ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES

ANNUAL MANAGEMENT REPORT

1980

Upper Cook Inlet Area

Region II

Submitted by

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PREFACE

The goals of this report are to document the events of the 1980 commercial and subsistence salmon fisheries and the commercial herring and razor clam fisheries in Upper Cook Inlet. The objective in producing this publication is to document the background of and rationale for the management of the various fisheries within Upper Cook Inlet. The field operations and research aspects of the management area are not presented in this report since they are adequately discussed in technical reports.

All fishery data contained in this report supercede the data presented in previous reports. Unless otherwise noted, all commercial catch data are final.

Although this report is intended primarily for inter-departmental use, it contains no confidential information and may be distributed to the public. Comments and corrections are invited and should be directed to the Commercial Fisheries Division, Box 3150, Soldotna, Alaska 99669.

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INTRODUCTION

This report presents a summary of management activities relative to commercial fishing in Upper Cook Inlet, Alaska during the period 1 January to 31 December 1980. For a discussion of the history of the commercial fishing industry in Upper Cook Inlet, the reader is referred to a detailed stock status report prepared by Middleton (in press) and a summary prepared by Sanders (1978).

COMMERCIAL SALMON FISHING

Fishing Districts

The Cook Inlet area encompasses the marine waters and drainages north of the latitude of Cape Douglas on the Alaska Peninsula (Figure 1). In 1974 the Cook Inlet area was partitioned into two management areas, Lower and Upper Cook Inlet. Lower Cook Inlet includes the marine waters and drainage south of the latitude of Anchor Point and extends from Cape Douglas on the Alaska Peninsula to Cape Fairfield in Blying Sound. Upper Cook Inlet consists of that portion of Cook Inlet north of the latitude of Anchor Point and is divided into two districts, Central and Northern (Figure 2). The Central District is divided into six subdistricts and the Northern District is split into two subdistricts.

With the exception of the Chinitna Bay Subdistrict in the Central District, where purse seines were allowed to fish, gill nets were the only legal gear in Upper Cook Inlet in 1980. Set gill nets are the only gear allowed in the Northern District. Both set and drift gill nets are permitted in the Central District.

Season Parameters

The 1980 Upper Cook Inlet commercial salmon fishing season began on 16 June when the Western Subdistrict opened by regulation to the taking of salmon by set gill nets only. The remainder of Upper Cook Inlet opened to all gear types on 27 June and the standard base fishing time of one 12-hour period on Monday and Friday from 6:00 A.M. to 6:00 P.M. prevailed until 4 July when the first emergency order was issued by the Alaska Department of Fish and Game (ADF&G). Inherent in the management of the Upper Inlet is the recognition that varying stock strengths and the mixed species fishery require frequent modification to the base fishing time to achieve escapement goals. Therefore, in 1980 a total of 22 emergency orders were issued during the commercial salmon fishing season (Table 1 presents a summary of each order). The cumulative result of these orders was to restrict the drift fleet by 30 hours during the sockeye salmon and chum salmon fishery. In contrast, because of the way the fishery developed (see section on Major Issues/Decisions), set gill nets were allowed the following additional time:

Upper Subdistrict	- 108-180 hours (depending on location)
Western Subdistrict	- 24 hours
Kalgin Subdistrict	- 12 hours
Kustatan Subdistrict	- 24 hours

Fishing time in the Chinitna Bay Subdistrict was reduced by 48 hours to enhance chum salmon escapement into the local systems.

Distribution of Fishing Effort and Processors

Data compiled by the Commercial Fisheries Entry Commission indicated that 747 set gill net permits and 597 drift gill net permits were issued for the Inlet (Table 2). However, only 571 and 513 permits, respectively, were fished during the 1980 season. Peak aerial survey counts of nets fishing (Table 3) provided some insight into the distribution of set net effort in the Upper Inlet. In 1980, most set net effort was concentrated in the Central District on the eastside of the Upper Subdistrict (704 nets; referred to as the eastside set net fishery). In contrast, peak net counts were 142 and 131 for the Western and Kalgin subdistricts, respectively. Peak net count of 202 set gill nets was recorded for the Northern District.

A total of 170 processors filed an "intent to operate" in the Cook Inlet management area in 1980. However, harvest figures were compiled only from the major processors during the season. Buyers of salmon in Cook Inlet in 1980 are listed in Table 4.

Commercial Catch

The following harvest data is presented by species.

Chinook Salmon (O. tschawaytscha):

The 1980 commercial harvest of chinook salmon in Upper Cook Inlet was 13,795 fish (Table 5). This was approximately 31% above the average historical harvest and about 15% above the upper limit of the pre-season projection (Table 6). Analysis of catch statistics by gear type indicated that 6.4% and 93.6% of the harvest was taken by drift nets and set nets, respectively (Tables 7 and 8). The geographical distribution of harvest was as expected. The Central District accounted for 92.8% (12,805) of the total harvest with the majority of Central District fish harvested by the Upper Subdistrict set net fishery (9,643 fish; Table 9). Catches for the other subdistricts of the Central District are presented in Tables 10 through 14.

The State of Alaska Board of Fisheries, at its December 1978 meeting, adopted a regulation which changed the opening date of the Northern District commercial salmon fishing season from 1 July to 25 June. The intent of this modification to the season length was to standardize the opening of the Central and Northern Districts. However, the Board intended to monitor the additional harvest of chinook salmon in 1980 to evalute the significance of this action. During 1980, a total of 990 chinook salmon were caught in the Northern District (Table 15). Of these, 741 and 249 were taken in the General and Eastern subdistricts, respectively (Tables 16 and 17). Two fishing periods occurred prior to 1 July and within these two periods, 391 and 99 chinook salmon were harvested in the General and Eastern subdistricts, respectively. This was 49.5% of the total Northern District harvest.

Sockeye salmon (O. nerka):

The 1980 commercial harvest of 1,573,637 sockeye salmon (Table 5) was 40% above the historical average of 1,124,000 fish and 75% higher than the pre-season outlook (Table 6). The Central District catch was 1,467,990 fish or 93.3% of the total harvest (the Northern District catch was 105,647 fish). Distribution of catch by gear type indicated that the drift fleet harvested 48.9% of the sockeye salmon (770,247; Table 7) returning to the upper inlet. Central District set nets harvested 697,734 sockeye salmon or 44.3% of the

catch. As with chinook salmon, the eastside set net fishery took the majority of the Central District set net harvest (80.2%, 559,812 fish; Table 9). The remaining harvests of 57,294, 79,345, and 1,283 sockeye salmon were caught in the Kalgin, Western and Kustatan, and Chinitna Bay set net fisheries, respectively (Tables 10, 11, and 13).

The relative contribution of sockeye salmon from the five major river systems to the commercial catch in 1980 was as follows: Susitna River (19%), Kenai River (33%), Kasilof River (39%), Crescent River (5%) and Fish Creek (4%) (Cross et al. 1981). It should be noted that the stock separation methodology requires all fish be classified to one of the river systems noted. Therefore, production from minor systems was included in the above estimates. Stock composition estimates by fishery are presented in Table 18. Results tend to follow expected trends. Crescent River stock comprised 79.1% of the westside set net fishery while Susitna River stocks contributed 72.5% to the Northern District General Subdistrict (westside) harvest. Kenai and Kasilof river stocks were harvested predominantly by the Central District drift and eastside set net fishery.

Coho Salmon (O. kisutch):
A total of 271,378 coho salmon were harvested in Upper Cook Inlet in 1980 (Table 5). This was 24% above the historical average of 218,645 and about 9% above the pre-season projection (Table 6). The Northern District set net harvest was 78,345 and 11,753 fish for the General and Eastern subdistricts, respectively (Tables 16 and 17). The Central District harvested 181,280 fish of which 89,510 or 49.4% were taken in the drift fishery (Table 7). The eastside set net fishery, which harvests predominantly Kenai River coho salmon, caught 40,281 fish (Table 9).

Pink Salmon (O. gorbuscha):
The 1980 pink salmon catch was 1,786,430 fish (Table 5) which is 8.5% above the even year average harvest of 1,646,494 and 11% below the pre-season projection (Table 6). The Central District accounted for 1,311,942 fish or 73.4% while 474,488 fish or 26.6% were caught in the Northern District.

The two major pink salmon systems in Upper Cook Inlet are the Susitna River in the Northern District and the Kenai River in the Central District. The Susitna River system has historically produced more pink salmon than the Kenai River by a significant margin. Therefore, even though 73.4% of 1980's pink salmon harvest occurred in the Central District, most of these fish were probably bound for the Northern District.

Within the Central District, the drift fleet tends to intercept pink salmon destined for the Northern District while the Central District's set gill nets tend to target on local stocks. If the 964,526 pink salmon harvested by the drift fleet (Table 7) are added to the 474,488 pink salmon caught in the Northern District (Table 15), then the Northern District contributed 1,439,014 fish, or 80.6%, of this year's commercial pink salmon catch. Similarly, the catch of 299,444 pink salmon by the eastside set gill nets in the Upper Subdistrict of the Central District (Table 9; presumably bound for the Kenai River) represent 86.2% of the Central District's set net catch and 16.8% of the total Upper Cook Inlet pink salmon harvest.

Chum Salmon (O. keta):
The return of chum salmon to Upper Cook Inlet in 1980 was extremely weak as evidenced by the commercial harvest. Only 390,810 chum salmon were caught (Table 5), which is only 63.2% of the average harvest of 618,366 fish but within the range of the pre-season projection (Table 6). Typical of the chum salmon fishery in Upper Cook Inlet, most fish (374,082) were harvested in the Central District. The predominant gear type was the drift fleet, which took 339,970 fish or 87% of the total catch (Table 7).

Of the 16,728 chum salmon taken in the Northern District (Table 15) the distribution of harvest was as expected. Eighty-five percent of the catch, or 14,183 fish, was reported from the General Subdistrict (Table 16). Eastern Subdistrict catches were only 2,545 fish (Table 17).

Escapement
The adequacy of salmon escapement into the major river systems of Upper Cook Inlet is measured using a variety of techniques. These include: 1) hydroacoustic (sonar) counters; 2) aerial, weir and/or ground surveys; and, 3) analysis of commercial harvest statistics for determination of relative run strength.

Hydroacoustic instrumentation is used predominantly to estimate sockeye salmon escapement into the Kenai, Kasilof, Susitna, and Crescent rivers. Two Bendix side scanning sonar counters were installed in each system (one per river bank) in 1980. Procedures for deployment of the units are detailed in Tarbox et al. (1982).

Pink salmon returning to Upper Cook Inlet, as previously noted, are primarily of Susitna or Kenai river origin. Hydroacoustic estimates are tabulated for the Susitna drainage. However, Kenai River stocks are inaccessible (downriver spawning) to sonar counting. Therefore, no estimate was made for pink salmon escapement into this system.

Unfortunately, sonar counters are not successful for coho salmon, chinook salmon, and chum salmon in the major river systems. Migration beyond the counting range of the units is considered the primary factor creating this phenomena. Therefore, most management decisions are based on relative run strength as assessed from commercial harvest data.

Kenai River:
A total of 754,197 salmon was enumerated with sonar counters in the Kenai River in 1980. The early run, of which only a portion was counted in the period 6-21 June 1980 numbered 19,259. Although species apportionment sampling was not feasible by fishwheels or seines during the early sockeye salmon run because of shallow water and rocks, it was presumed most fish targets were sockeye salmon. Of the 734,938 fish enumerated by the counters after 21 June, an estimated 63% or 464,038 were sockeye salmon, 36% or 262,394 were pink salmon and 1% or 7,888 were coho salmon. Only 618 chinook salmon were counted (Table 19).

Run timing of sockeye salmon into the Kenai River in 1980 did not occur in a typical mode. Although the mid-point of the run occurred on 19 July (historical mean, 20 July), the pattern of entry was typified by few fish in

the river prior to 17 July (less than 27,000 when normally 140,000 fish would have been counted). A rapid increase in passage rate occurred on 17 July when 117,463 sockeye salmon were counted. This established a new daily record escapement for the Kenai River.

The 1980 sockeye salmon index area escapement estimates within the Kenai River drainage (137,300 fish) were highest since the inception of the sonar counting project in 1969 (Table 20). The total index area escapement represents approximately 34% of the potential spawners (sonar count minus sport harvest) in 1980. As in previous years, the Russian River contributed the majority of the index area counts (64%), and the 87,200 sockeye salmon enumerated represented the second highest late run count on record for the drainage.

Kasilof River:
Kasilof River sonar counters recorded 187,634 fish targets from 22 June to 13 August 1980 of which 184,260 were sockeye salmon, 1,767 were pink salmon, 501 were coho salmon and 1,106 were chinook salmon (Table 21). An additional 2,894 sockeye salmon were enumerated from 14 June to 21 June for a total sockeye salmon escapement estimate of 187,154. Fish targets counted prior to 21 June were not apportioned and presumed to be sockeye salmon as fishwheel catches of other salmon species did not occur until 21 July (excluding one chinook salmon taken 27 June; Tarbox et al. 1982).

The 50%, or mid-point of the run, occurred on 16 July 1980 two days after the historical average date. Entry pattern data indicated a gradual return occurred in which 80% of the sockeye salmon run was counted in 35 days in contrast to the historic average of 80% in 25 days. A decrease in daily escapement (Table 21) occurring between 3 and 15 July roughly corresponds to the commercial fishery dates from 4 to 17 July in which over 300,000 Kasilof River bound sockeye salmon were caught in the drift and Cohoe/Ninilchik Beach set gill net fisheries (Cross et al. 1982).

The total 1980 sockeye salmon index area escapement within the Tustumena Lake tributaries was 171,400 fish (Table 22). This was the highest total count on record, due in part to the placement of weirs at Bear and Glacier Flat creeks through the duration of the adult return. The number of fish enumerated in spawning tributaries represented 92% of the sonar count.

Crescent River:
A total of 90,863 fish targets was enumerated at the Crescent River sonar site from 28 June through 14 August 1980 (Table 23). Although the sonar sytem was installed on 28 June, the first recorded fish target did not occur until 7 July. The 50% or mid-point of the run occurred on 22 July 1980, one day after the peak passage date. Eighty percent of the run passed the counters in 24 days indicating a relatively gradual entry pattern. Gillnet and visual observations during the counting period indicated most fish targets were probably sockeye salmon. In addition to sockeye salmon, chinook salmon and coho salmon were observed in the Crescent River system in 1980. Chinook salmon were assumed to represent a minor component for the fish targets recorded (based on 1979 data less than 1/2%). Coho salmon, in contrast, were not observed until after termination of the counting operation (approximately mid-September during removal of camp equipment).

Susitna River:
A total of 2,295,386 fish targets was enumerated at the Susitna River sonar site from 1 July to 29 August 1980 (Table 24). A fishwheel catch of 55,053 fish was used to apportion sonar counts by species as follows: 190,866 sockeye salmon; 2,047,423 pink salmon; 7,939 chum salmon; 42,895 coho salmon; 1,919 chinook salmon; and 4,344 whitefish.

The mid-point of the sockeye salmon run in 1980 occurred on 22 July, and was the same for both banks and for fishwheel catches. Entry pattern data indicated sockeye salmon began passing the counters in large numbers on 19 July, and 80% of the run was enumerated in 7 days.

Fifty percent of the pink salmon escapement passed the counters by 30 July 1980. This date was also the mid-point of the chum salmon counts although there was a 14-day difference by bank (29 July on the east bank and 12 August on the west bank). The difference in migratory timing of chum salmon by bank was also apparent in fishwheel catches although the 50% date varied by only 6 days. Coho salmon migratory timing varied only 6 days. Coho salmon migratory timing varied only slightly according to bank for both fishwheel catches and sonar counts (50% date for the total escapement was 2 August).

The 1980 sockeye salmon index area peak escapements within the Susitna River drainage numbered approximately 44,900 (Table 25), representing the highest total on record since the inception of index area counts in 1972. An increase in spawners relative to previous years was evident in over half the areas surveyed, and record escapements were counted in five systems. Forty-seven percent of the index area count was recorded for the Talachulitna River. Largest increases in number of spawners relative to parent years (1975 and 1976) were enumerated in Shell Lake, Red Salmon Lake, Fish Lake, and West Fork Yentna River.

Minor Systems:
Escapement estimates for sockeye salmon were made at Fish Creek and Packers Creek in 1980 utilizing a weir. Total escapement for these systems was estimated at 62,628 and 16,457 sockeye salmon, respectively (Table 26). The mid-point of the run into these two systems was 22 July and 25 July, respectively.

Major Issues/Decisions - Salmon
During the 1980 season, five major issues occurred which affected the commercial fishery in Upper Cook Inlet. These issues manifested themselves into the numerous emergency orders implemented during the season (see Table 1 for individual emergency order summary). The issues can be characterized and discussed as follows:

1) closure of the Central District to drift gill nets on 11 and 18 July to protect Kenai River and Susitna River bound sockeye salmon;
2) allowing additional fishing time to set gill nets in the Upper Subdistrict to harvest Kasilof and Kenai river sockeye salmon;
3) closure of the Central District to drift gill nets and Northern district to protect Susitna bound chum salmon;
4) closure of Chinitna Bay on 15 August to protect chum salmon bound for Clearwater Creek; and

5) the issue of whether the drift gillnet fishery could harvest Kenai River pink salmon and timing of the run.

Issue 1 - Closure of the Central District on 11 and 18 July:
Inherent in the management of Upper Cook Inlet sockeye salmon is the dilemma of harvesting surplus Kenai River sockeye salmon while insuring escapement to the Susitna River and/or other systems. This dilemma has resulted in the implementation of a number of management programs aimed to provide: (1) an estimate of total return of sockeye salmon to Upper Cook Inlet early in the season; and (2) separation of stocks to river of origin through scale pattern analysis. Details of these programs in 1980 are presented in Waltemyer (1982) and Cross et al. (1982). Scales from sockeye salmon committed to their river of origin and from the commercial fishery must be available for the stock separation program to function. In addition, harvest must occur early in the run. These data requirements were compromised in 1980 which ultimately resulted in the closure of the drift gill net fleet on 11 July. An explanation of events follow:

The 1980 pre-season forecast of sockeye salmon harvest was 600,000 - 900,000 fish which created a dismal attitude in both fishermen and staff for the 1980 season. While the staff makes management decisions on run strength as the season progresses, it was obvious the attitude was caution early in the season. Of greater importance was the concurrent impact of a record run of sockeye salmon anticipated to return to Bristol Bay. Fishermen in that area were on strike when the Upper Cook Inlet salmon season opened with a price offer of $0.60 per pound for sockeye salmon. This was less than one half of the 1979 closing price of $1.37 per pound. This offer prompted an informal strike by the Upper Cook Inlet drift gill net fishermen on 30 June. The majority of the drift fleet remained on strike during the fishing periods on 4 and 7 July in an effort to raise the price of sockeye salmon to Bristol Bay price plus $0.25 per pound. The majority of the local processors agreed to this price by 10 July.

However, this informal strike essentially negated the ability of staff to estimate the total sockeye salmon return to the Upper Inlet. The simulation programs required catch inmformation to function properly. Therefore, the staff was faced with managing predominantly by escapement counts. Unfortunately, by 10 July only 8,567 sockeye salmon had entered the Kenai River, which was significantly lower than the average escapement by that date. Simultaneous with this was the inability of the stock separation program to estimate the stock composition of those limited numbers of fish harvested during the strike. Escapement into the Susitna River was less than 2,000 fish by 4 July which precluded obtaining the required 300 scale samples. The combination of not having a functional run simulation program or stock separation program, coupled with poor escapement rates into the Kenai and Susitna rivers forced the staff to close the drift fishery on 11 July until either escapement rates increased or test fishing indicated an abundance of sockeye salmon in the district. In response to this lack of information the staff directed a test fishing project utilizing six drift gill net vessels on 13 July. Results of this effort were inconclusive. However, enough sockeye salmon were captured and/or observed to warrant fishing for 6 hours on 14 July. A total catch of 389,218 sockeye salmon was harvested by the drift gillnet fishery (Table 7) which reduced the staff's concerns relative to total abundance. By 16 July, it was obvious that Kenai River stocks were along the

east beach. Escapement counts into the Kenai River on 17 July were 117,463 sockeye salmon which set a new daily record. However, the staff felt a fishing period on 18 July could jeopardize achieving the escapement goal of 390,000 fish. Therefore, the regularly scheduled period on 18 July was closed to drift gillnets in the Central District and set gill nets in the Upper and Kalgin Island subdistricts. It was the attitude of the staff that additional fishing time would be granted when sonar counts had reached 200,000 sockeye salmon. This occurred on the evening of 18 July.

Issue 2 - Additional fishing time for set nets in the Upper Subdistrict:
The factors listed in Issue 1 obviously led to a significant number of Kenai River sockeye salmon along Kalifonsky and Salamatof beaches. Therefore, beginning on 19 July, staff began granting additional fishing time with continuous fishing in the Upper Subdistrict with set gill nets from 21 July until 25 July in order to harvest Kenai River sockeye salmon.

In addition to extra fishing time to harvest Kenai River sockeye salmon, the staff, starting on 4 July, began granting additional commercial set gillnet fishing time in that portion of the Upper Subdistrict of the Central District south of the terminus of the Kasilof River. Escapement of 46,060 sockeye salmon past the Kasilof River sonar counters on 3 July and an estimated 15,000 to 20,000 sockeye salmon in the river below the sonar counters indicated that the minmum escapement goal would be achieved.

The combination of the above resulted in considerable additional fishing time with the subsequent incidental harvest of chinook salmon. However, the return of chinook salmon appeared strong and the sport fishery was ineffective because of high water and concurrent low visibility in the Kenai River. Therefore no chinook salmon biological problem was associated with the additional commercial fishing time (Hammarstrom 1980). During 1980, 382,441 and 177,371 sockeye salmon were harvested during regular and extra periods by eastside set nets, respectively. Chinook salmon harvests were 6,746 and 2,897 for the same periods.

Issue 3 - Northern District chum salmon stocks:
The complexities of a mixed species fishery were evident during the 1980 season. Historically, chum salmon and pink salmon bound for the Northern District spawning grounds (predominantly to the Susitna River) have been 50-60% harvested at the conclusion of the sockeye salmon fishery. The Central District drift gillnet fleet typically harvests 88% and 35% of the Upper Inlet chum salmon and pink salmon catch, respectively. In 1980, an additional dilemma faced the staff. Pink salmon drift gillnet catch and escapement rates indicated a very strong return into the Upper Inlet. Conversely, chum salmon drift gillnet harvest data indicated run strength at 50-60% of the average harvest. Therefore, the staff was faced with attempting to harvest surplus pink salmon while at the same time protecting chum salmon stocks. Unfortunately, no simple options were available to accomplish this task. Therefore, the staff granted additional fishing time on 30 July to all gear types in both districts to harvest pink salmon. In addition, Northern District set nets were granted an additional period on 6 August. Harvests for these two periods were 228,331 pink salmon and 23,956 chum salmon (Table 5). However, by 7 August it was apparent that chum salmon escapement into the Susitna River was poor. The apportioned sonar counts indicated an escapement index of 7,939 chum salmon into the system in 1980. However, post season

analysis of sonar data indicated sonar does not adequately measure absolute escapement levels for chum salmon, chinook salmon, and coho salmon. Therefore, escapement of chum salmon was probably higher but the magnitude is unknown. Even if sonar was 10-20% accurate, the escapement would still fall below the desired level of 200,000 fish. Consequently, portions of the Northern District and the Central District were closed on 8 August until 18 August to protect chum salmon bound for the Susitna River (see Table 1 for each emergency order summary). The concern for chum salmon escapement also contributed to an escapement of 2,047,423 pink salmon into the Susitna River. This was one million fish over the desired level of escapement.

Issue 4 - Chinitna bay chum salmon closure:
Chinitna Bay is a small shallow bay that, unlike the rest of Upper Cook Inlet, does not have strong tidal currents. Chum salmon begin entering Chinitna Bay in the first half of July and mill within the bay for approximately 3 to 4 weeks before entering freshwater streams to spawn. The physical characteristics of Chinitna Bay, combined with the behavioral patterns of chum salmon in Chinitna Bay, create a situation wherein this stock is particularly vulnerable to over-exploitation.

The staff flies aerial surveys of Chinitna Bay's two primary clearwater spawning streams, Fitz Creek and Clearwater Creek, each summer in order to estimate chum salmon escapement. Four or five surveys are flown each year, usually commencing around 10 August and terminating approximately 25 August. The peak survey counts are used as that season's escapement figures. A peak escapement count of 10,000 chum salmon is desired for Clearwater Creek.

A survey of Clearwater Creek and associated tributary on 4 August indicated an estimated 900 chum salmon present (Table 27). The commercial catch data indicated by the end of the commercial fishing period on 4 August, Chinitna Bay's cumulative catch of chum salmon was 26,146 (Tables 12, 13, and 14). Additional aerial surveys of Fitz Creek and Clearwater Creek were conducted on 9 August and 12 August. However, due to rain, the streams were usually high and turbid, making an accurate count of chum salmon impossible.

These circumstances lead to the complete closure of the Chinitna Bay Subdistrict to all commercial fishing from 11 August through 5 September. Additional aerial surveys of Fitz Creek and Clearwater Creek were conducted through 25 August. These surveys indicated the prolonged closure of the Chinitna Bay Subdistrict resulted in achieving a minimal peak escapement of 3,800 and 1,000 chum salmon in Clearwater and Fitz Creeks, respectively (Table 27).

Issue 5 - Kenai River pink salmon:
The even year pink salmon run to the Kenai River usually begins approximately 1 August, peaks between 8 August and 11 August, and ends in mid-August. This run is harvested almost exclusively by the Central District's eastside set nets, primarily because these fish travel along the shoreline and are not available to the drift gillnet fleet. This created a situation in 1980 where the Kenai River pink salmon run was peaking during the time period when the drift fleet was restricted from fishing in order to protect chum salmon remaining in the Central District. Consequently, many drift fishermen expressed their opinion they should be given an opportunity to participate in the commercial harvesting of the Kenai River pink salmon run. Therefore, in

order to accomodate the drift fishermen, the Department opened that portion of the Upper Subdistrict east of a straight line from the East Foreland's light to Cape Ninilchik to commercial fishing with drift gill nets from 6:00 A.M. Wednesday, 13 August until 6:00 P.M. Friday, 15 August. Aerial surveys indicated 142 drift boats fishing on 13 August, 17 drift boats fishing on 14 August, and 6 drift boats fishing on 15 August. Their total catch of 11,202 fish contained 9,596 pink salmon (Table 7). Concurrent eastside set net harvest for this time period was 88,220 pink salmon (Table 9).

In addition to the drift fleet request, eastside set net fishermen expressed the view that additional Kenai River pink salmon were moving along the beach when the eastside set net fishery closed by regulation on 15 August. Although the set net catch had decreased on 15 August (Table 9), which suggested the termination of the run, the magnitude of the catch (19,081 pink salmon) would indicate pink salmon abundance was still relatively strong. However, the closing date of 15 August was implemented by the State of Alaska Board of Fisheries to allow late run Kenai River coho salmon to escape the commercial fishery, thereby providing for a recreational fishery. Therefore, the staff took no action to extend the commercial fishing season. The escapement of pink salmon into the Kenai River was considered to be excellent.

Management Recommendations Based on 1980

The 1980 commercial salmon fishing season provided a number of events which increased the staff's management knowledge. These are discussed below:

1) Total abundance simulation model - It was obvious during the 1980 season the commercial drift gillnet fishery during the period 28 June to 10 July is critical to assessing run strength. Therefore, fishing periods during this time frame should be maintained;
2) Stock Separation Program - The run timing of Susitna River sockeye salmon precludes gathering "known" escapement scale samples for use "in season." Alternatives should be developed relative to the need for "in season" Susitna River samples. These might include: (1) development of an historical model; (2) sampling near the river mouth; or (3) sampling of Northern District westside set net harvest;
3) Kenai River sockeye salmon entry pattern - During the 1980 season, concern for Kenai River sockeye salmon contributed to a fishing closure on 11 July. In retrospect, the Kenai River escapement counts by 10 July are not necessarily indicative of total return and should not be overemphasized as a potential problem by that date. Typically, Kenai River sockeye salmon move into the Central District, mill, and then move enmass toward the Kenai River. Therefore, the absence of fish by early July may reflect a lack of movement rather than a lack of abundance. This was certainly the case in 1980;
4) Chum and pink salmon trade-offs - Certainly in 1980 there was probably more than one way to solve this dilemma. A second option may have been to fish Northern District westside set nets more often and restrict the drift fleet on 23 and 30 July. As a point of comparison, the drift fleet harvested approximately 227,000 pink salmon and 57,000 chum salmon during these periods. In contrast, the Northern District westside set net fishery harvested approximately 140,000 pink salmon and only 3,100 chum salmon during the same periods. Obviously, additional fishing time in

the Northern District would have exceeded the drift gillnet harvest for pink salmon with a concurrent significant reduction in the chum salmon harvest (the drift gillnet fleet would not have had extra time on 23 and 30 July). Stock strength of Susitna River coho salmon, however, must be considered prior to implementation of this option. In 1980, no obvious problem would have existed with Susitna coho salmon.

SUBSISTENCE FISHERIES - SALMON

The State of Alaska Board of Fisheries addressed the Upper Cook Inlet subsistence salmon fishing issue at its regularly scheduled meeting in December, 1979. The three changes made in the regulations at that meeting were:

1) change the subsistence salmon fishing season from 23 June - 15 August to 21 June - 15 August;
2) further restrict the area open to subsistence fishing along the east shore of the Northern District to the 6-mile stretch of beach from Birch Hill to Otter Creek; and
3) change the permitting system from issuing individual permits for 50 salmon per individual to issuing household permits which allowed 25 salmon for the head of the household and an additional 10 salmon for each dependent.

The Board of Fisheries also discussed a proposed special subsistence salmon fishing season for the village of Tyonek at its meeting in April 1980. The Board was unable to reach a unified position on this issue. Consequently, no action was taken on the Tyonek proposal.

As a result of the Board of Fisheries' lack of action on the Tyonek issue, a law suit was filed in Superior Court on 6 May 1980 against the Alaska Board of Fisheries, Ronald O. Skoog, Commissioner of the Alaska Department of Fish and Game, and William R. Nix, Commissioner of the Alaska Department of Public Safety by the Native Village of Tyonek, Nellie Chickalusion, Fedora Constantine, Peter Constantine, and Sava Stephan (captioned case No. 3AN-80-3073). Superior Court Judge Victor Carlson ruled in favor of the plaintiffs and ordered a special chinook salmon subsistence fishing season for the residents of Tyonek from 23 May through 15 June 1980. He also established a limit of 50 chinook salmon per household with a total allowable catch for the entire village not to exceed 3,000 chinook salmon. The dates and times of each subsistence fishing period were to be established by emergency order from the Department. Table 28 presents a summary of the dates, fishing effort, and catches from the special chinook salmon subsistence season at Tyonek.

The area between Birch Hill and Otter Creek along the east shore of the Northern District proved to be virtually inaccessable to the public. Substantial public criticism resulted in a telephone conference call between four members of the Board of Fisheries and three Commercial Fisheries' staff members. A concensus option was reached resolving this conflict. Therefore, Emergency Order 2S-15-80 was issued. This emergency order reinstated the 1979 subsistence fishing area along the east shore of the Northern District e.g., the beach from Point Possession to Boulder Point was open to subsistence fishing, except that portion between Birch Hill and Otter Creek. Table 29 presents the appropriate data from the regularly scheduled 1980 subsistence

salmon fishery.

On 4 August 1980, Richard Francis, Kay Francis, and subsistence fishermen on the Kenai Peninsula filed suit in Superior Court against Ronald O. Skoog, individually and in his capacity as Commissioner of the Alaska Department of Fish and Game, the Alaska Board of Fisheries, and the Alaska Department of Fish and Game (captioned case No. 3KN 80-546 Civ.). The primary issue of this suit was the difficulty in catching salmon in the existing area open to subsistence fishing in the Northern District.

This case was settled out of court. Both parties agreed to a consent decree (Appendix 1) which, among other things, allowed those individuals who had already obtained subsistence fishing permits for Cook Inlet to participate in two special subsistence fishing periods on 18 August and 19 August. Subsistence fishing was allowed along the entire shore of the Upper Subdistrict of the Central District from 3:00 A.M. until 8:00 P.M. on these dates. Because of bad weather on 18 August, an additional period was allowed on 23 September 1980. The catch and effort data from these special openings are presented in Table 30.

COMMERCIAL FISHING - RAZOR CLAMS

Season Parameters

Razor clams have been harvested commercially, although in limited quantities, in Upper Cook Inlet for many years, both for bait and human consumption. However, razor clams taken commercially in Cook Inlet for human consumption could only be harvested from the certified beach at Polly Creek. Razor clams could be harvested for bait from the remaining areas along the west coast of Cook Inlet. However, during May 1980, lot sampling was instituted for the Upper Inlet. This allowed commercial clam diggers to remove razor clams from other beaches for human consumption. Clams harvested from beaches were delivered, processed as one group or lot, then tested for paralitic shellfish poisoning (PSP) before being released for human consumption.

This situation materialized as a result of a local processor (Keener Packing Company) who requested lot sampling be instituted in Upper Cook Inlet. A joint meeting of various agencies, including the Governor's Office, was held and the request was granted. Before the end of May, lot sampling was discontinued because the processor no longer had a market for razor clams. Thereafter, all razor clams destined for the human consumption market had to again come from the certified beach at Polly Creek.

Harvest

A total of 138,272 pounds of razor clams had been landed as of 31 October 1980. A breakdown in the number of pounds used as bait versus human consumption is not possible at this time but it is anticipated that greater than 90% of razor clams harvested were utilized as bait and came from Polly Creek beach.

COMMERCIAL FISHING - HERRING

Season Parameters

The Upper Cook Inlet staff was responsible for management of the Lower Cook Inlet Kamishak Bay District and Upper Cook Inlet herring fisheries in 1980.

Therefore, the Kamishak Bay fishery will be included in this report.

The herring season in Kamishak Bay was to open by emergency order during the period 15 April to 30 June. The criteria for opening was the visual observation of 8,000 tons of herring in the District.

Twenty aerial herring surveys were flown by the Soldotna staff between 1 May and 4 June. Less than one half of these (seven) were successfully completed in the Kamishak Bay District due to inclement weather. Thus, very few aerial estimates of herring biomass in the Kamishak Bay area were made and no age-weight-length data were collected.

The first aerial survey of Kamishak Bay during the 1980 season was conducted on 1 May. This survey indicated there were 50-75 tons of herring in shallow water in the upper end of Iniskin Bay and 30-50 tons of herring in Bruin Bay. No spawning was apparent at that time and no herring were observed in the remainder of the Kamishak Bay District.

An aerial survey on 5 May showed approximately 10 tons of herring remained in Iniskin Bay plus a small amount of herring spawn. The only other indication that any herring were in the area was some spawn along the south and west sides of Shawl Island.

Bad weather, primarily gale force winds, prevented the staff from flying any surveys from 8 May through 21 May. Consequently, the Kamishak Bay District was not surveyed during the time period when the majority of the herring should have been there.

Approximately 15 tons of herring were observed south of Rocky Cove on 22 May. This survey also revealed a small amount of spawn at Contact Point and two small areas of spawn at Chenik Head.

The last survey of Kamishak Bay was flown on 4 June. An estimated 15 tons of herring were spotted in Iniskin Bay and another 15 tons were seen in Rocky Cove. Three large (350 feet by 1,000 feet) patches of herring spawn were also present in Rocky Cove.

As a consequence of these surveys, no herring fishery was conducted in Kamishak Bay in 1980.

The commercial herring season in the Central and Northern districts of Upper Cook Inlet opens by regulation on 15 April and ends 30 June. However the primary harvest period is during May and therefore the fishery was closed by emergency order on 9 June. The herring run was essentially over by this time while the incidental harvest of chinook salmon and sockeye salmon was increasing.

Harvest

The Central District herring fishery occurred in three separate geographical areas in 1980. They were (1) Chinitna Bay; (2) Tuxedni Bay; and (3) the east side (Upper Subdistrict). Each of these will be discussed separately.

Chinitna Bay:

An analysis of the data collected from the Chinitna Bay herring sac roe

fishery in 1978 and 1979 indicated the commercial herring harvest from Chinitna Bay should be reduced. These data were presented to the State of Alaska Board of Fisheries at their meeting in December 1979 with the recommendation a 35 ton guideline harvest level be established for the Chinitna Bay herring fishery. This recommendation was approved.

The 35-ton guideline harvest level for Chinitna Bay was considerably less than the 68 tons and 90 tons of herring harvested there in 1978 and 1979, respectively. This resulted in less fishing effort in Chinitna Bay in 1980 and a subsequent harvest of 20 tons of herring. The average roe content of these herring was 12.7% by weight and was worth approximately $7,000 to the fishermen. This averaged $342 per ton of herring at 12% roe recovery, plus or minus $35 per percentage point.

The age-weight-length data taken from herring collected from the Chinitna Bay commercial catch indicated a sex ratio of 39.1 males:60.9 females. Males had a mean length of 227.0 mm and a mean weight of 158.6 gms, while the females had means of 227.8 mm and 164.1 gms, respectively. The mean age for males was 6.4 years while that for females was 6.0 years. These data are presented in Table 31.

Tuxedni Bay:
A number of drift gillnet fishermen began commercially fishing for herring in 1980, primarily in the Tuxedni Bay area. Their effort resulted in a harvest of 83.9 tons of herring averaging 10.4% roe. This was worth approximately $30,000.

The herring sampled from the Tuxedni Bay catch indicated a sex ratio of 36.9 males:63.1 females. The mean length for males was 218.3 mm and their mean weight was 152.9 gms. The females had mean lengths of 219.5 mm and mean weights of 162.0 gms. The mean age for both males and females was 6.1 years. These data are presented in Table 32.

East Side (Upper Subdistrict):
The herring caught along the east side of Upper Cook Inlet have historically had low roe contents and have, therefore, been sold as bait. This was also the situation during the 1980 herring season.

The bait price averaged $400 per ton of herring (delivered to the processor) this season. Therefore, the harvest of 31.8 tons of herring was worth approximately $13,000 to the fishermen.

The sex ratio of the bait herring sampled was 24.1 males:75.9 females. The average length of the males was 217.9 mm and their average weight was 154.0 gms. The females average 218.0 mm in length and weighed 161.9 gms. The mean age for males was 6.2 years, while the mean age for females was 6.1 years (Table 33).

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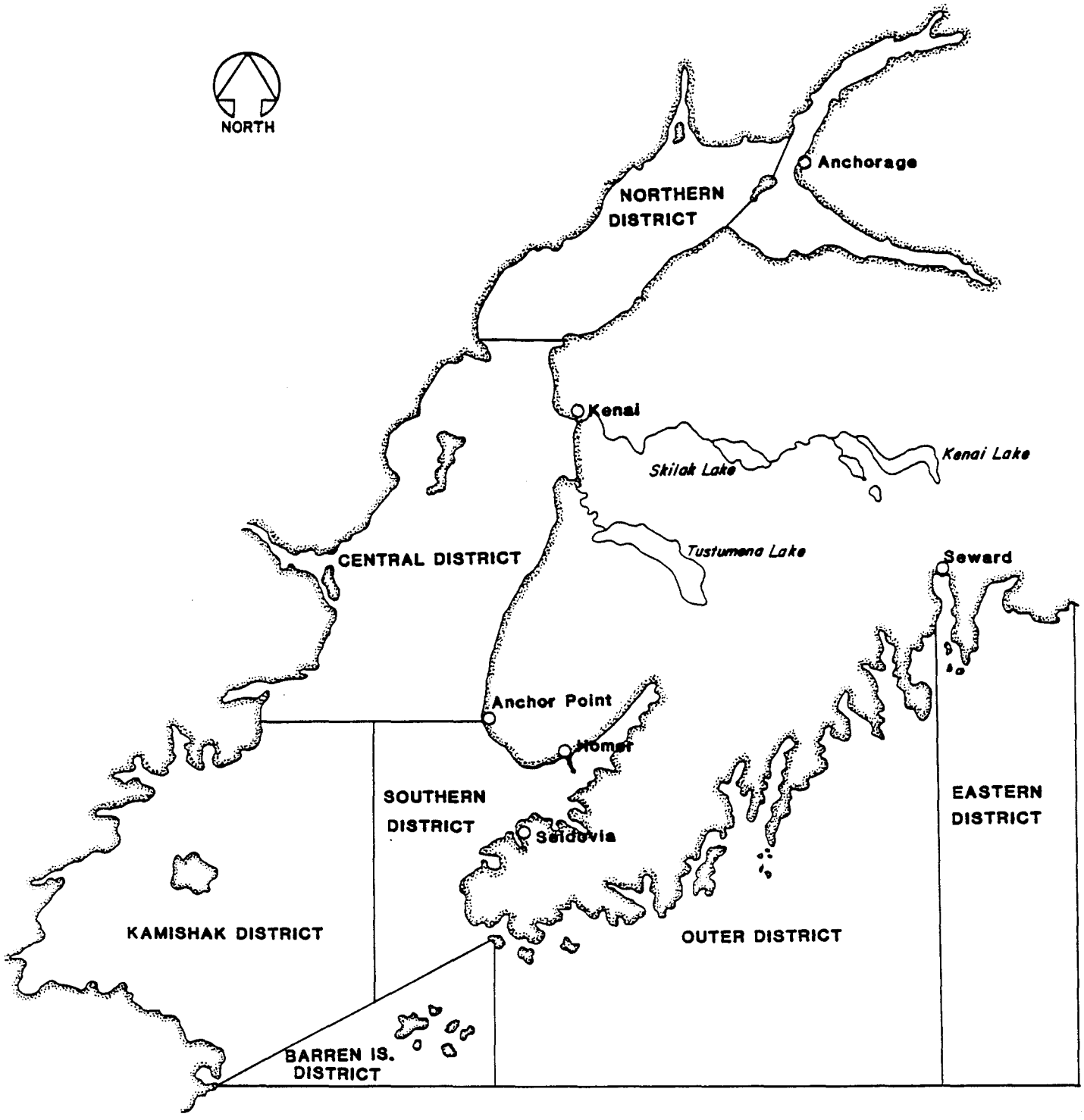
Figure 1. **COOK INLET MANAGEMENT AREA**



UPPER COOK INLET SALMON DISTRICTS

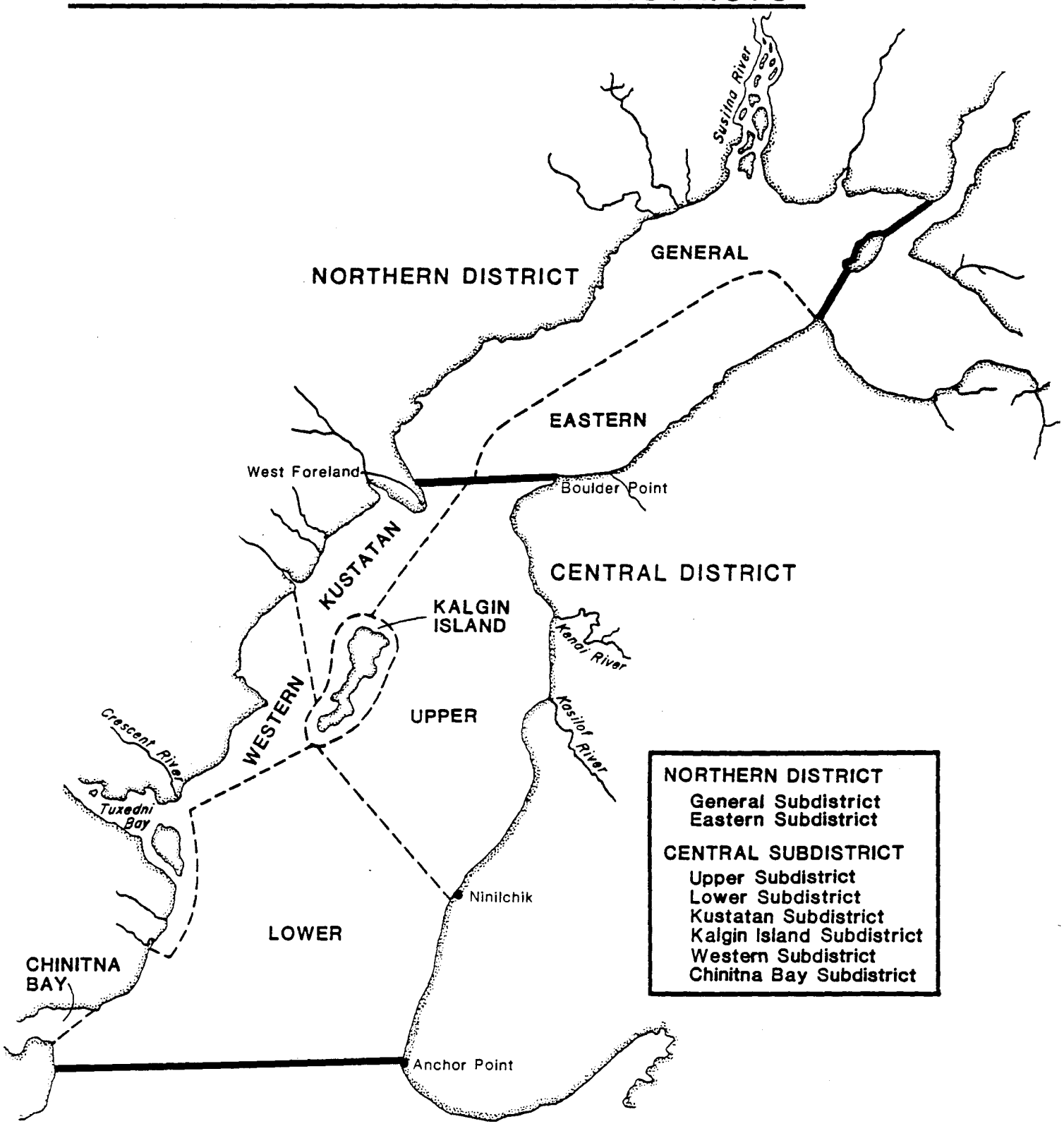


Figure 2.

Table 1. 1980 Alaska Department of Fish and Game emergency order summary for the upper Cook Inlet commercial salmon fishery. 1/

E.O. #	Eff. Date	Description	Reason
2S-12-80	6/30	Corrected a misprint in the 1980 commercial fishing regulations which closed the area within one statute mile of the terminus of Kalgin Island Stream on the west side of Kalgin Island to read "on the east side of Kalgin Island."	Kalgin Island Stream's terminus is on the east side of Kalgin Island, not on the west side of Kalgin Island as printed in the regulations. This created an enforcement problem.
2S-13-80	7/04	Opened that portion of the Upper Subdistrict of the Central District south of the terminus of the Kasilof River to commercial fishing with set gillnets only from 6:00 PM until 12:00 midnight (Friday, extended period).	Escapement of 46,000 sockeye past the Kasilof sonar counters plus an estimated 15,000 to 20,000 sockeye in the river below the sonar counters indicated a guaranteed escapement of 60,000 sockeye. This was the largest escapement ever recorded by this date. Additionally, stock separation analysis from 1978 and 1979 suggest that those sockeye salmon caught in the set gill nets at this point in time, south of the mouth of the Kasilof River are predominantly of Kasilof River origin, i.e., 56% in 1978 and 75% in 1979.
2S-14-80	7/05	Opened that portion of the Upper Subdistrict of the Central District south of the terminus of the Kasilof River to commercial fishing with set gillnets only from 6:00 AM until 12:00 midnight (Staurday, extra period).	Same as for Emergency Order Number 2S-13-80.

Table 1. 1980 Alaska Department of Fish and Game emergency order summary for the upper Cook Inlet commercial salmon fishery. 1/ (continued)

E.O. #	Eff. Date	Description	Reason
2S-16-80	7/11	Closed the Central District's drift fleet Kalgin Island set nets, and those set nets in that portion of the Upper Subdistrict north of the terminus of the Kasilof River to commercial fishing from 6:00 AM until 6:00 PM (Friday, standard period).	Escapement of 8,300 sockeye salmon into the Kenai River was the lowest ever recorded by the Department for this date. Estimates of total run strength ranged from 1.3 million to 1.7 million sockeye salmon. Subtracting the 700,000 additional sockeye salmon needed for escapement, an estimated 350,000 to 750,000 sockeye could be harvested. Thus, a cautious management approach was taken.
2S-17-80	7/14	Reduced the commercial fishing time for the Central District's drift gillnets to 6:00 PM until 12:00 noon (Monday, standard period).	Escapement of 9,300 sockeye into the Kenai River remained the lowest ever recorded for this date, plus the weather conditions conclusive to causing the salmon to school up and mill in the Central District south of Kalgin Island. The staff felt that a smaller harvest at this time was preferable to a much larger harvest at one time later in the fishing season.
2S-18-80	7/16-17	Opened that portion of the Upper Subdistrict of the Central District south of the terminus of the Kasilof River to commercial fishing with set gill nets only from 12:00 noon on 7/16 until 12:00 midnight 7/17 (Wednesday-Thursday, extra period).	Escapement of sockeye salmon past the Kasilof River sonar counter reached 85,500 with the passage of 5,200 sockeye on 7/15. This was well above the minimum escapement goal of 75,000 sockeye and 85% of the optimum goal of 117,000.

Table 1. 1980 Alaska Department of Fish and Game emergency order summary for the upper Cook Inlet commercial salmon fishery. 1/ (continued)

E.O. #	Eff. Date	Description	Reason
2S-19-80	7/18	Closed the Central District to drift gill nets and the Upper and Kalgin Island subdistricts to set gill nets from 6:00 AM until 6:00 PM (Friday, standard period).	Escapement of sockeye salmon past the Kenai River sonar counters was 26,500. This was 88,500 sockeye less than the average escapement of 115,000 sockeye by this date. Another 363,500 sockeye were needed to reach the Kenai's optimum escapement goal of 390,000.
2S-20-80	7/19	Opened the Upper and Kalgin Island subdistricts to commercial fishing with set gill nets and the entire Central District to commercial fishing with drift gill nets from 12:00 noon until 12:00 midnight (Saturday, extra period).	Escapement of sockeye salmon past the Kenai River's sonar counters jumped to 117,000 on 7/17. This brought the cumulative escapement up to 146,000 sockeye. By 4:00 PM on 7/18 another 60,000 fish had passed the sonar counters, bringing the cumulative count up to 206,000. This was over one half the optimum escapement goal and the staff felt assured that at least the minimum escapement goal would be reached.
2S-21-80	7/21-25	Opened the Upper Subdistrict of the Central District to commercial fishing with set gill nets only from 6:00 PM 7/21 until 6:00 AM 7/25 (Monday through Friday, extra period).	Kenai River sockeye salmon escapement through 7/20 was 360,400. Furthermore, 127,000 sockeye had passed the Kasilof River sonar counts. Additional commercial fishing on these two stocks was necessary to prevent escapement in excess of the Department's maximum escapement goals for these two important river systems.

Table 1. 1980 Alaska Department of Fish and Game emergency order summary for the upper Cook Inlet commercial salmon fishery. 1/ (continued)

E.O. #	Eff. Date	Description	Reason
2S-22-80	7/23	Opened that portion of the Northern district from the Chuitna River to Point McKenzie to commercial fishing from 6:00 AM until 6:00 PM and the remainder of the Northern District to commercial fishing from 10:00 AM until 10:00 PM. It also opened the entire Central District to commercial fishing with drift gill nets and the Kalgin Island, Kustatan, Western, and Chinitna Bay subdistricts to commercial fishing with set gillnets from 6:00 AM until 6:00 PM (Wednesday, extra (period).	Escapement of sockeye salmon into the Kenai River was 432,000. Kasilof's escapement was 132,000. Susitna escapement of 80,000 sockeye was increasing at the optimum rate. In-district test suggests that up to 200,000 sockeye salmon were still in the Central District and available to the drift fleet.
2S-23-80	7/30	Opened the Northern District to commercial fishing from 10:00 AM until 10:00 PM and opened the Central District to commercial fishing with both set and drift gill nets from 6:00 AM until 6:00 PM (Wednesday, extra period).	Northern District catch on 7/28 was 74% pink salmon. Susitna River pink salmon escapement was 521,100 and increasing at the optimum to obtain the desired escapement goal. Central District's drift catch on 7/28 was 88,263 pink salmon (83% of total catch). This indicates that the Susitna River pink salmon run was in excess to escapement needs. Upper Subdistrict set net catch on 7/28 was 53% pink salmon with good escapements into the Kenai and Kasilof Rivers. Set nets on the west side of the Central District were harvesting primarily chum and coho salmon stocks. Coho stocks appear to be above average.

Table 1. 1980 Alaska Department of Fish and Game emergency order summary for the upper Cook Inlet commercial salmon fishery. 1/ (continued)

E.O. #	Eff. Date	Description	Reason
2S-24-80	8/06	Opened the Northern District to commercial fishing from 6:00 AM until 6:00 PM (Wednesday, extra period).	Susitna River sonar counters had enumerated 1,680,000 pink salmon escapement. This was above the minimum escapement goal of 1,000,000 pink salmon. Over 52,000 pinks were caught in the Northern District on 8/4. This indicated that there was still significant numbers of pink salmon in salt water.
2S-25-80	8/08	Closed the Central District to commercial fishing with drift gill nets and that portion of the General Subdistrict of the Northern District south of the terminus of the Susitna River to commercial fishing with set gill nets from 6:00 AM until 6:00 PM (Friday, standard period).	An estimated 6,500 chum salmon had passed the Susitna River sonar counters by 8/7. This was 73,500 chum slamon below the desired escapement by that date. The number of chum slamon in the drift catch on 8/4 and the west side of the Northern District south of the Susitna River on 8/6 had begun to increase significantly.
2S-26-80	8/11	Closed the Central District to commercial fishing with drift gill nets and that portion of the General Subdistrict of the Northern District south of the terminus of the Susitna River to commercial fishing with set gill nets from 6:00 AM until 6:00 PM (Monday, standard period).	Same as for Emergency Order Number 2S-25-80.
2S-27-80	8/13-14	Opened the Upper Subdistrict of the Central District to commercial fishing with set gill nets and that portion of the Upper Subdistrict east of a straight line from the East Foreland Light to Cape Ninilchik to commercial fishing with drift gill nets from 6:00 AM 8/13 until 12:00 noon 8/14 (Wednesday/Friday, extra period).	The set gill nets in the Upper Subdistrict caught 66,300 and 54,000 pink salmon on 8/8 and 8/11, respectively, This indicated that the Kenai River pink salmon run may be larger than average. Additionally, the drift fleet had diminished in size from 550 boats on 8/8 to approximately 150 boats by 8/11.

Table 1. 1980 Alaska Department of Fish and Game emergency order summary for the upper Cook Inlet commercial salmon fishery. 1/ (continued)

E.O. #	Eff. Date	Description	Reason
2S-28-80	8/14-15	Extended the fishing period in the Upper Subdistrict of the Central District from 12:00 noon 8/14 until 6:00 AM 8/15 (Thursday/ Friday, extra period).	Same as for Emergency Order Number 2S-27-80.
2S-29-80	8/15	Closed that portion of Northern District south of Susitna River. Closed the Central District to commercial fishing with drift gill nets except in that portion of the Upper Subdistrict east of a straight line from the East Foreland Light to Cape Ninilchik and the Chinitna Bay Dubdistrict to commercial fishing with set gill nets and seines from 6:00 AM until 6:00 PM (Friday, standard period).	Same as for Emergency Order Number 2S-27-80 plus an aerial survey of the primary chum salmon spawning streams in Chinitna Bay on 8/13 indicated a less than acceptable escapement.
2S-30-80	8/18	Closed the Chinitna Bay Subdistrict of the Central District to commercial fishing with drift gill nets, set gill nets, and seines from 6:00 AM until 6:00 PM (Friday, standard period).	An aerial survey of the primary chum salmon spawning stream in Chinitna Bay (Clearwater Creek) on 8/11 indicated an escapement of less than 100 chum salmon. The Department feels that this stream should have an escapement of 10,000 chum salmon.
2S-31-80	8/22	Closed the Chinitna Bay Subdistrict of the Central District to commercial fishing with drift gill nets, set gill nets, and seines from 6:00 AM until 6); PM (Friday, standard period).	Same as for Emergency Order Number 2S-30-80. Escapement up to 1,200 chum salmon on 8/18.

Table 1. 1980 Alaska Department of Fish and Game emergency order summary for the upper Cook Inlet commercial salmon fishery. 1/ (continued)

E.O. #	Eff. Date	Description	Reason
2S-32-80	8/25	Closed the Chinitna Bay Subdistrict of the Central District to commercial fishing with drift gill nets, set gill nets, and seines from 6:00 AM until 6:00 PM (Monday, standard period).	Same as for Emergency Order Number 2S-30-80. Escapement up to 2,100 chum salmon on 8/22.
2S-33-80	8/29	Closed the Chinitna Bay Subdistrict of the Central District to commercial fishing with drift gill nets, set gill nets, and seines from 6:00 AM until 6:00 PM (Friday, standard period).	Same as for Emergency Order Numer 2S-30-80. Escapement up to 2,250 chum salmon on 8/25.
2S-34-80	9/01	Closed the Chinitna Bay Subdistrict of the Central District to commercial fishing with drift gill nets, set gill nets, and seines from 6:00 AM until 6:00 PM (Monday, standard period).	Same as for Emergency order Number 2S-30-80. Escapement up to 2,250 chum salmon 8/25.

1/ Base fishing time = 6:00 AM until 6:00 PM on Monday and Friday. For district and subdistricts, see map (Figure). Emergency orders 2S-01-80 through 2S-11-80 pertain to the Tyonek subsistence fishery and herring fishery and therefore are not included in this summary.

Table 2. Number of interim-use and permanent permits issued and fished in Cook Inlet, Alaska, 1975-1980.

Fishery & Year	# of Permits Issued		# of Permits Fished
	Interim-Use	Permanent	
Cook Inlet Salmon Purse Seine			
1975	51	49	56
1976	16	63	47
1977	10	72	59
1978	9	74	62
1979	9	75	73
1980	9	75	65
Cook Inlet Salmon Drift Gill Net			
1975	331	453	438
1976	82	514	472
1977	36	539	501
1978	42	549	537
1979	45	554	556
1980	43	554	513
Cook Inlet Salmon Set Gill Net			
1975	376	657	530
1976	7	712	521
1977	2	731	524
1978	5	742	581
1979	5	744	581
1980	3	744	571

NOTE: Data compiled by Commercial Fisheries Entry Commission (3/2/82 BAS).

Table 3. Aerial survey counts of nets fishing in Upper Cook Inlet, Alaska, 1980.

	Central District					Northern District	
Date	Chinitna Bay Set Nets	Westside Set Nets	Eastside Set Nets	Kalgin Island	Drift	Eastern Subdistrict	General
6/16		142					
6/20		33					
6/23		139					
6/27			466	85	134	75	84
6/30		53	341	106	15	101	67
7/04			704		99	87	82
7/07			229	131			
7/11			299			45	79
7/14	18		506		541	114	88
7/16			367				
7/19					516		
7/28			326	86	283	90	107
8/04	21	140	596	114			
8/06						75	73
8/08			553			82	6
8/11			413				
8/13			463		142		
8/14			386		17		
8/15			217		6		

Table 4. Buyers of salmon in Cook Inlet, Alaska, 1980.

Alaska Coast Fisheries	Alaska Gourmet
Alaska Quality-Check	Alaska Sea Ventures
Al Alaska Trading Co., Ltd.	C-Foods
Carlson Seafoods	Columbia Wards Fisheries
Cook Inlet Processing	Dragnet Fisheries
Ed's Kasilof Seafoods	Keener Packing Co.
Kenai Packers	Little Fisherman Shoppe
Osmar's Ocean Specialities	Royal Pacific Fisheries
Salamatof Seafoods	Saratoga
Terrell Schenk & Assoc.	Sea Catch
Seafoods of Alaska	Sea Nik Foods
Seward Fisheries	Tenth & M Lockers
Whitney-Fidalgo Seafoods	C/S*John Child
Alaska Fisheries	Blue Back Seafoods
Seafoods From Seldovia	Bessie M.
Alaska Fresh, Inc.	

*C/S - "Catcher/Seller

Table 5. Commercial salmon harvest by period for Upper Cook Inlet, Alaska, 1980. 1/

Period Date	Species											
	Chinook		Sockeye		Coho		Pink		Chum		Total	
	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.
6/16	247	247	2,371	2,371	0	0	0	0	0	0	2,618	2,618
6/20	12	259	499	2,870	2	2	0	0	0	0	513	3,131
6/23	78	337	4,240	7,110	1	3	2	2	1	1	4,322	7,453
6/27	1,175	1,512	48,114	55,224	80	83	16	18	876	877	50,261	57,714
6/30	584	2,096	27,369	82,593	52	135	7	25	248	1,125	28,260	85,974
7/04	1,669	3,765	73,124	155,717	911	1,046	80	105	6,656	7,781	82,440	168,414
7/05	62	3,827	3,771	159,488	4	1,050	5	110	0	7,781	3,842	172,256
7/07	955	4,782	125,560	285,048	3,264	4,314	774	884	34,497	42,278	165,050	337,306
7/11	752	5,534	25,927	310,975	620	4,934	187	1,071	704	42,982	28,190	365,496
7/14	1,700	7,234	465,674	776,649	13,575	18,509	11,106	12,177	50,222	93,204	542,277	907,773
7/16	447	7,681	60,155	836,804	507	19,016	328	12,505	78	93,282	61,515	969,288
7/17	379	8,060	42,349	879,153	224	19,240	327	12,832	121	93,403	43,400	1,012,688
7/18	105	8,165	40,662	919,815	5,363	24,603	22,489	35,321	3,924	97,327	72,543	1,085,231
7/19	977	9,142	301,348	1,221,163	23,452	48,055	203,628	238,949	81,573	178,900	610,978	1,696,209
7/21	1,097	10,239	153,654	1,374,817	37,622	85,677	222,078	461,027	42,789	221,689	457,240	2,153,449
7/22	556	10,795	21,736	1,396,553	984	86,661	1,704	462,731	30	221,719	25,010	2,178,459
7/23	659	11,454	61,802	1,458,355	29,320	115,981	191,304	654,035	42,290	264,009	325,375	2,503,834
7/24	378	11,832	15,884	1,474,239	1,958	117,939	10,533	664,568	1,181	265,190	29,934	2,533,768
7/25	472	12,304	39,620	1,513,859	24,369	142,308	221,239	885,807	27,295	292,485	312,995	2,846,763
7/28	348	12,652	20,161	1,534,020	25,578	167,886	187,319	1,073,126	19,630	312,115	253,036	3,099,799
7/30	299	12,951	12,337	1,546,357	18,888	186,774	210,450	1,283,576	23,379	335,494	265,353	3,365,152
8/01	307	13,258	8,356	1,554,713	19,396	206,170	148,309	1,431,885	22,300	357,794	198,668	3,563,820
8/04	210	13,468	8,891	1,563,604	18,748	224,918	120,748	1,552,633	24,531	382,325	173,128	3,736,948
8/06	5	13,473	908	1,564,512	2,836	227,754	17,881	1,570,514	577	382,902	22,207	3,759,155
8/08	93	13,566	4,544	1,569,056	10,570	238,324	68,266	1,638,780	3,069	385,971	86,542	3,845,697
8/11	90	13,656	1,643	1,570,699	7,341	245,665	58,185	1,696,965	2,043	388,014	69,302	3,914,999
8/13	39	13,695	604	1,571,303	4,602	250,267	32,573	1,729,538	205	388,219	38,023	3,953,022
8/14	57	13,752	476	1,571,779	4,439	254,706	33,167	1,762,705	526	388,745	38,665	3,991,687
8/15	33	13,785	655	1,572,434	4,512	259,218	21,320	1,784,025	823	389,568	27,343	4,019,030
8/18	1	13,786	627	1,573,061	1,725	260,943	1,569	1,785,594	328	389,896	4,250	4,023,280
8/22	2	13,788	277	1,573,338	2,977	263,920	208	1,785,802	622	390,518	4,086	4,027,366
8/25	4	13,792	159	1,573,497	3,335	267,255	141	1,785,943	193	390,711	3,832	4,031,198
8/29	3	13,795	62	1,573,559	2,210	269,465	478	1,786,421	62	390,773	2,815	4,034,013
9/01	0	13,795	29	1,573,588	928	270,393	6	1,786,427	20	390,793	983	4,034,996
9/05	0	13,795	8	1,573,596	832	271,225	3	1,786,430	15	390,808	858	4,035,854
9/08	0	13,795	1	1,573,597	25	271,250	0	1,786,430	0	390,808	26	4,035,880
9/12	0	13,795	40	1,573,637	88	271,338	0	1,786,430	0	390,808	128	4,036,008
9/19	0	13,795	0	1,573,637	40	271,378	0	1,786,430	2	390,810	42	4,036,050

1/ Source: Soldotna Honeywell data base - January 1982.

Table 6. Comparison of the pre-season commercial fisheries harvest projections for Upper Cook Inlet, Alaska to the actual harvest in 1980.

	Projection	Actual Harvest
Sockeye salmon	600,000 - 900,000	1,573,637
Chum salmon	300,000 - 500,000	390,810
Pink salmon	2,000,000	1,786,430
Coho salmon	200,000 - 250,000	271,378
Chinook salmon	10,000 - 12,000	13,795

Table 7. Commercial salmon harvest by period for the Upper Cook Inlet, drift gillnet fishery, 1980. 1/

Period Date	Species											
	Chinook		Sockeye		Coho		Pink		Chum		Total	
	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.
6/27	96	96	11,724	11,724	36	36	10	10	570	570	12,436	12,436
6/30	8	104	1,232	12,956	8	44	0	10	165	735	1,413	13,849
7/04	88	192	13,891	26,847	218	262	25	35	6,376	7,111	20,598	34,447
7/07	109	301	99,095	125,942	2,194	2,456	604	639	33,891	41,002	135,893	170,340
7/14	20	321	389,218	515,160	11,012	13,468	9,100	9,739	48,261	89,263	457,611	627,951
7/19	122	443	153,901	669,061	20,272	33,740	185,686	195,425	80,144	169,407	440,125	1,068,076
7/21	235	678	56,983	726,044	17,134	50,874	163,923	359,348	36,360	205,767	274,635	1,342,711
7/23	42	1,437	22,233	1,495,865	8,708	118,969	120,452	956,238	39,612	489,960	191,047	3,063,469
7/25	24	744	10,454	758,731	5,702	65,284	135,097	614,897	22,965	268,344	174,242	1,708,000
7/28	18	762	3,981	762,712	5,509	70,793	112,035	726,932	14,194	282,538	135,737	1,843,737
7/30	31	793	3,105	765,817	4,393	75,186	109,413	836,345	17,594	300,132	134,536	1,978,273
8/01	60	853	2,536	768,353	5,956	81,142	81,343	917,688	18,391	318,523	108,286	2,086,559
8/04	26	879	1,685	770,038	3,479	84,621	37,090	954,778	20,768	339,291	63,048	2,149,607
8/13	3	882	61	770,099	712	85,333	5,928	960,706	57	339,348	6,761	2,156,368
8/14	4	886	23	770,122	410	85,743	2,103	962,809	134	339,482	2,674	2,159,042
8/15	1	887	27	770,149	110	85,853	1,565	964,374	64	339,546	1,767	2,160,809
8/18	0	887	0	770,149	125	85,978	14	964,388	65	339,611	204	2,161,013
8/22	2	889	41	770,190	1,081	87,059	102	964,490	291	339,902	1,517	2,162,530
8/25	0	889	14	770,204	1,007	88,066	23	964,513	35	339,937	1,079	2,163,609
8/29	0	889	25	770,229	895	88,961	11	964,524	18	339,955	949	2,164,558
9/01	0	889	17	770,246	231	89,192	2	964,526	9	339,964	259	2,164,817
9/05	0	889	0	770,246	165	89,357	0	964,526	4	339,968	169	2,164,986
9/08	0	889	1	770,247	25	89,382	0	964,526	0	339,968	26	2,165,012
9/12	0	889	0	770,247	88	89,470	0	964,526	0	339,968	88	2,165,100
9/19	0	889	0	770,247	40	89,510	0	964,526	2	339,970	42	2,165,142

1/ Source: Soldotna Honeywell data base - January 1982

Table 8. Commercial salmon harvest by period for the Upper Cook Inlet set net fishery, 1980. 1/

Period Date	Species											
	Chinook		Sockeye		Coho		Pink		Chum		Total	
	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.
6/16	247	247	2,371	2,371	0	0	0	0	0	0	2,618	2,618
6/20	12	259	499	2,870	2	2	0	0	0	0	513	3,131
6/23	78	337	4,240	7,110	1	3	2	2	1	1	4,322	7,453
6/27	1,079	1,416	36,390	43,500	44	47	6	8	306	307	37,825	45,278
6/30	576	1,992	26,137	69,637	44	91	7	15	83	390	26,847	72,125
7/04	1,581	3,573	59,233	128,870	693	784	55	70	280	670	61,842	133,967
7/05	62	3,635	3,771	132,641	4	788	5	75	0	670	3,842	137,809
7/07	846	4,481	26,465	159,106	1,070	1,858	170	245	606	1,276	29,157	166,966
7/11	752	5,233	25,927	185,033	620	2,478	187	432	704	1,980	28,190	195,156
7/14	1,680	6,913	76,456	261,489	2,563	5,041	2,006	2,438	1,961	3,941	84,666	279,822
7/16	447	7,360	60,155	321,644	507	5,548	328	2,766	78	4,019	61,515	341,337
7/17	379	7,739	42,349	363,993	224	5,772	327	3,093	121	4,140	43,400	384,737
7/18	105	7,844	40,653	404,646	5,361	11,133	22,480	25,573	2,626	6,766	71,225	455,962
7/19	855	8,699	147,447	552,093	3,180	14,313	17,942	43,515	867	7,633	170,291	626,253
7/21	862	9,561	96,671	648,764	20,488	34,801	58,155	101,670	6,429	14,062	182,605	808,858
7/22	556	10,117	21,736	670,500	984	35,785	1,704	103,374	30	14,092	25,010	833,868
7/23	620	10,737	40,258	710,758	20,807	56,592	73,214	176,588	3,476	17,568	138,375	972,243
7/24	375	11,112	15,195	725,953	1,763	58,355	8,171	184,759	383	17,951	25,887	998,130
7/25	448	11,560	29,166	755,119	18,667	77,022	86,142	270,901	4,330	22,281	138,753	1,136,883
7/28	330	11,890	16,180	771,299	20,069	97,091	75,284	346,185	5,436	27,717	117,299	1,254,182
7/30	268	12,158	9,232	780,531	14,495	111,586	101,037	447,222	5,785	33,502	130,817	1,384,999
8/01	247	12,405	5,820	786,351	13,440	125,026	66,966	514,188	3,909	37,411	90,382	1,475,381
8/04	184	12,589	7,206	793,557	15,269	140,295	83,658	597,846	3,763	41,174	110,080	1,585,461
8/06	5	12,594	908	794,465	2,836	143,131	17,881	615,727	577	41,751	22,207	1,607,668
8/08	93	12,687	4,544	799,009	10,570	153,701	68,266	683,993	3,069	44,820	86,542	1,694,210
8/11	90	12,777	1,643	800,652	7,341	161,042	58,185	742,178	2,043	46,863	69,302	1,763,512
8/13	36	12,813	543	801,195	3,890	164,932	26,645	768,823	148	47,011	31,262	1,794,774
8/14	53	12,866	453	801,648	4,029	168,961	31,064	799,887	392	47,403	35,991	1,830,765
8/15	32	12,898	628	802,276	4,402	173,363	19,755	819,642	759	48,162	25,576	1,856,341
8/18	1	12,899	627	802,903	1,600	174,963	1,555	821,197	263	48,425	4,046	1,860,387
8/22	0	12,899	236	803,139	1,896	176,859	106	821,303	331	48,756	2,569	1,862,956
8/25	4	12,903	145	803,284	2,328	179,187	118	821,421	158	48,914	2,753	1,865,709
8/29	3	12,906	37	803,321	1,315	180,502	467	821,888	44	48,958	1,866	1,867,575
9/01	0	12,906	12	803,333	697	181,199	4	821,892	11	48,969	724	1,868,299
9/05	0	12,906	8	803,341	667	181,866	3	821,895	11	48,980	689	1,868,988
9/12	0	12,906	40	803,381	0	181,866	0	821,895	0	48,980	40	1,869,028

1/ Source: Soldotna Honeywell data base - January 1982.

Table 9. Commercial salmon harvest by period for the Upper Cook Inlet, Upper Subdistrict eastside set net fishery, 1980.1/

Period Date	Species											
	Chinook		Sockeye		Coho		Pink		Chum		Total	
	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.
6/27	480	480	24,093	24,093	4	4	4	4	1	1	24,582	24,582
6/30	260	740	16,837	40,930	3	7	4	8	0	1	17,104	41,686
7/04	1,111	1,851	34,457	75,387	30	37	24	32	3	4	35,625	77,311
7/05	62	1,913	3,771	79,158	4	41	5	37	0	4	3,842	81,153
7/07	514	2,427	10,454	89,612	27	68	43	80	1	5	11,039	92,192
7/11	594	3,021	18,520	108,132	35	103	70	150	0	5	19,219	111,411
7/14	1,414	4,435	64,039	172,171	412	515	254	404	6	11	66,125	177,536
7/16	447	4,882	60,155	232,326	507	1,022	328	732	78	89	61,515	239,051
7/17	379	5,261	42,349	274,675	224	1,246	327	1,059	121	210	43,400	282,451
7/19	640	11,163	137,433	686,783	1,736	4,228	1,570	3,688	392	812	141,771	706,674
7/21	650	6,551	49,151	461,259	1,260	4,242	1,412	4,041	27	629	52,500	476,722
7/22	556	7,107	21,736	482,995	984	5,226	1,704	5,745	30	659	25,010	501,732
7/23	550	7,657	20,929	503,924	1,560	6,786	4,281	10,026	210	869	27,530	529,262
7/24	375	8,032	14,914	518,838	1,547	8,333	5,571	15,597	318	1,187	22,725	551,987
7/25	403	8,435	15,251	534,089	1,761	10,094	9,333	24,930	133	1,320	26,881	578,868
7/28	301	8,736	10,459	544,548	2,939	13,033	14,601	39,531	100	1,420	28,400	607,268
7/30	239	8,975	4,950	549,498	2,613	15,646	14,453	53,984	8	1,428	22,263	629,531
8/01	226	9,201	3,042	552,540	3,001	18,647	18,647	72,631	46	1,474	24,962	654,493
8/04	159	9,360	3,281	555,821	4,134	22,781	29,888	102,519	75	1,549	37,537	692,030
8/08	86	9,446	2,276	558,097	5,005	27,786	63,436	165,955	30	1,579	70,833	762,863
8/11	80	9,526	525	558,622	2,920	30,706	56,706	222,661	13	1,592	60,244	823,107
8/13	35	9,561	489	559,111	3,810	34,516	26,638	249,299	147	1,739	31,119	854,226
8/14	53	9,614	453	559,564	4,029	38,545	31,064	280,363	392	2,131	35,991	890,217
8/15	29	9,643	248	559,812	1,736	40,281	19,081	299,444	16	2,147	21,110	911,327

1/ Source: Soldotna Honeywell data base - January 1982.

Table 10. Commercial salmon harvest by period for the Kaligan Island Subdistrict set net fishery, 1980. 1/

Period Date	Species											
	Chinook		Sockeye		Coho		Pink		Chum		Total	
	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.
6/27	122	126	6,073	6,646	34	34	1	1	62	62	6,292	6,869
6/30	26	148	1,378	7,451	13	47	0	1	9	71	1,426	7,718
7/04	74	222	10,534	17,985	286	333	11	12	75	146	10,980	18,698
7/07	124	346	9,950	27,935	601	934	87	99	176	322	10,938	29,636
7/14	145	491	4,903	32,838	940	1,874	1,057	1,156	10	332	7,055	36,691
7/19	213	704	9,705	42,543	1,317	3,191	16,135	17,291	472	804	27,842	64,533
7/21	3	707	4,309	46,852	683	3,874	2,989	20,280	325	1,129	8,309	72,842
7/23	7	714	1,398	48,250	874	4,748	1,911	22,191	98	1,227	4,288	77,130
7/25	3	717	1,521	49,771	659	5,407	1,017	23,208	100	1,327	3,300	80,430
7/28	1	718	1,695	51,466	1,406	6,813	3,382	26,590	62	1,389	6,546	86,976
7/30	2	720	960	52,426	1,482	8,295	2,562	29,152	133	1,522	5,139	92,115
8/01	3	723	896	53,322	2,175	10,470	2,679	31,831	106	1,628	5,859	97,974
8/04	3	726	1,235	54,557	1,882	12,352	1,962	33,793	236	1,864	5,318	103,292
8/08	1	727	1,158	55,715	1,824	14,176	1,118	34,911	261	2,125	4,362	107,654
8/11	5	732	807	56,522	2,295	16,471	670	35,581	1,249	3,374	5,026	112,680
8/13	1	733	54	56,576	80	16,551	7	35,588	1	3,375	143	112,823
8/15	3	736	254	56,830	1,524	18,075	512	36,100	139	3,514	2,432	115,255
8/18	1	737	104	56,934	905	18,980	1,520	37,620	20	3,534	2,550	117,805
8/22	0	737	181	57,115	715	19,695	42	37,662	71	3,605	1,009	118,814
8/25	4	741	118	57,233	1,183	20,878	86	37,748	100	3,705	1,491	120,305
8/29	0	741	11	57,244	208	21,086	11	37,759	9	3,714	239	120,544
9/01	0	741	4	57,248	151	21,237	4	37,763	2	3,716	161	120,705
9/05	0	741	6	57,254	244	21,481	0	37,763	1	3,717	251	120,956
9/12	0	741	40	57,294	0	21,481	0	37,763	0	3,717	40	120,996

1/ Data source: Soldotna Honeywell data base - January 1982.

Table 11. Commercial salmon harvest by period for the Western and Kustatan subdistrict set net fishery, 1980. 1/

Period Date	Species											
	Chinook		Sockeye		Coho		Pink		Chum		Total	
	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.
6/16	243	243	1,798	1,798	0	0	0	0	0	0	2,041	2,041
6/20	12	255	499	2,297	2	2	0	0	0	0	513	2,554
6/23	78	333	4,240	6,537	1	3	2	2	1	1	4,322	6,876
6/27	185	518	6,254	12,791	3	6	0	2	1	2	6,443	13,319
6/30	88	606	7,077	19,868	12	18	0	2	3	5	7,180	20,499
7/04	297	903	13,164	33,032	325	343	5	7	52	57	13,843	34,342
7/07	171	1,074	5,569	38,601	418	761	24	31	114	171	6,296	40,638
7/11	106	1,180	5,978	44,579	451	1,212	23	54	105	276	6,663	47,301
7/14	80	1,260	5,282	49,861	878	2,090	63	117	307	583	6,610	53,911
7/18	61	1,321	7,851	57,712	1,354	3,444	3,035	3,152	759	1,342	13,060	66,971
7/19	3	1,324	309	58,021	127	3,571	237	3,389	3	1,345	679	67,650
7/21	89	1,413	7,551	65,572	2,168	5,739	593	3,982	1,474	2,819	11,875	79,525
7/23	30	1,443	4,745	70,317	1,441	7,180	488	4,470	1,423	4,242	8,127	87,652
7/25	16	1,459	3,919	74,236	1,842	9,022	404	4,874	1,511	5,753	7,692	95,344
7/28	22	1,481	1,268	75,504	2,624	11,646	329	5,203	1,153	6,906	5,396	100,740
7/30	8	1,489	1,013	76,517	2,112	13,758	1,008	6,211	904	7,810	5,045	105,785
8/01	6	1,495	700	77,217	3,546	17,304	1,086	7,297	1,157	8,967	6,495	112,280
8/04	3	1,498	1,078	78,295	2,472	19,776	772	8,069	1,005	9,972	5,330	117,610
8/08	5	1,503	570	78,865	2,118	21,894	1,054	9,123	1,982	11,954	5,729	123,339
8/11	3	1,506	206	79,071	1,434	23,328	142	9,265	532	12,486	2,317	125,656
8/15	0	1,506	117	79,188	844	24,172	112	9,377	595	13,081	1,668	127,324
8/18	0	1,506	39	79,227	581	24,753	18	9,395	222	13,303	860	128,184
8/22	0	1,506	55	79,282	1,181	25,934	64	9,459	260	13,563	1,560	129,744
8/25	0	1,506	27	79,309	1,145	27,079	32	9,491	58	13,621	1,262	131,006
8/29	3	1,509	26	79,335	1,107	28,186	456	9,947	35	13,656	1,627	132,633
9/01	0	1,509	8	79,343	546	28,732	0	9,947	9	13,665	563	133,196
9/05	0	1,509	2	79,345	423	29,155	3	9,950	10	13,675	438	133,634

1/ Data source: Soldotna Honeywell data base - January 1982.

Table 12. Commercial salmon harvest by period from the Chinitna Bay Sudistrict drift gillnet fishery, 1980. 1/

Period Date	Species										Total	
	Chinook		Sockeye		Coho		Pink		Chum			
	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.
627	0	0	137	137	1	1	0	0	11	11	149	149
630	3	3	77	214	0	1	0	0	37	48	117	266
704	30	33	366	580	35	36	1	1	58	106	490	756
707	11	44	338	918	48	84	6	7	144	250	547	1,303
719	0	44	13	931	1	85	10	17	485	735	509	1,812
721	0	44	8	939	6	91	9	26	1,500	2,235	1,523	3,335
723	0	44	42	981	8	99	24	50	1,042	3,277	1,116	4,451
725	0	44	48	1,029	23	122	954	1,004	69	3,346	1,094	5,545
728	1	45	36	1,065	69	191	76	1,080	2,249	5,595	2,431	7,976
730	1	46	8	1,073	50	241	51	1,131	3,345	8,940	3,455	11,431
801	0	46	44	1,117	173	414	132	1,263	2,201	11,141	2,550	13,981
804	6	52	52	1,169	304	718	130	1,393	1,323	12,464	1,815	15,796

1/ Data source: Soldotna Honeywell data base - January 1982.

Table 13. Commercial salmon harvest by period for the Chinitna Bay Subdistrict set gillnet fishery, 1980. 1/

Period Date	Species											
	Chinook		Sockeye		Coho		Pink		Chum		Total	
	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.
6/27	3	3	161	161	0	0	0	0	240	240	404	404
6/30	5	8	111	272	1	1	1	1	62	302	180	584
7/04	4	12	139	411	8	9	4	5	140	442	295	879
7/07	3	15	142	553	7	16	4	9	314	756	470	1,349
7/11	1	16	306	859	6	22	5	14	598	1,354	916	2,265
7/14	1	17	245	1,104	40	62	3	17	1,634	2,988	1,923	4,188
7/18	1	18	29	1,133	14	76	4	21	1,614	4,602	1,662	5,850
7/21	1	19	36	1,169	29	105	16	37	1,141	5,743	1,223	7,073
7/23	0	19	38	1,207	25	130	12	49	480	6,223	555	7,628
7/25	2	21	22	1,229	46	176	17	66	556	6,779	643	8,271
7/28	0	21	33	1,262	69	245	35	101	1,523	8,302	1,660	9,931
7/30	0	21	7	1,269	41	286	30	131	2,046	10,348	2,124	12,055
8/01	0	21	3	1,272	35	321	23	154	1,234	11,582	1,295	13,350
8/04	2	23	3	1,275	57	378	36	190	240	11,822	338	13,688
8/08	0	23	4	1,279	144	522	27	217	651	12,473	826	14,514
8/11	0	23	4	1,283	329	851	33	250	240	12,713	606	15,120

1/ Data source: Soldotna Honeywell data base - January 1980.

Table 14. Commercial salmon harvest by period for the Chinitna Bay Subdistrict seine fishery, 1980. 1/

Period Date	Species											
	Chinook		Sockeye		Coho		Pink		Chum		Total	
	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.
7/18	0	0	9	9	2	2	9	9	1,298	1,298	1,318	1,318
7/19	0	0	0	9	0	2	0	9	562	1,860	562	1,880

1/ Data source: Soldotna Honeywell data base - January 1982.

Table 15. Commercial salmon harvest by period for the Northern District set gillnet fishery, 1980. 1/

Period Date	Species											
	Chinook		Sockeye		Coho		Pink		Chum		Total	
	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.
627	293	293	382	382	3	3	1	1	2	2	681	681
630	197	490	734	1,116	15	18	2	3	9	11	957	1,638
704	95	585	939	2,055	44	62	11	14	10	21	1,099	2,737
707	34	619	350	2,405	17	79	12	26	1	22	414	3,151
711	51	670	1,123	3,528	128	207	89	115	1	23	1,392	4,543
714	40	710	1,987	5,515	293	500	629	744	4	27	2,953	7,496
718	42	752	32,773	38,288	3,993	4,493	19,441	20,185	253	280	56,502	63,998
721	119	871	35,624	73,912	16,348	20,841	53,145	73,330	3,462	3,742	108,698	172,696
723	33	1,808	13,429	174,401	17,123	75,712	69,122	282,304	1,330	10,079	101,037	544,304
725	24	928	8,453	95,794	14,359	52,323	75,371	217,823	2,030	7,102	100,237	373,970
728	6	934	2,725	98,519	13,031	65,354	56,937	274,760	2,598	9,700	75,297	449,267
730	19	953	2,302	100,821	8,247	73,601	82,984	357,744	2,694	12,394	96,246	545,513
801	12	965	1,179	102,000	4,683	78,284	44,531	402,275	1,366	13,760	51,771	597,284
804	17	982	1,609	103,609	6,724	85,008	51,000	453,275	2,207	15,967	61,557	658,841
806	5	987	908	104,517	2,836	87,844	17,881	471,156	577	16,544	22,207	681,048
808	1	988	536	105,053	1,479	89,323	2,631	473,787	145	16,689	4,792	685,840
811	2	990	101	105,154	363	89,686	634	474,421	9	16,698	1,109	686,949
815	0	990	9	105,163	298	89,984	50	474,471	9	16,707	366	687,315
818	0	990	484	105,647	114	90,098	17	474,488	21	16,728	636	687,951

1/ Data source: Soldotna Honeywell data base - January 1980.

Table 16. Commercial salmon harvest by period for the General Subdistrict set gillnet fishery, 1980. 1/

Period Date	Species											
	Chinook		Sockeye		Coho		Pink		Chum		Total	
	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.
6/27	237	237	113	113	1	1	0	0	1	1	352	352
6/30	154	391	285	398	9	10	2	2	7	8	457	809
7/04	75	466	286	684	37	47	9	11	10	18	417	1,226
7/07	28	494	83	767	10	57	4	15	1	19	126	1,352
7/11	40	534	180	947	106	163	59	74	1	20	386	1,738
7/14	32	566	204	1,151	189	352	278	352	4	24	707	2,445
7/18	38	604	17,487	18,638	3,066	3,418	18,957	19,309	237	261	39,785	42,230
7/21	27	631	22,750	41,388	14,471	17,889	51,688	70,997	3,164	3,425	92,100	134,330
7/23	33	1,328	8,804	100,194	16,105	67,862	67,344	274,272	917	8,653	93,203	452,309
7/25	22	686	5,036	55,228	13,544	47,538	72,670	211,011	1,491	5,833	92,763	320,296
7/28	6	692	1,641	56,869	12,043	59,581	52,240	263,251	2,284	8,117	68,214	388,510
7/30	17	709	1,340	58,209	7,032	66,613	74,845	338,096	2,237	10,354	85,471	473,981
8/01	10	719	727	58,936	4,159	70,772	42,260	380,356	1,322	11,676	48,478	522,459
8/04	17	736	979	59,915	4,959	75,731	48,221	428,577	1,896	13,572	56,072	578,531
8/06	4	740	305	60,220	1,892	77,623	16,393	444,970	531	14,103	19,125	597,656
8/08	0	740	92	60,312	442	78,065	1,139	446,109	58	14,161	1,731	599,387
8/11	1	741	3	60,315	75	78,140	262	446,371	1	14,162	342	599,729
8/15	0	741	0	60,315	91	78,231	0	446,371	0	14,162	91	599,820
8/18	0	741	484	60,799	114	78,345	17	446,388	21	14,183	636	600,456

1/ Data source: Soldotna Honeywell data base - January 1982.

Table 17. Commercial salmon harvest by period for the Eastern Subdistrict set gillnet fishery, 1980. 1/

Period Date	Species											
	Chinook		Sockeye		Coho		Pink		Chum		Total	
	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.	Period	Accum.
6/27	56	56	269	269	2	2	1	1	1	1	329	329
6/30	43	99	449	718	6	8	0	1	2	3	500	829
7/04	20	119	653	1,371	7	15	2	3	0	3	682	1,511
7/07	6	125	267	1,638	7	22	8	11	0	3	288	1,799
7/11	11	136	943	2,581	22	44	30	41	0	3	1,006	2,805
7/14	8	144	1,783	4,364	104	148	351	392	0	3	2,246	5,051
7/18	4	148	15,286	19,650	927	1,075	484	876	16	19	16,717	21,768
7/21	92	240	12,874	32,524	1,877	2,952	1,457	2,333	298	317	16,598	38,366
7/23	0	480	4,625	74,207	1,018	7,850	1,778	8,032	413	1,426	7,834	91,995
7/25	2	242	3,417	40,566	815	4,785	2,701	6,812	539	1,269	7,474	53,674
7/28	0	242	1,084	41,650	988	5,773	4,697	11,509	314	1,583	7,083	60,757
7/30	2	244	962	42,612	1,215	6,988	8,139	19,648	457	2,040	10,775	71,532
8/01	2	246	452	43,064	524	7,512	2,271	21,919	44	2,084	3,293	74,825
8/04	0	246	630	43,694	1,765	9,277	2,779	24,698	311	2,395	5,485	80,310
8/06	1	247	603	44,297	944	10,221	1,488	26,186	46	2,441	3,082	83,392
8/08	1	248	444	44,741	1,037	11,258	1,492	27,678	87	2,528	3,061	86,453
8/11	1	249	98	44,839	288	11,546	372	28,050	8	2,536	767	87,220
8/15	0	249	9	44,848	207	11,753	50	28,100	9	2,545	275	87,495

1/ Data source: Soldotna Honeywell data base - January 1982.

Table 18. Stock composition estimates (percent of catch) of sockeye salmon Catches in Upper Cook Inlet, Alaska, 1979 and 1980. 1/

		System				
District	Year	Kenai	Kasilof	Susitna	Crescent	Fish
Northern District East Side Set Net	1979	51.6	0.0	30.3	0.0	18.1
	1980	58.7	0.0	22.0	0.0	19.3
Northern District West Side Set Net	1979	65.5	0.0	28.9	0.0	5.6
	1980	23.0	0.0	72.5	3.6	0.9
Central District Drift Gillnet	1979	32.1	34.1	26.1	0.0	7.7
	1980	35.0	34.1	24.6	0.0	6.3
Central District West Side Set Net	1979	8.5	3.8	24.1	63.6	0.0
	1980	7.1	4.0	9.8	79.1	0.0
Central District East Side Set Net	1979	35.6	50.3	13.9	0.2	0.0
	1980	34.5	57.7	6.7	0.0	1.1
Central District Kalgin Island	1979	20.3	36.9	40.2	2.6	0.0
	1980	20.4	55.0	14.1	10.5	0.0

1/ Source: Cross et al (1981, 1982).

Table 19. Total number of fish targets and estimated species composition recorded by side scan sonar in the Kenai River, 22 June through 4 September 1980.

Date	Fish Targets	Estimated Species Composition 1/ (Number of Fish)			
		Sockeye	Pink	Coho	Chinook
6/22/80	931	931			
6/23/80	809	809			
6/24/80	553	553			
6/25/80	663	663			
6/26/80	534	534			
6/27/80	237	237			
6/28/80	422	422			
6/29/80	346	346			
6/30/80	578	578			
7/01/80	483	483			
7/02/80	601	601			
7/03/80	375	375			
7/04/80	515	515			
7/05/80	324	324			
7/06/80	265	265			
7/07/80	150	150			
7/08/80	174	174			
7/09/80	358	358			
7/10/80	249	249			
7/11/80	426	426			
7/12/80	328	328			
7/13/80	167	167			
7/14/80	293	293			
7/15/80	2,673	2,673			
7/16/80	13,978	13,978			
7/17/80	117,463	117,463			
7/18/80	82,962	82,962			
7/19/80	54,909	54,909			
7/20/80	78,576	78,576			
7/21/80	62,417	56,875	5,542		
7/22/80	10,391	9,486	923		
7/23/80	3,114	2,837	277		
7/24/80	3,080	2,806	274		
7/25/80	1,485	1,353	132		
7/26/80	2,203	1,589	540	59	15
7/27/80	3,594	2,558	905	109	22
7/28/80	2,065	1,479	514	59	13
7/29/80	3,151	2,235	799	99	18
7/30/80	2,138	1,569	506	47	16
7/31/80	1,649	1,166	421	53	9
8/01/80	1,392	982	356	46	8
8/02/80	1,733	1,212	452	61	8
8/03/80	1,403	994	357	45	7

Table 19. Total number of fish targets and estimated speies composition recorded by side scan sonar in the Kenai River, 22 June through 4 September 1980. (continued)

Date	Fish Targets	Estimated Species Composition 1/ (Number of Fish)			
		Sockeye	Pink	Coho	Chinook
8/04/80	995	706	253	31	5
8/05/80	1,205	843	314	42	6
8/06/80	1,335	935	347	46	7
8/07/80	1,702	1,197	439	57	9
8/08/80	1,966	596	1,154	195	21
8/09/80	2,869	860	1,684	292	33
8/10/80	3,469	1,043	2,037	349	40
8/11/80	6,647	1,966	3,905	695	81
8/12/80	5,237	1,587	3,074	518	58
8/13/80	10,964	3,217	6,444	1,166	137
8/14/80	3,798	264	3,383	151	0
8/15/80	5,417	322	4,880	215	0
8/16/80	13,349	740	12,078	531	0
8/17/80	8,955	527	8,073	355	0
8/18/80	4,804	280	4,333	191	0
8/19/80	3,817	210	3,455	152	0
8/20/80	3,359	83	2,976	262	38
8/21/80	4,738	147	4,439	152	0
8/22/80	3,357	145	3,005	207	0
8/23/80	4,834	311	4,434	89	0
8/24/80	8,087	30	8,031	13	13
8/25/80	6,317	25	6,237	55	0
8/26/80	13,938	12	13,713	159	54
8/27/80	29,325	185	28,492	648	0
8/28/80	29,784	179	29,189	416	0
8/29/80	19,944	120	19,544	280	0
8/30/80	24,852	0	24,852	0	0
8/31/80	21,424	0	21,424	0	0
9/01/80	15,986	0	15,986	0	0
9/02/80	5,277	18	5,240	19	0
9/03/80	3,489	12	3,465	12	0
9/04/80	3,541	13	3,516	12	0
Total	734,938	464,038	262,394	7,888	618

1/ Based on fishwheel operation and relative abundance in catch.

Table 20. Peak late run sockeye salmon escapement counts in seven index areas, Kenai River drainage, 1969-1980.

Year	Railroad Creek	Johnson Creek	Moose Creek	Ptarmigan Creek	Tern (Mud) Lake	Quartz Creek	Hidden Lake	Russian River 1/	Total Index Area Escapement 2/
1969	100	75	598	5	487	421	500	30,020	32,200
1970	99	118	348	7	561	200	323	28,420	30,100
1971	194	160	3,201	45	1,370	808	1,958 1/	64,430	72,200
1972	700	150	3,400	(400) 3/	1,200	(2,000) 3/	4,956 4/	85,000	97,900
1973	521	1,714	660	1,041	1,731	3,173	690 4/	31,660	41,200
1974	3	46	939	558	(700) 3/	255	1,150	26,860	30,600
1975	522	105	1,278	186	1,214	1,068	1,375	32,660	38,400
1976	1,032	(800) 3/	5,558	(500) 3/	1,548	3,372	4,860 4/	35,420	53,100
1977	1,262	450	6,515	1,513	2,230	3,037	1,055 4/	38,500	54,600
1978	1,749	780	1,933	3,529	1,126	10,627	4,647 4/	52,560	76,900
1979	--	588	3,986	523	1,693	277	5,762 4/	91,840	104,700
1980	1,259	253	4,879	5,752	2,575	7,982	27,448 4/	87,200	137,300

1/ Includes weir counts and escapement below falls.
2/ Total of individual counts rounded to the nearest hundred fish.
3/ Actual data not available. Average contribution to the total index for years 1968, 1970, 1971, 1973, 1975 and 1977 used to estimate the escapement.
4/ FRED Division weir count.

Table 21. Total number of fish targets and estimated species composition recorded by side scan sonar in the Kasilof River, 22 June through 13 August 1980.

Date	Fish Targets	Estimated Species Composition 1/ (Number of Fish)			
		Sockeye	Pink	Coho	Chinook
6/22/80	482	482			
6/23/80	756	756			
6/24/80	494	494			
6/25/80	2,278	2,278			
6/26/80	2,431	2,431			
6/27/80	2,960	2,960			
6/28/80	4,328	4,328			
6/29/80	3,601	3,601			
6/30/80	7,863	7,863			
7/01/80	5,542	5,542			
7/02/80	9,496	9,496			
7/03/80	6,009	6,009			
7/04/80	5,462	5,462			
7/05/80	6,393	6,393			
7/06/80	4,441	4,441			
7/07/80	2,676	2,676			
7/08/80	2,465	2,465			
7/09/80	2,408	2,408			
7/10/80	2,599	2,599			
7/11/80	3,532	3,532			
7/12/80	1,567	1,567			
7/13/80	952	952			
7/14/80	1,764	1,764			
7/15/80	5,219	5,219			
7/16/80	11,695	11,695			
7/17/80	7,723	7,723			
7/18/80	7,257	7,257			
7/19/80	7,423	7,423			
7/20/80	8,148	8,148			
7/21/80	4,036	3,991	45		
7/22/80	4,258	4,211	47		
7/23/80	6,805	6,730	75		
7/24/80	2,555	2,527	28		
7/25/80	2,767	2,737	30		
7/26/80	2,774	2,752	22		
7/27/80	2,261	2,243	18		
7/28/80	1,931	1,881	42	8	
7/29/80	2,289	2,229	51	9	
7/30/80	2,356	2,205	136	15	
7/31/80	2,685	2,513	156	16	
8/01/80	2,167	2,029	126	12	
8/02/80	2,233	1,934	154	20	125
8/03/80	1,336	1,157	92	12	75
8/04/80	2,033	1,761	140	18	114

Table 21. Total number of fish targets and estimated species composition recorded by side scan sonar in the Kasilof River, 22 June through 13 August 1980. (continued)

Date	Fish Targets	Estimated Species Composition 1/ (Number of Fish)			
		Sockeye	Pink	Coho	Chinook
8/05/80	2,094	1,814	145	19	116
8/06/80	1,462	1,266	101	13	82
8/07/80	1,372	1,242	35	35	60
8/08/80	1,421	1,286	38	38	59
8/09/80	3,024	2,737	78	78	131
8/10/80	1,544	1,397	40	40	67
8/11/80	2,156	1,951	56	56	93
8/12/80	1,932	1,748	50	50	84
8/13/80	2,359	2,135	62	62	100
Total	187,634	184,260	1,767	501	1,106

1/ Based on fishwheel operation and relative abundance in catch.

Table 22. Peak sockeye salmon escapement counts in seven index areas, Kasilof River drainage, Alaska. 1/

Year	System							Index Count	Total Sonar Count	Percent Error
	Nikolai	Crystal	Clear	Glacier Flat	Seepage	Moose	Bear			
1975	5,700	400	300	14,400 3/	3,700	3,300	27,700	55,500	48,000	+16%
1976	12,000	800	300	7,100 4/	800 5/	14,000	51,800 6/	86,800	140,000	-38%
1977	29,100	600	1,800	5,800 7/	800	16,600	58,000	112,700	155,000	- 2%
1978	34,200	200	200	4,700 8/	1,100	15,900	43,400 9/	99,700	117,000	-27%
1979	19,100	500	400	5,600 10/	800	8,100	35,900 10/	70,400	152,000	-54%
1980	10,000	1,000	2,100	15,500 2/11/	1,800	15,600	125,400 2/12/	171,400	187,000	- 8%

1/Counts standardized to common unit for years entire stream was not surveyed. Relative abundance per section (when entire stream system surveyed) was used to extrapolate for years when only a portion of stream was surveyed. Numbers rounded to nearest hundred fish. Percent error = difference in counts - sonar count.
2/ FRED Division weir count.
3/ Includes 3,365 fish used for artificial propagation.
4/ Includes 4,590 fish used for artificial propagation.
5/ Includes 440 fish used for artificial propagation.
6/ Includes 573 fish used for artificial propagation.
7/ Includes 1,794 fish used for artificial propagation.
8/ Includes 3,866 fish used for artificial propagation.
9/ Includes 2,815 fish used for artificial propagation.
10/ Includes 1,512 fish used for artificial propagation.
11/ Includes 2,340 fish used for artificialpropagation.
12/ Includes 3,690 fish used for artificial propagation.

Table 24. Total number of fish targets and estimated species composition recorded by side scan sonar in the Susitna River, 1 July through 29 August, 1980. 1/

Date	Fish Targets	Estimated Species Composition 1/ (Number of Fish)					
		Sockeye	Pink	Chum	Coho	Chinook	Whitefish
7/01/80	484	444	29	0	2	9	
7/02/80	454	418	26	0	2	8	
7/03/80	471	428	31	0	2	10	
7/04/80	445	407	27	0	2	9	
7/05/80	465	439	19	0	1	6	
7/06/80	343	320	17	0	1	5	
7/07/80	339	311	21	0	1	6	
7/08/80	247	232	11	0	1	3	
7/09/80	115	101	10	0	1	3	
7/10/80	225	214	8	0	0	3	
7/11/80	209	199	7	0	0	3	
7/12/80	372	326	7	0	0	3	
7/13/80	40	36	3	0	0	1	
7/14/80	114	98	12	0	1	3	
7/15/80	100	89	8	0	1	2	
7/16/80	247	226	15	0	1	5	
7/17/80	686	649	26	0	2	9	
7/18/80	7,067	6,514	401	0	28	124	
7/19/80	26,097	24,546	1,115	0	54	382	
7/20/80	29,830	28,417	999	0	38	376	
7/21/80	25,270	22,895	2,113	0	58	204	
7/22/80	55,097	39,990	14,089	188	830	0	
7/23/80	62,095	29,822	30,991	612	670	0	
7/24/80	83,243	8,434	71,456	407	2,508	348	
7/25/80	92,372	5,496	84,236	129	2,342	169	
7/26/80	111,198	2,656	107,064	0	1,478	0	
7/27/80	92,012	1,945	88,444	110	1,424	89	
7/28/80	121,466	581	120,086	22	777	0	
7/29/80	159,911	1,290	156,354	2,267	0	0	
7/30/80	234,794	1,866	229,750	2,225	953	0	
7/31/80	186,428	445	183,936	170	1,877	0	
8/01/80	160,704	2,544	151,858	60	6,242	0	
8/02/80	196,271	978	187,169	0	8,124	0	
8/03/80	117,357	379	114,118	0	2,860	0	
8/04/80	139,821	1,619	136,055	0	2,147	0	
8/05/80	101,360	1,123	96,846	140	3,251	0	
8/06/80	79,426	141	77,984	141	1,160	0	
8/07/80	45,030	342	44,111	0	577	0	
8/08/80	26,337	197	25,903	0	237	0	
8/09/80	20,021	487	18,833	0	701	0	
8/10/80	19,870	654	18,646	0	570	0	
8/11/80	12,196	172	11,777	27	220	0	
8/12/80	18,923	367	18,086	23	447	0	
8/13/80	10,507	226	9,962	21	298	0	
8/14/80	10,578	109	10,071	60	338	0	
8/15/80	9,962	174	9,391	126	271	0	
8/16/80	7,165	65	6,423	107	570	0	
8/17/80	6,038	436	4,691	362	512	37	

Table 24. Total number of fish targets and estimated species composition recorded by side scan sonar in the Susitna River, 1 July through 29 August, 1980. 1/ (continued)

Date	Fish Targets	Estimated Species Composition 1/ (Number of Fish)					
		Sockeye	Pink	Chum	Coho	Chinook	Whitefish
8/18/80	4,278	252	3,585	156	255	30	
8/19/80	2,402	116	2,093	43	139	11	
8/20/80	2,247	112	1,950	41	133	11	
8/21/80	2,542	174	1,986	63	172	15	132
8/22/80	2,166	108	1,816	38	129	20	55
8/23/80	1,000	23	503	49	53	3	369
8/24/80	1,339	39	565	76	84	2	573
8/25/80	1,436	43	434	79	101	0	779
8/26/80	1,294	35	413	60	84	0	702
8/27/80	1,084	27	297	49	61	6	644
8/28/80	768	28	207	36	44	4	449
8/29/80	1,028	26	249	52	60	0	641
Total	2,295,386	190,866	2,047,423	7,939	42,895	1,919	4,344

1/ Based on fishwheel operation and relative abundance in catch.

Table 25. Peak sockeye salmon escapement counts in Cook Inlet Northern District index areas, 1972-1980.

Index Area	1972	1973	1974	1975	1976	1977	1978	1979	1980
Byers Lake	1/	1/	1/	1/	50	300	1/	1/	1/
Talachulitna River 2/	6,501	12,362	6,186	5,105	13,210	25,935	14,308	11,696	21,125
Trinity-Movie Lakes	350	75	0	0	42	186	150	195	200
Shell Lake	640	295	20	251	344	247	127	1,480	5,800
Hewitt-Whiskey Lakes 3/	1,197	1,073	1,047	751	2,289	792	1,998	1,205	3,250
Red Salmon Lake	1/	250	160	142	376	372	235	480	1,100
Puntilla Lake	1/	1/	1/	1/	1/	2,100	1,105	90	550
West Fork Yentna River	1/	1/	1/	1/	550	4,000	6,000	456 4/	5,500
Chelatna Lake 5/	57	11	0	4	4/	171	0	0 4/	4,120
Fish Lake	107	251	95	187	82	611	299	100 6/	2,100
Clear Creek 7/8/	1/	1/	1/	1/	30	75	310	365	320
Stephan-Murder Lakes 9/	368	255	115	261	462	539	1,142	140	220
Larson Lake	300	20	19	63	85	330	117	160	1/
Swan Lake 10/	302	310	386	465	516	827	917	40 6/	4/
Red Shirt Lake 11/	200	47	1	159	215	43	13	645	650
Susitna River Drainage Total Index Area Escapement 12/	10,000	15,000	8,000	7,400	18,400	36,500	26,800	17,100	44,900
n =	17	19	19	19	23	24	23	23	22
Coal Creek 13/							2,388	500	700
Nancy Lake							1,600 14/	800	5,683 14/
Big Lake-Fish Creek 14/							3,555	68,722	62,628

1/ No counts conducted.
2/ Includes counts from Upper Talachulitna Creek, Talachulitna Lake, Talachulitna Creek, North and South Judd Springs, Judd Spring No. 2, Judd Lake, and Upper Talachulitna River Index Areas.
3/ Includes Hewitt Lake, Whiskey Lake, Hewitt Creek, Huckleberry Creek and Christmas Tree Creek Index Areas.
4/ Glacially occluded.
5/ Includes Coffee Creek and Snowslide Creek Index Areas.
6/ Low visibility-turbid water.
7/ Known as Chunilna River in past reports.
8/ Includes Mama and Papa Bear Lakes Index Areas.
9/ Includes Prairie Creek Index Area.
10/ Includes Slim Creek and "T" Creek Index Areas.
11/ Includes Role Jo Creek Index Area.
12/ Rounded to the nearest 100 fish.
13/ Includes Coal Creek Lake and mainstem West Fork Coal Creek
14/ Weir counts.

Table 26. Sockeye salmon escapement to Fish and Packers creek, Upper Cook Inlet, 1980.

Date	Fish 1/ Daily	Fish 1/ Cumulative	Packers 2/ Daily	Packers 2/ Cumulative
6/22				
6/23			1	1
6/24			4	5
6/25			0	5
6/26			0	5
6/27			43	48
6/28			38	86
6/29			18	104
6/30			15	119
7/01			2	121
7/02			12	133
7/03			50	183
7/04	17	17	9	192
7/05	26	43	2	194
7/06	14	57	0	194
7/07	26	83	1	195
7/08	28	111	2	197
7/09	19	130	3	200
7/10	38	168	1	201
7/11	23	191	66	267
7/12	13	204	0	267
7/13	15	219	0	267
7/14	11	230	0	267
7/15	28	258	1,085	1,352
7/16	17	275	36	1,388
7/17	67	342	2	1,390
7/18	3,679	4,021	79	1,469
7/19	4,462	8,483 10%	197	1,666
7/20	2,507	10,990	587	2,253
7/21	7,011	18,001 20%	2,108	4,361
7/22	6,866	24,867 30%	70	4,431
7/23	7,958	32,825 40%, 50%	2,827	7,258
7/24	9,703	42,528 60%	750	8,008
7/25	7,730	50,258 70%, 80%	340	8,348
7/26	2,717	52,975	641	8,989
7/27	1,107	54,082	1,537	10,526
7/28	2,974	57,056 90%	680	11,206
7/29	502	57,558	211	11,417
7/30	517	58,075	142	11,559
7/31	980	59,055	126	11,685
8/01	641	59,696	40	11,725
8/02	501	60,197	125	11,850
8/03	610	60,807	147	11,997
8/04	718	61,525	335	12,332
8/05	184	61,709	307	12,639
8/06	143	61,852	614	13,253
8/07	173	62,025	515	13,768
8/08	80	62,105	175	13,943
8/09	90	62,195	263	14,206

Table 26. Sockeye salmon escapement to Fish and Packers creek, Upper Cook Inlet, 1980. (continued)

Date	Fish 1/		Packers 2/	
	Daily	Cumulative	Daily	Cumulative
8/10	90	62,285	729	14,935
8/11	36	62,321	164	15,099
8/12	75	62,396	1,131	16,230
8/13	40	62,436	183	16,413
8/14	53	62,489	43	16,456
8/15	37	62,526	1	16,457
8/16	22	62,548		
8/17	14	62,562		
8/18	23	62,585		
8/19	21	62,606		
8/20	7	62,613		
8/21	5	62,618		
8/22	2	62,620		
8/23	1	62,621		
8/24	2	62,623		
8/25	2	62,625		
8/26	2	62,627		
8/27	1	62,628		

1/ Fish Creek escapement figures represent final weir counts.
2/ Packers Creek escapement fisgures represent weir counts provided by the Cook Inlet Aquaculture Association.

Table 27. Chum salmon escapement estimates for Chinitna Bay, 1980.

	Streams			
Date	Clearwater Creek 1/	Tributary 1/	Fitz Creek 1/	Observer
8/01	800	2/	2/	Schroeder
8/04	200	700	450	Sanders
8/09	2/	2/	2/	Schroeder
8/12	2/	2/	2/	Schroeder
8/16	1,550	1,850	2/	Schroeder
8/21	1,600	825	650	Kyle
8/22	2,100	1,500	1,000	Sanders
8/25	2,250	1,550	800	Schroeder

1/ Tributary Creek flows into Clearwater Creek in the intertidal zone; all counts from aerial survey.
2/ No survey available due to stream turbidity, flooded.

Table 28. Subsistence chinook salmon harvested by the village of Tyonek 24 May - June 1980.

Date	No. Nets	Harvest						
		Chinook Salmon			Sockeye Salmon			
		Period	Cum.	CPUE 1/	Period	Cum.	CPUE 1/	Total
5/24	6	50	50	8.3	29	29	4.8	79
5/27	14	199	249	14.2	44	73	3.1	243
5/30	17	296	545	17.4	16	89	0.9	312
6/01	18	384	929	21.3	67	156	3.7	451
6/03	5	90	1,019	18.0	9	165	1.8	99
6/05	11	144	1,163	13.1	25	190	2.3	169
6/08	17	362	1,525	21.3	45	235	2.6	407
6/11	7	130	1,655	18.6	5	240	0.7	135
6/13	6	171	1,826	28.5	7	247	1.2	178
6/15	10	101	1,927	10.1	14	261	1.4	115

1/ Fish/net.

Table 29. Subsistence harvest of Upper Cook Inlet salmon during the regularly scheduled season (21 June - 15 August) in 1980.

District	Chinook	Sockeye	Coho	Pink	Chum	Total	Permits Issued	Permits Returned
Northern	307	2,652	2,601	3,789	348	9,697	693	560
Central	34	2,526	1,068	810	144	4,582	526	370
Total	341	5,178	3,669	4,599	492	14,279	1,219	930

Table 30. Subsistence salmon harvest in the Upper Subdistrict of Cook Inlet, Alaska on 8/18, 8/19, and 9/23, 1980.

Date	No. Nets	Harvest			
		Sockeye	Coho	Pink	Total
8/18	9	11	98	52	161
8/19	40	9 1/	125 1/	191 1/	432 2/
9/23	13	-- 3/	-- 3/	-- 3/	-- 3/
Total	62	20	223	243	593 2/

1/ Catch data from 17 subsistence sites along Salamatof Beach.
2/ Includes 107 salmon caught, but no species breakdown available.
3/ No catch information available.

NOTE: Special subsistence fishing permits were issued for these late subsistence fishing periods, i.e., 71 permits were issued for 8/18 and 8/19 and 14 permits were issued for the subsistence fishing period on 9/23.

Table 31. Chinitna Bay herring lengths and weights, 1980.

Age Class	Males				Females				Combined			
	Freq.	%	XL (mm)	XW (gms)	Freq.	%	XL (mm)	XW (gms)	Freq.	%	XL (mm)	XW (gms)
III	2	2.8	228.0	161.5	0	0	-	-	2	1.1	228.0	161.5
IV	1	1.4	206.0	109.0	17	16.7	210.5	131.9	18	10.3	210.3	130.6
V	11	15.3	220.8	150.9	17	16.7	218.8	146.3	28	16.1	219.6	148.1
VI	28	38.9	222.7	148.4	37	36.3	225.5	162.6	65	37.4	224.3	156.5
VII	22	30.6	229.6	166.2	23	22.5	232.9	182.4	45	25.9	231.3	174.5
VIII	4	6.5	243.8	195.2	4	3.9	245.3	230.8	8	4.6	244.5	213.0
IX	1	1.4	226.0	174.0	1	1.0	250.0	178.0	2	1.1	258.0	176.0
X	1	1.4	260.0	222.0	3	2.9	255.3	233.7	4	2.3	256.5	230.8
XI	0	0	-	-	0	0	-	-	0	0	-	-
XII	2	2.8	253.0	219.5	0	0	-	-	2	1.1	253.0	219.5
Total	72	100.2			102	100.0			174	99.9		

Table 32. Tuxedni Bay herring lengths and weights, 1980.

Age Class	Males				Females				Combined			
	Freq.	%	XL (mm)	XW (gms)	Freq.	%	XL (mm)	XW (gms)	Freq.	%	XL (mm)	XW (gms)
III	2	1.5	215.0	149.0	0	0	-	-	2	0.5	215.0	149.0
IV	6	4.3	211.9	140.2	17	7.1	213.0	146.1	23	6.1	212.7	144.6
V	31	22.3	215.9	148.5	55	22.8	214.1	151.5	86	22.6	214.8	150.4
VI	57	41.0	214.7	145.0	117	48.5	218.1	155.1	174	45.8	217.0	151.8
VII	31	22.3	215.4	163.6	30	12.4	223.1	171.7	61	16.0	219.2	167.6
VIII	5	3.6	228.8	178.6	4	1.7	225.0	176.3	9	2.4	227.1	177.6
IX	3	2.2	240.3	188.0	4	1.7	242.3	219.5	7	1.8	241.4	206.0
X	3	2.2	242.3	199.0	9	3.7	240.6	227.1	12	3.2	241.0	220.1
XI	0	0	-	-	3	1.2	251.0	248.3	3	0.8	251.0	248.3
XII	1	0.7	206.0	120.0	2	0.8	252.5	274.0	3	0.8	237.0	222.7
Total	139	100.1			241	99.9			380	100.0		

Table 33. East side Cook Inlet herring lengths and weights, 1980.

Age Class	Males				Females				Combined			
	Freq.	%	XL (mm)	XW (gms)	Freq	%	XL (mm)	XW (gms)	Freq.	%	XL (mm)	XW (gms)
III	2	3.9	219.0	143.0	2	1.2	208.0	128.5	4	1.8	213.5	135.8
IV	3	5.9	199.3	125.7	25	14.4	215.1	140.4	28	12.5	213.4	138.8
V	8	15.7	207.3	134.6	33	19.1	210.6	143.1	41	18.3	209.9	141.5
VI	17	33.3	220.0	155.1	51	29.5	216.0	162.7	68	30.4	217.0	160.8
VII	15	29.4	219.8	160.7	39	22.5	224.7	176.8	54	24.1	223.3	172.4
VIII	5	9.8	229.4	174.4	17	9.8	222.4	181.8	22	9.8	224.0	180.1
IX	0	0.0	-	-	2	1.2	219.0	174.5	2	0.9	219.0	174.5
X	0	0.0	-	-	1	0.6	236.0	205.0	1	0.4	236.0	205.0
XI	1	2.0	234.0	189.0	3	1.7	239.7	228.3	4	1.8	238.3	218.5
XII	0	0.0	-	-	0	0.0	-	-	0	0.0	-	-
Total	51	100.0			173	100.0			224	99.9		