	2,010	2,920	--	Clear/calm	500 dead chums, 13 eagles

Table 12 - 1972 Salmon subsistence catch; Eastern and Southern districts; Cook Inlet.

Location	King	Red	Coho	Pink	Chum	Unidentified	Total	1	2	3	4	5	6
	Species							Permit data codes					
EASTERN DISTRICT													
Resurrection Bay	--	14	--	--	--	--	14		3	1	1	1	--
Bear Creek	--	--	--	--	--	--	--		2	2	--	--	--
TOTALS	--	14	--	--	--	--	14	5	5	3	1	1	--
SOUTHERN DISTRICT													
McNeil Creek	--	--	--	--	--	--	--		1	--	1	--	--
Neptune Bay	--	--	--	--	--	--	--		1	1	--	--	--
Port Graham	--	--	21	4	27	--	52		3	1	--	2	--
Miller's Landing	--	2	95	2	--	--	99		4	--	--	4	--
1 mi. S. Anchor Rv.	--	--	--	--	--	--	--		1	1	--	--	--
Halibut Cove	1	--	--	--	10	--	11		1	--	--	1	--
Mud Bay	--	9	460	28	22	12	531		41	16	1	24	--
Kachemak Bay	--	--	399	14	10	7	430		53	22	5	26	--
TOTALS	1	11	975	48	69	19	1123	135	105	41	7	57	--

Permit data codes:

1. Total permits issued
2. Total permits returned
3. Did not fish
4. Caught no fish
5. Caught 50 or less
6. Caught over 50

the early sixties, the 1971 and 1972 seine seasons were opened by field announcement. This technique is similar to that used in the Outer district where individual runs are allowed to build up to a point where some escapement is assured before opening. The initial seine season opening was on July 28, 1972. The set gill net season opened on June 5. Two, 24-hour periods per week were fished. On July 31, the entire Southern district was closed to commercial salmon fishing. On August 21 a portion of the Southern district, English Bay and Port Graham, was re-opened for one, 48-hour period. Mud Bay was also opened on August 21 and on September 7 the entire Southern district was closed.

The overall pink escapement into the Southern district was poor with 23,500 total fish for the four major study streams. Humpy Creek had an escapement of 13,800; Tutka, 1,500; Seldovia, 5,800; and Port Graham, 2,400.

Kamishak district

The total 1972 Kamishak district salmon catch was 26,794 fish, approximately half the average catch for this district since 1954. The chum catch of 26,374 represents over 98 percent of the catch. The catch by species since 1954 appears in Appendix Table 17.

The first opening in the Kamishak district was on June 29 and opened everything south of Nordyke Island except McNeil River Lagoon. This same area closed on July 28. On July 29, Bruin Bay was opened and on August 10 that portion of the Kamishak district north of Ursus Head was opened. On August 21 Ursus Cove and Rocky Cove were opened.

Escapement surveys are shown in the appendix.

Outer district

The total salmon catch for the Outer district in 1972 was 70,942, fourth from the lowest on record for this district since 1954 (Appendix Table 18).

The pink catch of 1,005 was the lowest on record, most of the return was kept for escapement. The next lowest catch was 21,816 pink salmon in 1965. The chum salmon catch was fair with 43,490 fish caught, 19-year average = 81,701. The red salmon catch of 26,423 was the bright spot, the highest catch on record for the 19-year period. The next highest catch of reds was 12,595 in 1961.

The Outer district is regulated by field openings and has been since the early sixties. The first opening was on July 6 when the area from Harrington Point east to the boundary of the Eastern district was opened. The opening was justified by a good showing of red salmon in the Desire Lake, Delight Lake and Aialik systems. This portion of the Outer district was closed on August 2.

The second opening occurred at the western end of the Outer district when Dogfish Bay was opened for seines on July 28. This Bay was closed on July 31 and re-opened for a 48-hour period on August 21, 1972, and for another 48 hours on August 24. A major portion of the Outer district was not open to commercial seine fishing. Even so, the total pink salmon escapement in the major study streams in 1972 was 19,900, which was poor. Port Dick received 10,000 pinks, the lowest recorded escapement for the period 1962-1972. Windy Right and Windy Left received 100 and 400 respectively. Rocky River received 8,100 and Island Creek 1,700, all considerably short of adequate pink salmon escapements.

Eastern district

The total salmon catch from the Eastern district in 1972 was 19,930 fish. The average catch for the years 1954-1972 is about 27,000 fish (Appendix Table 19).

The 1972 catch of 18,190 pink salmon comprised 91 percent of the catch.

The Eastern district was opened by field announcement on May 15 to seine and drift gill nets. On June 17 the season was closed for drift gill nets and on August 7 it was closed to seining.

HERRING

Herring Roe Fishery

Compared with the years since 1969 when herring fishing for roe began in Cook Inlet, 1972 was a dismal failure as far as the catch is concerned. A total of 95 tons were taken in Resurrection Bay and one ton was landed from Kachemak Bay (Appendix Tables 20, 21, 22, 23).

There are several factors which could have contributed to the poor season. One definite factor in Resurrection Bay was the Seward small boat harbor being closed to commercial herring fishing for the first time. Previously most of the herring taken in Resurrection Bay came from the small boat harbor and with the closing of the harbor herring became extremely difficult to locate and catch. The Viking Queen, which was equipped with Simrad gear, made several runs around Resurrection Bay looking for herring with no success. The most effective way herring was taken in the Bay in 1972 was during the ebb tide when some of the herring in the boat harbor would move out and be captured by boats waiting at the entrance.

Another possible reason for the lack of herring might be the very cold spring experienced in 1972. Water temperatures in the small boat harbor did

not reach 40° F until May 8 and the first catches didn't occur until May 12. Normally the water temperature hits 40° F during the third week in April. In 1970, which had a comparatively mild spring, the first catches occurred on April 20. This was the second consecutive year that had a very cold spring and the results were the same, relatively small numbers of fish and late spawning.

Three processors handled herring in Seward during 1972; Alaska Scallop, Whitney Fidalgo and Seward Fisheries. Alaska Scallop processed Prince William Sound herring only. Whitney Fidalgo did not process in Seward but shipped their herring to Anchorage for processing or shipment elsewhere. Seward Fisheries processed both Prince William Sound and Resurrection Bay herring in Seward.

All herring processed in Seward were processed for roe only with the remainder of the fish being discarded. Whitney Fidaglo reported that a good portion of their herring were shipped to Seattle for roe processing with the rest of the fish being converted into pet food.

Biological samples of the Resurrection Bay fishery collected in 1972 show good representation in the 1967, 1968 and 1969 year classes and a continued increase in weight and length since the first sample in 1970. The main reason for the increases in weight and length is the percentage representation of older fish. In 1970, 29.6 percent of the sample was older than age III and only 8.2 percent age V or older. In 1971, 56.4 percent were older than age III and 15.7 percent were age V or older. In 1972, 59.2 percent were older than age III and 23.5 percent were age V or older. All this points to an older and perhaps healthy population, however, the number of fish returning to spawn in Resurrection Bay during the last two years has been below 1970 levels. The reason for the poor 1972 run could be

related to low water temperatures during the spawning period, however, there is also the possibility of poor recruitment into the fishery (Appendix Table 24).

Spawn on Kelp Fishery

There was no spawn on kelp fishery in Cook Inlet during 1972, however, an interesting attempt was made which is worth noting.

Seward Fisheries imported from Japan an unidentified species of kelp. Presumably, the kelp was of the variety that the Japanese savor most. It came in the form of dried strips three inches wide and about two feet long. There were 1,200 of these strips in all. The idea was to tie the strips on a line and suspend the line between two floats in an area where the herring were spawning in hopes that the herring would spawn on the kelp. A permit was obtained from the Commissioner to place 100 of these strips in the boat harbor on an experimental basis only with the remaining strips to be placed in Resurrection Bay outside the small boat harbor. Seward Fisheries was to choose the outside locations. The strips were prepared, first by soaking in a brine solution and then in straight sea water. The prepared kelp was then tied to a halibut line and hung on the dock in hopes that spawning herring would make use of it.

Unfortunately, no spawning herring were found. The kelp fermented and the project was abandoned.

HALIBUT

The halibut fishery is regulated by the International Pacific Halibut Commission. Each halibut management area overlaps and includes several state management areas and catch records from discrete state management areas (Cook Inlet, Kodiak, etc.) are not available.

Halibut are caught in every district of Cook Inlet covered by this report (Southern, Kamishak, Barren Islands, Outer and Eastern). Records of halibut landings delivered to Cook Inlet processors are maintained. The 1972 season opened on May 15 and closed on September 14 in Area 3A with total deliveries of 6.37 million pounds of halibut.

MISCELLANEOUS FINFISH

Various finfish species comprise a small but potentially important part of Cook Inlet commercial fishing activity. These species will become of more importance as markets develop and demand increases. The primary producing areas at the present time are the Eastern and Outer districts and adjacent Gulf of Alaska waters. In 1972, 49,602 pounds of Pacific or "grey" cod (Gadus), 1,152 pounds of sable fish or "black" cod (*Anaplopoma*), 112 pounds of ling cod (*Ophiodon*), 6,989 pounds of rockfish or "red snappers" (*Sebastodes*), 1,210 pounds of flounders (primarily *Platichtys*) and 797 pounds of Dolly Varden (*Savelinus*) were landed for a total of 59,862 pounds.

FINFISH SUBSISTENCE

The most popular finfishes for subsistence utilization are the salmon. An area-wide permit is required with a 50 salmon limit for each permittee. Only Alaskan residents are allowed to subsistence fish for salmon. Each permittee is required to file a catch report after the season. In general, salmon may be taken for subsistence in conformance with open commercial fishing periods with equivalent gear to that used in the commercial fishery. Calendar date openings are also used for regulation of the subsistence salmon fishery. Records are kept area wide and total catches are given in the overall Cook Inlet report. Of the five districts covered by this report only the Southern and Eastern districts have bonifide subsistence fisheries for salmon. Subsistence catches by species for 1972 are given in Table 12.

Herring, smelt, halibut and incidental catches of miscellaneous finfish are also utilized for subsistence.

Appendix

Table 1. Shrimp landings in pounds, Cook Inlet, 1960-1972.

Year	Trawl	Pot	Total
1960			711,355
1961			1,045,170
1962			532,291
1963	1,897,580		1,897,580
1964	599,665	1,746	601,411
1965	82,280		82,280
1966	285,976	23,383	309,359
1967	741,438		741,438
1968	25,681	1,067	26,748
1969	1,847,071	131	1,847,202
1970	5,808,160	9,473	5,817,633
1971	5,395,116	53,462	5,448,578
1972	5,377,181	171,386	5,548,567

Appendix

Table 2. Shrimp Trawl Drag Hours and Landings, Kachemak Bay 1970-1972

	Drag Hours	Landings
1969 1/	538.4	223
1970	2145.3	533
1971	2121.7	560
1972	1500.0	428

1/ Fishery started in July.

Appendix Table 3. Trawl shrimp log book data, 1969 through 1972.

Year	Month	Drag Hours	Pounds Per Drag Hour CPUE	Total lbs. 1/ Landed	Avg. lbs. Landed	Landings	Vessels Fishing
1969	July	79.0	2,002	158,178	4,943	32	2
	Aug.	104.4	2,394	249,924	6,096	41	2
	Sept.	46.0	7,506	345,296	7,848	44	1
	Oct.	84.0	5,153	432,848	8,657	50	2
	Nov.	90.0	2,442	219,791	6,868	32	2
	Dec.	135.0	2,328	314,227	13,093	24	2
		Mean	3,671				
1970	Jan.	72.0	3,820	275,036	13,097	21	2
	Feb.	157.0	2,859	448,856	10,948	41	2
	Mar.	174.0	2,844	494,894	12,373	40	2
	Apr.	238.2	2,312	550,731	12,808	43	2
	May	117.0	2,894	338,599	9,674	35	3
	June	305.0	2,183	665,715	10,087	66	3
	July	273.0	3,121	852,126	12,718	67	3
	Aug.	243.0	3,159	767,600	12,793	60	3
	Sept.	155.0	3,891	603,127	12,309	49	3
	Oct.	149.3	2,173	324,360	7,911	41	3
	Nov.	159.3	2,425	386,347	8,781	44	3
	Dec.	102.7	753	77,287	2,862	27	3
		Mean	2,703				

1/ Total pounds landed by month includes only landings from vessels participating in log book program.

Appendix Table 3. Trawl shrimp log book data, 1969 through 1972 cont.

Year	Month	Drag Hours	Pounds Per Drag Hour CPUE	Total lbs. 1/ Landed	Avg. lbs. Landed	Landings	Vessels Fishing
1971	Jan.	42.4	2,425	102,836	6,091	17	3
	Feb.	208.2	2,143	446,136	9,914	45	4
	Mar.	108.6	9,016	979,136	14,190	69	4
	Apr.	166.7	2,797	466,265	9,516	49	4
	May	88.4	1,817	160,617	6,425	25	3
	June	335.5	1,294	434,045	6,291	69	4
	July	396.0	1,223	484,362	7,812	62	4
	Aug.	233.0	2,535	590,623	10,937	54	3
	Sept.	191.0	3,271	624,752	11,156	56	3
	Oct.	156.8	2,414	488,492	10,394	47	3
	Nov.	140.8	3,252	457,822	10,647	43	3
	Dec.	54.3	2,888	156,780	6,533	24	4
		Mean	2,923				
1972	Jan.	75.9	5,345	405,660	13,085	31	3
	Feb.	165.6	3,859	639,097	15,217	42	3
	Mar.	10.0	9,889	98,890	16,482	6	3
	Apr.	23.0	3,353	77,137	12,856	6	3
	May	23.9	2,662	63,574	7,064	9	3
	June	148.4	3,458	513,072	11,932	43	3
	July	253.6	2,055	521,025	9,473	55	3
	Aug.	230.7	2,971	686,180	14,004	49	2
	Sept.	104.3	4,525	471,921	13,880	34	2
	Oct.	91.5	4,665	426,808	14,718	29	2
	Nov.	206.7	2,994	618,781	11,251	55	3
	Dec.	189.4	2,535	480,136	8,574	56	3
		Mean	4,033				

1/ Total pounds landed by month includes only landings from vessels participating in log book program.

Appendix

Table 4. Cook Inlet pot shrimp landings, in pounds, 1970 - 1972.

Year	Pounds	Landings	Vessels
1970	9,473	33	8
1971	55,890	187	11
1972	175,403	361	17

Appendix Table 5. Cook Inlet king crab catch in pounds by district, 1951-1972

Year	Kachemak	Kamishak	Outer 1/	Eastern	Total
1951	6,619				6,619
1952	2,900				2,900
1953	1,359,854				1,359,854
1954	1,275,852				1,275,852
1955	1,915,821				1,915,821
1956	2,129,035				2,129,035
1957	620,858				620,858
1958	752,990				752,990
1959	2,191,437				2,191,437
1960	4,219,776		67,656		4,287,432
1961	2,988,880	1,205,679	61,837		4,256,396
1962	1,968,980	4,305,444	577,197		6,851,621
1963	2,667,279	5,538,349	175,535		8,381,163
1964	1,760,660	4,967,824	43,908		6,772,392
1965	1,813,135	963,412			2,776,547
1966	1,887,948	1,974,559	37,656		3,900,163
1967	1,286,789	1,821,269	16,033	418	3,124,509
1968	1,004,683	2,965,658	39,112		4,009,453
1969	1,299,527	1,422,052	130,928		2,852,507
1970	1,495,759	2,237,259	149,784		3,882,802
1971	1,237,802	2,538,947	380,890		4,157,639
1972	1,900,005	2,445,825	261,706	361	4,607,878

1/ Includes new Barren Islands subdistrict for 1972.

Appendix Table 6
Cook Inlet king crab landings
1960 - 1972

Southern

Year	Landings	Crab[1/]	Crab Per Landing
1960	2,434	455,000	187
1961	2,619	364,045	139
1962	1,843	296,123	160
1963	1,435	347,096	241
1964	1,019	229,165	225
1965	742	217,544	293
1966	681	226,557	332
1967	705	164,335	233
1968	659	128,720	195
1969	681	196,350	288
1970	700	206,471	295
1971	857	153,856	179
1972	1,011	238,092	236

Kamishak

1960		-- NONE --	
1961	181	140,566	776
1962	372	473,601	1,273
1963	445	635,225	1,427
1964	401	589,796	1,470
1965	79	108,019	1,367
1966	121	225,537	1,863
1967	99	213,285	2,154
1968	177	331,439	1,873
1969	66	178,825	2,709
1970	106	276,807	2,611
1971	134	352,968	2,634
1972	119	325,265	2,733

[1/] Calculated from fish ticket weights.

Appendix Table 7
Cook Inlet king crab catch and value of product,
1951 - 1972

Year	Pounds crab	Boats	Value to Fishermen[1/]	1st Wholesale Value[2/]
1951	6,619		$ 7,000	Not available
1952	2,900		3,000	"
1953	1,359,854	12	136,000	"
1954	1,275,852	7	127,000	"
1955	1,915,821	12	191,000	"
1956	2,129,035	12	213,000	"
1957	620,858	5	62,000	"
1958	752,990	5	75,000	"
1959	2,191,437	25	219,000	"
1960	4,287,432	60	422,000	"
1961	4,256,396	71	419,000	$ 890,000
1962	6,851,621	70	685,000	1,550,000
1963	8,381,163	50	838,000	2,010,000
1964	6,772,392	46	677,000	1,770,000
1965	2,776,547	23	278,000	720,000
1966	3,900,163	33	390,000	1,340,000
1967	3,124,509	34	322,000	1,250,000
1968	4,008,933	44	1,000,000	2,930,000
1969	2,857,170	29	700,000	2,300,000
1970	3,882,802	41	1,000,000	3,250,000
1971	4,157,639	42	1,247,292	Not available
1972	4,607,878	43	1,600,000	3,900,000

1/ Values are estimates based on price per pound paid to fishermen, rounded to nearest thousand.

2/ Based on annual reports from fish processors, rounded to nearest 10 thousand.

Appendix Table 8
Comparative measurements of king crab carapace lengths,
winter and summer crab, Cook Inlet

Winter Fishery

Carapace Size Range	Kamishak 1963	Kamishak 1970	Kamishak 1971	Kamishak 1973	Southern 1963	Southern 1970	Southern 1971	Southern 1972	Southern 1973
140 to 159 mm	14%	20%	18%	34%	21%	33%	20%	11%	31%
160 to 179 mm	62%	54%	60%	50%	52%	56%	68%	69%	52%
180 to 200 mm+	23%	27%	22%	16%	27%	11%	12%	20%	17%

Summer Fishery

Carapace Size Range	Kamishak 1963	Kamishak 1970	Kamishak 1971	Kamishak 1972	Southern 1963	Southern 1970	Southern 1971	Southern 1972
140 to 159 mm	46%	59%	34%	43%	69%	65%	40%	56%
160 to 179 mm	43%	33%	56%	45%	28%	34%	52%	38%
180 to 200 mm+	11%	8%	10%	12%	3%	1%	8%	6%

Appendix Table 9
Tanner crab landings, by month, in pounds, Cook Inlet, 1968 - 1972.

Month	1968	1969	1970	1971	1972
January	----	39,251	61,394	29,561	169,088
February	6,284	144,556	155,370	113,116	163,554
March	8,613	295,993	262,990	228,196	1,053,548
April	45,200	474,234	413,991	365,900	732,614
May	80,420	161,978	363,035	406,973	1,019,085
June	5,420	288,752	21,824	431,472	911,787
July	----	41,950	----	271,949	172,460
August	340	----	----	----	1,688
September	490	----	----	728	3,226
October	1,570	10,308	1,304	930	25,852
November	1,514	----	835	78,704	258,585
December	15,296	11,783	15,797	189,320	296,346
YEAR TOTALS	165,147	1,468,805	1,333,889	2,116,849	4,807,843
No. Landings	152	538	314	613	1,098
No. Vessels	25	24	25	40	43
Average Wt.	3.1	3.1	2.9	2.4	2.5

Appendix Table 10 Cook Inlet Dungeness crab catch - 1966-1972.

Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
1966	-0-	-0-	-0-	-0-	3,607	6,150	-0-	48,345	69,875	-0-	-0-	-0-	127,977
1967	-0-	-0-	-0-	-0-	1,776	1,471	-0-	-0-	90	3,831	-0-	-0-	7,168
1968	-0-	-0-	-0-	-0-	137	-0-	84,480	181,459	118,365	66,841	30,482	-0-	481,764
1969	-0-	-0-	335	786	1,608	3,987	13,898	14,876	13,011	-0-	-0-	-0-	48,501
1970	-0-	-0-	115	-0-	-0-	7,889	15,009	36,371	95,555	52,265	1,373	-0-	208,577
1971	-0-	-0-	-0-	-0-	1,745	11,271	21,818	17,049	20,287	15,951	7,221	1,504	96,846
1972	60	1,620	36	-0-	-0-	1,715	6,081	3,568	5,085	4,517	7,031	9,662	38,930

Appendix

Table 11 Cook Inlet dungeness crab catch, 1961-1972.

Year	Crab	Pounds
1961		191,588
1962	204,573	460,725
1963		1,677,204
1964	177,708	421,452
1965	32,378	82,280
1966	45,625	127,977
1967	2,141	7,168
1968		481,764
1969		48,501
1970	84,686	208,577
1971	35,387	96,846
1972		38,930

Appendix Table 12
Salmon catches by district; lower Cook Inlet-Resurrection Bay, 1954 - 1972

Year	Species	District Southern	Kamishak	Outer	Eastern	Totals (10^{-3})
1954	Kings	1,532		13		1.6
	Reds	22,913		4,927	11,786	39.6
	Cohos	12,235	no fishery	369	2,556	15.2
	Pinks	180,977		82,205	7,562	270.7
	Chums	150,769		112,877	1,945	265.6
	TOTAL	368,426	0	200,391	23,849	592.7
1955	Kings	562	0	7	4	0.6
	Reds	30,848	2	701	5,049	36.6
	Cohos	3,230	8	277	6,160	9.7
	Pinks	565,216	5,121	557,997	55,994	1,184.3
	Chums	24,398	278	40,887	3,147	68.7
	TOTAL	624,254	5,409	599,869	70,354	1,299.9
1956	Kings	310	0	23	0	0.3
	Reds	33,054	67	2,889	296	36.3
	Cohos	4,693,	701	190	3,761	9.4
	Pinks	150,486	193	42,368	14,873	207.9
	Chums	53,515	14,936	19,248	519	88.2
	TOTAL	242,058	15,897	64,718	19,449	342.1
1957	Kings	286	0	13	120	0.4
	Reds	19,431	4,335	2,982	169	26.9
	Cohos	1,507	29	110	119	1.8
	Pinks	130,511	5,905	149,197	0	285.6
	Chums	57,403	10,856	138,171	20	206.5
	TOTAL	209,138	21,125	290,473	428	521.2

Appendix Table 12 continued:

Year	Species	District Southern	Kamishak	Outer	Eastern	Totals (10^{-3})
1958	Kings	119		1	0	0.1
	Reds	17,731		1,719	0	19.4
	Cohos	1,713	no fishery	83	0	1.8
	Pinks	209,798		739,768	200	949.8
	Chums	24,096		100,386	0	124.5
	TOTAL	253,457	0	841,957	200	1,095.6
1959	Kings	74	0	3	58	0.1
	Reds	10,026	1,549	10,365	5,477	27.4
	Cohos	709	43	109	8,954	9.8
	Pinks	50,076	5,325	68,875	125	124.4
	Chums	15,278	25,759	65,675	14,612	121.3
	TOTAL	76,163	32,676	145,027	29,226	283.0
1960	Kings	12	11	4	0	0.0
	Reds	12,292	768	1,336	105	14.5
	Cohos	1,237	28	533	853	2.7
	Pinks	250,818	11,563	328,501	8,720	599.6
	Chums	4,100	44,328	67,187	467	116.1
	TOTAL	268,459	56,698	397,561	10,145	732.9
1961	Kings	39	0	2		0.0
	Reds	10,180	1	12,595		22.8
	Cohos	1,161	14	444	no fishery	1.6
	Pinks	191,911	6,019	105,447		303.4
	Chums	2,924	12,465	40,204		55.6
	TOTAL	206,215	18,499	158,692	0	383.4

Appendix Table 12 continued:

Year	Species	District: Southern	Kamishak	Outer	Eastern	Totals (10^{-3})
1962	Kings	58	0	2	0	0.1
	Reds	16,569	20	8,697	0	25.3
	Cohos	2,095	11	1,893	3,728	7.7
	Pinks	564,050	219	1,684,023	49	2,248.3
	Chums	9,089	6,058	126,750	10	141.9
	TOTAL	591,861	6,308	1,821,365	3,787	2,423.3
1963	Kings	88	1	6	1	0.1
	Reds	13,142	4	1,974	1	15.1
	Cohos	4,020	97	369	2,250	6.8
	Pinks	99,829	82,314	21,462	11	203.6
	Chums	7,695	13,892	116,923	0	138.5
	TOTAL	124,774	96,308	140,734	2,263	364.1
1964	Kings	84	5	2	0	0.1
	Reds	17,283	1,979	1,370	22	20.7
	Cohos	8,905	115	431	22	9.5
	Pinks	266,489	20,719	767,396	813	1,055.4
	Chums	11,529	42,280	269,512	12	323.3
	TOTAL	304,290	65,098	1,038,711	869	1,409.0
1965	Kings	10	0	0		0.0
	Reds	11,229	808	1,965		14.0
	Cohos	733	4	7	no fishery	0.8
	Pinks	90,330	3,452	21,816		115.6
	Chums	2,459	2,706	22,443		27.6
	TOTAL	104,761	6,970	46,231	0	158.0

Appendix Table 12 continued:

Year	Species	District: Southern	Kamishak	Outer	Eastern	Totals (10^{-3})
1966	Kings	60	0	1		0.1
	Reds	12,192	21	2,710		14.9
	Cohos	4,535	247	357	no fishery	5.1
	Pinks	177,544	2,945	398,751		579.2
	Chums	28,754	12,688	87,620		129.1
	TOTAL	223,085	15,901	489,439	0	728.4
1967	Kings	173	1	2	0	0.2
	Reds	26,350	182	2,165	348	29.1
	Cohos	2,393	74	56	203	2.7
	Pinks	95,100	17,340	259,951	3,097	375.5
	Chums	23,416	24,221	37,533	275	85.4
	TOTAL	147,432	41,818	299,707	3,923	492.9
1968	Kings	61	0	1	2	0.1
	Reds	18,716	492	1,550	74,484	95.3
	Cohos	4,671	101	106	5	4.9
	Pinks	154,033	198,253	191,691	41,464	585.4
	Chums	4,518	49,461	20,283	872	75.1
	TOTAL	181,999	248,307	213,631	116,827	760.8
1969	Kings	59	2	0	3	0.1
	Reds	12,578	10,723	92	99,403	122.8
	Cohos	485	121	11	6	0.6
	Pinks	70,753	80,157	51,533	1	202.4
	Chums	2,600	53,193	5,400	10	61.2
	TOTAL	86,475	144,196	57,036	99,423	387.1

Appendix Table 12 continued:

Year	Species	District Southern	Kamishak	Outer	Eastern	Totals (10^{-3})
1970	Kings	91	0	5	11	0.1
	Reds	12,245	2,888	4,177	1,767	21.1
	Cohos	3,705	220	243	692	4.8
	Pinks	208,174	23,583	302,879	40,227	574.9
	Chums	8,174	95,857	118,746	633	223.4
	TOTAL	232,389	122,548	426,050	43,330	824.3
1971	Kings	41	0	11	21	0.1
	Reds	18,403	3	1,630	2,198	22.2
	Cohos	3,151	121	174	1,115	4.6
	Pinks	50,066	32,094	310,710	1	392.9
	Chums	2,857	26,327	118,995	423	148.6
	TOTAL	74,518	58,545	431,520	3,758	568.4
1972	Kings	69	0	7	12	0.1
	Reds	31,345	47	26,423	82	57.9
	Cohos	1,283	31	17	903	2.2
	Pinks	9,126	342	1,005	18,190	28.7
	Chums	4,936	26,374	43,490	743	75.5
	TOTAL	46,759	26,794	70,942	19,930	164.4

Appendix

Table 13 Pink salmon landings by gear, Southern, Kamishak, Outer and Eastern Cook Inlet districts, 1960-1972.

Year	Gear Type	Landings	Catch in Numbers of Fish	Catch per Landing
1960	Seine	1,412	599,148	424.3
	Set Gill Net	233	3,894	16.7
1961	Seine	1,038	295,176	284.4
	Set Gill Net	441	8,202	18.6
1962	Seine	2,305	2,244,633	973.8
	Set Gill Net	406	12,240	30.1
	Drift Gill Net	10	219	21.9
1963	Seine	1,013	202,126	199.5
	Set Gill Net	268	1,490	5.6
1964	Seine	1,843	1,028,965	558.3
	Set Gill Net	434	26,088	60.1
1965	Seine	315	108,331	343.9
	Set Gill Net	349	7,267	20.8
1966	Seine	581	406,743	700.1
	Set Gill Net	370	25,324	68.4
	Drift Gill Net	9	391	43.4
1967	Seine	664	361,513	544.4
	Set Gill Net	409	13,962	34.1
1968	Seine	674	534,873	793.6
	Set Gill Net	450	12,614	28.0
	Drift Gill Net	181	5	0.3
1969	Seine	536	191,726	357.6
	Set Gill Net	393	10,717	27.3
	Drift Gill Net	766	1	Trace
1970	Seine	974	555,006	569.8
	Set Gill Net	383	18,512	48.3
	Drift Gill Net	18	26	1.4
1971	Seine	373	384,306	1,030.3
	Set Gill Net	388	8,564	22.1
	Drift Gill Net	112	0	0.0
1972	Seine	268	22,359	83.4
	Set Gill Net	420	6,303	15.0
	Drift Gill Net	9	1	0.1
Totals:				
	Seine	12,016 (66.5%)	6,934,905 (97.8%)	577.1
	Set Gill Net	4,953 (27.4%)	155,177 (2.2%)	31.3
	Drift Gill Net	1,105 (6.1%)	643 (trace)	0.6
		18,074	7,090,725	

Appendix Table 14. Cook Inlet Southern and Outer districts

Estimated pink salmon escapements in thousands of fish.2/

Stream	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	11 year average
Humpy	56.0	34.7 1/	18.5 1/	28.0 1/	30.0	25.0	24.7	5.4	55.2	45.0	13.8	30.6
Tutka	30.0	10.0	20.0	20.0	12.0	7.0	7.9	6.5	6.5	16.7	1.5	12.5
Seldovia	50.0	15.0	60.0	30.0	86.0	55.0	53.2	60.0	23.0	31.1	5.8	42.6
Pt. Graham	50.0	2.0	16.0	1.5	24.0	2.0	24.4	4.0	16.6	13.2	2.4	14.2
Windy L.	12.5	4.5	7.7	10.0	7.0	6.0	6.9	23.0	13.0	35.4	.4	11.5
Windy R.	12.5	4.9	6.2	2.0	7.0	6.0	2.8	3.2	2.1	13.0	.1	5.4
Rocky	200.0	12.0	80.0	.3	44.0	1.0	43.1	1.0	32.0	1.6	8.1	38.5
Port Dick	40.0	16.0	31.5	50.0	35.0	20.0	29.0	12.0	34.5	97.8	10.0	34.2
Island	15.0	3.6	30.0	.5	7.0	.5	4.3	.1	5.5	.1	1.7	6.2
Total 3/	466	103	270	142	252	123	196	115	190	254	44	195

1/ Weir count.

2/ Escapement estimates were derived from peak counts or calculated from counts made throughout the spawning season. When series counts were available the total fish/days was divided by average stream life (2.5 weeks) to estimate total escapement.

3/ Rounded to nearest thousand.

Appendix Table 15
Aerial stream surveys - Little Kamishak - Kamishak Bay District
1966 - 1972

DATE	NO. FISH BAYS	SPECIES	NO. FISH STREAMS	SPECIES	WEATHER	REMARKS
7/8/66	0	---	0	---	Clear	No fish seen.
7/28/66	---	---	28,000	Pinks	---	Strike & Little
	300	Pinks	300	Chums		Kamishak
8/25/66	---	---	25,000	Pinks	Clear	---
7/4/67	0	---	0	---	Cloudy	No fish seen.
7/11/67	---	---	3,500	Pinks	Ceiling & Vis. Ex.	In Little Kamishak
6/24/70	0	---	0	---	---	---
7/1/70	0	---	0	---	---	---
7/14/70	0	---	0	---	---	---
8/3/70	---	---	2,000	Pinks	---	Lower stream.
7/7/71	0	---	0	---	Clear/calm	8 brown bear
7/5/72	0	---	0	---	Clear/calm	---

Appendix Table 15 continued:

Aerial stream surveys - Bruin Bay - Kamishak Bay District
1966 - 1972

DATE	NO. FISH BAYS	SPECIES	NO. FISH STREAMS	SPECIES	WEATHER	REMARKS
7/24/66	300	Pinks	---	---	---	Near head end.
7/28/66	500	Pinks	14,000	Pinks	Windy	Head end.
8/ /66	---	---	15,000	Pinks	---	Head end.
8/25/66	---	---	5,300	Pinks	Clear	Head end.
7/11/67	---	---	500	Pinks	Calm	Scattered in stream.
7/31/68	---	---	---	---	---	Reports of ex. escape. on pinks.
7/22/69	300	Pinks	---	---	---	At Mouth.
8/11/69	---	---	5,000	Pinks	---	---
7/14/70	---	---	300	Pinks	---	Counts total for all streams
8/3/70	---	---	7,500	Pinks	---	--- within bay.
8/12/70	---	---	40,000	Pinks	---	--- "
7/7/71	0	---	0	---	Clear/calm	Bruin Head
7/15/71	---	---	20	Reds	Clear/wind	3 bears, 2 moose, Bruin Head.
7/21/71	---	---	---	---	Bad	---
7/28/71	---	---	1,500	Pinks	---	4 bears, Bruin Head
8/9/71	---	---	2,400	Pinks	---	Bruin Head
8/16/71	---	---	4,000	Pinks	Overcast/calm	Bruin Head
8/16/71	---	---	2,000	Pinks/Chums	---	Bruin Right
9/3/71	---	---	15,000	Pinks	Overcast/calm	Bruin Head
7/19/72	---	---	150	Pinks	Overcast/calm	---
7/22/72	---	---	200	Pinks	---	---
7/26/72	---	---	2,350	Pinks	Clear/wind	---
8/3/72	---	---	2,500	Pinks/chums	Overcast/calm	---
8/17/72	---	---	200	Chums	Clear/wind	---
			10	Reds		
			700	Chums		Bruin Right Creek

Appendix Table 15 continued:

Aerial stream surveys - Strike Creek - Kamishak Bay District
1966 - 1972

DATE	NO. FISH BAYS	SPECIES	NO. FISH STREAMS	SPECIES	WEATHER	REMARKS
7/8/66	0	---	0	---	Clear	---
7/28/66	0	---	28,000	Pinks	---	Strike and Little Kamishak
			300	Chums		
8/25/66	0	---	2,200	Pinks	Clear	---
7/22/69	0	---	0	---	Good Visibility	Water clear. No fish seen.
8/11/69	0	---	500	Pinks	Visibility Good	Spread out.
6/24/70	0	---	0	---	---	---
7/1/70	0	---	0	---	---	---
7/14/70	0	---	0	---	---	---
8/3/70	0	---	0	---	---	Pinks below jet in little Kam.
7/7/71	0	---	0	---	---	---
7/5/72	0	---	0	---	Clear/calm	---

Appendix Table 15 continued:

Aerial stream surveys - McNeil - Kamishak Bay District
1966 - 1972

DATE	NO. FISH BAYS	SPECIES	NO. FISH STREAMS	SPECIES	WEATHER	REMARKS
7/8/66	50	Chums	1,000	Chums	Clear	5 schools below falls,more abv.
7/28/66	---	---	50	Chums	Windy	---
8/25/66	---	---	100	Chums	Clear	---
7/4/67	0	---	0	---	Cloudy	No fish seen
7/11/67	---	---	2,000	Chums	---	Below falls.
7/21/68	0 1/	---	0 1/	---	---	Game man reported excellent show of chums.
7/22/69	---	---	300	Chums	---	Below falls.
8/11/69	---	---	500 - 800	Chums	Good	Just below falls.
7/1/70	0	---	0	---	---	Beaver Nelson reported few chums moving in today.
7/14/70	---	---	1,000	Chums	---	---
8/3/70	---	---	350	Chums	---	17 bears at falls.
7/7/71	8	Chums	---	---	Clear/wind	---
7/15/71	1,000	Chums	300	Chums	Clear/wind	---
7/28/71	3,000	Chums	1,500	Chums	Clear/wind	---
6/26/72	30	Kings	10	Kings	Clear/calm	---
7/12/72	---	---	320	Chums	---	---
7/19/72	---	---	1,000	Chums	Overcast/calm	---
7/26/72	200	Chums	350	Chums	Clear/wind	---
8/3/72	---	---	110	Chums	---	---

1/ Ground survey

Appendix Table 15 continued:

Aerial stream surveys - Cottonwood - Kamishak Bay District
1965 - 1972

DATE	NO. FISH BAYS	SPECIES	NO. FISH STREAMS	SPECIES	WEATHER	REMARKS
7/30/65	---	---	150	Chums	---	---
8/7/65	---	---	445	Chums	---	---
8/ /66	Several Thousand	Chums	---	---	---	---
8/25/66	---	---	11,500	Pinks	Clear	Hi tide.
7/25/68	---	---	---	---	---	Few chums moving in.
8/2/68	5,000	Chums	---	---	---	---
8/11/69	---	---	1,000	Pinks	---	---
8/3/70	---	---	550	Chums	---	Head end stream.
8/9/71	---	---	3	Chums	Overcast/calm	---
8/16/71	---	---	2,000	Chums	Overcast/calm	---
9/3/71	---	---	8,000	Chums	Overcast/calm	Many dead salmon
8/3/72	---	---	300	Chums	Overcast/calm	---
8/7/72	---	---	1,200	Chums	---	---
8/17/72	---	---	3,100	Chums	---	---

Appendix Table 15 continued:

Aerial stream surveys - Iniskin - Kamishak Bay District
1965 - 1972

DATE	NO. FISH BAYS	SPECIES	NO. FISH STREAMS	SPECIES	WEATHER	REMARKS
7/30/65	---	---	33	Chums	Clear	---
8/7/65	---	---	670	Chums	---	---
7/28/66	---	---	20	Pinks	Windy	3/4 miles up Head End Stream
8/25/66	---	---	25,000	Pinks	Clear	---
7/25/68	---	---	---	---	---	Few chums moving in.
8/2/68	---	---	5,000	Chums	---	Intertidal Area
7/23/69	0	---	0	---	---	Visibility Good
8/11/69	---	---	17,500	Pinks	---	Iniskin Left
8/3/70	---	---	50	Pinks	---	Head Stream
			350	Pinks		Iniskin Left
7/15/71	0	---	0	---	Clear/calm	4 brown bear - 2 cubs
8/9/71	---	---	50	Pinks	Overcast/calm	Upstream
			1,000	Pinks		Iniskin Left
8/16/71	---	---	500	Chums	Overcast/calm	Portage Creek
			5,000	Chums		Iniskin Head
			1,200	Pinks		Iniskin Right
9/3/71	---	---	0	---	Overcast/calm	Portage Creek
			10,000	Chums		Iniskin Head
			500	Pinks		Iniskin Right
8/3/72	---	---	100	Chums	Overcast/calm	50 sharks
8/7/72	---	---	1,500	Chums	---	Iniskin Left
8/17/72	50	Pinks	900	Pinks	Clear/wind	Iniskin Left
			3,000	Chums		
8/24/72	---	---	7,800	Chums	Overcast/calm	---

Appendix Table 15 continued:

Aerial stream surveys - North Head - Kamishak Bay District
1965 - 1972

DATE	NO. FISH BAYS	SPECIES	NO. FISH STREAMS	SPECIES	WEATHER	REMARKS
7/30/65	---	---	400	Pinks	Clear	---
			125	Chums		
8/7/65	1,500	Pinks	400	Chums	---	Lagoon
8/ /66	---	---	4,500	Pinks	---	---
8/3/70	---	---	7,500	Pinks	---	Intertidal stream, 2 pools 300 above.
7/15/71	---	---	0	---	Clear/calm	---
8/9/71	---	---	100	Pinks	Clear/calm	---
8/16/71	---	---	5,000	Pinks	---	---
8/3/72	---	---	800	Pinks	Overcast/calm	---
8/17/72	---	---	900	Chums	Clear/windy	700 above falls, 200 below.

Appendix Table 15 continued:

Aerial stream surveys - Brown's Peak - Kamishak Bay District
1965 - 1972

DATE	NO. FISH BAYS	SPECIES	NO. FISH STREAMS	SPECIES	WEATHER	REMARKS
8/7/65	5 - 10,000	Pinks	---	---	---	---
7/24/66	0	---	0	---	---	---
8/ /66	---	---	11,000	Pinks	---	---
7/22/69	---	---	400	Pinks	---	---
8/11/69	800	Dogs	1,500	Pinks	---	---
7/15/71	500	Pinks	---	---	Clear/calm	---
8/16/71	---	---	7,000	Pinks	Overcast/calm	---
9/3/71	---	---	3,000	Pinks	Overcast/calm	---
7/12/72	0	---	0	---	Clear/calm	---
7/19/72	50	Pinks	200	Pinks	---	---
7/22/72	300	Pinks	300	Pinks	---	---
7/26/72	500	Pinks	400	Pinks	Clear/calm	---
8/3/72	400	Reds	900	Pinks/Chums	Overcast/calm	---
8/7/72	500	Pinks/Chums	600	Chums	---	---
			800	Pinks		
8/24/72	---	---	130	Pinks	Overcast/wind	---
			700	Chums		

Appendix Table 15 continued:

Aerial stream surveys - Big Kamishak - Kamishak Bay District
1966 - 197

DATE	NO. FISH BAYS	SPECIES	NO. FISH STREAMS	SPECIES	WEATHER	REMARKS
7/8/66	0	---	0	---	Clear	Too silty.
7/24/66	---	---	250	Chums	---	Right hand fork.
7/28/66	---	---	8,000	Pinks	Windy	---
			400	Chums		
8/25/66	---	---	13,000	Pinks	Clear	---
			5,000	Chums		
7/22/69	0	---	0	---	Good Visibility	---
6/24/70	0	---	0	---	Good Visibility	---
7/1/70	0	---	0	---	---	---
7/7/71	0	---	0	---	Clear/calm	---

Appendix Table 15 continued:

Aerial stream surveys - Chenik - Kamishak Bay District
1966 - 1972

DATE	NO. FISH BAYS	SPECIES	NO. FISH STREAMS	SPECIES	WEATHER	REMARKS
7/8/66	0	---	0	---	Clear	---
7/24/66	200	Reds	0	---	---	Off mouth from Amakdedori
	2,800	Pinks				to Chenik
8/25/66	Too turbulent to survey.					
7/4/67	2,500	Reds	0	---	Cloudy	3 schools off mouth of river.
7/11/67	400	Reds	0	---	---	---
6/24/70	0	---	0	---	---	Hi tide.
7/1/70	0	---	0	---	Good visibility	Jumpers at mouth.
7/7/71	0	---	0	---	Clear/calm	Chenik Lake.
7/7/71	2,000	Reds	0	---	Clear/wind	---
7/15/71	2,000	Reds	0	---	Clear/wind	---
7/28/71	0	---	0	---	Clear/calm	---
6/26/72	0	---	0	---	---	---
7/5/72	300	Reds	0	---	Clear/calm	---
7/12/72	700	Reds	25	Reds	Clear/calm	---
7/19/72	300	Reds	0	---	Overcast/calm	---
7/22/72	0	---	0	---	---	---
7/26/72	50	Pinks or Reds	300	Reds	---	---
8/3/72	0	---	0	---	---	---

Appendix Table 15 continued:

Aerial stream surveys - Sunday - Kamishak Bay District
1965 - 1972

DATE	NO. FISH BAYS	SPECIES	NO. FISH STREAMS	SPECIES	WEATHER	REMARKS
8/7/65	---	---	1,800	Chums	---	---
7/24/66	1,500	Pinks	200	Pinks	---	---
8/ /66	---	---	20,000	Pinks	---	---
7/16/68	---	---	---	---	---	Heavy concentration of pinks reported.
7/22/69	3,500	Pinks	---	---	---	In front of creek.
8/11/69	3,500	Pinks	1,000	Pinks	---	On flat.
7/14/70	---	---	40	Pinks	---	---
8/3/70	---	---	2,000	Pinks	---	---
7/15/71	1,100	Pinks	---	---	Clear/calm	---
	100	Chums				
7/28/71	---	---	300	Pinks	Clear/calm	---
8/9/71	---	---	6,500	Pinks	---	4,000 lower stream.
8/16/71	---	---	15,000	Pinks	Overcast/calm	---
9/3/71	---	---	35,000	Pinks	Overcast/calm	---
7/22/72	250	Chums/Pinks	---	---	Clear/calm	---
7/26/72	3,500	Pinks	---	---	Clear/calm	---
8/3/72	2,000	Chums	700	Pinks	Overcast/calm	---
			1,000	Chums		
8/7/72	2,000	Pinks/Chums	2,000	Pinks/Chums	---	---
8/17/72	1,000	Pinks/Chums	200	Pinks	Clear/wind	---
			1,600	Chums		
8/24/72	---	---	1,750	Pinks/chums	Overcast/wind	Poor visibility.

Appendix Table 15 continued:

Aerial stream surveys - Amakdedori - Kamishak Bay District
1966 - 1972

DATE	NO. FISH BAYS	SPECIES	NO. FISH STREAMS	SPECIES	WEATHER	REMARKS
7/8/66	---	---	300	Reds	Clear	In pool, 100 yards upstream.
7/28/66	310	Pinks	3,000	Pinks	Windy	1,100 reds in stream, North Beac
8/25/66	---	---	5,200	Pinks	Clear	
			2,000	Reds		
7/11/67	200	Reds	---	---	Clear	---
7/22/69	---	---	1,000	Reds	---	Lower creek.
8/11/69	---	---	1,500	Reds	---	500 in upper creek, 1,000 below.
			1,000	Pinks		In lower creek.
6/24/70	---	---	100	Reds	---	---
7/14/70	---	---	250	Reds	---	---
8/3/70	---	---	2,500	Pinks	---	---
8/12/70	---	---	13,000	Pinks	---	---
7/7/71	---	---	30	Reds	Clear/wind	---
7/15/71	300	Reds	1,200	Reds	Clear/wind	---
7/28/71	---	---	1,000	Reds	---	---
6/26/72	0	---	0	---	Overcast/wind	---
7/5/72	---	---	200	Reds	Clear/calm	Lower river.
7/19/72	---	---	1,000	Reds	Overcast/calm	Lower river.
7/26/72	---	---	200	Pinks	Clear/wind	Lower river.
8/3/72	---	---	900	Pinks	Overcast/calm	---
			50	Reds	Overcast/calm	---

Appendix Table 15 continued:

Aerial stream surveys - Ursus - Kamishak Bay District
1966 - 1972

DATE	NO. FISH BAYS	SPECIES	NO. FISH STREAMS	SPECIES	WEATHER	REMARKS
7/28/66	3,000	Pinks	10,800	Pinks	Windy	At mouth along beach.
8/ /66	---	---	5,000	Pinks	---	Right hand stream.
7/16/68	---	---	---	---	---	Heavy concentration of pinks reported.
7/14/70	---	---	1,500	Pinks	---	Counts are total for all streams within bay.
8/3/70	---	---	5,200	Pinks	---	---
8/12/70	---	---	23,000	Pinks	---	---
7/15/71	500	Pinks/Chums	0	---	Clear/calm	---
7/28/71	---	---	1,300	Pinks	---	6 boats.
8/9/71	---	---	6,350	Pinks	---	350 stream, 6,000 lagoon.
8/9/71	---	---	1	Pink	Clear/calm	---
8/3/72	1,200	Chums	5	Chums	---	Lagoon.
8/17/72	3,500	Chums	1,200	Chums	Clear/wind	Rt. stream off lagoon.
8/24/72	---	---	350	Chums	Overcast/wind	---

Appendix Table 15 continued:

Aerial stream surveys - Chinitna - South Central District
1965 - 1972

DATE	NO. FISH BAYS	SPECIES	NO. FISH STREAMS	SPECIES	WEATHER	REMARKS
7/30/65	---	---	33	Chums	Clear	Fitz Creek
7/30/65	---	---	0	---	---	Marsh Creek
8/7/65	---	---	270	Chums	Clear	Fitz Creek
8/7/65	---	---	225	Chums	Clear	Rt. hand fork (Marsh Creek)
8/7/65	---	---	585	Chums	Clear	Left hand fork (Marsh Creek)
8/ /66	20,000	Chums	---	---	---	At head end of bay.
8/2/68	---	---	11,000	Chums	---	Most in intertidal stream.
7/22/69	0	---	0	---	---	Visibility good.
8/11/69	---	---	2,500	Chums	---	Head end (Marsh Creek)
8/3/70	0	---	0	---	---	----
8/12/70	800	Chums	Finners	---	---	Finners at headstream, too turbid to estimate
7/15/71	0	---	0	---	Clear/calm	2 black bears
8/9/71	---	---	250	Chums	---	---
8/16/71	---	---	5,000	Chums	Overcast/calm	---
9/3/71	---	---	17,000	Chums	Overcast/calm	---
8/7/72	---	---	1,000	Chums	---	---
8/17/72	----	---	550	Chums	Clear/wind	Another 250 chums in rt. stream
			1,700	Chums	---	Middle section.
			100	Chums	---	Right side bay, s. of glacial r.
			50	Reds	---	---
8/24/72			5,900	Chums	---	---

Appendix

Table 16. Salmon catch, by species, Southern district, 1954-1972.

Year	Kings	Sockeyes	Cohos	Pinks	Chums	Total
1954	1,532	22,913	12,235	180,977	150,769	368,426
1955	562	30,848	3,230	565,216	24,398	624,254
1956	310	33,054	4,693	150,486	53,515	242,058
1957	286	19,431	1,507	130,511	57,403	209,138
1958	119	17,731	1,713	209,798	24,096	253,457
1959	74	10,026	709	50,076	15,278	76,163
1960	12	12,292	1,237	250,818	4,100	268,459
1961	39	10,180	1,161	191,911	2,924	206,215
1962	58	16,569	2,095	564,050	9,089	591,861
1963	88	13,142	4,020	99,829	7,695	124,774
1964	84	17,283	8,905	266,489	11,529	304,290
1965	10	11,229	733	90,330	2,459	104,761
1966	60	12,192	4,535	177,544	28,754	223,085
1967	173	26,350	2,393	95,100	23,416	147,432
1968	61	18,716	4,671	154,033	4,518	181,999
1969	59	12,578	485	70,753	2,600	86,475
1970	91	12,245	3,705	208,174	8,174	232,389
1971	41	18,403	3,151	50,066	2,857	74,518
1972	69	31,345	1,283	9,126	4,936	46,759
Total	3,728	346,527	62,461	3,515,287	438,510	4,366,513
19 year average	196	18,238	3,287	185,015	23,079	229,816
Per cent	.1	7.9	1.4	80.6	10.0	100

Appendix

Table 17. Salmon catch, by species, Kamishak district, 1954-1972.

Year	Kings	Sockeyes	Cohos	Pinks	Chums	Total
1954			No Fishery			
1955		2	8	5,121	278	5,409
1965		67	701	193	14,936	15,897
1957		4,335	29	5,905	10,856	21,125
1958			No Fishery			
1959		1,549	43	5,325	25,759	32,676
1960	11	768	28	11,563	44,328	56,698
1961		1	14	6,019	12,465	18,499
1962		20	11	219	6,058	6,308
1963	1	4	97	82,314	13,892	96,308
1964	5	1,979	115	20,719	42,280	65,098
1965		808	4	3,452	2,706	6,970
1966		21	247	2,945	12,688	15,901
1967	1	182	74	17,340	24,221	41,818
1968		492	101	198,253	49,461	248,307
1969	2	10,723	121	80,157	53,193	144,196
1970		2,888	220	23,583	95,857	122,548
1971		3	121	32,094	26,327	58,545
1972		47	31	342	26,374	26,794
Total	20	23,889	1,965	495,544	461,679	983,097
17 year average	1.18	1,405	116	29,150	27,158	57,829
Percent	.01	2.43	.20	50.41	46.96	100

Appendix

Table 18. Salmon catch, by species, Outer district, 1954-1972

Year	Kings	Sockeyes	Cohos	Pinks	Chums	Total
1954	13	4,927	369	82,205	112,877	200,391
1955	7	701	277	557,997	40,887	599,869
1956	23	2,889	190	42,368	19,248	64,718
1957	13	2,982	110	149,197	138,171	290,473
1958	1	1,719	83	739,768	100,386	841,957
1959	3	10,365	109	68,875	65,675	145,027
1960	4	1,336	533	328,501	67,187	397,561
1961	2	12,595	444	105,447	40,204	158,692
1962	2	8,697	1,893	1,684,023	126,750	1,821,365
1963	6	1,974	369	21,462	116,923	140,734
1964	2	1,370	431	767,396	269,512	1,038,711
1965	0	1,965	7	21,816	22,443	46,231
1966	1	2,710	357	398,751	87,620	489,439
1967	2	2,165	56	259,951	37,533	299,707
1968	1	1,550	106	191,691	20,283	213,631
1969	0	92	11	51,533	5,400	57,036
1970	5	4,177	243	302,879	118,746	426,050
1971	11	1,630	174	310,710	118,995	431,520
1972	7	26,423	17	1,005	43,490	70,942
Total	103	90,267	5,779	6,085,575	1,552,330	7,734,054
19 year average	5	4,751	304	320,293	81,701	407,055
Percent	.001	1.17	.07	78.69	20.07	100

Appendix

Table 19. Salmon catch by species, Eastern district, 1954 - 1972.

Year	Kings	Sockeyes	Cohos	Pinks	Chums	Total
1954	0	11,786	2,556	7,562	1,945	23,849
1955	4	5,049	6,160	55,994	3,147	70,354
1956	0	296	3,761	14,873	519	19,449
1957	120	169	119	0	20	428
1958	0	0	0	200	0	200
1959	58	5,477	8,954	125	14,612	29,226
1960	0	105	853	8,720	467	10,145
1961			No Fishery			
1962	0	0	3,728	49	10	3,787
1963	1	1	2,250	11	0	2,263
1964	0	22	22	813	12	869
1965			No Fishery			
1966			No Fishery			
1967	0	348	203	3,097	275	3,923
1968	2	74,484	5	41,464	872	116,827
1969	3	99,403	6	1	10	99,423
1970	11	1,767	692	40,227	633	43,330
1971	21	2,198	1,115	1	423	3,758
1972	12	82	903	18,190	743	19,930
Total	232	201,187	31,327	191,327	23,688	447,761
16 year average	14	12,574	1,958	11,958	1,481	27,985
Percent	.1	44.9	7.0	42.7	5.0	100

Appendix Table 20
Cook Inlet herring catches, by district,
in pounds, 1969 - 1972

Year	District	Pounds	Landings	Vessels
1969	Southern	1,103,041	41	5
	Outer	76,000	1	1
	Eastern	1,515,920	32	7
Total:		2,694,961	74	12
1970	Southern	5,417,385	104	11
	Eastern	4,200,550	81	11
Total:		9,617,935	185	22
1971	Southern	25,050	4	2
	Eastern	1,948,023	129	19
Total:		1,973,073	130	21
1972	Southern	2,046	1	1
	Eastern	190,068	14	6
Total:		192,114	15	7

Appendix Table 21. Cook Inlet historical herring catch, 1914-1972

Day Harbor - Resurrection Bay

Year	Millions of Pounds	Tons
1939	0.2	100
1940	--	
1941	3.2	1,600
1942	0.4	200
1943	5.2	2,600
1944	31.9	15,450
1945	29.2	14,600
1946	37.5	18,750
1947	1.2	600
1948	12.2	6,100
1949	--	
1950	7.7	3,850
1951	4.3	2,150
1952	0.8	400
1953	0.3	150
1954	0.4	200
1955	14.9	7,450
1956	3.3	1,650
1957	4.5	2,250
1958	--	
1959	0.1	50
1969	1.5	757
1970	4.2	2,100
1971	1.9	974
1972	.2	95
1973	1.7	830

Kachemak Bay

1914	0.3	150
1915	0.03	15
1916	0.1	50
1917	1.9	950
1918	4.0	2,000
1919	5.3	2,650
1920	1.9	950
1921	5.2	2,600
1922	1.0	500
1923	7.6	3,800
1924	14.1	7,050
1925	19.2	9,600
1926	14.3	7,150
1927	7.2	3,600
1928	4.3	2,150
1969	1.1	551
1970	5.4	2,708
1971	.02	12
1972	.002	1

Weight in Tons

Appendix Table 22. Herring Catch By Date, Southern District 1970-1972

1970			1971			1972		
Date	Daily Catch	Accum. Total	Date	Daily Catch	Accum. Total	Date	Daily Catch	Accum. Total
5/05	14.2	14.2	6/21	4.52	4.52	7/04	1.0	1.0
5/07	15.2	29.4	6/22	4.00	8.52			
5/09	17.5	46.9	6/24	4.00	12.52			
5/10	32.5	79.4						
5/11	171.5	250.9						
5/12	60.9	311.8						
5/13	30.4	324.2						
5/14	263.4	605.6						
5/15	386.9	992.5						
5/16	49.4	1,041.9						
5/17	376.0	1,417.9						
5/18	247.0	1,664.9						
5/19	199.0	1,863.9						
5/20	56.0	1,919.9						
5/21	104.5	2,024.4						
5/22	105.5	2,129.9						
5/23	140.6	2,270.5						
5/24	66.0	2,336.5						
5/25	54.7	2,391.2						
5/27	115.0	2,506.2						
5/28	119.0	2,625.2						
5/29	43.0	2,668.2						
5/30	40.0	2,708.2						

Appendix Table 23. Herring catch by date, Resurrection Bay, 1970-72
weight in tons

1970			1971			1972 1/		
Date	Daily Catch	Accum. Total	Date	Daily Catch	Accum. Total	Date	Daily Catch	Accum. Total
4/20	30.6	30.6	5/02	3.395	3.395	5/12	6.6	6.6
4/21	12.8	43.4	5/03	18.297	21.692	5/13	4.5	11.1
4/23	21.1	64.5	5/04	7.488	29.180	5/14	.5	11.6
4/25	68.2	132.7	5/05	103.360	132.540	5/15	13.2	24.8
4/26	58.3	191.0	5/06	55.975	188.515	5/16	40.2	65.0
4/27	66.3	257.3	5/07	143.217	331.732	6/08	30.0	95.0
4/28	59.8	317.1	5/08	72.875	404.607			
4/29	81.0	398.1	5/09	62.669	467.276			
4/30	99.5	497.6	5/10	197.187	664.463			
5/01	36.5	534.1	5/11	.900	665.363			
5/02	12.0	546.1	5/12	22.772	668.135			
5/03	194.5	740.6	5/15	8.000	696.135			
5/05	46.7	787.3	5/16	25.250	721.385			
5/06	123.8	911.1	5/17	198.775	920.160			
5/07	43.5	954.6	5/24	30.000	950.160			
5/08	170.5	1,125.1	5/29	4.950	955.110			
5/09	190.7	1,315.8	6/03	.900	956.010			
5/10	74.8	1,390.6	6/04	18.000	974.010			
5/11	309.1	1,699.7						
5/12	146.5	1,846.2						
5/13	126.9	1,973.1						
5/14	32.5	2,005.6						
5/28	33.5	2,039.1						
5/29	7.5	2,046.6						
5/30	33.0	2,079.6						
6/12	20.0	2,099.6						

1/ Small boat harbor in Seward closed to herring fishing this year.

Appendix Table 24 Age, size and sex composition of herring from Resurrection Bay. 1970, 1971 & 1972

May 7 to May 14, 1970

Age Group	Year Class	MALES Frequency No.	MALES Frequency %	MALES Mean Length	MALES Mean Wt.	FEMALES Frequency No.	FEMALES Frequency %	FEMALES Mean Length	FEMALES Mean Wt.	SEXES COMBINED Frequency No.	SEXES COMBINED Frequency %
II	1968	72	25.0	178	59	24	10.0	181	60	96	18.1
III	1967	130	45.1	194	78	147	61.0	199	85	277	52.4
IV	1966	60	20.8	207	90	53	22.0	208	95	113	21.4
V	1965	14	4.9	216	99	14	5.8	211	104	28	5.3
VI	1969	6	2.1	228	137	2	0.8	235	--	8	1.5
VII	1963	3	1.0	247	152	0	--	--	--	3	0.6
VIII	1962	3	1.0	247	185	1	0.4	250	174	4	0.8
Totals		288				241				529	

Sex Ratio: 54.0% Males
46.0% Females

Mean Weight: 76.7 grams Males
85.4 grams Females
80.7 grams comb'd

Mean Age: 3.21 Males
3.28 Females
3.23 comb'd

May 3 to May 25, 1971

Age Group	Year Class	MALES Frequency No.	MALES Frequency %	MALES Mean Length	MALES Mean Wt.	FEMALES Frequency No.	FEMALES Frequency %	FEMALES Mean Length	FEMALES Mean Wt.	SEXES COMBINED Frequency No.	SEXES COMBINED Frequency %
II	1969	1	0.4	174	57	4	1.4	167	54	5	1.0
III	1968	93	38.8	195	85	128	45.9	198	91	221	42.6
IV	1967	99	41.3	204	97	112	40.1	205	104	211	40.7
V	1966	39	16.3	209	105	34	12.2	213	117	73	14.1
VI	1965	3	1.3	216	119	0	--	--	--	3	0.5
VII	1964	3	1.3	206	116	1	0.4	239	188	4	0.7
VIII	1963	1	0.4	206	97	0	--	--	--	1	0.2
IX	1962	0	--	--	--	0	--	--	--	0	--
X	1961	1	0.4	235	163	0	--	--	--	1	0.2
Totals		240				279				519	