

ANNUAL REPORT 1968

COOK INLET AREA

COMMERCIAL FISHERIES DIVISION
ALASKA DEPARTMENT OF FISH AND GAME

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MANAGEMENT SECTION

SALMON

The 1968 Run

The 1968 salmon catch for Cook Inlet totalled 5.7 million fish with an estimated first wholesale value of about \$12 million. All species but kings contributed in strength to this catch, which totalled 356,163 cases, and 2.29 million pounds of frozen salmon. Of the fish caught approximately 1.2 million were reds, 475,333 cohos, 2.9 million pinks, and 1.2 million chums. An unusually low number of 4,600 king salmon were taken in the Inlet, the bulk of these, as usual, during July in the vicinity of the Kenai and Kasilof rivers.

The outstanding aspect of the salmon run was the extremely large number of unusually small pink salmon, most of them bound for the Susitna Basin of the upper Inlet. Most of the gill net gear used to harvest these pink salmon was intended for red and chum salmon, hence many fishermen watched large numbers of salmon go into their nets -- but often very few remained. Many of the pinks simply slipped on through.

Experience gained in 1966 on sighting a large body of pinks bound for the Susitna basin just north of Kalgin Island caused us to start aerial searches in that area in mid-July, watching for this expected heavy pink run. The first sighting of these fish was made on Saturday, July 13. From that date until July 28th or 29th the weather remained calm, and this huge body of pinks moved slowly from the area just above and to the east of Kalgin Island, through the Forelands, and up the center of the Northern District until they reached the west side beaches below the Susitna River.

Management efforts to harvest these pinks included giving considerable additional fishing time to the drift fishery, and much additional time to the set net fishery of the Northern District, particularly to west side beach area of the Northern District.

A major management concern was the size of the escapement of red salmon into the Kenai and Kasilof Rivers. Racial identification of red salmon, based upon scale samples taken from the commercial fishery, has become an established procedure in Cook Inlet during the past two years. Sampling of the commercial fishery in 1967 established that the Kenai River, for that year at least, was the major producer of red salmon in Cook Inlet, with over 60 per cent of the red salmon caught by the commercial fishery bound for that system.

That year, 1967, was the first in which we had a fully functional sonar counter in the Kenai River. Total red salmon escapement into the Kenai River for 1967 was calculated at 150,000.

Since Kenai River produced 60 per cent of the 1.4 million red salmon caught in 1967 this means that around 850,000 red salmon caught in that year were bound for the Kenai. It is our belief that 150,000 spawners is insufficient for sustained production of this magnitude. As a crude comparison, the average return per spawner ration for Bristol Bay's Kvichak River system from 1952 through 1960 was 2.50; for Naknek River 1953-60 the figure averaged 2.91; Branch River 1955-60 averaged 1.95; Egegik River 1921-60 averaged 2.47. These Bristol Bay figures would be about 10 per cent higher if the high seas catch were included. For Lake Kuril in Siberia for the years 1941-54 the return per spawner averaged 4.6.

Scales of red salmon were collected from the 1968 commercial fishery, and the sonar counter was operated throughout the red salmon run of the Kenai and Kasilof Rivers this year. Total escapement of reds into the Kenai in 1968 was

166,100, and into the Kasilof was 95,058.

The scales are now being studied to determine the importance of red salmon runs to various drainages for 1968.

The major staff proposals to the Board of Fish and Game for change in the maximum allowable amounts of gear and for fishing time, were based upon the premise that there is too much fishing gear and too much fishing time as a base, to insure adequate red salmon escapement. This is particularly true for an odd-numbered year such as 1969 when the backbone of the fishery will be the red salmon.

During attempts to harvest the heavy run of pinks bound for the Susitna River basin in 1968 closures were imposed on east side beaches of the North Central District, and in the South Central District, for both set net and drift gear in an attempt to increase red salmon escapement into the Kenai and Kasilof systems. At the same time more fishing time was announced for the west side of the North Central District and the Northern District in order to allow harvest of the extremely abundant run of pinks.

These management efforts were only partially successful. A good harvest of pinks was realized, and escapement of red salmon into the Kasilof River finally totalled 92,058, which we consider to be good for that system. However, we feel that the escapement of 166,100 for the Kenai drainage was about half of what was needed in order to sustain production at the 1967 level.

In the seine areas of the Inlet, unusually large catches were made in the Kamishak Bay District (253,000 fish) and in the Eastern District (225,000 fish).

The research section's 1968 forecast for the Southern and Outer Districts again proved accurate (see research report, following), which made management of these districts relatively easy.

Salmon Gear

Gear registration in Cook Inlet has climbed steadily since 1960 and the

1968 level was the highest to date -- with about 50 per cent more gear than the 1960 level. The gear limitation regulation induced many fishermen to purchase licenses who otherwise would not have bothered.

Forecast for 1969

The only formal forecast work done in Cook Inlet is for the Outer and Southern District pink runs, and the level of these runs for 1969 is expected to be about the same as for 1968, which was rather low.

However, based upon the known age data of chums in the gill net fishery (from 87 to over 90 per cent four year old fish upon return) and the same situation with Cook Inlet silver salmon (mostly four year olds), and a known weak year in 1965, with no pink salmon expected, it appears very likely that 1969 will be a weak salmon year throughout all of Cook Inlet.

Economic Study

An attempt is being made by the Cook Inlet staff to determine the value of the Inlet's salmon fishery, including the value of equipment in use by fishermen, and the value of processing facilities. A total of 1395 forms were mailed to all salmon net gear license holders, and by mid-January 28 per cent had been returned (390).

Preliminary calculations indicated that the value of the Inlet's drift boats is about \$7.1 million, while the value of salmon fishing gear used by these boats is about \$943 thousand.

Set net site values are more difficult to figure, and we are having to do more studying to come up with a realistic figure. The problem lies in the fact that often several gear license holders fish on what is considered to be one set net site.

Preliminary figures indicate that the gross income from salmon fishing to resident set netters for 1968 was about \$2.9 million, to non-resident drift net

fishermen about \$1.2 million, and to resident drift fishermen about \$1.9 million.

Table I gives a brief resume of some other preliminary figures obtained from the economic study:

TABLE I

<u>TYPE GEAR</u>	<u>AVE. NO. FISH CAUGHT</u>	<u>AVE. GROSS RECEIPTS</u>	<u>1968 % TOTAL INCOME FROM SALMON FISHING</u>	<u>AVERAGE EXPENSES 1968</u>	<u>AVERAGE NET INCOME</u>
Resident Drift	5779	\$4706	52%	\$1785	\$2921
Non-resident Drift	7490	6112	67%	2463	3649
Resident Set Net	5907	4605	63%	1981	2624
--Average value of set net site--\$15,993					

VESSEL INFORMATION, DRIFT BOATS

<u>AVERAGE LENGTH</u>	<u>AVERAGE H.P.</u>	<u>AVERAGE TOP SPEED EMPTY</u>	<u>AVERAGE VALUE - BOAT</u>	<u>AVERAGE VALUE - GEAR</u>
32.6	156	11.5	\$11,604	\$1,549

King Salmon

King salmon are increasing in the upper Inlet. The accidental catch of kings, of those fish bound for the Kenai and Kaslof Rivers, was down this year -- with the catch at about half the level of the past several years.

However, this has not been the main producing run of the Inlet, and the level of this run is contrasted sharply with the indications of increase in the Susitna.

At the time of closure of the commercial fishery in 1961 a probable 40,000 to 50,000 kings were annually left to spawn in the Susitna basin and from 1961 through 1963 at least this many kings spawned.

Since 1964 the figure of spawning kings has been higher, possibly double that which existed in 1961.

Reliable reports of increased numbers of kings traveling through the Inlet on the west side beaches have been made to the Department with increasing frequency. Sports fish counts of kings in the clear water systems of the Susitna

River has indicated an increase in these fish. The incidental catch of kings in the Northern District for 1968 was 471 -- by far the largest number of kings taken in this district since 1964, with essentially the same season and fishing pressure.

Northern District

Even-numbered years in the Northern District are often characterized by three species of salmon and sometimes four returning to the area in large numbers. In addition, these fish usually arrive in the district simultaneously and more often than not will pass through the fishery in a three to seven day period. This phenomena, of course, poses problems for biologists, fishermen and industry. Canneries in the area often become glutted, fishermen may be placed on limits and it is virtually impossible for biologists to manage the fishery on an optimum catch and escapement basis.

The highlight of the 1968 fishing season in the Northern District was the materialization of the expected large run of pink salmon from the 1966 brood year. In addition, even though the 1968 total catch of salmon for the district ranked second (890,987) since 1954, glut conditions did not develop in the area as in previous even-numbered years. Several factors are responsible for glut conditions failing to develop in 1968. First, large concentrations of salmon were observed July 13 as they entered the drift fishery of the South Central District, these salmon were under constant surveillance by air until they had passed through the fishery and into the spawning grounds. These observations enabled biologists to keep industry and fishermen well informed and prepared. Second, for unknown reasons the large numbers of salmon present in the Inlet, especially pinks, appeared to be milling or holding in deep water in the North Central District (approximately 17 days). Of course with this condition set-netters were not being sluggish with large numbers of fish and drift fishermen

were actually avoiding the pinks and seeking out the more desirable reds and chums. When the pink salmon did start the migration to the spawning grounds, they remained in deeper waters until reaching the mouth of the Big Susitna River, thus large concentrations were not available to set-net fishermen of the Northern District. Third, weather conditions were not conducive to good setnet fishing i.e., on-shore winds, etc. The fourth factor responsible for glut conditions failing to mature was probably gill-net mesh size, most set-net fishermen were employing standard red gear or $5\frac{1}{4}$ inch stretched mesh and consequently straining large numbers of the small pinks through their gear.

The last factor involved was the use of test-net fishing by boats in the North Central District and set-net sites at Three-mile Creek and Moose Point in the Northern District during closed fishing periods. This information provided biologists with approximate magnitudes of fish moving past these sites during the closed periods.

Test-fishing in the Susitna River was continued this year to confirm the fact that ninety percent or better of the king salmon stocks destined for the Susitna drainage have passed this site on their way to the spawning grounds before the first commercial open fishing period in Cook Inlet, June 20.

As in the past Fish Creek entering Knik Arm on the N.W. shore was monitored for red salmon escapement and was alarmingly low in total numbers of adult and jack salmon (20,000) entering this system as compared to past escapements.

Salmon roe production at Whitney-Fidalgo appeared to be a lucrative business in 1968. At this writing, production figures and wholesale values are not available.

The 1968 incidental catch of king salmon was the highest catch (471) since commercial fishing was stopped in 1964. Escapements of king salmon into the

Susitna drainage also appeared to be above the past five-year norm.

Escapement

The Susitna River is a silty stream which makes visual observation impossible. In addition, many of the tributaries are glaciated, further hampering any visual monitoring of salmon escapement.

In the past, test-fishing has been employed in an attempt to establish an index of abundance. Test-fishing has not given satisfactory results because of fishing methods and consistency in collection of data.

At present the only salmon stream in the Northern District being monitored with any accuracy is Fish Creek which enters Cook Inlet by the N.W. shore of Knik Arm. All other escapement data in the Susitna drainage is based on aerial surveys which leave much to be desired. Certain key streams are surveyed annually for approximate escapements.

In general, pink salmon escapements were excellent in all pink streams, especially the Deshka. The Deshka River was surveyed upstream 45 miles from the mouth as were all tributaries entering this section. To state numbers of fish would be pure speculation, however, escapement was fantastic.

Red salmon escapement was very poor in 1963 as indicated in actual counts at the Fish Creek tower where a total of 20,000 adult and jack salmon were counted during the period July 1-July 31. This count is drastically below the past ten-year average. Similar conditions existed in other key red salmon producing streams in the area.

Chum salmon were observed in fair numbers in the area.

Silver salmon escapement was excellent with good numbers observed in the Deshka, Alexander Creek and Talchulitna River.

According to the Sports Fish Division's reports, king salmon escapements into the Susitna drainage were excellent and the highest on record since 1963.

Fish Creek Counting Tower

The Fish Creek Counting Station was operated in the same manner using the same methods that have been employed since Alaska became a State.

Counts were made for 15 minutes on the hour for 12 hours and expanded by eight to arrive at total migration during a 24-hour period. The observer then takes a 16-hour break and assumes the 15 minute counts.

The project was initiated July 1 and terminated July 31. During this period an estimated 19,616 red salmon passed the counting site. Of these 16,000 were adult reds and 3,616 jack salmon. The peak for both adult jack and red salmon occurred July 17.

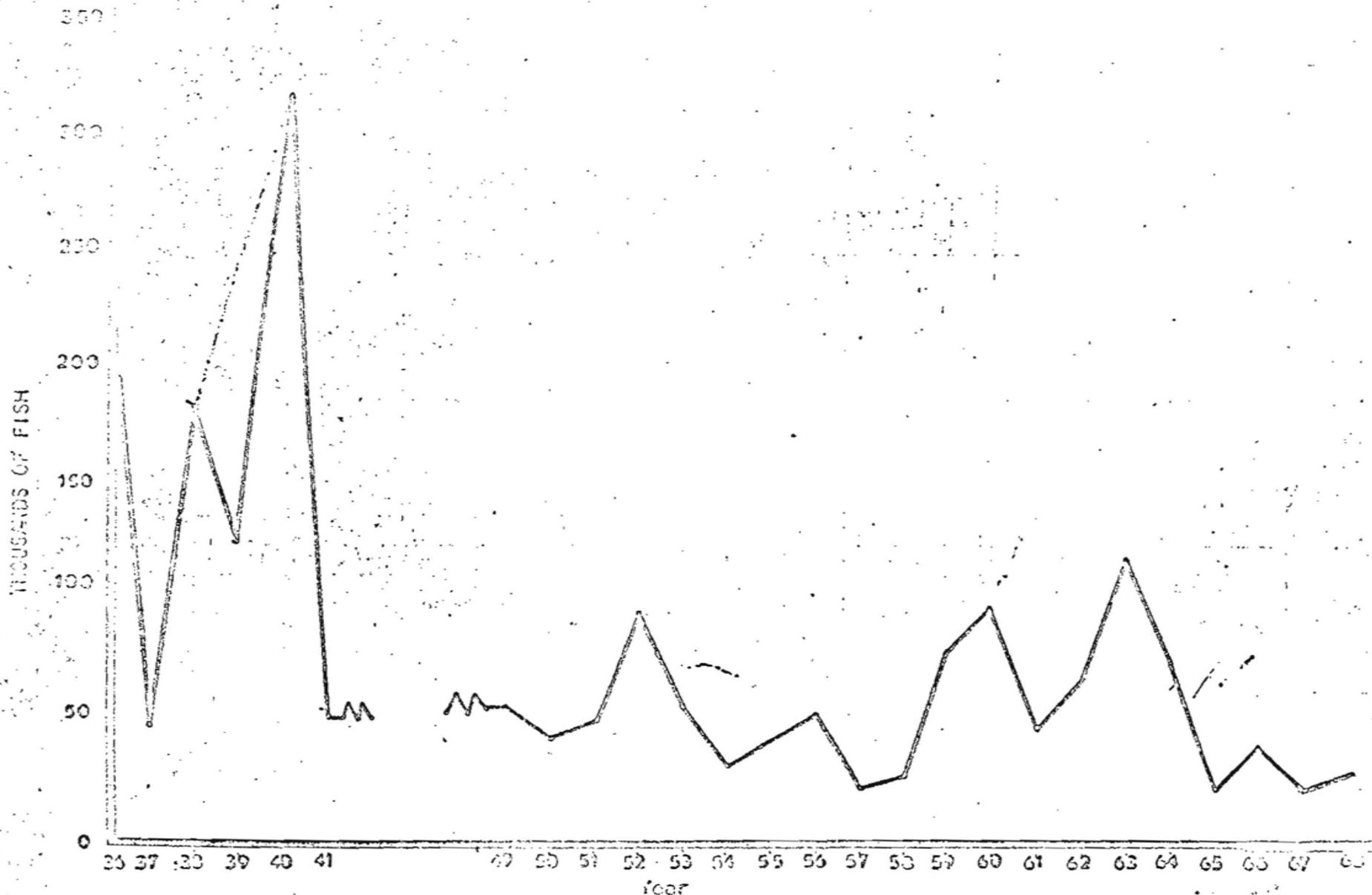
Fish Creek is one of the major producers of red salmon in the Susitna basin. If the past 10-year trend continues it appears that the red salmon run into Fish Creek is in trouble. (Table--). Using 1958 as a base year the 10-year average escapement is approximately 57,000 red salmon. The 1968 escapement is well below the 10-year average and in fact is the second lowest escapement during this period on record, being superceded only by the 1965 escapement (17,000).

Pink and coho salmon are also enumerated at this site. The first counts of pink salmon were made July 22 and July 31 a total of 48,128 pinks had passed the site. The first coho was counted July 23 for a seasonal total of 2,088 July 31.

Escapement of red salmon,
Fish Creek, 1938-1968.

<u>Year</u>	<u>Escapement</u>	<u>Year</u>	<u>Escapement</u>
1938	182,463	1953	54,345
1939	116,558	1954	23,287
1940	305,982	1955	37,000
1941	55,077	1956	42,663
1942	Poor	1957	15,630
1943	Fair	1958	26,000
1944	Good	1959	77,000
1945	Poor	1960	80,000
1946	57,000	1961	40,000
1947	150,000	1962	60,000
1948	150,000	1963	105,000
1949	68,240	1964	65,000
1950	29,654	1965	16,544
1951	34,704	1966	41,312
1952	92,724	1967	22,624
		1968	20,000

FISH CREEK RED SALMON COUNTS^a



^a 42-43 Incomplete

1936-1955 - U. S. Fish and Wildlife Service

1950-1967 - Alaska Department of Fish & Game

<u>Name of Company</u>	<u>Plant Location</u>	<u>Superintendent</u>	<u>Type of Product</u>
A & B Enterprises, Inc. Rt. #3 Kenai 99611	Kenai	Arthur M. Tilbury	Fresh, Frozen: Salmon Dungeness, King Crab, Halibut
Acord, Lester 2700 McRae, Anchorage	Anchorage	Lester A. Acord (272-0288)	Clams
Alaska Star, Inc. 1206 W. 29th Place Spenard 99503	Beluga River	Walter B. Swanson	Canned: Salmon
Alaska Frozen Products Box 4-1557, Anchorage	Anchorage	Elmer L. Goodin	Fresh, Frozen: Salmon, Shrimp, Dungeness, King Crab, Halibut, Clams
Alaskan Smokey Joes, Inc. Box 1331, St. Rt. A Anchorage	Mile 7, Seward Hwy.	W. E. McBride	Fresh, Frozen: Salmon
Alaskan Scallop Processors Box 7, Seward 99664	Seward	Fred Grant	Fresh, Frozen: Salmon, Halibut, Scallops
Arctic Fisheries Homer, 99603	Homer Spit	C. E. (age)	Fresh: Salmon, Shrimp, King Crab, Halibut, Herring, Sablefish
Raymond C. Anderson Box 335, Seward 99664	Seward	Raymond Anderson	Herring Roe
Berman Packing Co. 611 Lowman Bldg., Seattle (Box 207, Ninilchik 99639)	Ninilchik	Del. Valentine	Canned, Frozen: Salmon Frozen: Halibut
Millard L. Brewster Homer 99603	Homer	Millard Brewster	Fresh, Frozen: Dungeness Halibut
Robert E. Brown The Sea Chest Box 502, Homer 99603	Homer Spit	Robert Brown	Fresh: Salmon, Shrimp, Dungeness, King Crab, Halibut, Clams, Herring, Sablefish
Alaskan Seafoods Box 173, Homer 99603	Homer Spit	Eugene V. Browning	Fresh, Frozen: Salmon, Shrimp, King Crab, Halibut Herring: Bait
C & M Seafoods 5809 Perry St. Anchorage	East Road Homer	Stanley Z. Conway	Fresh, Frozen: Salmon, Dungeness, King Crab, Halibut, Fresh: Clams
Cohen Trading Co., Inc. 1973 NW Lovejoy St. Portland, Oregon 97209	Osmar's Clam Gulch	Ernie A. Cole	Salmon Eggs, Salted

<u>Name of Company</u>	<u>Plant Location</u>	<u>Superintendent</u>	<u>Type Product</u>
Calvin Parks, Buyer 3601 E 15th, Anch	Mt. S, Seward Highway	Calvin Parks	Salmon: Fresh, Frozen Smoked
Columbia-Wards Fisheries Rt. 2, Kenai 99611	Kenai	Harold A. Brindle	Salmon: Canned
W. F. Cooper Seward, Alaska	Seward	W. F. Cooper	Fresh: Dungeness, King Crab, Scallops, Shrimp
Church of Jesus Christ of Latter Day Saints 2501 Maplewood, Anch.	Anchorage	Charles H. Dickey, Bishop	Fresh, Frozen: Salmon
Crab Pot, Inc. 645 E. 13th Ave Anchorage	Anchorage	Gerald Felton	Fresh, Frozen: Salmon, Shrimp, Dungeness, King Crab, Halibut, Clams, Sablefish
Dennis Dehmalo Box 1077, Seward	Seward	Dennis Dehmalo	Herring roe on kelp
Ekren Packing Co. Kasitsna Bay via Homer, Alaska	Kasitsna Bay	Harley O. Ekren	Canned: Salmon, Clams, King Crab, Dungeness
F. Alioto Fish Co. 440 Jefferson St. San Francisco, Calif.	Homer Spit	Mario F. Alioto	Fresh, Frozen: Salmon, Shrimp, Dungeness, King Crab, Halibut, Clams, Herring, Sablefish
Far East Trading Co., Inc. 4350 Spenard Road Anchorage	Ninilchik	Geo. Y. Kimura, Pres.	Salmon Roe
Fayjan's Fish Market Box 4-059 Anchorage	E. 58th Ct. & Seward Hwy.	Russell W. Sanders	Fresh, Frozen: Salmon, Shrimp, Dungeness, King Crab, Halibut, Sablefish Bass, Snapper, Cod. Herring: Bait
Delbert G. Phillips Halibut Cove	Halibut Cove	Delbert Phillips	Fresh: King Crab, Halibut
Gardner Seafoods Box 645, Homer	East Road Homer	Paul E. Gardner	Fresh, Frozen: Salmon, Shrimp, Dungeness, King Crab, Halibut

<u>Name of Company</u>	<u>Plant Location</u>	<u>Superintendent</u>	<u>Type of Product</u>
Dan's Cold Storage Box 122 Ninilchik 99639	Ninilchik	Dan Garrouette	Fresh, Frozen: Salmon, Shrimp, Dungeness, King Crab, Halibut, Clams, Herring, Sablefish, Cod
Halibut Producers Coop. Box 877, Seward 99664	Seward	Fred Grant	Frozen: Salmon, Halibut
Jensen, Torvald Box 23, Ninilchik 99639	Ninilchik	Torvald Jensen	Smoked Salmon
Johnson, Jr., W. P. 1742 Twelfth Ave., Anch.	Anchorage	W. P. Johnson, Jr.	Fresh, Frozen: Salmon, Whitefish, Sheefish
Keener Packing Co. Rt. 2, Soldotna 99669	Mile 12 Kalifonsky Beach Rd.	Leonard A. Keener	Frozen, Smoked: Salmon
Kenai Packers Kenai, Alaska 99611	Kenai	Fred M. McGill	Canned: Salmon
Luba Moser Box 53, Clam Gulch 99566	Clam Gulch	Luba Moser	Smoked: Salmon
N. Kenai Cold Storage Box 29, Kenai 99611	Kenai	Donald D. Price	Fresh, Frozen: Salmon, Halibut
Osmar's Ocean Specialties Box 276, Soldotna 99669	Clam Gulch	Per E. Osmar	Frozen, Canned: Salmon
Puget Sound Salmon Egg Co. 1440 S. Jackson St. Seattle, Wash.	Snug Harbor	Steve Sarich, Jr.	Salmon Roe
C. H. Quakenbush Box 1092, Seward	Seward	C. H. Quakenbush	Fresh: Salmon, Shrimp, Dungeness, King Crab, Halibut, Bottom Fish
Richardson Roadhouse Mile 70, Richardson Hwy. Anchorage	Mile 70, Richardson Hwy.	Stanley E. Aubert	Fresh fish for cafe operation
R-Lee Company Rt. 2, Soldotna 99669	Mile 12, Kalifonsky Beach Rd.	R. L. Schaidt	Salmon: Fresh, Frozen, Smoked Halibut: Fresh, Frozen
R.P.M. Fishery Products 2903 W. 29th Anchorage	Anchorage	M. W. (Slim) Moore R. H. Putman (Partners)	Salmon: Fresh, Frozen

<u>Name of Company</u>	<u>Plant Location</u>	<u>Superintendent</u>	<u>Type Product</u>
Schoening Meat Processing Enterprises. St. Rt. Mi. 5½, Seward, Alaska	Mi. 5½, Seward	Robert Schoening	Salmon: Fresh, Frozen, Mild-cured, Hard Salt Fresh, Frozen: Shrimp, Dungeness, King Crab, Halibut, Herring.
Seward Fish & Bait Co. Box 1281, Seward	Seward	Fred Grant	Herring: Bait
Charles L. Simon Seafoods Rt. 2, Kasilof	Kasilof	Charles L. Simon	Salmon: Frozen, Smoked Halibut: Frozen
Smoked Alaskan Seafoods Clam Gulch, Alaska 99568	Clam Gulch	Emil R. Bartolowits	Canned: Salmon
Snug Harbor Packing Co. Snug Harbor	Snug Harbor	J. R. Fribrock	Canned: Salmon
Sportsmans Cannery Box 3, Clam Gulch	Mile 124, Sterling Hwy.	Ray LaFrenere	Salmon: Smoked
Sterling Sausage Co. St. Rt., Sterling	Sterling	Jerry Brinkley	Canned: Smoked Salmon
Tidewater Packing Co. Ocean Dock Road Box 1842, Anchorage	Anchorage	Ray Coffin	Canned: Salmon
Wakefield Fisheries Seldovia, Alaska 99615	Seldovia	J. Richard Pace	Frozen: King Crab
Waterfall Fisheries Box 667, Soldotna	Kasilof	Mel C. Jackson	Canned, Frozen: Salmon
Vernon M. White E. 58th Court, Seward Highway Box 4-059, Anch. 99503	Anchorage	Vernon M. White	Fresh: Bass, Cod, Red Snapper, Purch, Sea Tr Halibut
Whitney-Fidalgo Sea- foods, Inc. Box 599, Anchorage	Anchorage	J.J. Lind	Canned: Salmon
Whitney-Fidalgo Sea- foods, Inc. Port Graham, Alaska	Port Graham	Arthur A. Aspaas	Canned: Salmon

COOK INLET FREEZER FISH (POUNDS)

<u>Year</u>	<u>Kings</u>	<u>Reds</u>	<u>Cohos</u>	<u>Pinks</u>	<u>Chums</u>	<u>Total</u>
1960*	51,569	86,726	90,472	64,860	10,876	304,503
1961*	40,305	14,308	122,966	199,670	28,241	405,490
1962*	41,326	7,821	367,984	53,922	67,211	538,264
1963*	68,240	15,115	65,547	1,384	3,895	154,181
1964	10,488	0	0	0	0	10,488
1965	86,561	585,986	81,234	15,000	119,912	888,693
1966	46,307	496,815	89,794	1,083,986	437,995	2,154,897**
1967	137,747	350,318	223,748	11,974	181,569	905,356
1968	71,923	484,745	732,096	350,768	647,350	2,286,882

* Converted to pounds

**Includes estimated pounds delivered to Japanese ships. (1,107,399)

TOTAL CUMULATIVE PACK COOK INLET - 1968

<u>WEEK ENDING</u>	<u>KINGS</u>	<u>REDS</u>	<u>COHOS</u>	<u>PINKS</u>	<u>CHUMS</u>	<u>TOTAL</u>
June 23	139.5	261	0	.5	2	403
June 30	195.5	1,634.5	0	200	97	2,127
July 7	256	9,144.5	87	663	4,311	14,461.5
July 14	298	30,291	916	3,440	23,328	58,273
July 21	438	58,001	6,340	29,364	68,170	162,313
July 28	523.5	76,204.5	20,895	63,363	102,286	263,072
August 4	519.5	76,121.5	29,059	82,933	118,030	306,663
August 11	534	76,439.5	32,538	104,211	123,708	337,430.5
August 18	543.5	76,548.5	34,155	115,693	124,941	351,881
August 25	547.5	76,605	34,500	117,024	126,257	354,933.5
September 1	547.5	76,605	34,520	117,024	126,257	354,953.5
September 8	547.5	76,347	34,737	117,750	126,509	355,890.5
September 22	557	76,367.5	34,866	117,812	126,554	356,156.5
September 29	557	76,367.5	34,873	117,812	126,554	356,163.5

COOK INLET 1968 SALMON CATCH

BY AREA AND GEAR

<u>AREA</u>	<u>GEAR</u>	<u>KINGS</u>	<u>REDS</u>	<u>COHOS</u>	<u>PINKS</u>	<u>CHUMS</u>	<u>TOTAL</u>
231	HPS	0	8,734	0	37,374	721	46,829
231	DGN	2	65,750	4	5	11	65,772
232	HPS	0	1,534	85	103,338	6,974	111,931
233	HPS	0	0	1	4,085	140	4,226
241	HPS	30	2,975	3,229	141,419	3,229	150,882
241	BS			11			11
241	SGN	31	15,741	1,431	12,614	1,289	31,106
242	HPS	1	16	21	88,353	13,309	101,700
243	HPS		491	53	160,304	22,809	183,657
243	BS				10,072	200	10,272
244	DGN	136	451,389	138,135	733,016	852,780	2,175,456
244	SGN	3,304	317,535	80,828	785,887	1,563	1,189,117
245	HPS		8	1,690	1,204	11,211	14,113
245	DGN	47	113,414	27,955	140,288	147,836	429,540
245	SGN	439	47,271	47,433	51,356	37,760	184,259
246	DGN		2,147	1,519	8,490	7,513	19,669
246	SGN	139	32,565	16,242	23,117	1,997	74,060
247	SGN	471	140,575	156,648	534,839	58,454	890,987
248	HPS		1	48	27,877	23,816	51,742
248	BS					2,636	2,636
Totals		4,600	1,200,146	475,333	2,863,638	1,194,248	5,737,965

GEAR CODE: HPS - Hand Purse Seine
 BS - Beach Seine
 DGN - Drift Gill Net
 SGN - Set Gill Net

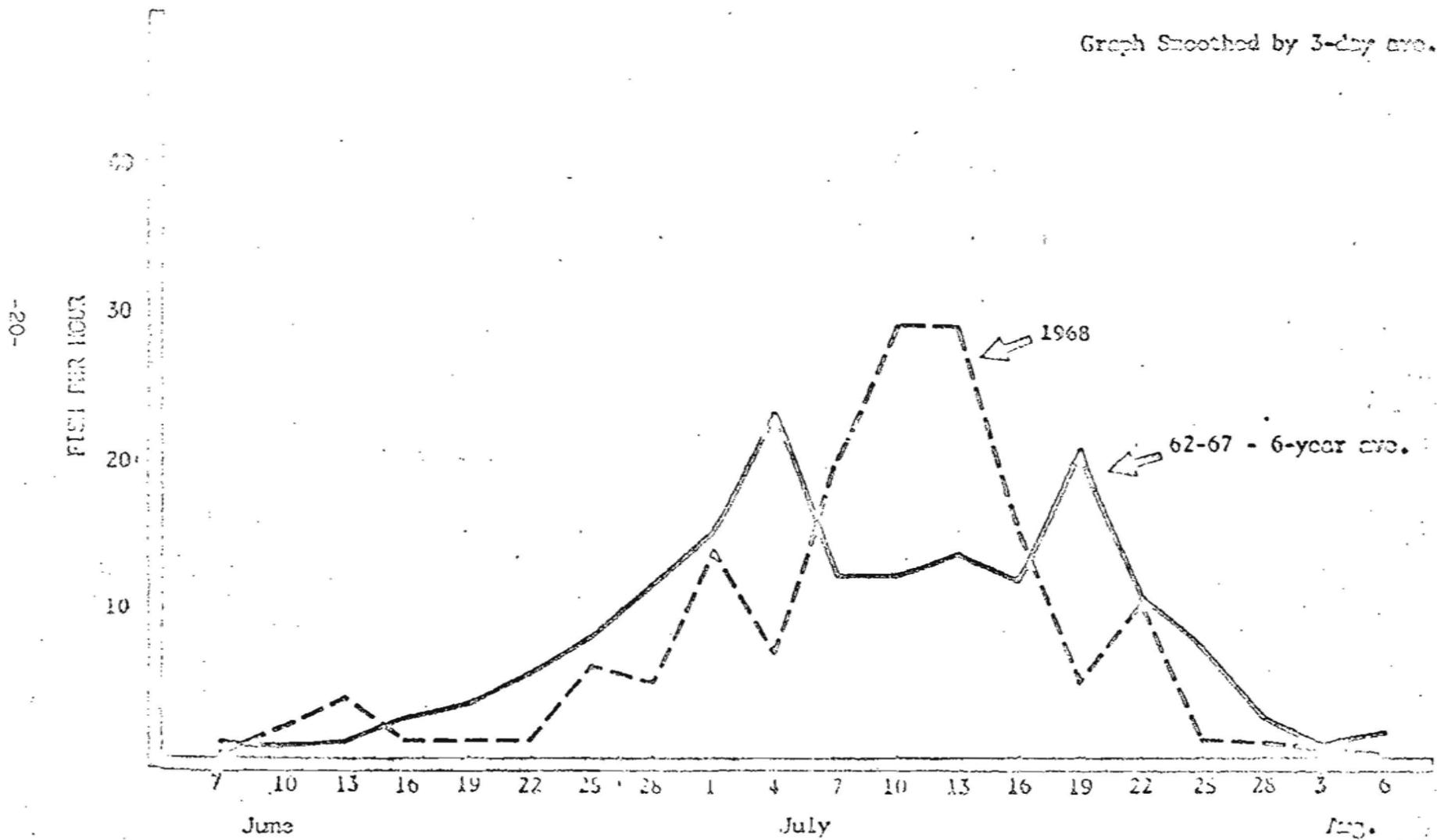
COOK INLET 1968 SALMON CATCH BY TYPE OF GEAR

GEAR	KINGS	% CATCH	REDS	% CATCH	COHOS	% CATCH	PINKS	% CATCH	CHUMS	% CATCH	TOTAL	% CATCH
Seine	31	.7%	13,759	1.1%	5,138	1.1%	574,026	20.0%	85,045	7.1%	677,999	11.8%
Drift	185	4.0%	632,700	52.7%	167,613	35.3%	881,799	30.8%	1,008,140	84.4%	2,690,437	46.9%
Set	4,384	95.3%	553,687	46.1%	302,582	63.6%	1,407,813	49.2%	101,063	8.5%	2,369,529	41.3%
Totals	4,600	.1%	1,200,146	20.9%	475,333	8.3%	2,863,638	49.9%	1,194,248	20.8%	5,737,965	

COOK INLET 1968 SALMON CATCH BY DISTRICT

DISTRICT	KINGS	% CATCH	REDS	% CATCH	COHOS	% CATCH	PINKS	% CATCH	CHUMS	% CATCH	TOTAL	% CATCH
Northern	471	10.2%	140,575	11.7%	156,648	32.9%	534,839	18.7%	58,454	4.9%	890,987	15.5%
E & S Central	4,065	88.3%	964,329	80.4%	313,802	66.0%	1,743,358	60.9%	1,060,660	88.8%	4,086,214	71.2%
Southern	61	1.3	18,716	1.6%	4,671	1.0%	154,033	5.4%	4,518	.4%	181,999	3.2%
Center	1	.1	1,550	.1	106	.05%	191,691	6.7%	20,283	1.7%	213,631	3.7%
Wishak	0		492		101	.05%	198,253	6.9%	49,461	4.1%	248,307	4.3%
Western	2	.1	74,484	6.2%	5		41,464	1.4%	872	.1%	116,825	2.1%
Totals	4,600		1,200,146		475,333		2,863,638		1,194,248		5,737,963	

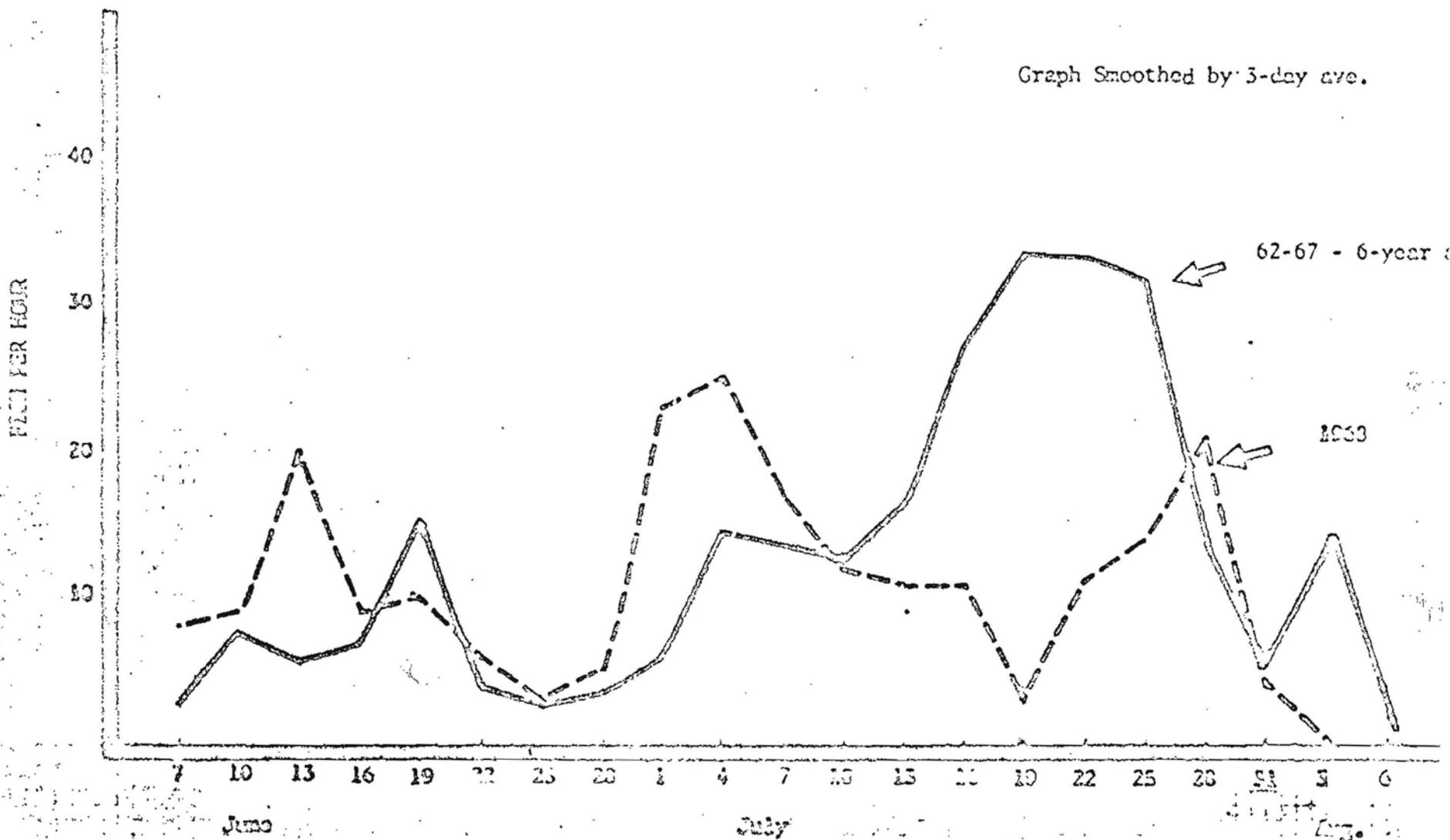
RASILOF RIVER TEST FISH, SOCKEYE SALMON. CATCHES - 1968



KENAI RIVER TEST FISH, SOCKEYE SALMON. CATCHES - 1968

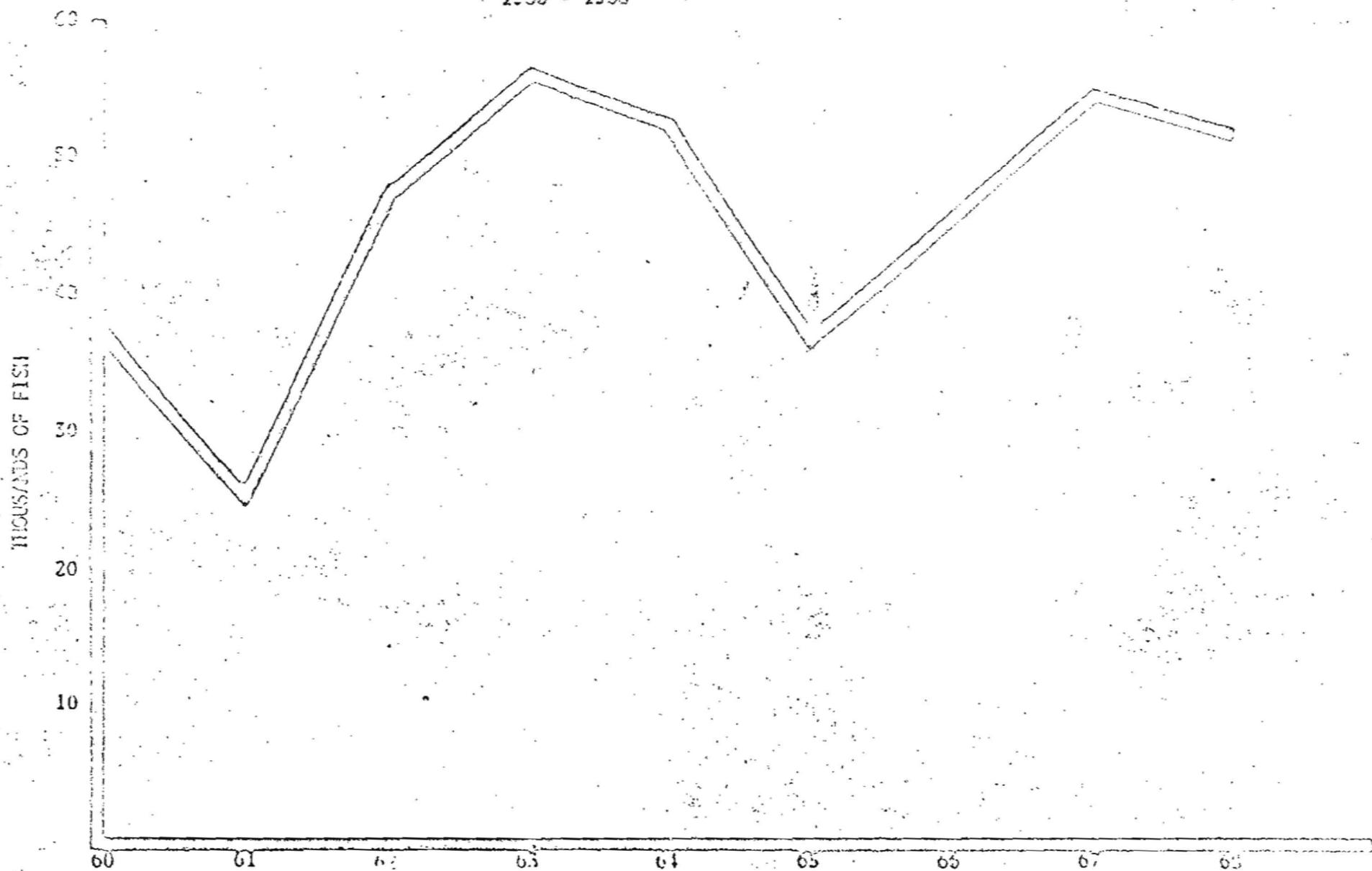
-12-

Graph Smoothed by 3-day ave.



RUSSIAN RIVER SOCKEYE SALMON COUNTS

1930 - 1933



SUBSISTENCE CATCH - 1968

A total of 386 permits were issued in the Cook Inlet Area for subsistence fishing in 1968. Of these 176 were issued in the Anchorage Office; 106 in the Palmer Office; 91 in the Homer Office and 13 in the Soldotna Office.

Of the 386 permits issued, 332 catch reports were returned.

The following is the reported catch by species and by area:

NORTHERN DISTRICT (Northwest Shore Knik Arm)

KINGS	REDS	COHOS	PINKS	CHUMS	OTHER	TOTAL
9	1,007	3,013	1,135	225	6	5,395

276 permits were issued, 237 returned, 51 did not fish, 18 fished and caught 0, a total of 18 fish caught over 50. Those listed as OTHER fish, 2 were identified as Arctic Kings.

NORTH CENTRAL

KINGS	REDS	COHOS	PINKS	CHUMS	OTHER	TOTAL
0	0	145	2	3	1	151

17 permits were issued, 15 returned, 2 did not fish. The 1 fish shown as OTHER was identified as a Dolly.

SOUTH CENTRAL

KINGS	REDS	COHOS	PINKS	CHUMS	OTHER	TOTAL
0	0	140			12	152

13 permits were issued, 11 returned, 2 did not fish. Of the fish listed as OTHER, 3 were steelhead.

SOUTHERN DISTRICT

	KINGS	REDS	COHOS	PINKS	CHUMS	OTHERS	TOTAL
Mud Bay and Spit	1	2	286	14	1		304
Millers Landing			514	11		6	531
Head of Kachemak Bay			76	8			84
McNeil Canyon			22		5		27
Bear Cove			0				0
Halibut Cove			4		2		6
McDonald Spit							0
Seldovia			1				1
Port Graham							0
Total Southern Dist.	1	2	903	33	8	6	953

79 permits were issued at Homer, 11 not returned. 1 permit was issued in Anchorage for shrimp fishing along the Homer shoreline to Resurrection Bay, but the two men were unable to fish as their boat broke down. The 6 fish listed as OTHER were identified as Whitefish.

TOTAL SUBSISTENCE CATCH FOR COOK INLET - 1968

KINGS	REDS	COHOS	PINKS	CHUMS	OTHER	TOTAL
10	1,009	4,201	1,170	236	25	6,651

SALMON

RESEARCH SECTION

RESEARCH SECTION REPORT

SONAR EVALUATION

The Department of Fish and Game has six complete sonar counters in operational status. During the 1968 season, two of the units were utilized in Wood River, (northern Bristol Bay) and four units counted escapements in the Kenai and Kasilof Rivers of Cook Inlet

Bristol Bay Results: Counting units were installed on each bank of the clear-water Wood River near the outlet of Aleknagik Lake. The counters were placed close to the visual counting towers so that comparison counts could be conducted. On 25,600 salmon that were visually enumerated, the counter recorded 26,510. These data were collected under ideal visual counting conditions and the visual count can be considered extremely accurate.

The escapement past the counting towers is estimated in the normal method: counts are conducted during ten minutes of each hour and the resulting figure is multiplied by six. The expanded counts from 24 hours in each day are added together for a daily total. Sonar counters were operated in conjunction with the tower counts during the period July 4 through July 17. The visual expanded estimate for this time period was 452,454 salmon. The total sonar count for both banks during this period was 531,159 or 17% higher than the expanded visual estimate.

The Kenai and Kasilof Rivers are both glacial in nature and continued visual observation of the fish is impossible. It was necessary to operate

a fishwheel immediately downstream from one sonar counter on each stream to determine species composition. Sonar counters were installed in the Kenai River May 24 and operated throughout the summer until August 7. The total estimated sockeye salmon escapement into the Kenai River amounted to 166,100 salmon. The estimated chinook escapement was 11,100 salmon. Total escapement estimates for pink and coho salmon were not completed since the sonar counters were removed from the counting sites before the escapements were completed. The initial sonar counter on the Kasilof River was installed June 8. The second counting unit was installed on July 9; however, the earliest installed counter monitored the majority of the escapement, since migration along the other bank was minimal. The total escapement estimate of sockeye salmon into the system was 92,058 fish. Other species' escapements were not estimated as a result of small catches of salmon in the fishwheel.

COOK INLET PINK SALMON STUDIES

Pre-emergent fry sampling in major pink salmon producing streams of the Southern and Outer districts has been conducted annually since 1963. Numerical predictions of returning pink salmon have been published since 1966.

All of the following figures are total catch plus escapement figures for the years indicated.

<u>Year</u>	<u>Prediction</u>	<u>Return</u>
1966	1,300,000	911,000
1967	500,000	508,000
1968	462,000	484,000

The preliminary 1969 prediction for the Southern and Outer districts amounts to 490,000 pink salmon in both catch plus escapement. The major area of pink salmon production will be the Port Dick region.

Attempts to sample the pre-emergent fry density and egg deposition in the Northern district streams have been made during even years when large escapements are prevalent. The sampling has met with little success due to ice conditions in the region. No predictions have been attempted for the Northern district streams.

The odd-year pink catch for the three fishing districts north of Anchor Point is normally in the 25 to 35,000 fish range. It is anticipated that the harvest of pinks in the major set and drift net areas will not exceed this range.

1968 RED SALMON SMOLT INDEX SAMPLING

Sampling of the red salmon smolt migration from the Kenai River was conducted for the second year with floating inclined plane scoop traps. The traps are fished in the main current of the river five hours each night from 8 p.m. to 1 a.m. and the catch collected from the traps is enumerated by species at the end of each hour of fishing. Four traps are used for the index with each trap independently attached to the girders of the highway bridge at Soldotna. The assembly of traps is rafted together for stability.

Operation of the traps was begun on the 16th of May and continued to the 20th of June when the catch of smolts became minimal. The peak of the smolt migration occurred during the last week of May in 1968, approximately a week earlier than in 1967. The mild spring in 1968, probably caused the earlier migration. The 1968 smolt index of 10,493

slightly exceeds the 1967 index of 9,051, although these figures indicate that the migrations in both years were similar.

In order to check the timing of the smolt migration within each day, a number of 24-hour fishing periods have been conducted at the smolt index site and the catch recorded by hour. The results indicate that contrary to most clear-water streams, the smolt in the Kenai River migrate throughout each day. The index periods accounted for from 8 to 36 percent of the daily migration in the 24-hour evaluations.

The occurrence of other species in the trap catches was noted carefully this year with total catches for the season of each species as follows: red salmon (11,226), king salmon (7,130), silver salmon (1,060), Dolly Varden (59), stickleback (1,117), sculpin (79), hooligan (37), lamprey (3). The number of migrants does not necessarily represent the number of adult salmon that will return since their size differs, and also the marine survival of each species differs.

RACIAL SCALE ANALYSIS

Scale characteristics differ from one stream to the next due to population levels of young salmon and growing conditions in the rearing areas. These characteristics are distinctively different in the majority of the areas of Cook Inlet. Russian River and Hidden Lake fish can be separated from main-stream Kenai River fish. Kasilof River fish can be separated from the above mentioned areas as well as the Susitna River and Fish Creek. The major salmon producing areas in Cook Inlet produce smolt bearing distinctive scale patterns which enables us to identify in the fishery adult salmon bound for various spawning streams. It is important to be able to apportion the catch to river of

origin for two reasons. First, this must be done to assess production from individual spawning escapements. This analysis is basic to forecast of future runs and estimation of escapement requirements. Secondly, separation of these stocks in the fishery may enable the Department to allow different rates of harvest on the individual runs depending on their relative strength. This would be the case if there are differences in timing or migration routes of these runs in the fishery.

An extensive program of scale collection was conducted in 1968 with sampling of sockeye smolt from the Kenai, Kasilof and Susitna Rivers plus Fish Creek. Tributary streams to the Kenai and Susitna Rivers were sampled for the more important producing areas to increase the accuracy of the determinations of origin of adult sockeye growth in the fishery. Samples of adult sockeye scales were collected from the spawning areas, test fishing, and sonar sites, and from the drift and set net fishery. Continuous sampling was conducted at sonar and test net sites, and weekly samples were collected from the drift and set net fisheries to determine the origin of various segments of the commercial fishery catch.

This work is being expanded and modified as we learn more of the importance of the specific areas such as the Russian River which received more than 1/3 of the entire Kenai River escapement in 1968. Detailed analysis of the origin of the commercial fishery catch will be presented as it bears on regulatory proposals later in the meeting.

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FORECAST RESEARCH ON 1969 COOK INLET AREA PINK SALMON FISHERIES 1/

by
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Division of Commercial Fisheries
Research Section
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INTRODUCTION

Forecast estimates of the numbers of pink salmon returning to the Southern and Outer Districts of Cook Inlet have been published for the years 1966 through 1968. The return of pink salmon to the area is made up of fish in both the commercial catch and escapement to the spawning streams. The results of the predictions are as follows:

<u>Year</u>	<u>Prediction</u>	<u>Total Return</u>	<u>Pre-emergent Fry Density</u>
1966	1,300,000	911,000	188.4
1967	500,000	508,000	96.8
1968	462,000	489,000	84.1

The predictions are based on the relationship between the density of pink fry found in the gravel and subsequent returns of adult salmon. The pre-emergent fry densities are determined for the individual streams in the early spring, prior to the time the fry emerge from the gravel and migrate out of the fresh water environment into the saltwater. Sampling of fry is accomplished by use of a water pump which forces the fry out of the gravel into a sampling screen. Various numbers of sample digs are completed on each of the major spawning streams, depending on the area of the utilized spawning gravel. The number of fry found in the gravel is treated mathematically and the expected prediction for one year of return is calculated.

1/ This investigation was financed by the Commercial Fisheries Research and Development Act (P.L. 88-309) under sub-project S-4-R-6, Contract No. _____

The 1969 pre-emergent fry density as calculated from the sampling conducted on the 1967 brood year was 89.3 fry. This figure would result in a total return of 500,000 pink salmon (catch plus escapement) in 1969 to the Southern and Outer Districts. With 95 per cent confidence limits the range of the prediction would be 380,000 to 620,000. The escapement needs for the districts vary with the return distribution. Approximately 200,000 pinks are needed for spawning purposes if all streams receive adequate numbers of fish.

DISCUSSION BY MAJOR STREAM

Humpy Creek

A landslide into a glacial lake occurred in October of 1967 near Humpy Creek valley which scoured a large amount of spawning gravel within Humpy Creek. Some areas of the stream were protected from the onrushing waters and isolated pockets of pre-emergent fry were located. It is anticipated that a spawning population will return to the stream in 1969, but it is very doubtful that harvestable numbers of pink salmon will be present.

China Foot

High pre-emergent fry densities were found in the stream but the spawning area is limited due to an impassable falls.

Tutka Lagoon Creek

The pre-emergent fry density was lower than average. A major channel change occurred in the stream during the heavy fall rains of 1967.

Seldovia River

This river was not sampled for pre-emergent fry density due to ice conditions in the bay and river.

Port Graham

The pre-emergent fry density in this stream was below average and few fish in excess of spawning requirements are expected.

Port Chatham

This area should have harvestable numbers of pink salmon as large numbers of pink fry were observed in the spawning areas by a commercial fisherman visiting the area. Due to late ice conditions, the streams in the bay were not sampled with the pre-emergent fry sampling equipment.

Windy-Rocky Bay

Harvestable numbers of pink salmon are not expected in this area. The pre-emergent fry density in the two Windy Bay streams was below average. The escapement of adult pink salmon to Rocky River numbered less than 500 in 1967.

Port Dick

Port Dick Creek, the major pink salmon producing stream in Port Dick, contained high pre-emergent fry densities. The return to this stream should produce the bulk of the pink salmon harvest in 1969.

Island Creek, also located in Port Dick, had very few pink fry prevalent in the gravel.

NORTHERN, NORTH CENTRAL, AND SOUTH CENTRAL DISTRICTS

No predictions are made for the numbers of returning pink salmon to these districts. Pre-emergent fry sampling in the Susitna Basin has been attempted during even numbered years but ice conditions in the area have limited success of the program. The average odd year pink salmon catch for the three districts amounts to 25,000 to 35,000 fish.

COOK INLET PINK SALMON PRE-EMERGENT FRY DATA

Stream	Fry per m ² per brood year					
	1962	1963	1964	1965	1966	1967
Humpy <u>1/</u>	118.4	86.4	199.1	245.7	131.3	42.0
Tutka <u>1/</u>	139.9	72.3	195.8	154.7	120.5	40.5
Seldovia <u>1/</u>	231.4	84.3	284.1	151.3	136.6	117.8 ^{6/}
Pt. Graham <u>1/</u>	279.9	(40.0) <u>2/</u>	242.1	40.5	165.7	58.1
Windy L.			100.1	21.2	28.3	39.8
Windy R.			75.3	48.4	13.9	83.9
Rocky <u>1/</u>	(284.1) <u>3/</u>	0.0	131.3	(0.0) <u>5/</u>	11.4	0.0 ^{5/}
Pt. Dick <u>1/</u>	240.0	5.4	222.7	149.6	43.4	319.6
Island <u>1/</u>	113.0	0.0	80.7	0.0	67.4	0.0
China Poot				244.3	673.9	973.8
Pt. Chatham L.					207.5	<u>7/</u>
Pt. Chatham R.					64.2	<u>7/</u>
Nuka South					23.7	<u>7/</u>
Weighted Averages <u>4/</u>	217.8	36.3	188.4	96.8	84.1	89.3

1/ Used only these streams when calculating weighted averages.

2/ Given same value as 1965 because of similar escapements.

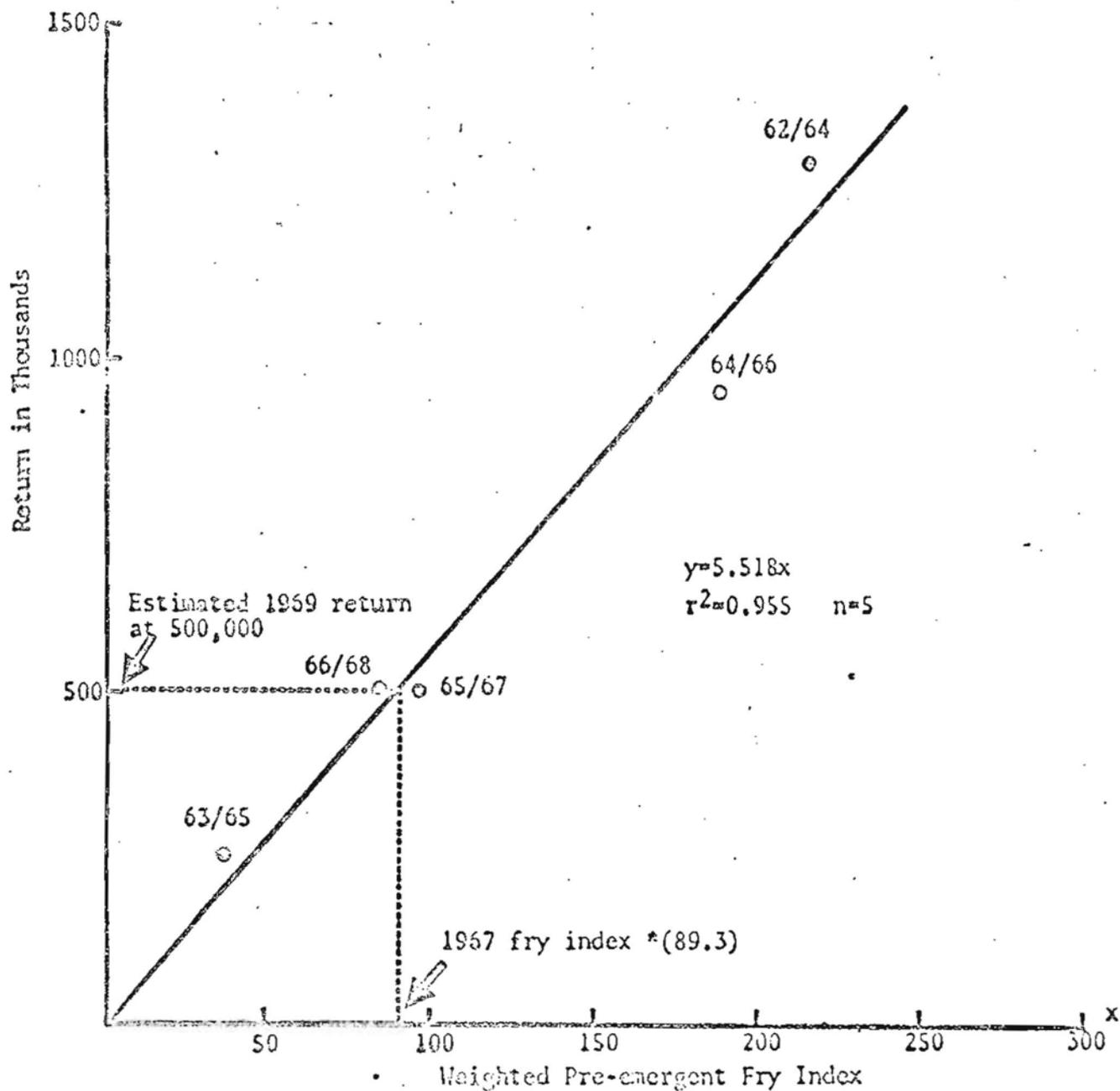
3/ Used highest density observed because of large 1962 spawning density in Rocky River.

4/ Stream fry densities weighted by average escapement.

5/ Estimated zero fry density since escapement was estimated to be only 300 spawners.

6/ Used average pre-emergent fry density from previous two odd-years not sampled for 1967 brood year due to ice conditions.

7/ Not sampled for 1967 brood year due to ice conditions.



*Fry index weighted by average escapement

Relationship between Weighted Pre-emergent Fry Index and Return (Catch plus Escapement), Cook Inlet (Southern and Outer Districts)

SHELLFISH SECTION

KING CRAB

Despite early closures (early and mid-April) of king crab due to soft shell crab and excessive handling, and a late opening (August 1) because of the poor condition of crab in early summer, king crab landings for Cook Inlet for 1968 totalled 4.0 million pounds. Average production of the Inlet since 1960 has been about 4.5 million pounds.

Females have been checked on the spawning areas each spring since 1960, and to date, no sample of more than 1 or 2 per cent has been taken of female king crab without eggs.

Average weight of king crab in Cook Inlet has dropped slightly since 1960 for Kachemak Bay (from 9.2 in 1960, to 8.3 for 1968), and the Kumishak Bay king crab size is actually higher in 1968 at 8.9 pounds, than it was in 1961 at 8.6 pounds, the first year of the fishery there.

KING CRAB BOATS FISHING COOK INLET

1965	23 licenses
1966	33 boats
1967	34 boats
1968	44 boats

COOK INLET CRAB LANDINGS - 1951 - 1968

KING CRAB - Pounds

<u>YEAR</u>	<u>KACHEMAK</u>	<u>KAMISHAK</u>	<u>OUTER</u>	<u>EASTERN</u>	<u>TOTAL</u>
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	1,837,948	1,974,559	37,656		3,900,163
1967	1,286,789	1,821,269	16,033	418	3,124,509
1968	1,091,020	2,965,658	39,112		4,008,933

KING CRAB

KACHEMAK*

<u>Year</u>	<u>Landings</u>	<u>Crab</u>	<u>Crab Per Landing</u>	<u>Total Pounds</u>
1960	2434	455,000	187	4,219,776
1961	2619	364,045	139	3,108,352
1962	1843	296,123	160	2,546,177
1963	1435	347,096	241	2,842,814
1964	1019	229,165	225	1,804,568
1965	742	217,544	293	1,787,420
1966	681	226,557	332	1,925,604
1967	705	164,335	233	1,303,240
1968	603	116,435	193	945,150**

KANISHAK

<u>Year</u>	<u>Landings</u>	<u>Crab</u>	<u>Crab Per Landing</u>	<u>Total Pounds</u>
1960	0	N O N E		
1961	181	140,566	776	1,215,766
1962	372	473,601	1273	4,505,444
1963	445	635,225	1427	5,538,349
1964	401	589,796	1470	4,967,824
1965	79	108,019	1367	963,412
1966	121	225,537	1863	1,974,559
1967	99	213,285	2154	1,821,269
1968	166	318,507	1919	2,849,771**

*Outer District included with Kachemak

**Through October 31, 1968

	1931		1932		1933		1934	
	Cash	Pounds	Total Cash	Total Pounds	Cash	Pounds	Total Cash	Total Pounds
Jan.	1,784	14,725	1,784	14,725	2,500	23,370	2,500	23,370
Feb.	25,164	221,916	26,948	236,641	12,159	119,066	14,659	142,436
Mar.	14,160	119,918	41,100	356,559	81,214	815,711	95,873	958,147
Apr.	639	5,270	41,747	361,829	35,573	351,487	131,445	1,309,634
May	-	-	41,747	361,829	-	-	131,446	1,309,634
June	-	-	41,747	361,829	-	-	131,446	1,309,634
July	-	-	41,747	361,829	-	-	131,446	1,309,634
Aug.	61,977	477,240	103,724	839,069	89,503	676,588	220,954	1,926,222
Sept.	13,239	97,507	116,963	936,576	62,474	541,447	283,428	2,527,569
Oct.	1,221	8,764	118,184	945,340	35,079	322,102	318,507	2,849,171
Nov.	2,474	20,388	120,658	965,728	10,026	88,983	328,533	2,938,754
Dec.	4,634	38,435	125,292	1,091,020	2,906	26,904	331,439	2,965,658

	CUTTER DISTRICT		TOTAL	
	Cash	Pounds	Total Cash	Total Pounds
Jan.	-	-	-	-
Feb.	2,349	27,993	2,349	27,993
Mar.	137	1,547	2,486	29,540
Apr.	660	6,985	3,146	36,525
May	55	563	3,201	37,088
June	-	-	3,201	37,088
July	-	-	3,201	37,088
Aug.	-	-	3,201	37,088
Sept.	-	-	3,201	37,088
Oct.	227	2,024	3,428	39,112
Nov.	-	-	3,428	39,112
Dec.	-	-	3,428	39,112

1908

KING CRAB

TOTAL CATCH BY MONTH

	<u>Crab</u>	<u>Pounds</u>
January	4,284	38,095
February	39,672	368,975
March	95,511	937,176
April	36,872	363,742
May	55	563
June	0	0
July	0	0
August	151,485	1,153,828
September	75,713	638,954
October	36,527	332,890
November	12,500	109,371
December	<u>7,540</u>	<u>65,339</u>
Total	460,159	4,008,933

KING COAST
MONTHLY TOTAL LANDINGS, COOK INLET
(Pounds)

<u>Month</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>
Jan.	156,697	165,752	123,220	60,189	20,456	38,095
Feb.	847,221	336,459	52,019	318,031	149,861	369,975
Mar.	449,132	526,354	626,006	255,749	324,234	937,176
Apr.	587,187	733,497	372,276	580,420	580,984	363,742
May	628,420	411,023	220,572	502,257	0	563
June	1,791,634	776,558	252,311	632,303	0	0
July	1,808,697	2,033,318	507,765	652,339	893,904	0
Aug.	1,078,313	1,164,270	523,125	530,513	816,891	1,153,828
Sept.	636,258	345,781	72,179	226,617	247,822	638,954
Oct.	243,065	148,703	1,018	14,746	69,179	332,890
Nov.	34,912	47,827	9,137	55,978	11,788	109,371
Dec.	117,637	32,550	16,911	71,023	9,390	65,339
Total	8,381,163	6,772,392	2,776,547	3,900,163	3,124,509	4,008,933

COOK INLET KING CRAB CATCHES - 1968

Month	KACHENAK BAY		KAMISHAK BAY		OUTER DISTRICT		TOTAL	
	Crab	Pounds	Crab	Pounds	Crab	Pounds	Crab	Pounds
Jan.	1,784	14,725	2,500	23,370			4,284	38,095
Feb.	25,164	221,916	12,159	119,066	2,349	27,993	39,672	368,975
March	14,160	119,918	81,214	815,711	137	1,547	95,511	937,176
April	639	5,270	35,573	351,487	660	6,985	36,872	363,742
May	-	-	-	-	55	563	55	563
June	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-
August	61,977	477,240	89,508	676,588	-	-	151,485	1,153,328
Sept.	13,239	97,507	62,474	541,447	-	-	75,713	638,054
Oct.	1,221	8,764	35,079	322,102	227	2,024	36,527	332,890
Nov.	2,474	20,388	10,026	88,983	-	-	12,500	109,371
Dec.	4,634	38,435	2,906	26,904	-	-	7,540	65,339
Total	125,292	1,091,020	331,439	2,965,658	3,428	39,112	460,159	4,008,933

CRAB LANDINGS - 1960 - 1968

<u>YEAR</u>	<u>DUNCENESS</u> <u>CRAB</u>	<u>POUNDS</u>
1960	No fishery	
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	130,499
1967	2,141	7,168
1968		378,941

<u>YEAR</u>	<u>TANNER</u>	<u>POUNDS</u>
1968		146,277

COOK INLET DUNGENESS CATCHES - 1968

(POUNDS)

<u>MONTH</u>	<u>KACHEMAK BAY</u>	<u>KANISHAK BAY</u>	<u>OUTER DISTRICT</u>	<u>TOTAL</u>
May			137	137
July	84,480			84,480
August	181,459			181,459
Sept.	116,930	3,270		120,200
Oct.	65,006			65,006
Nov.	30,482			30,482
Total	478,357	3,270	137	481,764

COOK INLET TANNER CRAB CATCHES - 1968

(POUNDS)

Month	KACHEMAK BAY		KAMISHAK BAY		OUTER DISTRICT		TOTAL	
	Crab	Pounds	Crab	Pounds	Crab	Pounds	Crab	Pounds
Feb.	1,034	2,515	1,150	2,619	566	1,150	2,750	6,284
Mar.	2,740	8,613					2,740	8,613
Apr.	14,030	44,850	80	350			14,110	45,200
May	26,168	80,240			75	180	26,243	80,420
June	2,385	5,420					2,385	5,420
July	-	-	-	-	-	-	-	-
Aug.	104	340					104	340
Sept.	150	490					150	490
Oct.	490	1,570					490	1,570
Nov.	549	1,514					549	1,514
Dec.	5,117	15,296					5,117	15,296
Total	52,767	160,848	1,230	2,969	641	1,330	54,638	165,147

COOK INLET SHRIMP CATCHES - 1968

(POUNDS)

<u>MONTH</u>	<u>KACHEMAK BAY</u>	<u>OUTER DISTRICT</u>	<u>TOTAL</u>
May	11,335		11,335
June	1,310	418	1,728
July	-	-	-
August	-	-	-
Sept.	216		216
October	11,022		11,022
November	2,071		2,071
December	288		288
Total	26,242	418	26,660

TRAWL (07)

26,099#

POTS (04)

561#