ANNUAL FINFISH MANAGEMENT REPORT

1978 - 1979

LOWER COOK INLET

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES

ANNUAL
FINFISH MANAGEMENT REPORT
-1978-1979-
LOWER COOK INLET

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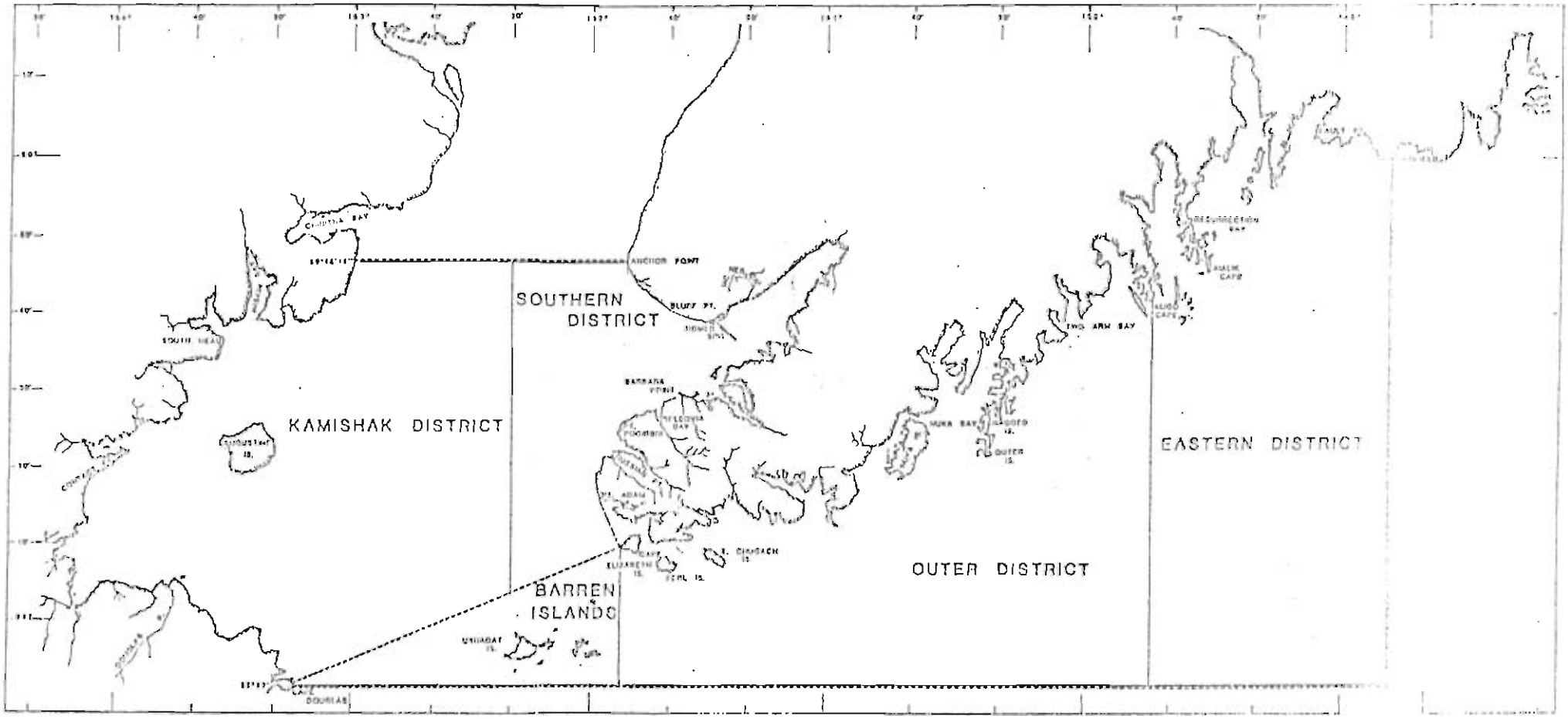


Figure 1. Lower Cook Inlet Management Area.

ANNUAL MANAGEMENT REPORT

LOWER COOK INLET

-1978-1979-

1978 COMMERCIAL SALMON FISHERY

INTRODUCTION

The Lower Cook Inlet management area is comprised of all waters west of the longitude of Cape Fairfield north of the latitude of Cape Douglas and south of the latitude of Anchor Point (Figure 1). The area has been divided into five fishing districts (Southern, Kamishak Bay, Barren Islands, Outer and Eastern) all of which are salmon producers except for the Barren Islands district, which is primarily a shellfish district.

The 1978 Lower Cook Inlet salmon harvest of 590,759 was the largest even year harvest since 1970 and was comprised of 1,747 king, 156,404 sockeye, 6,529 coho, 352,561 pink and 73,518 chum salmon (Tables 1 and 16). The total harvest was 29 percent below average for the Lower Inlet and the pink salmon return to the Southern and Outer districts followed this pattern, returning 24 percent below the pre-season forecasted return of 635,000 (Appendix Table 16). The chum salmon harvest was also disappointing and was 40 percent below average (Table 11).

The area experienced the first major return to the Tutka Bay pink salmon hatchery and the facility contributed 167,862 pink salmon to the fishery, which represented 25 percent of the total Lower Cook Inlet pink salmon harvest

(Tables 1 and 6). The backbone of this year's fishery, however, was the record sockeye salmon harvest. Over 90 percent of the harvest occurred in the Southern district and was a reflection of the exceptionally strong sockeye return to Upper Cook Inlet spawning systems. The harvest was 3 1/2 times the average for Lower Cook Inlet and most of the harvest occurred in the Tutka Bay area (Tables 1 and 14). Spawning escapements were good for most species throughout Lower Cook Inlet, but pink salmon escapements to many Outer district streams continue to be poor and below desired levels (Tables 3-5).

Seine fishing effort was similar to the strong, odd-year cycle return in 1977, even though pre-season forecasts were poor, but set gillnet effort increased 50 percent (Appendix Table 3). The ex-vessel value of the 1978 harvest of $2,341,000 was more than double the average value for the Lower Cook Inlet salmon fishery and was due entirely to the sockeye salmon harvest, whose value was almost five times the historical average (Appendix Table 4). Prices paid for pink salmon were 14 percent below 1977 prices, but prices paid for sockeye, coho and chum salmon were 20-75 percent higher (Appendix Table 5). The 1978 case pack was 40 percent above average, but below the large 1977 case pack. However, a major shift in salmon processing from canning to fresh, frozen and cured products occurred in 1978. The fresh, frozen and cured production set record poundages for each species and the total production of over 36 million pounds was over six times the average (Appendix Table 7 and 8).

SOUTHERN DISTRICT

Sockeye Salmon

The record setting Southern district sockeye salmon harvest of 141,088 fish literally saved the fishermens bacon in 1978. The harvest set records for both set gillnetters and seiners and was over five times the historical average (Tables 1 and 17). Set gillnets have traditionally harvested over 80 percent of the Southern district sockeye salmon, but the set gillnet harvest of 86,934 sockeye was only 61 percent of the total in 1978 (Tables 15 and 17). Extremely strong sockeye catches were made throughout the entire district by seiners during various pink salmon openings and 47,800 sockeye were harvested in the Tutka bay subdistrict between July 10-19. Set gillnet catches added an additional 45,000 fish and the total Tutka Bay sockeye harvest of 92,100 was 4 1/2 times the previous record harvest in this area (Table 14). In addition to the large harvest and high prices paid for sockeye in 1978, the average weight of these fish was 7.4 pounds, 17 percent above average (Appendix Table 6). The sockeye escapement of 13,500 fish to the English Bay Lake system, the only major sockeye salmon system in Lower Cook Inlet, was within the range of 10,000 to 20,000 and was considered good (Table 5).

Pink Salmon

Pink salmon spawning escapements in 1976 were good to the Southern district streams, but alevin densities for this brood year were below average due to freezing conditions that prevailed in October of 1976 with little snow cover

(Tables 8 and 10). As a result, the estimated strength of natural returns was difficult to predict ahead of time. The first major pink salmon fry release from the Tutka Hatchery held some promise for a good harvest in the Tutka Bay subdistrict, but no survival data for hatchery releases were available to accurately forecast the return.

The Southern district pink salmon harvest of 251,761 was just slightly above average, but was the largest even-year pink salmon harvest in the district since 1964 (Tables 1 and 17). The good harvest was entirely due to the hatchery return to Tutka Bay which produced the second highest harvest on record for this area. Escapements to the major spawning streams were all good, except Port Graham which fell considerably below the goal (Table 3).

Pink salmon began arriving in Tutka Bay in late June and by July 3 over 2,700 fish had already reached the lagoon. By July 7, aerial survey estimates in the lagoon had reached 10,000 and the Tutka Bay subdistrict was opened on July 10 on the regular weekly fishing periods. Fishing was restricted to waters north of the Homer Electric Association powerlines as additional fish were still needed in the lagoon for hatchery egg takes and natural spawning escapement for Tutka Creek. Hatchery personnel began seining up brood stock, but their efforts had little effect on the increase of fish in the lagoon. The HEA markers were removed on July 13 and fishing was allowed up to the mouth of the lagoon.

Catches were good during the first two weeks of fishing and over 43,000 pinks were harvested even though the fleet was concentrating on sockeye salmon in the outer portion of the subdistrict. Large schools of pinks were present in

the lagoon during July 20 and 23 surveys, but accurate estimates of the numbers were not possible due to the fish stirring up the silty bottom. The FRED hatchery personnel had most of the 20,000 fish needed for egg takes seined up and in holding pens and, with an additional 15,000 fish estimated in the lagoon and 6,000 fish in the creek, a two hour lagoon opening was announced for 4:00-6:00 a.m. July 25.

The opening was scheduled two hours before a 17.0 foot high tide to allow boats to enter the lagoon prior to the opening and leave on the high tide. A total of 21 vessels took 47,143 pink salmon during the two hour fishery that was opened by flare. The harvest was an entire surprise and resulted in adjustments of aerial survey estimates of fish in the lagoon. A July 29 survey indicated that over 12,000 fish were again schooled in the lagoon and a second flare opening for two hours was scheduled for August 2.

The seine harvest through the third week of fishing reached 128,000 pink salmon with an additional 20,000 in pens for egg takes and 9,000 in the creek. The second lagoon opening with 29 boats in the lagoon was dangerous and wild, but added an additional 17,000 fish to the harvest. A third two hour opening was allowed on August 8 and with aerial estimates indicating 5,700 fish in the lagoon, 16 boats harvested over 11,000 fish (Table 7).

This first year of managing a hatchery return to Tutka Bay was very interesting and enlightening. It became obvious after removal of the HEA markers that the fleet would not be able to stop the movement of pink salmon into the lagoon even though fishing was allowed up to the mouth of the 30 yard wide channel. Over 46 percent of the total seine harvest in the subdistrict

was taken from the lagoon during the three flare openings and 55 percent of the entire return was able to reach the lagoon even with intensive fishing effort. Aerial estimates of fish in the lagoon were extremely difficult and in most cases could be doubled or tripled to match what was actually present. Furthermore, the 4:00 a.m. opening in the lagoon was too early and posed a definite hazard to fishing operations in the small 30 acre lagoon. Early openings such as this should be avoided in the future.

The Tutka Bay pink salmon harvest of 167,900 fish was second only to the 1962 pre-earthquake harvest (Tables 11 and 12). The stream escapement reached 15,000 and was more than double the goal (Tables 3 and 8).

The Halibut Cove Lagoon saltwater rearing facility conducted tests with pink salmon in 1977 and released 342,000 fry in the lagoon. Fish began arriving in the lagoon in early July and the lagoon was opened to seining on July 10 with over 2,500 pink salmon estimated in the lagoon. The lagoon was left open, except for a five day closure from July 19-24 to allow king salmon smolt being released in the lagoon to adjust to their new surroundings. Seiners caught over 9,000 pink salmon during the first 48 hour period in the lagoon and the harvest reached 11,700 by the July 29. Excellent sockeye and king salmon catches were made in the lagoon and totalled 5,200 and 200 respectively. The lagoon was closed again on August 3 when coho salmon began arriving. The total harvest of 23,200 pink salmon in Halibut Cove Lagoon represented an ocean survival of 6.8 percent and the return was much higher than originally forecasted.

Escapements into Humpy Creek began increasing during the third week of July.

Over 9,300 fish were in the stream on July 20 and a 48 hour opening was announced for July 24-26. Very little fishing effort occurred due to the strong catches being made in Turka Bay and the rate of escapement into Humpy Creek was not decreased. The escapement goal of 24,000 fish was achieved and the subdistrict was reopened on July 31 on the regular weekly fishing periods. The final pink salmon harvest for the Humpy Creek area of 44,000 fish contained only 21,000 from the Humpy Creek return (Table 12). The total return was not strong, but an excellent escapement of 46,100 fish was achieved (Tables 3 and 8).

The Seldovia Bay pink salmon return normally begins in early July. Although some fish were present in the bay in late June, no significant numbers had accumulated until late July. Ground and aerial surveys indicated half of the escapement goal had been achieved by July 26 and additional fish were present in the bay, with a significant portion protected inside markers at the head of the bay. The subdistrict was opened to fishing on July 31, but fish were moving into the stream so quickly that, by the opening, very few fish were left outside the markers. The escapement goal was finally reached and the markers were removed in Seldovia Bay on August 8. The marker removal resulted in the harvest of 31,000 of the total pink salmon harvest of 35,400 from the Seldovia Bay return (Table 12). The harvest was good for an off-cycle year return and the escapement of 24,600 was below average, but within the escapement range (Tables 3 and 8).

Miscellaneous

Port Graham Bay experienced a fair chum salmon return in 1978. The harvest of

2,400 chums was similar to past years, but the escapement of 4,800 was excellent and was almost three times the average for this system (Tables 4 and 13). The Port Graham subdistrict was opened to seining for 48 hours from July 10-12 and seiners harvested 1,600 chum salmon during that period.

The coho salmon return to the English Bay Lakes system also provided an excellent harvest of coho salmon. Set gillnets in the Port Graham and English Bay area harvested 2,600 coho salmon in late August and early September. The total Southern district set gillnet harvest of 3,053 coho salmon was more than double the historical average and the total coho harvest by all gear types of 4,318 was 22 percent above average (Tables 1, 15 and 17). An opening from October 6-28 was allowed in Halibut Cove Lagoon to harvest coho returning to the saltwater rearing facility. Two vessels caught 257 fish on the opening date, which was the extent of the commercial fishing effort during this opening.

OUTER DISTRICT

Sockeye Salmon

Sockeye salmon bound for Delight and Desire Lakes in the East Nuka subdistrict arrived later than in recent years. No fish were observed in the area until the June 19 aerial survey and the buildup afterwards was slow. The returns appeared weak and fish did not move into Desire Lake until June 28 when the escapement in the lake was estimated at 4,500 fish. Delight Lake did not build as rapidly as Desire and only 3,200 sockeye had reached the in-stream lagoon by this date. The subdistrict was opened on June 30 and fishing was allowed during the regular two 48 hour weekly periods. A July 7 aerial survey estimated total escapements at 9,000 in Desire Lake and 7,000 in Delight Lake and the markers at Desire Lake were removed on July 10. Catches remained low and the final harvest of 10,695 sockeye, while above average for the district, was below the previous two years' harvest and only 50 percent of the projected harvest (Tables 14 and 18). Markers were put back in effect at Desire Lake on July 27 to protect the pink salmon return. The final escapements to both lakes were considered good, but the Delight Lake escapement of 8,000 fish was below the 10,000 fish goal (Table 5).

Pink and Chum Salmon

Dogfish Bay appeared to have a strong return in progress when the June 28 aerial survey indicated 4,000-5,000 chum salmon were already in the lagoon. The subdistrict was opened to fishing on June 29, but very little fishing

effort occurred throughout the summer. The final harvest of 8,500 chum salmon was good for this small area and the escapement of 9,300 chums was well above average and considered excellent (Tables 4 and 13).

Port Dick Bay was the only other subdistrict in the Outer district to receive any harvestable returns of pink and or chum salmon in 1978. Aerial surveys of the bay, which began on June 28, indicated only minor numbers of pink salmon schooled along the shore of the upper bay through July 23. Since the early arriving pink return is usually the upstream spawning segment and the even-year return to Port Dick is primarily an intertidal spawning return, this segment of the Port Dick return was not expected to be strong. Good numbers of chum salmon were schooled along the north shore of the bay during these same surveys. The chums gradually moved inside the markers at Island Creek and on July 29 the escapement had reached 2,000 fish with additional fish protected inside the markers.

The Port Dick subdistrict was opened to seining on July 31, but the waters west of the Middle Creek to Shelter Cove line, which has been used frequently in the past, were kept closed. The lower end of the escapement range for Island Creek of 10,000-15,000 chum salmon was reached on August 7 and the markers at Island Creek were removed at 12:00 noon August 8. The final chum salmon harvest for Port Dick of 10,300 came primarily from the Island Creek return and, while the catch was not exceptional, the final escapement of 16,900 chums was considered excellent and was the largest on record (Tables 4, 9 and 13).

The late pink salmon run to Port Dick Creek began to build during the first

week of August and by August 10, 30,000-35,000 fish were in the creek or protected inside markers at the head of the bay. The Middle Creek to Shelter Cove closure was removed at 6:00 p.m. August 10, which allowed fishing up to the markers at the head of the bay. The final harvest of 63,600 was good for the off-cycle year and was the first significant even-year harvest since 1970 (Table 12). The spawning escapement of 44,900 was twice the goal for the intertidal spawning run, but additional fish were allowed in the creek in an unsuccessful attempt to force fish upstream above intertidal influence (Tables 3 and 8).

The only other pink salmon harvest occurred in the East Nuka subdistrict. Fishermen caught 6,300 pinks from the Desire Lake Creek return during the tail-end of the sockeye return. This return is normally very minor, but large harvests have been made at Desire Lake in the past. The subdistrict was closed on August 2, but only 1,000 fish reached the spawning grounds. In general, pink and chum salmon spawning escapements to other streams in the Outer district were poor and no openings were ever contemplated (Tables 3, 4, 8 and 9).

KAMISHAK DISTRICT

Sockeye Salmon

The first aerial survey of Mikfik Lake was conducted as soon as weather permitted on June 7. Sockeye were already present with 1,500 fish estimated in the intertidal area, but none had appeared to have reached the lake. An additional survey on June 9 accounted for over 7,400 sockeye with 1,000 already in the lake and an opening was announced for the Kamishak-Douglas subdistrict for June 12. Five boats fished the area, but most of the fish had reached the lake by the opening date. Only 500 fish were harvested from the Mikfik run and the escapement of 12,000 sockeye salmon was more than double the goal of 5,000 (Table 5). Several boats did fish the Kamishak River and Douglas River sockeye returns and harvested 4,000 fish in late June. Very few sockeye were observed spawning in the Douglas River system in 1978, but the Kamishak River appeared to have a fair escapement. Aerial estimates for this river system of 1,000 sockeye are considered very minimal due to high muddy water conditions (Table 5). The total Kamishak district sockeye harvest of 4,619 was the third highest on record. The catch was almost three times the historical average and marked the third year of good sockeye catches in this district.

Pink and Chum Salmon

The pink salmon returns to all Kamishak district streams were extremely poor in 1978 and no openings were directed specifically to harvest pink salmon during the entire season. The harvest of 982 pinks was taken incidentally to the chum salmon fishery. Bruin Bay River received an adequate escapement of 33,000 fish, but other pink salmon spawning system escapements were very poor (Table 3).

The chum salmon return to the Kamishak district was good in general. The harvest of 48,669 chums was very good and was 65 percent above average. The harvest was primarily concentrated on returns to three spawning systems, the Kamishak River system, Iniskin River and Cottonwood Creek, and these areas provided 80 percent of the Kamishak district chum harvest.

The Kamishak-Douglas subdistrict was left open after the sockeye salmon runs were over in anticipation of the arrival of the chum salmon returns. A few large chums were caught near McNeil River in late June, but a severe storm set in which prevented fishing in this district until July 11. Aerial surveys were impossible from July 1-7, but on July 8 over 22,000 chum salmon were observed in McNeil River and the estimated escapement was close to 30,000 fish. McNeil Lagoon was opened to fishing at 12:00 noon July 8 and fishing time was extended to 7 days per week, but weather prevented the available boats from reaching the area for three days. Three boats were able to harvest 4,900 chums from the McNeil return, but most of the fish moved into the river so quickly that they were never available for harvest. The run timing caught the fishermen somewhat by surprise as the McNeil River chum return

historically began around July 8. The 45,000 fish escapement was considered excellent due to the extensive spawning above the falls, even though the escapement was more than double the upper end of the escapement range (Table 4).

The Kamishak River and Douglas River chum returns began as the McNeil River run was fading. Weather again hindered fishing efforts in this area. The fleet harvested 5,000 chums on July 15, but were not able to fish again until July 24. Aerial surveys were also restricted during this same time period and the July 24 surveys indicated very good chum escapements in both Kamishak Rivers. Fishing was extended to seven days per week on July 29 and the final harvest for the Kamishak River system was 23,900, which was a record harvest for this area (Table 13). The chum salmon escapements of 23,000 and 30,000 to Big and Little Kamishak Rivers, respectively, were above the escapement goals and considered good (Tables 4 and 9). The Douglas River harvest of 2,900 was relatively minor and escapements to several major tributaries could not be assessed due to extensive glacial waters in the streams.

The Bruin Bay subdistrict was opened to fishing on July 6 in anticipation of the pink and chum salmon returns which were expected to be fair. No fishing occurred due to the extremely poor weather and the strong chum returns to McNeil and Kamishak Rivers. Fishing was extended to 7 days per week on August 2 after good pink and chum salmon escapements had been achieved, but no fishing effort ever occurred in this subdistrict.

The chum salmon returns to the northern portion of the district began in late July. Aerial surveys of Iniskin River on July 24, August 1 and 5 indicated

chum salmon escapements increasing from 500 to 1,350 to 4,850, respectively, and the subdistrict was opened to fishing seven days per week on August 7. The Cottonwood Bay and Ursus Cove Lagoon returns were progressing well in early August, but most of the fish were not holding inside areas closed to fishing and were still too vulnerable to possible harvest. The Iniskin harvest reached 5,000 chums by August 19 and the run dropped off to practically nothing. The final escapement of 11,400 was slightly above the goal and considered excellent (Tables 4 and 9).

The 5,000 fish chum salmon escapement to Ursus Cove Lagoon was achieved by August 14 and the subdistrict was opened to seining on August 15. Only 1,900 chums were harvested from this return and the final escapements to creeks in the lagoon reached 9,700 (Table 4). Chums finally began moving into the creek at Cottonwood Bay and by August 21 the escapement had reached 6,800. The subdistrict was opened to fishing seven days per week on August 21 and the harvest reached 10,000 fish in the next 10 days. The final escapement to Cottonwood Creek was 12,500 well above the 10,000 fish escapement goal (Table 4).

Miscellaneous

Extremely bad weather continued to hinder fishing efforts in the Kamishak district in late August. Only one set was made in the Kamishak-Douglas subdistrict on August 28 and produced a catch of over 1,400 coho salmon. The total coho harvest for the district of 1,554 was more than three times the average for the district (Table 19). Escapements of coho salmon are not monitored due to weather conditions in September and a limited flying budget.

EASTERN DISTRICT

Salmon fishing in the Eastern district in 1978 was rather low key. Aialik Bay was kept closed to obtain adequate sockeye escapement to Aialik Lake. An aerial survey on July 24 indicated the lower end of the escapement range of 2,500-5,000 fish had been achieved and the Aialik Bay subdistrict and Lagoon was opened to fishing on July 25. No fishing effort or harvest occurred.

The pink salmon return to Resurrection Bay was monitored throughout late July and early August. Sport fishing catch rates were monitored and used as a guide to the run strength. These catch rates for the first four weeks were equal to or above all previous years when fisheries were allowed, except 1976. The Resurrection Bay subdistrict was opened to fishing on August 7 for the first time under the new pink salmon management plan for this area adopted by the Alaska Board of Fisheries in 1976. Nine boats harvested 29,738 pink salmon during the 24 hour fishery which was closed on August 8. Only 19 coho salmon were killed and no user group conflicts occurred during the fishery, which was monitored by four protection officers in two boats, three fishery biologists and two I & E specialists.

SUBSISTENCE FISHERY

The Kachemak Bay subsistence gillnet fishery for salmon was allowed in 1978. The Northshore subdistrict was opened to both commercial and subsistence fishing from August 17 until September 16. A record number of permits were issued in 1978 and the 311 permits issued represented a 57 percent increase over the previous year (Table 21). The largest increase in the number of issued permits by area of residence came from Homer and Anchorage. A total of 3,239 fish were reported caught by the returned permits and a new record harvest of 2,482 coho occurred (Table 22). Catches of other salmon species were average. An October opening for commercial seines and subsistance gillnets was allowed in Halibut Cove Lagoon from October 6-28 when a fair number of coho returned to the saltwater rearing facility. Some gillnet effort did occur, but catch information was not available.

ENHANCEMENT AND REHABILITATION

Tutka Hatchery

The Tutka Hatchery marked its second year of full operation in 1978. The hatchery released over 4,866,000 pink salmon fry in 1978 of which 2,933,000 were short-term-reared prior to release to increase survival.

A total of 21,100 fish were seined up for hatchery egg takes in 1978 and 15 million eggs were put in the hatchery. A remote egg take for chum salmon was funded for Port Dick in an attempt to build up hatchery brood stock in Tutka Creek. A total of 1.25 million chum salmon eggs were taken from the intertidal spawning stock in Port Dick Creek and put in the Tutka Hatchery in 1978. The 1978 pink salmon return to the hatchery was estimated at 150,932, which was a 3.5 percent survival of released fry to returning adult. Based on survival rates experienced this year, the 1979 return should approach 156,000-250,000 using 2 percent and 4 percent survival rates for direct release and reared fish respectively.

Halibut Cove Lagoon

The Halibut Cove Lagoon saltwater rearing facility produced a fair return of king salmon in 1978. The total return was estimated at 500 fish. Seiners and set gillnets harvested 430 king salmon in this area where the historical average king catch has been under 50 fish. Seiners harvested over 330 kings from the lagoon during openings directed at the pink salmon return. Over

99,800 king salmon smolt were released from the rearing project in 1978 and should provide good returns of adults in 1980-1982. A strong coho salmon return also occurred in September and October. The lagoon was opened to subsistence and commercial fishing from October 6-28, but no estimate of the subsistence harvest was available. Two seine vessels harvested 257 coho salmon on the opening day and the total return was estimated at 900 fish.

Miscellaneous

Several other stocking projects and returns to stocking projects occurred in 1978. Fritz Creek, located along the northern shore of Kachemak Bay, was stocked with 57,000 coho salmon smolt this year. The project was aimed at producing additional coho salmon for the recreational and subsistence fisheries along the Homer Spit.

Caribou and Seldovia Lakes were stocked with coho salmon fingerling in 1976 and 1977 and returns occurred to both of these systems in 1978. The Seldovia Lake return was rather small and was estimated at only 600 fish. The Caribou Lake return could not be fully accounted for due to extensive interception in the fisheries along the north side of Kachemak Bay. However, a weir operated on Fox Creek, which empties Caribou Lake, accounted for 3,200 coho salmon.

Chenik Lake, a former sockeye salmon producing system in the Kamishak Bay district, was stocked with 99,600 sockeye fingerling in 1978. This lake historically produced large sockeye salmon returns back in the 1930's with escapements reaching 30,000-50,000 fish and total returns as high as 140,000.

1979 COMMERCIAL SALMON FISHERY

INTRODUCTION

The 1979 Lower Cook Inlet salmon harvest surpassed all expectations and in the process established numerous records for this area. The total salmon harvest of 3,287,467 fish was comprised of 1,238 king, 64,417 sockeye, 12,250 coho, 2,986,534 pink and 223,028 chum salmon (Tables 2 and 16). The harvest was 34 percent above the previous record set in 1962 and four times the average harvest for the Lower Inlet (Table 16).

The return was highlighted by a return of 455,600 pink salmon to Tutka bay, 81 percent of which were hatchery fish, which resulted in a new record harvest for the Southern district (Table 17). The Outer district pink salmon harvest was 15 percent above the 1962 record and the total harvest was more than 4 1/2 times the average for the district. The Kamishak harvest was considerably above average as were catches of sockeye, coho and chum salmon in other districts (Tables 17-20). The large number of returning salmon to numerous lagoons and small bays resulted in 24 special flare openings or marker adjustments in-season to adequately harvest the returns.

The total return of 3,507,000 pink salmon to the Southern and Outer districts was almost 2 1/2 times the preseason forecasted return of 1,491,000 fish (Appendix Table 16). The Tutka Hatchery return of 369,048 pink salmon was also 2 1/2 times the forecasted return of 156,100. Spawning escapements of all species were considered excellent and should provide a sound base for

future returns (Tables 3-5).

The 1979 harvest value of $6,317,000 was the highest on record and was more than six times the average for the Lower Cook Inlet area (Appendix Table 4). The high ex-vessel value was due to the record harvest coupled with substantially higher prices paid per pound for the various species of salmon (Appendix Table 5). Fishing effort was at its highest level in years. A total of 75 seiners participated in the fishery which was the highest since 1968 and the 38 set gillnets that fished was similar to the previous year's effort (Appendix Table 3). The processing trend of the previous three years towards increasing fresh, frozen and cured production slowed considerably in 1979, primarily due to the smaller sockeye return to Upper Cook Inlet. The salmon case pack remained above average for Cook Inlet and the pink salmon case pack set a new record level (Appendix Tables 7 and 8).

SOUTHERN DISTRICT

Sockeye Salmon

Sockeye salmon in the Southern district have historically been harvested primarily by set gillnets and 1979 was no exception. Over 92 percent of the Southern district sockeye salmon harvest of 37,342 was taken by set gillnets and 1979 was the eighth annual, above average sockeye harvest (Tables 2 and 15). No closures of the set gillnet fishery occurred in 1979 due to the strong returns of pink salmon in the district, which resulted in a very poor sockeye escapement to the English Bay Lake system due to the extensive fishing time allowed. The estimated escapement of 4,400 was less than half of the lower end of the desired escapement range and was a result of not devoting enough attention to the return due to the strengths of the pink and chum salmon returns in other areas (Table 5).

The seine harvest of sockeye salmon occurred primarily in the Humpy Creek and Tutka Bay subdistricts. The memory of the large 1978 sockeye harvests in Tutka prompted many seiners to fish for sockeyes rather than pinks in the Tutka area and numerous conflicts occurred between seiners and set gillnet fishermen. Seiners frequently "corked off" set netters and often wrapped their gear around the gillnets, causing the anchoring devices to move. This conflict resulted in action before the Alaska Board of Fisheries which imposed a 600 foot operating distance between these two gear types. This action essentially eliminated seines from operating in the Barabara Creek to Jakalof Bay area in the future.

Pink Salmon

The Southern district pink salmon harvest of 982,529 established a new record and was 10 percent higher than the previous record set in 1975 (Tables 1 and 17). The harvest was greatly influenced by a strong return to the Tutka Bay Hatchery of over 369,000 fish and the final district harvest was over four times the average (Table 17). Excellent to slightly excessive escapements of pink salmon were achieved in all spawning streams (Table 3).

The Tutka Bay subdistrict was opened on June 28 in anticipation of a strong hatchery return. The earlier opening this year was an attempt to slow the movement of pink salmon into Tutka Lagoon, where in 1978, over 47 percent of the seine harvest in Tutka Bay came from the lagoon openings. Unfortunately, the speed and ability of the fish to move through a concentrated fishing fleet was not fully realized and with the markers located at the Homer Electric Association powerlines, fish flooded the lagoon very quickly.

Pink salmon began arriving in the lagoon on June 21 when 350 fish were observed. Aerial surveys flown on June 25, 27 and 30 indicated increases in the lagoon from 2,500 to 5,200 to 7,000 respectively. The harvest during the first 48 hour fishing period was only 3,800 fish due to low fishing effort which was concentrating on the sockeye opening in Tutka Bay. A July 2 survey indicated 10,000 pink salmon in the lagoon and the total was estimated at 20,000 fish. The buildup was increasing at such a rate that the markers at the HEA powerline were removed on July 3 and fishing was allowed up to the mouth of the lagoon.

The harvest during the second period reached 57,000 pinks and it was obvious that the return was going to be considerably above forecast. A July 3 survey of the lagoon indicated over 50,000 fish in the lagoon. Even with a harvest of an additional 70,000 fish during the third period the number of fish in the lagoon increased to 110,000 by July 7 and were almost uncountable in the small, confined area. The first lagoon opening was scheduled for one hour on July 10, but was extended an additional two hours due to the large number of fish present and the time needed to adequately harvest them. Seiners assisted the hatchery by putting 14,000 fish in the pens for egg takes prior to the opening and then 20 seiners harvested 68,500 pinks during the three hour lagoon opening (Table 7). Fish continued to move into the lagoon even though an additional 110,000 pink salmon were harvested outside the lagoon and by July 14, over 38,000 fish were in the lagoon, prompting a second lagoon opening for four hours on July 16.

The success of the first opening resulted in continued high fishing effort, even though excellent harvests were being made in other subdistricts and outside the lagoon in Tutka Bay. The lagoon openings were actually becoming a "social" event that a fisherman had to attend even if he made no harvest. The second lagoon harvest reached 24,000 fish by 21 vessels and an additional 8,000 fish were put in the hatchery holding pens. The harvest in the bay was only 27,000 fish during the third week of fishing and although the return was winding down, catches were still higher than in most previous years. Pink salmon continued to move into the lagoon and two additional openings of two hours on July 23 and one hour on July 31 resulted in harvests of 20,700 by 8 boats and 14,700 by 5 boats respectively (Table 7).

The total Tutka Bay harvest of 421,800 pink salmon was a new record surpassing the previous pre-earthquake harvest in 1962 by 51 percent (Tables 7, 11 and 12). The catch was over 16 1/2 times the average, post-earthquake harvest of 25,000 and more than 4 1/2 times the post-earthquake high catch of 89,000 in 1975. The Tutka Creek pink salmon escapement of 10,600 was good (Table 3) and 10.6 million eggs were seeded into the hatchery. The earlier opening and marker movement to the mouth of the lagoon did reduce the percentage of the total seine harvest taken in the lagoon to 32 percent from the 47 percent that occurred in 1978 (Table 7).

Poor weather hindered aerial assessments of salmon in Seldovia Bay until July 2 when over 17,000 pink salmon were observed. The accumulation in the bay was considerably ahead of normal and indicated either a strong or an early return. The Seldovia and Barabara Creek subdistricts were opened for 48 hours from July 5-7 after a July 3 survey indicated over 30,000 fish schooled in Seldovia Bay. Fishing markers were moved from Powder Island further in the bay to the tip of the long beach near Mike Balough's house for the opening. Over 20,000 fish were harvested during the first period and after aerial surveys on July 7 indicated that adequate spawning escapement was still protected inside closed fishing waters, fishing in the Seldovia subdistrict was extended indefinitely.

The Barabara Creek subdistrict was closed on July 16 when the numbers of fish schooled near the mouth of the creek did not increase adequately to assure the desired escapement. Seldovia Bay markers were adjusted twice on July 19 and 20 to harvest excess fish schooled inside waters closed to fishing. Over 38,000 pinks were harvested during the two marker adjustments and with the

total harvest from Seldovia at 85,000 pink salmon, the subdistrict was closed at 12:00 noon July 20 prior to the beginning of a series of minus tides.

The subdistrict was reopened on July 23 with markers back out the Bay after aerial surveys verified that the fish needed for escapement would not back out into the fishery during the series of minus tides. The final Seldovia Bay harvest of 140,800 was the third highest on record and the escapement of 43,700, considerably above the escapement range, was considered excellent (Tables 3, 11 and 12).

The Port Graham subdistrict received a record return of pink salmon in 1979. The subdistrict was opened for 48 hours on July 5-7 and fishing time was extended with the remainder of the Southern district on July 9. Over 9,000 pink salmon were caught during the first 48 hour period and with 20,000 fish still schooled in the bay, it was apparent the return was strong, as were other areas of the Southern district. Aerial surveys on July 17 and 18 indicated over 30,000 pinks had already reached the spawning area and with a harvest of 20,000 pink salmon and additional fish still present in the bay, fishing markers were moved to the extreme end of the bay on July 20.

The final pink salmon harvest for Port Graham reached 124,700 (Table 11). The harvest was three times the previous record harvest set in 1977 and was over 11 times the average harvest from Port Graham since 1959 (Tables 11 and 12). The escapement of 32,700, well within the escapement range of 20,000-40,000 was considered excellent and was the highest on record (Table 8).

The Humpy Creek pink salmon return is usually the latest to arrive in the

Southern district and lasts the longest, often into late August. The subdistrict was opened during the general opening for the Southern district on July 9, prior to the arrival of any pink salmon. Fish began to arrive in mid July and by July 17, 8,700 fish had moved into the creek. Fishing effort remained low at Humpy Creek due to strong returns in other subdistricts and escapement levels in the creek increased dramatically.

The fishing markers were moved into the grass mound in the creek in an attempt to slow the escapement buildup, but was unsuccessful. Survey estimates of the escapement levels on July 21 and 29 indicated the number of fish had doubled from 26,000 to 55,000-60,000 respectively. With the upper level of the escapement range of 25,000-50,000 exceeded, a fence was constructed across the creek on July 29 in an attempt to prevent any additional fish from moving into the creek. The pink salmon literally smashed down the fence on subsequent flood tides and a ground survey on August 3 accounted for over 97,000 fish in the creek.

The final pink salmon harvest of 298,000 fish was second only to the 1975 record harvest, but the total return was almost 20 percent greater (Tables 8, 11 and 12). The final escapement of 200,000 pink salmon was a shame and an extreme waste and was four times the upper end of the escapement range (Table 3). Large numbers of dead pink salmon which had not spawned were observed in holding pools in late August and September. Had a counting weir project been approved for this stream, an additional 150,000 fish valued at $175,000 could have entered the commercial harvest.

Miscellaneous Species

Exceptional harvests of chum, coho and king salmon were also made in the Southern district in 1979. The chum salmon catch of 12,759 was 34 percent below average, but was the largest harvest since 1967 (Table 17). The majority of the catch occurred in the Tutka Bay and Port Graham Bay subdistricts. The Port Graham Bay chum salmon harvest was similar to past years, but the Tutka Bay harvest was the highest on record (Table 13).

The coho salmon harvest was the second highest on record and the largest since 1954 (Table 17). The harvest of 10,688 coho salmon was taken primarily by set gillnets in the Port Graham - English Bay area and was three times the average for the district (Table 17).

King salmon are a relatively minor species in the Lower Cook Inlet harvest. The 1979 catch of 1,199 marked the second year in a row of exceptional harvests and is reflective of the strong king salmon returns to Upper Cook Inlet and the extensive fishing time allowed during the 1979 fishery in the Southern district (Table 17).

OUTER DISTRICT

Sockeye Salmon

The sockeye salmon returns to Delight and Desire Lakes in the East arm of Nuka bay were strong in 1979. Fish began arriving in mid June, but did not readily move into the lake systems. Schooled fish off the mouth of Desire Lake Creek increased to over 7,000 fish by June 21 and, although fish had not moved into the lake, a 24 hour opening for the subdistrict was planned for June 28-29. Adverse weather prevented surveys between June 21 and 29 and all of the fish schooled off the mouth were not needed for escapement from the early portion of the run. Aerial surveys of the lakes after the period on June 29 indicated that over 7,000 fish had entered each lake and that the escapement goals were all but assured. The subdistrict was reopened on July 2 on the regular weekly fishing periods with all markers removed.

The fishing markers were eventually put back in effect on July 16 when the sockeye runs began to slow down and pink salmon began arriving in the area. The final sockeye harvest for the district of 25,297 was the third highest on record and over three times the average (Table 18). The escapements for Delight and Desire Lakes were considered excellent although the Delight Lake escapement was slightly below the goal (Table 5).

Pink Salmon

The pink salmon return to the Outer district was expected to be good and ended

up exceeding even the wildest of expectations. The commercial pink salmon harvest of 1,945,521 established a new record for the district (Tables 2 and 18). The 1979 harvest was 16 percent above the previous record set in 1962 and was five times the historical average harvest for the district. The Port Chatham and Windy Bay subdistricts set record harvests 2-5 times previous records while the major producing subdistricts such as Port Dick and Nuka Bay were just slightly below previous record harvest levels (Tables 11 and 12).

The Port Dick subdistrict was opened to fishing on June 28 for 24 hours primarily due to the large accumulation of chum salmon along the north shore. The chum harvest was good as expected, but the real surprise was the harvest of over 32,000 pinks during this opening. Aerial surveys conducted on July 2 and 3 indicated pink salmon accumulations were building very rapidly from 10,000 to 20,000 between these surveys. The subdistrict was reopened for 48 hours from July 5-7 with the Port Dick North section closed and waters west of the line from the marker on the west side of Middle Creek to the southeast point of Shelter Cove closed to protect fish schooled at the head of the bay.

The pink salmon harvest during this period reached 52,000 and it was obvious that the return was going to be extremely strong. A July 7 survey after the closure indicated over 26,000 pink salmon were already protected inside waters closed to fishing at the head of the bay and the entire subdistrict except for the Port Dick North section was reopened to fishing on July 9 on the regular weekly fishing periods. A survey conducted just prior to the opening accounted for over 180,000 pink salmon along various beaches in the bay with approximately 140,000 available for harvest. The catch for the next two 48-hour periods reached 142,000 fish.

The Port Dick North section was opened to fishing on July 19 after an adequate number of chum salmon needed for spawning escapement at Island Creek had moved inside the markers. Heavy rains washed out the counting weir at Port Dick Creek on July 24, but so many fish were committed to moving upstream in the upper portion of the intertidal area that they did not back down the bay, which was the case in 1977. Markers were adjusted at the head of the bay and located inside the upper island on July 27 with more than 100,000 fish committed to the stream and many more on the flats. Fishing time was increased to seven days per week on August 3, as fishing effort spread out to several other subdistricts and the remaining fleet could not adequately slow the accumulation of fish at the head of the bay. Extensive flooding again caused removal of the counting weir on August 8. With continuing problems estimating the escapement level and a commercial harvest approaching one million fish, the Port Dick subdistrict was closed to fishing on August 15 to assure adequate spawning escapement.

The final harvest of 962,900 pink salmon was the second highest on record and only 14 percent below the record harvest in 1962 (Tables 11 and 12). The escapement of 116,000 fish was above the upper end of the desired escapement, but due to the extensive flooding, which washed out much of the early spawning, it was considered excellent (Table 3).

The Port Chatham subdistrict also had an exceptionally strong run and the harvest of 174,400 pink salmon exceeded the previous high catch by 71 percent (Tables 11 and 12). The subdistrict was opened to fishing for 48 hours on July 5-7 after a July 3 aerial survey indicated a large buildup of fish inside

the spit. Markers were moved in the bay to the upper part of the spit to facilitate harvest of the return and 14,000 fish were taken during the period.

The run continued to show strong and the subdistrict was reopened on July 9 during the general opening for the Outer district. Markers were again adjusted and moved further in the bay on July 19 after large numbers of pinks had accumulated inside the markers. The final escapement figures for the four small spawning streams in Port Chatham totalled 20,800 and was considered excellent (Table 3).

The Windy Bay subdistrict was opened to fishing for 12 hours from 6:00 a.m. until 6:00 p.m. July 5 after a July 3 survey indicated a good show of fish along beaches in the area. Over 18,000 pinks were taken during the opening along with a large number of chum salmon, which were probably from the Rocky River return.

Fish accumulated inside the markers very quickly and the subdistrict was reopened on July 10 with over 40,000 fish protected inside the closed waters area. A special opening by flare on July 24 allowed fishing inside the closed waters area for 2 1/2 hours with almost 100,000 fish present at the head of the bay. Approximately 30,000 pink salmon were harvested, but with the strength of the return the accumulation had grown to 100,000 fish again by July 27 with the escapements in each stream practically assured.

The fishing markers were adjusted permanently at the extreme upper end of the intertidal area on July 27 and resulted in a harvest of 110,000 fish. The final Windy Bay pink salmon harvest reached 551,400 surpassing the previous

record set in 1977 by three times (Tables 11 and 12). The harvest was over 20 times the average harvest for the subdistrict and the escapements to Windy Right and Windy Left Creeks were considered excellent (Table 3). The escapement of 74,800 to Windy Left Creek was 50 percent above the upper end of the escapement range, but was not considered harmful due to severe loss of spawning resulting from floods which occurred in late July and early August. Windy Right Creek was not as subject to the flooding conditions as other streams due to the smaller drainage system involved.

Rocky River experienced its first significant salmon production this year in over a decade. The subdistrict was first opened on July 5 for 12 hours to harvest a portion of the chum salmon that had moved into the area. The chum harvest was excellent, but over 9,000 pink salmon were taken also. The area was kept closed until July 19 to assure an adequate chum salmon escapement, but was reopened for 36 hours from 6:00 a.m. Thursday July 19 until 6:00 p.m. Friday July 20. This opening was scheduled to end Friday evening before the series of minus tides began Saturday morning. Over 95,000 pink salmon were in Rocky River, but the majority were still holding in the lower intertidal area and minus tides have often caused fish to back out of the stream and into the fishery in this particular area. An adequate number of pink salmon moved far enough upstream to assure the escapement goal and fishing time in the subdistrict was extended from 6:00 p.m. July 20 until further notice on the regular weekly fishing periods.

The markers at Rocky River were eventually adjusted and moved a half mile upriver on July 27 in an attempt to maximize the harvest of this run. The final harvest of 122,200 pink salmon was the second highest on record since

the record harvest set in 1962 (Tables 11 and 12). The escapement of 85,000 pink salmon exceeded the goal of 50,000, but was still considered excellent due to the extensive spawning area available in this large river system (Table 3).

South Nuka Island Creek had a good pink salmon return for the third, odd-year return in a row. Fish began arriving off the stream in early July, but it was not until July 14 that adequate numbers were available to warrant an opening. With 17,000 fish holding in the upper part of the intertidal area and an additional 15,000 fish schooled along the beach, the Nuka Island subdistrict was opened to fishing on July 16 with the markers at South Nuka Creek removed.

The harvest for the first 48 hour period reached 44,000 fish and it was obvious that a major management error had been made. It was assumed that the fishing vessels couldn't make it up to the large schools of fish in the upper intertidal area due to the large, shallow sand flats. However, shallow draft boats and skiffs were able to herd fish out into the awaiting nets and only 5,000 pink salmon were left in the creek after the opening. The subdistrict was quickly shut down before the July 19 opening in the hopes that additional fish would arrive and make up for the shortfall in escapement.

The schools built quite rapidly again and by July 25 over 45,000 fish were present in the area, but only 8,000 were in the upper lagoon area. A series of minus tides during the last week of July discouraged any possible opening and the area was not reopened until August 3. Waters of the Nuka Island subdistrict within a two mile radius of South Nuka Creek were reopened by flare to fishing at 9:15 a.m. August 3. The opening was scheduled to open at

9:00 a.m.; however, fog prevented a timely arrival at the stream to locate new markers and the opening was delayed. One boat set early and after being told to release the set, the fishery was opened before he had not gotten his gear back in.

The final Nuka Bay subdistrict pink salmon harvest of 121,700 fish was the second highest catch on record for this area (Tables 11 and 12). The harvest was only six percent below the 1962 record harvest and was over four times the average harvest for this area. The escapement of 15,000 fish was 50 percent over the goal and was excessive for this small stream (Table 3).

Chum Salmon

The Outer district chum salmon harvest of 180,558 was the second highest on record since the record setting harvest in 1964 (Tables 2 and 18). The harvest was over twice the 26 year average harvest and was primarily the result of excellent harvests in the Rocky Bay and Port Dick Bay subdistricts (Table 13).

The Dogfish Bay subdistrict was opened on June 28 after aerial surveys in late June indicated a good accumulation of chum salmon in the lagoon. Fishing effort was very light due to stronger returns and better catches in other subdistricts and only 1,000 fish were harvested on June 29 and 30. The area remained open on the standard weekly fishing periods, but with no fishing effort, over 11,000 fish had reached the lagoon by July 7.

A short 2 1/2 hour opening was allowed by flare in Dogfish Lagoon on July 10 and 10 vessels harvested 7,300 chum salmon. The surprise during the opening

was the harvest of over 6,000 pink salmon. Little fishing effort occurred on the Dogfish Bay chum salmon return during the remainder of the season. The total harvest of 8,400 chum salmon was considered good, although considerably below the peak production years of 1970-1972 (Table 13). The escapement of 8,200 chums was considered excellent and was well within the escapement range of 5,000-10,000 fish (Table 4).

The Port Dick subdistrict was opened for 24 hours from June 28-29 after a large early buildup of chum salmon occurred along the north shore of the bay near Island Creek. Projections, based on aerial surveys on June 27, indicated 15,000-20,000 chum salmon were present in the bay. Approximately 30 vessels participated during the opening and over 23,500 chum salmon were caught along with a similar number of pink salmon.

The Port Dick North section was kept closed during subsequent openings for pink salmon to protect the chums needed for spawning escapement at Island Creek. This area was finally opened on July 19 after an adequate number of chums were protected inside the markers at Island Creek. During the next 10 days an additional 20,000 chum salmon were harvested near Island Creek and when the escapement was assured on August 4, the markers on the east side of the creek were moved closer to the stream mouth. The marker adjustment resulted in another 12,000 chums being harvested and the final Port Dick chum salmon harvest totalled 79,000 fish (Table 13). It was the fourth highest chum harvest on record for this area and was the highest catch since the 1964 earthquake. The Island Creek escapement of 16,800 chum salmon was slightly above the range of 10,000-15,000 fish and was excessive for this small stream (Table 4). Port Dick Creek also contributed to the total return and received a

good escapement of 4,050 chum salmon.

An unusually strong chum salmon return to Rocky River was indicated by the large buildup of fish near Picnic Harbor in late June. Aerial surveys of this area indicated a large increase from 5,000 fish on June 27 to over 17,000 on July 3. A short 12 hour opening was allowed in the Rocky and Windy Bay subdistricts on July 5 and approximately 16 boats harvested 36,600 chum salmon during this period. The subdistrict remained closed to allow chums to move into the river and on July 19, with an estimated escapement of 30,000 chums in the river, the subdistrict was reopened to fishing for 36 hours. Fishing time was extended to the standard weekly periods on July 20 and harvests of chum salmon remained strong throughout the remainder of the month.

The final chum salmon harvest for Rocky Bay was 76,700 and established a new record. The 1980 harvest was almost double the previous record harvest established in 1970 (Table 13). The estimated escapement of 35,000 chum salmon was considerably above the goal of 20,000, but was considered excellent due to the extensive spawning area available, but rarely utilized, in this large river system (Table 4).

The only other area to experience a significant chum salmon return in the Outer district in 1979 was the Petrof Glacier area. The Petrof area is a relatively minor chum salmon producer that has been extremely erratic in the past. The beach area is heavily influenced by glacial water and precludes accurate estimates of schooled fish during most surveys. However, it was obvious during surveys on July 3 and 7 that extremely large numbers of chum salmon were present based on the "jumpers" observed near the mouth of Petrof

River. The waters of the Nuka Island subdistrict west of a line from Front Point to Petrof Point were opened to fishing on July 10.

Markers were set which basically eliminated fishing south of the river mouth to protect fish for escapement. Four to five boats harvested 12,000 chum salmon during the first 48 hour period and then fishing effort dispersed to the strong pink salmon areas. A total of 14,700 chum salmon were caught in the Nuka Bay area and the majority were taken from the Petrof River run (Table 13). The harvest was the third highest on record and the escapement of 4,500 chum salmon to the Petrof River system was considered excellent and was well within the escapement range of 2,000-5,000 fish (Table 4).

KAMISHAK DISTRICT

Sockeye Salmon

The Kamishak-Douglas, McNeil and Bruin Bay subdistricts all contain relatively minor sockeye salmon returns which begin arriving in early June. All three subdistricts were opened on June 7 to encourage fishing effort on these returns. Normally, little effort occurs on the Mikfik Lake sockeye return until McNeil River Lagoon is opened to fishing, and 1979 was no exception.

An aerial survey of the Mikfik Lake area on June 5 indicated some fish had just begun arriving, but were still schooling in the intertidal area of McNeil Lagoon. The June 13 survey indicated the return had increased and 900 sockeyes had reached the lake. However, the escapement was still short of the 5,000 fish goal and the 3,500 fish schooled in the lagoon were still subject to harvest if the lagoon was opened.

Additional aerial surveys on June 18 and 21 indicated the escapement had been achieved and the lagoon was opened to fishing from June 21-30. Two vessels finally arrived and caught 1,200 fish on June 23 in McNeil Lagoon and an additional 400 fish in the Kamishak River area. The Kamishak district harvest of 1,778 was average for the district, but was considerably below the previous three years' harvests (Tables 2, 14 and 19). The Mikfik Lake escapement was achieved, but other sockeye salmon systems in the district received poor escapements (Table 5).

Pink Salmon

The pink salmon returns to several spawning systems in the Kamishak district were relatively strong in 1979. The district harvest of 58,484 pink salmon was the fourth highest on record and was 2 1/2 times the average (Tables 2 and 19).

The primary pink salmon producer in the Kamishak district is the Bruin Bay River. The Bruin Bay subdistrict was opened to fishing in June and fishing time was extended to seven days per week on July 9 due to the minimal fishing effort in the area. Little fishing effort occurred in Bruin Bay until July 24. Aerial surveys of the area indicated little buildup of pink salmon until July 26, when over 16,000 fish were observed in the river. Three boats caught 12,000 pink salmon during the next three days, but an aerial survey on July 30 indicated 65,000 fish had reached the river. With the escapement goal of 25,000-50,000 fish achieved, the markers were removed immediately on July 30. However, no 17 foot high tides, which are needed to harvest fish from the Bruin Bay "pothole", occurred until August 4 and the fish had moved upriver by then. An August 3 survey indicated over 140,000 pink salmon had reached the river and the final estimated escapement of 200,000 fish was very excessive (Table 3). The Bruin Bay harvest of 40,300 pink salmon was the second highest on record and considerably above average for this area (Tables 11 and 12).

A strong return of pink salmon also occurred to Sunday Creek just north of Bruin Bay. Over 13,000 pinks were observed along the beach in Rocky Cove on July 30 and this had increased to over 45,000 by August 3. A short two hour opening by flare was allowed at Rocky Cove on August 4, but prior to the

opening a noticeable decrease in the number of fish was observed. Three vessels caught 14,400 pink salmon during the opening and the final escapement to Sunday Creek of 12,000 fish was considered excellent (Tables 3 and 11). Good escapements also occurred to Brown's Peak Creek, north of Sunday Creek, and to the Kamishak River system (Table 3). It appears that pink salmon bound for Bruin Bay may be schooling along the beach at Rocky Cove, judging by the disappearance of over 20,000 fish in less than 18 hours from August 3 to 4.

Chum Salmon

The chum salmon returns to the Kamishak district in 1979 were weak as expected based on poor spawning escapements in 1974 and 1975 (Table 9). Fishing effort in the district was low throughout the season due to the strong returns to the Southern and Outer districts. Chum salmon catches began in early July in the McNeil River and Kamishak River area and with weather hampering the already minimal fishing effort, fishing time was extended to seven days per week on July 9 in the Bruin Bay and Kamishak-Douglas subdistricts.

Catches were weak throughout July and vessels harvested 6,500 chum salmon at McNeil and 17,800 from the Kamishak River system (Table 13). An additional 4,000 chums were taken during the Bruin Bay pink salmon fishery and, although the Iniskin Bay subdistrict was open from August 7-18, little fishing effort occurred and only 200 chum salmon were caught (Table 13). The Kamishak district chum salmon harvest of 29,711 was average for the district, but was considerably below the previous three years' harvests (Table 19). Spawning escapements were considered fair to good, although most were below desired escapement goals (Table 4).

SUBSISTENCE FISHERY

The Kachemak Bay subsistence salmon fishery opened at 6:00 a.m. Thursday August 17 with a record number of permit holders attempting to find a place to fish. The Homer office issued 437 permits this year, a 41.5 percent increase over 1978 (Table 22). The largest percentage increase in permit holders came from the Anchorage, Kenai-Soldotna and Anchor Point areas (Table 21). This increase was believed to be directly related to the subsistence fishery closure along the eastside beaches in Upper Cook Inlet.

A total of 401 permits were returned and 41 percent indicated they did not fish. Many comments were written on the permits alluding to the lack of available beach area or sites to put their nets in the water. The 1979 subsistence harvest of 4,583 was a record and was more than double the average harvest for the area (Table 22). The coho salmon catch was slightly below the previous two years, but the pink salmon catch of 2,251 was the highest on record and four times the average (Table 22). The large pink salmon catch was reflective of the strength of the 1979 Southern district pink salmon returns which were very strong.

ENHANCEMENT AND REHABILITATION

Tutka Hatchery

The Tutka hatchery released 9,427,000 pink salmon fry in the spring of 1979 of which 4,631,000 were short-term-reared for four to six weeks. The hatchery also released over 732,000 chum salmon fry at Tutka from the remote egg take at Port Dick in 1978. The 1979 return to the hatchery of 369,048 pink salmon was the largest return to date and represented a 5 percent survival of direct released fry and a 9 percent survival of reared fry from the 1978 release. The hatchery used 21,200 adult pink salmon to put 10.6 million eggs into the hatchery, but chum salmon brood stock was limited at Tutka and only 6,000 chum eggs were taken. The remote egg take at Port Dick was not funded this year.

Halibut Cove Lagoon

The Halibut Cove Lagoon operation was completely changed in 1979 from a saltwater rearing facility to just a smolt release site. Operational costs required the shift in procedure and 225,000 king salmon smolt were directly released into the small cove at the head of the lagoon. Approximately 10 percent were adipose clipped and coded wire tagged for future identification. The 1979 adult king salmon return was estimated at 580 fish.

Chenik Lake

A total of 256,525 sockeye salmon fry were stocked in Chenik Lake in 1979.

Tustemena Lake sockeye from the Crooked Creek hatchery were used as in the previous year. A smolt project was also conducted in an attempt to enumerate smolt leaving the lake from the 1978 stocking of 99,552 sockeye fingerling. Only 4,652 smolt were caught from May 15 - June 24. Marked smolt from the 1978 stocking appeared to be somewhat smaller than naturally produced and unmarked smolt based on comparison of adipose clipped smolt with non-adipose clipped smolt.

Fritz Creek

Fritz Creek was stocked with coho salmon smolt for the second year in a row. Approximately 39,200 smolt were released this year with 37 percent adipose clipped and coded wire tagged. The large expected return from the 1978 smolt release never materialized and the total return was estimated at only 6 fish. It appears that the large smolt, over 45 grams average weight, released in 1978 may have gone into parr reversion and not imprinted to the creek. Furthermore, flooding of Fritz Creek flushed the smolt out to sea the day after their release in 1978 and the smolt may not have had adequate time to imprint to the stream!

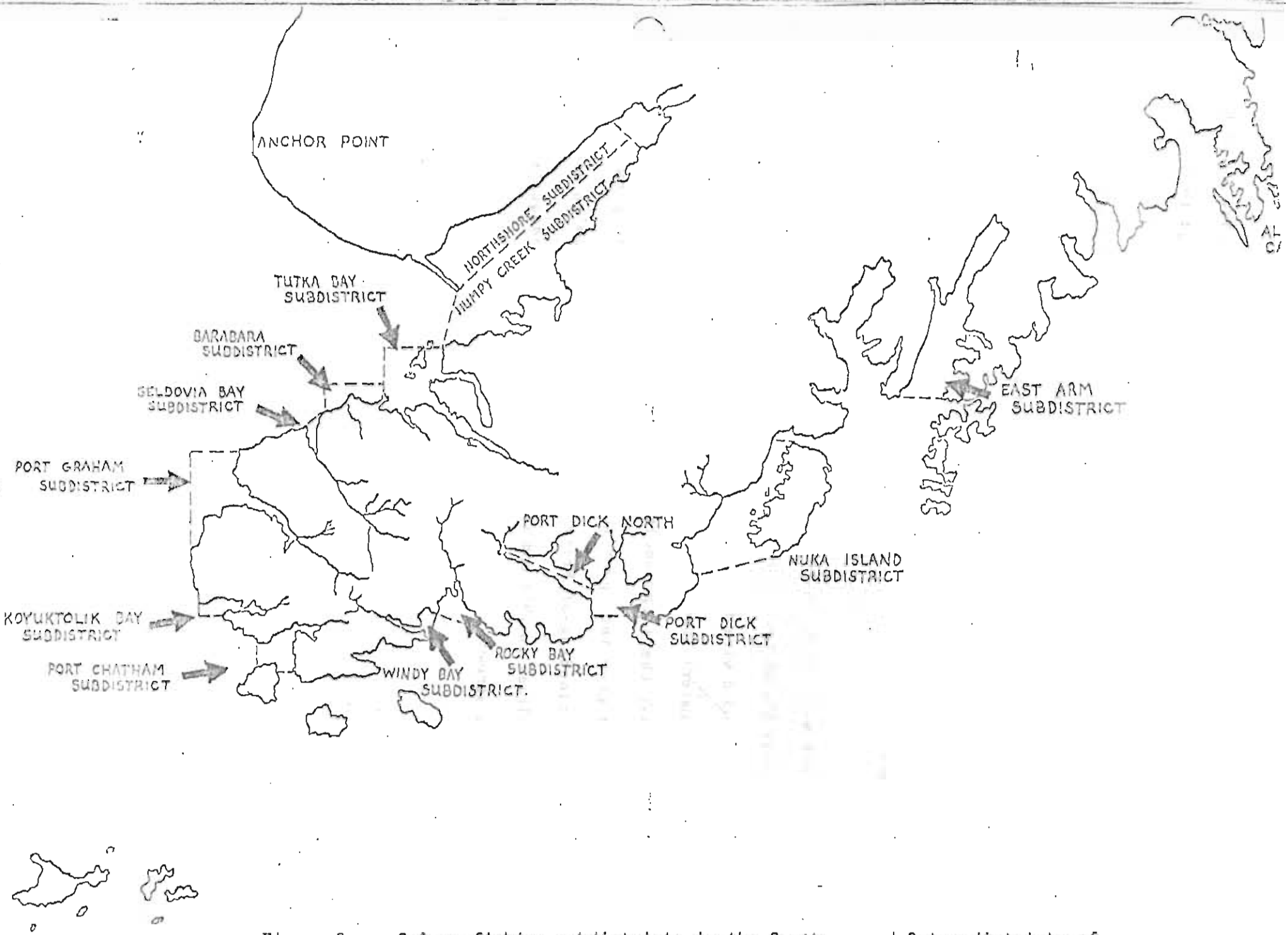


Figure 2. Salmon fishing subdistricts in the Southern and Outer districts of Cook Inlet.

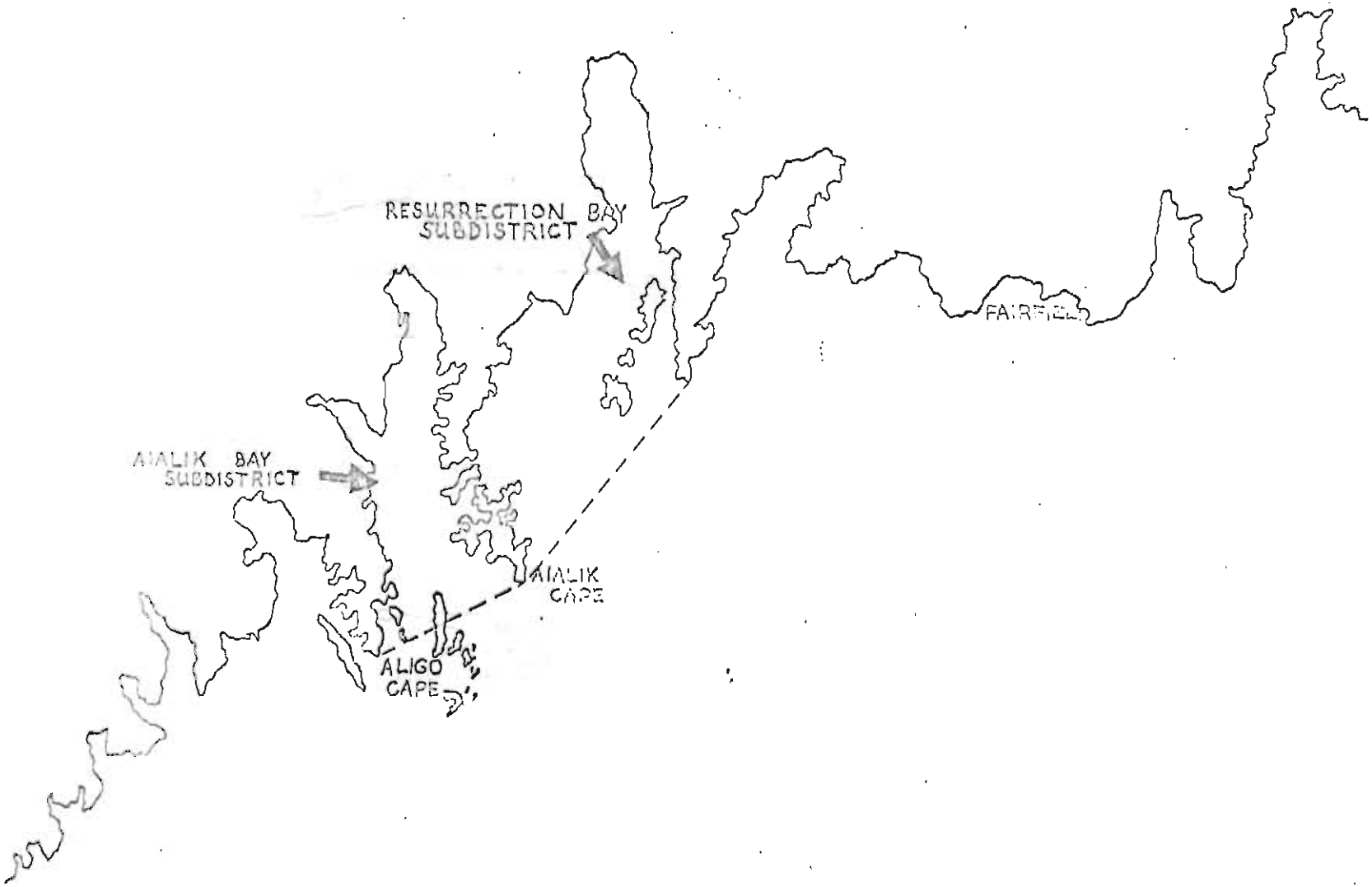


Figure 3. Salmon fishing subdistricts in the Eastern district of Cook Inlet.

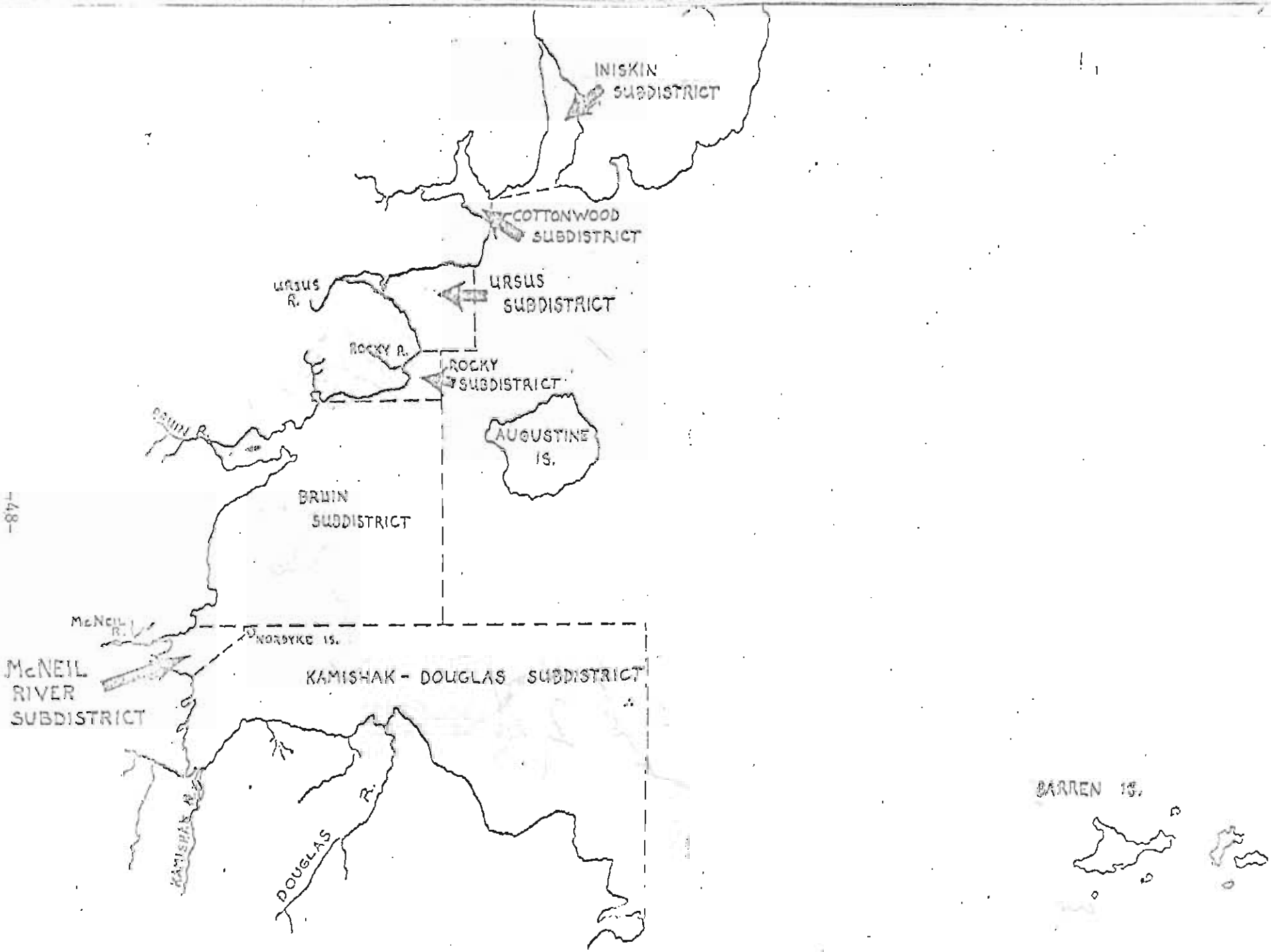


Fig. . Salmon fishing subdistricts in the Kamishak Bay district of Cook Inlet.

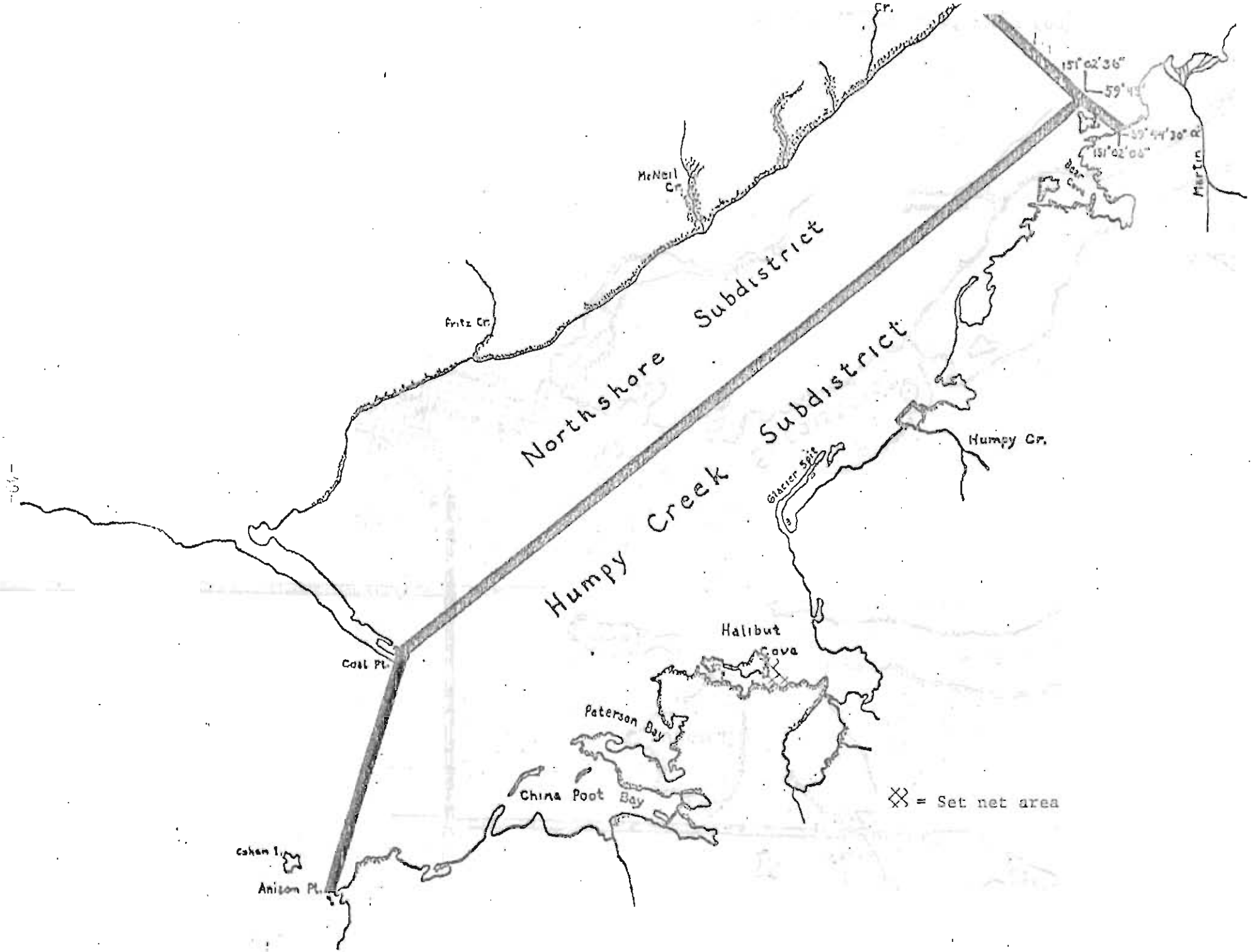


Figure 5 . Set net locations in the Humpy Creek Subdistrict of Lower Cook Inlet.

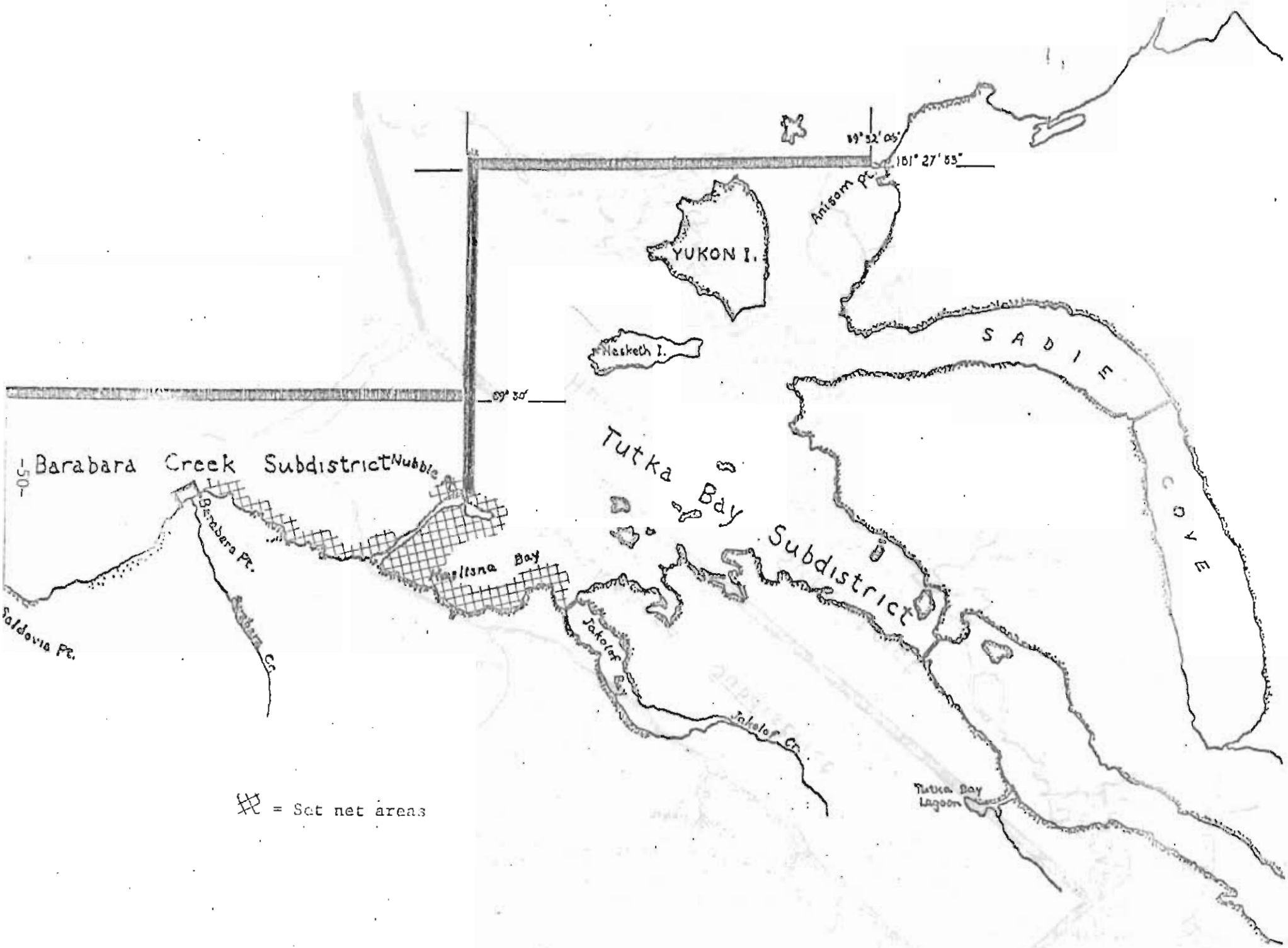
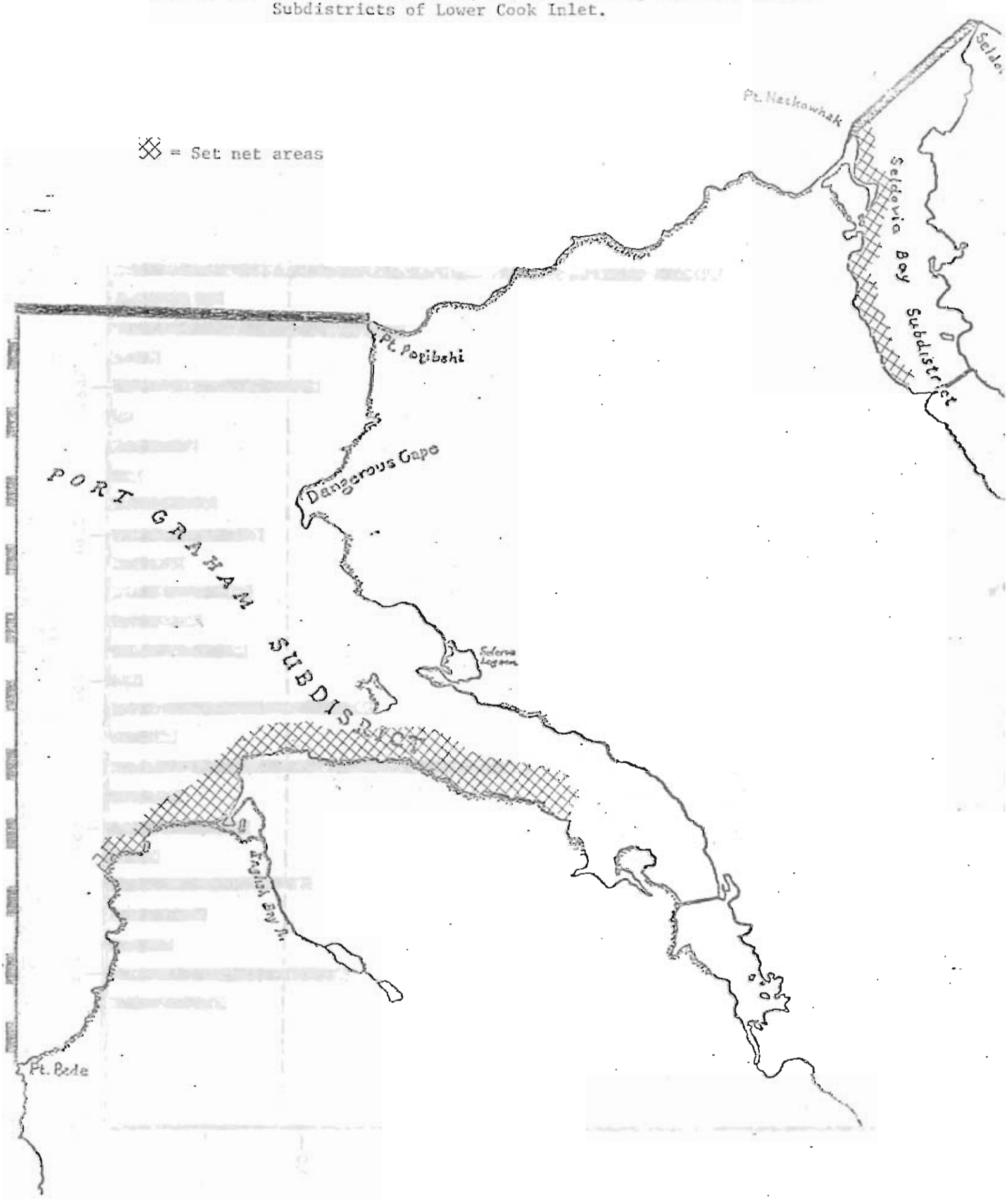


Figure 6 Set net locations in the Tutka Bay and Barabara Creek Subdistricts of Lower Cook Inlet.

Figure 7. Set net locations in the Seldovia Bay and Port Graham Subdistricts of Lower Cook Inlet.



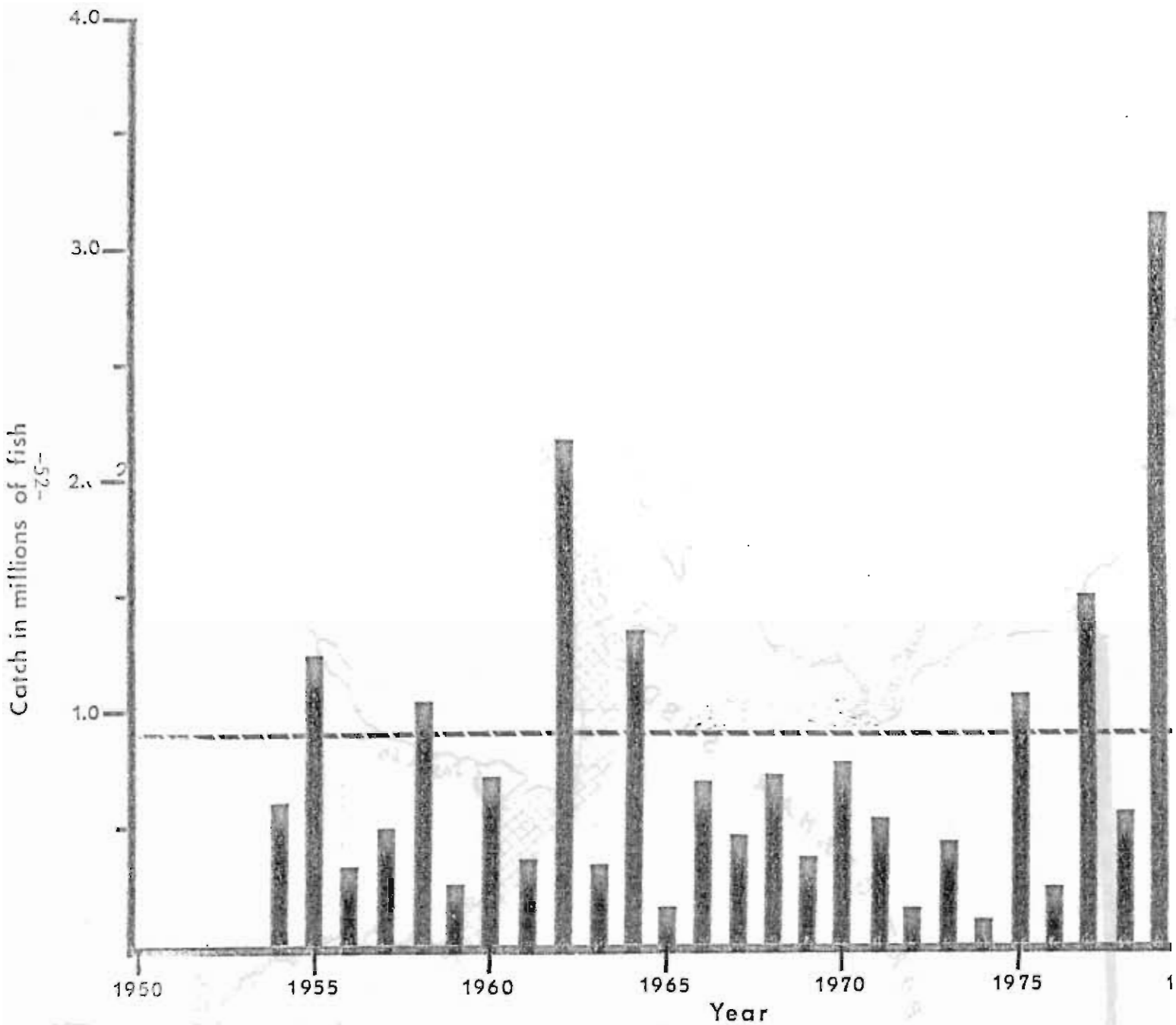


Figure 8 . Lower Cook Inlet total salmon catch, 1954-

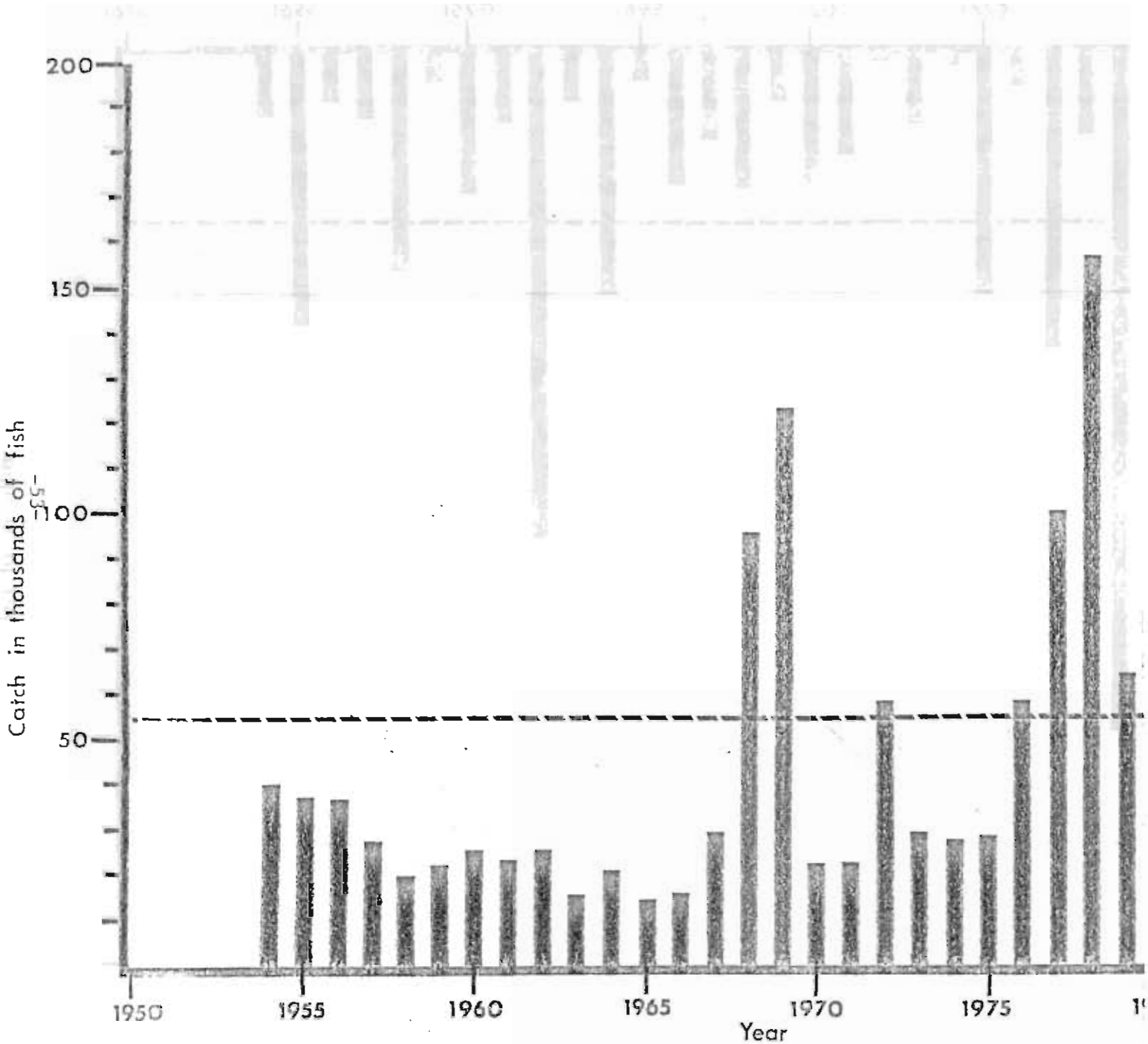
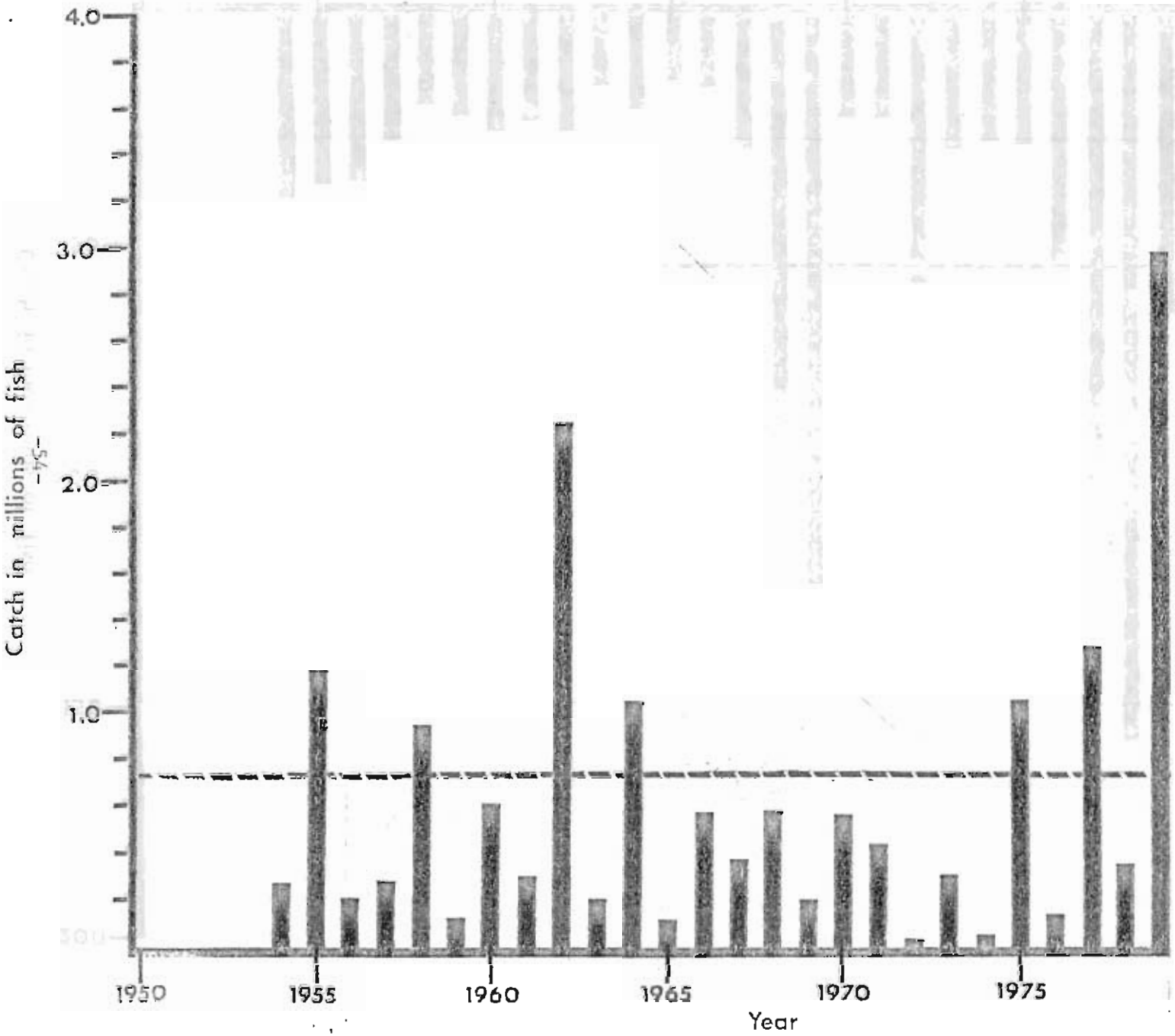


Figure 9. Lower Cook Inlet sockeye salmon catch, 1954 -


4.0
3.0
2.0
1.0
Catch in millions of fish
1950
1955
1960
1965
1970
1975
Year

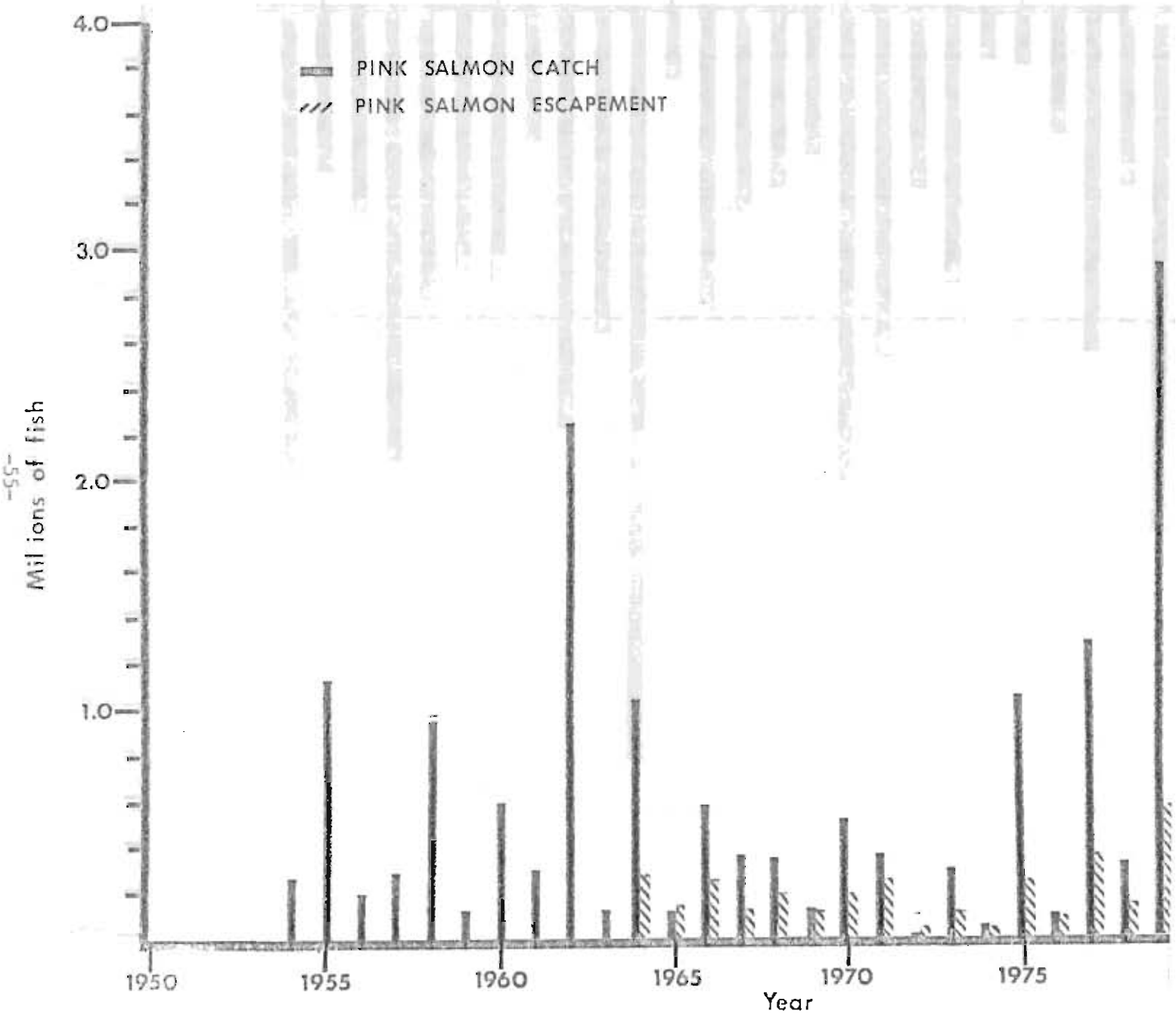
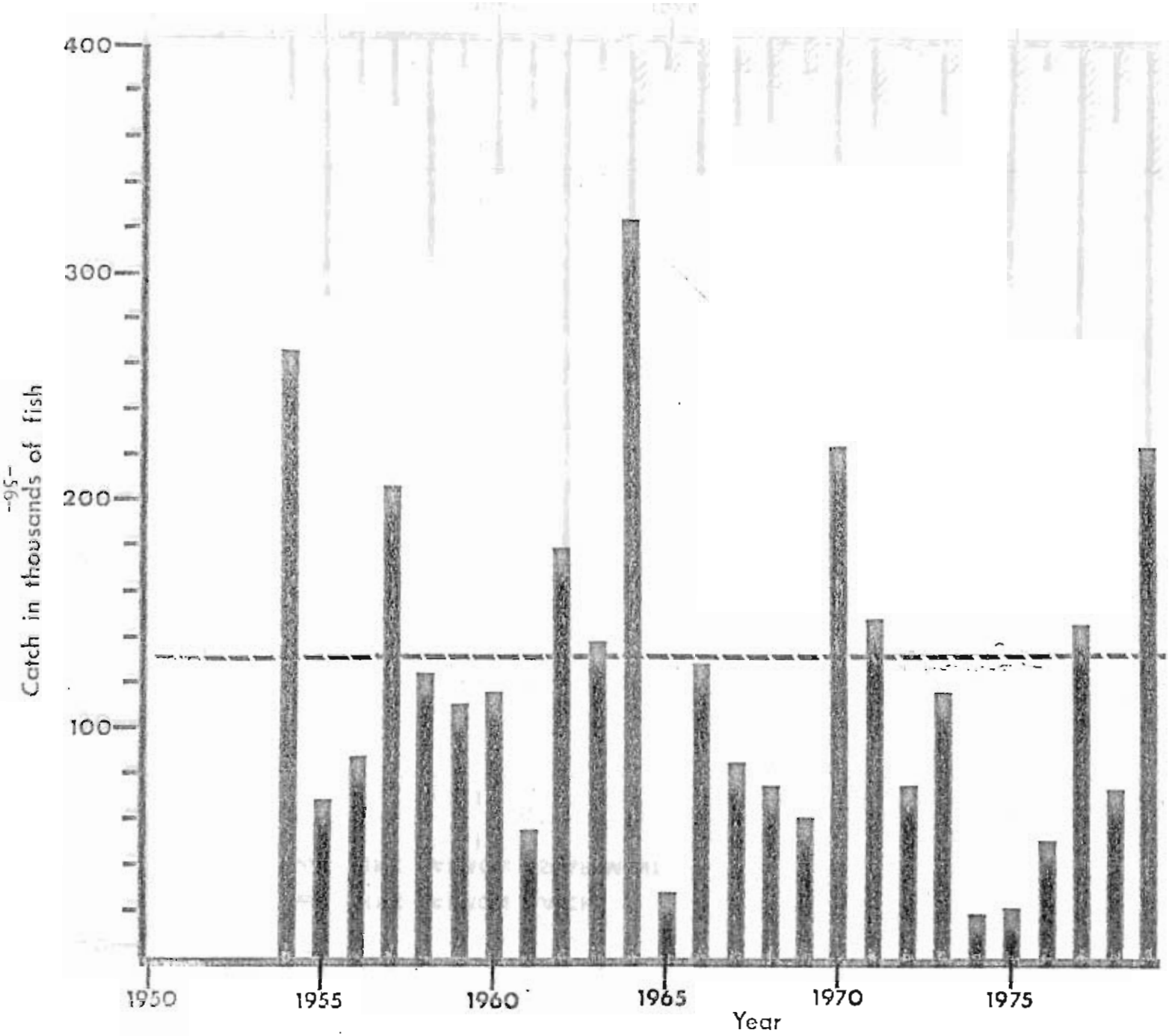


Figure 11. Southern and Outer Districts' pink salmon catch/escapement, 1954 -



Figu 12. wer k J t c cal cat 19

Table 1. Lower Cook Inlet salmon catch by species, district and gear, 1978.

	KING	SOCKEYE	COHO	PINK	CHUM	TOTAL
SOUTHERN DISTRICT						
Set Net	1,052	86,934	3,053	11,556	4,117	106,712
Seine	459	54,154	1,265	240,205	1,408	297,491
TOTAL	1,511	141,088	4,318	251,761	5,525	404,203
OUTER DISTRICT	236	10,695	45	70,080	19,224	100,280
KAMISHAK DISTRICT	0	4,619	1,584	982	48,669	55,854
EASTERN DISTRICT	0	2	582	1/ 29,738	100	30,422
TOTAL	1,747	156,404	6,529	352,561	73,518	590,759
26 Year Average	328	45,333	5,542	659,547	126,152	836,902

1/ Catches from Seward Silver Salmon Derby.

Table 2. Lower Cook Inlet salmon catch by species, district and gear, 1979.

	KING	SOCKEYE	COHO	PINK	CHUM	TOTAL
SOUTHERN DISTRICT						
Set Net	483	34,367	7,595	69,368	5,256	117,079
Seine	716	2,975	3,093	913,161	7,493	927,438
TOTAL	1,199	37,342	10,688	982,529	12,759	1,044,517
OUTER DISTRICT	30	25,297	150	1,945,521	180,558	2,151,556
KAMISHAK DISTRICT	9	1,778	1,116	58,484	29,711	91,098
EASTERN DISTRICT	0	0	296 1/	0	0	296
TOTAL	1,238	64,417	12,250	2,986,534	223,028	3,287,467
26 Year Average	328	45,333	5,542	659,547	126,152	836,902

1/ Catches from Seward Silver Salmon Derby.

Table 3. Lower Cook Inlet escapement goals, average observed and 1978 and 1979 escapements of pink salmon.

SOUTHERN DISTRICT	ESC. GOAL	AVE. ESC. 1/	1978 ESC.	1979 ESC.
Humpy Creek	25,000 - 50,000	34,100	46,100	200,000
Tutka Lagoon	6,000 - 10,000	10,700	15,000	10,600
Seldovia Creek	25,000 - 35,000	37,800	24,600	43,700
Port Graham River	20,000 - 40,000	12,000	6,700	32,700
China Poot Bay	5,000	9,000	11,200	20,600
Barabara Creek	18,000 - 24,000	5,000	1,400	10,000
Total	99,000 - 164,000	108,600	105,000	317,600
OUTER DISTRICT				
Rocky River	50,000	18,400	8,200	85,000
Windy Left River	30,000 - 50,000	13,500	1,100	74,800
Windy Right River	10,000	4,900	300	10,400
Port Dick Creek	20,000 - 100,000	37,800	44,900	116,000
Island Creek	12,000 - 18,000	3,700	400	600
South Nuka Creek	10,000	13,000	0	15,000
Port Chatham Streams	10,000 - 15,000	10,000	300	20,800
Total	142,000 - 253,000	101,300	55,200	322,600
KAMISHAK DISTRICT				
Big Kamishak River	20,000	31,000	12,000	10,000
Little Kamishak River	20,000	22,000	400	3,500
Amakdedori Creek	5,000	16,000	900	6,000
Bruin Bay River	25,000 - 50,000	74,000	33,000	200,000
Sunday Creek	10,000	11,000	200	12,000
Brown's Peak Creek	10,000	10,000	900	15,000
Total	90,000 - 115,000	164,000	47,400	246,500
EASTERN DISTRICT 2/				
Bear Creek	5,000	6,400	7,800	-
Salmon Creek	10,000	8,000	11,000	-
Mayor Creek	2,000	1,600	2,900	-
Clear Creek	2,000	1,500	1,100	-
Thumb Cove	1,000	1,100	2,000	-
Humpy Cove	2,000	600	900	-
Tonsina Creek 3/	5,000	2,800	1,500	-
Total	27,000	22,000	27,200	-
LOWER COOK INLET TOTAL	358,000 - 559,000	395,900	234,800	886,700

1/ Average escapement figures are based on weir counts, ground and aerial surveys conducted between 1951 and 1979. For many streams only several years data exist.

2/ Average escapements for pinks are for even years only.

Table 4. Lower Cook Inlet escapement goals, average observed and 1978 and 1979 escapements for chum salmon. 1/

OUTER DISTRICT	ESCAPEMENT GOAL (RANGE)	AVE. OBS. ESCAPE.	1978 ESC.	1979 ESC.
Dogfish Lagoon	5,000 - 10,000	5,500	9,300	8,200
Port Chatham (streams)	*	1,500	700	150
Windy Right River	*	1,500	100	1,000
Windy Left River	*	1,300	100	75
Rocky River	20,000	7,000	6,300	35,000
Head End Creek	4,000	5,600	8,900	4,050
Island Creek	10,000 - 15,000	5,300	16,900	16,800
Middle Creek	*	2,000	200	150
Petrof River	2,000 - 5,000	3,000	500	4,500
Total	41,000 - 54,000	32,700	43,000	69,925
KAMISHAK DISTRICT				
Silver Beach (streams)	*	4,000	1,100	4,200
Main Left (streams)	5,000 - 10,000	6,000	-	-
Big Kamishak River	20,000	11,000	23,000	15,000
Little Kamishak River	20,000	5,000	30,000	15,000
McNeil River	10,000 - 20,000	22,200	45,000	8,000
Cottonwood Creek	10,000	5,300	12,500	2,500
Iniskin River	10,000	8,400	11,400	4,000
Bruin River	5,000	5,200	4,000	20,000
Rocky Cove (Sunday Creek)	*	1,000	1,300	400
Ursus Cove (streams)	5,000 - 10,000	4,700	9,700	5,000
Total	85,000 - 110,000	72,800	138,000	74,100
SOUTHERN DISTRICT				
Tutka Creek	*	1,100	500	100
Seldovia River	*	1,200	900	-
Port Graham River	4,000 - 5,000	1,700	4,800	2,100
Total	4,000 - 5,000	4,000	6,200	2,200
LOWER COOK INLET TOTAL	130,000 - 169,000	109,500	187,200	146,225

1/ Average escapement figures are based on weir counts and ground and aerial surveys conducted between 1951 and 1979. For many streams, only several years of data exist.

*No established goal.

Table 5. Lower Cook Inlet escapement goals, average observed and 1978 and 1979 escapements for sockeye salmon. 1/

	ESCAPEMENT GOAL	AVERAGE ESCAPE.	1978 ESC.	1979 ESC.
SOUTHERN DISTRICT				
English Bay	10,000 - 20,000	7,200	13,500	4,400
Clearwater Slough	*	-	-	-
Total	10,000 - 20,000	7,200	13,500	4,400
OUTER DISTRICT				
Desire Lake	10,000	7,800	10,000	12,000
Delight Lake	10,000	6,400	8,000	8,000
Anderson Beach	2,000	500	1,000	-
Total	22,000	14,700	19,000	20,000
EASTERN DISTRICT				
Aialik Lake	2,500 - 5,000	7,000	3,000	5,000
Bear Lake	*	*	27	18
Total	2,500 - 5,000	7,000	3,027	5,018
KAMISHAK DISTRICT				
Mikfik Lake	5,000	5,700	12,000	6,000
Chenik Lake	10,000 - 20,000	1,400	100	40
Kamishak River	*	2,500	1,000	400
Douglas River	*	1,500	-	-
Douglas Beach	*	500	100	300
Total	15,000 - 25,000	11,600	13,200	6,740
LOWER COOK INLET TOTAL	49,500 - 72,000	40,500	48,727	36,158

*Data not available.

Table 6. Preliminary Estimate of Adult Pink Salmon return to Tutka Bay and Lagoon, 1978 and 1979.

	1978	1979
Commercial Harvest:		
Seine	160,596	400,462
Set Net	7,266	21,354
Sub-Total	167,862	421,816
Sport Catch	-	2,000
Escapement:		
Tutka Creek and Channel	15,000	10,600
Egg-Take	21,100	21,200
Total Return	203,962	455,616

Tutka Lagoon Hatchery contribution estimated at 150,932 or 74% of the total run in 1978 and 369,048 or 81% of the total run in 1979.

Table 7. Tutka Bay (241-16) pink salmon seine catch by statistical week.

	1978		1979	
Week	Entire Subdistrict	Lagoon Only	Entire Subdistrict	Lagoon Only
25				
26			3,786	
27			129,659	
28	24,683		178,178	68,500
29	19,077		50,873	24,000
30	83,681	47,143	22,574	20,700
31	19,980	17,143	15,392	14,500
32	12,357	11,100		
33	818			
34				
Total Seine Catch	160,596	75,386	400,462	127,700
Set Net Catch	7,266		21,354	
Sport Catch	---		2,000	
Egg Take	21,100		21,200	
Escapement	15,000		10,600	
Total Return	203,962		455,616	

Table 8. Estimated pink salmon escapements in thousands of fish for the nine index streams in the Southern and Outer districts of Cook Inlet. 1/

YEAR	HUMPY	TUTKA 3/	SELDOVIA	PORT GRAHAM	WINDY LEFT 6/	WINDY RIGHT	ROCKY 8/	PORT DICK 6/	ISLAND CREEK	TOTAL
1964	18.5 2/	20.0	60.0	16.0	7.7	6.2	80.0	31.5	30.0	269.9
1965	28.0	20.0	30.0	1.5	10.0	2.0	.3	50.0	.5	142.3
1966	30.0	12.0	86.0	24.0	7.0	7.0	44.0	35.0	7.0	252.0
1967	25.0	7.0	55.0	2.0	6.0	6.0	1.0	20.0	.5	122.5
1968	24.7	7.9	53.2	24.4	6.9	2.8	43.1	29.0	4.3	196.3
1969	5.4	6.5	60.0	4.0	23.0	3.2	1.0	12.0	.1	115.2
1970	55.2	6.5	23.0	16.6	13.0	2.1	32.0	34.5	5.5	188.4
1971	45.0	16.7	31.1	13.2	35.4	13.0	1.6	97.8 2/	.1	253.9
1972	13.8	1.5	5.8	2.4	.4	.1	8.2	10.0 2/	1.7	43.9
1973	36.9	6.5	14.5	7.0	12.9	4.6	2.0	26.4 2/	.5	111.3
1974	17.4	2.6	13.7	2.8	.1	.1	1.5	1.5 2/	.5	40.2
1975	64.0	17.6	36.2	27.3	18.7	9.7	4.4	62.8 2/	.1	240.8
1976	27.2	11.5	25.6	6.5	0.2	0.2	2.7	12.7	0.0	86.6
1977	86.0	14.0	35.7 4/	20.6 4/	47.3	11.1	36.7	109.3	0.6	351.3
1978	46.1	15.0	24.6	6.7	1.1	0.3	8.2	44.9	0.4	147.3
1979	200.0	10.6	43.8	32.7	74.8	10.4	85.5 4/	116.9	0.5	574.7
Total	723.2	175.9	598.2	207.7	264.5	78.8	351.7	691.3	52.3	3,143.6
Average Escape.	45.2	11.0	37.4	13.0	16.5	4.9	22.0	43.2	3.3	196.5
Range	22.5-30	4.5-7 5/	24-30	20-40	7.5-10	7.5-10	37.5-50	22.5-30	10-15	156-222 even yr. and 221-317 odd yr.

1/ Escapement estimate 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.

2/ Weir counts.

3/ Does not contain F.R.E.D. egg facility pink salmon adult harvests of 3,400 in 1975; 10,814 in 1976; 6,528 in 1977; 21,100 in 1978; 21,200 in 1979.

4/ Due to flooding, expanded aerial survey counts were used to fill vacancies in ground counts.

5/ An additional 20,000 adults are needed for hatchery egg-take requirements.

6/ Escapement ranges have been increased to 30-50,000 for Windy Left and 70-100,000 in Port Dick in years where large numbers of upstream spawners return.

Table 9. Estimated chum salmon escapements in thousands of fish in the major spawning systems in Lower Cook Inlet. 1/

Year	Port Graham	Dogfish Lagoon	Rocky River	Pt.Dick Head	Island Creek	Big Kamishak	Little Kamishak	McNeil River	Bruin Bay	Ursus Cove	Cottonwood Creek	Iniskin Bay	Total
1964	1.0	12.0	5.0	8.0	8.0	25.0	*	90.0	*	*	*	11.0	160.0
1965	*	3.5	*	3.5	4.0	*	*	*	*	*	*	0.7	11.7
1966	*	11.0	7.0	4.0	6.0	5.0	0.5	*	*	*	*	*	33.5
1967	*	15.0	5.0	3.0	5.0	*	*	*	*	*	*	*	28.0
1968	1.5	1.5	3.0	20.0	1.5	*	*	*	*	*	5.0	5.0	37.5
1969	*	*	3.0	4.5	4.0	*	*	*	*	*	*	*	11.5
1970	0.9	5.0	*	6.0	8.5	*	*	*	*	*	0.6	*	21.0
1971	1.0	5.0	7.0	3.0	3.5	*	*	*	1.0	*	9.0	13.0	42.5
1972	1.5	3.0	3.0	6.0	2.0	*	*	*	1.0	1.6	4.0	10.0	32.1
1973	2.0	1.0	2.0	9.0	7.0	4.0	1.0	10.0	8.0	3.0	4.0	12.0	63.0
1974	0.5	0.6	1.0	0.8	5.0	7.1	0.6	1.5	3.0	3.5	2.5	7.0	33.1
1975	3.0	5.0	25.0	4.0	7.4	1.1	1.9	1.5	1.5	5.0	8.0	7.0	70.4
1976	0.4	3.0	12.0	1.5	1.0	24.0	21.0	10.0	4.0	6.0	5.0	13.5	101.4
1977	5.2	6.4	10.5	5.0	11.1	*	*	20.0	18.0	9.3	10.0	4.4	99.9
1978	4.8	9.3	6.3	8.9	16.9	23.0	30.0	45.0	4.0	9.7	12.5	11.4	181.8
1979	2.2	8.2	35.0	4.0	16.8	15.0	15.0	8.0	15.0	5.0	2.5	4.0	130.7
16 Year Total	24.0	89.5	124.8	91.2	107.7	104.2	70.0	186.0	55.5	43.1	63.1	99.0	1,058.1
Avg. Escap.	2.0	6.0	8.9	5.7	6.7	13.0	10.0	23.3	6.2	5.4	5.7	8.3	66.1
Goal	4.0-5.0	10-15	20-40	4.0-5.0	10-15	20-50	20-30	20-50	5-10	8-12	10-15	10-15	141-262

* No surveys conducted due to numerous factors: i.e weather, money.

1/ Most of these estimated escapements are either peak counts from aerial surveys or adjusted figures from aerial surveys based on survey conditions and time of surveys.

Table 10. Pink salmon alevin density by brood year for index streams in the Southern and Outer districts of Cook Inlet, 1964-1977. 7/

Year	Humpy	Tutka	Seldovia	Port Graham	Windy Left	Windy Right	Rocky	Port Dick	Island Creek	China Poot 1/	Ave. 9/
1964	199.1	195.8	284.1	242.1	100.1	75.3	131.3	222.7	80.7	0.0 6/	170.1
1965	245.7	154.7	151.3	40.5	21.2	48.4	0.0 2/	149.6	0.0	244.3	90.2
1966	131.3	120.5	136.6	165.7	28.3	13.9	11.4	43.4	67.4	673.8	79.8
1967	42.0	40.5	177.8 3/	58.1	39.8	83.9	0.0 2/	319.6	0.0	973.8	84.6
1968	628.4 5/	516.5	506.5	302.2	94.6	195.2	142.0 10/	236.1	67.3	1,933.6	298.8
1969	161.4 5/	348.0	493.2	247.9	325.8	779.0	0.0 2/	195.8	0.0	0.0 6/	283.5
1970	517.6	0.0 6/	0.0 6/	106.3	44.1	67.8	0.0 6/	62.4	23.7	0.0 6/	
1972	94.7	149.3	208.3	79.2	0.0 2/	0.0 2/	18.0	39.8	11.8	1,035.1	66.8
1973	377.6	495.4	405.1	187.6	157.7	422.2	0.0	90.6	0.0 2/	0.0 6/	237.4
1974	391.1	584.3	553.2	167.7	0.0 2/	0.0 2/	0.2	25.4	0.0 2/	1,181.5	191.3
1975	724.1	581.3	368.1 8/	379.6	174.5	448.9	22.6	192.2 8/	0.0 2/	1,667.8	321.3
1976	214.0	372.8	315.7	85.7	0.0 2/	0.0 2/	0.5	144.5	0.0 2/	445.7	125.9
1977	1,005.5	353.2	398.0	207.8	405.0	611.3	30.4 8/	480.0	1.7	951.9	388.1
Total	4,732.5	3,912.3	3,997.9	2,270.4	1,391.1	2,745.9	356.4	2,202.1	252.6	9,107.5	2,337.8
Avg.	364.0	326.0	333.2	174.7	107.0	211.2	29.7	169.4	19.4	1,011.9	194.8

1/ This stream was not used in further calculations (weighted averages).
2/ Estimated zero fry density since escapements were estimated to be below 300 spawners.
3/ Used average pre-emergent fry density from previous two odd years. Not sampled for 1967.
4/ Average even-year density from years 1962, 1964 and 1966.
5/ Used sample size of 150 points.
6/ Not sampled due to ice conditions.
7/ Sampling invalid due to lateness in 1971.
8/ Possibly had some early outmigration of pink fry salmon.
9/ Averages do not include China Poot.
10/ Incomplete sampling due to high water.
11/ Not samples - assumed to be similar to Windy Right.
12/ Sampled late. Fry already emerged.
13/ Not sampled due to weather.

Table 11. Pink salmon catch for Lower Cook Inlet in thousands of fish by bay during odd numbered years. 1/

Catch Location	1959	1961	1963	1965	1967	1969	1971	1973	1975	1977	1979
Humpy Creek	13.2	67.9	57.4	13.8	40.4	0.6	11.4	44.3	339.4	26.9	298.0
Tutka Bay	14.4	106.8	37.7	44.6	31.6	32.4	10.3	20.0	89.2	21.9	421.8
Seldovia Bay	4.9	15.1	1.6	19.2	11.7	28.7	27.3	19.4	429.6	47.6	140.8
Port Graham Bay	5.3	1.0	2.7	12.4	5.1	2.0	1.0	13.9	18.3	44.8	124.7
Dogfish Bay	1.6	0	0	0.1	2.3	0	10.4	0.3	0	5.0	7.4
Port Chatham	1.2	0	0.8	0	0	0	26.3	12.0	16.0	1.4	174.4
Windy Bay	3.1	2.2	0	5.4	0	0	57.3	68.5	18.1	173.2	531.4
Rocky Bay	2.3	0	1.4	0.1	0	0	0.1	0.2	0	11.6	122.2
Port Dick Bay	28.2	92.9	19.0	15.3	259.9	51.5	94.6	96.6	90.3	880.3	962.9
Nuka Bay	33.3	2.0	0.3	0	0.1	0	119.7	8.1	35.4	56.3	121.7
Resurrection Bay	8.4	0	0	0	1.2	0	0	0	0	0	0
Bruin Bay	0	0	12.3	0.9	2.1	0	11.7	0	0	6.2	40.3
Rocky-Ursus Coves	3.7	2.7	44.2	0	13.0	52.8	16.4	7.9	0	0	14.4
Iniskin and Cottonwood Bays	1.5	3.3	21.8	0	0.1	26.0	0	4.7	0	0.1	0.2
Miscellaneous	3.6	9.5	4.4	3.8	8.0	8.4	6.4	11.5	27.1	16.9	6.3
Total	124.7	303.4	203.6	115.6	375.5	202.4	392.9	307.4	1,063.4	1,292.2	2,986.5

1/ Data source IBM computer runs, 1959-79.

Table 12. Pink salmon catch for Lower Cook Inlet in thousands of fish by bay during even numbered years. 1/

Catch Location	1960	1962	1964	1966	1968	1970	1972	1974	1976	1978
Humpy Creek	71.6	108.8	82.4	40.7	43.9	114.1	2.1	35.4	73.1	44.0
Tutka Bay	87.6	279.5	100.9	53.5	26.9	43.9	5.2	5.5	18.0	167.9
Seldovia Bay	42.6	142.8	37.4	44.1	23.6	28.6	0.2	3.5	3.0	35.4
Port Graham Bay	7.1	18.1	38.4	5.1	23.0	12.5	1.1	4.5	3.9	4.0
Dogfish Bay	1.8	1.4	0.1	7.1	0	9.8	0.3	0	0	0
Port Chatham	15.7	102.2	67.1	6.7	10.0	1.9	0	0	0	0
Windy Bay	29.2	85.5	68.6	20.1	3.4	0.8	0	0	0	0
Rocky Bay	17.0	225.9	53.2	0	10.8	39.8	0	0	0	0
Port Dick Bay	257.4	1,118.3	526.3	296.8	55.0	193.8	0	0.6	0	63.6
Nuka Bay	26.6	129.8	23.8	0	90.2	48.4	0.3	0.7	0.1	6.3
Resurrection Bay	5.8	0.1	0.3	0	37.4	40.2	18.2	0	35.4	29.7
Bruin Bay	2.6	0	0	0	126.2	10.2	0	0	0	0
Rocky-Ursus Coves	6.6	3.2	13.5	2.9	18.0	7.5	0	0	0	0.1
Iniskin and Cottonwood Bays	2.1	3.2	4.3	0	9.9	3.5	0	0	0.1	0.1
Miscellaneous	37.9	29.5	39.1	102.2	107.1	19.3	1.3	0.4	2.8	1.5
Total	611.6	2,248.3	1,055.4	579.2	585.4	574.3	28.7	50.6	136.4	352.6

1/ Data resource IBM computer runs, 1960-78.

Table 13. Chum salmon catch for lower Cook Inlet in thousands of fish by bay by year. 1/

Catch Location	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Tutka	0.1	2.4	1.8	2.9	2.4	5.6	1.1	3.9	4.0	1.3	0.7
Port Graham	2.3	1.8	0.5	4.0	3.8	2.1	0.9	5.3	3.0	2.3	1.3
Dogfish	4.9	0.4	0.1	0	0.2	0	0	7.0	15.3	0.1	0
Port Chatham	1.0	2.5	0	2.8	4.3	5.2	0	17.8	0	1.0	0
Rocky-Windy	14.9	6.4	2.2	8.5	0.3	33.8	8.1	1.7	0	0.5	0
Port Dick	42.4	53.9	36.8	112.0	110.8	227.4	14.2	60.9	36.0	10.9	5.4
Nuka	1.7	8.4	1.7	0.5	1.5	0	0	0	1.5	6.9	0
Resurrection	0.1	0.5	0	0	0	0	0	0	0.1	0.7	0
Douglas River	0.2	0	0	0	0	0	0	0	0	0	0
Kamishak River	0	0	0	0	0	0	0	0	0	3.7	0
McNeil River	0	0.4	0	0	0	2.7	0.9	0	0.4	8.3	4.4
Bruin	0	0.3	0.5	0	0.1	0	0.4	0	1.0	7.5	0
Ursus-Rocky Coves	8.5	8.6	1.8	1.1	2.8	1.2	0	4.0	2.9	1.0	3.6
Cottonwood and Iniskin	12.1	35.4	10.2	41.7	10.9	38.4	0	0	19.0	25.5	44.4
Miscellaneous	23.7	0	0	5.8	1.4	6.9	2.5	28.5	2.2	5.4	1.4
Total	110.8	116.1	55.6	179.3	138.5	323.3	28.1	129.1	85.4	75.1	61.2

Catch Location	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Tutka	1.6	0.5	1.3	0.8	1.4	2.0	0.9	0.8	2.6	4.9
Port Graham	4.8	2.0	3.2	2.6	1.0	2.2	0.5	5.0	2.4	4.3
Dogfish	50.9	114.5	41.1	0.4	0	0	0	9.4	8.5	8.4
Port Chatham	0.1	2.4	0	0.2	0	0.6	0	0.1	0	1.7
Rocky-Windy	39.4	1.4	0	0.9	0	0.3	0	17.7	0	76.7
Port Dick	21.8	0.7	0	33.4	8.1	6.8	0	25.6	10.3	79.0
Nuka	5.9	0.1	2.3	40.8	3.9	3.6	0.4	17.4	0.4	14.7
Resurrection	0.4	0.4	0.7	0	0	0	0	0	0.1	0
Douglas River	0	0	0	0	0	0.1	7.1	4.0	2.9	0.7
Kamishak River	0	0	2.4	0	0	0	10.5	0	23.9	17.8
McNeil River	1.9	0	2.3	0	2.0	0	16.9	38.5	4.9	6.5
Bruin	12.8	1.6	1.8	0	0.7	0	0	0	0	4.0
Ursus-Rocky Coves	8.9	10.3	0.2	5.7	0	2.0	2.8	7.8	1.9	0.5
Cottonwood and Iniskin	71.9	14.5	19.7	29.9	0	2.8	11.5	15.3	14.9	0.2
Miscellaneous	3.6	0.2	0.5	0.8	2.1	1.2	0.2	4.2	0.5	3.6
Total	224.2	148.6	75.5	115.5	19.2	21.6	50.8	145.8	73.5	223.0

1/ Data source IBM computer runs, 1959-79.

Table 14. Sockeye salmon catch for Lower Cook Inlet in thousands of fish by bay by year. 1/

Catch Location	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Resurrection Bay	0	0.1	0	0	0	0	0	0	0	74.5	99.4	1.7
Aialik Bay	1.3	0.2	4.3	2.6	0.5	0	0	0	0	0	0	3.1
Nuka Bay	8.3	6.7	8.2	5.1	0.5	0	2.0	0	2.2	1.5	0	1.0
Humpy Creek	1.3	1.4	0.8	2.0	1.1	0.7	1.4	1.5	1.9	2.7	1.6	1.3
Tutka Bay	1.1	1.7	3.0	5.2	2.9	9.0	5.2	6.0	11.8	6.3	4.9	6.0
Seldovia Bay	0.4	1.2	1.2	1.7	1.2	2.1	0.9	1.0	2.2	1.9	0.8	1.2
Port Graham Bay	6.6	7.8	5.2	6.8	7.8	5.5	3.5	2.7	10.4	7.7	4.3	3.7
Kamishak Bay	1.5	0.8	0	0	0	2.0	0.8	0	0.2	0.5	10.7	2.9
Miscellaneous	1.1	4.8	1.0	1.9	1.1	1.4	2.0	4.1	3.0	0.1	11.0	1.4
Total	21.6	24.7	22.8	25.3	15.1	20.7	14.0	15.3	29.0	95.2	122.8	22.3

Catch Location	1971	1972	1973	1974	1975	1976	1977	1978	1979
Resurrection Bay	2.2	0.1	0	0	0	0	0	0	0
Aialik Bay	0	0.3	3.1	0.2	0.6	0	5.8	0	0
Nuka Bay	1.6	26.1	1.5	0.2	0	18.9	32.5	10.7	24.4
Humpy Creek	1.3	3.7	2.1	3.0	3.5	5.4	3.8	12.9	6.2
Tutka Bay	10.0	14.8	8.1	10.8	12.6	14.2	21.0	92.1	15.6
Seldovia Bay	1.5	2.3	2.2	2.3	2.1	2.1	3.0	5.6	2.6
Port Graham Bay	5.6	10.5	11.7	10.9	9.2	13.6	26.6	30.5	12.9
Kamishak Bay	0	0	0	0	0	4.0	7.4	4.6	1.8
Miscellaneous	0	1.0	5.0	0	1.0	0	0	0	9.0
Total	22.2	57.9	29.2	27.4	28.1	58.2	100.1	156.4	64.4

1/ Data source IBM computer runs, 1959-79.

Table 15. Salmon catch by species for set gillnets in the Southern District of Lower Cook Inlet, 1958-1979. 1/

Year	Kings	Reds	Cohos	Pinks	Chums	Total
1958	42	3,872	165	2,293	2,274	8,646
1959	49	6,148	377	4,342	361	11,277
1960	6	7,007	398	3,894	347	11,652
1961	15	8,631	216	8,201	425	17,488
1962	13	11,793	1,281	12,207	1,558	26,852
1963	9	8,305	314	1,490	812	10,930
1964	5	16,632	1,576	25,935	1,972	46,120
1965	9	10,998	314	7,267	679	19,267
1966	31	10,317	505	24,981	1,790	37,624
1967	112	22,097	504	13,962	1,929	38,604
1968	31	15,741	1,431	12,614	1,289	31,106
1969	33	11,570	246	10,717	1,298	23,864
1970	26	11,455	1,154	18,512	1,575	32,722
1971	41	18,398	1,449	8,564	1,352	29,804
1972	69	31,340	323	6,303	2,819	40,854
1973	134	23,970	1,089	20,222	2,374	47,789
1974	175	26,966	3,010	11,097	2,713	43,991
1975	96	26,588	2,337	49,490	4,020	82,531
1976	176	33,993	1,321	13,431	1,353	50,274
1977	175	54,404	869	38,064	2,765	96,277
1978	1,052	86,934	3,053	11,556	4,117	106,712
1979	483	34,367	7,595	69,368	5,266	117,079
22 Year Total	2,782	481,556	29,527	374,510	43,088	931,463
22 Year Average	126	21,889	1,342	17,023	1,959	42,339
% of Total	0.30	51.70	3.17	40.21	4.62	100.00

1/ Data source: final IBM computer runs 1958-1979.

Table 16. Lower Cook Inlet salmon catch by species, 1955-1979. 1/

Year	King	Red	Coho	Pink	Chum	Total
1954	1,545	39,626	15,159	270,744	265,591	592,665
1955	573	36,600	9,675	1,184,328	68,710	1,299,886
1956	333	36,306	9,345	207,920	88,218	342,122
1957	419	26,917	1,765	285,613	206,450	521,164
1958	120	19,450	1,796	949,766	124,482	1,095,614
1959	132	21,637	6,352	124,748	110,838	263,707
1960	27	24,726	2,692	611,647	116,082	755,174
1961	41	22,776	1,619	303,377	55,593	383,406
1962	60	25,286	7,727	2,248,341	179,259	2,460,673
1963	96	15,121	6,736	203,616	138,510	364,079
1964	91	20,654	9,460	1,055,417	323,335	1,408,957
1965	10	14,002	862	115,598	28,076	158,548
1966	62	15,333	5,411	579,240	129,062	729,108
1967	176	29,044	2,726	375,488	85,445	492,879
1968	64	95,242	4,883	585,441	75,134	760,764
1969	64	122,796	623	202,444	61,203	387,130
1970	107	22,312	4,860	574,284	224,158	825,721
1971	73	22,234	4,561	392,871	148,602	568,341
1972	88	57,897	2,234	28,663	75,543	164,425
1973	145	29,209	2,101	307,403	115,513	454,371
1974	183	27,428	6,514	50,601	19,210	103,936
1975	143	28,142	6,211	1,063,432	21,646	1,119,574
1976	450	58,159	3,216	136,445	50,822	249,092
1977	217	101,597	3,232	1,292,153	145,778	1,542,977
1978	1,747	156,404	6,529	352,561	73,518	590,759
1979	1,238	64,417	12,250	2,986,534	223,028	3,287,467
26 Year Total	8,204	1,133,315	138,539	16,488,675	3,153,806	20,922,539
26 Year Average	328	45,333	5,542	659,547	126,152	836,902
% of Total	0.04	5.42	0.66	78.81	15.07	100.00

1/ Data source: final IBM computer runs, 1955-1979 and processor catch reports.

Table 17. Southern district salmon catch by species, 1955-1979. 1/

Year	King	Sockeye	Coho	Pink	Chum	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	71	7,720	709	50,244	13,967	72,711
1960	12	12,239	1,237	209,989	4,100	227,577
1961	39	10,104	1,149	191,867	2,916	206,075
1962	58	16,569	2,095	564,050	9,078	591,850
1963	88	13,142	4,020	99,820	7,523	124,593
1964	84	17,283	8,905	266,412	11,529	304,213
1965	10	11,185	733	90,260	2,458	104,646
1966	60	12,192	4,807	177,544	28,754	223,357
1967	173	26,349	2,379	92,793	23,416	145,110
1968	61	18,716	4,671	154,033	4,403	181,884
1969	59	12,578	485	70,753	2,600	86,475
1970	91	13,480	3,705	208,114	8,174	233,564
1971	41	18,403	3,151	50,066	2,857	74,518
1972	69	31,345	1,283	9,126	4,936	46,759
1973	139	24,145	1,241	97,574	3,588	126,687
1974	182	27,029	3,054	48,875	2,725	81,865
1975	142	27,393	3,039	893,709	5,428	929,711
1976	442	35,280	1,905	99,817	1,517	138,961
1977	182	54,663	1,239	156,696	6,723	219,503
1978	1,511	141,088	4,318	251,761	5,525	404,203
1979	1,199	37,342	10,688	982,529	12,759	1,044,517
26 year Total	7,522	692,222	88,191	6,003,020	475,157	7,266,112
26 Year Average	301	27,689	3,528	240,121	19,006	290,644
% of Total	0.10	9.53	1.21	82.62	6.54	100.00

1/ Data source: Final IBM computer runs, 1955-1979, and processor catch reports.

Table 18. Outer district salmon catch by species, 1955-1979. 1/

Year	King	Sockeye	Coho	Pink	Chum	Total
1954	13	4,927	368	82,205	112,877	200,390
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	8,049	109	69,054	59,996	137,211
1960	4	11,614	574	381,375	67,187	460,754
1961	2	12,671	456	105,491	40,212	158,832
1962	2	8,697	1,893	1,684,023	126,767	1,821,382
1963	6	1,974	369	21,471	117,095	140,915
1964	2	1,370	431	767,473	269,514	1,038,790
1965	0	2,009	7	21,886	22,443	46,345
1966	1	3,120	357	398,751	87,620	489,849
1967	2	2,165	70	262,258	37,533	302,028
1968	1	1,550	106	191,691	20,398	213,746
1969	0	92	11	51,533	5,400	57,036
1970	5	4,177	243	302,831	118,746	426,002
1971	11	1,630	174	310,710	118,995	431,520
1972	7	26,423	17	1,005	43,490	70,942
1973	1	5,063	31	197,259	76,341	278,695
1974	1	399	28	1,678	11,931	14,037
1975	0	720	7	160,291	11,350	172,368
1976	7	18,886	0	93	412	19,398
1977	34	33,733	1,528	1,127,800	70,167	1,233,262
1978	236	10,695	45	70,080	19,224	100,280
1979	30	25,297	150	1,945,521	180,558	2,151,556
26 Year Total	412	193,552	7,634	9,643,809	1,916,948	11,762,355
26 Year Average	16	7,742	305	385,752	76,678	470,494
% of Total	+	1.65	0.06	81.99	16.30	100.00

1/ Data source: Final IBM computer runs, 1955-1979, and processor catch reports.

Table 19. Kamishak Bay district salmon catch by species, 1955-1979. 1/

Year	King	Sockeye	Coho	Pink	Chum	Total
1954	0	0	0	0	0	0
1955	0	2	8	5,121	278	5,409
1956	0	67	701	193	14,936	15,897
1957	0	4,335	29	5,905	10,856	21,125
1958	0	0	0	0	0	0
1959	0	1,549	43	5,325	23,574	30,491
1960	11	768	28	11,563	44,328	56,698
1961	0	1	14	6,019	12,465	18,499
1962	0	20	11	219	43,404	43,654
1963	2	4	97	82,314	13,892	96,309
1964	5	1,979	115	20,719	42,280	65,098
1965	0	808	122	3,452	3,175	7,557
1966	1	21	247	2,945	12,688	15,902
1967	1	182	74	17,340	24,221	41,818
1968	0	492	101	198,253	49,461	248,307
1969	2	10,723	121	80,157	53,193	144,196
1970	0	2,888	220	23,113	96,605	122,826
1971	0	3	121	32,094	26,327	58,545
1972	0	47	31	342	26,374	26,794
1973	0	1	28	12,568	35,584	48,181
1974	0	0	2,915	48	4,554	7,517
1975	0	29	3,041	9,432	4,868	17,370
1976	1	3,988	1,111	1,112	48,848	55,060
1977	1	7,425	105	6,308	65,659	79,498
1978	0	4,619	1,584	982	48,669	55,854
1979	9	1,778	1,116	58,484	29,711	91,098
26 Year Total	33	41,729	11,983	584,008	735,950	1,373,703
26 Year Average	1	1,669	479	23,360	29,438	54,948
% of Total	+	3.04	0.87	42.51	53.58	100.00

1/ Data source: Final IBM computer runs, 1955-1979, and processor catch reports.

Table 20. Eastern district salmon catch by species, 1955-1979. 1/

Year	King	Sockeye	Coho	Pink	Chum	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	4,319	5,491	125	13,301	23,294
1960	0	105	853	8,720	467	10,145
1961	0	0	0	0	0	0
1962	0	0	3,728	49	10	3,787
1963	0	1	2,250	11	0	2,262
1964	0	22	9	813	12	856
1965	0	0	0	0	0	0
1966	0	0	0	0	0	0
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	40,226	633	43,329
1971	21	2,198	1,115	1	423	3,758
1972	12	82	903	18,190	743	19,930
1973	5	0	801	2	0	808
1974	0	0	517	0	0	517
1975	1	0	124	0	0	123
1976	0	5	200	35,423	45	35,673
1977	0	5,776	360	1,349	3,229	10,714
1978	0	2	582	29,738	100	30,422
1979	0	0	296	0	0	296
26 Year Total	237	205,812	30,731	257,838	25,751	520,369
26 Year Average	9	8,232	1,229	10,314	1,030	20,815
% of Total	0.04	39.55	5.91	49.55	4.95	100.00

1/ Data source: Final IBM computer runs, 1955-1979, and processor catch reports.

Table 21. Summary of subsistence fishermen in Lower Cook Inlet by area of residence.

Area Residence of Permittee	Homer #	Homer %	Anchorage Area #	Anchorage Area %	Halibut Cove #	Halibut Cove %	Anchor Point #	Anchor Point %	Seldovia #	Seldovia %	Port Graham/ English Bay #	Port Graham/ English Bay %	Kenai/ Soldotna #	Kenai/ Soldotna %	Other #	Other %	Total Permits Issued
1974	108	73.0	20	13.5	6	4.1	4	2.7	1	0.7	3	2.0	5	3.4	1	0.7	148
1975	118	75.2	13	8.3	6	3.8	7	4.5	5	3.2	2	1.3	4	2.5	2	1.3	157
1976	182	70.0	24	9.2	9	3.5	25	9.6	5	1.9	4	1.5	6	2.3	5	1.9	260
1977	153	77.3	8	4.0	8	4.0	17	8.6	7	3.6	0	0	2	1.0	3	1.6	198
1978	214	68.8	40	12.9	5	1.6	30	9.6	12	3.8	3	1.0	4	1.3	3	1.0	311
1979	276	62.7	67	15.2	2	0.5	61	13.9	3	0.7	0	0	11	2.5	20	4.6	440
4 Year Total	1,051	-	172	-	36	-	144	-	33	-	12	-	32	-	34	-	1,514
4 Year Average	175	69.4	29	11.4	6	2.4	24	9.5	6	2.2	2	0.8	5	2.1	6	2.3	252

Table 22. Subsistence fishery catches for the Southern district of Cook Inlet, 1969-1979.

Year	Issued	Returned	Permits Not Fished	Returned	King	Sockeye	Coho	Pink	Chum	Other	Total
1969	47	44	9	93.6	0	9	752	38	0	17	816
1970	78	73	18	93.6	0	12	1,179	143	13	39	1,386
1971	112	95	42	84.8	2	16	1,549	44	7	20	1,638
1972	135	105	41	77.8	1	11	975	48	69	19	1,123
1973	143	128	46	89.5	0	18	1,304	84	40	9	1,455
1974	148	118	66	80.3	0	16	376	43	77	27	539
1975	292	276	55	94.5	4	47	1,960	632	61	95	2,799
1976	242	221	83	91.3	16	46	1,962	1,513	56	75	3,668
1977	197	179	42	90.9	12	46	2,216	639	119	84	3,116
1978	311	264	113	84.9	4	35	2,482	595	34	89	3,239
1979	437	401	163	91.8	6	37	2,118	2,251	41	130	4,583
9 Year Total	2,142	1,904	678	-	45	293	16,873	6,030	517	604	24,362
9 Year Average	195	173	62	89.0	11	27	1,534	548	47	55	2,215

Appendix Table 1. Emergency order commercial fishing periods in Lower Cook Inlet, 1978.

Number	Date	Description
2H-006-78	June 9	Opens the Kamishak-Douglas subdistrict at 6:00 a.m. Monday June 12 during regular fishing periods.
2H-007-78	June 28	Opens the Dogfish Bay subdistrict at 6:00 a.m. Thursday June 29 and the East Nuka subdistrict at 6:00 a.m. Friday June 30 on the regular fishing periods.
2H-008-78	July 4	Opens the Bruin Bay subdistrict at 6:00 a.m. Thursday July 6.
2H-009-78	July 6	Opens Halibut Cove Lagoon in the Humpy Creek subdistrict at 6:00 a.m. Monday July 10 on the regular fishing periods.
2H-010-78	July 7	Opens the Port Graham subdistrict for 48 hours from 6:00 a.m. Monday July 10 until 6:00 a.m. Wednesday July 12 and opens the Tutka Bay subdistrict at 6:00 a.m. Monday July 10 on the regular weekly fishing periods.
2H-011-78	July 8	Opens the McNeil River Lagoon to fishing and extends fishing time to seven days per week in the McNeil River area west of a line from McNeil Head to Nordyke Island effective at 12:00 noon Saturday July 8.
2H-012-78	July 10	Removes the markers at Desire Lake Creek at 12:00 noon Monday July 10.
2H-013-78	July 13	Removes the markers at the HEA powerline in Tutka Bay and allows fishing up to the mouth of the lagoon at 6:00 p.m. Thursday July 13.
2H-014-78	July 18	Closes the Halibut Cove Lagoon at 6:00 a.m. Wednesday July 19.
2H-015-78	July 20	Closes English Bay, Port Graham Bay and Seldovia Bay to set gillnet fishing at 6:00 a.m. Saturday July 22.

Appendix Table 1. (Continued)

2H-015-78	July 20	Opens the Humpy Creek subdistrict for 48 hours from 6:00 a.m. Monday July 24 until 6:00 a.m. Wednesday July 26 and reopens Halibut Cove Lagoon at 6:00 a.m. Monday July 24 on the regular fishing periods.
2H-017-78	July 23	Opens Tutka Lagoon by flare for two hours from 4:00 until 6:00 a.m. Tuesday July 25.
2H-018-78	July 26	Opens the Aialik Bay subdistrict and Aialik Lagoon at 6:00 a.m. Thursday July 27. Puts markers back in effect at Desire Lake Creek effective at 6:00 a.m. Thursday July 27.
2H-019-78	July 28	Opens the Humpy Creek subdistrict at 6:00 a.m. Monday July 31 on the regular weekly periods and allows fishing seven days per week in the Kamishak-Douglas subdistrict effective at 6:00 a.m. Saturday July 29.
2H-020-78	July 29	Opens the Seldovia Bay subdistrict to set gillnets and seines and opens the Port Dick subdistrict at 6:00 a.m. Monday July 31. Closes the waters of Port Dick Bay west of a line from markers on the west side of Middle Creek to the east side of Shelter Cove.
2H-021-78	July 29	Opens Tutka Lagoon by flare for two hours from 12:00 noon until 2:00 p.m. Wednesday August 2.
2H-022-78	July 31	Closes the East Nuka subdistrict at 6:00 a.m. Wednesday August 2.
2H-023-78	July 31	Opens the Resurrection Bay subdistrict at 6:00 a.m. Monday August 7.
2H-025-78	August 1	Allows fishing seven days per week in the Bruin Bay subdistrict effective at 6:00 a.m. Wednesday August 2.
2H-026-78	August 2	Closes Halibut Cove Lagoon at 6:00 a.m. Thursday August 3.
2H-028-78	August 5	Opens the Iniskin Bay subdistrict to fishing seven days per week at 6:00 a.m. Monday August 7.
2H-029-78	August 7	Closes the Resurrection Bay subdistrict at 6:00 a.m. Tuesday August 8.

Appendix Table 1. (Continued)

2H-030-78	August 7	Opens Tutka Lagoon by flare for two hours from 3:00 until 5:00 p.m. Tuesday August 8.
2H-031-78	August 7	Removes markers at Seldovia Bay and Island Creek effective at 12:00 noon Tuesday August 8.
2H-032-78	August 11	Removes the markers at Shelter Cove and Middle Creek and allows fishing in Port Dick Bay up to the markers at the head of the bay effective at 6:00 p.m. Thursday August 10.
2H-033-78	August 14	Opens the Northshore subdistrict to commercial and subsistence fishing from 6:00 a.m. Thursday August 17 until 6:00 a.m. Saturday, September 16.
2H-034-78	August 14	Opens the Ursus Cove subdistrict at 6:00 a.m. August 15 on the regular weekly periods.
2H-035-78	August 21	Opens the Cottonwood Bay subdistrict seven days per week at 6:00 p.m. Monday August 21.
2H-036-78	October 4	Opens Halibut Cove Lagoon to commercial and subsistence fishing seven days per week from 6:00 a.m. October 6 until 6:00 a.m. October 28.

Appendix Table 2. Emergency order commercial fishing periods in Lower Cook Inlet, 1979.

Number	Date	Description
2H-007-79	June 1	Opens the Kamishak-Douglas McNeil and Bruin Bay subdistricts at 6:00 a.m. Thursday June 7 on the regular weekly fishing periods.
2H-008-79	June 19	Opens McNeil River Lagoon at 6:00 a.m. June 21 until 6:00 a.m. June 30 during the regular fishing periods.
2H-009-79	June 25	Opens the Tutka Bay and Dogfish Bay subdistricts at 6:00 a.m. Thursday June 28 and opens the Port Dick and East Nuka subdistricts for 24 hours from 6:00 a.m. Thursday June 28 until 6:00 a.m. Friday June 29.
2H-011-79	June 29	Opens the East Nuka subdistrict at 6:00 a.m. Monday July 2 on the regular weekly fishing periods and removes the markers at the mouth of both streams.
2H-012-79	July 3	Opens the Seldovia Bay, Barabara Creek, Port Graham and Port Chatham subdistricts and the Port Dick subdistrict except for the Port Dick North section, to fishing for 48 hours from 6:00 a.m. Thursday July 5 until 6:00 a.m. Saturday July 7. It also opens the Windy Bay and Rocky Bay subdistricts for 12 hours from 6:00 a.m. until 6:00 p.m. Thursday July 5.
2H-013-79	July 3	Closes the waters of Port Dick Bay west of a line from the marker on the west shore of Middle Creek to a marker on the east shore of Shelter Cove at 6:00 a.m. Thursday July 5.
2H-014-79	July 2	Removes the markers at the HEA powerline in Tutka Bay and allows fishing up to the mouth of the lagoon effective at 6:00 a.m. Tuesday July 3.
2H-015-79	July 2	Moves markers in Seldovia Bay and Port Chatham further in the bays effective at 6:00 a.m. Thursday July 5.

Appendix Table 2. (Continued)

2H-017-79	July 7	Extends fishing in the Bruin Bay and Kamishak-Douglas subdistricts to seven days per week effective at 6:00 a.m. Monday July 9.
2H-018-79	July 7	Opens the entire Southern and Outer districts, except for the Rocky Bay, Windy Bay and Nuka Island subdistricts and the Port Dick North section at 6:00 a.m. Monday July 9.
2H-019-79	July 9	Opens Tutka Lagoon by flare for one hour from 10:00 until 11:00 a.m. Tuesday July 10.
2H-020-79	July 9	Opens that portion of the Nuka Island subdistrict west of a line from Petrof Point to Front Point and the Windy Bay subdistrict at 6:00 a.m. Tuesday July 10 and closes the Port Graham Bay subdistrict to seining at 9:00 p.m. Monday July 9.
2H-021-79	July 10	Extends fishing time in Tutka Lagoon for two hours from 11:30 until 1:30 p.m. Tuesday July 10 and opens Dogfish Lagoon by flare for 2 1/2 hours from 1:00 until 3:30 p.m. Tuesday July 10.
2H-023-79	July 14	Opens the Nuka Island subdistrict and closes the Barabara Creek subdistrict at 6:00 a.m. Monday July 16.
2H-024-79	July 14	Puts the markers back in effect at Delight and Desire Lakes, prohibits fishing west of a line from Petrof Point to Front Point, removes the markers at South Nuka Creek and closes waters of Port Dick west of the Middle Creek to Shelter Cove line effective at 6:00 a.m. Monday July 16.
2H-025-79	July 15	Opens Tutka Lagoon by flare for four hours from 2:00 until 6:00 p.m. Monday July 16.
2H-026-79	July 17	Closes Nuka Island and McNeil River subdistricts at 6:00 a.m. Thursday July 19.
2H-027-79	July 17	Opens the entire Port Dick subdistrict at 6:00 a.m. Thursday July 19.
2H-028-79	July 17	Opens the Rocky Bay subdistrict for 36 hours from 6:00 a.m. Thursday July 19 until 6:00 p.m. Friday July 20.
2H-029-79	July 17	Moves markers further in the bays at Seldovia Bay and Port Chatham at 6:00 a.m. Thursday July 19.

Appendix Table 2. (Continued)

2H-031-79	July 19	Extends fishing time in the Rocky Bay subdistrict from 6:00 p.m. Friday July 20 until further notice on the regular weekly fishing periods.
2H-032-79	July 19	Moves markers further in the bays at Seldovia and Port Graham at 11:00 a.m. Thursday July 19 and 4:00 p.m. Friday July 20, respectively.
2H-033-79	July 20	Closes Seldovia Bay from 12:00 noon Friday July 20 until 6:00 a.m. Monday July 23.
2H-034-79	July 20	Reopens the Barabara Creek, Seldovia Bay and Rocky Bay subdistricts at 6:00 a.m. Monday July 23, moves the markers in Seldovia Bay back out 50 degrees 24' 29" N. latitude and establishes a 1/2 mile radius closure around the mouth of Barabara Creek effective at 6:00 a.m. Monday July 23.
2H-035-79	July 23	Opens Tutka Lagoon by flare for two hours from 12:30 until 2:30 p.m. Monday July 23.
2H-036-79	July 23	Reduces fishing time in the Kamishak-Douglas subdistrict from seven days per week to the regular two 48 hour weekly periods effective at 6:00 a.m. Wednesday July 25.
2H-037-79	July 23	Allows fishing inside the markers at Windy Bay for two hours from 12:00 noon until 2:00 p.m. Thursday July 24.
2H-038-79	July 26	Adjusts markers at Windy Bay, Rocky Bay, and Port Dick effective at 8:00 a.m., 9:00 a.m. and 10:00 a.m. Firday July 27, respectively.
2H-039-79	July 29	Allows fishing in China Poot Bay to within 500 yards of the stream effective at 6:00 a.m. Monday July 30.
2H-042-79	July 30	Opens Tutka Lagoon by flare for one hour from 6:00 until 7:00 p.m. Tuesday July 31.
2H-043-79	August 2	Opens the Nuka Island subdistrict within a two mile radius of South Nuka Creek by flare at 9:00 a.m. Friday August 3.
2H-044-79	August 3	Opens the Rocky Cove subdistrict for two hours from 10:30 a.m. until 12:30 p.m. Saturday August 4 and extends fishing time in the Southern and Outer districts to seven days per week.

Appendix Table 2. (Continued)

2H-045-79	July 30	Removes the markers at Barabara Creek and Bruin Bay effective at 6:00 a.m. Wednesday August 1 and moves markers further in the bay at Windy Bay effective at 12:00 noon Tuesday July 31.
2H-046-79	August 4	Moves the eastern marker at Island Creek closer to the stream at 9:00 p.m. Saturday August 4.
2H-047-79	August 6	Opens the Iniskin Bay subdistrict at 6:00 a.m. Tuesday August 7.
2H-050-79	August 13	Closes the Port Dick subdistrict and reduces fishing time in the Southern and Outer districts from seven days per week to the regular two 48 hour weekly fishing periods effective at 6:00 a.m. Wednesday August 15.
2H-051-79	August 17	Closes the Iniskin Bay subdistrict 6:00 a.m. Saturday August 18.

Appendix Table 3. Fishing licenses and permits issued and fished in Lower Cook Inlet, 1960-1979.

Year	Gear License	Seines Permanent Permit	Seines Interim Permit	Total	Seines Fished	Set Nets Fished
1960	95			95		
1961	89			89		
1962	91			91		
1963	112			112		
1964	108			108		
1965	72			72		
1966	77			77	75	
1967	58			58	54	
1968	91			91	88	
1969	75			75	17	
1970	89			89	9	
1971	81			81	32	
1972	83			83	52	
1973	86			86	49	
1974	110			110	49	32
1975		49	51	100	63	27
1976		63	16	79	53	25
1977		72	10	82	72	26
1978		74	9	83	72	39
1979		75	9	84	75	38
Total	1,317	333	94	1,744	760	187
Average	88	67	19	87	54	31

*Data source: CFEC microfiche printouts and final IBM computer runs.

Appendix Table 4. Ex-vessel value of Lower Cook Inlet commercial salmon harvest in thousands of dollars by species, 1960-1979.

Year	King	Sockeye	Coho	Pink	Chum	Total
1960	0	36	3	287	127	453
1961	0	33	2	144	36	215
1962	0	37	8	1,056	108	1,209
1963	1	22	7	87	84	201
1964	0	30	9	369	194	602
1965	0	21	1	34	20	76
1966	0	23	5	237	82	347
1967	1	45	3	157	58	264
1968	0	152	5	311	57	525
1969	0	219	1	137	46	403
1970	1	35	6	273	215	530
1971	1	38	7	248	144	438
1972	1	130	6	22	146	305
1973	3	113	5	310	251	682
1974	5	283	30	100	77	495
1975	3	106	27	1,456	71	1,663
1976	7	287	13	207	217	731
1977	7	620	9	1,719	604	2,959
1978	62	1,516	52	370	341	2,341
1979	36	621	68	4,495	1,097	6,317
20 Year Total	128	4,367	267	12,019	3,975	20,756
20 Year Average	6	218	13	601	199	1,038

1/ Values obtained by using the formula: average price per lb. x average weight of fish x catch = Ex-vessel value.

Appendix Table 5. Average salmon price per pound by species in dollars, Lower Cook Inlet, 1960-1979. 1/

Year	King	Sockeye	Coho	Pink	Chum
1960	0.25 2/	0.27	0.18	0.15	0.16
1961	0.24 2/	0.24	0.15	0.11	0.08
1962	0.23 2/	0.27	0.16	0.15	0.07
1963	0.25 2/	0.27	0.15	0.13	0.08
1964	0.24 2/	0.27	0.15	0.10	0.07
1965	0.22 2/	0.24	0.11	0.08	0.08
1966	0.22 2/	0.24	0.14	0.11	0.08
1967	0.26	0.26	0.15	0.11	0.08
1968	0	0.25	0.17	0.18	0.09
1969	0	0.27	0.23	0.17	0.13
1970	0.35	0.27	0.18	0.12	0.13
1971	0.53	0.28	0.24	0.18	0.15
1972	0.45	0.36	0.44	0.20	0.28
1973	0.93	0.48	0.39	0.27	0.29
1974	0.76	1.54	0.72	0.48	0.56
1975	0.61	0.61	0.49	0.37	0.43
1976	0.91	0.77	0.59	0.37	0.48
1977	1.07	0.86	0.55	0.35	0.45
1978	1.09	1.31	0.97	0.30	0.54
1979	1.54	1.53	0.89	0.43	0.60

1/ 1960-1974 values obtained (except as noted) by using the formula: Avg. price/lb. x avg. weight/fish x catch = ex-vessel value. Ex-vessel values obtained from tables 34 & 39 in Lower Cook Inlet status report. Avg. weight/fish from commercial fish catch & production statistical leaflet for Cook Inlet. Values do not reflect any retroactive price increases paid after the fishing seasons.

2/ Values obtained by using formula:

$$\text{Avg. price/lb.} = \frac{\text{Avg. price/fish}}{\text{Avg. weight/fish}}$$

Avg. weight/fish from statistical leaflet. Avg. price/fish from annual management reports.

Appendix Table 6. Salmon average weight per fish in pounds for Lower Cook Inlet, 1960-1979. 1/

Year	King	Sockeye	Coho	Pink	Chum
1960	20.2	5.4	6.2	3.2	6.8
1961	20.5	6.0	8.2	4.5	7.8
1962	21.5	5.4	6.4	3.2	8.0
1963	19.7	5.4	7.1	3.4	7.2
1964	20.8	5.4	6.3	3.5	8.4
1965	22.2	6.2	10.1	3.6	8.7
1966	23.1	5.9	6.4	3.6	7.5
1967	21.9	6.0	7.2	3.9	8.1
1968	26.2	6.3	5.9	3.0	8.3
1969	18.2	6.7	7.0	3.9	7.3
1970	26.6	5.8	6.8	3.9	7.1
1971	25.9	6.0	6.3	3.5	6.6
1972	25.0	6.2	6.1	3.9	6.9
1973	22.3	8.1	6.1	3.7	7.4
1974	36.1	6.7	6.4	4.1	7.2
1975	33.2	6.2	8.8	3.7	7.6
1976	16.1	6.4	7.0	4.1	8.9
1977	30.1	7.2	5.9	3.8	9.2
1978	32.3	7.4	8.2	3.5	8.6
1979	18.9	6.3	6.2	3.5	8.2
20 Year Total	455.8	125.0	138.6	73.5	155.8
20 Year Average	22.8	6.3	6.9	3.7	7.8

1/ 1960-1974 values obtained from commercial fish catch & production statistical leaflets. Remaining years from IBM computer runs.

Appendix Table 7. Salmon case pack by species, Cook Inlet, 1960 -1979. 1/

	48 1-lb. Cans per Case					
Year	King	Sockeye	Coho	Pink	Chum	Total
1960	9,279	65,478	24,091	87,575	62,709	249,132
1961	12,942	88,687	10,673	30,401	39,092	181,795
1962	8,721	89,231	28,611	208,392	107,724	442,679
1963	8,138	74,185	20,898	13,509	46,209	162,939
1964	921	75,944	40,137	188,373	135,466	440,841
1965	1,221	109,663	11,999	5,911	27,187	155,981
1966	1,472	142,987	22,985	102,796	49,680	319,920
1967	1,909	118,853	15,355	21,492	38,654	196,263
1968	447	58,365	29,290	104,382	122,164	314,648
1969	1,277	43,408	6,985	86,038	26,580	164,288
1970	412	78,453	19,010	80,572	73,633	252,080
1971	1,036	68,357	8,847	91,880	52,223	222,343
1972	396	101,105	10,109	25,195	56,527	193,332
1973	712	53,954	7,049	47,829	87,214	196,758
1974	1,193	52,990	13,482	44,610	85,288	197,563
1975	169	60,359	6,298	55,454	40,491	162,771
1976	872	127,434	11,238	103,260	51,171	293,975
1977	780	232,956	9,558	104,088	92,284	439,666
1978	1,070	156,803	8,525	155,460	56,339	378,197
1979	457	104,022	2,836	249,422	26,190	382,477
Total	53,424	1,903,234	307,976	1,806,639	1,276,825	5,347,648
Average	2,671	95,162	15,399	90,332	63,841	267,382

1/ Includes Cook Inlet salmon and salmon imported from other areas and processed in Cook Inlet.

Appendix Table 8. Commercial production of fresh, frozen and cured salmon by species, Cook Inlet, 1971-1979. 1/

Year	King	Sockeye	Coho	Pink	Chum	Total
	Production in Pounds					
1971	1,122,833	858,298	230,995	29,943	2,147,814	4,388,983
1972	697,871	661,537	126,717	647,952	1,904,750	4,038,827
1973	434,283	2,251,760	478,334	326,169	5,032,885	8,523,431
1974	474,170	1,239,399	964,636	1,164,061	4,902,531	8,744,797
1975	274,563	1,490,354	851,260	581,883	5,923,465	9,121,525
1976	511,231	5,428,655	684,206	2,274,473	4,243,440	13,142,005
1977	842,240	8,265,220	754,610	580,070	5,439,190	15,881,330
1978	1,463,785	20,243,930	1,475,932	5,533,116	7,533,722	36,250,485
1979	426,710	9,479,792	1,578,032	2,375,713	4,076,813	17,937,060
Total	6,247,686	49,918,945	7,144,722	13,513,380	41,204,610	118,029,343
Average	694,187	2,495,947	357,236	675,669	2,060,231	5,901,467

1/ Includes Cook Inlet salmon and salmon imported from other areas and processed in Cook Inlet.

Appendix Table 9. Lower Cook Inlet total salmon catch by district, 1955-1979. 1/

Year	Southern	Outer	Kamishak	Eastern	Total
1954	368,426	200,390	0	23,849	592,665
1955	624,254	599,869	5,409	70,354	1,299,886
1956	242,058	64,718	15,897	19,449	342,122
1957	209,138	290,473	21,125	428	521,164
1958	253,457	841,957	0	200	1,095,614
1959	72,711	137,211	30,491	23,294	263,707
1960	227,577	460,754	56,698	10,145	755,174
1961	206,075	158,832	18,499	0	383,406
1962	591,850	1,821,382	43,654	3,787	2,460,673
1963	124,593	140,915	96,309	2,262	364,079
1964	304,213	1,038,790	65,098	856	1,408,957
1965	104,646	46,345	7,557	0	158,548
1966	223,357	489,849	15,902	0	729,108
1967	145,110	302,028	41,818	3,923	492,879
1968	181,884	213,746	248,307	116,827	760,764
1969	86,475	57,036	144,166	99,423	387,130
1970	233,564	426,002	122,826	43,329	825,721
1971	74,518	431,520	58,545	3,758	568,341
1972	46,759	70,942	26,794	19,930	164,425
1973	126,687	278,695	48,181	808	454,371
1974	81,865	14,037	7,517	517	103,936
1975	929,711	172,368	17,370	125	1,119,574
1976	138,961	19,398	55,060	35,673	249,092
1977	219,503	1,233,262	79,498	10,714	1,542,977
1978	404,203	100,280	55,854	30,422	590,759
1979	1,044,517	2,151,556	91,098	296	3,287,467
26 Year Total	7,266,112	11,762,355	1,373,703	520,369	20,922,539
26 Year Average	290,644	470,494	54,948	20,815	836,902
% of Total	34.73	56.22	6.56	2.49	100.00

1/ Data source: Final IBM computer runs, 1955-1979 and processor catch reports.

Appendix Table 10. King salmon catch by district for Lower Cook Inlet, 1955-1979. 1/

Year	Southern	Outer	Kamishak	Eastern	Total
1954	1,532	13	0	0	1,545
1955	562	7	0	4	573
1956	310	23	0	0	333
1957	286	13	0	120	419
1958	119	1	0	0	120
1959	71	3	0	58	132
1960	12	4	11	0	27
1961	39	2	0	0	41
1962	58	2	0	0	60
1963	88	6	2	0	96
1964	84	2	5	0	91
1965	10	0	0	0	10
1966	60	1	1	0	62
1967	173	2	1	0	176
1968	61	1	0	2	64
1969	59	0	2	3	64
1970	91	5	0	11	107
1971	41	11	0	21	73
1972	69	7	0	12	88
1973	139	1	0	5	145
1974	182	1	0	0	183
1975	142	0	0	1	143
1976	442	7	1	0	450
1977	182	34	1	0	217
1978	1,511	236	0	0	1,747
1979	1,199	30	9	0	1,238
26 Year Total	7,522	412	33	237	8,204
26 Year Average	301	16	1	9	328
% of Total	91.69	5.02	0.40	2.89	100.00

1/ Data source: Final IBM computer runs, 1955-1979 and processor catch reports.

Appendix Table 11. Sockeye salmon catch by district for Lower Cook Inlet, 1955-1979. 1/

Year	Southern	Outer	Kamishak	Eastern	Total
1954	22,913	4,927	0	11,786	39,626
1955	30,848	701	2	5,049	36,600
1956	33,054	2,889	67	296	36,306
1957	19,431	2,982	4,335	169	26,917
1958	17,731	1,719	0	0	19,450
1959	7,720	8,049	1,549	4,319	21,637
1960	12,239	11,614	768	105	24,726
1961	10,104	12,671	1	0	22,776
1962	16,569	8,697	20	0	25,286
1963	13,142	1,974	4	1	15,121
1964	17,283	1,370	1,979	22	20,654
1965	11,185	2,009	808	0	14,002
1966	12,192	3,120	21	0	15,333
1967	26,349	2,165	182	348	29,044
1968	18,716	1,550	492	74,484	95,242
1969	12,578	92	10,723	99,403	122,796
1970	13,480	4,177	2,888	1,767	22,312
1971	18,403	1,630	3	2,198	22,234
1972	31,345	26,423	47	82	57,897
1973	24,145	5,063	1	0	29,209
1974	27,029	399	0	0	27,428
1975	27,393	720	29	0	28,142
1976	35,280	18,886	3,988	5	58,159
1977	54,663	33,733	7,425	5,776	101,597
1978	141,088	10,695	4,619	2	156,404
1979	37,342	25,297	1,778	0	64,417
26 Year Total	692,222	193,552	41,729	205,812	1,133,315
26 Year Average	27,689	7,742	1,669	8,232	45,333
% of Total	61.08	17.08	3.68	18.16	100.00

1/ Data source: Final IBM computer runs,1955-1979 and processor catch reports.

Appendix Table 12. Coho salmon catch by district for Lower Cook Inlet, 1955-1979. 1/

Year	Southern	Outer	Kamishak	Eastern	Total
1954	12,235	368	0	2,556	15,159
1955	3,230	277	8	6,160	9,675
1956	4,693	190	701	3,761	9,345
1957	1,507	110	29	119	1,765
1958	1,713	83	0	0	1,796
1959	709	109	43	5,491	6,352
1960	1,237	574	28	853	2,692
1961	1,149	456	14	0	1,619
1962	2,095	1,893	11	3,728	7,727
1963	4,020	369	97	2,250	6,736
1964	8,905	431	115	9	9,460
1965	733	7	122	0	862
1966	4,807	357	247	0	5,411
1967	2,379	70	74	203	2,726
1968	4,671	106	101	5	4,883
1969	485	11	121	6	623
1970	3,705	243	220	692	4,860
1971	3,151	174	121	1,115	4,561
1972	1,283	17	31	903	2,234
1973	1,241	31	28	801	2,101
1974	3,054	28	2,915	517	6,514
1975	3,039	7	3,041	124	6,211
1976	1,905	0	1,111	200	3,216
1977	1,239	1,528	105	360	3,232
1978	4,318	45	1,584	582	6,529
1979	10,688	150	1,116	296	12,250
26 Year Total	88,191	7,634	11,983	30,731	138,539
26 Year Average	3,528	305	479	1,229	5,542
% of Total	63.66	5.51	8.65	22.18	100.00

1/ Data source: Final IBM computer runs,1955-1979 and processor catch reports.

Appendix Table 13. Pink salmon catch by district for Lower Cook Inlet, 1955-1979. 1/

Year	Southern	Outer	Kamishak	Eastern	Total
1954	180,977	82,205	0	7,562	270,744
1955	565,216	557,997	5,121	55,994	1,184,328
1956	150,486	42,368	193	14,873	207,920
1957	130,511	149,197	5,905	0	285,613
1958	209,798	739,768	0	200	949,766
1959	50,244	69,054	5,325	125	124,748
1960	209,989	381,375	11,563	8,720	611,647
1961	191,867	105,491	6,019	0	303,377
1962	564,050	1,684,023	219	49	2,248,341
1963	99,820	21,471	82,314	11	203,616
1964	266,412	767,743	20,719	813	1,055,417
1965	90,260	21,886	3,452	0	115,598
1966	177,544	398,751	2,945	0	579,240
1967	92,793	262,258	17,340	3,097	375,488
1968	154,033	191,691	198,253	41,464	585,441
1969	70,753	51,533	80,157	1	202,444
1970	208,114	302,831	23,113	40,226	574,284
1971	50,066	310,710	32,094	1	392,871
1972	9,126	1,005	342	18,190	28,663
1973	97,574	197,259	12,568	2	307,403
1974	48,875	1,678	48	0	50,601
1975	893,709	160,291	9,432	0	1,063,432
1976	99,817	93	1,112	35,423	136,445
1977	156,696	1,127,800	6,308	1,349	1,292,153
1978	251,761	70,080	982	29,738	352,561
1979	982,529	1,945,521	58,484	0	2,986,534
26 Year Total	6,003,020	9,643,809	584,008	257,838	16,488,675
26 Year Average	240,121	385,752	23,360	10,314	659,547
% of Total	36.41	58.49	3.54	1.56	100.00

1/ Data source: Final IBM computer runs, 1955-1979 and processor catch reports.

Appendix Table 14. Chum salmon catch by district for Lower Cook Inlet, 1955-1979. 1/

Year	Southern	Outer	Kamishak	Eastern	Total
1954	150,769	112,877	0	1,945	265,591
1955	24,938	40,887	278	3,147	68,710
1956	53,515	19,248	14,936	519	88,218
1957	57,403	138,171	10,856	20	206,450
1958	24,096	100,386	0	0	124,482
1959	13,976	59,996	23,574	13,301	110,838
1960	4,100	67,187	44,328	467	116,082
1961	2,916	40,212	12,465	0	55,593
1962	9,078	126,767	43,404	10	179,259
1963	7,523	117,095	13,892	0	138,510
1964	11,529	269,514	42,280	12	323,335
1965	2,458	22,443	3,175	0	28,076
1966	28,754	87,620	12,688	0	129,062
1967	23,416	37,533	24,221	275	85,445
1968	4,403	20,398	49,461	872	75,134
1969	2,600	5,400	53,193	10	61,203
1970	8,174	118,746	96,605	633	224,158
1971	2,857	118,995	26,237	423	148,602
1972	4,936	43,490	26,374	743	75,543
1973	3,588	76,341	35,584	0	115,513
1974	2,275	11,931	4,554	0	19,210
1975	5,428	11,350	4,868	0	21,646
1976	1,517	412	48,848	45	50,822
1977	6,723	70,167	65,659	3,229	145,778
1978	5,525	19,224	48,669	100	73,518
1979	12,759	180,558	29,711	0	223,028
26 Year Total	475,157	1,916,948	735,950	25,751	3,153,806
26 Year Average	19,006	76,678	29,438	1,030	126,152
% of Total	15.07	60.78	23.33	0.82	100.00

1/ Data source: Final IBM computer runs, 1955-1979 and processor catch reports.

Appendix Table 15. Pink salmon catch in thousands of fish for fishing districts in Lower Cook Inlet, 1936- 1979. 1/

Year	Catch	Year	Catch	Year	Catch
1936	526	1956	208	1976	136
1937	457	1957	286	1977	1,292
1938	345	1958	950	1978	353
1939	292	1959	124	1979	2,987
1940	1,659	1960	612		
1941	692	1961	303		
1942	695	1962	2,248		
1943	1,361	1963	204		
1944	1,446	1964	1,055		
1945	1,302	1965	116		
1946	870	1966	579		
1947	1,396	1967	375		
1948	591	1968	585		
1949	366	1969	202		
1950	311	1970	574		
1951	378	1971	393		
1952	972	1972	29		
1953	513	1973	307		
1954	271	1974	51		
1955	1,184	1975	1,063		

	Total	Average
44 Year	30,659	697
Odd-Year (22)	15,593	709
Even-Year (22)	15,066	685

1/ Data source: 1953-63 data very sketchy - U.S.F.& W.S. Statistical Digest #50 and INPFC Document #1134, Rich & Ball; ADF&G computer runs, 1960-1979.

Appendix Table 16. Summary of return per spawner and forecast variations which have occurred in the pink salmon runs to the Southern and Outer districts of Cook Inlet, 1964-1979.

Brood Year	Escapement	Return	Return/ Spawner	Forecast	Variation from Forecast	
1964	269.9	828	3.07	1,300	-	36.3
1965	142.3	478	3.36	500	-	4.4
1966	252.0	542	2.15	462	+	17.3
1967	122.5	238	1.94	500	-	52.4
1968	196.3	699	3.56	2,000	-	65.0
1969	115.2	615	5.34	640	-	3.9
1972	43.9	91	2.07	340	-	73.5
1973	111.3	1,298	11.66	620	+	109.4
1974	40.2	197	4.90	780	-	74.9
1975	240.8	1,652	6.86	845	+	102.0
1976	86.6	488	3.90 2/	635	-	24.0
1977	361.3	3,507	8.67 2/	1,647 3/	+	112.9
Total	2,704.3	15,238	66.12	14,556	+	0.50
Average	225.4	1,270	5.51	1,213	+	0.04

1/ Preliminary data.
2/ Calculated by subtracting hatchery return from total return: 150,000 in 1978
370,000 in 1979
3/ Includes projected hatchery return.