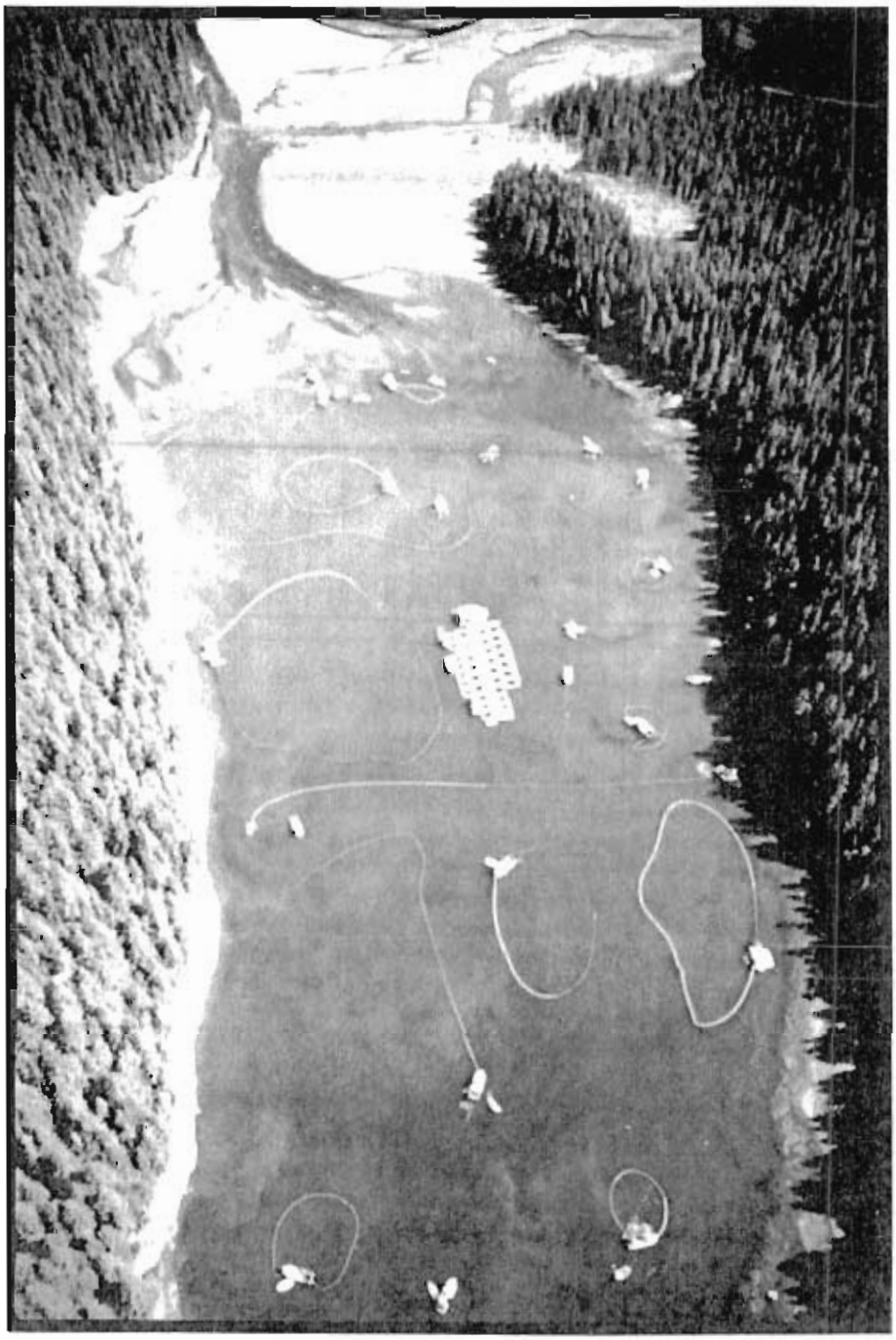
Lower Cook Inlet ANNUAL MANAGEMENT REPORT

Salmon 1982



ALASKA DEPARTMENT OF FISH AND GAME
Division of Commercial Fisheries
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Homer, Alaska 99603

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES

ANNUAL
FINFISH MANAGEMENT REPORT
-1982-
LOWER COOK INLET

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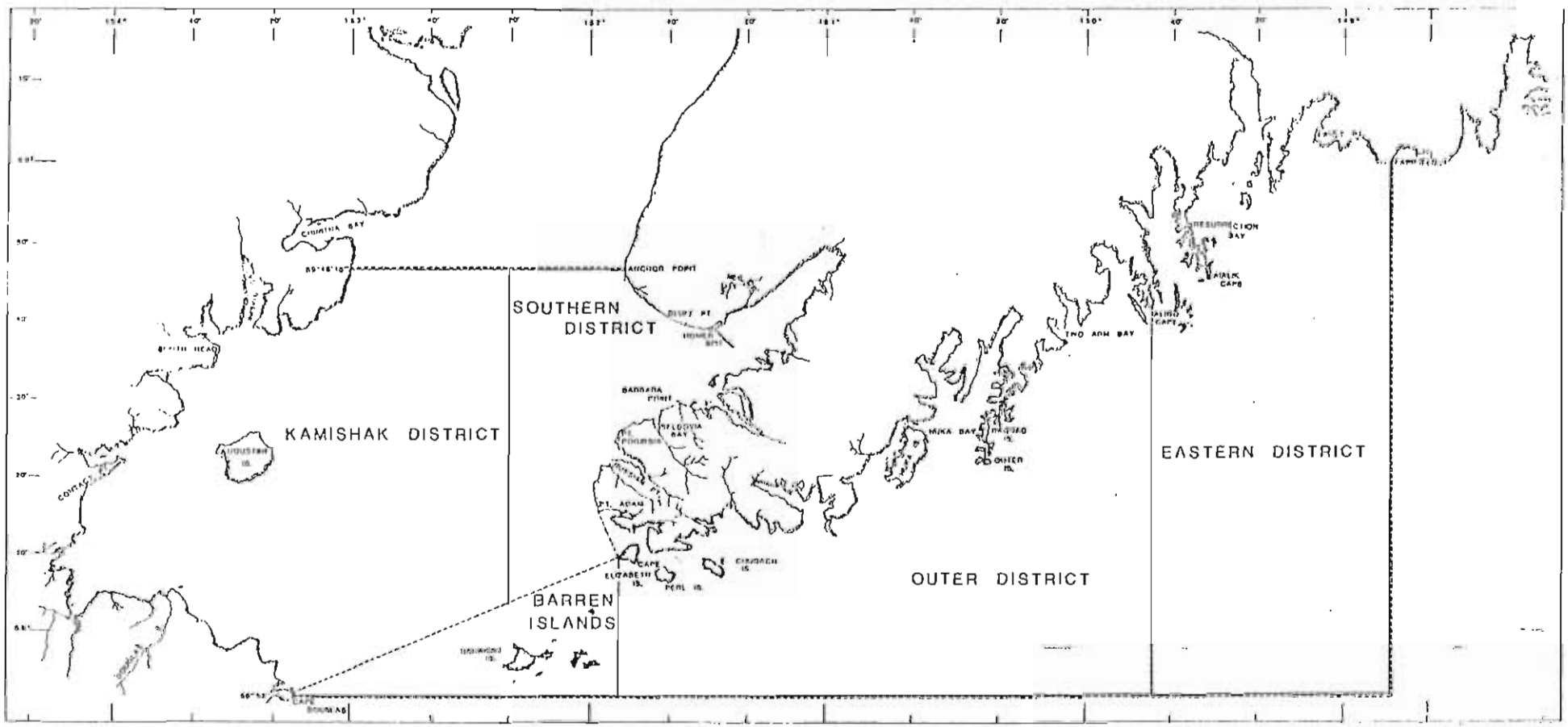

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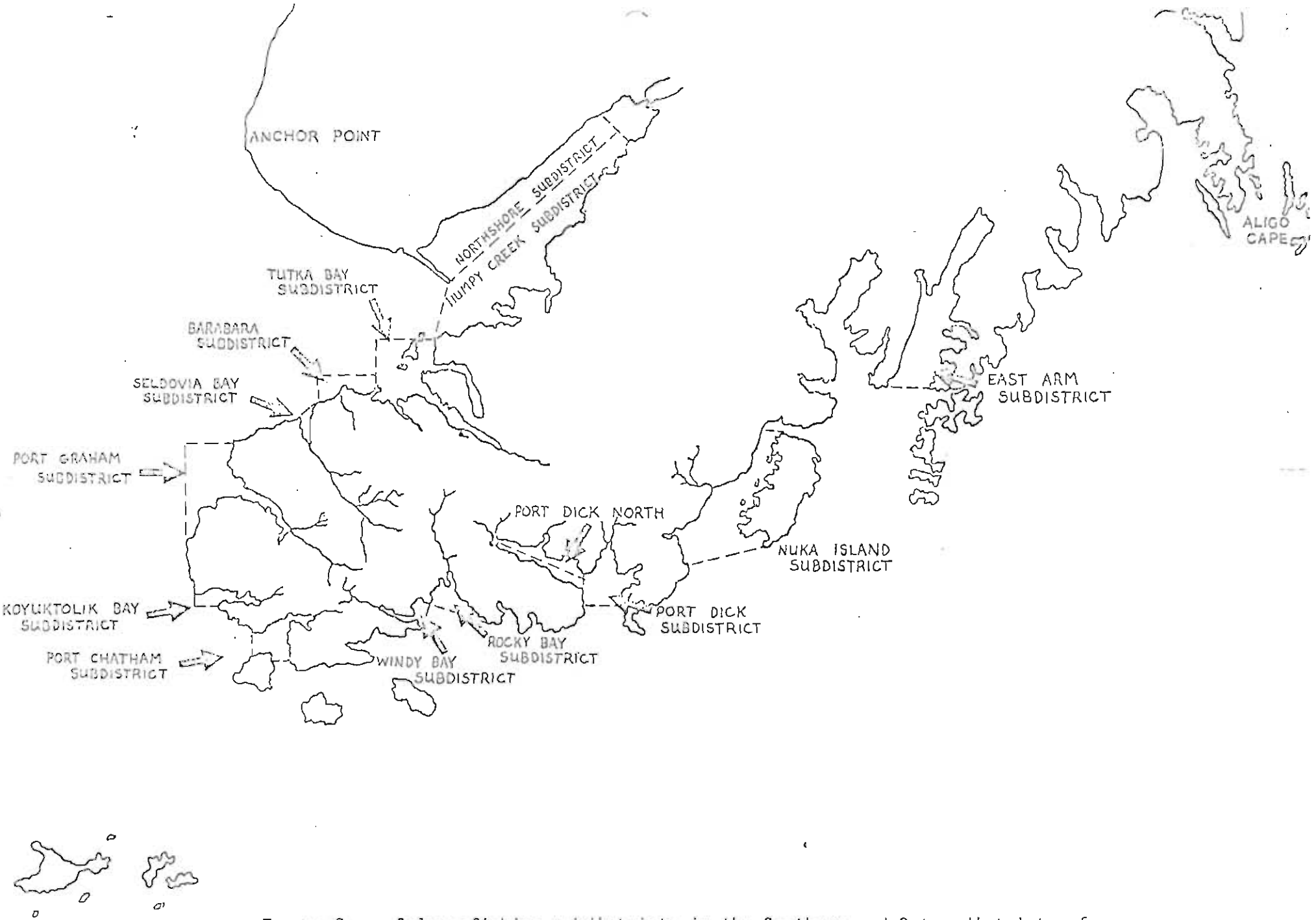

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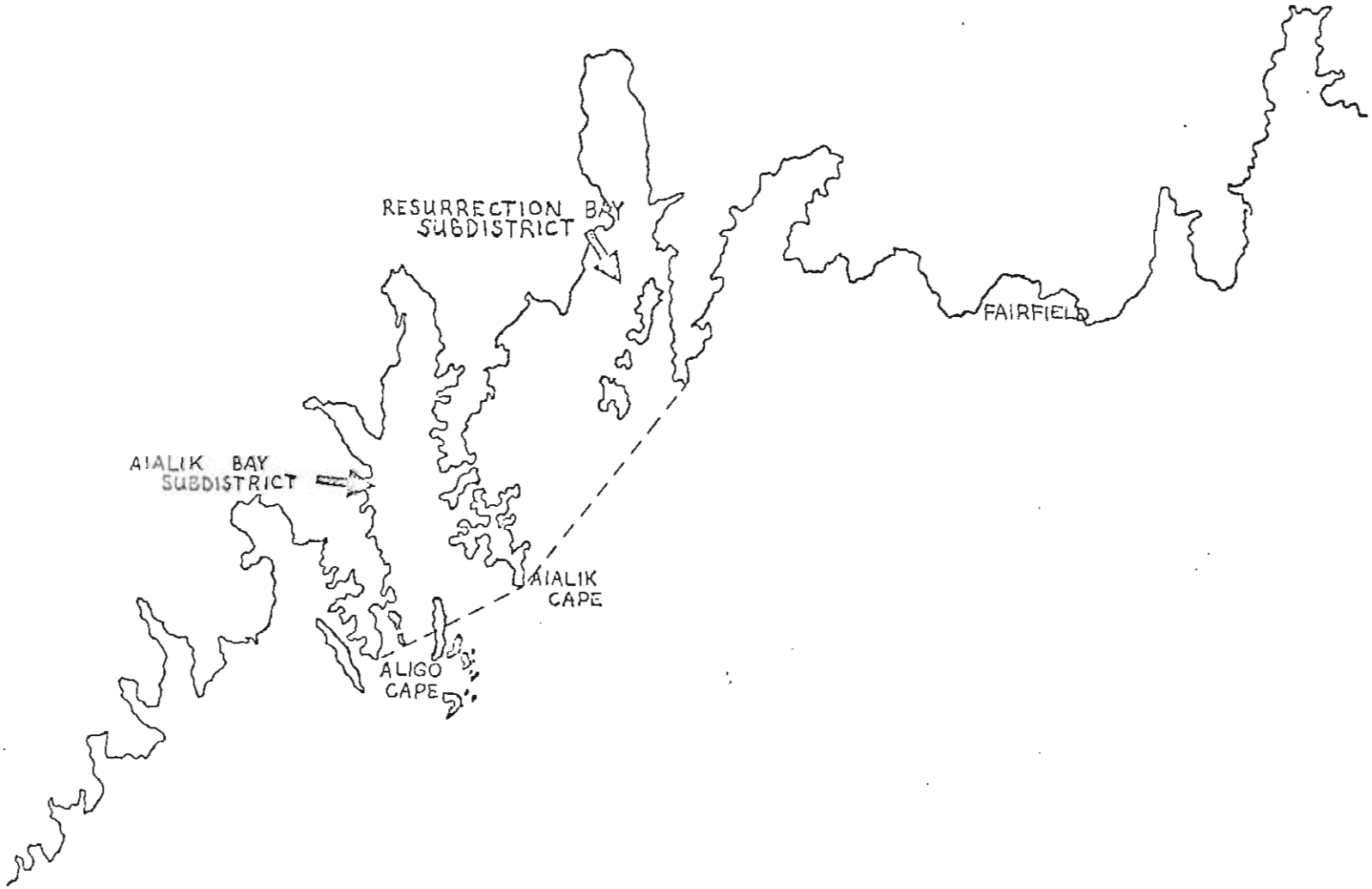

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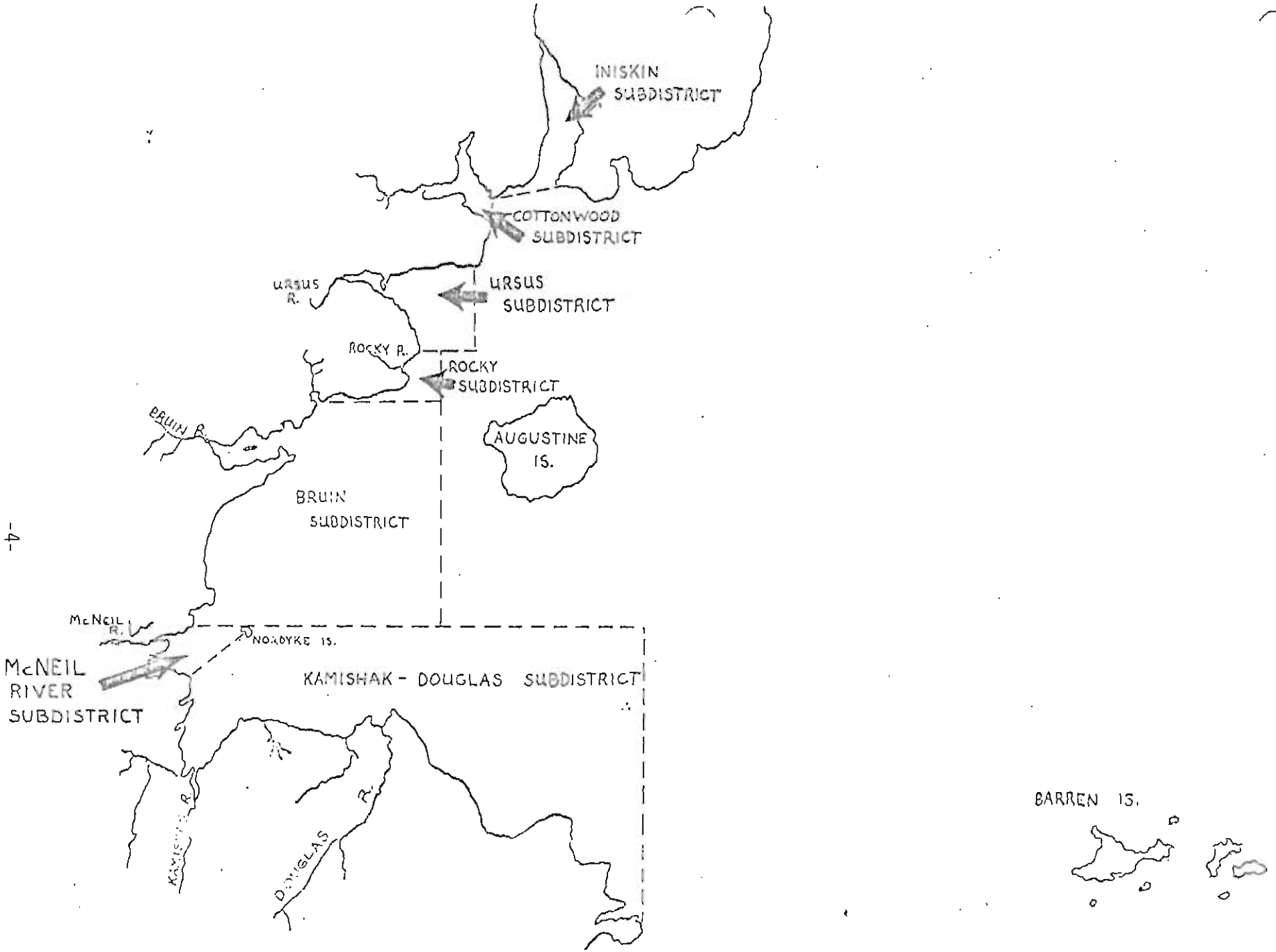

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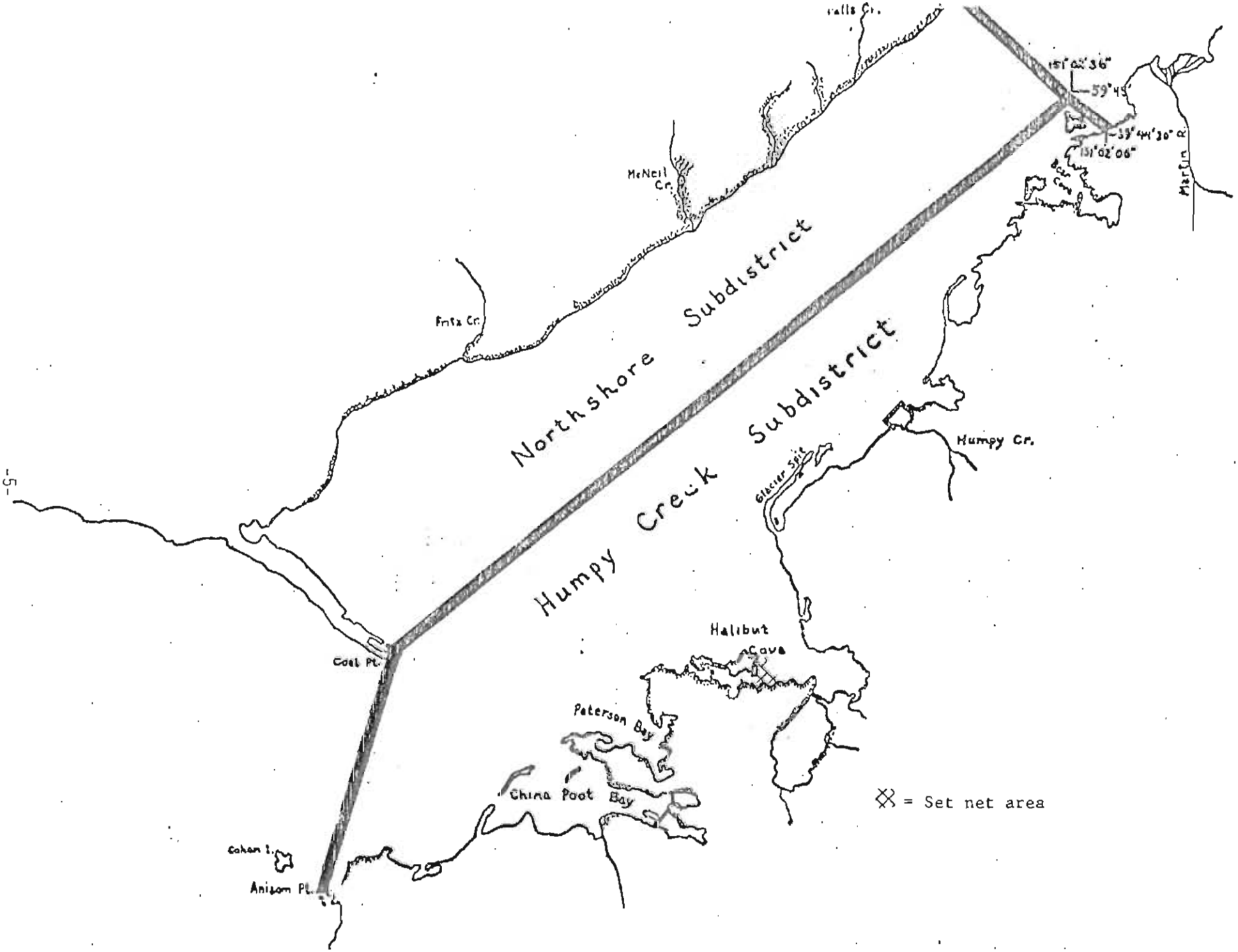

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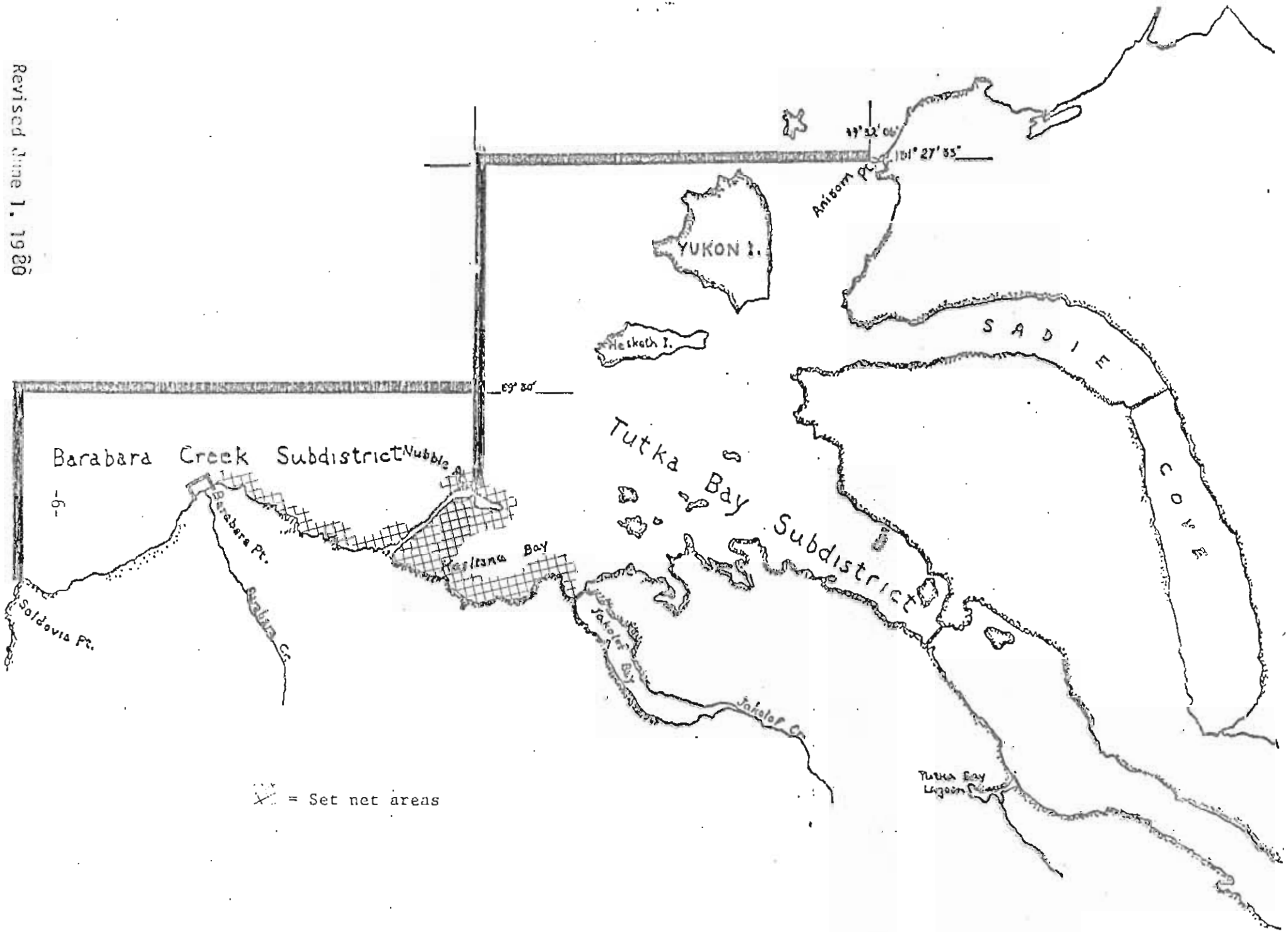
Revised June 1, 1980



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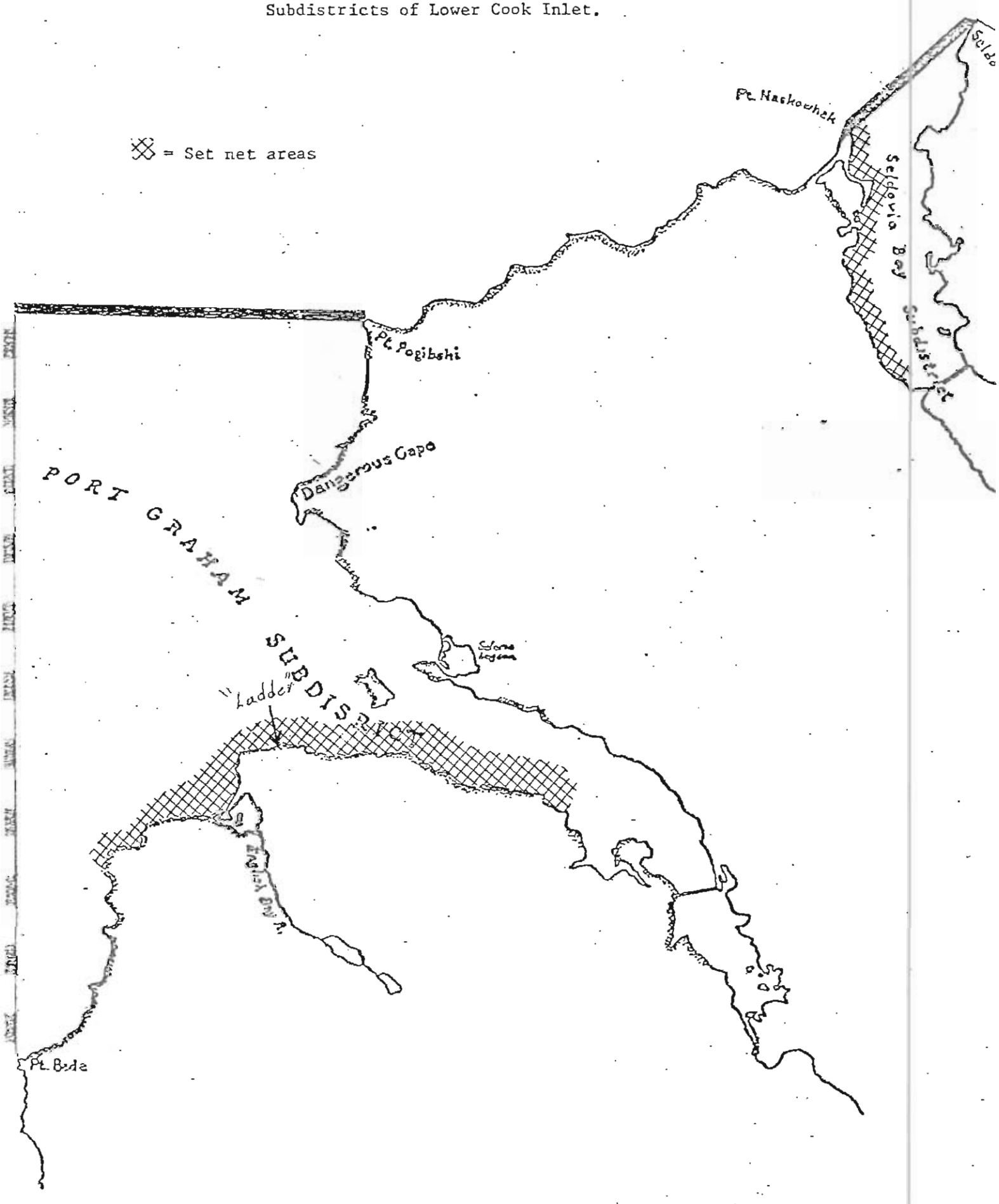

Revised June 1, 1980

ANNUAL MANAGEMENT REPORT

LOWER COOK INLET

-1982-

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. 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 (Figure 1). The remaining four districts have been further divided into 25 subdistricts and sections to facilitate management of discrete stocks of salmon (Figure 2-4).

The 1982 Lower Cook Inlet salmon catch of 928,787 was comprised of 1,066 king, 131,320 sockeye, 46,892 coho, 551,522 pink and 197,987 chum salmon (Table 1). Catches of all species except pink salmon were considerably above average and biologically the return can be considered excellent. The harvest was highlighted by: (1) a record catch of coho salmon which was over 8 times the historic average; (2) the second highest sockeye harvest in history, which resulted in record harvests in two districts; and (3) the first strong even year chum salmon return since 1970 (Tables 1 and 16 and Figure 8). The pink salmon return was expected to be poor, but the failure of the Tutka Hatchery return was totally unexpected. Escapements of all species were considered

good to excessive where returns were expected (Tables 2, 3 and 4), but several systems are still producing below expected levels during the even year pink salmon cycle. Low water during June and July caused low water flows in many streams and prevented access of 4,000 sockeye to one lake system for almost three weeks. Low water flows also resulted in lower spawning escapement figures than probably occurred for chum salmon at Dogfish Lagoon and Island Creek because adults held for extensive periods in saltwater before moving onto the spawning grounds.

The fishery had 39 set nets and 45 seines participate during the 1982 fishery. The set net effort was similar to the previous four years, but the seine effort was the lowest since 1976 and 20 percent below the average for the previous two years (Appendix Table 1). The fleet was fairly well dispersed for an even year return even though many subdistricts were never opened. The only major gear concentration occurred in Tutka Bay, but many boats moved to other subdistricts or quit fishing entirely due to the weaker than expected pink salmon returns.

The 1982 harvest had an ex-vessel value of $2,313,000 that was the second lowest in the past six years (Appendix Table 2). While the value was 20 percent higher than the 1980 even year harvest, the increase was due entirely to a shift in the percentage of harvest to the higher value species, such as sockeye, coho and chum salmon (Appendix Table 2). Calculations of value to the fishermen have been difficult due to the uncertain market conditions and, that in most cases, fishermen were only advanced 55-65 percent of what the final settlement prices will be.

Economically, it was a very difficult year for lower Cook Inlet seines due to the 66 percent decrease in pink salmon prices.

The case pack and fresh, frozen and cured production data contained in Appendix Tables 5 and 6 are for the entire Cook Inlet area and also include salmon imported from other areas of the State. Data contained in these two tables reflect the market conditions that existed this year. A weak canned product market, especially for chum salmon, resulted in the lowest case pack for chum salmon on record while the fresh frozen production increased 59 percent from the previous year and was three times the average since 1971 (Appendix Table 6).

SOUTHERN DISTRICT

Sockeye Salmon

The Southern district sockeye salmon harvest of 43,433 was the fourth highest on record and 49 percent above average since 1958 (Table 17). Set nets have historically harvested over 80 percent of the sockeye in the Southern district, which is the only district in the lower inlet where set gillnets are allowed. During the 1982 season, set nets harvested 98 percent of the sockeye (Tables 1, 15 and 17).

Sockeye and pink salmon normally comprise over 90 percent of the set net catch, but due to strong returns of chum and coho salmon in 1982, this ratio changed and sockeye salmon comprised only 57 percent of the set net harvest (Tables 1 and 15). Strong returns of sockeye to the English Bay Lakes system and upper Cook Inlet lakes resulted in harvests in Port Graham and Seldovia Bays that were the third highest on record (Table 14). The escapement of sockeye to the English Bay Lakes of 20,000 was considered excellent and is the largest escapement on record since 1952 (Table 4).

No sockeye stocking of Leisure Lake occurred in 1979 and no significant return was expected to China Poot Bay in 1982. However, in early August, ground surveys of the outlet stream indicated approximately 3,000 sockeye salmon had returned to the system. The majority of the fish were 1-ocean "jacks", but over 700 large two and three ocean fish were mixed in with the "jacks". A

short "personal use" dip net fishery was allowed by emergency order to harvest these fish, since a large falls in the river prevents any returning adults from reaching the lake to spawn. Two 14 hour openings were allowed on August 7 and 8 in the two large pools below the barrier falls and were monitored by Department employees. A total of 225 fishermen harvested 1,320 sockeye during the dip net fishery and it was estimated that sport fishermen harvested an additional 450 adult sockeye salmon.

Pink Salmon

The Southern district pink salmon harvest of 296,556 was slightly higher than the 1954-82 average of 283,745, but was due to the harvest of 184,000 in the Tutka Bay subdistrict where the harvest was comprised of 95 percent hatchery fish (Tables 1, 12 and 17). Although the Tutka Hatchery production made up 62 percent of the Southern district harvest, the total hatchery return of 229,372 pink salmon was 49 percent below the lower end of the forecasted return of 451,600 - 831,900 and 64 percent below the mid-point of the forecasted return of 641,750. The survival rates for the short-term-reared fry was 2.5-2.7 percent, roughly half of the lowest survival rate observed to date.

The Tutka Bay subdistrict was opened on June 28 in anticipation of the strong pink salmon return. However, due to an expected strong chum return and an increase in the chum salmon egg take requirements, the waters south of the Homer Electric Association powerlines were kept closed until 3:00 pm Tuesday July 6 to maximize chum salmon escapement into Tutka Creek and Lagoon.

After adequate chum brood stock had been seined up, a short opening was allowed in the lagoon to harvest surplus pink salmon that had built up inside the lagoon during early July.

It was obvious from the beginning of the fishery in Tutka that the hatchery return was not going to be as strong as anticipated (Table 7). Many boats quit fishing entirely or moved to other subdistricts by mid July allowing pink salmon to move readily into the lagoon. Three additional openings were allowed in the lagoon and over 57,000 pink salmon, over 30 percent of the entire subdistrict harvest of 184,900, were harvested from the lagoon during the four openings (Tables 12 and 23).

The Seldovia Bay subdistrict was opened for a short 18 hour period at noon on July 9. Over 17,000 fish were above the markers, but good catches were made on fish moving into the bay. An extension was announced to allow fishing during the two regular 48 hour periods during the following week and when the run continued to build, the subdistrict was opened continuously on the regular weekly fishing periods. A short 10 minute marker movement was announced for July 19 to harvest a portion of the fish that had built up inside of the markers in Seldovia Bay. The second marker adjustment was made on July 22 after the escapement to Seldovia River was assured. The pink salmon harvest from Seldovia Bay of 70,300 was considered excellent for an even-year return and was the third highest even-year harvest on record (Table 12).

Port Graham Bay was opened along with Seldovia Bay for 18 hours on July 9 to harvest a portion of the chum salmon that had built up in the bay.

Over half of the harvest during this period was pink salmon, indicating a strong return to this system was possible. Over 10,000 pink salmon had built up inside of the markers with another 4,400 in the river on July 17 and a 48 hour opening was announced for July 19-21.

Aerial surveys on July 25 indicated there were over 23,000 pink salmon in Port Graham River and an opening was announced for July 26 and the markers were moved to the end of the bay. The pink salmon harvest in the Port Graham subdistrict of 35,400 was excellent and was the second largest harvest on record (Table 12). A strong pink salmon return to the English Bay River contributed significantly to the harvest through set gillnets near the villages of Port Graham and English Bay.

The return to Humpy Creek was very poor and the harvest of 6,000 pink salmon was the second lowest on record (Table 12). The poor return was expected due to severe flooding in the fall of 1980 resulting in an alevin density that was 81 percent below average and the second lowest on record (Table 10). A counting weir was operated at Humpy Creek for the second even-year in a row and provided timely escapement data throughout the run.

Excellent escapements were achieved in all of the major spawning streams in the Southern district. Several minor streams received fair escapement, however, the entire spawning escapement at Jakalof Creek was probably lost due to the lack of any visable water flow in late July and early August.

Miscellaneous Species

Chum salmon are relatively minor species in the Southern district, but the 1982 harvest of 18,466 was the second consecutive year of excellent harvests (Table 17). The majority of the harvest came from Tutka and Port Graham Bays. Harvests in both of these bays were the second highest on record. The Tutka Bay return was due primarily to the hatchery release of chum salmon from 1979.

The coho harvest of 7,165 was the fifth year in a row of above average harvest (Table 17). The majority of the harvest was again taken by set gillnets in the Port Graham subdistrict on fish returning to the English Bay Lakes system.

OUTER DISTRICT

Sockeye Salmon

The salmon return to the Outer district began with the sockeye salmon returns to Delight and Desire Lakes in the East Nuka subdistrict (Figure 2). Sockeye began arriving in mid June and by June 23 enough fish were present inside of areas closed to fishing, lagoons or lakes, to meet minimal escapement levels and an opening was announced for June 24.

Desire Lake has been the major producer for the past seven years, but this year a shift in the strength of the return occurred to Delight Lake. By July 1 the upper end of the escapement goal range for each lake of 5-10,000 had been achieved or assured and McCarty Lagoon at Delight Lake was opened to seining at 1:00 pm July 1. Seining in the entire subdistrict was extended to seven days per week on July 6 with fishing allowed up to the mouths of both streams (Table 5). The markers were put back in effect at Desire Lake Creek on July 17 when pink salmon began arriving in the area, but the Delight Lake return continued to be so strong that fishing continued to be allowed up to the mouth of the creek. Enough sockeye had accumulated along with the pink salmon at Desire Creek by July 23 that a short 24 hour marker removal was announced to harvest the excess sockeye, since the escapement had reached 18,000.

The record sockeye harvest from Nuka Bay totalled 66,300 and was more than double the previous record harvest for that area set in 1977 (Table 14). Escapements to both lakes, while double the goal of 10,000, were felt to be good and not excessive (Table 4). One peculiar phenomenon occurred at Delight Lake for the first time in recent history, when the outlet from the lake dried up. Apparently, due to the extremely dry conditions which prevailed in June and July, it was observed on August 16 that 4,500 sockeye were stranded in the intertidal lagoon in Delight Creek due to the lack of any water flow in the creek for 300 yards upstream from the lagoon. These fish eventually made it to the lake after several rainstorms but the success of their spawning after a two week delay in the lagoon is questionable.

Pink Salmon

The pink salmon return to the Outer district was expected to be poor due to extreme flooding in the fall of 1980 which resulted in low alevin abundances in the major spawning streams (Table 10). Several bright spots were anticipated, but most failed to materialize.

The first pink salmon opening in the Outer district occurred in the Port Chatham subdistrict. A 48 hour opening was allowed from July 19-21 but the majority of the harvest continued to be chum salmon. The subdistrict was reopened on July 26 with markers adjusted inside the spit after good numbers of fish had moved to the upper end of the bay. The subdistrict was closed on August 2 after strong winds and a rainstorm moved the pink escapement out into the fleet. The escapement of 2,000 was very poor and considerably under the goal of 10,000 for this system. The reduced water flow from the main spawning

stream appeared to prevent fish from readily moving into the spawning grounds which resulted in their being present in the bay during the storm that scattered them.

While fry levels were excellent in the Windy Bay spawning stream, the return to this subdistrict never materialized. Both the Rocky and Windy Bay subdistricts remained closed throughout the season.

The first pink salmon openings in the Port Dick subdistricts occurred on July 26. The waters west of the line from the western marker at Middle Creek to the southeast point at Shelter Cove were kept closed to protect the pink salmon escapement. The majority of the harvest in the subdistrict continued to be chum salmon headed for Island Creek. The same storm which affected fish in Port Chatham also scattered the chum salmon escapement at Island Creek. A closure was announced for the North Shore section of Port Dick, but the remainder of the subdistrict was opened for 48 hours from August 2-4. A short three hour opening was allowed in a very limited area near Island Creek on August 13 to harvest pink salmon headed to that stream.

The pink salmon harvest in Port Dick was 43,900, a 67 percent reduction from the 1980 harvest (Table 12). The escapements to both Port Dick and Island Creeks were considered to be excellent (Table 2) with the Island Creek escapement being the largest even year escapement since the 1964 earthquake.

The entire Nuka Bay pink salmon harvest occurred at Desire Lake. The harvest of 9,300 was good compared to recent years at this stream and the escapement of 12,000 was excellent. The return to James Lagoon, while providing an

excellent escapement of over 7,000 pinks, never achieved levels to warrant a lagoon opening to harvest the run.

The entire Outer district pink salmon harvest of 67,456 was 56 percent below the 1980 harvest, but was similar to what was expected for the district due to low alevin densities in the streams (Table 18). Excellent escapements were achieved in several major spawning streams, but problems continue to exist in the even-year pink salmon production in this district. Extensive flooding occurred again in September of 1982 and it is expected that the majority of the production from the 1982 brood year has been lost.

Chum Salmon

The chum salmon return to the Outer district was concentrated in the Dogfish and Port Dick Subdistricts. Chums began arriving at Dogfish Bay in late June and the subdistrict was opened on June 28 to seining seven days per week. The early showing appeared strong and a short 15 minute opening was allowed in the lagoon on July 6. The return dropped off in mid July and no further lagoon openings were required. The harvest of 15,600 was good, but not as strong as expected (Table 13).

It appeared that chum salmon bound for Dogfish Bay again moved through Port Chatham and held in the bay. Two openings were allowed in Port Chatham, 24 hours July 15-16 and 48 hours July 19-21. Good numbers of chum salmon were still present inside waters closed to fishing after the second opening, but had disappeared by July 26 when the last pink salmon opening occurred.

The harvest of 14,100 was the third largest on record (Table 13). The chum salmon escapement to the streams in Port Chatham was below those observed in recent years (Table 3).

The Port Dick subdistrict was opened for 15 hours from July 6-7 to harvest a portion of the chum salmon that had been built up near Island Creek and at the head of the bay. The run continued to build and with over 10,000 chum schooled along the northshore, a second opening was announced for 24 hours from July 9-10.

Pink salmon began arriving in small numbers and, to protect the pinks while still attempting to maximize the chum salmon harvest, the subdistrict was reopened on July 12, but the upper part of the bay was kept closed. Waters west of a line from the western marker at Middle Creek to the southeast point of Shelter Cove was kept closed from July 12-17 and during a 48 hour extension from July 19-21. The entire subdistrict was reopened on July 26 with the eastern marker at Middle Creek removed and markers adjusted at Island Creek to open the lagoon area east of Island Creek. A storm scattered the chum salmon schooled off the mouth of Island Creek and the Northshore Section of the Port Dick subdistrict was closed on August 2.

The Outer district chum salmon return was good, but not as strong as expected in several locations. The harvest of 62,877 was 19 percent below average, but was the largest even-year harvest since 1970 (Tables 1 and 18). Escapements were fair, but two major chum salmon systems, Rocky River and Petrof River, had very poor returns and below optimum escapements.

Escapements to Island Creek and Dogfish Lagoon, while below desired escapement goals, were felt to be higher than what was calculated using average stream life. Aerial surveys of these two streams consistently accounted for more fish than were accounted for in ground surveys. It appeared that the low water conditions that were prevalent in several other areas, caused the chum salmon at these two streams to hold much longer than usual in the salt water area or lagoon off the spawning streams. Thus, when they finally moved onto the spawning grounds, they spawned and died rapidly and never approached the normal 17.5 day stream life that is used in calculating escapement levels from ground survey counts.

KAMISHAK DISTRICT

Sockeye Salmon

The Bruin Bay, McNeil River and Kamishak-Douglas subdistricts are the only areas in the Kamishak district that have sockeye returns. These subdistricts were opened to seining on June 17 after aerial surveys indicated fish were beginning to arrive at Mikfik Creek in the McNeil River subdistrict. However, the run built so rapidly that by the opening date over twice the escapement goal of 5,000 fish was already in the stream and lake. McNeil Lagoon was opened to fishing at 5:00 pm July 17 and fishing was extended to seven days per week, but before seiners could get to the stream to harvest the return over 35,000 sockeye had already moved into the lake.

Mikfik Lake sockeye are extremely small and average only 4.1 to 4.3 pounds with over 83 percent of the return being 3-ocean adults. Two problems have to be contended with on the Mikfik sockeye run: (1) canneries are not anxious to handle and process sockeye as small as these; and (2) fishermen usually will not go to harvest the Mikfik run until McNeil Lagoon has been opened.

The sockeye harvest in the Kamishak district was entirely from the Mikfik return. The harvest of 18,014 was the largest on record and more than 7 1/2 times the average for this district (Table 19). The Mikfik sockeye escapement

was extremely excessive, but due to the lack of any sockeye harvest in other areas sockeye escapements to the Douglas and Kamishak Rivers and Chenik Lake were excellent.

Pink Salmon

There are three major pink salmon spawning streams in the Kamishak district, Bruin Bay River, Sunday Creek and Brown's Peak Creek, that usually produce the entire pink salmon harvest in this district. Pink salmon also spawn in the Kamishak River system and and Amakdedori Creek, but very few fish have ever been harvested from returns to these streams. The 1982 pink salmon harvest of 43,871 was 60 percent above average for the district, but was far below the expected harvest of 200,000 (Tables 11, 12 and 19).

The Bruin Bay subdistrict was opened in early June with the remainder of the southern portion of the district to encourage fishing on the sockeye return to Amakdedori Creek and early chums to Bruin Bay and in anticipation of the expected strong pink salmon return to Bruin Bay River. The 1980 pink salmon escapement to Bruin Bay was in excess of 400,000 and it was expected that even with poor survival that there would be 150-200,000 pink salmon harvested in this subdistrict.

Pink salmon began arriving in late July and it was obvious that the strength of the return was not going to be as expected. Fishing was extended to seven days per week on July 24 and the large intertidal "pothole" was opened for 8 hours from 1:00 until 9:00 pm July 24 to slow the movement of pink salmon into the river. The "pothole" was again opened at noon August 3 after the

escapement level had reached 31,000. Even with continuous fishing during the high tide series that week, the escapement exceeded 58,000 by August 6.

The final escapement of 75,000 was considered good, but was above the optimum for the river (Table 2). The Amakdedori Creek escapement was also good, but no harvest occurred on the return. The Bruin Bay harvest of 35,500 was below the previous two year's harvest (Tables 11 and 12).

Escapements to Sunday Creek and Brown's Peak Creeks in 1980 were good for the even-year run, but the returns were expected to be poor due to the failure of the Bruin Bay return just to the south. However, aerial surveys of these two streams in early August indicated a good buildup of pink salmon at these streams, with Sunday Creek showing unusually strong. By August 6, large numbers of pinks were schooled off the mouths with good early escapement into the streams. A short three hour opening was allowed at both streams with fishing allowed up to the mouths to slow the escapement rate into the streams. The subdistricts were reopened on August 12, but the Ursus Cove opening was targeted for chum salmon headed to spawning streams in Ursus Lagoon.

The pink salmon harvest of 20,000 in the Rocky and Ursus Coves subdistricts was considered very good for an off-cycle year return (Tables 11 and 12). All but approximately 800 pinks were caught at Sunday Creek in Rocky Cove. The Sunday Creek escapement was considered very good and, while the Brown's Peak escapement was below the goal, it was considered good for an even-year return (Table 2).

Chum Salmon

The Kamishak district was expected to have a strong chum salmon return to all spawning streams based on the excellent chum salmon escapements that occurred in 1978 (Table 9). The 1982 harvest for this district of 108,946 chum salmon was a record, exceeding the previous record set in 1970 (Table 19). The harvest was 13 percent above the previous record and was over three time the average chum salmon harvest for this district (Table 19). The majority of the harvest occurred on returns to spawning streams in the southern portion of the district. Returns to the Kamishak River, Ursus Cove and Cottonwood Bay were not as strong as expected based on escapement levels to those streams.

A limited number of AWL samples were taken from fish caught at McNeil River and Douglas River. Over 61 percent of the samples were 4-ocean, five year old fish, when the majority of the returns have always been and were expected to be four year old fish. Inadequate sampling precludes any determination as to whether this age structure is common for this district, however, it is possible that the returns from the 1978 spawning populations will not occur until 1983 as five year old adults.

The McNeil River chum salmon run is usually the earliest to arrive. Run timing is normally early to mid-July, but as occurred in the 1981 return, chum salmon began arriving in late June. McNeil Lagoon was closed to fishing on July 2 after an early catch of chums occurred on July 1 while trying to harvest the remainder of the sockeye run bound for Mikfik Lake. These early chums averaged 11.6 pounds.

Over 22,000 chums had been harvested by July 16 and the escapement, while not bad, was not increasing. In an attempt to achieve the upper end of the escapement range of 10-20,000, the subdistrict was closed on July 19. The escapement built rapidly over the next five days and the subdistrict was reopened on July 26 with an estimated escapement of 25,000 and a large number of fish schooled in the bay. The McNeil River escapement of 25,000 was considered good and the harvest of 30,500 was the [redacted] highest on record (Tables 3 and 13). The average weight for the subdistrict ranged between 8.7 and 9.5 pounds after the July 1 harvest.

The Kamishak-Douglas subdistrict was opened on June 17 for sockeye runs to the area, however, no fishing occurred until chum salmon began arriving in mid July. Excellent catches were made from July 12-30 along the "Silver Beach" but the strong return expected to Little and Big Kamishak Rivers never materialized. With escapements lagging to the clearwater spawning streams in Douglas River and Little Kamishak, the eastern portion of the subdistrict east of Douglas Reef was closed for 48 hours from July 26-28. Escapements did not increase as expected and the entire subdistrict was closed at 12:00 noon August 3.

The harvest of 37,000 chum salmon was second only to the 1981 harvest (Table 13). Good escapements were eventually achieved in all river systems except for one of the Douglas Reef streams (Table 3). A close watch will have to be kept on the Douglas River "Silver Beach" area in the future. It appears that the returns to the primary chum producing streams in the area, Big and Little Kamishak Rivers, are being intercepted along this beach. The earlier timing of this fishery is providing a much better quality salmon that is

traditionally taken in this district, but when escapement problems to these two large rivers occur, this area must be closed. Another phenomenon which occurred in 1982, and which is extremely uncommon for the district, was the unusually calm weather. In most years, fishermen are fortunate to be able to fish 1 1/2 to 2 days of the two 48 hour weekly periods and it is not uncommon to have a storm prevent fishing for 7-10 days. Very few fishing days were missed along this exposed beach area in 1982 and given "normal" conditions, closures in this area are usually unnecessary.

Chum salmon began moving into Bruin Bay River in mid-July and by July 24 approximately 10,000 had reached the spawning grounds. Due to the strong returns to streams in the southern portion of the district, no effort occurred on this chum return. The harvest of 3,400 was entirely incidental to the fishery on pink salmon.

Sunday Creek in the Rocky Cove subdistrict has never had a strong chum salmon return and has always been a pink salmon stream. The 1982 return was unusually strong and the majority of the 6,400 chum salmon harvested in the Ursus and Rocky Cove subdistricts came from Sunday Creek. The escapement of 4,000 chum salmon was considered excellent (Table 3).

The Ursus Cove subdistrict was opened simultaneously with Rocky Cove due to similar timing of the pink salmon returns. Very little effort occurred in this subdistrict and catches were minimal. Escapements to streams in the lagoon was considered good (Table 3).

The Iniskin Bay subdistrict was opened to fishing on August 5 after aerial surveys indicated over 2,000 chums had already reached the spawning grounds. Approximately 15,000 chums were harvested from this return and the escapement of 12,800 was excellent (Tables 3 and 13).

The chum salmon return to Cottonwood Bay just west of Iniskin Bay was not as strong as expected. Only two short openings were allowed and the 6,600 fish harvest was considered poor. The first opening on August 6 was for three hours and occurred simultaneously with openings in two other subdistricts to keep the effort spread out. The subdistrict was reopened from August 19-25, except for a six hour closure from 6:00 am until 12:00 noon on August 20 around the extreme minus tide that occurred. This short closure was to protect fish that were inside the area closed to fishing from being harvested during the low minus tide that moved them out into open waters. The escapement of 7,000 chum salmon was adequate, but not as large as desired (Table 3).

Miscellaneous Species

Minor numbers of coho salmon have always been harvested in the Kamishak district. Harvests have ranged between 1,000 and 3,000 since 1974 with the average for the district over the past 29 years being 1,897 (Table 19). The majority of the coho harvest has usually occurred near the Douglas and Kamishak River systems in late August.

The 1982 coho return to streams in the southern portion of the district was phenomenal. The harvest of 38,685 coho salmon was over 20 times the average

district catch and over 12 1/2 time the previous record harvest of 3,041 in 1975.

Coho began arriving along beaches in the Douglas River area in mid-August prompting the subdistrict reopening on August 12. Aerial surveys for coho escapements have never been flown in the past due to the lack of funds and the relatively minor importance of the harvest. However, due to the magnitude of the 1982 return, aerial surveys were conducted on August 24 and indicated escapements of 6,550 in Douglas River streams, 9,500 in Big Kamishak River, 1,100 in Little Kamishak River and 3,000 in McNeil River for a total of 20,150. Large numbers of coho were still present in the area after fishing ceased on August 26 and the total coho escapement to these systems probably exceeded 30,000 fish.

It appears that the large return was due to excellent freshwater survival since pink salmon returns were weaker than expected and both coho and pink salmon spend one year in the ocean. If this is the case, strong sockeye and coho salmon returns may occur for the next two years.

EASTERN DISTRICT

Sockeye Salmon

The Ainlik Bay subdistrict was opened to seining on June 24 to coincide with the sockeye opening in the east Nuka subdistrict. While a good number of sockeye were present in the lagoon on June 20, the fish did not readily move into the lake. After reports were received of illegal lagoon fishing and three successive aerial surveys that could not locate any fish in the lake or lagoon, the subdistrict was closed on July 6.

Aerial surveys on July 12 and 14 indicated sockeye were again building in the lagoons and on the 14th of July 2,000 had already moved into the lake. A survey on July 18 indicated 9,000 fish had moved into the lake with another 2,400 present in the lagoon. The subdistrict was reopened to seining 18 hours later and fishing was allowed in the lagoon. Only 2,500 sockeye were harvested and fishing effort was non-existent after the Monday opening. Surveys on July 22 indicated the escapement had increased to over 14,000. Effort was minimal during the week and when the July 31 aerial survey indicated over 22,000 sockeye and 4,700 pink salmon in the lake, the subdistrict was opened to fishing seven days per week.

The harvest of 3,092 sockeye salmon is good for this area, but considerably below what could have been harvested given this year's run strength. The

escapement of 22,400 was extremely excessive for this small lake (Tables 4 and 14).

Pink and Chum Salmon

A strong pink salmon return was expected to Resurrection Bay in 1982 fish began showing in good numbers in early July. Recreational boat catches during the first two weeks of monitoring were similar to 1980 when a record pink salmon return occurred. The first opening occurred on July 26-27 for 24 hours and due to the unusually strong chum salmon returns to several streams in Resurrection Bay and Day Harbor, fishing was allowed up to the mouth of Tonsina Creek and up to the mouths of all creeks in Day Harbor. Only three boats fished this first opening and the harvest consisted of 13,800 pink and 2,350 chum salmon.

The salmon buildup was monitored throughout the week and aerial and ground surveys indicated that many streams had already achieved their escapement goals and that a large surplus of fish were available for harvest. The pink salmon buildup along the beaches near Fourth of July Creek appeared low and the 24 hour opening announced for August 2-3 was limited to waters south of the latitude of Tonsina Creek. The period was fished by six vessels and the harvest consisted of 29,500 pink and 3,400 chum salmon. Several coho salmon were caught during this period but all were reported released unharmed.

Escapements continued to build throughout the week of August 2-8 and over 19,000 pink salmon were observed along beaches during an aerial survey on August 7. A third opening was announced for August 9-10 for 27 hours.

Fishing was only allowed north of the latitude of Caines Head in an attempt to reduce the harvest of coho salmon. Over 94,000 pink salmon along with 1,900 chum salmon were harvested by 11 vessels. Two fishermen who were new to the Resurrection Bay fishery were unaware of the regulation requiring coho salmon to be released. A total of 395 cohos were incidentally harvested during this period, 341 by the two fishermen mentioned. Both fishermen were cited and received very severe fines, with one person receiving jail time.

The Resurrection Bay harvest of 137,400 pink salmon is second only to the record harvest in 1981 and the total pink harvest for the Eastern District of 143,639 is seven times the average for the district and only eight percent below the 1981 record (Tables 12 and 20). The chum salmon harvest of 7,698 was the second highest on record and six times the average for the district. The total district harvest of 155,379 of all species was only one percent below the record harvest set in 1981.

SUBSISTENCE FISHERY

The 1982 salmon subsistence fishery in Kachemak Bay started out in a confused manner similar to 1981. Again the fishery was directed by Superior Court Judge Paul Jones to be a "subsistence fishery qualifying for the subsistence priority after the Alaska Board of Fisheries included it under the new "Personal Use" fishery category. The Kachemak Bay subsistence fishery was separated into two distinct fisheries, (1) English Bay - Port Graham and (2) remainder of Kachemak Bay, with separate management schemes and regulations for each fishery.

English Bay - Port Graham

The Board of Fisheries has continued to recognize the communities of Port Graham and English Bay as being true subsistence communities and deserving the subsistence priority. Two seasons were established for the Port Graham subdistrict, one from May 10 until June 15 to harvest king and sockeye and the second from August 16 until September 30 for coho salmon.

Catch calendars issued by the Subsistence Section of the Department are the primary means of determining the catch by species for the various subsistence fishermen. Calendars were issued to 35 families in Port Graham and to 31 in English Bay and were picked up and tallied monthly by Department personnel.

Harvests by residents of Port Graham were slightly lower than 1981 and the

estimates from the 1979 survey (Table 24). A slight shift was seen in species composition between 1981 and 1982 with fewer king and more pink salmon being harvested this year. The English Bay harvest increased by 133 percent from 1981, but was still considerably below the 1979 estimated harvest (Table 25).

Complaints were received for the second year in a row from the village of English Bay that they were not able to harvest an adequate number of salmon during the early season to meet their needs. Due to the lack of adequate subsistence catches, some people fished illegally with gillnets in the lagoon, snagged fish in the river and took an over-limit of sport harvested salmon in freshwater and were cited by State Fish and Wildlife Protection officers.

In an effort to calm the situation, provide the people with additional fish and fulfill the subsistence priority, the commercial seine and set gillnet fisheries in the Port Graham subdistrict were closed on July 31 and the subsistence fishery was reopened on August 2. The fishery remained open until both village council presidents informed the Department on August 14 that the subsistence requirements of the village had been met and the commercial fishery was reopened on August 16. The August run of pink salmon to English Bay River was so strong that the lagoon was opened to subsistence gillnetting from August 20-28.

Kachemak Bay

The subsistence fishery in Kachemak Bay was allowed, as directed by the State Superior Court, after August 16. Permits were issued to the head of the household and limits were 25 fish for the head of household and 10 fish for

each legal dependent. A total of 395 permits were issued, very similar to the previous year (Table 23). The reduction in the number of permits issued over the last two years compared to 1979 and 1980 has been attributed to changes in the subsistence, personal use and sport fishery regulations and harvest in the upper Cook Inlet area. The reduction in permits has occurred primarily in the Anchorage, Anchor Point and Kenai-Soldotna areas (Table 22).

The 1982 harvest of 8,474 salmon was the fourth record setting year in a row (Table 23). The harvest of 7,303 coho salmon was over three times the average harvest and 69 percent above the previous record set in 1981 (Table 23). Over 95 percent of the permits were returned showing an increasing concern and awareness by the public to provide accurate catch data.

The fishery was monitored in-season, as it was during the 1981 fishery, to establish a CPUE data base which might eventually be used to assess the coho salmon run strength. Over 73 percent of the effort occurred between the Homer Spit and Fritz Creek and 92 percent of the entire harvest occurred along the north shore of Kachemak Bay from the Homer Spit to Swift Creek. Escapements into the Fox River drainage were monitored and the peak survey estimate of 1,300 coho salmon was considered good.

China Poot Dip Net Fishery

Very few sockeye salmon were expected to return to China Poot Bay in 1982 due to a void in the annual lake stocking program at Leisure Lake. However, in late July significant numbers of fish were observed in the creek and a personal use dip net fishery was announced for August 7 and 8 between 5:00 am

and 7:00 pm. Fishing was restricted to the two large pools below the barrier falls to prevent harvests of pink salmon beginning to spawn in the lower portion of the creek.

A total of 225 fishermen harvested 1,320 sockeye salmon during the two day fishery and sport fishermen harvested another 450 fish. The total return was estimated at 3,400 fish with the majority being 1-ocean "jacks".

ENHANCEMENT AND REHABILITATION

Numerous salmon enhancement and rehabilitation projects have been conducted in Lower Cook Inlet with varying degrees of success in recent years and many more projects are presently in the planning phase. The lower Cook Inlet area lends itself to such projects because of the many small bays and lagoons in the area where salmon returns from these projects will segregate from other returns and can be more accurately assessed and managed.

Tutka Hatchery

The Tutka Hatchery released 10.1 million reared fry and 5.6 million direct release fry in 1982 with another 400,000 being transported and released in Paint River in 1982. These figures represent the largest release to date and adults will return in 1983. The 1982 egg takes totalled 20.3 million pink and 1.5 million chum salmon eggs and is the largest egg take at the hatchery to date. Present plans call for the hatchery to go to 30 million pink salmon eggs in 1983 with as many chum salmon eggs as possible.

The 1982 return totalled 229,372 pink salmon. While the return was good when compared to past year's production, the return represented the lowest survival rates on record for the hatchery. An excellent chum salmon return also occurred from releases of fry in 1979. The total hatchery return was estimated at 9,269 and represented a 0.97 percent survival from the release of 764,722 fry.

Severe flooding occurred in September 1982 which almost resulted in closing the hatchery. Extensive rechannelization and gravel deposits occurred necessitating considerable in-stream work by heavy equipment. Fry survival will probably be negligible.

Leisure Lake

No stocking occurred in 1979 and returns of two and three ocean adults in 1982 was expected to be weak. However, 2,040 1-ocean sockeyes returned from the 1981 smolt outmigration of 240,000 along with an additional 870 two-ocean and 490 three ocean fish. This year's return increased the survival from the 1978 stocking to 21 percent (12,442 adult sockeye salmon).

The 1982 smolt outmigration estimate was 319,500 with 98.75 percent being Age I smolt. The lake stocking density was increased from 1,093,000 fry in 1981 to 1,528,000 this year. The average size of Age I smolt decreased from 96.9 mm in 1981 to 79.1 mm in 1982 and the decreased growth could result in significant hold overs of fry to Age II that will outmigrate in 1983.

Halibut Cove

The expansion of the Anchorage hatchery complex precluded any king salmon smolt release at the Halibut Cove saltwater rearing facility due to the lack of available smolt. However, the 1982 adult return of king salmon from previous releases was the highest recorded. The total return was estimated at over 2,500 fish with a minimal sport fish estimate of 2,200. The fishery

continues to be primarily a sport snag fishery, however, a fair number of kings have been harvested by set gillnets in the Halibut Cove area. The 1982 set net harvest of 319 king salmon is comprised predominantly of Halibut Cove king salmon based on mark recoveries from these set nets and past historical catches of king salmon in this area.

Scurvey Creek

The Scurvey Creek project was begun in 1980 and involved removal of a velocity barrier in a barren stream. Adult pink and chum salmon were transported into the stream from nearby spawning systems and forced to spawn in the creek.

This year marked the first return from this project. Surveys conducted in late August indicated a total return of approximately 3,000 pink salmon. Only 1,000 spawned upstream of the "fish pass" that was created in 1981, but this may be due to the fact that the fish planted in the creek in 1980 were from an intertidal breeding stock in Port Dick. The return in 1983 should provide additional information about the success of the project.

Paint River

The Paint River system continues to be studied as to the feasibility of producing salmon. For the third year in a row, pink salmon fry were transported from the Tutka hatchery and released in Paint River. This project was conducted to determine various aspects of fry stocking such as downstream outmigration mortality and imprinting efficiency.

Approximately 2,700 pink salmon returned to the river mouth this year, but another 2,000 returned to McNeil River, where no observations or harvests of pink salmon have ever occurred in the past. Preliminary data indicates a significant mortality on outmigrating fry and that the majority of the transported fry had left the river within 6 1/2 hours after being released.

Chenik Lake

A significant adult sockeye return occurred to Chenik Lake in 1982 and was the third consecutive year of increased escapements to this system. Prior to 1980, sockeye escapement levels had not exceeded 1,000 fish for ten years. FRED Division stocking began in 1978 and escapements from 1980-82 have been 3,500, 2,500 and 8,000 respectively. It appears that the majority of the returns are probably due to the stockings of sockeye fry over the past several years. Scale samples taken from a biased seine catch indicated that the fish were entirely Age 4_2 (1:2) and averaged only 2.12 pounds. If these fish are returns from the stocking program which used Tustemena Lake sockeye, the same fry stocked in Leisure Lake, there definitely appears to be a significant growth problem. Adults of the same age class returning to Leisure Lake averaged 4.50 - 4.57 pounds during returns in 1980 and 1981.

Fritz Creek

No coho smolt release occurred at Fritz Creek in 1982, again due to the expansion of the Anchorage Hatchery complex. However, an estimated 689 adults returned and were harvested in the sport and subsistence fisheries located along the northern shore of Kachemak Bay. This was the first return from a

stocking of Age 0.0 smolt. Based on scale samples of marked adults with coded wire tags, some smolt from the 1980 stocking of Age 0.0 smolt over-wintered in the creek and returned as adults in 1982.

One interesting observation was made by a resident of Caribou Lake in October. He reported observing large numbers of coho salmon spawning in Fox Creek that empties into Caribou Lake. It is possible that these adults are returns from the 3,200 adults that returned to this creek and spawned in 1978 from the Caribou Lake stocking program in 1976.

4th of July Creek

The marine industrial park located at 4th of July Creek in Seward is well under way. Adult pink salmon were seined up and transported by helicopter into the newly created spawning channel south of 4th of July Creek. Approximately 1,100 pink salmon were transported into the creek, but many escaped from the stream due to an inadequate fence placed in the stream to keep the adults in. Excessive rainfall in mid-September caused a large flood that washed out the protective dyke and destroyed the entire lagoon and spawning channel. The project is being evaluated and may eventually be relocated to a different area.

Miscellaneous

Many other projects are presently being researched and reviewed in the lower Cook Inlet area. Beluga Slough coho stocking, Homer Spit king salmon smolt release, Gore Point Lake stream clearance and lake stocking, and a Tonsina Bay

PNP hatchery are among some of the projects being considered. The lower Cook Inlet area has considerable potential for supplemental salmon production through various techniques and most projects presently being considered have relatively few management problems.

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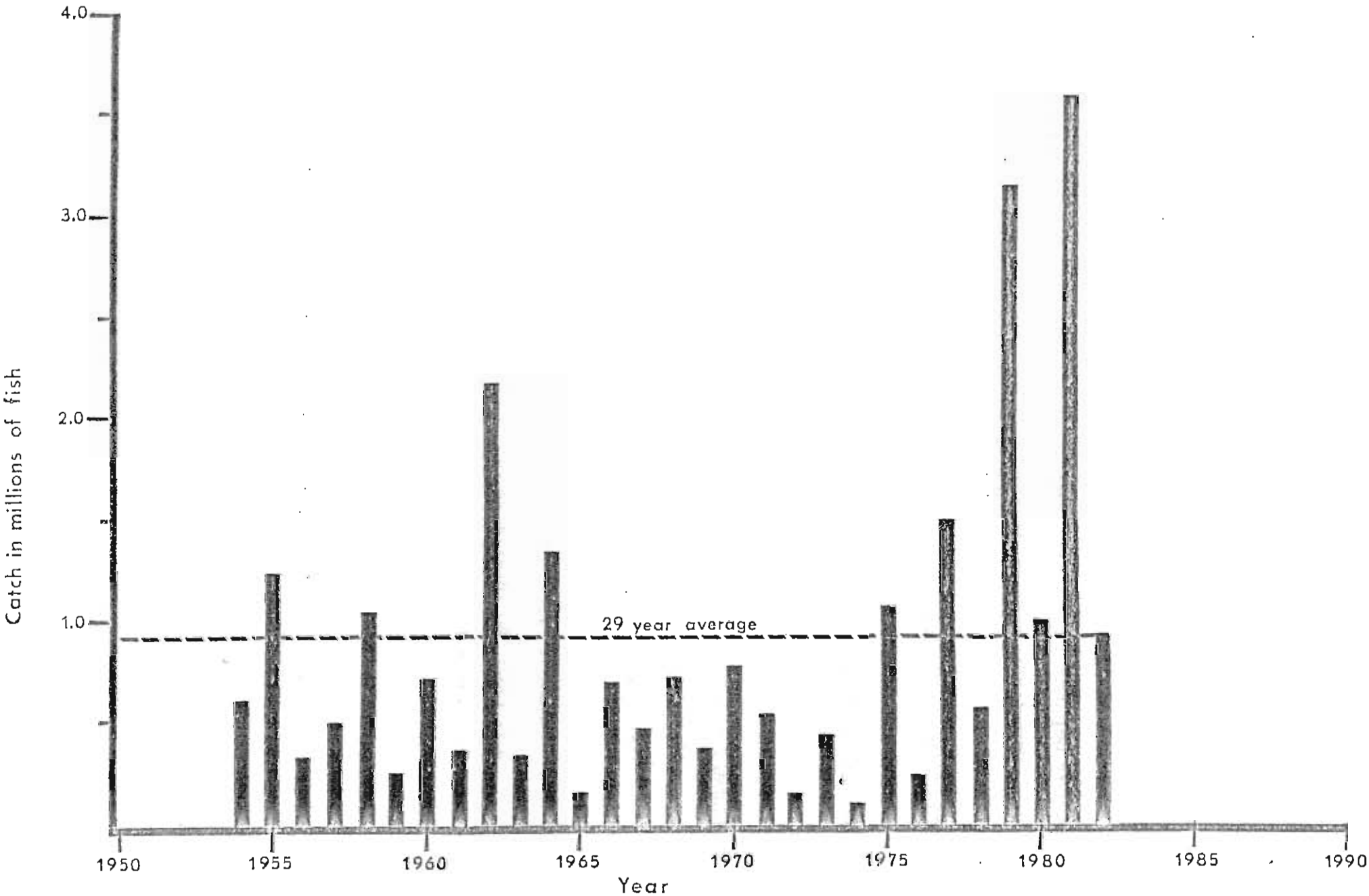

Figure 8. Lower Cook Inlet total salmon catch, 1954-1982.

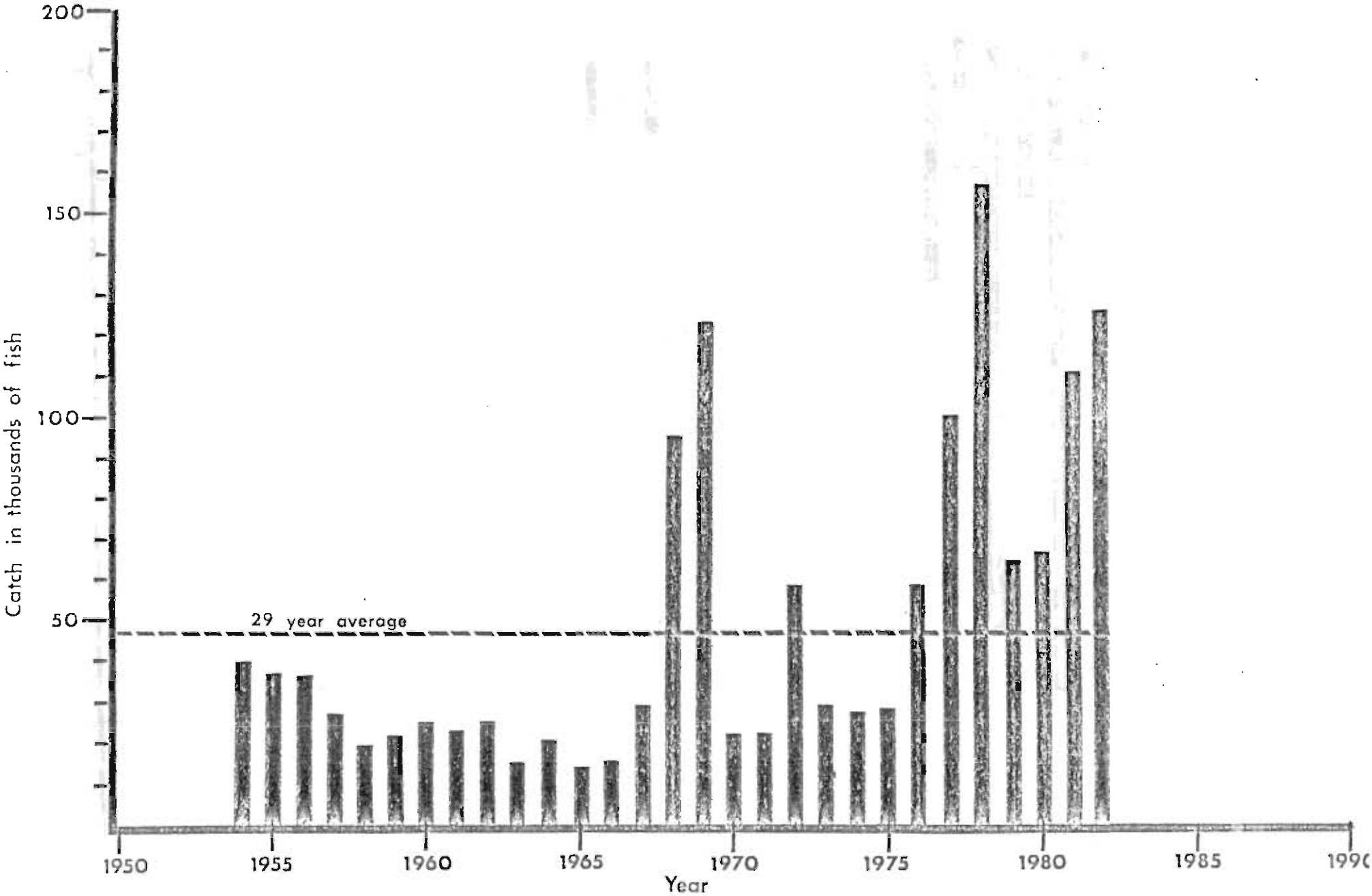

Figure 9. Lower Cook Inlet sockeye salmon catch, 1954 - 1982.

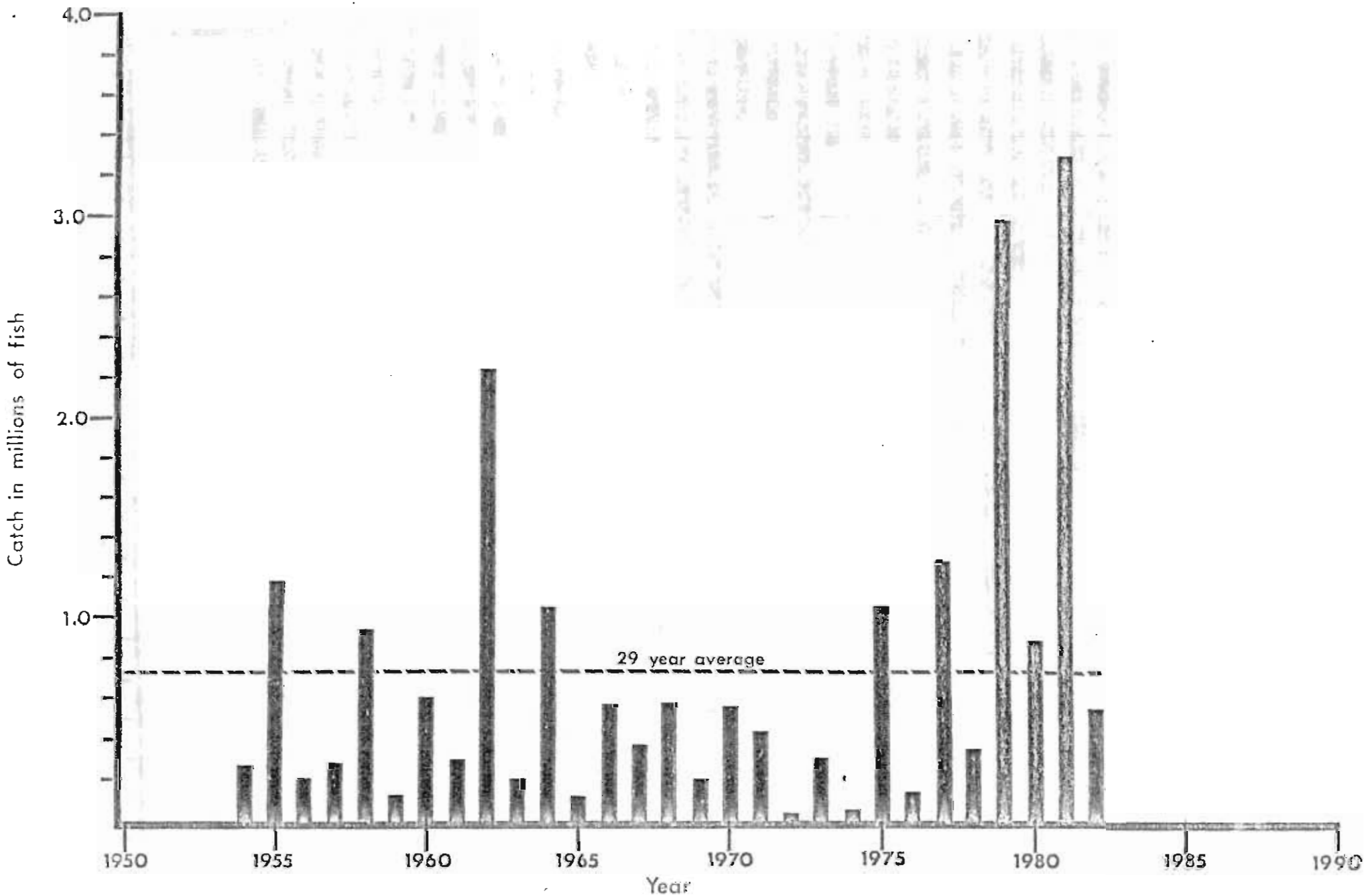

Figure 10. Lower Cook Inlet pink salmon catch 1954 - 1982

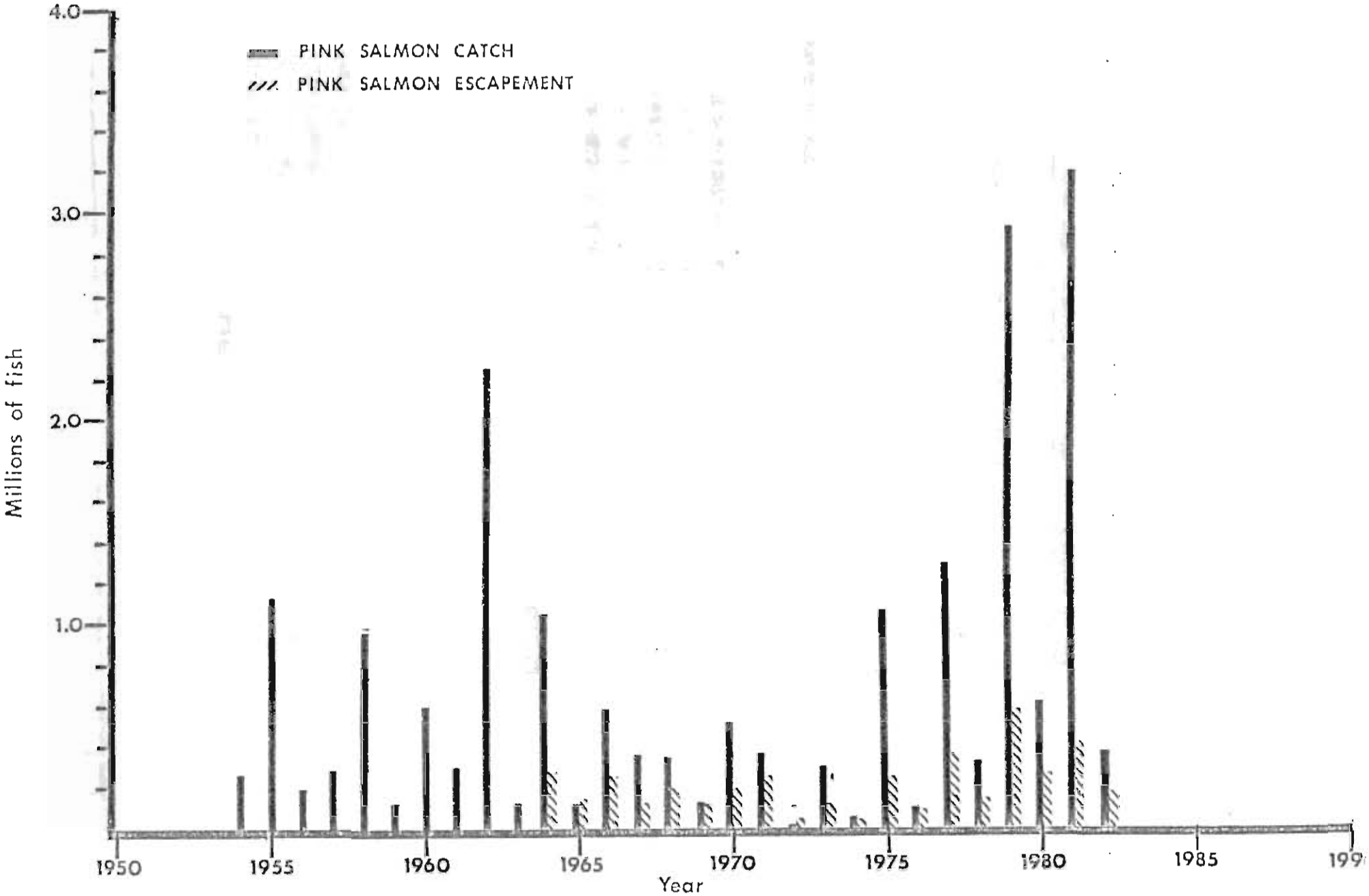

Figure 11. Southern and Outer Districts' pink salmon catch/escapement, 1954 - 1982.

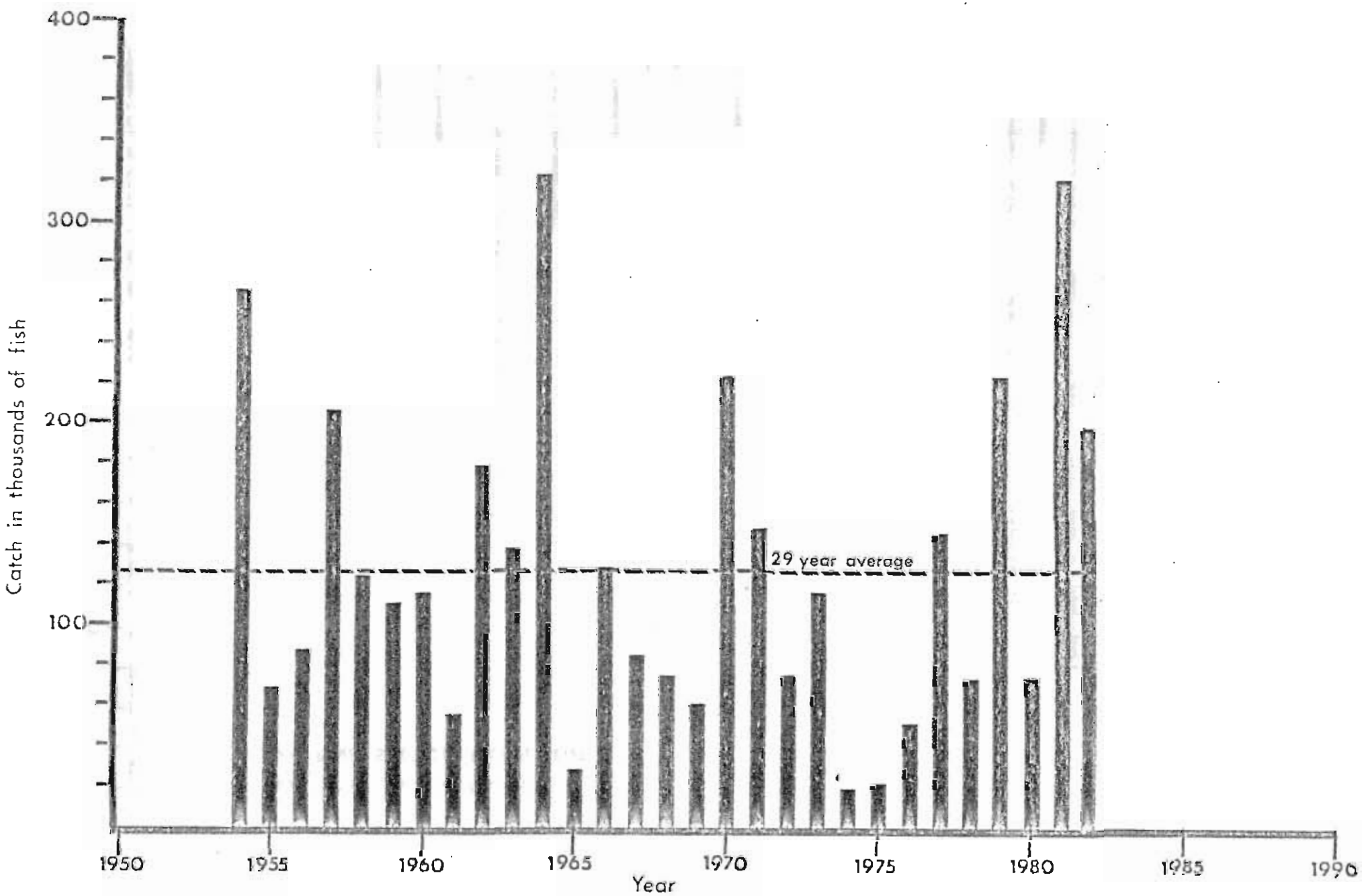

Fig 12. [illegible] sal cat [illegible]

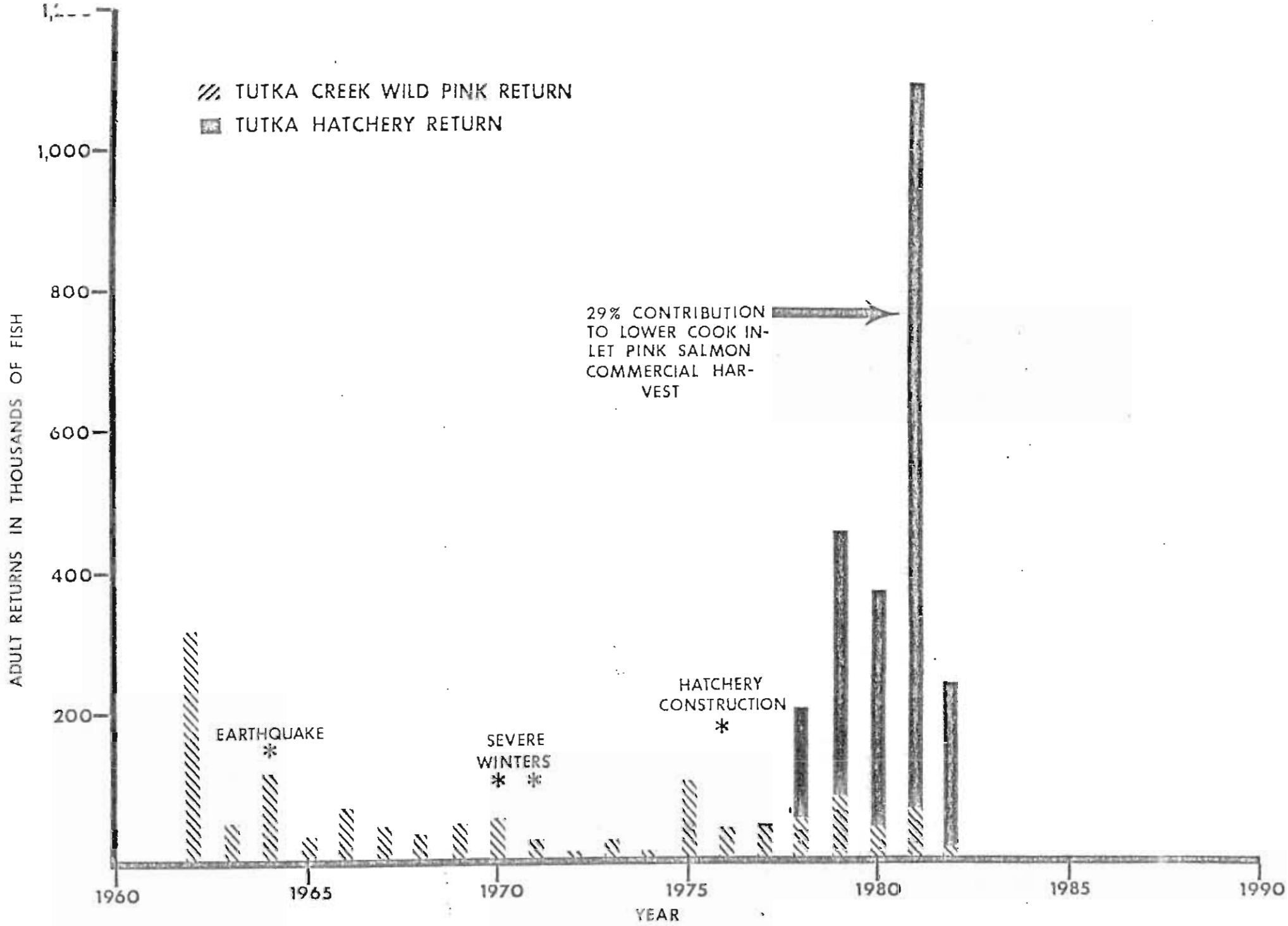

Figure 13. Tutka Creek wild pink salmon returns with recent years' hatchery contribution.

Table 1. Lower Cook Inlet salmon catch by species, district and gear, 1982.1/

	KING	SOCKEYE	COHO	PINK	CHUM	TOTAL
SOUTHERN DISTRICT						
Set Net	894	42,389	5,557	15,838	7,113	71,791
Seine	32	1,044	1,608	280,718	11,353	294,755
TOTAL	926	43,433	7,165	296,556	18,466	366,546
OUTER DISTRICT	129	66,781	92	67,456	62,877	197,335
KAMISHAK DISTRICT	11	18,014	38,685	43,871	108,946	209,527
EASTERN DISTRICT	0	3,092	950	143,639	7,698	155,379
TOTAL	1,066	131,320	46,892	551,522	197,987	928,787
29 Year Average	372	49,751	7,254	731,246	129,805	918,427

1/ Preliminary data.

Table 2. Lower Cook Inlet escapement goals, average observed, and 1982 escapements of pink salmon.

Southern District	Esc. Goal	Average Esc. 1/	1982 Escape.
Humpy Creek	25,000 - 50,000	50,000	31,900
Tutka Lagoon	6,000 - 10,000	12,000	18,500
Seldovia Creek	25,000 - 35,000	40,000	38,400
Port Graham River	20,000 - 40,000	15,000	28,900
China Poot Bay	5,000	9,000	3,100
Barabara Creek	18,000 - 24,000	5,000	2,100
Total	99,000 - 164,000	131,000	122,900
Outer District			
Rocky River	50,000	21,000	6,600
Windy Left River	30,000 - 50,000	17,000	4,400
Windy Right River	10,000	5,000	4,700
Port Dick Creek	20,000 - 100,000	47,000	19,900
Island Creek	12,000 - 18,000	4,000	15,000
South Nuka Creek	10,000	13,000	0
Port Chatham Streams	10,000 - 15,000	10,000	2,000
Total	142,000 - 253,000	117,000	52,600
Kamishak District			
Big Kamishak River	20,000	31,000	5,000
Little Kamishak River	20,000	22,000	2,200
Amakdedori Creek	5,000	16,000	6,300
Bruin Bay River	25,000 - 50,000	74,000	75,000
Sunday Creek	10,000	11,000	12,000
Brown's Peak Creek	10,000	10,000	3,500
Total	90,000 - 115,000	164,000	104,000
Eastern District 2/			
Bear Creek	5,000	9,800	7,900
Salmon Creek	10,000	16,100	21,000
Mayor Creek	2,000	3,600	3,400
Clear Creek	2,000	1,300	2,200
Thumb Cove	1,000	3,300	7,900
Humpy Cove	2,000	3,000	4,000
Tonsina Creek 3/	5,000	3,900	7,500
Total	27,000	41,000	53,900
LOWER COOK INLET			
TOTAL	358,000 - 559,000	453,000	333,400

1/ Average escapement figures are based on weir counts, ground and aerial surveys conducted between 1951 and 1982. For many streams only several years data exist.
2/ Average escapements for pinks are for even years only.
3/ Pink escapement estimates are minimum figures due to glacial water and flooding that occur in late August and September.

Table 3. Lower Cook Inlet escapement goals, average observed and 1982 escapements for chum salmon. 1/

OUTER DISTRICT	ESCAPEMENT GOAL (RANGE)	AVERAGE OBSERVED ESCAPEMENT	1982 ESCAPEMENT
Dogfish Lagoon	5,000 - 10,000	6,000	8,500
Port Chatham (streams)	*	1,500	800
Windy Right River	*	1,500	400
Windy Left River	*	1,300	100
Rocky River	20,000	9,000	2,800
Head End Creek	4,000	6,400	1,700
Island Creek	10,000 - 15,000	8,000	8,700
Middle Creek	*	2,000	100
Petrof River	2,000 - 5,000	3,000	700
	41,000 - 54,000	38,700	23,800
KAMISHAK DISTRICT			
Silver Beach (streams)	*	4,000	4,000
Main Left (streams)	5,000 - 10,000	6,000	2,300
Big Kamishak River	20,000	13,000	25,000
Little Kamishak River	20,000	9,000	18,000
McNeil River	10,000 - 20,000	26,000	25,000
Cottonwood Creek	10,000	7,500	7,000
Iniskin River	10,000	16,000	12,800
Bruin River	5,000	7,000	10,000
Rocky Cove (Sunday Creek)	*	1,000	4,000
Ursus Cove (streams)	5,000 - 10,000	4,000	9,000
	85,000 - 110,000	93,500	117,100
SOUTHERN DISTRICT			
Tutka Creek	*	1,100	1,300
Seldovia River	*	1,200	1,000
Port Graham River	4,000 - 8,000	1,800	2,500
	4,000 - 8,000	4,100	4,800
LOWER COOK INLET TOTAL	130,000 - 172,000	135,200	145,700

1/ Average escapement figures are based on weir counts and ground and aerial surveys conducted between 1951 and 1982. For many streams, only several years of data exist.

*No established goal.

Table 4. Lower Cook Inlet escapement goals, average observed and 1982 escapements for sockeye salmon.

	Escapement Goal	Average Escapement	1982 Escapement
Southern District			
English Bay	10,000 - 20,000	7,200	20,000
Clearwater Slough	*	-	1,100
Total	10,000 - 20,000	7,200	21,100
Outer District			
Desire Lake	10,000	7,800	18,000
Delight Lake	10,000	6,400	25,000
Anderson Beach	2,000	500	600
Total	22,000	14,700	43,600
Eastern District			
Aialik Lake	2,500 - 5,000	7,000	22,400
Bear Lake	*	*	*
Total	2,500 - 5,000	7,000	22,400
Kamishak District			
Mikfik Lake	5,000	5,700	35,000
Chenik Lake	10,000 - 20,000	1,400	8,000
Kamishak River	*	2,500	10,000
Douglas River	*	1,500	4,200
Douglas Beach	*	500	1,600
Total	15,000 - 25,000	11,600	58,800
LOWER COOK INLET TOTAL	49,500 - 72,000	40,500	145,900

*Data not available.

Table 5. Emergency order commercial fishing periods in Lower Cook Inlet, 1982.

Number	Date	Description
2H-014-82	June 11	Opened Bruin Bay, McNeil River and Kamishak-Douglas subdistricts at 6:00 am Thursday June 17.
2H-015-82	June 17	Opens McNeil River Lagoon and allows seining seven days per week in the McNeil River subdistrict effective at 5:00 pm Thursday July 17.
2H-016-82	June 23	Opens East Nuka and Aialik Bay subdistricts at 6:00 pm Thursday June 24.
2H-017-82	June 25	Opens the Tutka Bay subdistrict at 6:00 am Monday June 28, keeps the area south of the HEA power lines in Tutka Bay closed and opens the Dogfish Bay subdistrict at 6:00 am Monday June 28 to seining seven days per week.
2H-018-82	July 1	Opens McCarty Lagoon in the East Nuka subdistrict at 1:00 pm Thursday July 1.
2H-019-82	July 1	Closes McNeil River Lagoon at 6:00 am Saturday July 6 and reduces fishing to the standard two 48 hour weekly periods.
2H-020-82	July 6	Closes Aialik Bay subdistrict at 6:00 pm Tuesday July 6.
2H-021-82	July 6	Opens the Port Dick subdistrict for 15 hours from 3:00 pm Tuesday July 6 until 6:00 am Wednesday July 7 , opens Dogfish Lagoon by flare for 15 minutes at 2:30 pm July 6 and removes the closure south of the HEA powerlines in Tutka Bay at 3:00 pm Tuesday July 6.
2H-022-82	July 5	Allows seining seven days per week in the East Nuka subdistrict and allows fishing up to the mouths of Delight and Desire Creeks at 3:00 pm Tuesday July 6. Expires July 17.
2H-023-82	July 6	Opens Tutka Bay Lagoon by flare for 30 minutes from 12:00 noon until 12:30 pm Wednesday July 7.
2H-024-82	July 8	Opens the Port Dick subdistrict for 24 hours from 6:00 am Friday July 9 until 6:00 am Saturday July 10 and opens the Seldovia Bay and Port Graham Bay subdistricts for 18 hours from 12:00 noon Friday July 9 until 6:00 am Saturday July 10.

Table 5. (Continued)

Number	Date	Description
2H-027-82	July 10	Opens the Seldovia Bay subdistrict and that portion of the Port Dick subdistrict southeast of a line from a marker on the western shore of Middle Creek to the southeast point of Shelter Cove during the regular two 48 hour weekly periods from 6:00 am Monday July 12 until 6:00 am Saturday July 17.
2H-028-82	July 14	Opens the Port Chatham subdistrict for 24 hours from 6:00 am Thursday July 15 until 6:00 am Friday July 16.
2H-029-82	July 17	Opens the Seldovia Bay subdistrict to seining at 6:00 am Monday July 19 and closes the McNeil River subdistrict at 6:00 am Monday July 19.
2H-030-82	July 17	Opens the Humpy Creek, Port Graham and Port Chatham subdistricts and waters of Port Dick subdistrict southeast of a line from a marker on the western shore of Middle Creek to the southeast point of Shelter Cove for 48 hours from 6:00 am Monday July 19 until 6:00 am Wednesday July 21. It also opens the Aialik Bay subdistrict and Aialik Lagoon at am Monday July 19.
2H-031-82	July 19	Moves the markers in Seldovia Bay for 10 minutes from 9:40 until 9:50 am Monday July 19 from 59 24'54" N. lat. to 59 24' 45" N. lat.
2H-032-82	July 22	Moves the markers in Seldovia Bay to 59 24'45" N. lat. at 3:00 pm Thursday July 22.
2H-033-82	July 22	Removes the markers at Desire Lake Creek for 24 hours from 6:00 am Friday July 23 until 6:00 am until 6:00 am Saturday July 24. (Delight was left open to mouth, but no E.O. was written).
2H-034-82	July 22	Allows fishing seven days per week in the Bruin Bay subdistrict effective at 6:00 am Saturday July 24.
2H-035-82	July 23	Opens Resurrection Bay and Day Harbor for 24 hours from 6 :00 am Monday July 26 until 6:00 am Tuesday July 27 and allows fishing up to the mouth of Tonsina Creek in Resurrection Bay asnd up to the mouth of all creeks in Day Harbor.
2H-036-82	July 24	Allows fishing in the "pothole" in Bruin Bay from 1:00 pm until 9:00 pm Saturday July 24.

Table 5. (Continued)

Number	Date	Description
2H-037-82	July 24	Closes that portion of the Kamishak-Douglas subdistrict east of the easternmost Department marker at Douglas Reef Creek at 153 43'15" W. long. from 6:00 am Monday July 26 until 6:00 am Thursday July 29.
2H-038-82	July 25	Reopen the McNeil River subdistrict at 6:00 am Monday July 26.
2H-039-82	July 25	Opens the Port Dick, Port Chatham and Port Graham subdistricts at 6:00 am Monday July 26. Markers were adjusted at all three locations. Markers were moved to the end of the bay in Port Graham, inside inside the spit at Port Chatham and at Port Dick the eastern marker at Middle Creek has been removed and the eastern lagoon area at Island Creek has been opened.
2H-046-82	July 26	Opens Tutka Lagoon by flare for 1 1/2 hours from 5:30 until 7:30 pm Monday July 26.
2H-047-82	July 29	Closes the Port Graham subdistrict to commercial salmon seining and set gillnetting at 6:00 am Saturday July 31 and opens the subdistrict to subsistence fishing at 6:00 am Monday August 2.
2H-048-82	July 29	Opens Tutka Lagoon by flare for 15 minutes from 9:00 until 9:15 Thursday July 29.
2H-049-82	July 31	Opens the Humpy Creek subdistrict at 6:00 am Monday August 2, closes the Port Chatham subdistrict at 6:00 am Monday August 2, closes the Port Dick North section 6:00 am Monday August 2, but opened the remainder of the Port Dick subdistrict for 48 hours from 6:00 am Monday August 2 until 6:00 am Wednesday August 4.
2H-050-82	July 31	Allows fishing seven days per week in the Aialik Bay subdistrict effective at 6:00 am Monday August 2.
2H-050a-82	August 1	Opens the Resurrection Bay subdistrict south of the latitude of Tonsina Creek for 24 hours from 6:00 am Monday August 2 until 6:00 am Tuesday August 3.
2H-051-82	August 3	Closes the Kamishak-Douglas subdistrict and opens the Bruin Bay "pothole" effective at 12:00 noon Tuesday August 3.
2H-052-82	August 4	Opens the Iniskin Bay subdistrict at 6:00 am Thursday August 5.

Table 5. (Continued)

Number	Date	Description
2H-054-82	August 5	Opens China Poot Creek to dip net fishing for 14 days from 5:00 am until 7:00 pm Saturday and Sunday August 7 and 8. Fishing is restricted to the two large pools below the barrier falls in the upper portion of the stream designated by markers.
2H-056-82	August 6	Opens the Rocky Cove, Ursus Cove and Cottonwood Bay subdistricts for three hours from 3:00 pm until 6:00 pm Friday August 6 and removes markers at Sunday Creek in Rocky Cove and Brown's Peak Creek in Ursus Cove.
2H-057-82	August 8	Opens Resurrection Bay north of the latitude of Caines Head for 27 hours from 6:00 am Monday August 9 until 9:00 am Tuesday August 10.
2H-058-82	August 11	Reopens the Rocky Cove, Ursus Cove and the Kamishak-Douglas subdistricts at 6:00 am Thursday August 12 and removes the markers at Sunday Creek and Brown's Peak Creek.
2H-059-82	August 12	Opens the Tutka Lagoon by flare for two hours from 12:00 noon until 2:00 pm Friday August 13.
2H-061-82	August 12	Opens the Port Dick subdistrict east of the longitude of the westernmost marker of Island Creek for 3 hours until 6:00 pm Friday August 13.
2H-062-82	August 13	Reopens the Port Graham subdistrict to commercial seining and set gillnetting at 6:00 am Monday August 16.
2H-063-82	August 19	Opens Cottonwood Bay subdistrict from 6:00 pm Thursday August 19 until 6:00 am Wednesday August 25 on the regular two 48 hour weekly periods except for a 6 hour closure from 6:00 am until 12:00 noon Friday August 20 around an extreme minus tide.
2H-064-82	August 20	Opens English Bay Lagoon to subsistence fishing with set gillnets seven days per week from 6:00 pm Friday August 20 6:00 am Saturday August 28.
2H-067-82	August 24	Extends fishing time in the Kamishak-Douglas subdistrict through the normal Wednesday closure from 6:00 am Wednesday August 25 until 6:00 am Thursday August 26.
2H-075-82	September 21	Closes the Southern district to subsistence fishing at 12:00 midnight Thursday September 30.

Table 6. Preliminary Estimate of Adult Pink Salmon return to Tutka Bay and Lagoon, 1982.

Commercial Harvest:	
Seine	173,100
Set Net	8,000
Sub-Total	181,100
Sport Catch	2,000
Escapement:	
Tutka Creek and Channel	18,500
Egg-Take	41,200
Total Return	242,800

Tutka Lagoon Hatchery Contribution estimated at 229,372 of total run.

Table 7. Tutka Bay (241-16) Pink Salmon Seine Catch by Statistical Week.

Week	1978 Entire Subdistrict	1978 Lagoon Only	1979 Entire Subdistrict	1979 Lagoon Only	1980 Entire Subdistrict	1980 Lagoon Only	1981 1/ Entire Subdistrict	1981 1/ Lagoon Only	1982 1/ Entire Subdistrict	1982 1/ Lagoon Only
25									50	
26			3,786		3,691		8,612		300	
27			129,659		17,630		101,301		4,349	
28	24,683		178,178	68,500	76,810		243,100		44,283	8,500
29	19,077		50,873	24,000	130,608	35,074	301,530	42,000	41,564	
30	83,681	47,143	22,574	20,700	34,669		164,094	35,000	31,700	
31	19,980	17,143	15,392	14,500	22,014	20,500	100,163	12,000	35,791	24,000
32	12,357	11,100			22,755	21,481	40,911	10,000	4,063	
33	818						16,966	13,700	11,000	11,000
34							7,543	7,243	--	
Total Seine Catch	160,596	75,386	400,462	127,700	308,177	77,055	984,670	119,943	173,100	57,100
Set Net Catch	7,266		21,354		13,336		39,729		8,000	
Sport Catch	---		2,000		5,000		6,000		2,000	
Egg Take	21,100		21,200		26,897		22,000		41,200	
Escapement	15,000		10,600		17,300		28,000		18,500	
Total Return	203,962		455,616		370,710		1,080,399		242,800	

1/ Preliminary data only.

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	361.3
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
1980	64.4	17.3	65.5	40.2	10.9	3.3	6.4 4/	56.1 7/	2.2	266.3
1981	115.0	21.1	62.7	18.4	31.3	4.7	25.0	106.0	25.0	409.2
1982	31.9	18.5	38.4	28.9	4.4	4.7	6.6	19.9	15.0	168.3
Total	934.5	232.8	764.8	295.2	311.1	91.5	389.7	873.3	94.5	3,987.4
Average	49.2	12.3	40.3	15.5	16.4	4.8	20.5	46.0	5.0	209.0
Escape. 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. 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; 26,897 in 1980; 20,606 in 1981 and 1982.
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 25-35,000 for Windy Left and 70-100,000 in Port Dick in years where large numbers of upstream spawners return.
7/ 3,000 pinks transplanted in Scurvey Creek in 1980.
8/ 50 and 1,000 chums transplanted in Scurvey Creek in 1980 and 1981, respectively, along with 3,600 pinks in 1981.

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
1980	1.1	4.0	23.0	4.2	10.9	10.0	13.0	8.0	15.0	8.0	4.2	9.3	110.7
1981	4.8	11.5	12.5	4.1	17.5	11.0	6.0	30.0	10.0	10.0	9.0	9.0	135.4
1982	2.5	8.5	2.8	1.7	8.7	25.0	18.0	25.0	10.0	9.0	7.0	12.8	131.0
18 Year Total	32.4	113.5	163.1	101.2	144.8	150.2	107.0	249.0	90.5	70.1	83.3	130.1	1,435.2
Avg.	2.2	6.3	9.6	5.3	7.6	13.7	10.7	22.6	7.5	6.4	6.0	8.7	75.5
Escap. 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, 1964-1981. 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
1978	306.8	491.2	394.8	191.7	10/ 27.0 11/	27.0	29.8	208.5	4.5	657.1	186.8
1979	764.6	342.0	279.2	283.9	198.2 12/	260.4 12/	204.4	561.5	68.5	268.6	329.2
1980	68.4	194.5	179.6	161.7	162.8	148.1	0.0 13/	62.3	91.1	45.2	118.7
1981	374.2	422.1	520.0	318.6	121.4	299.1	6.2	248.4	233.2	0.0 13/	254.3
Total	6,246.5	5,372.1	5,370.5	3,226.3	1,900.5	3,480.5	596.6	3,282.8	649.9	10,081.4	3,247.3
Avg.	367.4	316.0	315.9	189.8	111.8	204.7	35.1	193.1	38.2	593.0	203.0

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 catches 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	1981
Humpy Creek	13.2	67.9	57.4	13.8	40.4	0.6	11.4	44.3	339.4	26.9	298.0	250.9
Tutka Bay	14.4	106.8	37.7	44.6	31.6	32.4	10.3	20.0	89.2	21.9	411.3	1,023.5
Seldovia Bay	4.9	15.1	1.6	19.2	11.7	28.7	27.3	19.4	429.6	47.6	140.8	126.4
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	45.9
Dogfish Bay	1.6	0	0	0.1	2.3	0	10.4	0.3	0	5.0	7.4	22.9
Port Chatham	1.2	0	0.8	0	0	0	26.3	12.0	16.0	1.4	174.4	47.6
Windy Bay	3.1	2.2	0	5.4	0	0	57.3	68.5	18.1	173.2	551.4	82.9
Rocky Bay	2.3	0	1.4	0.1	0	0	0.1	0.2	0	11.6	122.2	16.5
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	1,140.9
Nuka Bay	33.3	2.0	0.3	0	0.1	0	119.7	8.1	35.4	56.3	121.7	395.1
Resurrection Bay	8.4	0	0	0	1.2	0	0	0	0	0	0	32.6
Bruin Bay	0	0	12.3	0.9	2.1	0	11.7	0	0	6.2	40.3	51.9
Rocky-Ursus Coves	3.7	2.7	44.2	0	13.0	52.8	16.4	7.9	0	0	14.4	14.1
Iniskin and Cottonwood Bays	1.5	3.3	21.8	0	0.1	26.0	0	4.7	0	0.1	0.2	0
Miscellaneous	3.6	9.5	4.4	3.8	8.0	8.4	6.4	11.5	27.1	16.9	16.8	25.0
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	3,276.2

1/ Data source IBM computer runs, 1959-81.

Table 12. Pink salmon catches 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	1980	1982 2/
Humpy Creek	71.6	108.8	82.4	40.7	43.9	114.1	2.1	35.4	73.1	44.0	53.3	6.0
Tutka Bay	87.6	279.5	100.9	53.5	26.9	43.9	5.2	5.5	18.0	167.9	312.5	184.9
Seldovia Bay	42.6	142.8	37.4	44.1	23.6	28.6	0.2	3.5	3.0	35.4	81.7	70.3
Port Graham Bay	7.1	18.1	38.4	5.1	23.0	12.5	1.1	4.5	3.9	4.0	30.5	35.4
Dogfish Bay	1.8	1.4	0.1	7.1	0	9.8	0.3	0	0	0	4.7	1.7
Port Chatham	15.7	102.2	67.1	6.7	10.0	1.9	0	0	0	0	1.8	12.3
Windy Bay	29.2	85.5	68.6	20.1	3.4	0.8	0	0	0	0	0	0
Rocky Bay	17.0	225.9	53.2	0	10.8	39.8	0	0	0	0	1.4	0
Port Dick Bay	257.4	1,118.3	526.3	296.8	55.0	193.8	0	0.6	0	63.6	133.3	43.9
Nuka Bay	26.6	129.8	23.8	0	90.2	48.4	0.3	0.7	0.1	6.3	12.8	9.3
Resurrection Bay	5.8	0.1	0.3	0	37.4	40.2	18.2	0	35.4	29.7	155.8	137.4
Bruin Bay	2.6	0	0	0	126.2	10.2	0	0	0	0	99.4	13.3
Rocky-Ursus Coves	6.6	3.2	13.5	2.9	18.0	7.5	0	0	0	0.1	0	20.0
Iniskin and Cottonwood Bays	2.1	3.2	4.3	0	9.9	3.5	0	0	0.1	0.1	0.1	0.6
Miscellaneous	37.9	29.5	39.1	102.2	107.1	19.3	1.3	0.4	2.8	1.5	2.4	16.4
Total	611.6	2,248.3	1,055.4	579.2	585.4	574.3	28.7	50.6	136.4	352.6	889.7	551.5

1/ Data resource IBM computer runs, 1960-80.
2/ Preliminary data.

Table 13. Chum salmon catches 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	1980	1981	1982 2/
Tutka	1.6	0.5	1.3	0.8	1.4	2.0	0.9	0.8	2.6	4.9	1.8	10.8	8.3
Port Graham	4.8	2.0	3.2	2.6	1.0	2.2	0.5	5.0	2.4	4.3	2.5	11.2	7.4
Dogfish	50.9	114.5	41.1	0.4	0	0	0	9.4	0	8.4	2.1	71.8	15.6
Port Chatham	0.1	2.4	0	0.2	0	0.6	0	0.1	0	1.7	1.3	59.5	14.1
Rocky-Windy	39.4	1.4	0	0.9	0	0.3	0	17.7	0	76.7	2.1	7.4	0
Port Dick	21.8	0.7	0	33.4	8.1	6.8	0	25.6	9.1	79.0	19.0	95.8	30.1
Nuka	5.9	0.1	2.3	40.8	3.9	3.6	0.4	17.4	0.4	14.7	7.8	3.8	0.9
Resurrection	0.6	0.4	0.7	0	0	0	0	0	0.1	0	0.7	3.3	7.7
Douglas River	0	0	0	0	0	0.1	7.1	4.0	2.9	0.7	10.0	46.7	37.1
Kamishak River	0	0	2.4	0	0	0	10.5	0	23.9	17.8	0	8.6	9.2
McNeil River	1.9	0	2.3	0	2.0	0	16.9	38.5	4.9	6.5	6.3	11.6	32.6
Bruin	12.8	1.6	1.8	0	0.7	0	0	0	0	4.0	10.6	1.7	1.3
Ursus-Rocky Coves	8.9	10.3	0.2	5.7	0	2.0	2.8	7.8	1.9	0.5	0.3	1.5	7.2
Cottonwood and Iniskin	71.9	14.5	19.7	29.9	0	2.8	11.5	15.3	14.9	0.2	5.4	3.5	21.6
Miscellaneous	3.6	0.2	0.5	0.8	2.1	1.2	0.2	4.2	10.4	3.6	3.6	1.9	4.9
Total	224.2	148.6	75.5	115.5	19.2	21.6	50.8	145.8	73.5	223.0	73.5	339.1	198.0

1/ Data source IBM computer runs, 1959-81.
2/ Preliminary data.

Table 14. Sockeye salmon catches 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	1980	1981	1982 2/
Resurrection Bay	2.2	0.1	0	0	0	0	0	0	0	0	0.6	0
Aialik Bay	0	0.3	3.1	0.2	0.6	0	5.8	0	0	0.1	8.7	3.0
Nuka Bay	1.6	26.1	1.5	0.2	0	18.9	32.5	10.7	24.4	21.5	17.2	66.3
Humpy Creek	1.3	3.7	2.1	3.0	3.5	5.4	3.8	12.9	6.2	11.5	11.3	1.2
Tutka Bay	10.0	14.8	8.1	10.8	12.6	14.2	21.0	92.1	15.6	13.2	40.9	15.8
Seldovia Bay	1.5	2.3	2.2	2.3	2.1	2.1	3.0	5.6	2.6	1.6	5.3	5.0
Port Graham Bay	5.6	10.5	11.7	10.9	9.2	13.6	26.6	30.5	12.9	16.5	20.3	21.5
Kamishak Bay	0	0	0	0	0	4.0	7.4	4.6	1.8	3.9	5.0	18.0
Miscellaneous	0	1.0	5.0	0	1.0	0	0	0	9.0	1.1	1.0	0.5
Total	22.2	57.9	29.2	27.4	28.1	58.2	100.1	156.4	64.4	69.4	110.3	131.3

1/ Data source IBM computer runs, 1959-81.
2/ Preliminary data.

Table 15. Salmon catch by species for set gillnets in the Southern District of Lower Cook Inlet; 1958-1982. 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
1980	225	29,922	8,038	26,613	2,576	67,374
1981	222	53,665	6,735	68,794	8,524	137,940
1982 2/	894	42,389	5,557	15,838	7,113	71,791
25 year total	4,123	607,532	49,857	485,755	61,301	1,208,568
25 year average	165	24,301	1,994	19,430	2,452	48,343
% of total	0.34	50.27	4.13	40.19	5.07	100.00

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

Table 16. Lower Cook Inlet salmon catch by species, 1954-1982. 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	100,058	2,872	1,292,153	145,778	1,541,078
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
1980	424	69,442	14,505	889,703	73,492	1,047,566
1981	1,086	110,255	10,778	3,276,221	339,053	3,737,393
1982 2/	1,066	131,320	46,892	551,522	197,987	928,787
29 year Total	10,780	1,442,793	210,354	21,206,121	3,764,338	26,634,386
29 year average	372	49,751	7,254	731,246	129,805	918,427
% of total	0.04	5.42	0.79	79.62	14.13	100.00

1/ Data source: final IBM computer runs, 1954-1981 and processor catch reports.
2/ Preliminary data.

Table 17. Southern district salmon catch by species, 1954-1982. 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	86,457
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	53,124	1,239	156,696	6,723	217,964
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
1980	414	42,929	11,568	478,019	4,605	537,535
1981	1,024	77,880	7,976	1,451,022	23,880	1,561,782
1982 2/	926	43,433	7,165	296,556	18,466	366,546
29 year Total	9,886	854,925	114,900	8,228,617	522,108	9,730,436
29 Year Average	341	29,480	3,962	283,745	18,004	335,532
% of Total	0.10	8.79	1.18	84.57	5.36	100.00

1/ Data source: Final IBM computer runs, 1954-1981, and processor catch reports.
2/ Preliminary data.

Table 18. Outer district salmon catch by species, 1954-1982. 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
1980	10	22,514	16	154,041	32,246	208,827
1981	61	18,133	485	1,714,115	238,393	1,971,187
1982 2/	129	66,781	92	67,456	62,877	197,335
29 Year Total	612	300,980	8,227	11,579,421	2,250,464	14,139,704
29 Year Average	21	10,379	284	399,920	77,602	487,576
% of Total	+	2.13	0.06	81.89	15.92	100.00

1/ Data source: Final IBM computer runs, 1954-1981, and processor catch reports.
2/ Preliminary data.

Table 19. Kamishak Bay district salmon catch by species, 1954-1982. 1/
species, 1954-1982. 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
1980	0	3,877	2,495	101,864	35,921	144,157
1981	1	4,972	1,845	66,097	73,501	146,416
1982	11	18,014	38,685	43,871	108,946	209,527
29 Year Total	45	68,592	55,008	795,840	954,318	1,873,803
29 Year Average	2	2,365	1,897	27,443	32,908	64,614
% of Total	+	3.66	2.94	42.47	50.93	100.00

1/ Data source: Final IBM computer runs, 1954-1981, and processor catch reports.
2/ Preliminary data.

Table 20. Eastern district salmon catch by species, 1954-1982. 1/
1954-1982. 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	0	1,349	3,229	10,354
1978	0	2	582	29,738	100	30,422
1979	0	0	296	0	0	296
1980	0	122	426	155,779	720	157,047
1981	0	9,270	472	44,987	3,279	58,008
1982 2/	0	3,092	950	143,639	7,698	155,379
29 Year Total	237	218,296	32,219	602,243	37,448	890,443
29 Year Average	8	7,527	1,111	20,767	1,291	30,705
% of Total	0.03	24.51	3.62	67.63	4.21	100.00

1/ Data source: Final IBM computer runs, 1954-1981, and processor catch reports.
2/ Preliminary data.

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

Area Residence of Permittee	Homer		Anchorage Area		Halibut Cove		Anchor Point		Seldovia		Port Graham/ English Bay		Kenai/ Soldotna		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
1980	310	58.2	81	15.2	0	0	80	15.0	7	1.3	0	0	42	7.9	13	2.4	533
1981	274	71.4	43	11.2	8	2.1	37	9.6	3	0.8	1	0.3	14	3.6	4	1.0	384
1982	295	74.7	19	4.8	9	2.3	44	11.1	0	0	0	0	7	1.8	21	5.3	395
9 Year Total	1,930	-	315	-	53	-	305	-	43	-	13	-	95	-	72	-	2,826
9 Year Average	214	68.2	35	11.1	6	1.9	34	10.8	5	1.6	1	0.3	11	3.5	8	2.6	314

Table 22. Subsistence fishery catches for the Southern district of Cook Inlet, 1969-1982. 1/

Year	Permits Issued	Permits Returned	Permits Not Fished	Returned	King	Red	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
1980 3/	533	494	195	92.7	43	32	3,491	1,021	25	153 2/	4,765
1981	384	374	100	97.4	25	64	4,314	732	89	+100 4/	5,324
1982	395	378	71	95.7	39	46	7,303	955	123	8 6/	8,474
14 Year Total	3,454	3,150	1,044	-	152	435	31,981	8,738	754	865	42,925
14 Year Average	247	225	75	89.8	11	31	2,284	624	54	62	3,066

Table 23. Port Graham subsistence salmon harvest by year and month.

Year/Month	Chinook	Sockeye	Coho	Pink	Chum	Sub-Total	Calendars	Harvest Days
1979								
Total *	222	777	506	1,170	494	3,249	-	-
1981								
May	31	543	-	-	-	574	39/47	94
June	11	923	-	7	6	947	36/47	61
July	74	209	-	74	92	449	37/47	36
August	-	19	173	176	50	418	38/47	45
September	-	-	452	41	2	495	41/47	32
October	-	-	**	**	-	**	-	-
Totals	116	1,694	625	298	150	2,883	-	268
1982								
May	32	264	-	-	3	299	36/36	46
June	34	442	1	37	31	545	37/38	107
July	28	74	4	465	68	639	38/38	63
August	4	5	209	229	76	523	34/35	73
September	-	13	294	120	15	442	28/34	59
October	-	-	**	-	-	**	-	-
Totals	98	798	508	851	193	2,448	-	348

*Estimate
**Some harvest, no estimate.

Table 24. English Bay subsistence salmon harvest by year and month.

Year/Month	Chinook	Sockeye	Coho	Pink	Chum	Sub-Total	Calendars	Harvest Days
1979								
Total*	137	1,545	2,437	2,186	305	6,610	-	-
1981								
May	1	609	-	-	-	610	25/29	76
June	10	330	-	-	-	354	22/29	61
July	10	53	1	1	5	161	22/29	27
August	3	58	99	376	14	550	23/29	92
September	-	25	214	139	-	378	20/29	61
October	-	-	**	**	-	**	-	-
Totals	24	1,075	314	621	19	2,053	-	317
1982								
May	2	259	-	-	7	268	36/36	79
June	2	809	1	3	1	816	31/31	115
July	4	70	-	101	-	175	31/31	37
August	5	427	143	977	18	1,570	25/29	127
September	-	19	756	724	10	1,509	27/29	150
October	-	-	405*	45*	-	450*	-	-
Totals	13	1,584	1,305	1,850	36	4,788	-	508

*Estimate.
**Some harvest, no estimate.

Appendix Table 1. Fishing licenses and permits issued and fished in Lower Cook Inlet, 1960-1982.

	SEINES					
Year	Gear License	Permanent Permit	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		40	48	88	63	27
1976		74	16	90	53	25
1977		70	12	82	72	26
1978		77	9	86	72	39
1979		82	5	87	75	38
1980		81	10	91	83 1/	40 1/
1981		80	11	91	91 1/	40 1/
1982		72	7	79	69	39
Total	1,317	576	118	2,011	1,003	306
Average	88	72	15	88	59	34

1/ Preliminary. Data source: CFEC microfiche printouts and final IBM computer runs.

Appendix Table 2. Ex-vessel value of Lower Cook Inlet commercial salmon harvest in thousands of dollars by species, 1960-1982. 1/

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
1980	12	336	64	1,082	298	1,792
1981	18	706	60	5,334	1,291	7,409
1982 2/	28	780	367	318	820	2,313
23 Year Total	186	6,189	758	18,753	6,384	32,270
23 Year Average	8	269	33	815	278	1,403

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

Appendix Table 3. Average salmon price per pound by species in dollars, Lower Cook Inlet, 1960-1982. 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	0.00	0.25	0.17	0.18	0.09
1969	0.00	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
1980	1.30	0.88	0.85	0.38	0.52
1981	1.35	1.05	0.65	0.44	0.47
1982 3/	1.29	0.99	0.87	0.18	0.46

1/ 1960-1974 values obtained (except as noted) by using 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.

3/ Preliminary data.

Appendix Table 4. Salmon average weight/fish in pounds Lower Inlet. 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
1980	21.7	5.5	5.2	3.2	7.8
1981	12.5	6.1	8.5	3.7	8.1
1982	20.6	6.0	9.0	3.2	9.0
23 Year Total	510.6	142.6	161.3	83.6	180.7
23 Year Average	23.2	6.2	7.0	3.6	7.9

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

Appendix Table 5. Salmon case pack by species, Cook Inlet, 1960-1982. 1/

Year	King	Red	Coho	Pink	Chum	Total
			48 1-lb. Cans Per Case			
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	2,386	249,422	26,190	382,477
1980	4,860	144,742	6,367	231,897	27,967	415,833
1981	215	40,959	4,271	219,968	45,758	383,171
1982	82	28,919	33,216	208,583	14,365	285,165
Total	58,581	2,117,854	351,380	2,539,087	1,364,915	6,431,817
Average	2,547	92,081	15,277	110,395	59,344	279,645

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

Appendix Table 6. Commercial production of fresh, frozen and cured salmon by species, Cook Inlet, 1960-1982. 1/

Year	King	Sockeye	Coho	Pink	Chum	Total
	Production in Pounds					
1971	1,122,833	858,298	230,995	29,043	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	474,710	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
1980	729,612	13,523,357	1,780,131	4,272,809	3,947,040	24,252,949
1981	711,934	18,813,717	3,663,104	3,285,847	8,268,107	34,742,709
1982	1,743,455	32,475,335	5,990,705	4,837,524	14,648,214	59,695,233
Total	9,432,687	114,731,354	18,578,662	25,908,660	68,067,971	236,719,334
Average	786,057	9,560,946	1,548,222	2,159,055	5,672,331	19,726,612

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

Appendix Table 7. Pink salmon alevin density by brood year for non-index salmon streams in lower Cook Inlet.

Year	Mayor	Bear	Salmon	Clear	Tonsina	Barbara	South Nuka	Spring	Humpy
1974	-	-	-	-	-	-	-	-	-
1975	-	-	-	-	-	500.3	318.5	-	-
1976	19.9	293.7	50.6	-	-	-	-	-	-
1977	-	-	-	-	-	-	741.2	-	-
1978	39.0	871.6 1/	-	3.2	89.6	-	-	-	-
1979	-	-	-	-	-	-	-	-	-
1980	161.7	538.4	238.3	-	188.6	-	-	-	-
1981	-	-	-	-	130.9	-	-	379.3	10.8

1/ Incomplete sampling due to ice.

Appendix Table 8. 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
1978	147.3	899	3.96 2/	1,295 3/	-	30.6
1979	574.7	3,706	4.68 2/	2,992 3/	+	23.9
1980 1/	266.3	532	1.13	1,053	-	49.6
Total	2,970.6	15,770	67.25	15,609		
Average	198.0	1,051	4.48	1,040.6	+	0.01

1/ Preliminary data.
2/ Calculated by subtracting hatchery return from total return: 150,000 in 1978,
370,000 in 1979,
315,000 in 1980 and
1,019,000 in 1981.
232,000 in 1982.
3/ Includes projected hatchery return.

Appendix Table 9. Lower Cook Inlet total salmon catch by district, 1954-1982. 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	217,964	1,233,262	79,498	10,354	1,541,078
1978	404,203	100,280	55,854	30,422	590,759
1979	1,044,517	2,151,556	91,098	296	3,287,467
1980	537,535	208,827	144,157	157,047	1,047,566
1981	1,561,782	1,971,187	146,416	58,008	3,737,393
1982 2/	366,546	197,335	209,527	155,379	928,787
29 Year Total	9,730,436	14,139,704	1,873,803	890,443	26,634,386
29 Year Average	335,532	487,576	64,614	30,705	918,427
% of Total	36.53	53.09	7.04	3.34	100.00

1/ Data source: Final IBM computer runs, 1954-1981 and processor catch reports.
2/ Preliminary data.

Appendix Table 10. King salmon catches by district for Lower Cook Inlet, 1954-1981.1/

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
1980	414	10	0	0	424
1981	1,024	61	1	0	1,086
1982 2/	926	129	11	0	1,066
29 Year Total	9,886	612	45	237	10,780
29 Year Average	341	21	2	8	372
% of Total	91.70	5.68	0.42	2.20	100.00

1/ Data source: Final IBM computer runs, 1954-1981 and processor catch reports.
2/ Preliminary data.

Appendix Table 11. Sockeye salmon catches by district for Lower Cook Inlet, 1954-1982. 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	53,124	33,733	7,425	5,776	100,058
1978	141,088	10,695	4,619	2	156,404
1979	37,342	25,297	1,778	0	64,417
1980	42,929	22,514	3,877	122	69,442
1981	77,880	18,133	4,972	9,270	110,255
1982 2/	43,433	66,781	18,014	3,092	131,320
29 Year Total	854,925	300,980	68,592	218,296	1,442,793
29 Year Average	29,480	10,379	2,365	7,527	49,751
% of Total	59.26	20.86	4.75	15.13	100.00

1/ Data source: Final IBM computer runs, 1954-1981 and processor catch reports.
2/ Preliminary data.

Appendix Table 12. Coho salmon catches by district for Lower Cook Inlet, 1954-1982. 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	0	2,872
1978	4,318	45	1,584	582	6,529
1979	10,688	150	1,116	296	12,250
1980	11,568	16	2,495	426	14,505
1981	7,976	485	1,845	472	10,778
1982 2/	7,165	92	38,685	950	46,892
29 Year Total	114,900	8,227	55,008	32,219	210,354
29 Year Average	3,962	284	1,897	1,111	7,254
% of Total	54.62	3.91	26.15	15.32	100.00

1/ Data source: Final IBM computer runs, 1954-1981 and processor catch reports.
2/ Preliminary data.

Appendix Table 13. Pink salmon catches by district for Lower Cook Inlet, 1954-1982. 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
1980	478,019	154,041	101,864	155,779	889,703
1981	1,451,022	1,714,115	66,097	44,987	3,276,221
1982 2/	296,556	67,456	43,871	143,639	551,522
29 Year Total	8,228,617	11,579,421	795,840	602,243	21,206,121
29 Year Average	283,745	399,290	27,443	20,767	731,246
% of Total	38.80	54.61	3.75	2.84	100.00

1/ Data source: Final IBM computer runs, 1954-1981 and processor catch reports.
2/ Preliminary data.

Appendix Table 14. Chum salmon catches by district for Lower Cook Inlet,1954-1982. 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
1980	4,605	32,246	35,921	720	73,492
1981	23,880	238,393	73,501	3,279	339,053
1982 1/	18,446	62,877	108,946	7,698	197,987
29 Year Total	522,108	2,250,464	954,318	37,448	3,764,338
29 Year Average	18,004	77,602	32,908	1,291	129,805
% of Total	13.87	59.78	25.35	1.00	100.00

1/ Data source: Final IBM computer runs, 1954-1981 and processor catch reports.
2/ Preliminary data.

Appendix Table 15. Pink salmon catches in thousands of fish for fishing districts in Lower Cook Inlet, 1936-1982. 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	1980	890
1941	692	1961	303	1981	3,276
1942	695	1962	2,248	1982 2/	552
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
47 Year	35,377	753
Odd-Year (23)	18,869	820
Even-Year (24)	16,508	688

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

2/ Preliminary data.