ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES

# LOWER COOK INLET AREA
# ANNUAL FINFISH MANAGEMENT REPORT

1988

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# 1988 LOWER COOK INLET AREA

# ANNUAL FINFISH MANAGEMENT REPORT

by

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**TABLE OF CONTENTS**

**TABLE OF CONTENTS (CONTINUED)**

## LIST OF TABLES

## LIST OF TABLES (CONTINUED)

## LIST OF FIGURES

## LIST OF APPENDICES

## LIST OF APPENDICES (CONTINUED)

**ANNUAL MANAGEMENT REPORT**

**LOWER COOK INLET**

**1988**

## COMMERCIAL SALMON FISHERY

### INTRODUCTION

The Lower Cook Inlet management area is comprised of all waters west of the longitude of Cape Fairfield, north of the latitude of Cape Douglas and south of the latitude of Anchor Point and has been divided into five fishing districts (Figure 1). The Barren Islands District is the only non-salmon and herring producer and the remaining four districts have been divided into 25 subdistricts and sections to facilitate management of discrete stocks of salmon and herring.

The 1988 commercial salmon fishery in Lower Cook Inlet can be considered a tremendous success when viewed in dollar amounts, but was a potpourri of excellent to non-existent salmon returns. Total harvest for all species of 1,571,855 was the fifth highest in the past 30 years and 53 percent above average (Tables 1 and 8; Figure 2). Sockeye salmon harvests were above average in all districts, except the Outer District, and the 1988 harvest of 319,008 fish was a new record for Lower Cook Inlet (Table 8; Figure 3). Over 80 percent of the sockeye salmon harvest was produced by two FRED division lake stocking projects at Chenik and Leisure Lakes. Natural pink salmon returns were poor to most systems due to extensive flooding which occurred in 1986. Approximately 835,000 pink salmon, or 91 percent of the Lower Cook Inlet pink harvest of 921,296, were harvested from returns to the Tutka Hatchery project. This was the second largest return to the hatchery since returns began in 1977 (Figure 6). The chum salmon harvest of 321,911 was the second highest on record and two and one half times the average

catch in Lower Cook Inlet (Tables 1 and 8; Figure 5). Coho salmon catches in the lower inlet were generally poor and the harvest of 7,946 was the lowest in the past 10 years and was due primarily to the poor returns to the Kamishak and Douglas Rivers and the lack of fishing in the Nuka Bay area (Tables 1 and 8).

Seventy one of the 79 seine permits and 27 set gillnet permits made deliveries during the fishery (Appendix A.1). However, only 63-65 seine permits were active throughout the season as many fishermen who are multiple permit holders chose to fish other more lucrative fisheries during the season, such as Upper Cook Inlet, Kodiak and Prince William Sound. Record prices paid for sockeye, pink and chum salmon coupled with the strong returns of sockeye and chum salmon resulted in a record ex-vessel value of the fishery which was estimated at $8.25 million (Appendix A.2). Failures in the PWS and Southeast Alaska pink salmon returns and devaluation of the dollar to the Japanese yen resulted in record average prices of $2.35, $0.70 and $0.84 per pound for sockeye, pink and chum salmon, respectively (Appendix A.3). A record high average weight for chum salmon of 9.4 pounds also contributed to the record value (Appendix A.4).

## SOUTHERN DISTRICT

### Set Gillnet Fishery

The set gillnet harvest of 52,413 final (Table 1) was similar to the historic average of 49,771 but was comprised of an entirely different species composition (Appendix A.13). Catches of all species were above average, except sockeye salmon which was 42 percent below average. The king salmon harvest of 1,145 was a new record and over four times the average, but was due entirely to catches in the Halibut Cove area, which were higher than normal due to the hesitancy of fish to move into Halibut Cove Lagoon (HCL). Cold water temperatures from a late snow melt-off caused many species to hold in fishing districts for extended periods of time in 1988.

The English Bay-Port Graham area was closed for the fourth consecutive year due to the poor sockeye salmon return to the English Bay Lake system. Extremely poor subsistence catches of sockeye in May coupled with poor commercial catches in early June prompted a closure of the area on June 18. No appreciable increase in the sockeye escapement occurred from this closure and the final sockeye salmon escapement of 2,500 was just over 10 percent of the escapement goal (Table 4). Based on average weights of sockeye salmon harvested in the Southern District, Upper Cook Inlet sockeye did not appear to swing into Kachemak Bay and this phenomenon contributed to the below average set gillnet catch.

The Port Graham and English Bay area was reopened to set gillnet fishing on July 7 and the majority of the harvest was comprised of pink salmon. Pink salmon catches peaked between August 5 and 9 and the harvest of 10,700 fish accounted for over 36 percent of the total set gillnet catch of pink salmon in the Southern District (Table 1).

Coho salmon also played an important part in the harvest near these two villages. Effort was low with only two or three set gillnets fishing after August 15. Catches were fairly uniform from August 18 until September 9 when fishing was discontinued because of the lack of a processor that wanted to purchase fish. The harvest of 1,400 coho salmon was 48 percent of the set gillnet harvest of 2,819 coho in the Southern District (Table 1).

## Seine Fishery

### Sockeye Salmon

The Southern District sockeye salmon harvest of 105,302 was the fourth highest on record and was over twice the average for this district (Table 1; Appendix A.15). Seiners accounted for over 85 percent of the harvest and virtually the entire harvest (96 percent) was produced by fish returning to the Leisure Lake stocking and fertilization project. Fish returning to this project contributed significantly to the seine catches in the Halibut Cove and Tutka Bay Subdistricts as well.

In anticipation of the strong return to the Leisure Lake project, the Halibut Cove and China Poot Subdistricts were opened to fishing on a five day per week basis on June 27. Seine catches in the area during the first week of fishing were 67 percent above average and second only to the record harvest in 1984 (Table 7b). Catch data indicated a seine harvest for these two subdistricts of approximately 80,000 sockeye and the final harvest of 83,287 was within four percent. Catches peaked during the third week of fishing and the final commercial harvest allocated to this return from all subdistricts was 91,469 (Table 7a).

**Pink Salmon**

Returns of pink salmon to spawning streams in the Southern District were extremely weak for the second consecutive year and this was attributed to the heavy flooding that occurred in the fall of 1986. The harvest of 852,382 pink salmon was the fourth highest on record and was produced almost exclusively (98 percent) from returns to Tutka Hatchery.

The Tutka Bay Subdistrict was opened to fishing five days per week from 6:00 a.m. Monday until 6:00 a.m. Saturday beginning June 27. Due to a secondary release of Tutka Hatchery fry in Halibut Cove Lagoon (HCL) in 1987, the Halibut Cove Subdistrict was also opened to fishing to allow an early harvest of fish returning to that area. The terminal harvest area in HCL was not opened until after the 4th of July weekend on July 5 to allow the recreational fishery access to the return before commercial harvests began.

Catches built as expected, even with low fishing effort. Buildup of pink salmon in Tutka Lagoon was slow, considering the size of the return, and again was attributed to the cold water temperatures and increased fishing efficiency due to power purse seine regulations adopted in 1987. Approximately 30,000 fish had accumulated in the lagoon by July 10 and the first lagoon opening was allowed for three hours on July 11 and resulted in a harvest of 28,000 pink salmon (Table 7). This early opening has been allowed during the past three years to remove the excess male pink salmon present in the earlier portion of the run. This has eliminated considerable mortality of the hatchery brood-stock by reducing the holding time in net pens and sorting of males from females.

Catches peaked during the third week of fishing in both Tutka Bay and HCL. Fish continued to be very reluctant to move into and hold

in Tutka Lagoon which resulted in a reduction of fishing time from five days per week to the standard two 48 hour weekly periods on July 20 and a closure of waters to fishing south of the HEA powerlines. This allowed an additional 51 hours for fish to hold and gradually move into Tutka Lagoon where they could be seined up for hatchery brood-stock.

Adequate numbers of fish finally accumulated in the lagoon and waters inside the HEA powerlines were reopened to fishing on July 22. Over 60,000 fish were seined up for the hatchery egg take by July 25 and aerial surveys of the lagoon indicated an additional 70,000 or more fish were still present. A second opening for one hour on July 26 resulted in a harvest of 50,000 fish. As fish finally began moving into Tutka Creek to spawn in early August, 10-14 days later than most years, a third opening for half an hour was allowed on August 4 to further reduce the buildup. This opening produced only 10,900 fish and no additional lagoon openings were necessary in 1988.

Final natural spawning escapement in Tutka Creek was 11,200 fish (Table 2). The increased fishing efficiency and the hesitancy of fish to move into the lagoon resulted in a very good harvest rate outside the lagoon, as only 12 percent of the seine harvest occurred in the lagoon during the three openings (Table 7). The pink salmon harvest in Tutka Bay totalled 723,929 fish for both seines and set gillnets and an additional 112,239 fish were harvested from the HCL and China Poot area, most of which were considered to be produced from Tutka Hatchery.

Pink salmon returns to other spawning streams in the Southern District were poor and did not warrant any seine fishing time. Escapements to both Port Graham and Seldovia Rivers were less than half of the escapement goals (Table 2). The escapement of 21,400 pink salmon to Humpy Creek was below the lower end of the range,

but was considered to be good when compared to other systems.

**Miscellaneous Species**

King salmon have always been a minor species in the LCI harvest with set gillnets usually accounting for 70 percent of the harvest (Appendices A.13 and A.15). The 1988 harvest of 1,655 was a record harvest, but the traditional split between gear types remained the same (Table 1). Most of the harvest came from the Halibut Cove area on the enhanced return to HCL. Over 90 percent of the seine harvest and 84 percent of the set gillnet harvest occurred in this area.

## OUTER DISTRICT

### Sockeye Salmon

Delight and Desire Lakes located in the East Nuka Subdistrict continue to be the only major producing sockeye salmon systems in the Outer District. Aerial surveys began on June 13 and, as is typical for this area, approximately 800 fish were observed near the mouth of Desire lake. Numbers of fish increased to 3,000 by June 20, but fish were hesitant to move into the lake. By June 24, over 5,300 sockeye had reached the lake and an opening for the East Nuka Subdistrict was announced for June 27.

Catches in the area were very slow and little fishing effort moved to the area. Fishing was allowed up to the mouth of Desire Creek for one hour on June 27 to slow the rate of movement into this system and was allowed on a steady basis during the regular two 48 hour periods on June 30. Returns to Delight Lake, however, remained very poor and only 300 fish had moved into the freshwater lagoon by July 6. Markers at Desire were put back into effect on July 11 to obtain the remainder of the 10,000 fish escapement goal for that system and a two mile radius closure was established around the mouth of Delight Lake Creek.

The Desire Lake escapement was estimated to be 9,000 fish on July 16 and fishing was again allowed up to the mouth of the creek on July 18. No significant increase in the Delight Lake escapement was observed during the second and third weeks of July and when pink salmon began to be harvested around July 20, the East Nuka Subdistrict was closed on July 23. The final sockeye salmon escapement to Delight Lake was estimated at only 1,200 fish (Table 4) and the harvest of 9,500 sockeye was the lowest for this area since 1975 (Appendix A.12).

## Pink Salmon

No openings were allowed for pink salmon anywhere in the Outer District in 1988. Only 6,094 pink salmon were harvested throughout the season and 5,900 of those were taken in the Port Dick Subdistrict during the directed chum salmon fishery near Island Creek. Stream escapements totalled only 55,700 or just 25 percent of the mid point on the desired escapement goal ranges and streams in the Port Chatham Subdistrict were the only streams to achieve their goals (Table 2). Returns were anticipated to be very poor due to the severe flooding in the fall of 1986.

## Chum Salmon

Chum salmon returns were strong to several streams in the Outer District and two streams provided their first harvests in many years. The harvest of 71,202 chum salmon was the largest since 1981 and six percent above average (Table 1; Appendix A.16). Slightly over 90 percent of the harvest occurred in the Port Dick subdistrict on returns to Island Creek and Port Dick Creek.

Aerial surveys of Port Dick from June 24 to 28 indicated very early and good accumulations of chum salmon in the bay. Over 10,000 fish were observed on June 28 and the subdistrict was opened to fishing on June 30 with markers adjusted in closer to the stream mouth of Island Creek, which allowed fishing in a major holding area southeast of the stream. Again, as occurred in other areas, fish were hesitant to move into the streams to spawn, but by July 15 the escapement was assured in Port Dick Creek and markers were moved closer to the stream mouth on July 18. After several days this return appeared over and waters of Port Dick Bay northwest of the Middle Creek to Shelter Cove line were closed to protect the expected weak return of pink salmon.

Chum salmon escapement to Island Creek did not progress as expected and the entire subdistrict was closed on July 30 after large catches occurred on "backout" fish, resulting from strong southeast winds and minus tides. An aerial survey on August 2 indicated a strong buildup of fish in the area and the Island Creek escapement had increased to over 4,500 fish. Weather conditions were poor for species identification and when the area was reopened for 48 hours on August 4, 22 percent of the 18,000 fish harvested were pink salmon. Because of the increased harvest of pink salmon and the need for additional chum salmon escapement, the Port Dick Subdistrict was not reopened to fishing.

Chum salmon harvested in the Port Dick subdistrict totalled 64,400 fish (Appendix A.11). Escapements to the three streams (Port Dick, Middle Creek and Island Creek) reached 18,800 and were considered very good, although the Island Creek escapement fell below the desired goal (Table 3).

James Lagoon and Petrof Glacier Creek located in the Nuka Bay area provided the remainder of the chum salmon harvest in the Outer District. James Lagoon was opened to fishing for one hour on June 30 after a June 28 survey indicated approximately 1,500 fish were schooled in the lagoon. Visibility of fish in the lagoon was very poor due to the glacial river which empties into the lagoon and one boat harvested 3,700 chum salmon during the opening. The area was not reopened again. An aerial survey on July 6 indicated 2,000 to 3,000 fish present in the lagoon, but the final chum salmon escapement was only 1,700 fish.

The Petrof Glacier River system is a spawning system of numerous, small streams and spring seepage areas with two glacial rivers that often limit visibility during aerial surveys. Flooding appeared to have redirected the main glacial river which cleared up the water in the main chum salmon spawning stream and an intertidal

lagoon. A survey on July 9 indicated the escapement had already reached 2,000 fish and a one mile radius area around the mouth of Petrof Glacier River was opened to fishing for six hours on July 11 with fishing allowed up to the mouth of the river.

Only 1,600 chum salmon were harvested during the opening on July 11. After the escapement reached 3,500 to 4,000 fish on July 16, a second opening was allowed for 12 hours on July 18 which resulted in a harvest of an additional 1,500 chum salmon. A third opening was allowed on July 21, but no effort occurred as most fish had already moved into the river. The final escapement of 8,500 fish was above the goal, but was considered excellent (Table 3).

## Coho Salmon

No openings were allowed in the East Nuka Subdistrict to harvest coho salmon in 1988 as was allowed in the three previous years. Concern for the very poor pink salmon returns to James Lagoon and Desire Lake Creek and aerial surveys of Delight Lake Lagoon on August 23, which indicated a very poor buildup of coho salmon, precluded any additional salmon fishing time in this area.

## KAMISHAK BAY DISTRICT

Salmon fisheries in the Kamishak District have played a role of increasing importance during the past three years. Where this district historically over the past 30 years provided just 12 percent of the total Lower Cook Inlet salmon catch, this contribution has been over 36 percent during the past three years (Appendix A.14 and A.17). This district plays an even more important role in the total ex-vessel value of the LCI fishery due to the more valuable species produced. The Kamishak District produced 48 percent of the ex-vessel value for LCI in 1988. These large harvests and value are only the beginning of future trends due to the sockeye enhancement projects underway and other projects planned for the area.

### Sockeye Salmon

Sockeye salmon harvests in the Kamishak District remained high for the fourth consecutive year (Appendix A.17). The 1988 harvest of 183,952 sockeye was a new record, seven and a half times the average and 26 percent above the previous record set in 1986 (Table 1; Appendix Table 17). Chenik Lake continued to be the main driving force behind the increased returns producing 164,200 sockeye or 89 percent of the total LCI harvest (Appendix A.12).

The Mikfik Lake return at McNeil River was managed under a new management plan approved by the Commissioner (Appendix B.1). Numerous meetings were held throughout the fall and winter to discuss concerns about the interactions of bears in the McNeil River Bear Sanctuary and the commercial salmon seine fishery. To reduce the potential problems in this area, the new management plan directed that the fishery on Mikfik Lake sockeye salmon be opened on June 1 to inflict a high harvest rate on the early portion of the run and hopefully reduce the necessity of having to open McNeil

Lagoon to commercial fishing. Additional portions of the plan adjusted the escapement goal of sockeye salmon to Mikfik Lake and established criteria that would have to be met before a lagoon opening was allowed.

McNeil Subdistrict was opened to fishing on the standard two 48 hour weekly periods at one minute after midnight on June 1, but because the first period was only six hours long and on an ebbing tide to a minus 3.5 feet the following morning, no effort occurred. No fish were observed during aerial surveys from May 31 to June 3, but five vessels fished the area on June 2-4 and caught 7,800 sockeye. By Monday morning, June 6, 13 vessels had reached the area, but catches dropped from 1,300 fish on June 6 to 900 on June 8. Fishermen reported sockeye were moving into the lagoon on the flood tides, but were backing out of the lagoon and creek on the ebb tide where they were subsequently harvested.

When the fishery resumed on June 9, only 250 fish were harvested and when aerial surveys indicated that no fish had moved into the creek nor were holding in the lagoon, a closure of the subdistrict and additional waters north and east of the McNeil subdistrict was announced for 6:00 p.m. June 9. Accumulations of sockeye in the lagoon were very slow in building for the next seven days and it appeared that the run may have been over harvested.

Aerial surveys on June 15 and 16 indicated an increase of fish in the creek and lagoon from 2,000 on June 15 to 3,800 on June 16 and appeared that the minimum escapement of 5,000 sockeye salmon would be achieved. An aerial survey on June 18, however, indicated a large buildup of fish with approximately 8,100 fish present in the lagoon and creek. The area was reopened to fishing at 12:00 noon June 19 on a seven day per week basis. Due to timing of the June 18 survey, tide situations and location of the fishing fleet, the opening could not be made earlier. That is, some of the fleet were

caught anchored inside McNeil Lagoon on a low tide and could not have gotten out until late evening, when fishing would have occurred on an ebbing tide.

When another survey was flown on June 20, over 7,000 sockeye were estimated to have reached the creek with an additional 3,000 or more fish schooled in the lagoon. One thing that appeared to have contributed to the increased buildup during the fishery was confusion as to the location of the fishing markers. During the long closure, Game Division personnel had moved the fishing marker from the tip of the spit at the entrance to McNeil Lagoon to the base of the spit. This unauthorized movement created a chute or channel for sockeye to migrate along into the lagoon and reduced the fishing efficiency of the fleet.

A two hour opening was allowed in McNeil Lagoon from 6:00 - 8:00 p.m. June 20 and approximately 3,000 fish were harvested. The escapement had increased to 8,800 by evening of June 20 and an aerial survey of the lagoon on June 21 indicated 700 sockeye still present in the lagoon. Although the management plan criteria provided for lagoon openings after a 7,000 fish escapement was assured and 500 fish were present in the lagoon, no additional fishery in the lagoon was allowed because of the controversial nature of the situation. The final harvest of Mikfik Lake sockeye salmon of 14,600 fish was the fifth highest on record (Appendix A.12). The escapement of 10,100 was double the desired goal (Table 4).

Chenik Lake sockeye were the mainstay of the Kamishak District and LCI sockeye salmon harvest again in 1988. Fishermen began harvesting Chenik Lake sockeye 7 to 10 days earlier than previous years with the first harvest occurring on June 18. With the Mikfik Lake run over and fishing allowed seven days per week in the Chenik area, the entire fleet shifted north to the Chenik area by June 22.

Catches increased rapidly and by June 25 the catch had reached 12,000 fish.

The buildup of fish inside the closed water area at Chenik Lagoon was slowed considerably compared to the previous two years. Markers along the north side of the "lagoon" were moved closer to the stream mouth prior to the start of the season, which opened a larger area to fishing in an attempt to reduce the necessity for having to have flare openings in the lagoon. This marker adjustment appeared to work and by July 2 the sockeye harvest had reached 73,200 fish, however, the escapement was only 2,000 and no fish were holding in the closed waters area.

The Kamishak Bay District was closed to fishing on July 2 to allow a buildup of fish in the Chenik closed waters area. This was done prior to a week of "hold-over" tides that would keep fish from moving out into open fishing areas and allow them time to move up the fish ladder to the lake. Aerial survey estimates indicated 10,000-15,000 fish were holding inside the markers at Chenik and the area was reopened to fishing on July 5 on the regular two 48 hour weekly periods. Fish were still very reluctant to move into the lake, similar to other areas and species, but by July 10 the escapement in the lake was estimated at 4,400 fish.

Over 111,000 sockeye had been harvested at Chenik by July 10 and an additional 20,000-25,000 fish were estimated to be schooled in the closed waters area in Chenik Lagoon. A half hour flare opening in Chenik Lagoon was allowed on July 11 to reduce the buildup of fish. This opening was held in conjunction with a McNeil Subdistrict flare opening. To allow the fleet a chance at a "fair start" at the opening in both areas, the entire Kamishak District was closed at 6:00 a.m. July 11 prior to the planned flare openings at 2:00 p.m.

An additional 18,000 sockeye were harvested during the flare opening and the escapement was estimated at 6,000 - 7,000 fish. The Chenik area was reopened after the flare opening on the standard weekly fishing period scheduled and catches began to drop quickly. The final catch of 164,200 sockeye was a new record harvest for this system (Table 7b; Figure 5). The final escapement of 9,000 sockeye was considered adequate when coupled with the annual fry stocking by the FRED Division (Tables 4 & 13).

**Pink Salmon**

Strong pink salmon returns were expected to the Kamishak District in 1988, but were "hoped for" more than anything else. Returns in 1986 resulted in extremely large escapements to both Bruin Bay River and Sunday Creek (Appendix A.5). Returns to Bruin Bay in past years, from escapements greater than 100,000 fish, have normally produced very poor returns. This fact, coupled with the unknown effects of the 1986 fall flooding, created a very hazy picture of what to expect. Aerial surveys of Bruin Bay between July 5 and 22 indicated very few early returning pink salmon and a weak run. During the strong 1986 return, large numbers of pink salmon had already moved into Bruin Bay River by mid July. Although the return definitely appeared to be weak, the subdistrict was left open throughout the season due to the general lack of interest by fishermen who were fishing the stronger pink, chum and sockeye salmon returns. The final harvest of pink salmon from the Bruin Bay area was only 5,000 fish (Appendix A.10). The escapement of 29,000 fish was above the lower end of the escapement range and was considered to be adequate (Table 2).

Pink salmon returns to Sunday Creek, located in the Rocky Cove Subdistrict, and to Brown's Peak Creek, located in the Ursus Cove Subdistrict, normally occur in late July to around August 10. Good accumulations of pink salmon were already present off the mouths

of both creeks during surveys on July 13. By July 15, some fish were beginning to enter the streams and a 48 hour opening was allowed from July 18-20 with fishing allowed up to the mouth of both creeks. Most of the fishing effort concentrated at Sunday Creek where 17,600 pinks were harvested. No vessels fished the Ursus Cove area. A July 22 survey indicated a larger buildup at Rocky Cove and an escapement of 10,000 fish in Brown's Peak Creek. Another 48 hour period with fishing allowed up to the mouth of both creeks was allowed July 25-27 and resulted in the harvest of an additional 23,300 pinks at Rocky Cove. Only 1,900 pinks were caught in Ursus Cove, but chum salmon catches were substantial at both locations.

Pink salmon escapement was very slow at Sunday Creek and a July 29 survey estimated only 3,600 fish in the stream. The Brown's Peak Creek escapement had increased to approximately 13,000 fish and Ursus Cove was reopened on the standard weekly fishing periods on August 1 with fishing allowed up to the mouth of Brown's Peak Creek. Rocky Cove was reopened to fishing on August 4 after surveys on August 2 indicated the escapement goal of 10,000 fish had been achieved.

Pink salmon catches after August 4 were minimal in both subdistricts and management decisions focused on the chum salmon returns to these areas. The final harvest of 47,400 pinks in Rocky Cove accounted for 82 percent of the Kamishak District harvest of 61,080 pink salmon, which was 24 percent above average for the district (Table 1; Appendix A.10). The final escapements of 18,000 and 17,000 pink salmon to Sunday Creek and Brown's Peak Creek, respectively, were almost double the goals for these streams, but were considered excellent (Table 2).

Both Sunday Creek and Brown's Peak Creek have the capability of handling spawning escapements far above the established goal for

each stream. However, flooding and environmental conditions in past years appear to indicate that minimum escapements of 10,000 fish to each stream are adequate and will produce harvestable returns. Management strategy over the past 10 years has been to achieve or allow larger escapements in years when the returns are very strong. These larger escapements have been set at 40,000 fish for Sunday Creek and 20,000 for Brown's Peak Creek. In a like manner, an escapement of 50,000 to 100,000 pink salmon is allowed in Bruin Bay, but the escapement should not be allowed to exceed 100,000 pink salmon and all management options available, including fencing off the river, should be used to prevent the large, excessive escapements that have occurred in some prior years.

**Chum Salmon**

Chum salmon returns throughout the Kamishak District were generally good to excellent for the second consecutive year. The total harvest of 218,299 chum salmon was a new record, exceeding the previous record set in 1983 by 53 percent, and was over four times the average harvest for this district (Table 1; Appendix A.17). Harvests were spread throughout the district, but were definitely dominated by the McNeil River return which produced almost half of the catch. Chum salmon escapements totalled 122,800 to the ten major spawning streams and only the Big and Little Kamishak Rivers were significantly below their escapement goals (Table 3). The Main Left stream in the Douglas River system is no longer a salmon producing system. Beaver dams and diversion of glacial water in the late 1970's eliminated most salmon returns to this stream.

Fishermen began harvesting chum salmon at McNeil River during the latter part of the Mikfik sockeye salmon run. By June 25, over 2,700 chum salmon had been caught and fishing time was reduced back to the standard two 48 hour weekly fishing periods and the marker on the tip of the spit in McNeil Lagoon was moved back to the base

of the spit.

By July 2, the chum salmon harvest had increased to 41,300 fish and good catches of McNeil River chum salmon were being made in the Kamishak River area and on the Douglas River "Silver Beach". In years prior to 1988, only two percent of the McNeil River chum salmon harvest had occurred by July 2, but the earlier run timing in 1988 was attributed to the return of five year old fish as well as the overall strength of the run. Fish were not moving into the river or holding in the lagoon again probably due to the cold water and the entire Kamishak District was closed to fishing on July 2. The return to McNeil River was definitely very strong and to provide for a larger "holding" area and still slow the buildup in this area, the Kamishak-Douglas and Bruin Bay Subdistricts were reopened to fishing on July 5, but the McNeil River Subdistrict remained closed.

Aerial surveys on July 10 indicated the chum salmon escapement in McNeil River had increased from 600 fish on July 2 to 5,200 fish and that an additional 6,000 fish were in the lagoon. McNeil Bay was alive with fish and harvests on either side of the McNeil Subdistrict had increased the total harvest to 46,000. Weather and the concentration of the fleet on the Chenik Lake sockeye return did not slow the buildup in the McNeil subdistrict. A reduction of the buildup of chum salmon in McNeil River was necessary to prevent a possible over escapement of fish into McNeil River and to allow a higher quality of fish to be caught before they became colored up or "dark". A short half hour flare opening was allowed in the McNeil River Subdistrict from 2:00 until 2:30 p.m. July 11, in conjunction with a Chenik Lagoon flare opening to reduce the effort in McNeil, and resulted in a harvest of over 26,000 chum salmon.

The chum salmon escapement in McNeil River increased from 7,000 fish on July 13 to 28,000 on July 15. Harvests of McNeil chums in the Kamishak River area had increased an additional 22,000 fish and also indicated the arrival of the four year old segment of the run. A three hour opening was allowed on July 19, again to reduce the buildup of fish in the McNeil Subdistrict. Harvests were hampered by a storm and only 4,800 fish were harvested.

The McNeil River subdistrict was reopened to fishing on July 21 on the standard weekly fishing periods. Due to reduced fishing effort, adverse weather and the tide stages, the harvest was not expected to be significant. Only 5,200 chums were harvested after the area reopened and the final McNeil River chum salmon harvest totalled 104,000 fish. This was a record surpassing the parent year harvest in 1983 of 67,900 fish by 53 percent (Appendix A.11). The final escapement was estimated at 49,000 fish (Table 3).

The ability of the seine fleet to target and harvest chum salmon in certain portions of the Kamishak District before these fish reach their native streams is becoming more apparent each year, especially since the power purse seine gear was allowed in 1987. Such was the case in the Kamishak-Douglas Subdistrict in 1988. It was obvious in-season, based on run timing and average weights of fish and, after the season based on age class analysis of catch samples, that substantial numbers of Mikfik and Chenik sockeye salmon and McNeil chum salmon were caught in the Kamishak-Douglas Subdistrict and that chum salmon bound for the Big and Little Kamishak Rivers were harvested heavily on the Douglas River "Silver Beach" area.

Fishing on the Douglas River "Silver Beach" was allowed up to the mouth of the glacial Douglas River to alleviate confusion concerning the 500 yard closed water area location. Catches of chum salmon in the Douglas River and Kamishak River areas totalled

24,800 and 26,700, respectively, after the McNeil River fish were subtracted. These catches compare very well with past years' harvests for these two areas (Appendix A.11). Chum salmon returns to these two systems normally arrive between mid July and early August. Concern for maximizing the harvest of the strong McNeil River return and the increased efficiency of the seine fleet, subsequently resulted in an over-harvest of the returns to the Big and Little Kamishak Rivers. The final chum salmon escapements of 15,000 and 13,000 fish for the Big and Little Kamishak Rivers, respectively, were considerably below the desired goals of 20,000 fish to each river (Table 3). Escapement estimates in-season were hampered by high, muddy and glacial water which precluded visual estimates until late July.

Chum salmon returns to streams in the northern part of the Kamishak District in Iniskin Bay, Cottonwood Bay and Ursus Cove normally occur in August. While openings in late July in Rocky and Ursus Coves were directed towards the pink salmon returns, excellent catches of chum salmon had occurred by August 4 when pink salmon catches began tailing off. The chum salmon return to Sunday Creek in Rocky Cove is a very minor run and occurs on the front end of the pink return. During the last three years when chum salmon returns have been strong to these northern streams, chum salmon headed to streams in Ursus Cove Lagoon (UCL), and possibly Cottonwood Bay, have moved on-shore at Rocky Cove and have been harvested during the fishery on Sunday Creek pink salmon. This was again noted in 1988 and the harvest of 15,700 chum salmon at Rocky Cove was considered to be primarily of UCL bound fish. The Sunday Creek chum salmon escapement was estimated at only 500 fish and all had moved into the stream prior to July 22.

Chum salmon began moving into UCL in late July and 1,200 fish were schooled in the lagoon by July 25. Fishing time allowed on the local pink salmon returns and the strong harvest of chum salmon at

Sunday Creek slowed the rate of buildup in UCL. No increase in escapement of chum salmon into UCL was observed and both the Ursus Cove and Rocky Cove Subdistricts were closed to fishing August 6. Fog and wind prevented surveys in UCL on August 10, but based on movements of fish in other areas and a shift of the fleet to the north, the Ursus Cove Subdistrict was reopened to fishing on August 11. Aerial surveys on August 13 indicated the UCL escapement had reached 6,000 fish and when no fishing effort moved to the area, the final chum salmon escapement to UCL reached 10,200 fish (Table 3). Only 5,100 chum salmon were harvested in Ursus Cove during the season.

The Iniskin Bay Subdistrict was opened to fishing for 48 hours July 28-30 and was reopened to fishing on August 1 on the standard weekly fishing period schedule after 2,900 chum salmon were observed in Iniskin River on July 29. Very little fishing effort occurred in Iniskin Bay and only 5,800 chum salmon were harvested (Appendix A.11). The final escapement of 9,500 chum salmon was just slightly under the goal (Table 3).

Cottonwood Creek experienced its third consecutive strong return in 1988. The subdistrict was opened to seining for 48 hours July 28-30 and was reopened on August 1. Catches during the first 48 hour period totalled 7,100 chums and remained fairly steady through August 6. Escapement to Cottonwood Creek on August 2 was only 6,800 fish, and since the Tutka Hatchery egg take required 2,000-2,500 adults, vessel effort had increased to 14 boats and tides were decreasing to a minus series, waters west of the longitude of Diamond Point were closed to fishing August 6.

The chum salmon harvest in Cottonwood Bay reached 16,100 fish by August 6. Aerial surveys on August 13 indicated the chum salmon escapement had reached 11,000-12,000 fish and the catch had increased to 30,400. Waters west of Diamond Point were reopened

on August 15 up to the regular Department markers and when fishing effort dropped to only two vessels on August 16, the subdistrict was opened to fishing seven days per week and fishing was allowed up to the creek mouth. The final harvest of chum salmon in the Cottonwood Subdistrict reached 33,500 fish and the escapement of 16,000 was considered excessive for this stream (Table 3).

**Coho Salmon**

The Kamishak-Douglas subdistrict was closed to fishing on July 28 due to the low chum salmon escapements to streams in that area, but in anticipating of arriving coho salmon and assuming that the chum salmon runs were over, the subdistrict was reopened to fishing on August 8. Unfortunately, over 7,500 chum salmon were caught compared to just 500 coho salmon in the first 48 hour period. Coho catches peaked on August 15 when 2,200 fish were caught. The total Kamishak District coho salmon catch was only 4,471 fish (Table 1). While this was 35 percent above average, it was still below the average coho harvest of 13,200 fish during the previous six years (Appendix A.17).

## EASTERN DISTRICT

### Sockeye Salmon

Aialik Bay has the only harvestable sockeye salmon return in the Eastern District at the present time. Excellent escapements had occurred in Aialik Lake from 1982-1984 and a good return had been expected for the previous two years, but had not materialized. Based on the escapement levels, a strong return was again anticipated in 1988.

Aerial surveys of Aialik Lagoon on June 24 indicated a large volume of fish present. Numerous jumpers and dark schools of fish were observed, but could not positively be identified or enumerated due to the glacial water conditions. However, based on previous observations, there appeared to be 4,000-5,000 sockeye present in the lagoon. The Aialik Bay Subdistrict was opened to fishing on June 27 along with the East Nuka subdistrict and Aialik Lagoon was opened by flare for half an hour. Nine boats "co-oped" the fishery and 7,200 sockeye were harvested. A survey of the lagoon the following day indicated another 2,000-2,500 fish were still present. A second lagoon opening for one hour was allowed on June 30 and five vessels harvested another 4,200 sockeye.

Fish began moving into the lake in early July, but no major movement from the lagoon to the lake occurred until July 12. On July 16, 4,000 sockeye were estimated to have reached the lake and the lagoon was opened to fishing from July 18-25 on the standard two 48 hour weekly fishing periods. An additional 7,400 sockeye were harvested on July 18 and 19 and with pink salmon being harvested in the lagoon, the run appeared to be over. However, a July 25 survey indicated the lake escapement had increased to 13,000 fish and the lagoon was reopened to fishing on July 26. Only 1,200 sockeye were harvested, bringing the total sockeye

harvest up to 20,200 fish (Appendix A.12), but the pink salmon catch increased to 600 fish.

The lagoon was closed to fishing on July 30 to protect the expected weak return of pink salmon and the entire subdistrict was closed on August 6. The harvest of 20,200 sockeye salmon was the fourth highest on record, but the escapement of 13,000 sockeye salmon to this 75-85 acre "pond" was over 2 1/2 times the desired goal and was considered to be very excessive (Table 4).

**Pink and Chum Salmon**

No specific openings were allowed for pink salmon in the Eastern District in 1988. The harvest of 1,740 pink salmon occurred entirely during the directed sockeye salmon fishery in Aialik Bay and chum salmon fishery in Resurrection Bay. The 500 fish harvest in Resurrection Bay was the lowest even-year harvest since 1974 (Appendix A.10). Pink salmon escapements to all streams in the Eastern District totalled only 1,800 fish, or just five percent of the escapement goals of these streams (Table 2).

Chum salmon returns in the Eastern District, primarily Tonsina Creek in Resurrection Bay, were strong as in other portions of Lower Cook Inlet. Aerial surveys of Tonsina Creek on July 2, 6 and 9 indicated a good, early buildup and early escapement of fish. Only 1,300 fish were observed in the glacially colored water near Tonsina Creek, but many more fish were obviously present.

One mile radius areas around both Tonsina Creek and Spring Creek in Resurrection Bay were opened to fishing for 12 hours on July 11. All the fishing effort was concentrated near Tonsina Creek and 7,500 chum salmon were harvested. By July 16, the stream escapement had increased to 3,000-3,500 chum salmon and another 12 hour period was allowed in Resurrection Bay north of Caines Head

on July 18.

The fishery on July 18 resulted in a harvest of an additional 8,100 chum salmon. With the catch remaining high and additional fish moving into the stream, two additional 12 hour periods were announced for July 21 and 25. Catches totalled 8,300 chum salmon during these two periods, but only 1,100 fish were caught during the last period. No additional openings were allowed due to the decrease in chum harvest and the concern for the weak pink salmon return.

The final chum salmon harvest of 24,668 was a new record for the Eastern District, over seven times the average and exceeded the previous record set in 1987 by 65 percent (Table 1; Appendix A.18). Ninety six percent of the chum salmon harvest occurred in Resurrection Bay with the remainder being split between Aialik Bay and Day Harbor. Day Harbor was opened to fishing on July 11 and 400 fish were harvested from a relatively minor chum salmon return. Chum salmon escapements to Tonsina Creek, Spring Creek and Day Harbor totalled 11,500, but are not presented in Table 3. The majority of the escapement, 9,100 fish, occurred in Tonsina Creek.

## SUBSISTENCE AND PERSONAL USE FISHERIES

### Kachemak Bay Personal Use

The Kachemak Bay personal use gillnet fishery was open from August 16 to September 14. A total of 438 permits were issued, an increase of 21 percent from the previous year (Tables 9 and 10). The total harvest of 6,448 salmon of all species was the third highest in the last 20 years (Table 10). Coho salmon comprised over 75 percent of the catch with pink salmon being the second major contributor. The coho harvest was the second largest on record and while natural coho returns appeared to be very weak, a FRED Division enhancement project at Caribou Lake is estimated to have produced 70 percent of the harvest based on marked (Coded-Wire-Tagged) fish recoveries. Only two aerial surveys were flown of the Clearwater Slough area on Fox River. The August 23 survey indicated 150 coho salmon schooling at Clearwater, but high, glacial water hindered accurate observations and precluded surveys after that date.

### English Bay-Port Graham Subsistence

Sockeye salmon returns to the English Bay Lake system were extremely poor for the fourth consecutive year and resulted in a total closure of the Port Graham and English Bay area to commercial and subsistence gillnet fishing and sport fishing for sockeye on June 18. While the harvest of sockeye pink and coho salmon were below average for residents of the village of English Bay, the total harvest for residents of Port Graham were average (Tables 11 and 12). Harvests of sockeye salmon in both villages were 56 to 58 percent below average. The coho salmon harvest in Port Graham was good and 53 percent above average, but was 57 percent below average at English Bay, which again points towards the salmon production problems in the English Bay Lake system.

## ENHANCEMENT AND REHABILITATION

FRED Division projects are playing an ever increasing part each year in the Lower Cook Inlet salmon fisheries. In 1988, FRED Division projects provided 71 percent of the entire Lower Cook Inlet harvest and 56 percent of the total ex-vessel value. Some of the impacts can be seen when comparing some of the presently producing projects to historic catches in LCI:

1.) The Tutka Bay area produced an average pink salmon harvest of 31,000 fish from 1965 to 1977 and the Southern District average pink harvest was 165,000 for those same years. The Tutka Hatchery has produced an average harvest of 435,000 pinks since 1978 with the peak year being 1,026,000 fish (Table 7; Figure 7).

2.) Sockeye salmon harvests in LCI averaged 47,000 fish from 1965 to 1977 with 15,000 of these fish being produced from returns to Bear Lake from 1968-1970. Removing the Bear Lake fish reduced the average to 32,000 of which only 9,000 were caught by seiners.

   a.) Chenik Lake rehabilitation has produced an average harvest of 67,000 sockeye since 1983 with the past three year average being 127,000 fish (Table 7b; Figure 5).

   b.) Leisure Lake stocking and fertilization has produced an average harvest of 46,000 sockeye for the past 9 years and is expected to annually produce 100-150,000 fish beginning in 1989 (Table 7a; Figure 4).

   c.) Six other lakes (Upper Paint, Lower Paint, Elusivak, Kirschner, Port Dick and Hazel) have been stocked

in recent years and when combined with Leisure and Chenik Lakes are expected to produce over 500,000 sockeye annually (Table 13).

In addition to these projects, many recreationally oriented fisheries have been started, some of which directly affect the commercial and personal use harvests in certain fisheries.

1.) King salmon harvests by set gillnets in Halibut Cove averaged only 12 fish prior to 1977, the first year the Halibut Cove Lagoon king salmon return began. Since 1977, the harvest has averaged 340 king salmon with a peak catch of 962 fish in 1988.

2.) King salmon are now beginning to return to Seldovia Bay and set gillnet harvests can be expected to increase in the next several years. The average harvest from 1971 to 1987 has been only 25 fish with average weights being 37 lbs. The 1988 harvest of 40 fish averaged only 9 lbs. and was the first year of returns to the king salmon smolt release project. Harvests by the early 1990's can be expected to reach into the hundreds with average weights of 15 to 18 pounds.

3.) Coho salmon are now being stocked in Caribou Lake annually and were estimated to have contributed 70% of the coho salmon harvest in the personal use gillnet fishery in 1988. Additional releases of coho smolt on the Homer Spit will add more fish to the gillnet fishery even though the return is directed towards the recreational fishery.

Table 13 presents a complete summary of salmon fry and smolt releases in the Lower Cook Inlet area.

**Tutka Hatchery**

Poor returns in 1987 resulted in a very minimal egg take at the Tutka Hatchery and only 15.565 million fry were released in 1988. Twelve million were released in Tutka Bay, 11.1 million of these were short-term-reared. An additional 3.0 million fry were reared and released in Halibut Cove Lagoon and 300,000 were reared and released on the Homer Spit for the developing recreational fishery. Problems with the food and vitamin formulas appear to have been corrected and excellent growth occurred on all reared fish, which should result in an optimum ocean survival of the fry.

**Leisure Lake**

Sockeye salmon fry (2.1 million) were stocked again in Leisure Lake (Table 13) and the fertilization project was continued. Over 650,000 smolt left the lake in 1988, the second largest outmigration for this project, and smolt were substantially larger than smolt in 1987 from the record outmigration of 925,000 smolt. The 78mm and 3.4 gram age-1 smolt should result in good ocean survivals of 20 to 35 percent based on past data from this project.

**Chenik Lake**

Chenik Lake was stocked with 2.6 million sockeye salmon fry in 1988, but was not fertilized. Limnological data indicate that due to the "flushing rate" in this system that the lake needs to be fertilized only every-other year. Samples of outmigrating smolt indicated excellent growth had been achieved during the first year of fertilization in 1987 with age-1 and age-2 smolt averaging 89 mm and 5 grams and 131 mm and 17 grams, respecvtively. No total estimate of the numbers of smolt leaving the lake was made.

## Other Lake Stocking Projects

Six other lakes (Upper Paint, Lower Paint, Elusivak, Kirschner, Port Dick and Hazel), in addition to Leisure Lake and Chenik Lake, were stocked with 3.7 million sockeye salmon fry in 1988 (Table 13). Stocking levels were reduced in both Kirschner Lake and Port Dick Lake based on data collected in the spring of 1988. Smolt samples collected at these two lakes indicated age-1 smolt averaging only 63 mm and 2 grams and 69 mm and 2.6 grams in Kirschner and Port Dick Lakes, respectively. These smolt were considerably below the desired threshold size of 80 mm for age-1 smolt, which is considered to be a minimum size for producing optimum ocean survival based on data from the Leisure Lake project.

## COMMERCIAL HERRING FISHERY

### Introduction

The Lower Cook Inlet area (Figure 1), excluding the Southern District, was opened to commercial purse seining for sac roe Pacific herring for the fourth consecutive year. The same management strategy used in 1985 was incorporated again in 1988 with only minor adjustments. The Outer, Eastern, and Kamishak Bay Districts were separated into eleven areas with an anticipated opening date of April 20. A guideline harvest level range of 150-200 short tons was set for each of areas 1-4 in the Outer and Eastern districts. The pre-season harvest level for the Kamishak Bay District was set at 5,000 tons, but was revised upward to 5,500 tons after completion of the cohort analysis by our research staff.

Seiners harvested 5,548.1 tons of sac roe herring from the Kamishak Bay District (Table 14) and averaged 11.11% roe recovery. The total harvest rate in this district was 18.8% (Table 15). All but one of the 75 permit holders made deliveries in 1988. Only one vessel fished the Outer and Eastern Districts and the harvest of 56.6 tons averaged only 8.96% roe recovery. Based on an ex-vessel price of $1,500 per ton for 10% roe, this year's harvest had an ex-vessel value of approximately $9.3 million.

### Outer and Eastern Districts

Very little effort occurred in the Outer and Eastern Districts in 1988. Only 56.6 tons of sac roe herring were harvested in the Nuka Bay area between May 3 and May 10 and roe recoveries ranged from 8.0 to 9.5%. Over 93% of the fish were age-3 and age-4 herring (Figure 11) with average weights reaching only 70-75 grams. Processor interest in these small fish was very minimal after the large harvests of small fish from the Sitka and Prince William

Sound fisheries.

The large biomasses of herring observed from Day Harbor to Nuka Bay during the previous two years were not observed this year and fishermen were unable to locate any major concentrations of fish. The vast majority of the harvest and biomass of herring observed over the past four years have been age-3 and age-4 fish, with the exception of the 1985 harvest which occurred primarily in Resurrection Bay (Figure 13). These herring do not appear to grow older in these districts, or if they do, they move to another part of the area after reaching age-4 or age-5. These large quantities of young fish are thought to be of PWS origin, but this has not been positively substantiated.

**Kamishak Bay District**

A total of 5,548.1 tons of sac roe herring were harvested in the Kamishak Bay District in 1988 Table 14). This was the second largest harvest on record and more than double the average for the district (Table 14; Figure 12). Roe percentages averaged 11.11%, which is typical for the early fishery in Kamishak Bay, and fish averaged 200 grams. Age-4, 5 and 7 herring were the major age classes present in the harvest, but over 34 percent of the harvest were fish age-8 or older (Table 16; Figure 10). The total spawning biomass was estimated at 24,000 tons which produced a harvest rate of 18.8 percent (Table 15). Only 20 miles of spawn were observed this year, primarily due to weather that prevented aerial surveys of the district.

The approved management plan called for opening the district on April 20, as has occurred in past years, but short fishing periods of no greater than three hours were to be used rather than a long open-ended period. The Pandalus and several fishing boats cruised the district on April 18 from Contact Pt. to Iniskin Bay, but could

locate no fish to sample. A limited sample from Iniskin Bay was obtained late evening of April 19 and was 10.9% roe recovery and fish averaged 211 grams. Age class data was not completed until the afternoon of April 20, but the size of the sample was considered too small and additional samples were obtained that evening. These samples ran 10.7 - 11.2% roe and averaged 200-204 grams and age class data worked up by late afternoon of April 21 was virtually identical to the small sample obtained on April 20.

A three hour opening was allowed on the morning of April 22 from 7:00 - 10:00 a.m. No fish were observed on sonar or harvested during this first three hour period and the fishery was extended for five hours until 3:00 p.m. Around 3:15 calls came in about catches in the Chenik area, spawning occurring, and fish beginning to be visible from the air. A survey was conducted at 4:00 p.m. and 800 tons of fish along with 2-3 miles of spawn were observed south of Amakdedori Creek. The preliminary catch estimate for the two sets near Chenik Creek was 375 tons with an additional set of approximately 150 tons of spawnouts having been released.

A one hour opening was announced for 8:00 - 9:00 p.m. the evening of April 22 and resulted in an additional harvest of 650 tons being taken with roe percentages ranging from 9.5 to 14% and average weights above 200 grams. A noon survey on April 23 indicated extremely large tonnages of herring were present northeast of Nordyke Island and increased spawning occurring in the Chenik Head area. Concern for available tender capacity prompted a limited one hour opening from 5:00 to 6:00 p.m. north of Amakdedori Creek. This prevented fishing on the large volume of fish south of Amakdedori Cr., but a strong easterly storm came up at the start of the period and the fleet had to run for shelter.

The continued strong easterly winds of 50-70 knots prevented fishing from April 24 through April 26 except in the sheltered

waters of Iniskin Bay. The total harvest by April 26 was 1,200 tons and the entire fleet had arrived from PWS during the storm. Weather forecasts indicated improving conditions for April 27 and a two hour district-wide opening was announced for 10:00 a.m. until noon. Again most of the activity was in the Nordyke Island and Chenik area. Sets were being made, but over two thirds of the fleet had not reached the area by 11:30 and a 2 hour extension was announced. Catch estimates from processors at 1:00 p.m. indicated about 675 tons on tenders and a three hour extension until 5:00 p.m. was announced. Roe recoveries held good at 10.5% to as high as 14% and average weights were 215 to 220 grams. A 4:00 p.m. harvest tally from processors indicated over 1,800 tons on tenders and a realistic harvest of close to 2,500 tons. The fishery was allowed to close at 5:00 p.m. and the final harvest was estimated at 3,100 tons bringing the total for the district to 4,300 tons.

With 1,200 tons remaining on the 5,500 ton harvest planned for the first part of the fishery, the area south of Bruin Bay was left closed on April 28 and only waters north of the entrance to Bruin Bay (areas 7-11) were opened for two hours from 9:00 to 11:00 a.m. Most activity was centered near the entrance to Bruin Bay and it appeared obvious that the fish were moving north. A 10:00 a.m. survey further indicated a second portion of the fleet making good catches in the Iniskin Bay area. Deliveries through 10:00 a.m. totalled only 10 tons and the fishery was extended for two hours until 1:00 p.m. Catches remained small in the Fortification Bluff area and noon harvest reports indicated deliveries of only 175 tons. Two additional two hour extensions were allowed and fishing was allowed to close at 5:00 p.m. April 28. Harvests for this date were 600 tons with 63% coming from Iniskin Bay.

Only 600 tons remained on the harvest guideline and with fish rapidly moving north, only areas 8-11 were opened on April 29. A two hour period was announced for 9:00 to 11:00 a.m. and three

subsequent extensions allowed fishing to occur until 7:00 p.m. Most activity was centered in Iniskin Bay, but in early afternoon many boats headed south to Ursus Cove as some small catches were made. An 8:00 a.m. survey accounted for 100 tons visible from the air in the Fortification Bluff area and confirmed the movement of fish northward. By 3:00 p.m. one spotter pilot estimated 300-400 ton in the area and requested an opening, but it was turned down as any opening in that area would have resulted in an extremely large harvest, due to the extensive use of sonar gear in locating fish and making sets in recent years.

The April 29 harvest reached 350 tons and left only 250 tons on the 5,500 ton guideline. A three hour period from 9:00 a.m. to noon was announced for April 30 with fishing restricted to waters north of Sunday Creek (areas 8-11 only). A 9:00 a.m. aerial survey of the district south of Rocky Cove accounted for 12,000 tons of herring from Fortification Bluff to Amakdedori Creek. Most of the fishing occurred in Ursus Cove and the harvest reached 241 tons for a preliminary season harvest of 5,444 tons.

Fishermen were put on 24 hour notice for any further openings in the Kamishak District at 1:00 p.m. April 30. Test fishing was conducted on May 7 and age class samples and roe recoveries were almost identical to samples taken from the commercial fishery. The second run of herring in late May, which consists primarily of young recruit age herring, began arriving on May 16, with the largest volume of fish observed on May 23. Test fishing samples indicated 82.4 percent of the fish were age-3, 4 and 5 herring. Biomass estimate for this late group of fish was only 4,100 tons which brought the total spawning biomass to 24,000 tons, not including the commercial catch. The tonnage of fish was not considered large enough to warrant any additional harvest.

## Discussion

Biomass estimates of herring in the Kamishak Bay District are considered to be considerably below the actual volume present. Weather conditions in 1988 prevented good surveys for 14 days in early May and large volumes of fish were observed in the Oil Bay and Dry Bay areas on sonar and fathometer equipment that were never observed from the air. Actual spawning biomass in the Kamishak District was conservatively 5,000 tons higher than documented.

Figure 12 depicts the age composition of the Kamishak District herring population from 1983 to present. In 1985, a weak recruit year class was observed moving into the population and in 1988 represented the age-6 fish. Another weak year class of age-3 herring appeared this year and another is expected in 1989. If this does in fact occur, harvests may have to be reduced in the near future to provide for adequate numbers of spawners in the population. Fortunately, the strong year classes, which were age-4 and age-5 herring in 1988, may be able to carry the fishery for three or four years until additional strong recruitment occurs.

The Board of Fisheries in 1987 allocated 2 percent of the total biomass of the Kamishak District herring population to the Kodiak-Shelikof bait fishery. In 1989, this is projected to be approximately 755 tons based on the pre-season forecast of abundance. This tonnage represents 13 percent of the total allowable harvest in tons, but because of the higher percentage of juvenile age herring harvested in the bait fishery versus the sac roe fishery, the harvest actually represents over 20 percent of the total numbers of individual fish harvested.

Age composition of the 1986 bait harvest in the Shelikof fishery was comprised of 5 percent age-1 and 45 percent age-2 juvenile herring. If these percentages are applied to the anticipated 1989

bait harvest allocation of 755 tons, it would represent a harvest of 1,606 tons if the same number of individual fish were allowed to reach maturity at age-4 and were then harvested at the anticipated harvest rate in the sac roe fishery. In addition, hundreds of tons of fish remain in the population to spawn annually. The ramifications of these harvest allocations to other fisheries must be examined in more detail in the future along with their potential affects on the reproductive potential of the population.

## COMMERCIAL GROUNDFISH FISHERY

### INTRODUCTION

The groundfish management area for Region II (Central) includes those inside waters of Prince William Sound, and state waters (0 to 3 miles) from Cape Suckling, located at 143 degrees 53 minutes west longitude, up Cook Inlet, and west to Cape Douglas located at 58 degrees 52 minutes north latitude. Fish ticket records for groundfish harvested from state and adjacent federal waters, received from companies operating within Region II, are entered into the National Marine Fisheries Service (NMFS) maintained database via remote computer terminal located in Homer. This procedure is the product of a cooperative agreement between NMFS and the Alaska Department of Fish and Game (ADF&G). Fisheries contributing to the bottomfish harvest reported into Region II include the domestic longline fishery and catcher processor trawl fishery on sablefish, Pacific cod, rockfish and flatfish in the Western Yakutat and Central Gulf portion of the Gulf of Alaska Exclusive Economic Zone (EEZ), the Prince William Sound state waters longline sablefish fishery, the Cook Inlet Pacific cod longline fishery and the outer Kenai Peninsula rockfish jig fishery.

The harvest of groundfish from both state and federal waters reported by companies operating in Region II in 1981 totaled 308,560 pounds (Table 18). Since that time, developing fisheries in both state and federal waters have contributed to a steady , and in some years dramatic increase in Region II groundfish landings. The Region II groundfish harvest total in 1988 (January 1 through October 25) was in excess of 36.9 million pounds (Table 22). This compares to a reported harvest of 24 million pounds in 1987, and 11.8 million pounds in 1986. Groundfish harvested from federally managed waters accounted for 96% of all reported

landings. The harvest of approximately 17 million pounds of sablefish and 16 million pounds of rockfish, most from fisheries in the Gulf of Alaska EEZ, accounted for over 90% of total groundfish landings reported into the region in 1988. Percent composition of the total commercial bottomfish catch reported by companies operating within Region II during 1988 was 46% sablefish, 44% rockfish, 5% pacific cod, 4% flatfish and 1% all other species (Table 19).

Vessels capable of processing their own catch at sea have become a major component in the domestic fleet harvesting bottomfish in federal waters off of Alaska. These catcher processors harvested an estimated 19.4 million pounds or 53% of all groundfish reported by companies operating within Region II in 1988 (Table 19). The remainder was handled and or processed by companies on shore. Catcher processors accounted for 94% of rockfish, 98% of flatfish (flounder and sole), and 12% of sablefish reported harvested by companies operating within Region II.

Groundfish removals originating from within state managed waters accounted for only 4% of total landings reported into Region II in 1988. In 1987, 12% of total Region II groundfish landings were from state managed waters. Pacific cod landings accounted for approximately 75% of regional landings from state waters in 1987 and approximately 64% in 1988.

The port of Seward received the largest percentage of landings harvested by vessels not processing their own catch. A total of over 12 million pounds of groundfish, including approximately 10.8 million pounds of sablefish and 500,000 pounds of rockfish, were landed in Seward in 1988. The port of Cordova received over 3 million pounds of groundfish and Homer approximately 1.4 million pounds (Table 20).

The estimated value of the groundfish harvest reported by companies operating within Region II in 1988 was approximately $19.4 million. This compares to the $11.6 million total ex-vessel value reported in 1987, and $11.1 million reported value in 1986 (Table 21). The 1988 ex-vessel value estimate includes approximately $13.7 million from landings reported by vessels delivering to on-shore processors and approximately $5.7 million from catcher processors (Table 22). Sablefish harvested primarily from the longline fishery in the Gulf of Alaska EEZ accounted for $15 million, 77% of the 1988 total ex-vessel value. This compares to the $7.6 million ex-vessel value of Region II sablefish in 1987. The increase in the ex-vessel value of sablefish in 1988 was due both to an increase in the harvest and to an increase in the average ex-vessel price per pound ($1.00 in 1987 and $1.51 in 1988, dressed eastern cut).

Rockfish, most of which were harvested by catcher processors, accounted for an ex-vessel value of approximately $3.5 million, 19% of the Region II ex-vessel total for 1988. In the absence of ex-vessel value information from catcher processors, the estimated value of rockfish harvested by these vessels was determined from the average price paid for rockfish by on-shore processors. The actual value of groundfish caught and processed at sea may have been greater than that processed by land-based processors.

A total of 1,377 groundfish deliveries were made by 561 vessels associated with companies operating within Region II (January 1 through October 25, 1988). This is below the 655 vessels and 1,886 deliveries reported in 1987 (Table 23). The higher number of vessels and reported landings in 1987 were largely a result of a fall/winter longline fishery for Pacific cod in the Kachemak Bay portion of Lower Cook Inlet, which was less active in 1988 due to reduced demands for Pacific cod for both food and bait.

## GULF OF ALASKA EEZ FISHERIES

A total of 36.9 million pounds of groundfish were harvested in 1988 and reported by companies operating within Region II. Approximately 35.6 million pounds or 96% of the total came from federally managed longline and trawl fisheries in the West Yakutat and Central Gulf EEZ adjacent to regional waters. This compares to approximately 21 million pounds of groundfish (88% of yearly total) harvested from federally managed waters of the Gulf of Alaska EEZ reported to Region II in 1987.

Sablefish landings reported into Region II from the domestic longline fishery in that portion of the Gulf of Alaska adjacent to Region II (West Yakutat and Central area) increased from just over 12 million pounds (round weight) in 1987 to slightly over 17 million pounds in 1988. The larger 1988 harvest was due primarily to an increase in sablefish catch allocations for the West Yakutat and Central Gulf areas. From 1987 to 1988 the domestic sablefish longline allocation in the West Yakutat area was raised from 3,800 metric tons (mt) to 4,660 mt, and the Central Gulf sablefish longline allocation was increased from 7,040 mt to 10,030 mt. The percentage increase in allocations for the West Yakutat and Central areas together was similar in magnitude to the increase in the harvest reported into the region from those two areas combined.

The trawl fishery in the Gulf of Alaska contributed dramatically to reported rockfish landings, which have gone from just over 8 million pounds in 1987 to 16.2 million pounds in 1988 (Table 22). This fishery is dominated by large vessels capable of processing their own catch. These catcher processors frequently use regional ports only for transshipment of completely processed fisheries products, significantly reducing the infusion of ex-vessel dollars from these products into local economies.

Flatfish (flounder and sole) landings reported to Region II, predominately from trawl effort in the Gulf of Alaska, also increased, from approximately 882,000 pounds in 1987 to approximately 1.4 million pounds in 1988.

## PRINCE WILLIAM SOUND SABLEFISH FISHERY

Full domestic utilization of sablefish resources in the Gulf of Alaska EEZ and limited entry to sablefish resources in inside waters of northern Southeast Alaska brought about an increase in effort on sablefish stocks in inside waters of Prince William Sound starting in 1985. In that year, 29 vessels landed approximately 383,000 pounds of sablefish to processors in Seward, Valdez, Cordova, Whittier and Anchorage (transported by truck from Seward). During the course of that year's fishery, a guideline harvest range was established using sablefish catch per unit of area information from inside waters of northern Southeast Alaska. The Prince William Sound fishery, which opened by regulation on January 1, was closed for the first time by emergency order in late November of 1985. Since that time, the fishery has required a department permit, and has been opened by emergency order on April 1 concurrent with EEZ waters of the Gulf of Alaska. The harvest in the past three years has been limited to approximately 200,000 pounds, (the approximate midpoint of the guideline harvest range of 88,000 to 308,000 pounds). The 1988 harvest of 220,230 pounds was slightly higher than the harvest guideline due to the discovery of a group of fish tickets containing Prince William Sound sablefish landings which were mistakenly sent to another agency (Table 24). Participation, based on the number of permits issued, has ranged from 116 in 1987 to 76 in 1988.

## LOWER COOK INLET PACIFIC COD FISHERY

Increased demands for North Pacific bottomfish, brought on partly by poor stock conditions of Atlantic bottomfish, sparked a near-shore small boat fishery on Pacific cod in the fall of 1987. During 1987, a large number of small boats participating in this fishery made daily cod deliveries to processors in Homer and Seldovia. These two ports together received a total of 882 deliveries in 1987 compared to 321 in 1988. This Lower Cook Inlet longline fishery accounted for approximately 1.8 million pounds of the approximately 3 million pounds of Pacific cod harvested from state and federal waters, in and adjacent to Region II, in 1987. In the first 3 months of 1988 activity in this fishery continued, and by the end of March, 681,000 pounds or 81% of the Pacific cod caught from state waters in 1988 had been harvested. Market demands for Pacific cod in 1988 fell below the level observed in the fall of 1987, and only one processor in Seldovia purchased Pacific cod in 1988. The ex-vessel value of this fishery in 1987 was approximately $430,000, but decreased to $163,000 in 1988.

## OUTER KENAI PENINSULA NEAR-SHORE ROCKFISH JIG FISHERY

The harvest of near-shore rockfish from the outer Kenai Peninsula totaled just over 248,000 pounds (January 1-October 25,1988). Most of these near-shore pelagic rockfish were harvested with jig or hand troll (sport rod and reel) gear and generated approximately $109,000 ex-vessel value. This compares to a similar level of harvest in 1987 when 249,477 pounds of rockfish were harvested. The estimated ex-vessel value of the 1987 fishery was approximately $110,000.

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Table 1. Lower Cook Inlet salmon catch by species, district and gear, 1988.

| DISTRICT | KING | SOCKEYE | COHO | PINK | CHUM | TOTAL |
|---|---|---|---|---|---|---|
| SOUTHERN | | | | | | |
| Set Net | 1,145 | 14,758 | 2,819 | 29,268 | 4,423 | 52,413 |
| Seine | 510 | 90,544 | 168 | 823,114 | 3,319 | 917,655 |
| Total | 1,655 | 105,302 | 2,987 | 852,382 | 7,742 | 970,068 |
| OUTER | 5 | 9,501 | 2 | 6,094 | 71,202 | 86,804 |
| KAMISHAK | 33 | 183,952 | 4,471 | 61,080 | 218,299 | 467,835 |
| EASTERN | 1 | 20,253 | 486 | 1,740 | 24,668 | 47,148 |
| TOTAL | 1,694 | 319,008 | 7,946 | 921,296 | 321,911 | 1,571,855 |
| PERCENT | 0.11 | 20.29 | 0.51 | 58.61 | 20.48 | 100.00 |
| 30 YEAR AVERAGE | 470 | 94,125 | 8,383 | 794,847 | 130,008 | 1,027,833 |

* Preliminary Data.

Table 2. Lower Cook Inlet escapement goals, average observed, and 1988 escapements of pink salmon.

| SOUTHERN DISTRICT | ESC. GOAL | AVE. ESC. 1/ | 1988 ESC |
|---|---|---|---|
| Humpy Creek | 25,000 - 50,000 | 43,600 | 21,400 |
| Tutka Lagoon | 6,000 - 10,000 | 12,700 | 11,200 |
| Seldovia Creek | 25,000 - 35,000 | 28,000 | 16,900 |
| Port Graham River | 20,000 - 40,000 | 14,200 | 7,900 |
| China Poot Bay | 5,000 | 8,100 | 3,900 |
| Barabara Creek | 18,000 - 24,000 | 3,600 | 700 |
| Total | 99,000 - 164,000 | 110,200 | 62,000 |
| OUTER DISTRICT | | | |
| Port Chatham Streams | 10,000 - 15,000 | 8,200 | 21,000 |
| Rocky River | 50,000 | 25,000 | 5,400 |
| Windy Left River | 30,000 - 50,000 | 11,900 | 3,400 |
| Windy Right River | 10,000 | 5,000 | 1,300 |
| Port Dick Creek | 20,000 - 100,000 | 38,300 | 12,000 |
| Island Creek | 12,000 - 18,000 | 8,000 | 7,200 |
| South Nuka Creek | 10,000 | 10,100 | 1,200 |
| Desire Lake Creek | 10,000 - 20,000 | 12,200 | 2,500 |
| James Lagoon | 5,000 - 10,000 | 5,800 | 1,700 |
| Total | 157,000 - 283,000 | 124,500 | 55,700 |
| KAMISHAK DISTRICT | | | |
| Big Kamishak River | 20,000 | 20,100 | 1,000 |
| Little Kamishak River | 20,000 | 11,100 | 500 |
| Amakdedori Creek | 5,000 | 10,400 | 1,000 |
| Bruin Bay River | 25,000 - 50,000 | 108,100 | 29,000 |
| Sunday Creek | 10,000 | 14,100 | 18,000 |
| Brown's Peak Creek | 10,000 | 10,600 | 17,000 |
| Total | 90,000 - 115,000 | 174,400 | 66,500 |
| EASTERN DISTRICT | | | |
| Aialik Lagoon | 5,000 | 4,800 | 700 |
| Bear Creek | 5,000 | 5,000 | 200 |
| Salmon Creek | 10,000 | 7,900 | 100 |
| Mayor Creek | 2,000 | 3,000 | 0 |
| Clear Creek | 2,000 | 1,300 | 0 |
| Thumb Cove | 4,000 | 3,800 | 300 |
| Humpy Cove | 2,000 | 2,000 | 400 |
| Tonsina Creek | 5,000 | 6,700 | 100 |
| Total | 35,000 | 34,500 | 1,800 |
| LOWER COOK INLET TOTAL | 381,000 - 597,000 | 443,600 | 186,000 |

1/ Average escapement figures are based on weir counts, ground and aerial surveys conducted between 1951 and 1988. For many streams only several years data exist.

Table 3. Lower Cook Inlet escapement goals, average observed and 1988 escapements for chum salmon. 1/

| OUTER DISTRICT | ESCAPEMENT GOAL (RANGE) | AVE. OBS. ESCAPE. | 1988 Escape |
|---|---|---|---|
| Dogfish Lagoon | 5,000 - 10,000 | 5,000 | 8,600 |
| Port Chatham (streams) | * | 1,100 | 1,400 |
| Windy Right River | * | 1,900 | 400 |
| Windy Left River | * | 900 | 100 |
| Rocky River | 20,000 | 9,200 | 300 |
| Head End Creek | 4,000 | 6,900 | 9,000 |
| Island Creek | 10,000 - 15,000 | 11,500 | 7,800 |
| Middle Creek | * | 1,700 | 2,000 |
| Petrof River | 2,000 - 5,000 | 2,400 | 8,500 |
| Total | 41,000 - 54,000 | 40,600 | 38,100 |
| KAMISHAK DISTRICT | | | |
| Silver Beach (streams) | * | 2,500 | 1,900 |
| Main Left (streams) | 5,000 - 10,000 | 3,800 | 700 |
| Big Kamishak River | 20,000 | 14,900 | 15,000 |
| Little Kamishak River | 20,000 | 11,300 | 13,000 |
| McNeil River | 20,000 - 40,000 | 28,000 | 49,000 |
| Bruin River | 5,000 - 10,000 | 6,800 | 7,000 |
| Rocky Cove (Sunday Creek) | * | 1,000 | 500 |
| Ursus Cove (streams) | 5,000 - 10,000 | 6,700 | 10,200 |
| Cottonwood Creek | 10,000 | 8,200 | 16,000 2/ |
| Iniskin River | 10,000 | 13,700 | 9,500 |
| Total | 95,000 - 130,000 | 96,900 | 122,800 |
| SOUTHERN DISTRICT | | | |
| Tutka Creek | * | 1,100 | 300 |
| Seldovia River | * | 900 | 1,300 |
| Port Graham River | 4,000 - 8,000 | 1,800 | 3,500 |
| Total | 4,000 - 8,000 | 3,800 | 5,100 |
| LOWER COOK INLET TOTAL | 140,000 - 192,000 | 141,300 | 166,000 |

1/ Average escapement figures are based on weir counts and ground and aerial surveys conducted between 1951 and 1988. For many streams, only several years of data exist.

2/ Estimate 1,600 additional fish taken for Tutka Hatchery.

*No established goal.

Table 4. Lower Cook Inlet escapement goals, average observed and 1988 escapements for sockeye salmon.

| | Escapement Goal | Average Escape. | 1988 Escape |
|---|---|---|---|
| SOUTHERN DISTRICT | | | |
| English Bay | 10,000 - 20,000 | 7,200 | 2,500 |
| Total | 10,000 - 20,000 | 7,200 | 2,500 |
| OUTER DISTRICT | | | |
| Desire Lake | 10,000 | 8,600 | 9,000 |
| Delight Lake | 10,000 | 7,500 | 1,200 |
| Anderson Beach | 2,000 | 500 | 300 |
| Total | 22,000 | 16,600 | 10,500 |
| EASTERN DISTRICT | | | |
| Aialik Lake | 2,500 - 5,000 | 8,600 | 13,000 |
| Bear Lake | 1,000 | * | ? |
| Total | 3,500 - 6,000 | 8,600 | 13,000 |
| KAMISHAK DISTRICT | | | |
| Mikfik Lake | 5,000 | 6,600 | 10,100 |
| Chenik Lake | 10,000 - 20,000 | 2,900 | 9,000 |
| Kamishak River | * | 2,600 | 500 |
| Douglas River | * | 900 | 0 |
| Douglas Beach | * | 300 | 100 |
| Total | 15,000 - 25,000 | 13,300 | 19,700 |
| LOWER COOK INLET TOTAL | 50,500 - 73,000 | 45,700 | 45,700 |

*Data not available.

Table 5. Emergency Order commercial fishing periods in Lower Cook Inlet, 1988.

| Number | Issue Date | Description |
|---|---|---|
| 2-F-H-001-88 | April 15 | Opens the Outer and Eastern Districts to herring sac roe seining at 6:00 a.m. Wednesday April 20. |
| 2-F-H-002-88 | April 21 | Opens the Kamishak District to herring sac roe seining for three hours from 7:00 until 10:00 a.m. Friday April 22. |
| 2-F-H-003-88 | April 22 | Extends fishing time in the Kamishak District for five hours from 10:00 a.m. until 3:00 p.m. Friday April 22. |
| 2-F-H-004-88 | April 22 | Reopens the Kamishak District to herring seining for one hour from 8:00 until 9:00 p.m. Friday April 22. |
| 2-F-H-005-88 | April 23 | Opens waters of the Kamishak District north of the latitude of the mouth of Amakdedori Creek located at $59^0$ 16.68' N. latitude to herring seining for one hour from 5:00 until 6:00 p.m. Saturday April 23. |
| 2-F-H-006-88 | April 24 | Opens waters of the Kamishak District north of the latitude of the northern entrance to Bruin Bay located at $59^0$ 23.13' N. latitude to herring seining for two hours from 12:00 noon until 2:00 p.m. Monday April 25. |
| 2-F-H-007-88 | April 25 | Opens waters of the Kamishak District north of the latitude of the northern entrance to Bruin Bay located at $59^0$ 23.13' N. latitude to herring seining for two hours from 9:00 until 11:00 a.m. Tuesday April 26. |
| 2-F-H-008-88 | April 26 | Opens the entire Kamishak District to herring seining for two hours from 10:00 a.m. until 12:00 noon Wednesday April 27. |
| 2-F-H-009-88 | April 27 | Extends fishing time in the Kamishak District for two hours from 12:00 noon until 2:00 p.m. Wednesday April 27. |

Table 5. Continued.

| | | |
|---|---|---|
| 2-F-H-010-88 | April 27 | Extends fishing time in the Kamishak District for three hours from 2:00 until 5:00 p.m. Wednesday April 28. |
| 2-F-H-011-88 | April 27 | Opens waters of the Kamishak District north of the latitude of the northern entrance to Bruin Bay located at 59$^0$ 23.13' N. latitude to herring seining for two hours from 9:00 until 11:00 a.m. Thursday April 28. |
| 2-F-H-012-88 | April 28 | Extends fishing time in waters of the Kamishak District north of the latitude of the northern entrance to Bruin Bay located at 59$^0$ 23.13' N. latitude to herring seining for two hours from 11:00 a.m. until 1:00 p.m. Thursday April 28. |
| 2-F-H-013-88 | April 28 | Extends fishing time in waters of the Kamishak District north of the latitude of the northern entrance to Bruin Bay located at 59$^0$ 23.13' N. latitude to herring seining for two hours from 1:00 p.m. until 3:00 p.m. Thursday April 28. |
| 2-F-H-014-88 | April 28 | Extends fishing time in waters of the Kamishak District north of the latitude of the northern entrance to Bruin Bay located at 59$^0$ 23.13' N. latitude to herring seining for two hours from 3:00 p.m. until 5:00 p.m. Thursday April 28. |
| 2-F-H-015-88 | April 29 | Opens waters of the Kamishak District north of the latitude of Sunday Creek in Rocky Cove located at 59$^0$ 26.82' N. latitude to herring seining for two hours from 9:00 until 11:00 a.m. Friday April 29. |
| 2-F-H-016-88 | April 29 | Extends fishing time in waters of the Kamishak District north of the latitude of Sunday Creek in Rocky Cove located at 59$^0$ 26.82' N. latitude to herring seining for two |

Table 5. Continued.

| | | |
|---|---|---|
| | | hours from 11:00 a.m. until 1:p.m. Friday April 29. |
| 2-F-H-017-88 | April 29 | Extends fishing time in waters of the Kamishak District north of the latitude of Sunday Creek in Rocky Cove located at 59$^0$ 26.82' N. latitude to herring seining for four hours from 1:00 until 5:00 p.m. Friday April 29. |
| 2-F-H-018-88 | April 29 | Extends fishing time in waters of the Kamishak District north of the latitude of Sunday Creek in Rocky Cove located at 59$^0$ 26.82' N. latitude to herring seining for two hours from 5:00 until 7:00 p.m. Friday April 29. |
| 2-F-H-019-88 | April 29 | Opens waters of the Kamishak District north of the latitude of Sunday Creek in Rocky Cove located at 59$^0$ 26.82' N. latitude to herring seining for three hours from 9:00 a.m. until 12:00 noon Saturday April 30. |
| 2-F-H-020-88 | May 13 | Closes the Outer and Eastern Districts to herring seining effective at 12:00 noon Saturday May 14. |
| 2-F-H-021-88 | May 31 | Creates the Chenik section of the Bruin Bay subdistrict and the Halibut Cove section of the Humpy Creek subdistrict as follows: The Chenik section of the Bruin Bay subdistrict contains all waters located between the latitude of the northernmost tip of Nordyke Island and 59$^0$ 15' N. latitude. The Halibut Cove section contains all waters of the Humpy Creek subdistrict southeast of a line from Peterson Point to the Department marker located on Glacier Spit. |
| 2-F-H-022-88 | May 31 | Opens the Bruin Bay, McNeil River and Kamishak-Douglas subdistricts to salmon seining at 00:01 a.m. Wednesday June 1. |

Table 5. Continued.

| | | |
|---|---|---|
| 2-F-H-023-88 | June 9 | Closes waters of the Kamishak District south of the latitude of Chenik Creek and west of 154$^{0}$ W. longitude to salmon seining effective at 6:00 p.m. Thursday June 9. |
| 2-F-H-024-88 | June 15 | Closes the Port Graham subdistrict to commercial set gillnet fishing effective at 6:00 a.m. Saturday June 18. |
| 2-F-H-025-88 | June 18 | Reopens all waters of the Bruin Bay, McNeil River and Kamishak-Douglas subdistricts to salmon seining, allows fishing seven days per week and allows fishing up to the mouth of Amakdedori Creek effective at 12:00 noon Sunday June 19. |
| 2-F-H-026-88 | June 23 | Opens the Tutka Bay and China Poot subdistricts and the Halibut Cove section of the Humpy Creek subdistrict to salmon seining five days per week from 6:00 a.m. Monday until 6:00 a.m. Saturday effective at 6:00 a.m. Monday June 27. |
| 2-F-H-027-88 | June 20 | Opens McNeil Lagoon to salmon seining for two hours from 6:00 until 8:00 p.m. Monday June 20. |
| 2-F-H-028-88 | June 22 | Reduces fishing time in the McNeil River subdistrict back to the standard two 48 hour weekly fishing periods and moves the Department marker from the tip of the spit at McNeil Lagoon to the mainland effective at 6:00 a.m. Saturday June 25. |
| 2-F-H-029-88 | June 24 | Opens the Aialik Bay and East Nuka subdistricts to salmon seining at 6:00 a.m. Monday June 27 and opens Aialik Lagoon by flare for 30 minutes from approximately 8:00 until 8:30 a.m. Monday June 27. |

Table 5. Continued.

| | | |
|---|---|---|
| 2-F-H-030-88 | June 27 | Allows fishing up to the mouth of Desire Creek for one hour from 10:00 until 11:00 a.m. Monday June 27. |
| 2-F-H-031-88 | June 28 | Reduces fishing time in the Kamishak-Douglas subdistrict back to the standard two 48 hour weekly fishing periods and allows fishing up to the mouth of Douglas River on the "Silver Beach" effective at 6:00 a.m. Wednesday June 29. |
| 2-F-H-032-88 | June 29 | Opens Aialik Lagoon and James Lagoon to salmon seining for one hour from 8:00 until 9:00 a.m. Thursday June 30. |
| 2-F-H-033-88 | June 29 | Opens the Port Dick subdistrict to salmon seining, adjusts the markers at Island Creek and allows fishing up to the mouth of Desire Lake Creek effective at 6:00 a.m. Thursday June 30. |
| 2-F-H-034-88 | July 2 | Close the entire Kamishak District to salmon seining at 6:00 p.m. Saturday July 2. |
| 2-F-H-035-88 | June 23 | Opens Halibut Cove Lagoon to salmon seining at 6:00 a.m. Tuesday July 5. |
| 2-F-H-036-88 | July 5 | Reopens the Kamishak-Douglas and Bruin Bay subdistricts to salmon seining at 3:00 p.m. Tuesday July 5 and reopens the English Bay and Port Graham subdistrict to set gillnet fishing at 6:00 a.m. Thursday July 7. |
| 2-F-H-037-88 | July 9 | Opens waters of Resurrection Bay within a one mile radius of Tonsina Creek and Spring Creek and waters of Nuka Bay within a one mile radius of Petrof Glacier Creek to salmon seining for six hours from 6:00 a.m. until 12:00 noon Monday July 11. Fishing is allowed up to the mouth of Petrof River during the opening. |

Table 5. Continued.

| | | |
|---|---|---|
| 2-F-H-038-88 | July 9 | Opens waters of Day Harbor to salmon seining at 6:00 a.m. Monday July 11 and allows fishing up to the beach of all streams in Day Harbor. Markers are reestablished at Desire Lake and an additional two mile closure around the mouth of Delight Lake Creek is in effect effective at 6:00 a.m. Monday July 11. |
| 2-F-H-039-88 | July 10 | Opens Tutka Lagoon to salmon seining for three hours by flare from approximately 6:00 until 9:00 a.m. Monday July 11. |
| 2-F-H-041-88 | July 10 | Closes the Kamishak District to salmon seining at 6:00 a.m. Monday July 11, opens the McNeil subdistrict and Chenik Lagoon inside the markers by flare for 30 minutes from approximately 2:00 until 2:30 p.m. Monday July 11 and then reopens the Bruin Bay and Kamishak-Douglas subdistricts to seining at 2:30 p.m. Monday July 11. |
| 2-F-H-042-88 | July 16 | Opens the Rocky Cove and Ursus Cove subdistricts to salmon seining for 48 hours from 6:00 a.m. Monday July 18 until 6:00 a.m. Wednesday July 20 and allows fishing up to the mouth of Sunday Creek and Brown's Peak Creek. Closes waters of the Kamishak-Douglas subdistrict west of $154^0$ W. longitude effective at 6:00 a.m. Monday July 18. |
| 2-F-H-043-88 | July 16 | Opens waters of Resurrection Bay north of the latitude of Caines Head and waters within a one mile radius of Petrof Glacier River for 12 hours from 6:00 a.m. until 6:00 p.m. Monday July 18. Allows fishing in Aialik Lagoon effective at 6:00 a.m. Monday July 18 and removes the markers at Desire Lake Creek and Petrof Glacier River and adjusts the markers at Port |

Table 5. Continued.

| | | |
|---|---|---|
| | | Dick Creek closer to the creek mouth effective at 6:00 a.m. Monday July 18. |
| 2-F-H-044-88 | July 18 | Reopens the entire Kamishak-Douglas subdistrict effective at 6:00 p.m. Monday July 18 and opens the McNeil River subdistrict for three hours from 12:00 noon until 3:00 p.m. Tuesday July 19. |
| 2-F-H-045-88 | July 19 | Reduces fishing time in the Tutka Bay subdistrict from five days per week to the standard two 48 hour weekly periods and closes waters of Tutka Bay southeast of the HEA powerlines effective at 6:00 a.m. Wednesday July 20. |
| 2-F-H-046-88 | July 19 | Opens Chenik Lagoon to salmon seining by flare and allows fishing up to the mouth of Chenik Creek effective at 6:00 p.m. Tuesday July 20 until further notice. |
| 2-F-H-047-88 | July 20 | Opens the McNeil River subdistrict and waters within a one mile radius of Petrof Glacier River to salmon seining at 6:00 a.m. Thursday July 21 and allows fishing up to the mouth of Petrof Glacier River. |
| 2-F-H-048-88 | July 20 | Opens waters of Resurrection Bay north of the latitude of Caines Head for two 12 hour periods from 6:00 a.m. until 6:00 p.m. Thursday July 21 and from 6:00 a.m. until 6:00 p.m. Monday July 25. |
| 2-F-H-049-88 | July 21 | Reopens waters of the Tutka Bay subdistrict southeast of the HEA powerlines effective at 9:00 a.m. Friday July 22. |
| 2-F-H-050-88 | July 22 | Closes the Aialik Bay, East Nuka and McNeil River subdistricts and waters of the Port Dick subdistrict northwest of a line from a marker on the west shore of Middle Creek to |

Table 5. Continued.

| | | |
|---|---|---|
| | | the southeast point of Shelter Cove to salmon seining effective at 6:00 a.m. Saturday July 23. |
| 2-F-H-051-88 | July 2 | Opens the Ursus Cove and Rocky Cove subdistricts to salmon seining for 48 hours from 6:00 a.m. Monday July 25 until 6:00 a.m. Wednesday July 27 and allows fishing up to the mouth of Sunday Creek and Brown's Peak Creek. |
| 2-F-H-052-88 | July 25 | Opens Tutka Lagoon to salmon seining by flare for one hour from approximately 9:00 until 10:00 a.m. Tuesday July 26 and reopens Aialik Lagoon to salmon seining from 1:00 p.m. Tuesday July 26 until 6:00 a.m. Saturday July 30. |
| 2-F-H-053-88 | July 25 | Closes the Kamishak-Douglas subdistrict effective at 6:00 a.m. Thursday July 28 and opens the Ursus Cove, Cottonwood Bay and Iniskin Bay subdistricts to salmon seining for 48 hours from 6:00 a.m. Thursday July 28 until 6:00 a.m. Saturday July 30. |
| 2-F-H-054-88 | July 29 | Closes the Port Dick and China Poot subdistricts to seining at 6:00 a.m. Saturday July 30. |
| 2-F-H-055-88 | July 29 | Reopens the Iniskin Bay, Cottonwood Bay and Ursus Cove subdistricts to salmon seining at 6:00 a.m. Monday August 1 and allows fishing up to the mouth of Brown's Peak Creek. |
| 2-F-H-056-88 | August 2 | Opens the entire Kamishak District except for the Kamishak-Douglas subdistrict and opens waters of the Port Dick subdistrict southeast of a line from the Department marker on the west shore of Middle Creek to the southeast corner of Shelter Cove to salmon seining at 6:00 a.m. Thursday August 4. Allows fishing up to the mouth of Sunday Creek and Brown's Peak Creek. |

Table 5. Continued.

| | | |
|---|---|---|
| 2-F-H-057-88 | August 3 | Opens Tutka Lagoon to salmon seining by flare for 30 minutes from approximately 1:00 until 1:30 p.m. Thursday August 4. |
| 2-F-H-058-88 | August 5 | Closes the Outer, Eastern and Southern Districts to seining effective at 6:00 a.m. Saturday August 6 and closes waters of the Cottonwood Bay subdistrict west of the longitude of Diamond Point effective at 6:00 a.m. Saturday August 6. |
| 2-F-H-059-88 | August 5 | Closes the Rocky Cove and Ursus Cove subdistricts to seining effective at 6:00 a.m. Saturday August 6 and reopens the Kamishak-Douglas subdistrict to salmon seining at 6:00 a.m. Monday August 8. |
| 2-F-H-060-88 | August 10 | Opens waters of Halibut Cove Lagoon to salmon seining for 48 hours from 6:00 a.m. Thursday August 11 until 6:00 a.m. Saturday August 13. |
| 2-F-H-061-88 | August 10 | Reopens the Ursus Cove and Rocky Cove subdistricts to salmon seining and allows fishing up to the mouth of Sunday Creek and Brown's Peak Creek effective at 6:00 a.m. Thursday August 11. |
| 2-F-H-062-88 | August 14 | Allows seining in Cottonwood Bay west of the latitude of Diamond Point to the regular Department markers effective at 6:00 a.m. Monday August 15. |
| 2-F-H-063-88 | August 19 | Allows seining in the Cottonwood Bay subdistrict seven days per week and allows fishing up to the mouth of Cottonwood Creek east of $153^{0}$ 41.5' W. longitude effective at 6:00 a.m. Saturday August 20. |

Table 5. Continued

| | | |
|---|---|---|
| 2-F-H-064-88 | August 21 | Allows fishing seven days per week in the entire Kamishak District effective at 12:00 noon Sunday August 21. |

Table 6. Preliminary estimate of adult pink salmon return to Tutka Bay and Lagoon, 1988.

| | |
|---|---|
| Commercial Harvest: | |
| Seine | 713,198 |
| Set Net | 10,731 |
| Sub-Total | 723,929 |
| Sport Catch | 8,500 |
| Escapement: | |
| Tutka Creek and Channel | 11,200 |
| Egg-Take | 65,000 |
| Total Return | 808,629 |

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

| Stat Week | 1978 Entire Subdistrict | 1978 Lagoon Only | 1979 Entire Subdistrict | 1979 Lagoon Only | 1980 Entire Subdistrict | 1980 Lagoon Only | 1981 Entire Subdistrict | 1981 Lagoon Only |
|---|---|---|---|---|---|---|---|---|
| 25 | | | | | | | | |
| 26 | | | 3,786 | | 3,691 | | 8,647 | |
| 27 | | | 129,659 | | 17,630 | | 101,301 | |
| 28 | 24,683 | | 178,178 | 68,500 | 76,810 | | 239,547 | |
| 29 | 19,077 | | 50,873 | 24,000 | 130,608 | 35,074 | 301,919 | 42,000 |
| 30 | 83,681 | 47,143 | 22,574 | 20,700 | 34,669 | | 166,796 | 35,000 |
| 31 | 19,980 | 17,143 | 15,392 | 14,500 | 22,014 | 20,500 | 107,918 | 12,000 |
| 32 | 12,357 | 11,100 | | | 22,755 | 21,481 | 47,096 | 10,000 |
| 33 | 818 | | | | | | 19,071 | 13,700 |
| 34 | | | | | | | 7,543 | 7,243 |
| Total Catch Seine | 160,596 | 75,386 | 400,462 | 127,700 | 308,177 | 77,055 | 999,838 | 119,943 |
| Set Net | 7,266 | | 21,354 | | 13,336 | | 26,736 | |
| Sport | --- | | 2,000 | | 5,000 | | 6,000 | |
| Egg Take | 21,100 | | 21,200 | | 26,897 | | 22,000 | |
| Escapement | 15,000 | | 10,600 | | 17,300 | | 28,000 | |
| Total Return | 203,962 | | 455,616 | | 370,710 | | 1,082,574 | |

| Stat Week | 1982 Entire Subdistrict | 1982 Lagoon Only | 1983 Entire Subdistrict | 1983 Lagoon Only | 1984 Entire Subdistrict | 1984 Lagoon Only | 1985 Entire Subdistrict | 1985 Lagoon Only |
|---|---|---|---|---|---|---|---|---|
| 25 | | | | | | | | |
| 26 | | | | | 7,312 | | 17,656 | |
| 27 | 3,560 | | 13,782 | | 40,700 | | 63,632 | |
| 28 | 49,703 | 8,500 | 92,230 | | 91,774 | 38,200 | 129,020 | 31,300 |
| 29 | 40,730 | | 152,038 | 35,000 | 76,639 | 44,700 | 111,211 | 34,800 |
| 30 | 24,933 | | 247,119 | 35,000 | 14,629 | | 40,583 | |
| 31 | 44,326 | 24,000 | 68,522 | 18,000 | | | 45,644 | 22,200 |
| 32 | 4,091 | | 28,380 | 10,000 | | | 44,685 | 17,600 |
| 33 | 10,434 | 11,000 | 1,751 | | | | 23,397 | 13,800 |
| 34 | -- | | | | | | 8,771 | 5,200 |
| Total Catch Seine | 177,777 | 57,100 | 603,822 | 98,000 | 231,054 | 82,900 | 484,293 | 124,900 |
| Set Net | 7,099 | | 11,637 | | 10,000 | | 6,888 | |
| Sport | 2,000 | | 5,000 | | 8,000 | | 8,000 | |
| Egg Take | 41,200 | | 53,800 | | 41,000 | | 43,000 | |
| Escapement | 18,500 | | 12,900 | | 10,500 | | 14,000 | |
| Total Return | 246,576 | | 687,159 | | 300,554 | | 556,181 | |

Table 7. (continued)

| Stat Week | 1986 Entire Subdistrict | 1986 Lagoon Only | 1987 Entire Subdistrict | 1987 Lagoon Only | 1988 Entire Subdistrict | 1988 Lagoon Only |
|---|---|---|---|---|---|---|
| 25 | | | | | | |
| 26 | 1,992 | | 107 | | | |
| 27 | 49,948 | | 6,685 | | 8,507 | |
| 28 | 175,863 | 47,000 | 27,738 | | 77,026 | 28,000 |
| 29 | 134,039 | 36,900 | 14,758 | | 293,572 | |
| 30 | 32,504 | 14,500 | 3,507 | | 182,644 | |
| 31 | 570 | | | | 123,308 | 50,000 |
| 32 | 26 | | | | 28,141 | 10,900 |
| 33 | | | | | | |
| 34 | | | | | | |
| Total Catch Seine | 394,922 | 98,400 | 52,795 | | 713,198 | 88,900 |
| Set Net | 5,228 | | 3,670 | | 10,731 | |
| Sport | 8,000 | | 500 | | 8,500 | |
| Egg Take | 43,000 | | 22,000 | | 65,000 | |
| Escapement | 13,400 | | 4,800 | | 11,200 | |
| Total Return | 464,550 | | 83,765 | | 808,629 | |

Table 7a. Harvest of China Poot Bay (Leisure Lake) sockeye salmon returns by user group.

| Return Year | Sport Harvest | Personal Use | Commercial Harvest | Total Return 1/ |
|---|---|---|---|---|
| 1979 | 650 | 0 | ND | 650 |
| 1980 | 1,000 | 1,000 | 12,000 | 14,000 |
| 1981 | 1,500 | 0 | 10,000 | 11,500 |
| 1982 | 450 | 1,320 | 200 | 3,400 |
| 1983 | 480 | 5,910 | 84,020 | 90,420 |
| 1984 | 500 | 2,000 | 114,360 | 117,360 |
| 1985 | 500 | 3,000 | 61,500 | 65,920 |
| 1986 | 100 | 150 | 18,350 | 18,800 |
| 1987 | 200 | 2,000 | 21,500 | 23,700 |
| 1988 | 500 | 1,500 | 91,469 | 93,939 |
| Totals | 5,880 | 16,880 | 413,399 | 439,689 |

ND = No data.

1/ Total return counts include estimates for escapements (i.e. non-harvested fish).

Table 7b. Commercial seine harvest and natural escapement of Chenik Lake sockeye salmon returns.

| Year | Escapement | Harvest 1/ | Total Return |
|---|---|---|---|
| 1975 | 100 | | 100 |
| 1976 | 900 | Closed | 900 |
| 1977 | 200 | | 200 |
| 1978 | 100 | To | 100 |
| 1979 | ND | | ND |
| 1980 | 3,500 | Fishing | 3,500 |
| 1981 | 2,500 | | 2,500 |
| 1982 | 8,000 | | 8,000 |
| 1983 | 11,000 | 2,800 | 13,800 |
| 1984 | 13,000 | 16,500 | 29,500 |
| 1985 | 3,500 | 10,500 | 14,000 |
| 1986 | 7,000 | 111,000 | 118,000 |
| 1987 | 10,000 | 102,000 | 112,000 |
| 1988 | 9,000 | 164,200 | 173,200 |

1/ Preliminary data.

Table 8. Lower Cook Inlet salmon catch by species, 1959-1988. 1/

| Year | King | Red | Coho | Pink | Chum | Total |
|---|---|---|---|---|---|---|
| 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 | 106 | 20,898 | 4,696 | 716,212 | 242,427 | 984,339 |
| 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 | 29,136 | 2,101 | 307,403 | 115,513 | 454,298 |
| 1974 | 183 | 27,428 | 6,514 | 50,601 | 19,210 | 103,936 |
| 1975 | 142 | 28,142 | 6,211 | 1,063,338 | 21,646 | 1,119,479 |
| 1976 | 450 | 58,159 | 3,216 | 136,445 | 50,822 | 249,092 |
| 1977 | 217 | 101,597 | 1,798 | 1,293,932 | 145,789 | 1,543,333 |
| 1978 | 1,747 | 156,404 | 6,529 | 352,561 | 73,518 | 590,759 |
| 1979 | 1,238 | 64,417 | 12,393 | 2,990,929 | 218,490 | 3,287,467 |
| 1980 | 424 | 69,442 | 14,505 | 889,703 | 73,492 | 1,047,566 |
| 1981 | 1,086 | 110,255 | 10,776 | 3,279,183 | 336,093 | 3,737,393 |
| 1982 | 1,066 | 131,320 | 46,892 | 551,589 | 198,185 | 929,052 |
| 1983 | 873 | 187,645 | 11,219 | 927,607 | 192,319 | 1,319,663 |
| 1984 2/ | 713 | 270,756 | 17,271 | 698,276 | 93,804 | 1,080,820 |
| 1985 | 1,043 | 278,694 | 10,327 | 1,229,717 | 30,638 | 1,550,419 |
| 1986 | 796 | 234,861 | 18,852 | 1,408,293 | 82,688 | 1,745,490 |
| 1987 | 1,179 | 248,848 | 14,354 | 201,429 | 157,018 | 622,828 |
| 1988 | 1,694 | 319,008 | 7,946 | 921,296 | 321,911 | 1,571,855 |
| 30 Year Total | 14,086 | 2,823,758 | 251,486 | 23,845,405 | 3,900,245 | 30,834,980 |
| 30 Year Average | 470 | 94,125 | 8,383 | 794,847 | 130,008 | 1,007,773 |
| % of Total | 0.05 | 9.16 | 0.81 | 77.33 | 12.65 | 100.00 |

1/ Data source: final IBM computer runs, 1959-1988 and processor catch reports.
2/ Preliminary data.

Table 9. Summary of personal use fishermen in Lower Cook Inlet by area of residence.

| | Area of Residence | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Homer | | Anchorage Area | | Halibut Cove | | Anch. Pt. Ninilchik | | Seldovia | | Pt Graham/ Eng. Bay | | Kenai/ Soldotna | | Other | | Total Permits |
| Year | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | 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 |
| 1983 | 267 | 77.9 | 24 | 7.0 | 3 | 0.9 | 33 | 9.6 | 8 | 2.3 | 0 | 0 | 0 | 0 | 8 | 2.3 | 343 |
| 1984 | 266 | 72.0 | 20 | 5.4 | 6 | 1.6 | 62 | 16.8 | 5 | 1.4 | 1 | 0.3 | 5 | 1.4 | 4 | 1.1 | 369 |
| 1985 | 251 | 79.4 | 15 | 4.8 | 6 | 1.9 | 33 | 10.4 | 6 | 1.9 | 0 | 0 | 2 | 0.6 | 3 | 1.0 | 316 |
| 1986 | 280 | 82.8 | 18 | 5.3 | 4 | 1.2 | 29 | 8.6 | 1 | 0.3 | 0 | 0 | 1 | 0.3 | 5 | 1.5 | 338 |
| 1987 | 284 | 78.7 | 25 | 6.9 | 3 | 0.8 | 37 | 10.3 | 7 | 1.9 | 0 | 0 | 2 | 0.6 | 3 | 0.8 | 361 |
| 1988 | 338 | 77.2 | 36 | 8.2 | 5 | 1.1 | 43 | 9.8 | 6 | 1.4 | 0 | 0 | 10 | 2.3 | 0 | 0 | 438 |
| 15 Year Total | 3,616 | - | 453 | - | 80 | - | 542 | - | 76 | - | 14 | - | 115 | - | 95 | - | 4,991 |
| 15 Year Average | 241 | 72.6 | 30 | 9.0 | 5 | 1.5 | 36 | 10.9 | 5 | 1.5 | 1 | 0.3 | 8 | 2.4 | 6 | 1.8 | 326 |

Table 10. Personal use fishery catches for the Southern district of Cook Inlet, 1969-1986.

| Year | Number of Permits | | | Percent | Catch | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Issued | Returned | Not Fished | Returned | King | Sockeye | Coho | Pink | Chum | Other | Total |
| 1969 | 47 | 44 | 9 | 93.6 | 0 | 9 | 752 | 38 | 0 | 17 | 816 |
| 1970 | 78 | 73 | 18 | 93.6 | 0 | 12 | 1,179 | 143 | 13 | 39 | 1,386 |
| 1971 | 112 | 95 | 42 | 84.8 | 2 | 16 | 1,549 | 44 | 7 | 20 | 1,638 |
| 1972 | 135 | 105 | 41 | 77.8 | 1 | 11 | 975 | 48 | 69 | 19 | 1,123 |
| 1973 | 143 | 128 | 46 | 89.5 | 0 | 18 | 1,304 | 84 | 40 | 9 | 1,455 |
| 1974 | 148 | 118 | 66 | 80.3 | 0 | 16 | 376 | 43 | 77 | 27 | 539 |
| 1975 | 292 | 276 | 55 | 94.5 | 4 | 47 | 1,960 | 632 | 61 | 95 | 2,799 |
| 1976 | 242 | 221 | 83 | 91.3 | 16 | 46 | 1,962 | 1,513 | 56 | 75 | 3,668 |
| 1977 | 197 | 179 | 42 | 90.9 | 12 | 46 | 2,216 | 639 | 119 | 84 | 3,116 |
| 1978 | 311 | 264 | 113 | 84.9 | 4 | 35 | 2,482 | 595 | 34 | 89 | 3,239 |
| 1979 | 437 | 401 | 163 | 91.8 | 6 | 37 | 2,118 | 2,251 | 41 | 130 | 4,583 |
| 1980 | 533 | 494 | 195 | 92.7 | 43 | 32 | 3,491 | 1,021 | 25 | 153 1/ | 4,765 |
| 1981 | 384 | 374 | 100 | 97.4 | 25 | 64 | 4,314 | 732 | 89 | +100 | 5,324 |
| 1982 | 395 | 378 | 71 | 95.7 | 39 | 46 | 7,303 | 955 | 123 | 8 | 8,474 |
| 1983 | 360 | 328 | 118 | 91.1 | 4 | 21 | 2,525 | 330 | 40 | 2 | 2,922 |
| 1984 | 390 | 346 | 127 | 88.7 | 4 | 25 | 3,666 | 821 | 87 | 25 | 4,628 |
| 1985 | 316 | 302 | 97 | 95.6 | 5 | 43 | 3,372 | 166 | 35 | 3 | 3,624 |
| 1986 | 338 | 310 | 63 | 91.7 | 7 | 68 | 3,831 | 3,132 | 56 | 0 | 7,094 |
| 1987 | 361 | 338 | 89 | 93.6 | 5 | 50 | 3,977 | 279 | 61 | 0 | 4,372 |
| 1988 | 438 | 404 | 117 | 92.2 | 14 | 60 | 4,877 | 1,422 | 75 | 0 | 6,448 |
| 20 Year Total | 5,619 | 5,169 | 1,655 | - | 193 | 702 | 54,229 | 14,888 | 1,108 | 895 | 72,013 |
| 20 Year Average | 281 | 258 | 83 | 91.8 | 10 | 35 | 2,711 | 744 | 55 | 45 | 3,601 |

1/ Steelhead.

Table 11. Port Graham subsistence salmon harvest by year.

| Year | Chinook | Sockeye | Coho | Pink | Chum | Total |
|---|---|---|---|---|---|---|
| 1981 | 116 | 1,694 | 625 | 298 | 150 | 2,883 |
| 1982 | 98 | 798 | 508 | 851 | 193 | 2,448 |
| 1983 | 57 | 1,066 | 440 | 169 | 65 | 1,797 |
| 1984 | 21 | 2,095 | 166 | 215 | 6 | 2,503 |
| 1985 | 156 | 469 | 190 | 42 | 22 | 879 |
| 1986 | 118 | 279 | 179 | 234 | 13 | 823 |
| 1987a | 21 | 170 | 251 | 139 | 25 | 606 |
| 1987b | 21 | 186 | 574 | 264 | 69 | 1,114 |
| 1988 | 28 | 369 | 635 | 660 | 40 | 1,732 |
| Totals | 615 | 6,956 | 3,317 | 2,735 | 558 | 14,179 |
| Average | 77 | 870 | 415 | 342 | 70 | 1,772 |

a = setnet harvest only.
b = setnet and rod and reel harvests combined.

Table 12. English Bay subsistence salmon harvest by year.

| Year | Chinook | Sockeye | Coho | Pink | Chum | Total |
|---|---|---|---|---|---|---|
| 1981 | 24 | 1,075 | 314 | 621 | 19 | 2,053 |
| 1982 | 13 | 1,584 | 1,305 | 1,850 | 36 | 4,788 |
| 1983 | 0 | 1,784 | 367 | 363 | 10 | 2,524 |
| 1984 | 18 | 1,225 | 385 | 404 | 0 | 2,032 |
| 1985 | 5 | 696 | 530 | 313 | 2 | 1,546 |
| 1986 | 4 | 378 | 296 | 825 | 2 | 1,505 |
| 1987a | 1 | 563 | 178 | 183 | 4 | 929 |
| 1987b | 1 | 628 | 322 | 476 | 45 | 1,472 |
| 1988 | 72 | 430 | 199 | 613 | 36 | 1,350 |
| Totals | 138 | 7,800 | 3,718 | 5,465 | 150 | 17,270 |
| Average | 17 | 975 | 465 | 683 | 19 | 2,159 |

a = setnet harvest only.
b = setnet and rod and reel harvests combined.

Table 13. FRED division salmon stocking projects in Lower Cook Inlet and releases of salmon fry, fingerling or smolt by year in millions of fish.

| Lake, River or Bay | Species | 1984 | 1985 | 1986 | 1987 | 1988 |
|---|---|---|---|---|---|---|
| Leisure Lake | Sockeye | 2.110 | 2.018 | 2.350 | 2.022 | 2.100 |
| Chenik Lake | Sockeye | - | - | 0.839 | 1.000 | 2.600 |
| Paint River Lakes | | | | | | |
| Upper | Sockeye | | | 0.500 | - | 1.100 |
| Lower | Sockeye | | | 0.320 | - | 0.552 |
| Elusivak | Sockeye | | | | | 0.521 |
| Kirschner Lake | Sockeye | | | | 0.867 | 0.521 |
| Port Dick Lake | Sockeye | | | | 0.705 | 0.222 |
| Hazel Lake | Sockeye | | | | | 0.783 |
| Gore Point Lake | | 1/ | | | | |
| Petrof Lake | | 1/ | | | | |
| Grewingk Lake | | 1/ | | | | |
| Nuka Island Lake | | 1/ | | | | |
| Bruin Bay Lake #1 | | 1/ | | | | |
| Bruin Bay Lake #2 | | 1/ | | | | |
| Ursus Lagoon Lake | | 1/ | | | | |
| Bear Lake | | 1/ | | | | |
| English Bay Lakes | | 1/ | | | | |
| Rocky River Lake | | 1/ | | | | |
| Spotted Glacier Lake | | 1/ | | | | |
| Total Sockeye Stocked | | 2.110 | 2.018 | 4.009 | 4.594 | 8.399 |
| Tutka Bay Hatchery | Pink | 14.730 | 19.560 | 22.500 | 19.570 | 12.000 |
| | Chum | 0.026 | 0.018 | 0.449 | 4.050 | 3.180 |
| Caribou Lake | Coho | | 0.139 | 0.138 | 0.150 | 0.150 |
| Seldovia Lake | Coho | | 0.083 | 0.072 | 0.045 | 0.045 |
| Seldovia Bay | King | | | | 0.084 | 0.084 |
| Hal. Cove Lag. | King | | 0.098 | 0.101 | 0.094 | 0.094 |
| | Pink | | | 2.000 | 3.000 | 3.000 |
| Homer Spit | King | | 0.152 | 0.104 | 0.104 | 0.104 |
| | Pink | | | | 0.295 | 0.300 |
| | Coho | | | | | 0.060 |

1/ Potential systems for stocking in future.

Table 14. Lower Cook Inlet Pacific herring catches in short tons by district, 1961-1988.

| Year | District | | | | Total |
|---|---|---|---|---|---|
| | Southern | Kamishak | Eastern | Outer | |
| 1961 | 0 | 0 | 1 | 0 | 1 |
| 1962 | 0 | 0 | 0 | 0 | 0 |
| 1963 | 1 | 0 | 0 | 0 | 1 |
| 1964 | + | 0 | 0 | 0 | + |
| 1965 | 2 | 0 | 0 | 0 | 2 |
| 1966 | 0 | 0 | 7 | 0 | 7 |
| 1967 | 0 | 0 | 0 | 0 | 0 |
| 1968 | 20 | 0 | 0 | 0 | 20 |
| 1969 | 551 | 0 | 758 | 38 | 1,347 |
| 1970 | 2,709 | 0 | 2,100 | 0 | 4,809 |
| 1971 | 13 | 0 | 831 | 0 | 844 |
| 1972 | 1 | 0 | 30 | 0 | 31 |
| 1973 | 204 | 243 | 831 | 301 | 1,579 |
| 1974 | 110 | 2,114 | 47 | 384 | 2,655 |
| 1975 | 24 | 4,119 | 0 | 0 | 4,143 |
| 1976 | 0 | 4,842 | 0 | 0 | 4,842 |
| 1977 | 291 | 2,908 | 0 | 0 | 3,199 |
| 1978 | 17 | 402 | 0 | 0 | 419 |
| 1979 | 13 | 415 | 0 | 0 | 428 |
| 1980 | 0 | 0 | 0 | 0 | 0 |
| 1981 | 0 | 0 | 0 | 0 | 0 |
| 1982 | 0 | 0 | 0 | 0 | 0 |
| 1983 | 0 | 0 | 0 | 0 | 0 |
| 1984 | 0 | 0 | 0 | 0 | 0 |
| 1985 | 0 | 1,132 | 204 | 12 | 1,348 |
| 1986 | 0 | 1,959 | 167 | 28 | 2,154 |
| 1987 | 0 | 6,132 | 584 | 202 | 6,918 |
| 1988 | 0 | 5,548 | 0 | 57 | 5,605 |
| Total | 3,956 | 29,814 | 5,560 | 1,022 | 40,353 |
| Average | 283 | 2,710 | 505 | 146 | 1,441 |

Data Source: Final IBM runs.

Table 15. Pacific herring biomass estimates in tons and harvest rates for the Kamishak district of Lower Cook Inlet.

| Year | Spawning Biomass 1/ | Commercial Harvest | Total Biomass | Harvest Rate % |
|---|---|---|---|---|
| 1978 | 800 | 402 | 1,202 | 33.4 |
| 1979 | 2,900 | 415 | 3,315 | 12.5 |
| 1980 | - | 0 | - | - |
| 1981 | 5,130 | 0 | 5,130 | - |
| 1982 | 4,835 | 0 | 4,835 | - |
| 1983 | 4,750 | 0 | 4,750 | - |
| 1984 | 2,885 2/ | 0 | 6,500 | - |
| 1985 | 12,188 | 1,132 | 13,320 | 8.5 |
| 1986 | 24,042 | 1,959 | 26,001 | 7.5 |
| 1987 | 29,200 | 6,132 | 35,332 | 17.4 |
| 1988 | 24,000 | 5,548 | 29,548 | 18.8 |

1/ Spawning biomass estimates are minimal estimates based on aerial surveys and an attempt not to duplicate tonnages.

2/ Spawning had already begun on first survey. Total spawning estimate was felt to be above 6,500 ton level. Peak survey estimate was only 2,885 tons.

Table 16. Kamishak Bay District age class composition of Pacific herring in the commercial sac roe seine fishery and spawning biomass estimates for 1988.

| Age Class | Spawning Biomass Estimate: Early Tons | Early Percent | Late Tons | Late Percent | Total Tons | Total Percent | Total Commercial Harvest | Percent | Total Biomass | Percent |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 100 | 0.5 | 578 | 14.1 | 678 | 2.8 | 28 | 0.5 | 706 | 2.4 |
| 4 | 4,298 | 21.6 | 2,099 | 49.1 | 6,312 | 26.3 | 1,198 | 21.6 | 7,510 | 25.4 |
| 5 | 4,099 | 20.6 | 1,013 | 24.7 | 5 112 | 21.3 | 1,143 | 20.6 | 6,255 | 21.2 |
| 6 | 478 | 2.4 | 41 | 1.0 | 519 | 2.2 | 133 | 2.4 | 652 | 2.2 |
| 7 | 4,000 | 20.1 | 160 | 3.9 | 4,160 | 17.3 | 1,115 | 20.1 | 5,275 | 17.8 |
| 8 | 2,090 | 10.5 | 80 | 2.0 | 2,169 | 9.0 | 583 | 10.5 | 2,752 | 9.3 |
| 9 | 2,129 | 10.7 | 107 | 2.6 | 2,236 | 9.3 | 594 | 10.7 | 2,830 | 9.6 |
| 10 | 955 | 4.8 | 41 | 1.0 | 996 | 4.2 | 266 | 4.8 | 1,262 | 4.3 |
| 11+ | 1,751 | 8.8 | 81 | 1.6 | 1,818 | 7.6 | 488 | 8.8 | 2,306 | 7.8 |
| Total | 19,900 | 100.0 | 4,100 | 100.0 | 24,000 | 100.0 | 5,548 | 100.0 | 29,548 | 100.0 |

Table 17. Biomass estimates and harvest rates for 1988, 1989 estimated biomass available for harvest and 1989 projected harvests of Kamishak District herring. 1/

| Age Class | 1988 Total Biomass | Harvest Rates | 1989 Projected Biomass | Harvest Rate | 1989 Projected Harvest |
|---|---|---|---|---|---|
| 3 | 706 | | 642 | 10% | 64 |
| 4 | 7,510 | 16.4 % | 2,365 | 10% | 236 |
| 5 | 6,255 | | 15,340 | 10% | 1,534 |
| 6 | 652 | | 9,205 | 20% | 1,841 |
| 7 | 5,275 | | 723 | 20% | 145 |
| 8 | 2,752 | 21.1% | 4,620 | 20% | 924 |
| 9 | 2,830 | | 1,939 | 20% | 388 |
| 10 | 1,262 | | 1,627 | 20% | 325 |
| 11+ | 2,306 | | 1,326 | 20% | 265 |
| Total | 29,548 | 18.8% | 37,785 | 15.1% | 5,722 |

* No estimate made.
** Kamishak district only.
1/ Preliminary projections of 1989 biomass and harvest.

Table 18. Groundfish landings within Region II (round weight in pounds) by species from state and federal waters for the years 1981-1988.

| Year | Pacific Cod | Flatfish | Rockfish | Sablefish | Other | Yearly Total |
|---|---|---|---|---|---|---|
| 1981 | 11,020 | 72,732 | 134,444 | 2,204 | 88,160 | 308,560 |
| 1982 | 26,448 | 132,240 | 22,040 | 130,036 | 70,528 | 381,292 |
| 1983 | 22,040 | 28,652 | 37,468 | 304,152 | 136,648 | 528,960 |
| 1984 | 8,816 | 11,020 | 94,772 | 3,193,596 | 15,428 | 3,323,632 |
| 1985 | 68,324 | 74,936 | 3,920,916 | 6,012,512 | 185,136 | 10,261,824 |
| 1986 | 189,544 | 59,508 | 2,129,064 | 9,406,672 | 26,448 | 11,811,236 |
| 1987 | 2,999,334 | 881,985 | 8,028,832 | 12,004,742 | 166,578 | 24,081,471 |
| 1988[a] | 1,814,104 | 1,384,014 | 16,282,609 | 17,026,266 | 418,721 | 36,925,714 |

a Preliminary data as of October 25, 1988.

Table 19. Total groundfish harvest (pounds) within Region II by species, percent composition and percent processed on-shore and at sea, Jan. 1 - Oct. 25, 1988.

| Species | Total Reported Harvest (Round wt) | Percentage of Total Reported Harvest | Round Wt Caught and Processed at Sea | Round Wt. Processed Shore-side | Percent Processed at Sea | Percent Processed Shore-side |
|---|---|---|---|---|---|---|
| Sablefish | 17,026,266 | 46% | 1,992,073 | 15,034,193 | 12% | 88% |
| Rockfish | 16,282,609 | 44% | 15,380,421 | 902,184 | 94% | 6% |
| Pacific Cod | 1,814,104 | 5% | 370,077 | 1,444,027 | 20% | 80% |
| Flatfish | 1,383,014 | 4% | 1,360,486 | 23,528 | 98% | 2% |
| Other | 418,721 | 1% | 361,775 | 56,946 | 86% | 14% |
| Totals | 36,925,714 | 100% | 19,464,832 | 17,460,878 | 53% | 47% |

Table 20. Total bottomfish harvest within Region II from both state and federal waters (round weight in pounds) by port, Jan. 1 - Oct 25, 1988.

| Port | Sablefish | Rockfish | Pacific Cod | Flatfish | Other Bottomfish | Totals |
|---|---|---|---|---|---|---|
| Anchorage | 76 | 474 | 0 | 0 | 241 | 791 |
| Cordova | 2,607,266 | 252,738 | 179,268 | 16,955 | 40,012 | 3,096,239 |
| Homer | 1,109,840 | 19,254 | 260,220 | 50 | 955 | 1,390,319 |
| Kasilof | 0 | 0 | 445 | 0 | 0 | 445 |
| Kenai | 93,745 | 1,630 | 61,513 | 0 | 0 | 156,888 |
| Seldovia | 102,013 | 57,838 | 18,193 | 0 | 6,484 | 184,528 |
| Seward | 10,810,996 | 499,011 | 752,938 | 6,353 | 8,779 | 12,078,077 |
| Valdez | 48,406 | 16,377 | 171,450 | 0 | 475 | 236,708 |
| Whittier | 261,851 | 54,866 | 0 | 170 | 0 | 316,887 |
| Catch/Proc | 1,992,073 | 15,380,421 | 370,077 | 1,360,486 | 361,775 | 19,464,832 |
| Total | 17,026,266 | 16,282,609 | 1,814,104 | 1,384,014 | 418,721 | 36,925,714 |

Table 21. Total ex-vessel value of Region II groundfish deliveries by species, 1981-1988.

| Year | P.cod | Flatfish | Rockfish | Sablefish | Other | Total |
|---|---|---|---|---|---|---|
| 1981 | | | | | | $109,850 |
| 1892 | | | | | | $157,600 |
| 1983 | | | | | | $245,950 |
| 1984 | | | | | | $2,127,479 |
| 1985 | | | | | | $7,767,556 |
| 1986 | | | | | | $11,161,387 |
| 1987 | $805,723 | $124,935 | $2,841,169 | $9,634,450 | $69,886 | $13,476,163 |
| 1988* | $362,820 | $359,843 | $3,582,173 | $14,983,114 | $100,493 | $19,388,443 |

Preliminary data January 1-October 25, 1988.

Table 22. Estimate of ex-vessel value of groundfish within Region II processed on-shore and at sea, Jan. 1 - Oct. 25, 1988.

| Species | Average Price/Lb (Round wt.) | Ex-vessel Value Processed Shore-side | Est. Value Processed at Sea[a] | Total Est. Value | Percentage of Total Estimated Value |
|---|---|---|---|---|---|
| Sablefish | $0.88 | $13,230,090 | $1,753,024 | $14,983,114 | 77% |
| Rockfish | $0.22 | $198,480 | $3,383,693 | $3,582,173 | 18% |
| Pacific Cod | $0.20 | $288,805 | $74,015 | $362,820 | 2% |
| Flatfish | $0.26 | $6,117 | $353,726 | $359,843 | 2% |
| Other | $0.24 | $13,667 | $86,826 | $100,493 | 1% |
| Totals | | $13,737,159 | $5,651,284 | $19,388,443 | 100% |

a Information on the value of groundfish processed at sea is unavailable. For the purposes of estimating the value of groundfish caught and processed at sea the average price per pound value calculated for shore-side processing has been used.

Table 23. Total number of deliveries and vessels operating in state and federal waters within Region II, 1987-1988

| Port | Deliveries | | Vessels | |
|---|---|---|---|---|
| | 1987 | 1988 | 1987 | 1988 |
| Anchorage | 6 | 6 | 5 | 3 |
| Cordova | 241 | 173 | 112 | 58 |
| Homer | 468 | 266 | 136 | 90 |
| Kasilof | 0 | 1 | 0 | 1 |
| Kenai | 121 | 39 | 63 | 33 |
| Nikiski | 1 | 0 | 1 | 0 |
| Seldovia | 414 | 55 | 92 | 28 |
| Seward | 504 | 627 | 185 | 201 |
| Valdez | 60 | 86 | 30 | 30 |
| Whittier | 71 | 124 | 31 | 117 |
| Totals | 1,886 | 1,377 | 655 | 561 |

Table 24. Prince William Sound sablefish harvest in metric tons and pounds and number vessels and landings, 1985 to 1988.

| Year | Total Harvest Round Wt Pounds (Metric tons) | Number of Vessels | Number of Deliveries | Price per Lb. | Ex-vessel Value | Number of Permits Issued |
|---|---|---|---|---|---|---|
| 1985 | 383,285 (173.09) | 29 | 108 | | | |
| 1986 | 189,852 (86.14) | 32 | 36 | | | 88 |
| 1987 | 205,345 (93)[a] | 71 | 120 | $0.90 | $184,811 | 116 |
| 1988[b] | 220,230 (99.92) | 54 | 145 | $0.95 | $204,945 | 76 |

a It is estimated that an additional 10% of the total catch was likely consumed by killer whales (Orcinus orca) during haul back of commercial longline gear.

b Preliminary data.

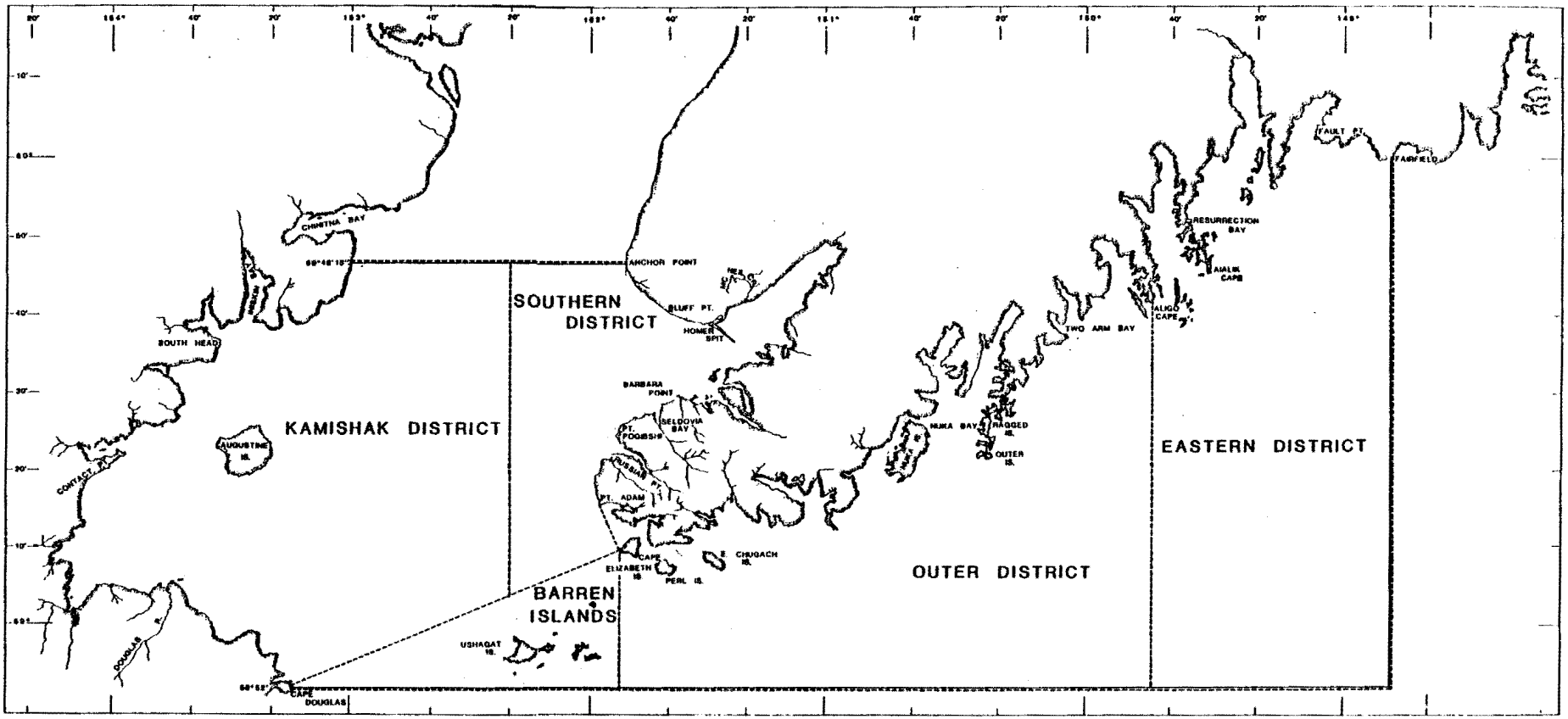



Figure 1. Lower Cook Inlet management area.

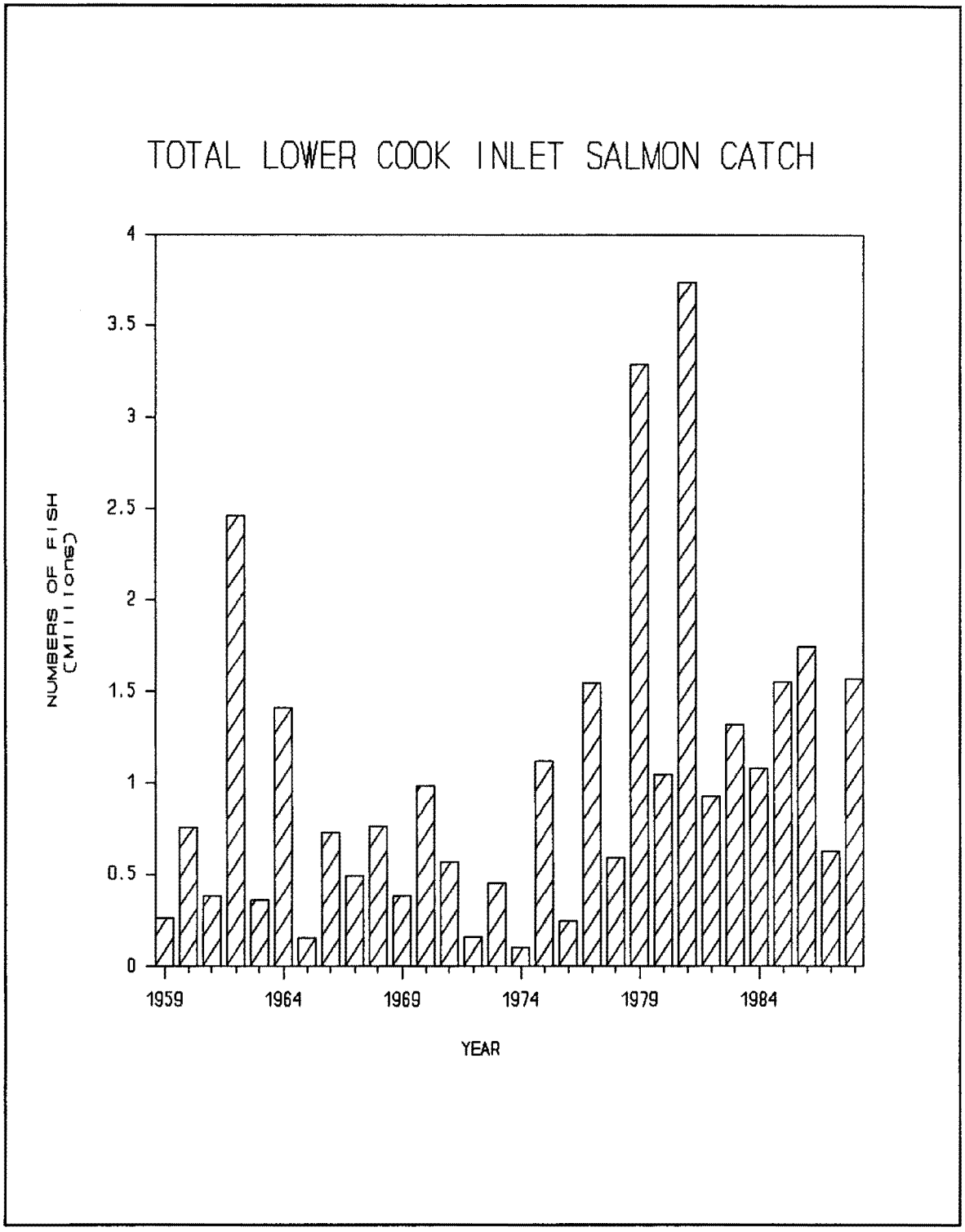



Figure 2. Lower Cook Inlet total salmon catch, 1959-1988.

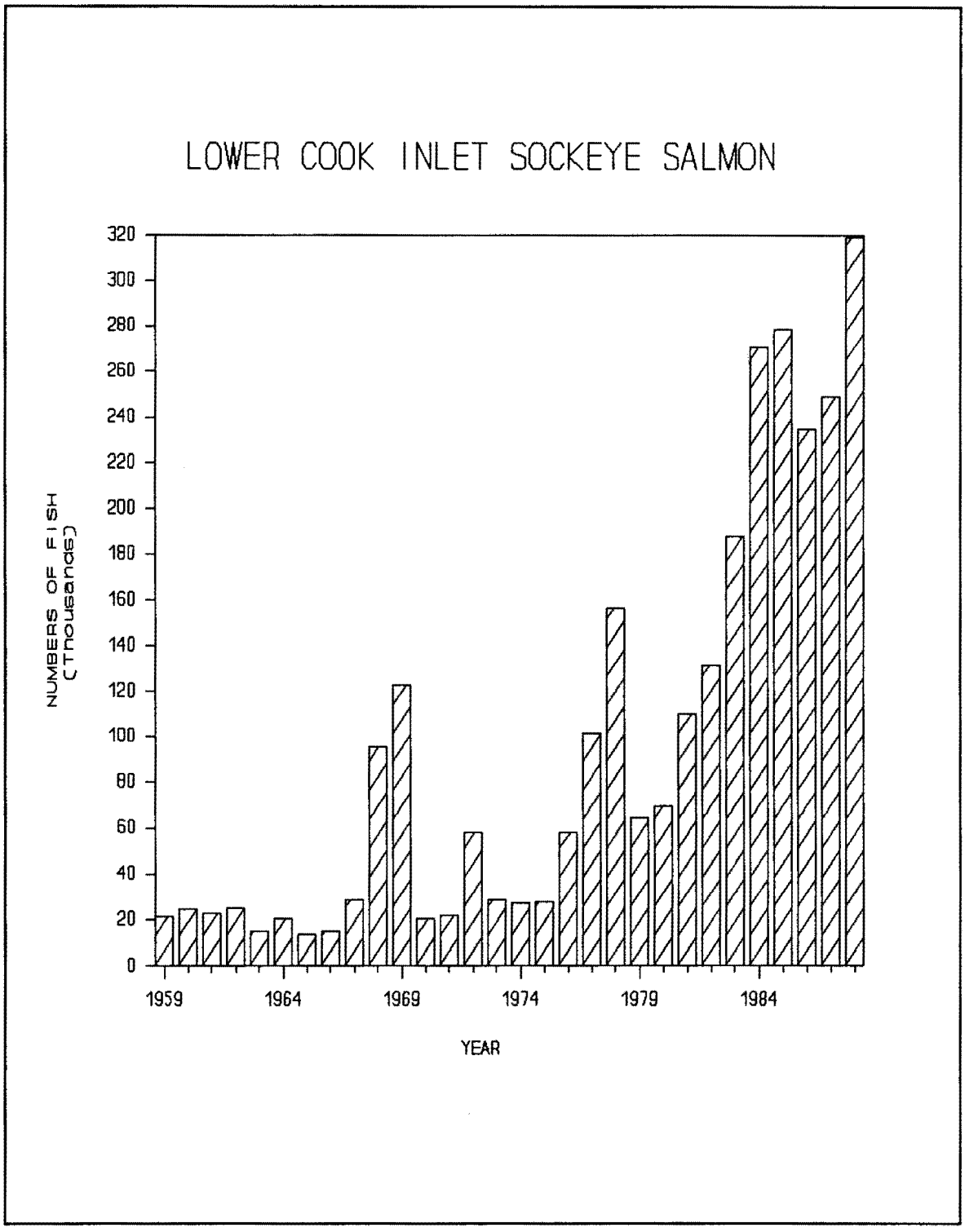



Figure 3. Lower Cook Inlet sockeye salmon catch, 1959-1988.

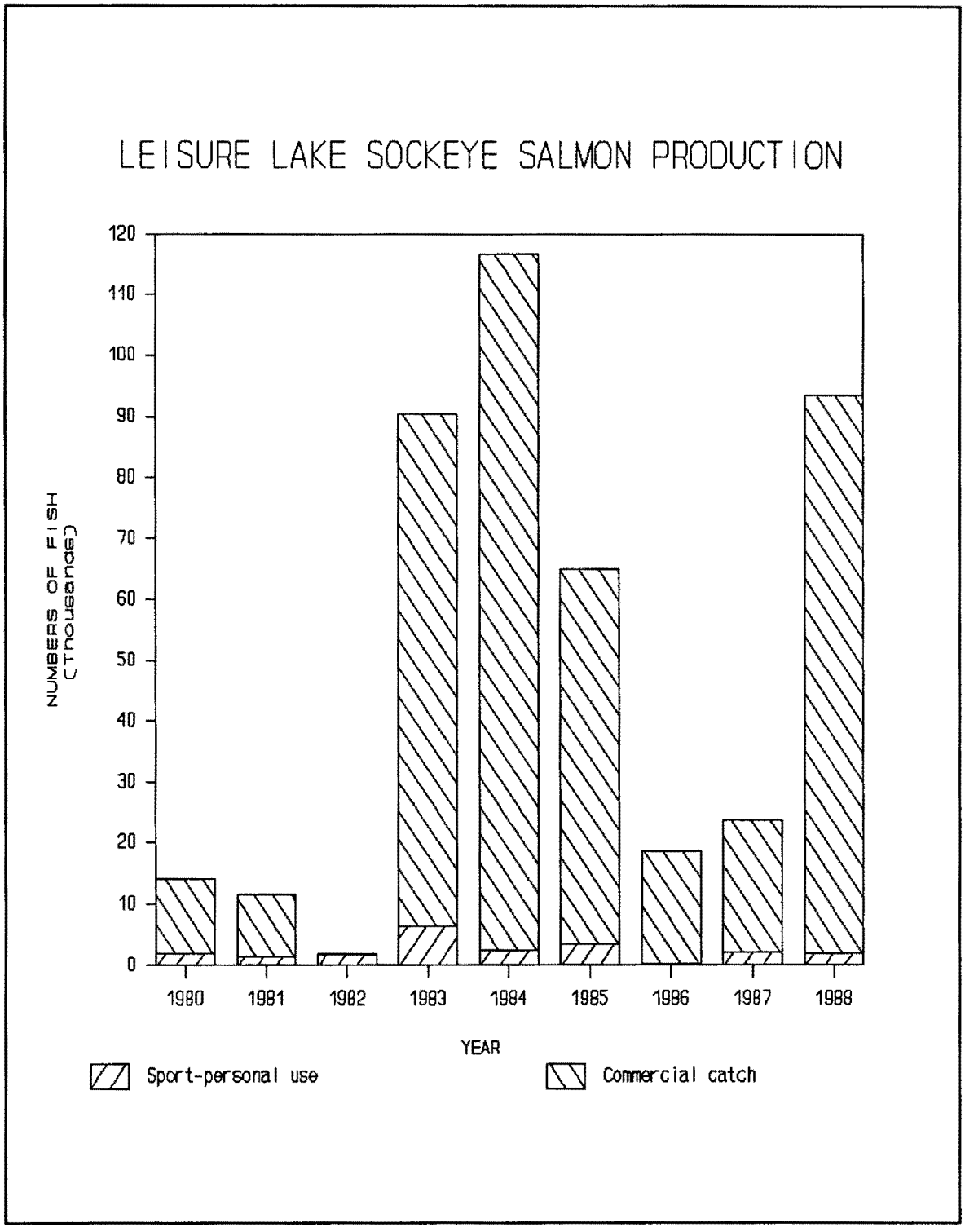



Figure 4. Leisure Lake sockeye salmon returns.

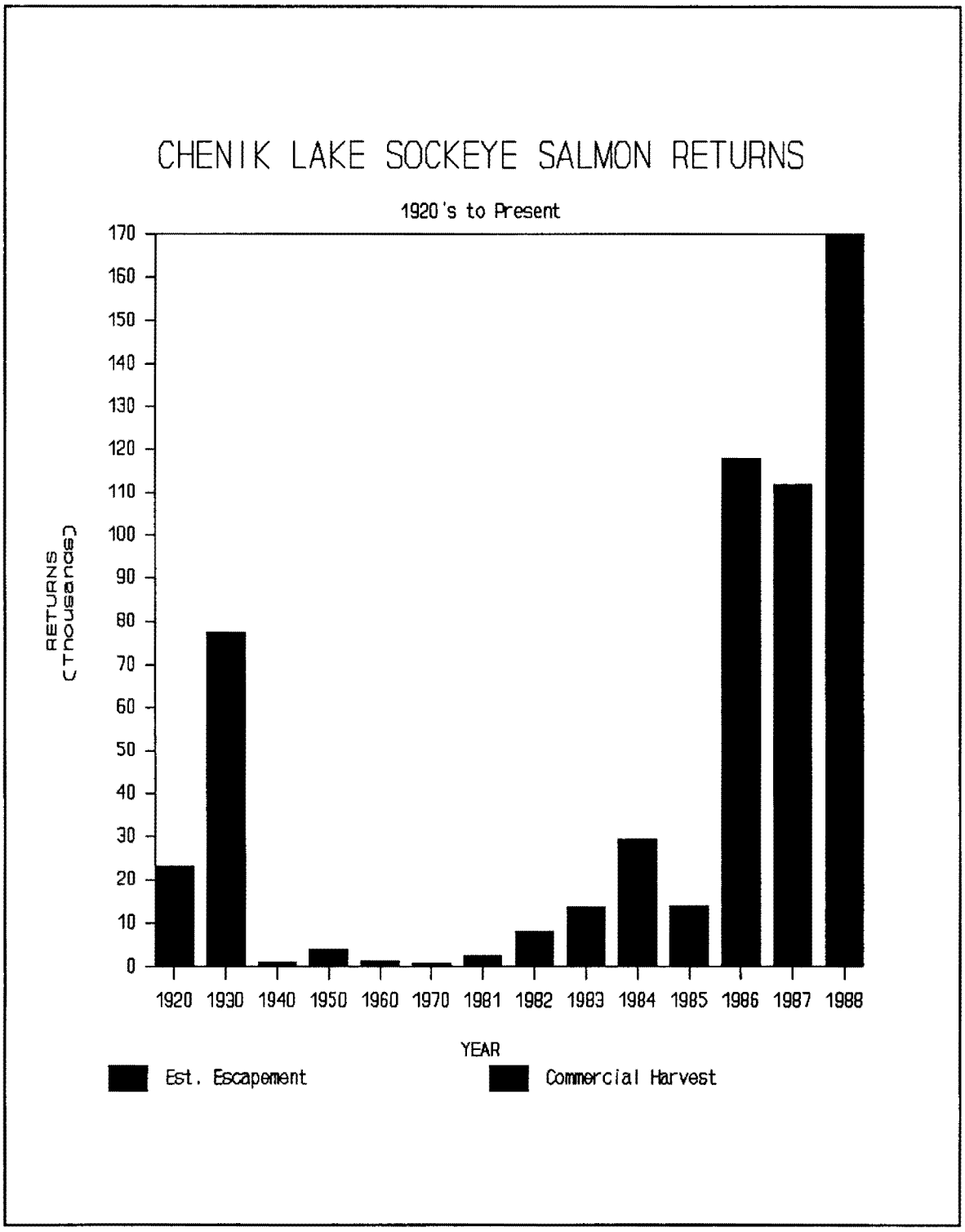



Figure 5. Chenik Lake sockeye salmon retuns.

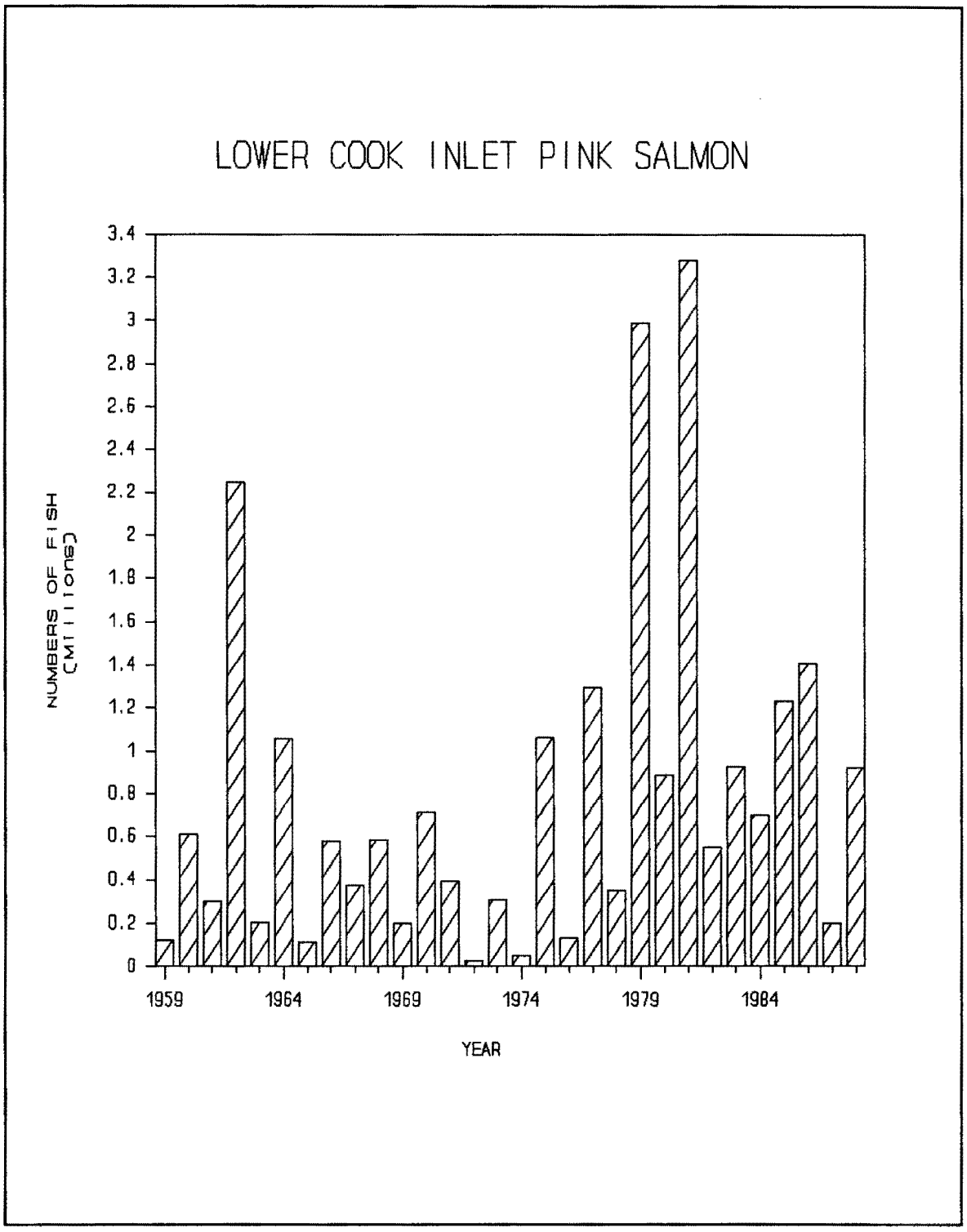



Figure 6. Lower Cook Inlet pink salmon catch, 1959-1988.

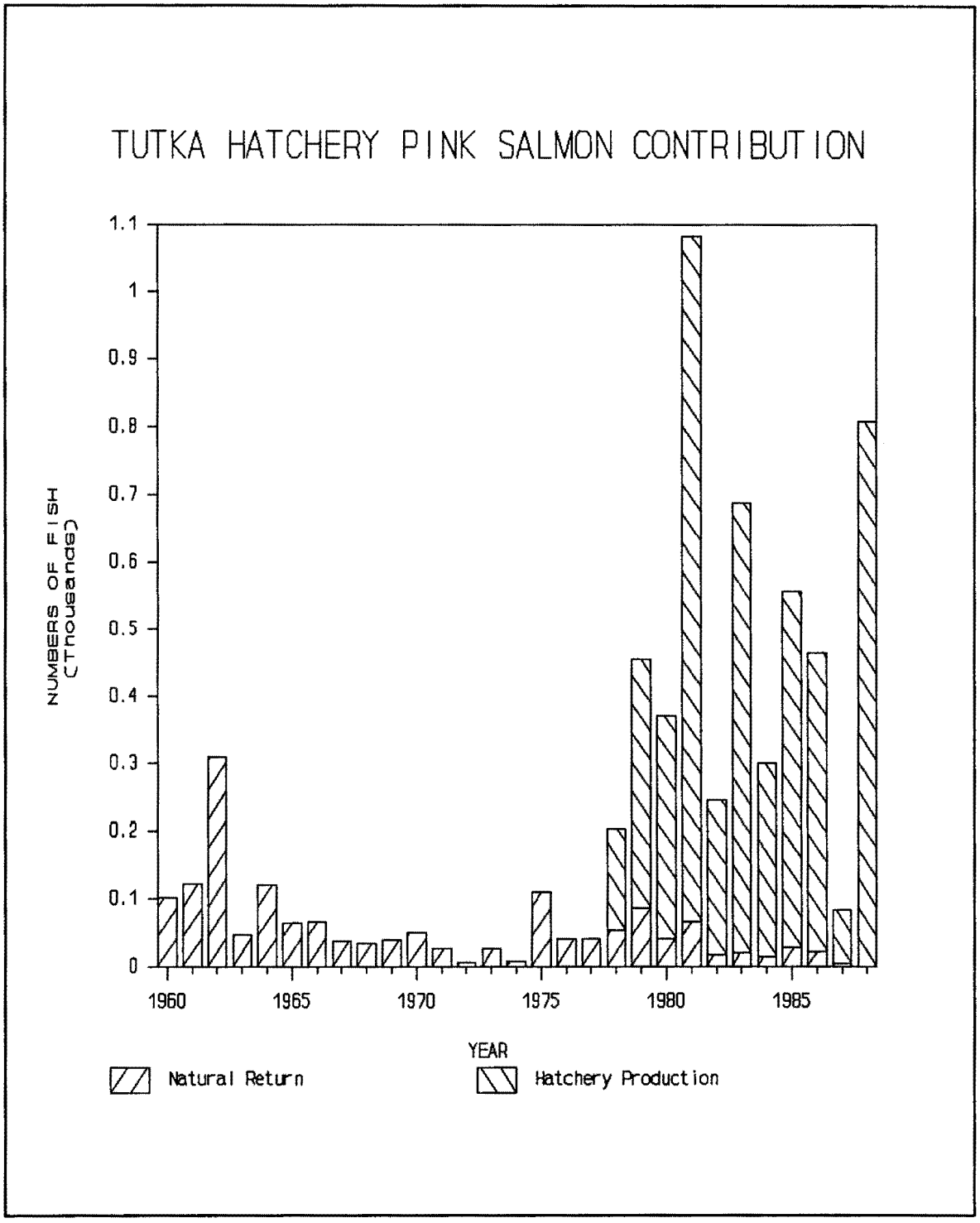



Figure 7. Tutka Creek wild pink salmon return with recent years' hatchery contribution.

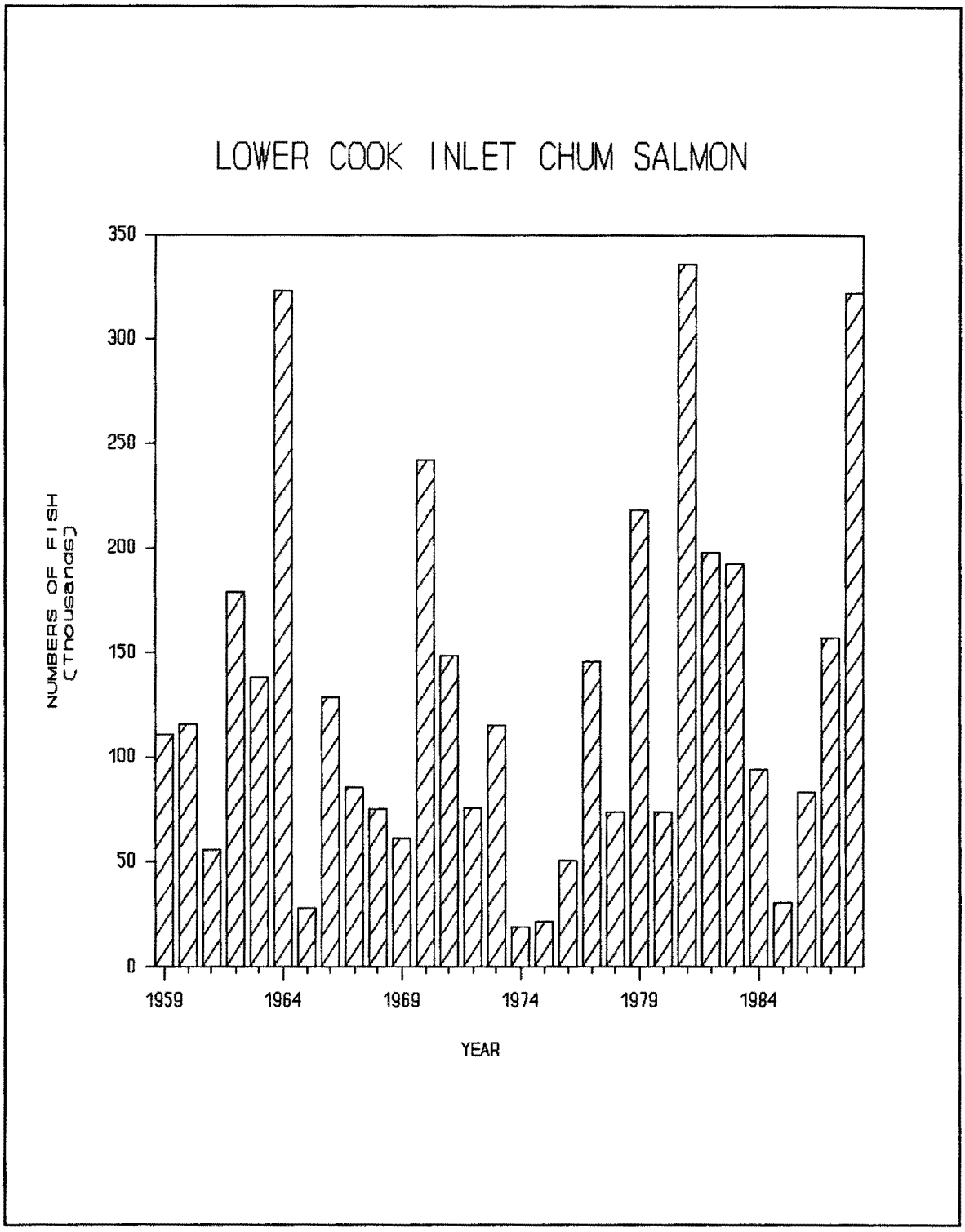



Figure 8. Lower Cook Inlet chum salmon catch, 1959-1988.

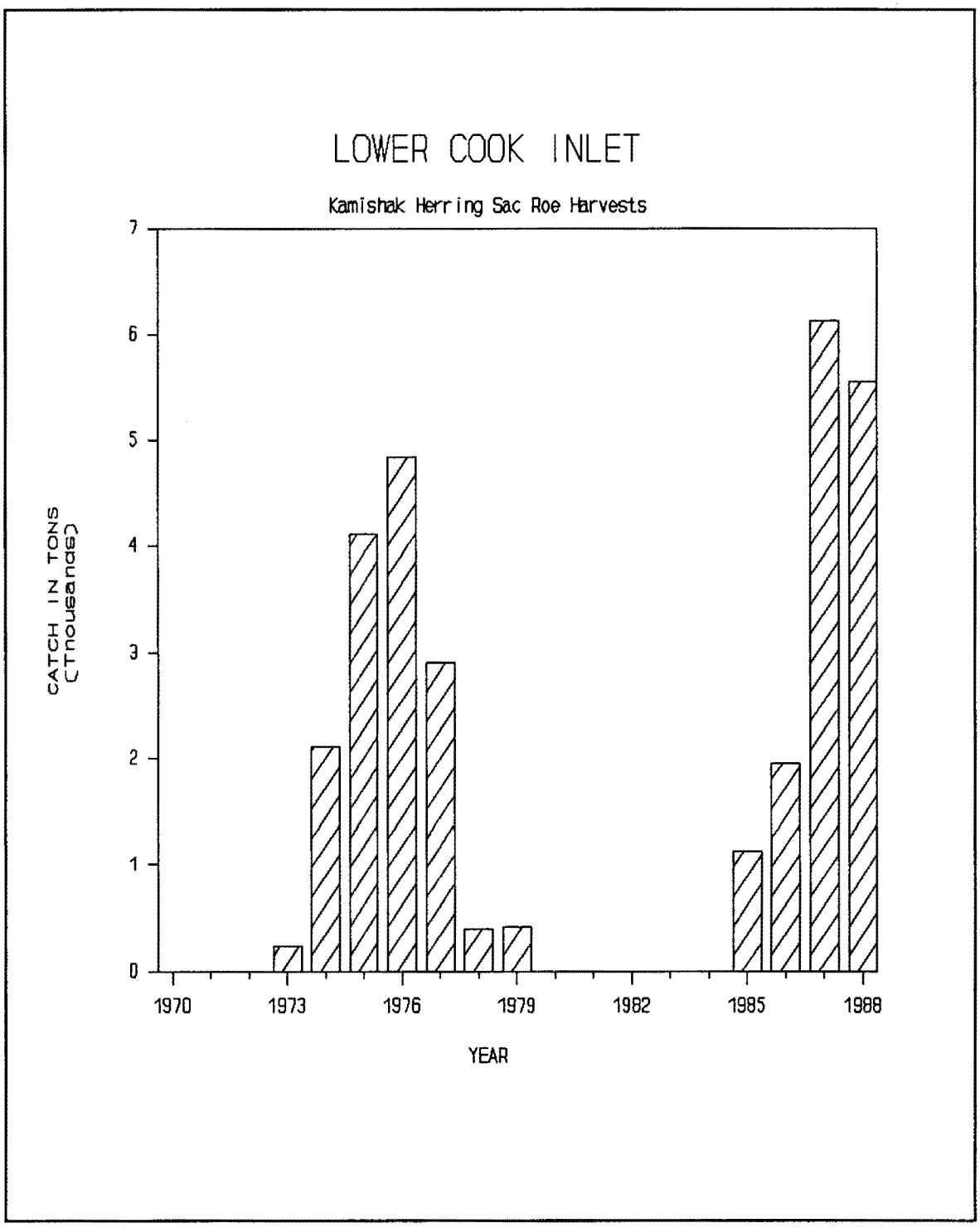



Figure 9. Kamishak District Pacific herring sac roe harvest.

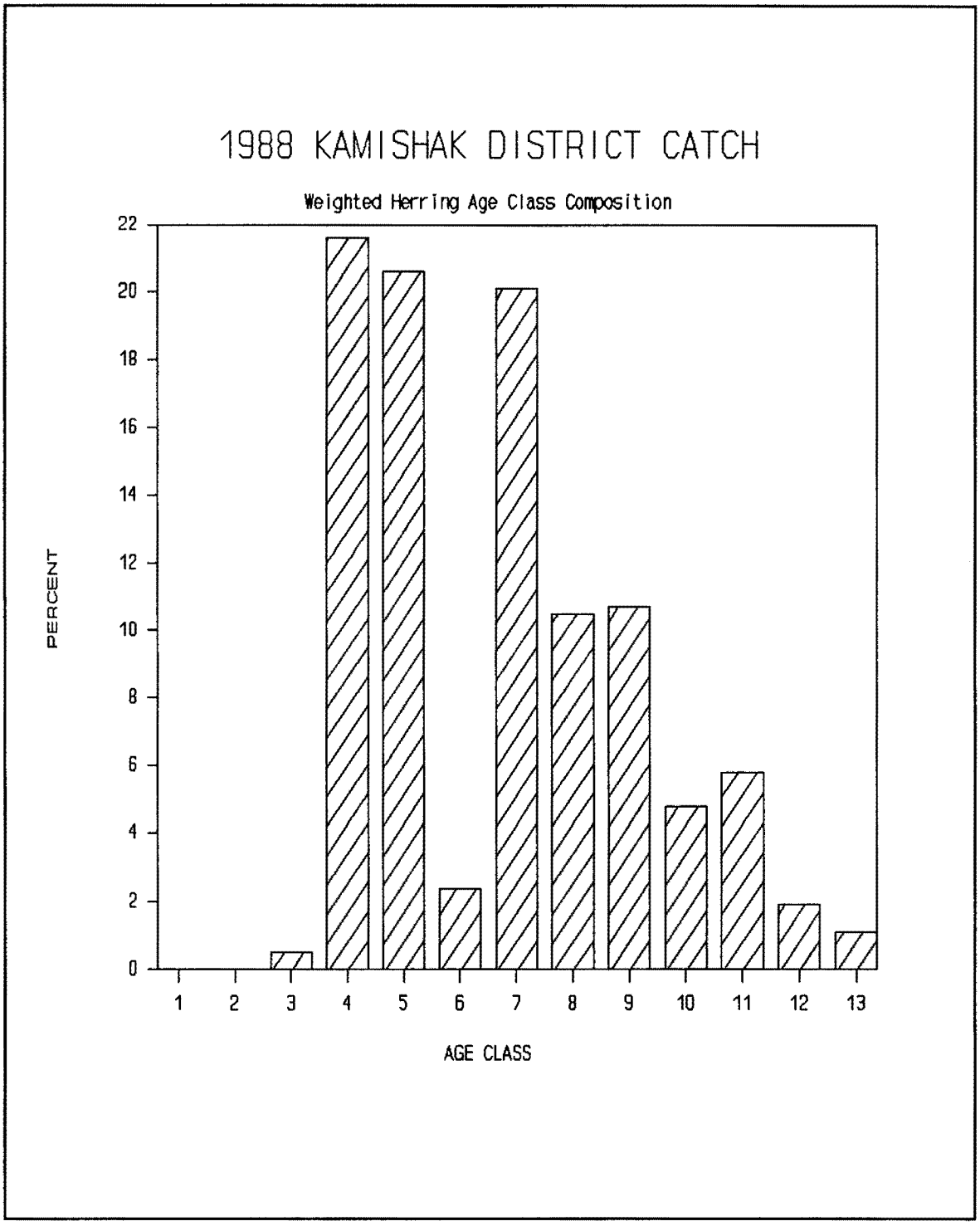



Figure 10. Weighted age class composition of the Kamishak District Pacific herring sac roe harvest, 1988.

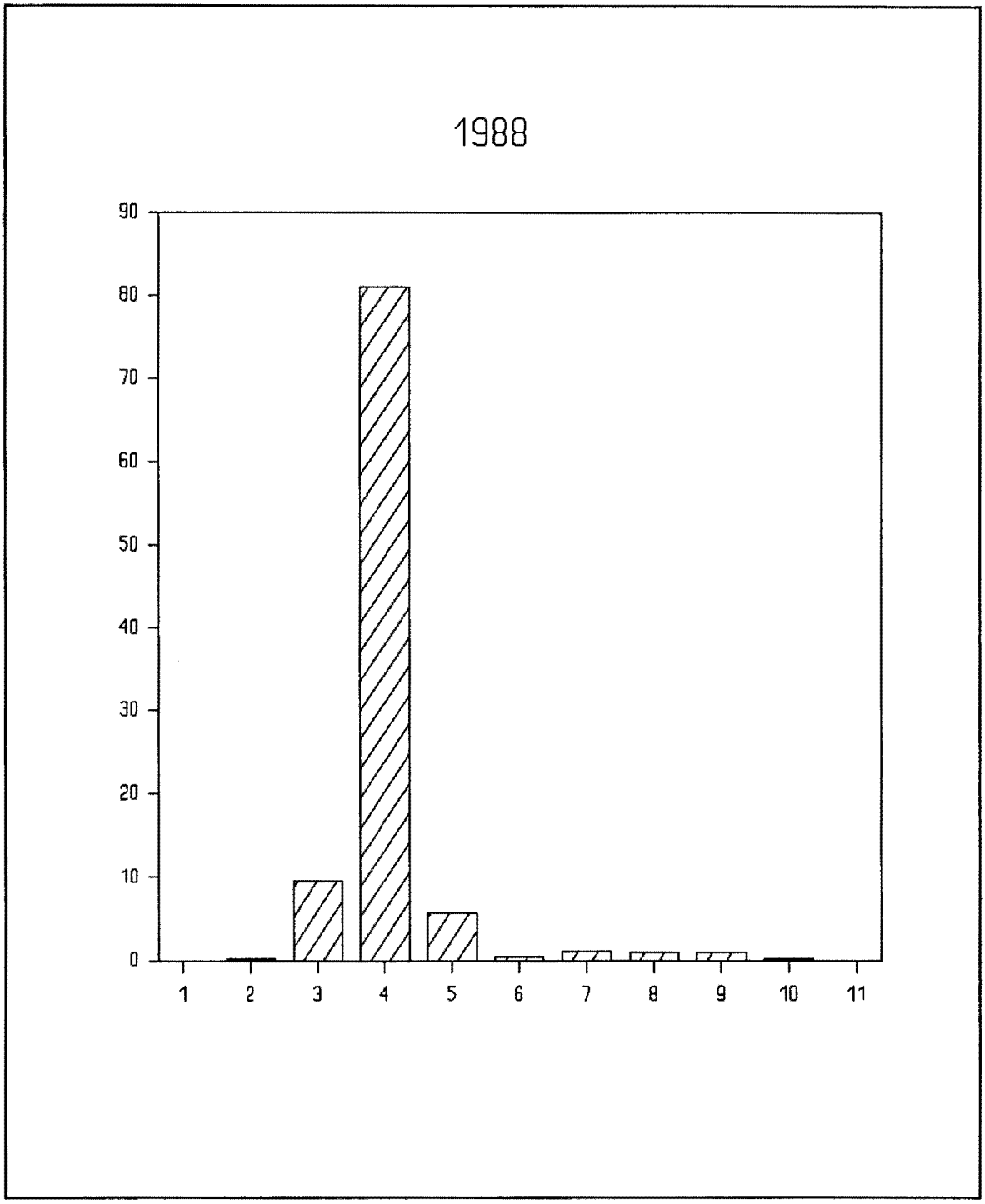
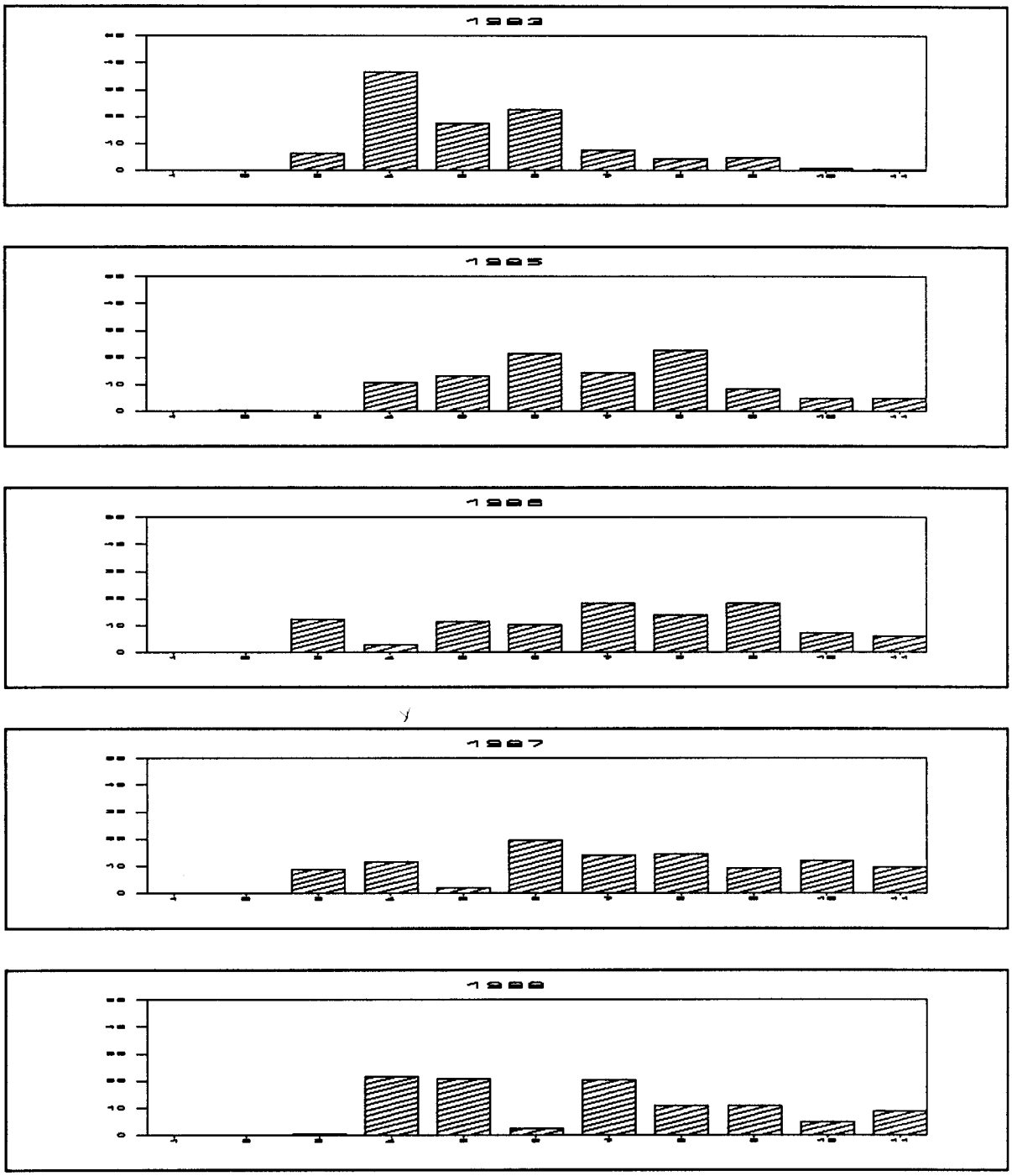



Figure 11. Weighted age class composition of the Outer and Eastern Districts Pacific herring sac roe harvest, 1988.



AGE

Figure 12. Comparison of the age class compositions of the 1983 test fishing samples and 1985-1988 Kamishak District Pacific herring sac roe harvests.

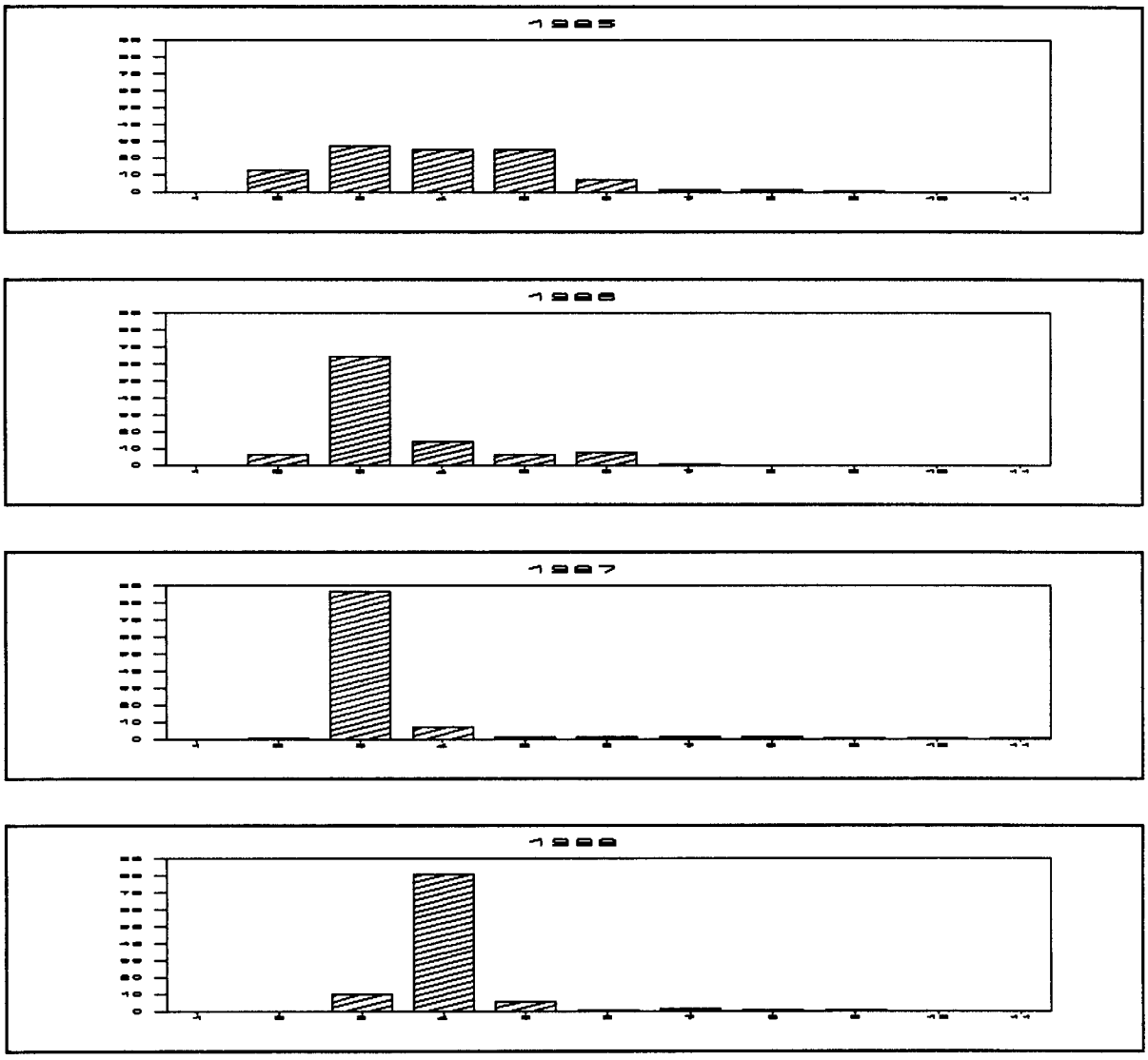



Figure 13. Comparison of the age class composition of the 1985-1988 Outer and Eastern Districts Pacific herring sac roe harvests.

Appendix A.1. Salmon fishing licenses and permits issued and fished in Lower Cook Inlet, 1960-1988.

| | 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 | | 49 | 51 | 100 | 63 | 27 |
| 1976 | | 63 | 16 | 79 | 53 | 25 |
| 1977 | | 72 | 10 | 82 | 72 | 26 |
| 1978 | | 74 | 9 | 83 | 72 | 39 |
| 1979 | | 75 | 9 | 84 | 75 | 38 |
| 1980 | | 75 | 9 | 84 | 83 | 40 |
| 1981 | | 75 | 10 | 85 | 85 | 40 |
| 1982 | | 77 | 7 | 84 | 69 | 39 |
| 1983 | | 78 | 5 | 83 | 83 | 24 |
| 1984 | 1/ | 78 | 3 | 81 | 39 | 35 |
| 1985 | | 80 | 1 | 81 | 51 | 34 |
| 1986 | | 79 | 0 | 79 | 62 | 34 |
| 1987 | | 79 | 0 | 79 | 66 | 29 |
| 1988 | | 79 | 0 | 79 | 71 | 27 |
| Total | | 948 | 130 | 2,395 | 1,303 | 460 |
| Average | | 68 | 9 | 83 | 57 | 31 |

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

Appendix A.2. Ex-vessel value of Lower Cook Inlet commercial salmon harvest in thousands of dollars by species, 1960-1988.

| 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 | 1,196 | 298 | 1,906 |
| 1981 | 18 | 740 | 69 | 5,334 | 1,346 | 7,507 |
| 1982 | 28 | 827 | 367 | 406 | 820 | 2,448 |
| 1983 | 20 | 704 | 57 | 696 | 513 | 1,990 |
| 1984 2/ | 23 | 1,393 | 120 | 635 | 242 | 2,413 |
| 1985 | 47 | 1,637 | 86 | 974 | 78 | 2,822 |
| 1986 | 21 | 1,414 | 132 | 1,245 | 201 | 3,013 |
| 1987 | 27 | 1,951 | 118 | 295 | 598 | 2,989 |
| 1988 | 32 | 3,583 | 127 | 1,957 | 2,548 | 8,247 |
| 29 Year Total | 356 | 16,952 | 1,407 | 24,757 | 10,619 | 54,091 |
| 29 Year Average | 12 | 585 | 49 | 854 | 366 | 1,865 |

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 A.3. Average salmon price per pound by species in dollars, Lower Cook Inlet, 1960-1988.

| Year | King | Sockeye | Coho | Pink | Chum |
|---|---|---|---|---|---|
| 1960 | 0.25 2/ | 0.27 | 0.18 | 0.15 | 0.16 |
| 1961 | 0.24 2/ | 0.24 | 0.15 | 0.11 | 0.08 |
| 1962 | 0.23 2/ | 0.27 | 0.16 | 0.15 | 0.07 |
| 1963 | 0.25 2/ | 0.27 | 0.15 | 0.13 | 0.08 |
| 1964 | 0.24 2/ | 0.27 | 0.15 | 0.10 | 0.07 |
| 1965 | 0.22 2/ | 0.24 | 0.11 | 0.08 | 0.08 |
| 1966 | 0.22 2/ | 0.24 | 0.14 | 0.11 | 0.08 |
| 1967 | 0.26 | 0.26 | 0.15 | 0.11 | 0.08 |
| 1968 | 0 | 0.25 | 0.17 | 0.18 | 0.09 |
| 1969 | 0 | 0.27 | 0.23 | 0.17 | 0.13 |
| 1970 | 0.35 | 0.27 | 0.18 | 0.12 | 0.13 |
| 1971 | 0.53 | 0.28 | 0.24 | 0.18 | 0.15 |
| 1972 | 0.45 | 0.36 | 0.44 | 0.20 | 0.28 |
| 1973 | 0.93 | 0.48 | 0.39 | 0.27 | 0.29 |
| 1974 | 0.76 | 1.54 | 0.72 | 0.48 | 0.56 |
| 1975 | 0.61 | 0.61 | 0.49 | 0.37 | 0.43 |
| 1976 | 0.91 | 0.77 | 0.59 | 0.37 | 0.48 |
| 1977 | 1.07 | 0.86 | 0.55 | 0.35 | 0.45 |
| 1978 | 1.09 | 1.31 | 0.97 | 0.30 | 0.54 |
| 1979 | 1.54 | 1.53 | 0.89 | 0.43 | 0.60 |
| 1980 | 1.30 | 0.88 | 0.85 | 0.42 | 0.52 |
| 1981 | 1.35 | 1.10 | 0.75 | 0.44 | 0.49 |
| 1982 | 1.29 | 1.05 | 0.87 | 0.23 | 0.46 |
| 1983 | 1.00 | 0.75 | 0.70 | 0.25 | 0.29 |
| 1984 | 1.29 | 1.05 | 0.77 | 0.26 | 0.28 |
| 1985 | 1.60 | 1.25 | 0.85 | 0.22 | 0.31 |
| 1986 | 1.25 | 1.40 | 0.85 | 0.26 | 0.30 |
| 1987 | 1.25 | 1.60 | 1.00 | 0.42 2/ | 0.46 2/ |
| 1988 1/ | 1.25 | 2.35 | 1.80 | 0.70 2/ | 0.84 2/ |

1/ Preliminary data.
2/ Weighted averages between primary two processors. Chum salmon price is weighted by dark and bright prices.

Appendix A.4. Salmon average weight per fish in pounds, Lower Cook Inlet, 1960-1988. 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 |
| 1983 | 22.8 | 5.0 | 7.2 | 3.0 | 9.2 |
| 1984 2/ | 25.0 | 4.9 | 9.0 | 3.5 | 9.2 |
| 1985 | 28.0 | 4.7 | 9.8 | 3.5 | 8.2 |
| 1986 | 20.6 | 4.3 | 8.6 | 3.4 | 8.1 |
| 1987 | 18.1 | 4.9 | 8.2 | 3.5 | 8.3 |
| 1988 | 15.3 | 4.8 | 8.9 | 3.0 | 9.4 |
| 29 Year Total | 640.4 | 171.2 | 213.0 | 103.5 | 233.1 |
| 29 Year Average | 22.1 | 5.9 | 7.3 | 3.6 | 8.0 |

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

Appendix A.5. Estimated pink salmon escapements in thousands of fish in the major spawning systems in Lower Cook Inlet. 1/

| Stream | Year | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 |
| Humpy Creek | 10.0 | 22.6 | 56.0 | 34.7 | 18.5 | 28.0 | 30.0 | 25.0 | 24.7 | 5.4 | 55.2 | 45.0 |
| China Poot | 9.0 | 2.0 | 26.0 | - | - | - | - | 2.5 | 6.0 | 0.2 | 1.5 | 2.1 |
| Tutka Lagoon | 15.0 | 15.0 | 30.0 | 10.0 | 20.0 | 20.0 | 12.0 | 7.0 | 7.9 | 6.5 | 6.5 | 16.7 |
| Barabara Creek | 2.0 | 0.1 | 1.5 | 0.1 | - | - | 5.0 | - | 2.0 | 0.9 | 0.4 | 4.0 |
| Seldovia River | 25.0 | 25.0 | 50.0 | 13.0 | 60.0 | 30.0 | 86.0 | 55.0 | 53.2 | 60.0 | 23.0 | 31.1 |
| Port Graham River | 15.0 | 5.0 | 50.0 | 2.0 | 16.0 | 1.5 | 24.0 | 2.0 | 24.4 | 4.0 | 16.6 | 13.2 |
| Dogfish Lagoon | 2.0 | - | 3.0 | - | - | - | - | - | - | - | - | 0.3 |
| Port Chatham Creeks | 4.0 | 7.0 | 7.0 | - | - | - | 10.0 | - | - | - | 3.0 | 15.5 |
| Windy Right Creek | 8.0 | 10.0 | 12.5 | 4.9 | 6.2 | 2.0 | 7.0 | 6.0 | 2.8 | 3.2 | 2.1 | 13.0 |
| Windy Left Creek | 8.0 | 5.0 | 12.5 | 4.5 | 7.7 | 10.0 | 7.0 | 6.0 | 6.9 | 23.0 | 13.0 | 35.4 |
| Rocky River | 130.0 | 2.0 | 200.0 | 12.0 | 80.0 | 0.3 | 44.0 | 1.0 | 43.1 | 1.0 | 32.0 | 1.6 |
| Port Dick Creek | 35.0 | 14.0 | 40.0 | 16.0 | 31.5 | 50.0 | 35.0 | 20.0 | 29.0 | 12.0 | 34.5 | 97.8 |
| Island Creek | 23.2 | 2.0 | 15.0 | 3.6 | 30.0 | 0.5 | 7.0 | 0.5 | 4.3 | 0.1 | 5.5 | 0.1 |
| South Nuka Creek | 20.0 | 2.0 | 22.0 | 0.1 | 10.0 | - | 10.0 | - | 10.0 | 3.0 | 11.0 | 14.0 |
| Desire Lake Creek | - | - | 18.0 | - | 1.3 | - | - | - | - | - | - | 30.0 |
| James Lagoon | - | - | - | - | - | - | - | - | - | - | - | - |
| Aialik Lagoon | - | - | 25.0 | 0.3 | - | - | 2.0 | - | - | - | - | - |
| Bear Creek | 1.4 | - | 3.1 | - | 6.4 | - | - | - | 3.1 | - | - | - |
| Salmon Creek | - | - | - | - | - | - | - | - | - | - | - | - |
| Mayor Creek | - | - | - | 1.4 | - | - | - | - | 1.6 | - | - | - |
| Clear Creek | - | - | 0.2 | - | 1.5 | - | - | - | - | 0.1 | - | - |
| Thumb Cove | - | - | - | - | - | - | - | - | - | - | - | - |
| Humpy Cove | - | - | - | - | - | - | - | - | - | - | - | - |
| Tonsina Creek | - | - | - | - | - | - | - | - | 2.9 | 0.1 | - | - |
| Big Kamishak River | - | - | 100.0 | 75.0 | 75.0 | - | 13.0 | - | - | - | - | - |
| Little Kamishak River | - | - | 100.0 | 24.0 | - | - | 28.0 | 3.5 | - | 0.5 | 2.0 | - |
| Amakdedori Creek | 60.0 | - | 80.0 | - | 10.0 | - | 8.0 | - | - | 1.0 | 13.0 | - |
| Bruin Bay River | 18.0 | - | 300.0 | 25.0 | - | - | 20.0 | 0.5 | - | 5.0 | 40.0 | 22.0 |
| Sunday Creek | 1.5 | - | 5.0 | 2.0 | - | - | 20.0 | - | - | 1.0 | 2.0 | 43.0 |
| Brown's Peak Creek | - | - | 25.0 | 10.0 | 20.0 | 10.0 | 11.0 | - | - | 2.0 | - | 8.0 |
| Total | 387.1 | 111.7 | 1181.8 | 238.6 | 394.1 | 152.3 | 379.0 | 129.0 | 221.9 | 129.0 | 261.3 | 392.8 |

Appendix A.5. (Continued)

| Stream | Year | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
| Humpy Creek | 13.8 | 36.9 | 17.4 | 64.0 | 27.2 | 86.0 | 46.1 | 200.0 | 64.4 | 115.0 | 31.9 | 104.0 |
| China Poot | 1.0 | 6.0 | 5.2 | 21.6 | 2.0 | 3.9 | 11.2 | 20.6 | 12.3 | 5.0 | 3.1 | 14.1 |
| Tutka Lagoon | 1.5 | 6.5 | 2.6 | 17.6 | 11.5 | 14.0 | 15.0 | 10.6 | 17.3 | 21.1 | 18.5 | 12.9 |
| Barabara Creek | 0.6 | - | 0.2 | 22.7 | 0.2 | 5.7 | 1.4 | 10.0 | 5.8 | 16.8 | 2.1 | 14.8 |
| Seldovia River | 5.8 | 14.5 | 13.7 | 36.2 | 25.6 | 35.7 | 24.6 | 43.7 | 65.5 | 62.7 | 38.4 | 27.9 |
| Port Graham River | 2.4 | 7.0 | 2.8 | 27.3 | 6.5 | 20.6 | 6.7 | 32.7 | 40.2 | 18.4 | 28.9 | 4.6 |
| Dogfish Lagoon | - | 1.0 | - | 2.3 | - | 8.1 | 0.6 | 7.3 | 0.3 | 2.6 | 2.6 | 1.0 |
| Port Chatham Creeks | 1.0 | 5.0 | 0.2 | 7.7 | - | 14.2 | 0.3 | 20.8 | 7.7 | 11.2 | 2.0 | 3.5 |
| Windy Right Creek | 0.1 | 4.6 | 0.1 | 18.7 | 0.2 | 11.1 | 0.3 | 10.4 | 3.3 | 4.7 | 4.7 | 4.3 |
| Windy Left Creek | 0.4 | 12.9 | 0.1 | 9.7 | 0.2 | 47.3 | 1.1 | 74.8 | 10.9 | 31.3 | 4.4 | 11.9 |
| Rocky River | 8.2 | 2.0 | 1.5 | 4.4 | 2.7 | 36.7 | 8.2 | 85.0 | 6.4 | 25.0 | 6.6 | 16.6 |
| Port Dick Creek | 10.0 | 26.4 | 1.5 | 62.8 | 12.7 | 109.3 | 44.9 | 116.0 | 56.1 | 106.0 | 19.9 | 64.1 |
| Island Creek | 1.7 | 0.5 | 0.5 | 0.1 | - | 0.6 | 0.4 | 0.6 | 2.2 | 25.0 | 15.0 | 15.3 |
| South Nuka Creek | 0.3 | 16.0 | - | 28.0 | - | 12.0 | - | 15.0 | 0.3 | 16.0 | 0.4 | 22.2 |
| Desire Lake Creek | 0.3 | 3.0 | - | 0.4 | 0.6 | 0.8 | 1.0 | 3.0 | 16.0 | 5.0 | 12.0 | 8.5 |
| James Lagoon | - | - | - | - | - | - | - | - | 4.6 | 14.0 | 6.0 | 5.1 |
| Aialik Lagoon | - | - | 0.1 | - | 0.4 | - | - | - | - | - | 5.0 | 3.0 |
| Bear Creek | 0.5 | - | 4.9 | - | 10.0 | - | 7.8 | - | 13.3 | 0.4 | 7.9 | 0.8 |
| Salmon Creek | - | - | - | - | 16.9 | - | 11.0 | - | 15.5 | 0.1 | 21.0 | 0.5 |
| Mayor Creek | 0.4 | - | 0.5 | - | 4.3 | - | 2.9 | - | 3.8 | 0.6 | 3.4 | - |
| Clear Creek | 0.2 | - | - | - | 0.3 | 0.2 | - | - | 0.5 | - | 0.2 | - |
| Thumb Cove | - | - | 1.1 | - | 2.0 | - | 2.0 | - | 1.2 | 1.0 | 7.9 | 4.9 |
| Humpy Cove | - | - | 0.6 | - | 1.4 | - | 0.9 | - | 5.7 | 0.4 | 4.0 | 2.0 |
| Tonsina Creek | - | - | 1.4 | - | 5.7 | - | 1.5 | - | 0.7 | 0.2 | 7.5 | 5.4 |
| Big Kamishak River | - | 15.0 | 1.0 | - | 8.0 | - | 12.0 | 10.0 | 2.0 | - | 5.0 | - |
| Little Kamishak River | - | 13.0 | - | - | 6.0 | - | 0.4 | 3.5 | 0.6 | - | 2.2 | - |
| Amakdedori Creek | 0.2 | 3.0 | 1.0 | 5.0 | - | - | 0.9 | 6.0 | 3.8 | 1.5 | 6.3 | 0.2 |
| Bruin Bay River | 2.5 | 2.0 | 0.6 | 20.0 | 13.5 | 60.0 | 33.0 | 200.0 | 400.0 | 95.0 | 75.0 | 4.0 |
| Sunday Creek | 2.0 | 5.0 | 0.1 | 20.0 | 0.3 | 9.0 | 0.2 | 12.0 | 5.2 | 14.2 | 12.0 | 4.7 |
| Brown's Peak Creek | 1.2 | 3.2 | 0.1 | 10.0 | 1.2 | 13.0 | 0.9 | 15.0 | 2.3 | 17.7 | 3.5 | 1.7 |
| Total | 54.1 | 183.5 | 57.2 | 378.5 | 159.4 | 488.2 | 235.3 | 897.0 | 767.9 | 610.9 | 357.4 | 358.0 |

Appendix A.5. (Continued)

| Stream | Year 1984 | 1985 | 1986 | 1987 | 1988 | Total | Avg. | Goal |
|---|---|---|---|---|---|---|---|---|
| Humpy Creek | 84.2 | 117.0 | 49.7 | 26.6 | 21.4 | 1,434.1 | 49.5 | 25-50 |
| China Poot | 8.4 | 1.9 | 11.5 | 3.1 | 3.9 | 181.0 | 6.2 | 5 |
| Tutka Lagoon | 10.5 | 14.0 | 13.4 | 4.8 | 11.2 | 364.8 | 12.6 | 6-10 |
| Barabara Creek | 1.0 | 1.6 | 1.8 | 0.3 | 0.7 | 101.4 | 3.5 | 18-24 |
| Seldovia River | 14.2 | 22.8 | 28.2 | 7.6 | 16.9 | 987.7 | 34.1 | 25-35 |
| Port Graham River | 10.9 | 26.3 | 17.5 | 3.8 | 7.9 | 434.4 | 15.0 | 20-40 |
| Dogfish Lagoon | 0.6 | 0.2 | 0.4 | 1.2 | 0.3 | 32.6 | 1.1 | - |
| Port Chatham Creeks | 7.8 | 8.9 | 11.5 | 10.2 | 21.0 | 169.3 | 5.8 | 10-15 |
| Windy Right Creek | 3.4 | 5.4 | 2.5 | 2.0 | 1.3 | 152.3 | 5.3 | 10 |
| Windy Left Creek | 2.5 | 8.9 | 2.2 | 5.6 | 3.4 | 361.0 | 12.4 | 30-50 |
| Rocky River | 9.0 | 12.1 | 12.0 | 4.5 | 5.4 | 788.8 | 27.2 | 50 |
| Port Dick Creek | 44.6 | 65.3 | 41.6 | 4.5 | 12.0 | 1,208.0 | 41.7 | 20-100 |
| Island Creek | 35.0 | 27.9 | 16.6 | 0.1 | 7.2 | 242.5 | 8.4 | 12-18 |
| South Nuka Creek | 0.6 | 3.6 | 7.0 | 2.8 | 1.2 | 224.7 | 7.7 | 10 |
| Desire Lake Creek | 23.0 | 62.5 | 32.0 | 11.0 | 2.5 | 219.9 | 7.6 | 10-20 |
| James Lagoon | 4.0 | 9.0 | 6.6 | 1.1 | 1.7 | 51.0 | 1.8 | 5-10 |
| Aialik Lagoon | 4.0 | 9.4 | 6.0 | 1.5 | 0.7 | 55.9 | 1.9 | 5 |
| Bear Creek | 7.7 | 4.1 | 14.0 | 3.5 | 0.2 | 85.6 | 3.0 | 5 |
| Salmon Creek | 10.2 | 2.1 | 8.3 | 1.7 | 0.1 | 85.7 | 3.0 | 10 |
| Mayor Creek | 1.5 | 0.5 | 1.9 | - | - | 22.8 | 0.8 | 2 |
| Clear Creek | 0.8 | 0.3 | 0.4 | - | - | 4.7 | 0.2 | 2 |
| Thumb Cove | 4.2 | 14.5 | 4.0 | 2.7 | 0.3 | 43.1 | 1.5 | 4 |
| Humpy Cove | 2.5 | 5.0 | 0.9 | 0.3 | 0.4 | 23.8 | 0.8 | 2 |
| Tonsina Creek | 6.0 | 48.2 | 11.2 | 3.4 | 0.1 | 90.9 | 3.1 | 5 |
| Big Kamishak River | - | - | 5.0 | - | 1.0 | 322.0 | 11.1 | 20 |
| Little Kamishak River | 0.1 | 1.6 | 2.0 | - | 0.5 | 187.9 | 6.5 | 20 |
| Amakdedori Creek | - | 1.0 | 6.0 | 0.4 | 1.0 | 207.9 | 7.2 | 5 |
| Bruin Bay River | 110.0 | 3.5 | 1200.0 | 24.0 | 29.0 | 2,678.6 | 92.4 | 25-50 |
| Sunday Creek | 12.0 | 11.4 | 109.0 | 29.7 | 18.0 | 309.6 | 10.7 | 10 |
| Brown's Peak Creek | 6.8 | 7.0 | 28.0 | 40.2 | 17.0 | 214.6 | 7.4 | 10 |
| Total | 425.5 | 496.0 | 1651.2 | 196.6 | 186.3 | 11,286.6 | 389.2 | 381-597 |

Appendix A.6. 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 |
| 1983 | 1.9 | 5.3 | 4.0 | 4.5 | 36.2 | 25.0 | 25.0 | 48.0 | 5.5 | 7.7 | 8.3 | 12.0 | 183.4 |
| 1984 | 2.1 | 8.6 | 3.5 | 2.7 | 25.6 | 19.0 | 12.0 | 21.0 | 8.0 | 7.0 | 6.5 | 9.8 | 125.8 |
| 1985 | 0.5 | 4.9 | 2.5 | 1.0 | 9.1 | 6.0 | 4.5 | 9.5 | 2.0 | 3.0 | 3.0 | 5.0 | 51.0 |
| 1986 | 0.6 | 2.5 | 2.0 | 1.7 | 8.6 | 24.0 | 17.0 | 22.0 | 2.0 | 11.0 | 11.0 | 5.9 | 108.3 |
| 1987 | 1.5 | 2.0 | 0.2 | 6.1 | 13.2 | 12.0 | 18.0 | 26.0 | 10.0 | 9.9 | 17.0 | 9.1 | 125.0 |
| 1988 | 3.5 | 8.6 | 0.3 | 9.0 | 7.8 | 15.0 | 13.0 | 49.0 | 7.0 | 9.4 | 16.0 | 9.5 | 148.1 |
| 25 Year Total | 42.5 | 145.4 | 175.6 | 126.2 | 245.3 | 251.2 | 196.5 | 424.5 | 125.0 | 118.1 | 145.1 | 181.4 | 2,176.8 |
| Average Escap. | 1.7 | 5.8 | 7.0 | 5.0 | 9.8 | 10.0 | 7.9 | 17.0 | 5.0 | 4.7 | 5.8 | 7.3 | 87.1 |
| Goal | 4-8 | 5-10 | 20 | 4 | 10-15 | 20 | 20 | 20-40 | 5-10 | 5-10 | 10 | 10 | 133-177 |

* 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.

Appendix A.7. Estimated sockeye salmon escapements in thousands of fish in major spawning systems in Lower Cook Inlet. 1/

| Year | English Bay | Ander. Beach | Delight Lake | Desire Lake | Bear Lake | Aialik Lake | Mikfik Lake | Chenik Lake | Amakde. Creek | Kam. River | Doug. River | Doug. Beach | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1959 | 5.0 | | 5.0 | - | - | - | 1.0 | - | - | | | | 11.0 |
| 1960 | 16.0 | | 1.0 | 4.0 | 9.3 | - | - | 0.8 | 1.5 | | 0.4 | | 33.0 |
| 1961 | 10.0 | 1.0 | 10.0 | 10.0 | 3.0 | 10.0 | 3.0 | 0.1 | 2.5 | | - | | 49.6 |
| 1962 | 2.0 | 0.2 | 5.0 | 4.0 | 3.6 | 16.0 | 2.6 | 1.5 | 2.5 | | 2.5 | | 39.9 |
| 1963 | 10.0 | | 8.0 | 1.4 | 8.9 | 20.0 | 0.2 | 0.3 | 7.0 | | | | 55.8 |
| 1964 | - | | 0.3 | 10.0 | 4.7 | 2.0 | - | - | - | | | | 17.0 |
| 1965 | 3.0 | | - | - | 3.8 | - | - | - | - | | | | 6.8 |
| 1966 | 3.0 | | 4.3 | 9.0 | 1.9 | 4.0 | - | 0.2 | 2.0 | | | | 24.4 |
| 1967 | 6.0 | | - | 0.3 | 3.3 | - | - | 2.5 | 0.2 | | | | 12.3 |
| 1968 | - | | - | 0.3 | 59.0 | - | 0.7 | - | - | | | | 60.0 |
| 1969 | 5.0 | | - | 8.0 | 21.2 | - | - | - | 1.5 | | | | 35.7 |
| 1970 | 8.0 | | 4.6 | 2.0 | 5.8 | - | 1.0 | - | 0.3 | | | | 21.7 |
| 1971 | 6.5 | | 5.0 | 5.0 | 0.4 | 3.0 | 5.0 | 2.0 | 1.2 | | | | 28.1 |
| 1972 | 14.5 | | 10.0 | 8.0 | 0.7 | 0.6 | 13.0 | 0.7 | 1.0 | | | | 48.5 |
| 1973 | 4.4 | | 2.5 | 5.2 | 0.2 | 1.5 | 2.7 | 0.3 | 2.2 | | | | 19.0 |
| 1974 | - | | - | - | 0.1 | 2.2 | 0.9 | 0.1 | 0.4 | | | | 3.7 |
| 1975 | 2.5 | | 2.0 | 6.5 | + | 8.0 | 6.0 | 0.1 | 0.8 | | | | 25.9 |
| 1976 | 6.0 | | 6.0 | 11.0 | 0.6 | 8.0 | 10.0 | 0.9 | 1.6 | | 0.2 | 0.1 | 44.4 |
| 1977 | 12.5 | | 5.2 | 10.7 | + | 5.0 | 9.8 | 0.2 | 2.6 | | 2.6 | 0.4 | 49.0 |
| 1978 | 13.5 | 0.6 | 8.0 | 10.0 | + | 3.0 | 12.0 | 0.1 | 2.6 | 1.0 | - | 0.1 | 47.4 |
| 1979 | 4.4 | | 8.0 | 12.0 | + | 5.0 | 6.0 | + | 1.0 | 0.4 | - | 0.3 | 37.1 |
| 1980 | 12.0 | 0.3 | 10.0 | 17.0 | 1.5 | 6.6 | 6.5 | 3.5 | 2.6 | 0.1 | 0.4 | 0.5 | 61.0 |
| 1981 | 10.5 | | 7.3 | 12.0 | 0.7 | 1.8 | 5.3 | 2.5 | 1.9 | 0.8 | 0.2 | 0.3 | 43.3 |
| 1982 | 20.0 | 0.6 | 25.0 | 18.0 | 0.5 | 22.4 | 35.0 | 8.0 | 3.2 | 10.0 | 4.2 | 1.6 | 148.5 |
| 1983 | 12.0 | 0.5 | 7.0 | 12.0 | 0.7 | 20.0 | 7.0 | 11.0 | 1.2 | 5.0 | 0.5 | 0.4 | 77.3 |
| 1984 | 11.1 | 1.2 | 10.5 | 15.0 | 0.5 | 22.0 | 6.0 | 13.0 | 1.4 | 2.5 | 0 | 0.1 | 83.3 |
| 1985 | 5.0 | 0.1 | 26.0 | 18.0 | 1.1 | 8.0 | 20.0 | 3.5 | 0.9 | 0.8 | + | + | 83.4 |
| 1986 | 2.8 | 0.9 | 13.0 | 10.0 | 0.8 | 7.6 | 7.8 | 7.0 | 1.9 | 5.0 | 0.2 | 0.2 | 57.2 |
| 1987 | 7.0 | 0.2 | 10.5 | 13.4 | 0.3 | 9.2 | 9.0 | 10.0 | 1.1 | - | 0.1 | - | 60.8 |
| 1988 | 2.5 | 0.3 | 1.2 | 9.0 | 0.1 | 13.0 | 10.1 | 9.0 | 0.4 | 0.5 | 0 | 0.1 | 46.2 |
| Total | 215.2 | 5.9 | 195.4 | 241.8 | 132.4 | 198.9 | 180.6 | 77.3 | 45.5 | 26.1 | 11.3 | 4.1 | 1,270.8 |
| Ave. | 7.2 | 0.2 | 6.5 | 8.1 | 4.4 | 6.6 | 6.0 | 2.6 | 1.5 | 0.9 | 0.4 | 0.1 | 43.7 |
| Esc.Goal | 10-20 | 1 | 10 | 10 | 1 | 2.5-5 | 5-7 | 10 | 1 | * | * | * | 51.5-66 |

* No escapement goal set.

1/ Most escapements are estimated from peak aerial survey counts or are adjusted figures from aerial surveys based on weather conditions.

2/ Limited by Bear Lake Management Plan since 1971.

Appendix A.8. Pink salmon catch in thousands of fish for fishing districts in Lower Cook Inlet, 1936 - 1988. 1/

| Year | Catch | Year | Catch | Year | Catch |
|---|---|---|---|---|---|
| 1936 | 526 | 1956 | 208 | 1976 | 136 |
| 1937 | 457 | 1957 | 286 | 1977 | 1,294 |
| 1938 | 345 | 1958 | 950 | 1978 | 353 |
| 1939 | 292 | 1959 | 124 | 1979 | 2,991 |
| 1940 | 1,659 | 1960 | 612 | 1980 | 890 |
| 1941 | 692 | 1961 | 303 | 1981 | 3,279 |
| 1942 | 695 | 1962 | 2,248 | 1982 | 552 |
| 1943 | 1,361 | 1963 | 204 | 1983 | 928 |
| 1944 | 1,446 | 1964 | 1,055 | 1984 2/ | 698 |
| 1945 | 1,302 | 1965 | 116 | 1985 | 1,230 |
| 1946 | 870 | 1966 | 579 | 1986 | 1,408 |
| 1947 | 1,396 | 1967 | 375 | 1987 | 201 |
| 1948 | 591 | 1968 | 585 | 1988 | 921 |
| 1949 | 366 | 1969 | 202 | | |
| 1950 | 311 | 1970 | 716 | | |
| 1951 | 378 | 1971 | 393 | | |
| 1952 | 972 | 1972 | 29 | | |
| 1953 | 513 | 1973 | 307 | | |
| 1954 | 271 | 1974 | 51 | | |
| 1955 | 1,184 | 1975 | 1,063 | | |

| | Total | Average |
|---|---|---|
| 53 Year | 40,914 | 772 |
| Odd-Year (26) | 21,237 | 817 |
| Even-Year (27) | 19,677 | 729 |

1/ Data source: 1953-63 data very sketchy - U.S.F.& W.S. Statistical Digest #50 and INPFC Document #1134, Rich & Ball; ADF&G computer runs, 1960-1988.
2/ Preliminary data.

Appendix A.9. Pink salmon catch for Lower Cook Inlet in thousands of fish by bay during odd numbered years. 1/

| Catch Location | 1959 | 1961 | 1963 | 1965 | 1967 | 1969 | 1971 | 1973 | 1975 | 1977 | 1979 | 1981 | 1983 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Humpy Creek | 13.2 | 67.9 | 57.4 | 13.8 | 40.4 | 0.6 | 11.4 | 44.3 | 339.3 | 42.7 | 304.0 | 250.9 | 26.9 |
| Tutka Bay | 14.4 | 106.8 | 37.7 | 44.6 | 31.6 | 32.9 | 10.3 | 20.0 | 89.2 | 21.9 | 416.8 | 1,026.6 | 616.0 |
| Seldovia Bay | 4.9 | 15.1 | 1.6 | 19.2 | 11.7 | 28.8 | 27.3 | 19.4 | 429.6 | 47.6 | 140.8 | 126.4 | 43.3 |
| 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 | 4.1 |
| Dogfish Bay | 1.6 | 0 | 0 | 0.1 | 2.3 | 0 | 10.4 | 0.3 | 0 | 5.0 | 7.4 | 22.9 | 0.2 |
| Port Chatham | 1.2 | 0 | 0.8 | 0 | 0 | 0 | 26.3 | 20.6 | 16.0 | 1.4 | 174.4 | 55.8 | 3.3 |
| Windy Bay | 3.1 | 2.2 | 0 | 5.4 | 0 | 0 | 57.3 | 68.5 | 18.1 | 173.2 | 552.7 | 2.9 | 0 |
| Rocky Bay | 2.3 | 0 | 1.4 | 0.1 | 0 | 0 | 0.1 | 0.2 | 0 | 11.6 | 122.2 | 16.5 | 1.3 |
| Port Dick Bay | 28.2 | 92.9 | 19.0 | 15.3 | 259.9 | 51.5 | 94.6 | 96.6 | 90.3 | 881.7 | 964.8 | 1,140.9 | 140.0 |
| Nuka Bay | 33.3 | 2.0 | 0.3 | 0 | 0.1 | 0 | 119.7 | 8.1 | 35.4 | 56.3 | 121.7 | 395.1 | 55.0 |
| Resurrection Bay | 8.4 | 0 | 0 | 0 | 1.2 | 0 | 0 | 0 | 0 | 0 | 0 | 32.6 | 27.1 |
| Bruin Bay | 0 | 0 | 12.3 | 0.9 | 2.1 | 0 | 11.7 | 0 | 0 | 6.2 | 40.3 | 51.9 | 0.3 |
| Rocky-Ursus Coves | 3.7 | 2.7 | 44.2 | 0 | 13.0 | 52.8 | 16.4 | 7.9 | 0 | 0 | 14.4 | 14.1 | 0 |
| Iniskin and Cottonwood Bays | 1.5 | 3.3 | 21.8 | 0 | 0.1 | 26.0 | 0 | 4.7 | 0 | 0.1 | 0.2 | 0 | 0.3 |
| Miscellaneous | 3.6 | 9.5 | 4.4 | 3.8 | 8.0 | 7.8 | 6.4 | 2.9 | 27.1 | 1.4 | 6.5 | 16.7 | 9.8 |
| Total | 124.7 | 303.4 | 203.6 | 115.6 | 375.5 | 202.4 | 392.9 | 307.4 | 1,063.3 | 1,293.9 | 2,990.9 | 3,279.2 | 927.6 |

| Catch Location | 1985 | 1987 |
|---|---|---|
| Humpy Creek | 11.4 | 2.0 |
| Halibut Cove | 0 | 28.5 |
| Tutka Bay | 491.2 | 56.5 |
| Seldovia Bay | 3.8 | 1.2 |
| Port Graham Bay | 12.5 | 2.3 |
| Dogfish Bay | 0 | 0 |
| Port Chatham | 7.0 | 0 |
| Windy Bay | 4.8 | 0 |
| Rocky Bay | 0 | 0 |
| Port Dick Bay | 455.6 | 3.0 |
| Nuka Bay | 150.8 | 20.9 |
| Resurrection Bay | 74.6 | 11.8 |
| Bruin Bay | 0 | 1.2 |
| Rocky-Ursus Cove | 0 | 69.4 |
| Iniskin and Cottonwood Bays | 0 | 0.2 |
| Miscellaneous | 18.0 | 4.4 |
| Total | 1,229.7 | 201.4 |

1/ Data source IBM computer runs, 1959-88.
2/ Preliminary data.

Appendix A.10. Pink salmon catch for Lower Cook Inlet in thousands of fish by bay during even numbered years. 1/

| Catch Location | 1960 | 1962 | 1964 | 1966 | 1968 | 1970 | 1972 | 1974 | 1976 | 1978 | 1980 | 1982 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 29.0 | 0.2 | 3.5 | 3.0 | 35.8 | 81.7 | 70.3 |
| Port Graham Bay | 7.1 | 18.1 | 38.4 | 5.1 | 23.0 | 19.6 | 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 | 0.3 | 4.7 | 1.7 |
| Port Chatham | 15.7 | 102.2 | 67.1 | 6.7 | 10.0 | 1.9 | 0 | 0 | 0 | 0 | 1.8 | 12.6 |
| 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 | 36.8 | 0 | 0 | 0 | 0 | 1.4 | 0 |
| Port Dick Bay | 257.4 | 1,118.3 | 526.3 | 296.8 | 55.0 | 336.5 | 0 | 0.6 | 0 | 63.6 | 133.3 | 44.0 |
| Nuka Bay | 26.6 | 129.8 | 23.8 | 0 | 90.2 | 48.4 | 0.3 | 0.7 | 0.1 | 6.3 | 12.8 | 8.7 |
| 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 | 100.6 | 13.3 |
| Rocky-Ursus Coves | 6.6 | 3.2 | 13.5 | 2.9 | 18.0 | 7.5 | 0 | 0 | 0 | 0.1 | 0 | 20.2 |
| Iniskin and Cottonwood Bays | 2.1 | 3.2 | 4.3 | 0 | 9.9 | 3.5 | 0 | 0 | 0.1 | 0.1 | 0.1 | 0.4 |
| Miscellaneous | 37.9 | 29.5 | 39.1 | 102.2 | 107.1 | 14.0 | 1.3 | 0.4 | 2.8 | 0.8 | 0.2 | 16.7 |
| Total | 611.6 | 2,248.3 | 1,055.4 | 579.2 | 585.4 | 716.2 | 28.7 | 50.6 | 136.4 | 352.6 | 889.7 | 551.6 |

| Catch Location | 1984 2/ | 1986 | 1988 |
|---|---|---|---|
| Humpy Creek | 61.7 | 116.7 | 0 |
| Halibut Cove | 0 | 0 | 111.0 |
| Tutka Bay | 276.6 | 400.2 | 723.9 |
| Seldovia Bay | 0.1 | 2.8 | 5.5 |
| Port Graham Bay | 0.3 | 8.8 | 10.7 |
| Dogfish Bay | 1.4 | 0 | 0 |
| Port Chatham | 0 | 0 | 0 |
| Windy Bay | 0 | 0 | 0 |
| Rocky Bay | 0 | 0 | 0 |
| Port Dick Bay | 89.9 | 304.0 | 5.9 |
| Nuka Bay | 0.7 | 97.8 | 0.2 |
| Resurrection Bay | 125.5 | 36.5 | 0.5 |
| Bruin Bay | 137.1 | 349.7 | 5.0 |
| Rocky-Ursus Coves | 19.3 | 71.1 | 49.9 |
| Iniskin and Cottonwood Bays | 0.1 | 0.2 | 1.3 |
| Miscellaneous | 8.1 | 20.5 | 7.4 |
| Total | 720.8 | 1,408.3 | 921.3 |

1/ Data resource IBM computer runs, 1960-88.
2/ Preliminary data.

Appendix A.11. Chum salmon catch for Lower Cook Inlet in thousands of fish by bay by year. 1/

| Catch Location | 1959 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tutka | 0.1 | 2.4 | 1.8 | 2.9 | 2.4 | 5.6 | 1.1 | 3.9 | 4.0 | 1.3 | 0.7 | 1.6 |
| Port Graham | 2.3 | 1.8 | 0.5 | 4.0 | 3.8 | 2.1 | 0.9 | 5.3 | 3.0 | 2.3 | 1.3 | 4.8 |
| Dogfish | 4.9 | 0.4 | 0.1 | 0 | 0.2 | 0 | 0 | 7.0 | 15.3 | 0.1 | 0 | 50.9 |
| Port Chatham | 1.0 | 2.5 | 0 | 2.8 | 4.3 | 5.2 | 0 | 17.8 | 0 | 1.0 | 0 | 0.1 |
| Rocky-Windy | 14.9 | 6.4 | 2.2 | 8.5 | 0.3 | 33.8 | 8.1 | 1.7 | 0 | 0.5 | 0 | 39.4 |
| Port Dick | 42.4 | 51.0 | 36.8 | 112.0 | 110.8 | 227.4 | 14.2 | 60.9 | 36.0 | 10.9 | 5.4 | 41.2 |
| Nuka | 1.7 | 8.4 | 1.7 | 0.5 | 1.5 | 0 | 0 | 0 | 1.5 | 6.9 | 0 | 5.9 |
| Resurrection | 0.1 | 0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.7 | 0 | 0.6 |
| Douglas River | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kamishak River | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.7 | 0.4 | 0 |
| McNeil River | 0 | 0.4 | 0 | 0 | 0 | 2.7 | 0.9 | 0 | 0.4 | 8.3 | 4.4 | 1.9 |
| Bruin | 0 | 0.3 | 0.5 | 0 | 0.1 | 0 | 0.4 | 0 | 1.0 | 7.5 | 0 | 12.8 |
| Ursus-Rocky Coves | 8.5 | 8.6 | 1.8 | 1.1 | 2.8 | 1.2 | 0 | 4.0 | 2.9 | 1.0 | 3.6 | 8.9 |
| Cottonwood and Iniskin | 12.1 | 33.4 | 10.2 | 41.7 | 10.9 | 38.4 | 0 | 0 | 19.0 | 25.5 | 44.4 | 71.9 |
| Miscellaneous | 22.6 | 0 | 0 | 5.8 | 1.4 | 6.9 | 2.5 | 28.5 | 2.2 | 5.4 | 1.0 | 2.4 |
| Total | 110.8 | 116.1 | 55.6 | 179.3 | 138.5 | 323.3 | 28.1 | 129.1 | 85.4 | 75.1 | 61.2 | 242.4 |

| Catch Location | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tutka | 0.5 | 1.3 | 0.8 | 1.4 | 2.0 | 0.9 | 0.8 | 2.6 | 2.7 | 1.8 | 7.9 | 8.3 |
| Port Graham | 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 | 114.5 | 41.1 | 0.4 | 0 | 0 | 0 | 9.4 | 0 | 8.5 | 2.1 | 71.8 | 15.6 |
| Port Chatham | 2.4 | 0 | 0.4 | 0 | 0.6 | 0 | 0.1 | 0 | 1.7 | 1.3 | 59.6 | 16.2 |
| Rocky-Windy | 1.4 | 0 | 0.9 | 0 | 0.3 | 0 | 17.7 | 0 | 76.7 | 2.1 | 7.4 | 0 |
| Port Dick | 0.7 | 0 | 33.4 | 8.1 | 6.8 | 0 | 25.6 | 10.3 | 79.0 | 19.0 | 95.8 | 30.3 |
| Nuka | 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 | 0.4 | 0.7 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0.7 | 2.4 | 7.7 |
| Douglas River | 0 | 0 | 0 | 0 | 0.1 | 7.1 | 4.0 | 2.9 | 0.7 | 10.0 | 46.7 | 37.1 |
| Kamishak River | 0 | 2.4 | 0 | 1.8 | 0 | 10.5 | 0 | 23.9 | 17.8 | 2.8 | 8.6 | 9.2 |
| McNeil River | 0 | 2.3 | 0 | 2.0 | 0 | 16.9 | 38.5 | 4.9 | 6.5 | 6.3 | 11.6 | 32.6 |
| Bruin | 1.6 | 1.8 | 0 | 0.7 | 0 | 0 | 0 | 0 | 4.0 | 11.0 | 1.7 | 1.3 |
| Ursus-Rocky Coves | 10.3 | 0.2 | 5.7 | 0 | 2.0 | 2.8 | 7.8 | 1.9 | 0.5 | 0.3 | 1.5 | 13.5 |
| Cottonwood and Iniskin | 14.5 | 19.7 | 29.9 | 0 | 2.8 | 11.5 | 15.3 | 14.9 | 0.2 | 5.4 | 3.5 | 21.6 |
| Miscellaneous | 0.2 | 0.5 | 0.6 | 0.3 | 1.2 | 0.2 | 4.2 | 9.2 | 1.2 | 0.4 | 2.6 | 3.5 |
| Total | 148.6 | 75.5 | 115.5 | 19.2 | 21.6 | 50.8 | 145.8 | 73.5 | 218.5 | 73.5 | 336.1 | 198.0 |

Appendix A.11. (Continued)

| Catch Location | 1983 | 1984 2/ | 1985 | 1986 | 1987 | 1988 |
|---|---|---|---|---|---|---|
| Tutka | 9.9 | 8.6 | 3.2 | 3.9 | 3.9 | 4.7 |
| Port Graham | 1.7 | 0.3 | 1.3 | 0.8 | 0.4 | 1.2 |
| Dogfish | 2.8 | 1.4 | 0 | 0 | 0 | 0 |
| Port Chatham | 2.1 | 0 | 1.3 | 0 | 0 | 0 |
| Rocky-Windy | 3.2 | 0 | 0 | 0 | 0 | 0 |
| Port Dick | 18.0 | 1.0 | 9.6 | 10.4 | 27.1 | 64.4 |
| Nuka | 0.8 | 0.6 | 0.8 | 1.3 | 1.6 | 6.8 |
| Resurrection | 6.9 | 3.9 | 3.0 | 3.5 | 13.9 | 23.9 |
| Douglas River | 27.2 | 17.9 | 8.0 | 11.6 | 23.7 | 24.8 |
| Kamishak River | 23.9 | 6.0 | 0.1 | 0.1 | 24.6 | 26.7 |
| McNeil River | 67.9 | 11.5 | 0 | 13.7 | 32.9 | 104.0 |
| Bruin | 2.6 | 4.6 | 0 | 5.4 | 0.1 | 2.8 |
| Ursus-Rocky Coves | 0 | 11.7 | 0 | 22.1 | 17.2 | 20.7 |
| Cottonwood and Iniskin | 21.4 | 20.2 | 0 | 8.8 | 9.7 | 39.2 |
| Miscellaneous | 3.9 | 6.1 | 3.3 | 1.1 | 1.9 | 2.7 |
| Total | 192.3 | 93.8 | 30.6 | 82.7 | 157.0 | 321.9 |

1/ Data source IBM computer runs, 1959-88.
2/ Preliminary data.

Appendix A.12. Sockeye salmon catch for Lower Cook Inlet in thousands of fish by bay by year. 1/

| Catch Location | 1959 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Resurr. Bay | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 74.5 | 99.4 | 1.8 |
| 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 | 1.7 | 1.3 |
| Tutka Bay | 1.1 | 1.7 | 3.0 | 5.2 | 2.9 | 9.0 | 5.2 | 6.0 | 11.8 | 6.3 | 5.6 | 6.0 |
| Seldovia Bay | 0.4 | 1.2 | 1.2 | 1.7 | 1.2 | 2.1 | 0.9 | 1.0 | 2.2 | 1.9 | 1.1 | 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-Douglas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mikfik Creek | 0 | 0.7 | 0 | 0 | 0 | 1.9 | 0.2 | 0 | 0 | 0 | 8.9 | 2.8 |
| Chenik Creek | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0 | 1.9 | 0 |
| Miscellaneous | 2.6 | 4.9 | 0.1 | 1.9 | 1.1 | 1.5 | 0.8 | 4.1 | 0.3 | 0.6 | 0.1 | 0 |
| Total | 21.6 | 24.7 | 22.8 | 25.3 | 15.1 | 20.7 | 14.0 | 15.3 | 29.0 | 95.2 | 122.8 | 20.9 |

| Catch Location | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Resurr. 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 | 1.1 | 0.1 | 0 | 18.9 | 31.1 | 10.6 | 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 | 21.3 | 92.1 | 15.6 | 13.2 | 41.0 | 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-Douglas | 0 | 0 | 0 | 0 | 0 | 0.2 | 5.3 | 4.6 | 0.5 | 0 | 4.9 | 0 |
| Mikfik Creek | 0 | 0 | 0 | 0 | 0 | 3.8 | 2.1 | 0 | 1.2 | 3.9 | 0 | 17.8 |
| Chenik Creek | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 |
| Miscellaneous | 0 | 0.1 | 0.8 | 0.1 | 0.1 | 0 | 2.6 | 0.1 | 1.0 | 1.1 | 1.0 | 0.4 |
| Total | 22.2 | 57.9 | 29.1 | 27.4 | 28.1 | 58.2 | 101.6 | 156.4 | 64.4 | 69.4 | 110.3 | 131.3 |

| Catch Location | 1983 | 1984 | 2/ 1985 | 1986 | 1987 | 1988 |
|---|---|---|---|---|---|---|
| Resurr. Bay | 0 | 5.9 | 0.3 | 0 | 0.2 | 0 |
| Aialik Bay | 25.9 | 48.5 | 24.1 | 3.0 | 3.5 | 20.2 |
| Nuka Bay | 16.8 | 28.4 | 91.8 | 48.4 | 31.8 | 9.5 |
| Port Dick | 0 | 0 | 0 | 0 | 0 | 0 |
| China Poot | 84.0 | 114.4 | 61.5 | 18.4 | 21.5 | 91.5 |
| Tutka Bay | 29.5 | 47.8 | 14.9 | 13.2 | 14.7 | 6.9 |
| Seldovia Bay | 6.7 | 0.1 | 2.6 | 3.2 | 3.5 | 2.5 |
| Port Graham Bay | 13.4 | 0 | 3.5 | 2.0 | 2.4 | 1.4 |
| Kamishak-Douglas | 2.8 | 1.1 | 0.7 | 7.6 | 2.3 | 5.0 |
| Mikfik Creek | 5.8 | 9.5 | 67.0 | 27.5 | 21.4 | 14.6 |
| Paint River | 0 | 0 | 0 | 0 | 0 | 0 |
| Chenik Creek | 2.7 | 13.9 | 10.6 | 111.3 | 98.5 | 164.2 |
| Kirschner | 0 | 0 | 0 | 0 | 0 | 0 |
| Miscellaneous | 0 | 3.8 | 1.7 | 0.3 | 49.2 | 3.2 |
| Total | 187.6 | 270.8 | 278.7 | 234.9 | 248.8 | 319.0 |

1/ Data source IBM computer runs, 1959-88.
2/ Preliminary data.

Appendix A.13. Salmon catch by species for set gillnets in the Southern District of Lower Cook Inlet, 1959-1988. 1/

| Year | Kings | Reds | Cohos | Pinks | Chums | Total |
|---|---|---|---|---|---|---|
| 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 | 26,996 | 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 | 13,412 | 1,353 | 50,255 |
| 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 | 894 | 42,389 | 5,557 | 15,838 | 7,113 | 71,791 |
| 1983 | 822 | 41,707 | 1,799 | 20,533 | 4,377 | 69,238 |
| 1984 2/ | 643 | 45,806 | 2,979 | 20,764 | 5,412 | 75,604 |
| 1985 | 958 | 23,188 | 3,908 | 22,898 | 4,217 | 55,169 |
| 1986 | 745 | 21,807 | 2,827 | 14,244 | 2,426 | 42,049 |
| 1987 | 653 | 28,209 | 2,025 | 9,224 | 2,419 | 42,530 |
| 1988 | 1,145 | 14,758 | 2,819 | 29,268 | 4,423 | 52,413 |
| 30 Year Total | 9,047 | 779,135 | 66,049 | 600,374 | 82,301 | 1,536,906 |
| 30 Year Average | 302 | 25,971 | 2,202 | 20,012 | 2,743 | 51,230 |
| % of Total | 0.59 | 50.70 | 4.30 | 39.06 | 5.35 | 100.00 |

1/ Data source: final IBM computer runs 1959-1988.
2/ Preliminary data.

Appendix A.14. Lower Cook Inlet total salmon catch by district, 1959-1988. 1/

| Year | Southern | Outer | Kamishak | Eastern | Total |
|---|---|---|---|---|---|
| 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 | 144,196 | 99,423 | 387,130 |
| 1970 | 231,693 | 573,393 | 121,405 | 57,848 | 984,339 |
| 1971 | 74,518 | 431,500 | 58,545 | 3,778 | 568,341 |
| 1972 | 46,759 | 70,545 | 26,794 | 20,327 | 164,425 |
| 1973 | 126,614 | 273,666 | 48,181 | 5,837 | 454,298 |
| 1974 | 81,865 | 13,452 | 7,517 | 1,102 | 103,936 |
| 1975 | 929,617 | 171,387 | 17,370 | 1,105 | 1,119,479 |
| 1976 | 138,961 | 19,398 | 55,060 | 35,673 | 249,092 |
| 1977 | 219,859 | 1,233,262 | 79,498 | 10,714 | 1,543,333 |
| 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 | 366,546 | 197,600 | 209,527 | 155,379 | 929,052 |
| 1983 | 842,497 | 243,900 | 162,652 | 70,614 | 1,319,663 |
| 1984 2/ | 513,703 | 120,649 | 245,602 | 200,866 | 1,080,820 |
| 1985 | 613,821 | 725,252 | 88,613 | 122,733 | 1,550,419 |
| 1986 | 588,790 | 466,986 | 641,889 | 47,825 | 1,745,490 |
| 1987 | 188,535 | 86,893 | 312,836 | 34,564 | 622,828 |
| 1988 | 970,068 | 86,804 | 467,835 | 47,148 | 1,571,855 |
| 30 Year Total | 11,750,374 | 14,013,425 | 3,749,378 | 1,321,803 | 30,834,980 |
| 30 Year Average | 391,679 | 467,114 | 124,979 | 44,060 | 1,027,833 |
| % of Total | 38.11 | 45.44 | 12.16 | 4.29 | 100.00 |

1/ Data source: Final IBM computer runs, 1959-1988 and processor catch reports.
2/ Preliminary data.

Appendix A.15. Southern district salmon catch by species, 1959-1988. 1/

| Year | King | Sockeye | Coho | Pink | Chum | Total |
|---|---|---|---|---|---|---|
| 1959 | 71 | 7,720 | 709 | 50,244 | 13,967 | 72,711 |
| 1960 | 12 | 12,239 | 1,237 | 209,989 | 4,100 | 227,577 |
| 1961 | 39 | 10,104 | 1,149 | 191,867 | 2,916 | 206,075 |
| 1962 | 58 | 16,569 | 2,095 | 564,050 | 9,078 | 591,850 |
| 1963 | 88 | 13,142 | 4,020 | 99,820 | 7,523 | 124,593 |
| 1964 | 84 | 17,283 | 8,905 | 266,412 | 11,529 | 304,213 |
| 1965 | 10 | 11,185 | 733 | 90,260 | 2,458 | 104,646 |
| 1966 | 60 | 12,192 | 4,807 | 177,544 | 28,754 | 223,357 |
| 1967 | 173 | 26,349 | 2,379 | 92,793 | 23,416 | 145,110 |
| 1968 | 61 | 18,716 | 4,671 | 154,033 | 4,403 | 181,884 |
| 1969 | 59 | 12,578 | 485 | 70,753 | 2,600 | 86,475 |
| 1970 | 90 | 12,120 | 3,544 | 208,066 | 7,873 | 231,693 |
| 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 | 24,072 | 1,241 | 97,574 | 3,588 | 126,614 |
| 1974 | 182 | 27,029 | 3,054 | 48,875 | 2,725 | 81,865 |
| 1975 | 142 | 27,393 | 3,039 | 893,615 | 5,428 | 929,617 |
| 1976 | 442 | 35,280 | 1,905 | 99,817 | 1,517 | 138,961 |
| 1977 | 182 | 54,663 | 1,255 | 157,025 | 6,734 | 219,859 |
| 1978 | 1,511 | 141,088 | 4,318 | 251,761 | 5,525 | 404,203 |
| 1979 | 1,199 | 37,342 | 10,846 | 986,909 | 8,221 | 1,044,517 |
| 1980 | 414 | 42,929 | 11,568 | 478,019 | 4,605 | 537,535 |
| 1981 | 1,024 | 77,880 | 7,976 | 1,453,982 | 20,920 | 1,561,782 |
| 1982 | 926 | 43,433 | 7,165 | 296,556 | 18,466 | 366,546 |
| 1983 | 858 | 133,671 | 3,433 | 690,254 | 14,281 | 842,497 |
| 1984 2/ | 661 | 163,244 | 3,415 | 336,785 | 9,598 | 513,703 |
| 1985 | 1,007 | 84,149 | 4,258 | 518,898 | 5,509 | 613,821 |
| 1986 | 776 | 36,838 | 3,095 | 542,521 | 5,560 | 588,790 |
| 1987 | 1,158 | 89,662 | 2,163 | 90,522 | 5,030 | 188,535 |
| 1988 | 1,655 | 105,302 | 2,987 | 852,382 | 7,742 | 970,068 |
| 30 Year Total | 13,191 | 1,343,920 | 110,886 | 10,030,518 | 251,859 | 11,750,374 |
| 30 Year Average | 440 | 44,797 | 3,696 | 334,351 | 8,395 | 391,679 |
| % of Total | 0.11 | 11.44 | 0.94 | 85.36 | 2.14 | 100.00 |

1/ Data source: Final IBM computer runs, 1959-1988, and processor catch reports.
2/ Preliminary data.

Appendix A.16. Outer district salmon catch by species, 1959-1988. 1/

| Year | King | Sockeye | Coho | Pink | Chum | Total |
|---|---|---|---|---|---|---|
| 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 | 1 037 | 243 | 434,700 | 137,408 | 573,393 |
| 1971 | 0 | 1,625 | 174 | 310,706 | 118,995 | 431,500 |
| 1972 | 7 | 26,092 | 17 | 963 | 43,466 | 70,545 |
| 1973 | 1 | 2,006 | 31 | 195,342 | 76,286 | 273,666 |
| 1974 | 1 | 206 | 21 | 1,300 | 11,924 | 13,452 |
| 1975 | 0 | 124 | 7 | 159,908 | 11,348 | 171,387 |
| 1976 | 7 | 18,886 | 0 | 93 | 412 | 19,398 |
| 1977 | 34 | 33,733 | 78 | 1,129,250 | 70,167 | 1,233,262 |
| 1978 | 236 | 10,695 | 45 | 70,080 | 19,224 | 100,280 |
| 1979 | 30 | 25,297 | 135 | 1,945,536 | 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 | 129 | 66,781 | 92 | 67,523 | 63,075 | 197,600 |
| 1983 | 14 | 16,835 | 54 | 199,794 | 27,203 | 243,900 |
| 1984 2/ | 3 | 28,411 | 90 | 89,068 | 3,077 | 120,649 |
| 1985 | 19 | 91,957 | 3,210 | 618,222 | 11,844 | 725,252 |
| 1986 | 6 | 48,472 | 5,052 | 401,755 | 11,701 | 466,986 |
| 1987 | 14 | 31,845 | 2,481 | 23,890 | 28,663 | 86,893 |
| 1988 | 5 | 9,501 | 2 | 6,094 | 71,202 | 86,804 |
| 30 Year Total | 605 | 507,461 | 16,616 | 11,477,386 | 2,011,357 | 14,013,425 |
| 30 Year Average | 20 | 16,915 | 554 | 382,580 | 67,045 | 467,114 |
| % of Total | 0.00 | 3.62 | 0.12 | 81.90 | 14.35 | 100.00 |

1/ Data source: Final IBM computer runs, 1959-1988, and processor catch reports.
2/ Preliminary data.

Appendix A.17. Kamishak Bay district salmon catch by species, 1959-1988. 1/

| Year | King | Sockeye | Coho | Pink | Chum | Total |
|---|---|---|---|---|---|---|
| 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 | 2,846 | 218 | 22,500 | 95,841 | 121,405 |
| 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 |
| 1983 | 1 | 11,207 | 7,138 | 1,405 | 142,901 | 162,652 |
| 1984 2/ | 2 | 24,642 | 13,230 | 137,133 | 70,595 | 245,602 |
| 1985 | 6 | 78,250 | 2,024 | 194 | 8,139 | 88,613 |
| 1986 | 14 | 146,496 | 9,935 | 423,774 | 61,670 | 641,889 |
| 1987 | 7 | 123,654 | 8,079 | 72,684 | 108,412 | 312,836 |
| 1988 | 33 | 183,952 | 4,471 | 61,080 | 218,299 | 467,835 |
| 30 Year Total | 108 | 632,347 | 99,145 | 1,480,278 | 1,537,500 | 3,749,378 |
| 30 Year Average | 4 | 21,078 | 3,305 | 49,343 | 51,250 | 124,979 |
| % of Total | 0.00 | 16.87 | 2.64 | 39.48 | 41.01 | 100.00 |

1/ Data source: Final IBM computer runs, 1959-1988, and processor catch reports.
2/ Preliminary data.

Appendix A.18. Eastern district salmon catch by species, 1959-1988. 1/

| Year | King | Sockeye | Coho | Pink | Chum | Total |
|---|---|---|---|---|---|---|
| 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 | 4,895 | 691 | 50,946 | 1,305 | 57,848 |
| 1971 | 32 | 2,203 | 1,115 | 5 | 423 | 3,778 |
| 1972 | 12 | 413 | 903 | 18,232 | 767 | 20,327 |
| 1973 | 5 | 3,057 | 801 | 1,919 | 55 | 5,837 |
| 1974 | 0 | 193 | 524 | 378 | 7 | 1,102 |
| 1975 | 0 | 596 | 124 | 383 | 2 | 1,105 |
| 1976 | 0 | 5 | 200 | 35,423 | 45 | 35,673 |
| 1977 | 0 | 5,776 | 360 | 1,349 | 3,229 | 10,714 |
| 1978 | 0 | 2 | 582 | 29,738 | 100 | 30,422 |
| 1979 | 0 | 0 | 296 | 0 | 0 | 296 |
| 1980 | 0 | 122 | 426 | 155,779 | 720 | 157,047 |
| 1981 | 0 | 9,270 | 470 | 44,989 | 3,279 | 58,008 |
| 1982 | 0 | 3,092 | 950 | 143,639 | 7,698 | 155,379 |
| 1983 | 0 | 25,932 | 594 | 36,154 | 7,934 | 70,614 |
| 1984 2/ | 47 | 54,459 | 536 | 135,290 | 10,534 | 200,866 |
| 1985 | 11 | 24,338 | 835 | 92,403 | 5,146 | 122,733 |
| 1986 | 0 | 3,055 | 770 | 40,243 | 3,757 | 47,825 |
| 1987 | 0 | 3,687 | 1,631 | 14,333 | 14,913 | 34,564 |
| 1988 | 1 | 20,253 | 486 | 1,740 | 24,668 | 47,148 |
| 30 Year Total | 182 | 340,030 | 24,839 | 857,223 | 99,529 | 1,321,803 |
| 30 Year Average | 6 | 11,334 | 828 | 28,574 | 3,318 | 44,060 |
| % of Total | 0.01 | 25.72 | 1.88 | 64.85 | 7.53 | 100.00 |

1/ Data source: Final IBM computer runs, 1959-1988, and processor catch reports.

2/ Preliminary data.

Appendix A.19. King salmon catch by district for Lower Cook Inlet, 1959-1988. 1/

| Year | Southern | Outer | Kamishak | Eastern | Total |
|---|---|---|---|---|---|
| 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 | 90 | 5 | 0 | 11 | 106 |
| 1971 | 41 | 0 | 0 | 32 | 73 |
| 1972 | 69 | 7 | 0 | 12 | 88 |
| 1973 | 139 | 1 | 0 | 5 | 145 |
| 1974 | 182 | 1 | 0 | 0 | 183 |
| 1975 | 142 | 0 | 0 | 0 | 142 |
| 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 | 926 | 129 | 11 | 0 | 1,066 |
| 1983 | 858 | 14 | 1 | 0 | 873 |
| 1984 2/ | 661 | 3 | 2 | 47 | 713 |
| 1985 | 1,007 | 19 | 6 | 11 | 1,043 |
| 1986 | 776 | 6 | 14 | 0 | 796 |
| 1987 | 1,158 | 14 | 7 | 0 | 1,179 |
| 1988 | 1,655 | 5 | 33 | 1 | 1,694 |
| 30 Year Total | 13,191 | 605 | 108 | 182 | 14,086 |
| 30 Year Average | 440 | 20 | 4 | 6 | 470 |
| % of Total | 93.65 | 4.30 | 0.77 | 1.29 | 100.00 |

1/ Data source: Final IBM computer runs, 1959-1988 and processor catch reports.
2/ Preliminary data.

Appendix A.20. Sockeye salmon catch by district for Lower Cook Inlet, 1959-1988. 1/

| Year | Southern | Outer | Kamishak | Eastern | Total |
|---|---|---|---|---|---|
| 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 | 12,120 | 1,037 | 2,846 | 4,895 | 20,898 |
| 1971 | 18,403 | 1,625 | 3 | 2,203 | 22,234 |
| 1972 | 31,345 | 26,092 | 47 | 413 | 57,897 |
| 1973 | 24,072 | 2,006 | 1 | 3,057 | 29,136 |
| 1974 | 27,029 | 206 | 0 | 193 | 27,428 |
| 1975 | 27,393 | 124 | 29 | 596 | 28,142 |
| 1976 | 35,280 | 18,886 | 3,988 | 5 | 58,159 |
| 1977 | 54,663 | 33,733 | 7,425 | 5,776 | 101,597 |
| 1978 | 141,088 | 10,695 | 4,619 | 2 | 156,404 |
| 1979 | 37,342 | 25,297 | 1,778 | 0 | 64,417 |
| 1980 | 42,929 | 22,514 | 3,877 | 122 | 69,442 |
| 1981 | 77,880 | 18,133 | 4,972 | 9,270 | 110,255 |
| 1982 | 43,433 | 66,781 | 18,014 | 3,092 | 131,320 |
| 1983 | 133,671 | 16,835 | 11,207 | 25,932 | 187,645 |
| 1984 2/ | 163,244 | 28,411 | 24,642 | 54,459 | 270,756 |
| 1985 | 84,149 | 91,957 | 78,250 | 24,338 | 278,694 |
| 1986 | 36,838 | 48,472 | 146,496 | 3,055 | 234,861 |
| 1987 | 89,662 | 31,845 | 123,654 | 3,687 | 248,848 |
| 1988 | 105,302 | 9,501 | 183,952 | 20,253 | 319,008 |
| 30 Year Total | 1,343,920 | 507,461 | 632,347 | 340,030 | 2,823,758 |
| 30 Year Average | 44,797 | 16,915 | 21,078 | 11,334 | 94,125 |
| % of Total | 47.59 | 17.97 | 22.39 | 12.04 | 100.00 |

1/ Data source: Final IBM computer runs,1959-1988 and processor catch reports.
2/ Preliminary data.

Appendix A.21. Coho salmon catch by district for Lower Cook Inlet, 1959-1988. 1/

| Year | Southern | Outer | Kamishak | Eastern | Total |
|---|---|---|---|---|---|
| 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 | 3,544 | 243 | 218 | 691 | 4,696 |
| 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 | 21 | 2,915 | 524 | 6,514 |
| 1975 | 3,039 | 7 | 3,041 | 124 | 6,211 |
| 1976 | 1,905 | 0 | 1,111 | 200 | 3,216 |
| 1977 | 1,255 | 78 | 105 | 360 | 1,798 |
| 1978 | 4,318 | 45 | 1,584 | 582 | 6,529 |
| 1979 | 10,846 | 135 | 1,116 | 296 | 12,393 |
| 1980 | 11,568 | 16 | 2,495 | 426 | 14,505 |
| 1981 | 7,976 | 485 | 1,845 | 470 | 10,776 |
| 1982 | 7,165 | 92 | 38,685 | 950 | 46,892 |
| 1983 | 3,433 | 54 | 7,138 | 594 | 11,219 |
| 1984 2/ | 3,415 | 90 | 13,230 | 536 | 17,271 |
| 1985 | 4,258 | 3,210 | 2,024 | 835 | 10,327 |
| 1986 | 3,095 | 5,052 | 9,935 | 770 | 18,852 |
| 1987 | 2,163 | 2,481 | 8,079 | 1,631 | 14,354 |
| 1988 | 2,987 | 2 | 4,471 | 486 | 7,946 |
| 30 Year Total | 110,886 | 16,616 | 99,145 | 24,839 | 251,486 |
| 30 Year Average | 3,696 | 554 | 3,305 | 828 | 8,383 |
| % of Total | 44.09 | 6.61 | 39.42 | 9.88 | 100.00 |

1/ Data source: Final IBM computer runs,1959-1988 and processor catch reports.

2/ Preliminary data.

Appendix A.22. Pink salmon catch by district for Lower Cook Inlet, 1959-1988. 1/

| Year | Southern | Outer | Kamishak | Eastern | Total |
|---|---|---|---|---|---|
| 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 | 208,066 | 434,700 | 22,500 | 50,946 | 716,212 |
| 1971 | 50,066 | 310,706 | 32,094 | 5 | 392,871 |
| 1972 | 9,126 | 963 | 342 | 18,232 | 28,663 |
| 1973 | 97,574 | 195,342 | 12,568 | 1,919 | 307,403 |
| 1974 | 48,875 | 1,300 | 48 | 378 | 50,601 |
| 1975 | 893,615 | 159,908 | 9,432 | 383 | 1,063,338 |
| 1976 | 99,817 | 93 | 1,112 | 35,423 | 136,445 |
| 1977 | 157,025 | 1,129,250 | 6,308 | 1,349 | 1,293,932 |
| 1978 | 251,761 | 70,080 | 982 | 29,738 | 352,561 |
| 1979 | 986,909 | 1,945,536 | 58,484 | 0 | 2,990,929 |
| 1980 | 478,019 | 154,041 | 101,864 | 155,779 | 889,703 |
| 1981 | 1,453,982 | 1,714,115 | 66,097 | 44,989 | 3,279,183 |
| 1982 | 296,556 | 67,523 | 43,871 | 143,639 | 551,589 |
| 1983 | 690,254 | 199,794 | 1,405 | 36,154 | 927,607 |
| 1984 2/ | 336,785 | 89,068 | 137,133 | 135,290 | 698,276 |
| 1985 | 518,898 | 618,222 | 194 | 92,403 | 1,229,717 |
| 1986 | 542,521 | 401,755 | 423,774 | 40,243 | 1,408,293 |
| 1987 | 90,522 | 23,890 | 72,684 | 14,333 | 201,429 |
| 1988 | 852,382 | 6,094 | 61,080 | 1,740 | 921,296 |
| 30 Year Total | 10,030,518 | 11,477,386 | 1,480,278 | 857,223 | 23,845,405 |
| 30 Year Average | 334,351 | 382,580 | 49,343 | 28,574 | 794,847 |
| % of Total | 42.06 | 48.13 | 6.21 | 3.59 | 100.00 |

1/ Data source: Final IBM computer runs, 1959-1988 and processor catch reports.
2/ Preliminary data.

Appendix A.23. Chum salmon catch by district for Lower Cook Inlet, 1959-1988. 1/

| Year | Southern | Outer | Kamishak | Eastern | Total |
|---|---|---|---|---|---|
| 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 | 7,873 | 137,408 | 95,841 | 1,305 | 242,427 |
| 1971 | 2,857 | 118,995 | 26,327 | 423 | 148,602 |
| 1972 | 4,936 | 43,466 | 26,374 | 767 | 75,543 |
| 1973 | 3,588 | 76,286 | 35,584 | 55 | 115,513 |
| 1974 | 2,725 | 11,924 | 4,554 | 7 | 19,210 |
| 1975 | 5,428 | 11,348 | 4,868 | 2 | 21,646 |
| 1976 | 1,517 | 412 | 48,848 | 45 | 50,822 |
| 1977 | 6,734 | 70,167 | 65,659 | 3,229 | 145,789 |
| 1978 | 5,525 | 19,224 | 48,669 | 100 | 73,518 |
| 1979 | 8,221 | 180,558 | 29,711 | 0 | 218,490 |
| 1980 | 4,605 | 32,246 | 35,921 | 720 | 73,492 |
| 1981 | 20,920 | 238,393 | 73,501 | 3,279 | 336,093 |
| 1982 | 18,446 | 63,075 | 108,946 | 7,698 | 198,185 |
| 1983 | 14,281 | 27,203 | 142,901 | 7,934 | 192,319 |
| 1984 2/ | 9,598 | 3,077 | 70,595 | 10,534 | 93,804 |
| 1985 | 5,509 | 11,844 | 8,139 | 5,146 | 30,638 |
| 1986 | 5,560 | 11,701 | 61,670 | 3,757 | 82,688 |
| 1987 | 5,030 | 28,663 | 108,412 | 14,913 | 157,018 |
| 1988 | 7,742 | 71,202 | 218,299 | 24,668 | 321,911 |
| 30 Year Total | 251,859 | 2,011,357 | 1,537,500 | 99,529 | 3,900,245 |
| 30 Year Average | 8,395 | 67,045 | 51,250 | 3,318 | 130,008 |
| % of Total | 6.46 | 51.57 | 39.42 | 2.55 | 100.00 |

1/ Data source: Final IBM computer runs, 1959-1988 and processor catch reports.
2/ Preliminary data.

Appendix B.1 MIKFIK CREEK - MCNEIL LAGOON
SALMON FISHERY MANAGEMENT PLAN

Management of the sockeye salmon return to Mikfik Creek will be carried out to allow adequate escapement and to provide fish for bear consumption throughout the course of the run. In an attempt to fully utilize this run, commercial fishermen will have the opportunity to harvest large surpluses of sockeye occurring in the lagoon. To achieve these ends, the fishery will be managed as follows:

1) Based on the best available data, the escapement goal for Mikfik Creek that will provide for the health of the run and the highest return per spawner is 5,000 to 7,000 fish.

   (a) The escapement goal will therefore be 5,000 to 7,000 sockeye salmon.

   (b) Escapement will be provided from all segments of the run to maintain genetic variability.

2) The commercial fishery will take place outside the lagoon to the maximum extent possible. Fishing outside the lagoon will be carried out as follows:

   (a) standard fishing periods (two 48-hour periods per week) will begin June 1;

   (b) fishing time will be adjusted by Emergency Order depending on run strength and escapement into Mikfik Creek;

   (c) the inside marker defining the boundary for legal fishing will be located at the end of the spit:

   (d) vessels will be allowed to anchor inside the spit as in the past.

3) When the minimum escapement goal of 5,000 fish is assured and it is projected that the upper limit of the escapement goal (7,000 fish) will be reached and the visually confirmed buildup of at least 500 salmon occurs in McNeil Lagoon, the lagoon may be opened to commercial fishing. Fishing inside the lagoon will be carried out as follows:

   (a) openings in the lagoon will occur for a two-hour period starting one hour before high tide and ending one hour after high tide;

   (b) nets must be fished from the boat and may not be fished from the beach;

   (c) fishermen will remain in their boats as much as possible while fishing.

Approved _____
Don W. Collinsworth, Commissioner