UPPER COOK INLET COMMERCIAL FISHERIES

ANNUAL MANAGEMENT REPORT, 1988

By

Paul H. Ruesch

and

James B. Browning

REGIONAL INFORMATION REPORT NO. 2S89-3

Alaska Department of Fish and Game
Division of Commercial Fisheries, Central Region
333 Raspberry Road
Anchorage, Alaska 99581

March 1989

ACE 6245508 +/F/C/HF

UPPER COOK INLET COMMERCIAL FISHERIES

ANNUAL MANAGEMENT REPORT, 1988

By

Paul H. Ruesch

and

James B. Browning

REGIONAL INFORMATION REPORT[1] NO. 2S89-3

Alaska Department of Fish and Game
Division of Commercial Fisheries, Central Region
333 Raspberry Road
Anchorage, Alaska 99581

March 1989

---

[1] Contribution 89-3 from the Soldotna area office. The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished divisional reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accommodate timely reporting of recently collected information, reports in this series undergo only limited internal review and may contain preliminary data; this information may be subsequently finalized and published in the formal literature. Consequently, these reports should not be cited without prior approval of the author or the Division of Commercial Fisheries.

ACE 6245509

TABLE OF CONTENTS

	Page
LIST OF TABLES	iv
LIST OF FIGURES	vi
LIST OF APPENDICES	viii
INTRODUCTION	1
Salmon	1
Herring	1
Razor Clams	2
1988 COMMERCIAL SALMON FISHERY	2
Sockeye Salmon	3
Chum Salmon	6
Coho Salmon	6
Pink Salmon	7
Chinook Salmon	8
Post-Season Perspective	8
Minor System Escapement	9
Prices, Average Weights and Participation	9
Outlook for 1989	10
COMMERCIAL HERRING FISHERY	10
Tuxedni Bay	10
Chinitna Bay	11
Eastside	11
COMMERCIAL RAZOR CLAM FISHERY	11
SUBSISTENCE AND PERSONAL USE FISHERIES	12
Tyonek Subsistence Salmon Fishery	12
Kasilof Personal Use Gill Net Fishery	12

ACE 6245510

TABLE OF CONTENTS (Continued)

Page

Fall Coho Salmon Personal Use Fishery 13

LITERATURE CITED 14

ACE 6245511

LIST OF TABLES

Table		Page
1.	Offshore testfishing observations, F/V *Corrina Kay*, 1988	15
2.	In-season stock composition estimates of Age 1.3 sockeye salmon from selected commercial fisheries, Upper Cook Inlet, 1988	16
3.	Daily and cumulative sockeye salmon escapement for Upper Cook Inlet, 1988	17
4.	Commercial salmon catch by area and gear type, Upper Cook Inlet, 1988	19
5.	Commercial salmon catch by period and species by drift gill nets, Upper Cook Inlet, 1988	20
6.	Commercial salmon catch by period and species by set gill nets in the Upper Subdistrict, 1988	21
7.	Commercial salmon catch by period and species by set gill nets in the Kalgin Island Subdistrict, 1988	22
8.	Commercial salmon catch by period and species by set gill nets in the Kustatan Subdistrict, 1988	23
9.	Commercial salmon catch by period and species by set gill nets in the Chinitna Bay Subdistrict, 1988	24
10.	Commercial salmon catch by period and species by set gill nets in the Western Subdistrict, 1988	25
11.	Commercial salmon catch by period and species by set gill nets in the General Subdistrict (Northern District), 1988	26
12.	Commercial salmon catch by period and species by set gill nets in the Eastern Subdistrict (Northern District), 1988	27
13.	Commercial salmon catch by period and species, all gear types and areas, 1988	28

ACE 6245512

LIST OF TABLES (Continued)

Table		Page
14.	Commercial salmon catch by statistical area and gear type, Upper Cook Inlet, 1988	29
15.	Commercial salmon catch per permit by statistical area, Upper Cook Inlet, 1988	30
16.	Summary of emergency orders issued during the 1988 commercial salmon fishing season in Upper Cook Inlet	31
17.	Commercial salmon fishing periods, Upper Cook Inlet, 1988	35
18.	Aerial survey set gill net counts by subdistrict, Upper Cook Inlet, 1987	38
19.	Daily weir counts of sockeye salmon escapement, Packers Creek, 1988	39
20.	Buyers and processors of Upper Cook Inlet fishery products, 1988	40
21.	Age, weight, length and sex composition of commercially harvested herring, Tuxedni Bay, May 6-11, 1988	43
22.	Age, weight, length and sex composition of commercially harvested herring, Chinitna Bay, May 6-14, 1988	44
23.	Age, weight, length and sex composition of commercially harvested bait herring, Eastside beaches, May 12-18, 1988	45
24.	Seldovia District tide tables, April-September, 1988	46
25.	Kasilof River personal use gill net fishery salmon harvest by period, June 21-26, 1988	49
26.	Central and Northern Districts personal use coho salmon fishery harvest by period, 1988	50

ACE 6245513

LIST OF FIGURES

Figure		Page
1.	Upper Cook Inlet salmon districts	51
2.	Upper Cook Inlet statistical areas	52
3.	Approximate exvessel value of the Upper Cook Inlet commercial salmon fishery, by species, 1960-1988	53
4.	Kenai River sockeye salmon escapements by year	54
5.	Kasilof River sockeye salmon escapements by year	54
6.	Yentna River sockeye salmon escapements by year	55
7.	Crescent River sockeye salmon escapements by year	55
8.	Fish Creek sockeye salmon escapements by year	56
9.	Packers Creek sockeye salmon escapements by year	56
10.	Daily sockeye salmon escapement estimates, Kenai River, 1988	57
11.	Daily sockeye salmon escapement estimates, Kasilof River, 1988	57
12.	Daily sockeye salmon escapement estimates, Yentna River, 1988	58
13.	Daily sockeye salmon escapement estimates, Crescent River, 1988	58
14.	Daily sockeye salmon weir counts, Fish Creek, 1988	59
15.	Daily sockeye salmon weir counts, Packers Creek, 1988	59
16.	Chinook salmon catch by gear type, 1966-1988	60

ACE 6245514

LIST OF FIGURES (Continued)

Figure		Page
17.	Sockeye salmon catch by gear type, 1966-1988	60
18.	Coho salmon catch by gear type, 1966-1988	61
19.	Pink salmon catch by gear type, 1966-1988	61
20.	Chum salmon harvest by gear type, 1966-1988	62
21.	Salmon catch (all species) by gear type, 1966-1988	62
22.	Age composition of the commercial herring harvest, Upper Cook Inlet, 1988	63

ACE 6245515

LIST OF APPENDICES

		Page
A.1	- Upper Cook Inlet commercial chinook salmon harvest by gear type and area, 1966-1988	64
A.2	- Upper Cook Inlet commercial sockeye salmon harvest by gear type and area, 1966-1988	65
A.3	- Upper Cook Inlet commercial coho salmon harvest by gear type and area, 1966-1988	66
A.4	- Upper Cook Inlet commercial pink salmon harvest by gear type and area, 1966-1988	67
A.5	- Upper Cook Inlet commercial chum salmon harvest by gear type and area, 1966-1988	68
A.6	- Upper Cook Inlet commercial salmon harvest by gear type and area, 1966-1988	69
A.7	- Upper Cook Inlet commercial salmon harvest by species, 1954-1988	70
A.8	- Approximate exvessel value of the Upper Cook Inlet commercial salmon harvest by species, 1960-1988	71
A.9	- Commercial herring harvest by fishery, Upper Cook Inlet, 1973-1988	72
A.10	- Commercial harvest of razor clams in Cook Inlet, 1919-1988	73
A.11	- Forecast and projected commercial harvests of salmon by species, Upper Cook Inlet, 1984-1989	74
A.12	- Escapement goals and counts of sockeye salmon in selected streams of Upper Cook Inlet, 1968-1988	75
A.13	- Average price paid for commercially harvested salmon, Upper Cook Inlet, 1969-1988	76
A.14	- Average weight of commercially harvested salmon, Upper Cook Inlet, 1972-1988	77
A.15	- Registered units of gillnet fishing effort by gear type in Cook Inlet, 1960-1988	78

ACE 6245516

LIST OF APPENDICES (continued)

Page

A.16 - Subsistence and personal use salmon harvest, Upper Cook Inlet, 1980-1988 79

ACE 6245517

INTRODUCTION

The Upper Cook Inlet management area consists of that portion of Cook Inlet north of the latitude of Anchor Point and is divided into the Central and Northern Districts (Figure 1). The Central District is approximately 75 mi long, averages 32 mi in width, and is further subdivided into six subdistricts. The Northern District is 50 mi long, averages 20 mi in width and is divided into two subdistricts. At present, all five species of Pacific salmon (*Oncorhyncus*), razor clams (*Siliqua patula*), and Pacific herring (*Clupea harengus pallasi*) are subject to commercial harvest in Upper Cook Inlet. Harvest statistics are gathered and reported by five-digit numerical statistical areas and sub-areas (Figure 2).

Salmon

Since the inception of a commercial fishery in 1882, many gear types, including fish traps, gill nets, and seines have been employed with varying degrees of success to harvest salmon in Upper Cook Inlet. Currently, set (fixed) gill nets are the only gear permitted in the Northern District, while both set and drift gill nets are used in the Central District. The use of seine gear is restricted to the Chinitna Bay Subdistrict where they are employed only sporadically. Drift gill nets have accounted for 60% of the average annual salmon harvest since 1966 with set gill nets harvesting virtually all of the remainder (Appendix A.1-6).

Commercial salmon harvest statistics specific to gear type and area are available only back to 1954 (Appendix A.7). Run- timing and migration routes utilized by all species overlap to such a degree that the commercial fishery is largely mixed-stock and mixed-species in nature. Typically, the Upper Cook Inlet harvest represents approximately 5% of the statewide catch.

In terms of their economic value, sockeye salmon (*O. nerka*) are by far the most important component of the catch followed in order by chum (*O. keta*), coho (*O. kisutch*), pink (*O. gorbuscha*) and chinook salmon (*O. tshawytscha*) (Appendix A.8, Figure 3).

Herring

Commercial herring fishing began in Upper Cook Inlet in 1973 with a modest harvest of bait-quality fish along the east side of the Central District and has expanded in recent years to include small-scale sac roe fisheries in Chinitna and Tuxedni Bays (Appendix A.9). The total herring harvest has averaged less than 400 tons having an exvessel value below $200,000, one of the smallest herring fisheries in the state.

Because the glacial waters of Upper Cook Inlet preclude the use of aerial surveys to estimate biomass of herring stocks, the management approach utilized has necessarily departed from the standard techniques employed in the more traditional herring fisheries. Present management policy allows for modest changes in harvest levels on a yearly basis, monitoring catches for shifts in

ACE 6245518

age composition, and establishing harvest levels that appear to be sustainable. Gill nets are the only legal gear for herring in Upper Cook Inlet with set gill nets being used almost exclusively. Harvests are generally concentrated in the Clam Gulch area (bait herring) and in the Snug Harbor and Magnetic Island areas of Tuxedni Bay and near Clam Cove and Camp Point in Chinitna Bay (roe herring).

Razor Clams

The commercial harvest of razor clams from Upper Cook Inlet beaches dates back to 1919. Harvest levels have fluctuated from no fishery for as many as eight consecutive years to production in excess of half a million pounds (live weight) in 1922 (Appendix A.10). The sporadic nature of the fishery has been a function of limited market opportunities rather than limited availability of the resource.

Razor clams are present in many areas of Cook Inlet with particularly dense concentrations occurring near Polly Creek on the western shore and from Clam Gulch to Ninilchik on the eastern shore. The eastern shoreline has been set aside for sport harvest only since 1959 and all commercial harvests since that time have come from the west shore, principally from the Polly Creek area. A large portion of the Polly Creek beach is approved for the harvest of clams for the human food market. Bait clams may be taken only outside of this approved area. No size restrictions or overall harvest limits are in place for any area. Virtually all of the commercial harvest has come by hand-digging. Current regulations allow the use of mechanical harvesters (dredges) south of Spring Point or within a one mile section of the Polly Creek beach. Numerous attempts to develop feasible dredging operations have been largely unsuccessful due to excessive breakage or the limited availability of clams in the area open to this gear.

1988 COMMERCIAL SALMON FISHERY

The 1988 commercial harvest of 8.6 million salmon in Upper Cook Inlet is the second highest catch recorded for this fishery. Substantially higher prices paid for salmon led to a record exvessel value of $121 million, a 20% increase over 1987. Representing 17% of the value of the 1988 Alaska salmon harvest, Upper Cook Inlet was second in value only to Bristol Bay among the state's salmon fisheries.

As Cook Inlet was not on the Board of Fisheries agenda the previous fall, there were little in the way of regulatory changes in effect for the 1988 season. The only significant change permitted the use of gill net web containing as few as six filaments provided all were at least 0.2 millimeters in diameter.

Emergency order announcements and fishery updates were provided to radio stations in Homer and the Kenai-Soldotna area. Emergency orders and daily escapement information were also made available through 24-hour recorded message telephone

lines. Efforts were also made to broadcast emergency order announcements via marine VHF radio to aid prompt distribution to the drift fleet.

Sockeye Salmon

With a sockeye salmon harvest of 6.8 million, 1988 ranks second only to 1987. Valued at $111 million, the sockeye salmon harvest comprised 91% of the value of the commercial salmon fishery. Despite the lower harvest, the 1988 sockeye salmon harvest exceeded the 1987 harvest in value due to sharply higher prices. Distribution of the catch between drift gear (59%) and set net gear (41%) was nearly identical to the long-term average.

Management of the Upper Cook Inlet sockeye salmon fishery integrates information received from a variety of programs which together provide an in-season model of the actual return. These programs include offshore test fishing, stock separation, escapement enumeration by sonar and comparative analysis of historic commercial harvest and effort levels.

The offshore test fishing program employs a chartered gill net vessel fishing in a standardized manner along a transect crossing Cook Inlet from Anchor Point to the Red River delta. The purpose is to provide an in-season estimation of sockeye salmon run-strength by determining fish passage rates (computed by correlating the vessel's daily catch with subsequent commercial harvests and escapement) and fitting these rates to the appropriate run-timing profile (Table 1). In 1988, the charter was awarded to the F/V *Corrina Kay*.

Use of scale pattern analysis to apportion commercial sockeye salmon catches to river-of-origin was first employed in Upper Cook Inlet in 1977 and has since become an integral part of the salmon management regime. Although this program is most effective in the post-season allocation of total return by river system, in-season use is possible subject to several limitations. Due to the sharp and late entry pattern of sockeye salmon entering the Susitna and Kenai Rivers, adequate escapement samples (i.e. scales from fish of known origin) used in constructing a stock separation model are frequently unavailable. This occurred again in 1988 with insufficient Susitna River escapement samples available during a portion of the critical management period just prior to mid-July. By mid-July, it was possible to construct a model using current-year samples (Table 2).

Use of hydroacoustic devices to quantify salmon escapement into glacial rivers was first employed in Upper Cook Inlet in the Kenai and Kasilof Rivers in 1968 and expanded to the Susitna River in 1978 and the Crescent River in 1979. Operations followed standard procedures in all systems in 1988 with no significant problems observed (Table 3). For the third year, the Susitna River escapement was monitored by sonar in the Yentna River only due to budgetary restrictions and past problems with obtaining satisfactory estimates within the mainstem of the Susitna. An escapement goal of 100,000 to 150,000 sockeye salmon has been established for the Yentna based on the historical proportion of the total Susitna escapement utilizing this tributary (King and Tarbox, 1987).

Upper Cook Inlet commercial catch statistics refined to gear type, area and date are available back to 1966. Recent computerization of these statistics make them

ACE 6245520

extremely valuable for use in evaluating in-season fishery performance. The 1988 commercial catch by gear type and area can be found in Table 4 while catches by period and area are contained in Tables 5 through 13. Total catches by statistical area and average catch per permit are contained in Tables 14 and 15. A summary of emergency orders can be found in Table 16 and a summary of fishing periods by gear type and area in Table 17. Effort levels and trends are confirmed in-season by aerial survey (Table 18).

Prior to the season, fishermen were informed that although the forecast harvest of sockeye salmon (5.3 million, Appendix A.11) indicated an excellent year ahead, the distribution of the return might very well require considerable manipulation of fishing times and areas. The Kenai River return was again expected to be very strong, the Kasilof River return good, and the Susitna River return very poor. Based on the poor results experienced in 1987 in use of the drift fleet east of a straight line from the East Forelands to Ninilchik in an attempt to effect a heavy harvest of Kenai and Kasilof River sockeye while protecting Susitna-bound stocks, a somewhat different strategy was planned for 1988. Drift fishermen were informed that sharp curtailment of district-wide periods could be expected after mid-July and that fishing along the east side of the inlet would be restricted to a 3-mile-wide corridor from mid-Salamatof Beach to Ninilchik. It was hoped that fishing in this area would provide more satisfactory stock compositions and prove more enforceable than the straight line used in 1987. Set gillnetters in the Northern District were informed that curtailment of their fishery could be expected if Susitna River run-strength appeared unsatisfactory.

Sockeye salmon returning to the Crescent River on the west side of Cook Inlet are harvested primarily by the set net fishery in the surrounding Western Subdistrict. Management strategy for this stock is based on altering Western Subdistrict set net fishing time in response to the progression of daily escapement counts. Using run-timing data garnered from past years, the average cumulative percent of the escapement is applied to each days count and a projected total escapement calculated. A projection in excess of the escapement goal (50,000-100,000) prompts additional fishing time while a projection short of the goal leads to reduced time. The projection is tempered by a subjective estimate of timing bias in the current year and has been highly successful in providing management direction. By July 8, the escapement rate of sockeye salmon in the Crescent River indicated a need to increase the exploitation rate and the Western Subdistrict set nets were opened on a continuous basis from that date through July 22. Thereafter, fishing periods were maintained at the standard two 12-hour periods per week.

The fishing season in the remainder of the inlet began routinely with catches in late June and early July being unremarkable. A sharp increase in the escapement rate in the Kasilof River by July 8 led to an extra opening for Upper Subdistrict set nets south of the Blanchard Line (a point roughly halfway between the Kenai and Kasilof Rivers) and drift gear within 3 miles of shore along the same length of beach on July 10. The district-wide drift period on July 11 produced a single period record harvest of over 800,000 fish with stock identification procedures indicating Kenai River stocks predominating but with good contributions from both the Kasilof and Susitna Rivers. Good numbers of fish began moving into the Kenai River July 11 and all Central District east side set nets were opened from the evening of July 12 through the evening of July 13.

ACE 6245521

Drift fishing was opened in the 3 mile corridor from mid-Salamatof Beach to Ninilchik for 12 hours on July 13. Compliance with the boundaries was quite good and the percentage of Susitna-bound sockeye salmon in the drift catch appeared to be minimal. With good numbers of fish continuing to enter both the Kenai and Kasilof Rivers, the Upper Subdistrict set nets were opened at 11:00 p.m. July 14 and remained open through the regular period on July 15. Results from the district-wide drift period on July 15 were somewhat disappointing, with the catch falling to 600,000 and the Susitna River contribution diminishing.

The Upper Subdistrict set nets were extended through the regular period on July 18 and the drift fleet fished in the 3 mile corridor for 13 hours on July 16 and 15 hours on July 17. Line compliance continued to be good and the apparent absence of Susitna stocks in the catch was encouraging. Catches were strong with 350,000 sockeye salmon taken in the set net fishery and 450,000 in the drift corridor fishery on July 16 and 17. Offshore test fish results during the same time period indicated a strong movement of fish into the district and the estimate of the projected total return was upgraded to 10 million or higher. The Kenai River escapement through July 17 was just over 300,000, approximately half the desired annual total and daily counts were steady at 30,000-50,000. The district-wide drift period scheduled for July 18 was allowed to go forward as scheduled in order to help reduce the overall return to manageable levels. The catch proved to be much lower than expected - only 350,000 - and the percentage of Susitna River sockeye salmon remained fairly low.

With the exception of July 20 and most of July 21, daily fishing was permitted for both the east side set nets and drifting within the corridor from July 19 through the end of the month. Fishing was restricted to north of the Blanchard Line for both gear types on July 19, 27, 28, 30 and 31 to reduce exploitation of Kasilof River sockeye salmon where escapement levels were falling short of expectations. Movement of sockeye salmon into the Kenai River picked up sharply on July 20 and the escapement goal was quickly achieved and exceeded. The closed waters area near the mouth of the Kenai River were reduced substantially during the period from July 22 through July 26 to help reduce the entry of sockeye salmon. Regular drift periods on July 22 and 25 were restricted to the 3 mile corridor to protect remaining Susitna River stocks and poor catches in the Northern District on July 22, confirming weak movement of fish toward the Susitna, led to closure of that fishery on July 25. Management emphasis shifted to other species by August 1.

Strong movement of sockeye salmon into Fish Creek beginning July 20 prompted the opening of the Fish Creek terminal harvest area for set gillnetting at 3:00 p.m. July 23. The area remained open through July 29, the regulatory closing date for this fishery. The fishery was very effective in slowing escapement into Fish Creek with daily counts falling to negligible levels during the course of the opening. The sockeye salmon harvest in Knik Arm totaled over 38,000 fish with an additional 11,600 coho salmon also taken. Fish quality ranged from fair to good.

Final escapement estimates for the various sockeye salmon systems ranged from very poor to well in excess of goals (Appendix A.12, Figures 5-17). The Yentna River (the primary sockeye salmon producing tributary of the Susitna River) escapement of 52,000 was well short of the minimum goal of 100,000. The sonar

ACE 6245522

count in the Kasilof River of 151,000 matched the minimum goal but significant numbers of fish apparently entered the system prior to installation of the counters as subsequent stream surveys and weir counts within the drainage produced a total escapement estimate of 202,000, the midpoint of the desired range. The Crescent River escapement of 58,000 was well within the desired range of 50,000-100,000. Fish Creek, with a goal of 50,000, received 66,000 fish and Packers Creek on Kalgin Island, with a goal of 15,000-18,000, had a count of 18,000. The Kenai River sockeye salmon escapement of 1,021,000 was well in excess of the 400,000-700,000 goal. The fish were well distributed throughout the drainage except for the Russian River, where closure of the sport fishery was needed to achieve adequate escapement.

Chum Salmon

The harvest of just over 700,000 chum salmon in 1988 equals the long-term average and was valued at $4.1 million. The drift gill net fishery accounted for 82% of the catch (Figures 17-21).

The major chum salmon stock harvested in Upper Cook Inlet originates from the Susitna River and the return overlaps to a great degree both in time and area the return of the major sockeye salmon stocks. Management strategy is predicated on determination of relative run strength as indicated by catch-per- unit-effort (CPUE) data generated in the drift fishery. Immediately following the departure of the bulk of the sockeye salmon from the fishing grounds, drift fishing time is adjusted based on apparent run strength, harvest to date and the recent pattern of fishing permitted for the harvest of sockeye salmon.

Restriction of the drift fishery away from the mid-inlet area on July 22 and 25 coincided with peak chum salmon abundance in the Central District and substantially reduced the overall exploitation of the chum salmon return. Although chum salmon escapement is not measured directly, the index observed at the Yentna River sonar site was the highest ever observed and chum salmon appeared to be quite abundant throughout the Susitna River drainage as well as the Knik and Matanuska River drainages.

The chum salmon return to local streams in the Chinitna Bay Subdistrict was managed in a fashion similar to past years. All gear types were permitted in the subdistrict until mid July when chum salmon abundance began to rise. Beginning July 18, regular fishing periods were maintained for only set gill nets until adequate chum salmon escapement was achieved just prior to August 15. All gear types were then permitted to fish each regular period for the remainder of the season, targeting mainly on local coho salmon stocks. The chum salmon catch totaled just over 24,000, slightly below the long-term average and was taken primarily in the set gill net fishery (67%). With the exception of a single seine landing, the remainder of harvest was taken by drift gill nets.

Coho Salmon

The 1988 harvest of 560,000 coho salmon was nearly double the long-term average and continues a trend of generally strong coho harvests begun in 1981.

ACE 6245523

Distribution of the catch between the drift fishery (50%), the Northern District set net fishery (20%) and the Central District set net fishery (30%) did not differ substantially from the historic average. Valued at $4.7 million, the coho salmon harvest represented 4% of the value of the salmon catch.

For discussion purposes, it is useful to divide Upper Cook Inlet's diverse coho salmon stocks impacted by the commercial fishery into three broad categories. The first category contains those stocks bound for the Susitna River and other Northern District streams and migrating through the Central District principally during the last three weeks of July. The Cook Inlet Salmon Management Plan designates Susitna River coho salmon as a stock upon which the minimum degree of commercial interception should be inflicted, to the extent consistent with other goals established within the Plan. While simple in concept, this directive is much more difficult to implement in practice. The Management Plan gives a higher priority to the sustained yield commercial harvest of more abundant sockeye, chum and pink salmon stocks, many of which are bound for the same streams at similar times and along similar pathways utilized by Susitna River coho salmon stocks. Consequently, these stocks are normally exploited at fairly significant levels in the commercial drift and the Northern District set net fisheries. Since these coho salmon stocks frequently exhibit a slightly later run-timing than the principle stocks of sockeye salmon, is it occasionally possible to time fishery closures aimed principally at stock conservation of sockeye salmon to take advantage of peaks in abundance of coho salmon but such opportunities arise too infrequently to consistently facilitate the safe passage of coho salmon through the fishery.

Catch per vessel values for coho salmon in the drift fishery were consistently above average through mid-July and the drift restrictions aimed principally at conservation of Susitna River sockeye salmon stocks on July 22 and 25 greatly benefitted the passage of Susitna-bound coho salmon as well. Closure of the Northern District set net fishery on July 25 helped assure that large numbers of coho salmon reached fresh water. Coho salmon abundance throughout Northern District streams was exceptionally high.

The early run of coho salmon bound for the Kenai River first appears in the Central District east side set net catches in late July and reaches a peak in early August. Although the substantial additional fishing time in the northern east side fishery had a significant impact on the harvest level of the early portion of the coho salmon run, additional fishing periods were halted August 1, just prior to the peak of the return.

Pink Salmon

Extremely heavy rains in October of 1986 caused severe flooding throughout the Susitna River drainage, scouring miles of river bed and rechanneling many more miles. Damage to recently deposited salmon eggs was thought to be substantial and, accordingly, the outlook for the 1988 pink salmon return was substantially below average. The harvest of 470,000 pink salmon in Upper Cook Inlet was the poorest even-year catch on record and was valued at only $651,000. Emergency order closures in the drift and Northern District set net fisheries aimed principally at conservation of Susitna River sockeye salmon assisted in keeping

ACE 6245524

pink salmon exploitation low but freshwater abundance throughout the Susitna drainage was very poor. The return to the Kenai River was somewhat better but still below average. Fishing time in the east side set net fishery, the principle harvester of Kenai-bound pink salmon, was limited to standard fishing periods during the course of the return. Abundance in the Kenai River appeared to be fair to good. The distribution of the catch between drift gear (42%) and set net gear (58%) was similar to long-term averages.

Chinook Salmon

Totaling 29,003 fish, the 1988 harvest of chinook salmon was valued at $1.1 million or 1% of the value of the salmon fishery. The directed chinook salmon fishery in the Northern District produced a catch of 11,122, well below the 12,500 fish quota established for this fishery. With the first fishing period not occurring until June 6, the latest start possible for this fishery, the season was effectively shorter than prior years. Catch levels for each period were similar to values observed in the past. Ninety-one percent of the chinook salmon catch occurred in the General Subdistrict. The fishery also harvested just under 2,000 sockeye salmon.

The reported harvest of 12,838 chinook salmon in the controversial Upper Subdistrict set net fishery represents a substantial decline from recent values although the reason remains unclear. Efforts to release chinook salmon encountered in nets and under-reporting of the actual catch by fishermen both played a part in the reduction of the reported harvest but it is impossible to quantify either factor. Harvest figures indicate a remarkably stable harvest of chinook salmon from period to period beginning in early July and persisting throughout the month. This pattern was repeated in the daily sonar estimates of escapement.

Reduction of the waters closed to commercial fishing at the mouth of the Kenai River from July 22 through July 26 inevitably led to greater catches of chinook salmon in the drift fishery. Approximately 50% of the total drift chinook salmon catch of 2,212 occurred during the five days the reduced closed waters were in effect. As in the set net fishery, under-reporting of catch was apparent and actual harvest levels were certainly higher than the reported catch.

Post-Season Perspective

The most notable event of the 1988 season, in terms of long-term management implications, was the apparent success of the stock-specific strategy employed in the drift fishery. Initial postseason results from the stock identification program indicate a dramatic reduction in the percentage of Susitna-bound sockeye salmon in the drift catch during periods when fishing was confined to the three mile corridor. The corridor appeared to provide a sufficient buffer between mixed stocks occupying the east rip and the near-beach area dominated by segregated stocks moving to the east side rivers. Enforcement of and compliance with the contour line was substantially improved in comparison with the East Foreland - Ninilchik line utilized the previous year. This strategy appears

ACE 6245525

promising for managing future returns that exhibit disproportionately large contributions from the Kenai or Kasilof rivers.

Despite the success of the corridor in producing large catches of Kenai River sockeye salmon with only minimal catches of Susitna River sockeye salmon, escapement in the Susitna was still well below desired levels. Achievement of the Susitna goal would have required a substantial further reduction in catches in the mixed-stock drift fishery and the Northern District set net fishery. In-season management programs designed to provide information on overall run strength and stock contributions had sufficient estimation error to mask the extreme weakness of the Susitna River return.

Minor System Escapement

The Cook Inlet Aquaculture Association (CIAA) placed a weir across Packers Creek on Kalgin Island as part of an ongoing lake fertilization and fry-stocking evaluation of Packers Lake. With the weir in place from May 16 through September 16, a total of 18,607 sockeye salmon were counted with the highest daily count of 837 occurring on July 26 and the midpoint on August 2 (Marcuson, 1989a, Table 19). An escapement goal range of 15,000-25,000 was established for this system, primarily to define management objectives for this stock as well as provide finite guidelines relating to cost-recovery of surplus fish by the association. Under the Annual Management Plan adopted for the Trail Lakes Hatchery (first operated under the auspices of CIAA in 1988) cost recovery did not occur as the threshold for this activity was set at 25,000 fish through the weir.

CIAA also placed a counting tower on Lake Creek in the Susitna River watershed to assist in a Chelatna Lake pre-stocking feasibility project. With the tower in place from July 19 to August 25, 217 sockeye salmon were counted with the highest daily count of 47 occurring on August 1. The time period from July 28 through August 5 encompassed nearly all of the sockeye salmon counts (Marcuson, 1989b). While restriction of counting to daylight hours may have resulted in some portion of the total escapement passing unobserved, relatively few fish apparently utilized Chelatna Lake for spawning in 1988.

Price, Average Weight and Participation

Prices paid to fishermen for their catch were up sharply from the previous year, most notably for sockeye salmon which sold for an average $2.47 per pound, nearly a dollar more per pound than the average paid in 1987. Sockeye prices began the season at $1.75 and rose steadily throughout July, with late catches selling for over $3.00 per pound by the end of the month. Chinook prices were down slightly from 1987, selling for $1.30 per pound while coho, pink and chum salmon were all substantially higher than 1987, selling for $1.20, $.37 and $.76 per pound, respectively (Appendix A.13).

Average weights of the various species, calculated from fish ticket data, were not notably divergent from the long-term averages. Chinook salmon averaged

ACE 6245526

29.66 pounds while sockeye, coho, pink and chum salmon averaged 6.61, 7.05, 3.74 and 7.66 pounds, respectively (Appendix A.14).

While the Commercial Fisheries Entry Commission issued 584 drift gill net permits and 741 set gill net permits for Cook Inlet in 1988 (Appendix A.15), tabulation of fish tickets indicate 588 drift and 639 set net permits were actually used to make landings. The increase in drift permits was due to in-season transfers. A total of 33 firms purchased Upper Cook Inlet fishery products in 1988 (Table 20).

Outlook for 1989

Sockeye salmon are the only salmon species in Upper Cook Inlet for which sufficient biological parameters are known to permit development of a systematic forecast of future run strengths. Expansion of parent-year escapement levels in major sockeye salmon systems by average recruit-per-spawner values and adjusting for variation in marine maturity schedules resulted in a total run forecast of 4 million with an anticipated harvest of 2.5 million. While substantially below the large harvests of recent years, the catch would remain above average. Forecast returns by river system include: Kenai River - 2 million, Kasilof River - 0.75 million, Susitna River - 0.70 million, Crescent River - 0.30 million and Fish Creek - 0.25 million. Returns of this strength and distribution should not require intense, stock-specific harvest strategies such as those employed in 1987 and 1988.

The projected harvests of other species (followed by average values in parentheses) are: chum salmon - 800,000 (670,000), coho salmon - 400,000 (300,000), pink salmon - 100,000 (120,000) and chinook salmon - 30,000 (21,000).

COMMERCIAL HERRING FISHERY

Herring are caught commercially in Upper Cook Inlet for both a sac roe food market in Japan and an intrastate bait market. These two fisheries are discussed separately although they occur simultaneously on opposite shores of the inlet.

Tuxedni Bay

Tuxedni Bay and surrounding waters opened to commercial herring fishing on April 22 by regulation. An aerial survey was flown opening day to determine effort levels and potential catch rate. Conditions were indicative of a late spring with shore ice down to the tide line and the Tuxedni River still frozen. Eleven drift boats, 28 skiffs, 25 nets and 2 tenders were observed on grounds. The first catches were reported on April 25. These herring were generally immature and "culling" was reported by both tender operators and fishermen. Several days of high winds kept harvest to a minimum and the next noteworthy catches were reported on May 6. On May 10, with a cumulative harvest of 8 tons reported, an emergency order was issued closing Tuxedni Bay and surrounding

ACE 6245527

waters effective 3:00 p.m., May 11, 1988. Samples obtained from various portions of the harvest indicated a major shift in age structure from previous years. The recruit age classes, Ages 4 (16%) and 5 (74%) comprised over 90% of the harvest (Table 21). The sex ratio, although unreliable due to culling, was 0.91:1 (male/female). The total harvest was reported to be 14 tons with an average roe percentage of 10.3%. This year, 77 permit holders participated in the fishery, a decrease from effort levels of the previous years.

Chinitna Bay

Chinitna Bay also opened by regulation on April 22. A few local fishermen were the only effort until May 9 when the Tuxedni closure was announced and the fleet shifted down to Chinitna Bay. The first small deliveries were reported on May 9 but only 5 tons had been harvested by May 14. An emergency order was issued closing Chinitna Bay effective 6:00 p.m., Sunday, May 15. Samples obtained from the tenders showed that Age 4 (7.4%) and Age 5 (58.3%) comprised over 65% of harvest (Table 22). The sex ratio of 0.48:1 (male/female) was also the result of culling males early in the fishery. On May 15, a large group of herring entered the bay and catches increased noticeably just prior to the closure. The total harvest reported was just over 23 tons with roe percentage averaging approximately 10.5%. Sac roe herring prices were $1,500/ton for 10% roe. Thirty permit holders participated in the Chinitna Bay sac roe fishery.

Eastside

The bait herring fishery opened April 15 in the Northern and Central Districts. Herring began to show along Ninilchik beach on May 6 in small numbers. The harvest progressed slowly with catches generally below prior years. A peak occurred about May 15 and then catches dropped off noticeably on May 20. Interception of early sockeye and chinook salmon in herring gear began to be a problem and an emergency order was issued closing the bait fishery on May 27. Total harvest was reported to be 50.7 tons. The price for bait herring was $600/ton. Samples indicated Age 5 was the predominant age class at 30% (Table 23). This age structure also showed a shift to the younger age classes from prior years. This year, 42 permit holders participated in the harvest, an effort level similar to previous years.

COMMERCIAL RAZOR CLAM FISHERY

The 1988 commercial razor clam fishery occurred in Upper Cook Inlet from late April through the end of August. The total harvest of 392,610 lbs. came from the Polly Creek area certified for human consumption from Redoubt Point south to Crescent River. The harvest was taken by 60 diggers employed by two companies. Approximately 25,000 lbs. of broken clams or 6% of the total was diverted into the bait market.

ACE 6245523

After failing to meet inspection standards in June, a hydraulic dredge met the 10% breakage limit in July and was given approval to harvest. The dredge harvest represented only a small percentage of the total razor clam harvest.

SUBSISTENCE AND PERSONAL USE FISHERIES

There have been numerous regulatory changes in the subsistence fishery and creation of a personal use category since the adoption of the subsistence priority law in 1977, primarily as the result of injunctions or decisions emanating from various levels of the judicial system. While further evolution of these categories are sure to follow, the current regulations have been stable for several years. Accordingly, effort and harvest patterns have also been relatively stable.

Tyonek Subsistence Salmon Fishery

On-site monitoring of this fishery ceased in 1986 and since that time harvest information has been compiled by Subsistence Division personnel from returned permits. Created by court order in 1980, this fishery is open only to those individuals domiciled in the village of Tyonek. Only one permit is allowed per household and each permit holder is allowed a single ten-fathom net having a mesh size no greater than six inches. Fishing periods are open from 4:00 a.m. to 8:00 p.m. each Tuesday, Thursday and Friday from May 15 to June 15 and from 6:00 a.m. to 6:00 p.m. each Saturday after June 15. The 1988 season resulted in a total harvest of 1,474 chinook, 53 sockeye, 185 coho, 6 pink and 9 chum salmon between May 15 and October 15 (Foster, 1988). Forty-seven permits were issued for the early season (Appendix A.17).

Kasilof Personal Use Gill Net Fishery

The Kasilof River personal use gill net fishery was established by the Alaska Board of Fisheries in 1982. Under regulations adopted for this fishery, open fishing periods were set at 6:00 a.m. to 6:00 p.m. daily beginning June 21. Areas open to fishing were the beaches adjacent to the mouth of the Kasilof River inside the A.D.F.& G. regulatory markers. Legal gear was one 10 fathom set gill net per participant. Gill net specifications included a mesh size of 6" or less and no more than 45 meshes deep. Participants were required to have a current resident Alaska sport fishing license. A quota of 5 -10,000 sockeye salmon was established.

In 1988, department personnel obtained daily net counts for each beach. On-site interviews with fishermen were conducted to determine an average catch per net for both sockeye and chinook salmon. Daily harvest estimates were based on the average catch per net multiplied by the total number of nets fishing.

The fishery remained open six days prior to reaching the sockeye salmon quota. and was closed by emergency order at 6:00 p.m., Sunday, June 26. The estimated

ACE 6245529

harvest was 9,803 sockeye salmon and 118 chinook salmon (Table 25). The sockeye salmon harvest was very close to the 1982-87 mean, while the chinook salmon harvest was the lowest recorded in the history of the fishery and continues a trend of decreasing catch since 1982.

Participation in this fishery was reduced from previous years possibly due to a closure of a boat ramp on the north bank of the Kasilof River. The formerly "public" boat ramp was fenced by the private landholder. Lack of access eliminated most of the people who normally tended nets offshore from small boats.

Fall Personal Use Coho Salmon Fishery

The Central and Northern Districts Personal Use Coho Salmon Management Plan was adopted by the Alaska Board of Fisheries in 1983. Under regulations established by the Board, open fishing periods were scheduled from 12:00 noon, Saturday until 12:00 noon, Sunday on the last three weekends of September or until 2,500 salmon had been taken; open areas were defined as the Eastern Subdistrict of the Northern District and that portion of the Upper Subdistrict north of the A.D.F.& G. regulatory marker located north of the Kasilof River mouth in the Central District. Legal gear was one 10 fathom set gill net per permit holder. Gill net specifications included 6 in or less mesh size and no more than 45 meshes deep. A minimum distance of 100 feet was required between nets. A current Alaska resident sportfishing license was required to be issued a permit to participate in this fishery and permit holders were required to report their catch to the Soldotna office within 5 days of the fishing period.

Aerial surveys were conducted by department personnel to determine the total number of nets fishing. Catch reports received in the Soldotna office from fishermen were used to calculate an average catch per net. Harvest estimates for each fishing period were generated by multiplying the average catch per net by the total number of nets fishing (Table 26).

A total of 449 permits were issued from the Soldotna and Anchorage offices. The first period on September 10-11 showed a higher net count than in previous years and an overall coho salmon per net average of approximately 7.8. The following period on September 18-19 had increased effort with the net count reaching an all time high of 184 and the overall coho salmon per net average increasing to 8.4. After receiving catch reports from the second period, the harvest was estimated to be over the 2,500 salmon regulatory quota and an emergency order was issued on September 20 closing the fishery prior to the third weekend period. The total harvest of coho salmon for the two periods was estimated to be 2,662.

The harvest of coho salmon in 1988 was the highest since 1983 and was taken in only two periods while in previous years, all three weekend periods remained open. Excellent weather conditions and increased effort both contributed to the early closure. In addition to coho salmon, other species taken in this fishery include 38 pink salmon, 19 sockeye salmon, 10 chum salmon, 2 chinook salmon and 14 steelhead trout (*O. mykiss*).

ACE 6245530

LITERATURE CITED

Chlupach, R. 1988. Alaska Department of Fish and Game, Fisheries Rehabilitation, Enhancement and Development Division, Big Lake. (Memorandum).

Foster, J. 1988. Alaska Department of Fish and Game, Division of Subsistence, Anchorage. (Memorandum).

King, B.E. and K. Tarbox. 1988. Upper Cook Inlet salmon escapement studies, 1986. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Fisheries Report 88-04, Juneau.

Marcuson, P. 1989A. Packers Lake Project Progress Report, 1988. Cook Inlet Aquaculture Association, Soldotna.

_____. 1989B Chelatna Lake Investigations Progress Report, 1988. Cook Inlet Aquaculture Association, Soldotna.

Nickerson, R.B. 1975. A critical analysis of some razor clam populations in Alaska. Alaska Department of Fish and Game, Fisheries Rehabilitation, Enhancement and Development Division, Juneau.

Ruesch, P.H. 1988. Annual Management Report, Upper Cook Inlet, 1987. Alaska Department of Fish and Game, Division of Commercial Fisheries, Soldotna.

Ruesch, P.H. and J.B. Browning. 1988. 1988 Upper Cook Inlet Management Report to the Alaska Board of Fisheries. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 2S88-10, Anchorage.

Tarbox, K.E. 1989. An estimate of the 1988 total sockeye salmon return to Upper Cook Inlet, Alaska, using a test fishery. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 2S89-04, Anchorage.

ACE 6245531

Table 1. Offshore testfishing observations, F/V Corrina Kay, 1988.[1]

Date	Stations Fished	Fishing Time (min)	Sockeye Catch	Cum Catch	Index Points[2]	Cum Index	Mean Length (mm)	Water Temp (C)	Air Temp (C)	Salinity (ppm)	Wind Velocity Start	Wind Velocity End
07/01	6	227.5	29	29	22.0	22.0	547	10.1	16.2	28.6	0	2 W
07/02	5	194	23	52	18.2	40.2	565	10.6	11	30	13 SW	14 SW
07/03	6	248.5	156	208	93.6	133.8	558	10.1	16.8	29.3	5 S	10 SW
07/04	5	202	70	278	48.9	182.8	556	10.2	10.8	30.9	3 SE	20 SE
07/05	6	232.5	66	344	44.9	227.7	552	9.3	13.2	32.8	5 SW	6 SW
07/06	5	194	79	423	53.7	281.4	585	9.6	11.6	32.4	4 NE	0
07/07	6	219.5	9	432	7.3	288.7	565	9.1	14.7	29.1	0	0
07/08	5	195.5	66	498	48.1	336.9	579	9.1	14.6	29.8	7 S	5 SE
07/09	4	154.5	31	529	29.5	366.3	566	9	15.8	30	0	4 S
07/10	3	114	14	543	15.2	381.5	551	9.3	14	29	0	20 SE
07/11	5	199.5	87	630	61.2	442.7	578	9.3	15.2	31	5 SW	15 SW
07/12	4	152.5	27	657	19.8	462.5	587	9.3	11.3	29.8	12 S	11 SW
07/13	6	227	26	683	20.0	482.5	576	9.9	12.3	29.5	0	10 SW
07/14	5	193.5	33	716	25.7	508.2	572	10.2	11.2	29.2	5 SW	8 SE
07/15	6	247	130	846	87.3	595.5	576	9.6	18.2	29.9	8 SE	6 SE
07/16	1	32.5	56	902	83.7	679.2	0	9.5	11	31	0	30 S
07/17	6	237.5	117	1019	78.7	757.9	590	8.8	14.3	31.7	20 S	10 S
07/18	5	220	36	1055	26.2	784.1	578	8.6	13	30.4	10 S	5 S
07/19	6	225	14	1069	10.9	795.0	588	8.5	17.8	30.2	0	5 SW
07/20	5	194	21	1090	15.6	810.6	580	8.6	13.8	30	5 S	0
07/21	3	100	47	1137	54.8	865.4	580	8.5	12.3	29.8	15 SW	30 SE
07/22	4	158.5	24	1161	17.9	883.3	543	8.4	12	30.1	0	5 SE
07/23	3	120.5	34	1195	31.3	914.6	576	8	11.7	31	18 S	28 S
07/24	5	195.5	41	1236	30.7	945.3	582	8.4	13	29.8	0	5 S
07/25	6	230	48	1284	33.6	978.9	577	8.2	17	30.3	10 S	7 S
07/26	2	76.5	13	1297	26.7	1005.6	577	8.3	14	31	18 S	26 SE
07/27	6	216	65	1362	52.3	1057.9	553	8.3	15.3	30.5	18 W	18 NW
07/28	5	185.5	25	1387	19.2	1077.1	564	8.2	16.4	30.6	6 NE	12 NE
07/29	6	219.5	18	1405	16.7	1093.8	583	8.8	16.3	30	0	0
07/30	5	182	35	1440	37.4	1131.2	0	8.7	12.2	30.2	18 SW	15 SW

[1] From Tarbox (1989)
[2] Standardized catch in number of fish per hundred fathoms of net per fishing hour.

ACE 0245532

Table 2. In-season stock composition estimates of Age 1.3 sockeye salmon from selected commercial fisheries, Upper Cook Inlet, 1988.[1]

Model 1[2]		Percent of Catch		
Fishery	Date	Susitna	Kenai	Kasilof
Central District Drift	6/27	30.0	19.0	50.0
Central District Drift	7/01	16.0	34.0	49.0
Central District Drift	7/04	5.0	51.0	44.0
Central District Drift	7/08	15.0	60.0	25.0
Central District Drift	7/11	36.0	56.0	8.0
Drift - 3 Mile Corridor	7/13	4.0	91.0	5.0
Central District Drift	7/15	13.0	87.0	0.0
Drift - 3 Mile Corridor	7/17	0.0	100.0	0.0
Central District Drift	7/18	12.0	88.0	0.0
Drift - 3 Mile Corridor	7/19	2.0	92.0	6.0
Drift - 3 Mile Corridor	7/22	0.0	100.0	0.0

Model 2[3]		Percent of Catch		
Fishery	Date	Susitna	Kenai	Kasilof
Central District Drift	6/27	38.0	6.0	55.0
Central District Drift	7/01	16.0	39.0	43.0
Central District Drift	7/04	35.0	31.0	34.0
Central District Drift	7/08	37.0	45.0	20.0
Central District Drift	7/11	31.0	50.0	19.0
Drift - 3 Mile Corridor	7/13	6.0	82.0	12.0
Central District Drift	7/15	35.0	59.0	5.0
Drift - 3 Mile Corridor	7/17	10.0	81.0	9.0
Central District Drift	7/18	12.0	80.0	8.0
Drift - 3 Mile Corridor	7/19	10.0	77.0	12.0
Drift - 3 Mile Corridor	7/22	0.0	100.0	0.0

[1] These data presented to identify inseason indicators only, final postseason allocations will differ significantly.

[2] Model 1 was constructed with current year escapement samples through 7/15.

[3] Model 2 was constructed with current year escapement samples through 7/22.

ACE 6245533

Table 3. Daily and cumulative sockeye salmon escapement for Upper Cook Inlet, 1988

	Kasilof River		Kenai River		Yentna River		Crescent River		Fish Creek	
Date	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
prior to 6/15	1,300	1,300								
06/15	781	2,081								
06/16	698	2,779								
06/17	459	3,238								
06/18	497	3,735								
06/19	507	4,242								
06/20	673	4,915								
06/21	860	5,775								
06/22	1,218	6,993								
06/23	1,088	8,081								
06/24	1,816	9,897								
06/25	1,803	11,700								
06/26	1,805	13,505								
06/27	2,505	16,010								
06/28	4,178	20,188								
06/29	3,585	23,773								
06/30	2,429	26,202								
07/01	1,800	28,002	214	214			490	490		
07/02	741	28,743	169	383			1,682	2,172		
07/03	1,072	29,815	270	653			6,456	8,628	0	0
07/04	4,246	34,061	290	943			4,261	12,889	0	0
07/05	1,558	35,619	544	1,487			2,630	15,519	0	0
07/06	3,146	38,765	664	2,151			4,011	19,530	0	0
07/07	7,667	46,432	417	2,568	208	208	3,769	23,299	0	0
07/08	3,544	49,976	237	2,805	187	395	4,846	28,145	1	1
07/09	7,982	57,958	486	3,291	253	648	3,843	31,988	73	74
07/10	11,401	69,359	7,939	11,230	193	841	1,525	33,513	291	365
07/11	7,581	76,940	53,012	64,242	169	1,010	987	34,500	2	367
07/12	9,110	86,050	26,069	90,311	159	1,169	1,558	36,058	0	367
07/13	4,991	91,041	53,630	143,941	162	1,331	1,735	37,793	2	369
07/14	2,153	93,194	45,073	189,014	196	1,527	1,934	39,727	106	475
07/15	6,897	100,091	37,434	226,448	246	1,773	194	39,921	2,572	3,047
07/16	2,525	102,616	53,789	280,237	260	2,033	332	40,253	647	3,694
07/17	2,257	104,873	28,830	309,067	199	2,232	1,153	41,406	488	4,182
07/18	1,880	106,753	38,409	347,476	182	2,414	1,739	43,145	940	5,122
07/19	2,980	109,733	35,297	382,773	2,325	4,739	1,379	44,524	301	5,423
07/20	7,236	116,969	34,600	417,373	5,567	10,306	549	45,073	7,336	12,759
07/21	13,246	130,215	56,523	473,896	3,806	14,112	1,552	46,625	9,295	22,054
07/22	9,643	139,858	107,076	580,972	1,787	15,899	1,148	47,773	12,954	35,008

ACE 6245534

Table 3. (page 2 of 2)

	Kasilof River		Kenai River		Ventna River		Crescent River		Fish Creek	
Date	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
07/23	1,280	141,138	112,284	693,256	3,743	19,642	1,456	49,229	5,891	40,899
07/24	776	141,914	66,732	759,988	5,704	25,346	1,833	51,062	590	41,489
07/25	646	142,560	42,321	802,309	7,628	32,974	1,873	52,935	23	41,512
07/26	704	143,264	26,958	829,267	7,366	40,340	1,353	54,288	166	41,678
07/27	632	143,896	15,250	844,517	2,616	42,956	1,078	55,366	0	41,678
07/28	771	144,667	9,088	853,605	1,949	44,905	321	55,687	0	41,678
07/29	885	145,552	8,348	861,953	1,492	46,397	654	56,341	109	41,787
07/30	426	145,978	2,908	864,861	1,530	47,927	731	57,072	678	42,465
07/31	599	146,577	3,591	868,452	1,110	49,037	644	57,716	4,152	46,617
08/01	636	147,213	4,356	872,808	510	49,547			1,317	47,934
08/02	481	147,694	5,017	877,825	710	50,257			2,299	50,233
08/03	629	148,323	4,028	881,853	492	50,749			5,267	55,500
08/04	988	149,311	10,387	892,240	274	51,023			2,530	58,030
08/05	966	150,277	20,523	912,763	354	51,377			734	58,764
08/06	511	150,788	20,928	933,691	131	51,508			709	59,473
08/07	567	151,355	19,428	953,119	239	51,747			456	59,929
08/08	501	151,856	11,440	964,559	178	51,925			2,601	62,530
08/09			8,710	973,269	122	52,047			529	63,059
08/10					95	52,142			1,962	65,021
08/11					205	52,347			1,245	66,266
Total		204,000[1]		1,021,500[2]		52,347		57,716		71,603[3]

[1] Weir counts and stream survey totals from the drainage.
[2] Estimated 48,200 escapement after counters ceased operation on 8/09.
[3] Total includes additional 4,037 fish through weir by 9/09 and 1,300 downstream of weir when it was removed.

ACE 6245535

Table 4. Commercial salmon catch by area and gear type, Upper Cook Inlet, 1988.

Area/Gear	Chinook	Sockeye	Coho	Pink	Chum	Total
DRIFT	2,212	4,103,664	277,006	226,753	578,654	5,188,289
CENTRAL SET						
Upper	12,838	2,426,416	54,972	176,042	11,762	2,682,030
Kalgin Island	368	33,747	27,501	4,159	2,382	68,157
Kustatan	120	6,999	15,925	1,037	731	24,812
Western	627	102,057	25,391	7,490	18,122	153,687
Chinitna Bay	2	2,345	8,623	249	19,189	30,408
Subtotal	13,955	2,571,564	132,412	188,977	52,186	2,959,094
NORTHERN SET						
Eastern	1,244	31,424	26,386	7,769	5,592	72,415
General	11,592	98,289	123,356	46,441	70,136	349,814
Subtotal	12,836	129,713	149,742	54,210	75,728	422,229
SEINE	0	0	100	4	0	104
GRAND TOTAL	29,003	6,804,941	559,260	469,944	706,568	8,569,716

Table 5. Commercial salmon catch by period and species by drift gill nets, Upper Cook Inlet, 1988.

Date	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
6/27	487	78	82,364	1,500	205	7,435	91,582
7/01	579	68	159,582	2,907	82	12,947	175,586
7/04	496	78	162,297	4,425	188	14,058	181,046
7/08	585	47	392,795	12,409	266	31,070	436,587
7/10	443	110	61,741	1,136	263	4,925	68,175
7/11	651	52	805,856	28,608	1,512	81,647	917,675
7/13	526	79	118,239	3,734	877	9,750	132,679
7/15	600	65	595,641	50,813	4,755	128,454	779,728
7/16	466	77	224,969	5,894	2,373	18,524	251,837
7/17	453	108	235,945	4,976	2,800	13,768	257,597
7/18	579	33	357,948	31,812	11,007	86,106	486,906
7/19	372	41	44,528	1,630	1,045	3,287	50,531
7/22	580	310	324,299	7,284	51,511	10,282	393,686
7/23	472	157	121,865	1,311	2,409	1,156	126,898
7/24	496	279	104,354	4,661	10,409	5,924	125,627
7/25	552	182	74,226	2,797	5,430	3,890	86,525
7/26	509	227	72,816	3,763	6,856	3,167	86,829
7/27	322	54	22,177	984	3,336	2,592	29,143
7/28	217	34	21,871	973	2,834	1,674	27,386
7/29	575	27	74,574	43,101	28,816	64,142	210,660
7/30	205	17	5,250	1,639	2,342	1,765	11,013
7/31	101	28	2,277	630	1,187	711	4,833
8/01	452	24	20,739	16,622	17,727	32,485	87,597
8/05	375	16	9,022	9,619	21,260	14,333	54,250
8/08	258	10	3,558	6,838	22,573	11,532	44,511
8/12	120	3	977	4,317	17,933	4,164	27,394
8/15	144	7	3,438	10,698	6,251	6,047	26,441
8/19	66	0	65	4,682	461	1,621	6,829
8/22	40	0	130	2,852	22	697	3,701
8/26	28	1	30	2,462	18	381	2,892
8/29	29	0	90	1,470	5	95	1,660
9/02	5	0	1	360	0	19	380
9/05	3	0	0	98	0	6	104
9/09	1	0	0	1	0	0	1
Total		2,212	4,103,664	277,006	226,753	578,654	5,188,289

Table 6. Commercial salmon catch by period and species by set gill nets in the Upper Subdistrict, 1988.

Date	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
7/01	269	425	24,768	45	36	9	25,283
7/04	280	495	32,440	25	477	12	33,449
7/08	300	753	35,927	245	1,226	59	38,210
7/09	31	30	7,895	3	0	1	7,929
7/10	329	653	86,189	95	89	4	87,030
7/11	368	605	103,261	89	113	19	104,087
7/12	261	178	119,396	227	148	108	120,057
7/13	510	494	191,162	1,039	718	670	194,083
7/14	22	34	2,808	3	0	0	2,845
7/15	558	778	255,876	683	579	81	257,997
7/16	434	783	134,727	686	806	241	137,243
7/17	563	645	224,932	982	1,189	682	228,430
7/18	519	441	161,296	1,351	2,089	2,852	168,029
7/19	227	181	95,595	1,228	2,068	1,715	100,787
7/21	228	187	129,535	597	999	135	131,453
7/22	579	792	254,621	2,232	2,883	722	261,250
7/23	398	602	110,329	1,178	2,807	322	115,238
7/24	407	344	74,522	1,352	4,051	442	80,711
7/25	382	400	42,066	1,566	4,325	279	48,636
7/26	440	708	67,307	2,473	5,479	405	76,372
7/27	164	156	35,250	745	3,858	219	40,228
7/28	182	186	52,710	1,100	3,989	238	58,223
7/29	379	694	75,661	2,888	9,243	346	88,832
7/30	149	227	18,997	1,875	5,969	293	27,361
7/31	152	332	25,362	2,707	8,358	231	36,990
8/01	294	766	20,785	3,468	13,856	240	39,115
8/05	277	536	26,211	6,956	26,950	558	61,211
8/08	262	209	9,156	6,991	33,575	507	50,438
8/12	221	138	5,185	7,260	28,520	304	41,407
8/15	129	66	2,447	4,883	11,642	68	19,106
Total		12,838	2,426,416	54,972	176,042	1[illegible],762	2,682,030

Table 7. Commercial salmon catch by period and species by set gill nets in the Kalgin Island Subdistrict, 1988.

Date	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
6/27	16	21	612	9	0	1	643
7/01	19	138	1,112	99	1	0	1,350
7/04	24	73	1,144	289	2	3	1,511
7/08	9	17	554	104	20	3	698
7/11	19	35	1,516	457	29	10	2,047
7/15	17	30	2,194	1,491	94	14	3,823
7/18	18	10	5,251	2,465	373	378	8,477
7/22	17	5	4,273	2,081	107	180	6,646
7/25	16	6	3,896	2,900	71	101	6,974
7/29	16	8	3,402	1,595	268	100	5,373
8/01	11	2	1,885	764	169	49	2,869
8/05	13	7	1,878	1,308	285	170	3,648
8/08	14	6	1,815	2,472	518	169	4,980
8/12	14	6	1,480	1,597	619	62	3,764
8/15	17	1	876	1,719	905	368	3,869
8/19	14	1	800	3,262	417	315	4,795
8/22	16	0	272	1,298	228	325	2,123
8/26	16	2	266	958	32	73	1,331
8/29	17	0	151	1,141	15	34	1,341
9/02	10	0	80	519	4	22	625
9/05	9	0	74	405	1	2	482
9/09	9	0	158	329	1	2	490
9/12	7	0	47	183	0	1	231
9/16	3	0	11	56	0	0	67
Total		368	33,747	27,501	4,159	2,382	68,157

ACE 5245539

Table 8. Commercial salmon catch by period and species by set gill nets in the Kustatan Subdistrict, 1988.

Date	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
6/27	1	3	31	1	0	1	36
7/01	6	49	205	30	0	0	284
7/04	4	11	191	55	1	1	259
7/08	5	26	251	170	4	7	458
7/11	4	6	729	353	2	3	1,093
7/15	3	6	331	126	10	0	473
7/18	5	4	1,472	1,687	204	6	3,373
7/22	4	0	776	2,274	20	3	3,073
7/25	8	7	892	4,794	186	18	5,897
7/29	6	1	356	1,685	43	45	2,130
8/01	11	1	1,041	1,250	118	417	2,827
8/05	8	6	432	1,304	234	84	2,060
8/08	7	0	254	1,484	167	109	2,014
8/12	1	0	11	296	13	10	330
8/15	2	0	21	215	29	11	276
8/22	1	0	0	91	4	14	109
8/26	1	0	6	110	2	2	120
Total		120	6,999	15,925	1,037	731	24,812

ACC 6245540

Table 9. Commercial salmon catch by period and species by set gill nets in the Chinitna Bay Subdistrict, 1988.

Date	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
6/27	2	0	362	2	0	28	392
7/01	2	0	595	0	0	82	677
7/04	2	0	431	4	4	139	578
7/08	2	0	150	9	6	426	591
7/11	1	1	57	9	1	213	281
7/15	2	0	82	23	10	571	686
7/18	3	0	173	80	0	797	1,050
7/22	2	0	21	53	19	336	429
7/25	2	0	53	209	30	689	981
7/29	2	0	12	459	30	2,430	2,931
8/01	2	0	8	434	22	1,596	2,060
8/05	2	0	14	323	53	2,203	2,593
8/08	3	0	14	292	20	2,127	2,453
8/12	4	0	4	819	17	3,107	3,947
8/15	5	0	75	799	18	1,953	2,845
8/19	4	0	201	1,060	4	1,065	2.330
8/22	4	1	0	912	5	971	1,889
8/26	4	0	1	644	3	137	785
8/29	5	0	37	823	2	172	1,034
9/02	6	0	26	706	3	82	817
9/05	7	0	28	902	2	63	995
9/09	2	0	0	41	0	0	41
9/12	1	0	1	20	0	2	23
Total		2	2,345	8,623	249	19,189	30,408

ACE 624554

Table 10. Commercial salmon catch by period and species by set gill nets in the Western Subdistrict, 1988.

Date	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
6/17	22	134	339	1	0	0	474
6/20	17	32	540	0	0	3	575
6/24	25	62	995	2	3	2	1,064
6/27	23	28	1,974	4	0	5	2,011
7/01	29	62	3,146	22	4	14	3,248
7/04	27	45	4,742	55	9	108	4,959
7/08	22	41	3,883	111	14	52	4,101
7/09	16	19	2,687	67	5	73	2,851
7/10	31	13	5,581	91	12	169	5,866
7/11	40	26	7,985	173	13	225	8,422
7/12	25	19	5,853	151	15	160	6,198
7/13	19	6	5,062	179	12	99	5,358
7/14	20	3	2,931	169	10	82	3,195
7/15	25	16	5,897	191	22	189	6,315
7/16	8	0	1,458	224	3	26	1,711
7/17	28	17	7,606	335	43	583	8,584
7/18	39	12	8,006	503	18	711	9,250
7/19	19	4	4,374	324	18	139	4,859
7/20	21	6	3,455	234	20	430	4,145
7/21	27	7	5,711	442	20	920	7,100
7/22	34	25	9,024	909	33	1,070	11,061
7/25	25	6	3,065	1,024	33	1,289	5,417
7/29	29	5	3,245	1,603	85	2,973	7,911
8/01	20	1	572	738	9	1,198	2,518
8/05	29	7	1,283	2,737	672	3,115	7,814
8/08	30	12	1,138	2,421	4,185	1,678	9,434
8/12	23	10	434	1,990	1,064	790	4,288
8/15	23	5	491	1,496	926	1,030	3,948
8/19	29	2	310	4,205	168	692	5,377
8/22	18	0	97	1,287	23	124	1,531
8/26	10	0	55	563	31	121	770
8/29	13	0	63	1,491	11	5	1,570
9/02	13	1	49	806	9	43	908
9/05	2	1	2	260	0	1	264
9/09	5	0	2	315	0	1	318
9/12	4	0	2	268	0	2	272
Total		627	102,057	25,391	7,490	18,122	153,687

ACE 6245542

Table 11. Commercial salmon catch by period and species by set gill nets in the General Subdistrict (Northern District), 1988.

Date	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
6/06	91	2,992	286	0	0	0	3,278
6/13	103	3,354	845	0	1	0	4,200
6/20	78	3,726	107	2	0	4	3,839
6/27	55	867	369	18	0	30	1,284
7/01	52	236	375	65	1	8	685
7/04	46	107	633	161	4	25	930
7/08	56	41	784	1,639	163	802	3,429
7/11	68	67	3,090	1,088	103	278	4,626
7/15	80	52	5,017	916	276	63	6,324
7/18	114	37	13,361	5,815	2,491	2,902	24,606
7/22	141	24	19,826	39,292	8,913	15,321	83,376
7/23	17	0	3,676	516	4	133	4,329
7/24	24	1	4,621	747	5	177	5,551
7/25	47	0	6,896	1,963	54	415	9,328
7/26	43	0	7,331	2,091	107	626	10,155
7/27	37	1	5,713	1,899	114	538	8,265
7/28	42	5	6,345	2,549	210	519	9,628
7/29	145	21	11,677	14,885	18,473	8,691	53,747
8/01	108	6	1,850	9,052	4,913	6,031	21,852
8/05	126	40	2,811	16,729	6,467	19,121	45,168
8/08	120	12	1,671	11,192	3,046	8,104	24,025
8/12	48	3	294	4,113	415	1,575	6,400
8/15	57	0	336	3,087	457	3,544	7,424
8/19	35	0	70	1,171	169	878	2,288
8/22	21	0	109	1,821	26	139	2,095
8/26	23	0	21	891	19	131	1,062
8/29	18	0	13	513	3	8	537
9/02	14	0	159	477	7	51	694
9/05	7	0	3	435	0	18	456
9/09	4	0	0	152	0	2	154
9/12	3	0	0	42	0	0	42
9/16	2	0	0	35	0	2	37
Total		11,592	98,289	123,356	46,441	70,136	349,814

ACE 5245543

Table 12. Commercial salmon catch by period and species by set gill nets in the Eastern Subdistrict (Northern District), 1988.

Date	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
6/26	27	519	479	0	0	0	998
6/13	22	322	180	0	0	0	502
6/20	22	209	61	0	0	0	270
6/27	25	107	736	1	0	6	850
7/01	27	12	481	3	0	11	507
7/04	22	16	465	9	1	0	491
7/08	24	20	726	16	4	1	767
7/11	43	12	4,494	124	39	15	4,684
7/15	28	2	1,515	53	54	12	1,636
7/18	45	1	6,450	687	557	991	8,686
7/22	44	1	11,984	2,950	2,824	1,545	19,304
7/29	35	2	877	738	693	484	2,794
8/01	44	1	349	1,083	519	308	2,260
8/05	41	6	1,101	1,941	1,025	1,124	5,197
8/08	32	3	454	2,166	285	369	3,277
8/12	27	0	252	2,281	253	120	2,906
8/15	31	1	315	2,467	618	341	3,742
8/19	30	5	242	3,122	699	147	4,215
8/22	29	2	94	2,839	109	28	3,072
8/26	28	2	76	2,146	37	49	2,310
8/29	21	1	34	1,497	18	15	1,565
9/02	23	0	24	1,142	22	13	1,201
9/05	21	0	24	678	9	4	715
9/09	13	0	4	243	2	3	252
9/12	5	0	1	96	0	2	99
9/16	7	0	4	48	0	1	53
9/19	3	0	2	56	1	3	62
Total		1,244	31,424	26,386	7,769	5,592	72,415

ACE 6245544

Table 13. Commercial salmon catch by period and species, all gear types and areas, 1988.

Date	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
06/06	118	3,511	765	0	0	0	4,276
06/13	125	3,676	1,025	0	1	0	4,702
06/17	22	134	339	1	0	0	474
06/20	117	3,967	708	2	0	7	4,684
06/24	25	62	995	2	3	2	1,064
06/27	609	1,104	86,448	1,535	205	7,506	96,798
07/01	983	990	190,264	3,171	124	13,071	207,620
07/04	901	825	202,343	5,023	686	14,346	223,223
07/08	1,003	945	435,070	14,703	1,703	32,420	484,841
07/09	47	49	10,582	70	5	74	10,780
07/10	803	776	153,511	1,322	364	5,098	161,071
07/11	1,194	804	926,988	30,901	1,812	82,410	1,042,915
07/12	286	197	125,249	378	163	268	126,255
07/13	1,055	579	314,463	4,952	1,607	10,519	332,120
07/14	42	37	5,739	172	10	82	6,040
07/15	1,313	949	866,553	54,296	5,800	129,384	1,056,982
07/16	908	860	361,154	6,804	3,182	18,791	390,791
07/17	1,044	770	468,483	6,293	4,032	15,033	494,611
07/18	1,322	538	553,957	44,400	16,739	94,743	710,377
07/19	618	226	144,497	3,182	3,131	5,141	156,177
07/20	21	6	3,455	234	20	430	4,145
07/21	255	194	135,246	1,039	1,019	1,055	138,553
07/22	1,401	1,157	624,824	57,075	66,310	29,459	778,825
07/23	887	759	235,870	3,005	5,220	1,611	246,465
07/24	927	624	183,497	6,760	14,465	6,543	211,889
07/25	1,032	601	131,094	15,253	10,129	6,681	163,758
07/26	992	935	147,454	8,327	12,442	4,198	173,356
07/27	523	211	63,140	3,628	7,308	3,349	77,636
07/28	441	225	80,926	4,622	7,033	2,431	95,237
07/29	1,187	758	169,804	66,954	57,651	79,211	374,378
07/30	354	244	24,247	3,514	8,311	2,058	38,374
07/31	253	360	27,639	3,337	9,545	942	41,823
08/01	942	801	47,229	33,411	37,333	42,324	161,098
08/05	871	618	42,752	40,917	56,946	40,708	181,941
08/08	726	252	18,060	33,856	64,369	24,595	141,132
08/12	458	160	8,637	22,673	48,834	10,132	90,436
08/15	409	80	7,999	25,464	20,850	13,362	67,755
08/19	178	8	1,688	17,502	1,918	4,718	25,834
08/22	129	3	702	11,100	417	2,298	14,520
08/26	110	5	455	7,774	142	894	9,270
08/29	103	1	388	6,935	54	329	7,707
09/02	71	1	339	4,010	45	230	4,625
09/05	49	1	131	2,778	12	94	3,016
09/09	34	0	164	1,081	3	8	1,256
09/12	20	0	51	609	0	7	667
09/16	12	0	15	139	0	3	157
09/19	3	0	2	56	1	3	62
Total		29,003	6,804,941	559,260	469,944	706,568	8,569,716

Table 14. Commercial salmon catch by statistical area and gear type, Upper Cook Inlet, 1988.

Gear	District	Subdistrict	Stat Area	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
Drift	Central	All	All	588	2,212	4,103,664	277,006	226,753	578,654	5,188,289
Set Net	Central	Upper	244-21	166	3,911	211,078	6,968	28,227	544	250,728
			244-22	144	2,756	421,519	7,664	29,552	900	462,391
			244-30	185	3,995	910,628	13,692	50,058	969	979,342
			244-40	164	2,176	883,191	26,648	68,205	9,349	989,569
			All	444	12,838	2,426,416	54,972	176,042	11,762	2,682,030
		Kalgin Is.	246-10	44	273	20,520	21,600	3,305	1,812	47,510
			246-20	18	95	13,227	5,901	854	570	20,647
			All	49	368	33,747	27,501	4,159	2,382	68,157
		Chinitna	245-10	18	2	2,345	8,623	249	19,189	30,408
		Western	245-20	28	50	9,656	7,699	4,335	753	22,493
			245-30	47	340	60,009	7,423	612	13,660	82,044
			245-40	35	235	30,069	8,678	2,512	3,657	45,151
			245-50	12	2	2,323	1,591	31	52	3,999
			All	98	627	102,057	25,391	7,490	18,122	153,687
		Kustatan	245-55	9	17	1,284	7,860	34	250	9,425
			245-60	14	103	5,715	8,085	1,003	481	15,387
			All	23	120	6,999	15,925	1,037	731	24,812
		All	All	525	13,955	2,571,564	132,412	188,977	52,186	2,959,094
	Northern	General	247-10	54	1,779	11,922	20,793	7,134	3,642	45,270
			247-20	55	2,398	14,167	35,908	13,450	14,585	80,508
			247-30	51	6,642	19,016	35,582	20,723	37,324	119,287
			247-41	23	287	4,935	5,487	1,486	4,164	16,359
			247-42	22	160	5,499	6,680	1,511	3,757	17,607
			247-43	15	317	4,499	7,302	1,546	3,931	17,595
			247-50	32	9	38,251	11,604	591	2,733	53,188
			All	144	11,592	98,289	123,356	46,441	70,136	349,814
		Eastern	247-70	46	862	17,380	13,695	3,980	4,713	40,630
			247-80	27	240	6,984	5,773	2,001	519	15,517
			247-90	24	142	7,060	6,918	1,788	360	16,268
			All	66	1,244	31,424	26,386	7,769	5,592	72,415
		All	All	205	12,836	129,713	149,742	54,210	75,728	422,229
	All	All	All	639	26,791	2,701,277	282,154	243,187	127,914	3,381,323
Seine	All	All	All	1	0	0	100	4	0	104
All	All	All	All	1,228	29,003	6,804,941	539,260	469,944	706,568	8,569,716

ACE 6245540

Table 15. Commercial salmon catch per permit by statistical area, Upper Cook Inlet, 1988.

Gear	District	Subdistrict	Stat Area	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
Drift	Central	All	All	588	4	6,979	471	386	984	8,824
Set Net	Central	Upper	244-21	166	24	1,272	42	170	3	1,510
			244-22	144	19	2,927	53	205	6	3,211
			244-30	185	22	4,922	74	271	5	5,294
			244-40	164	13	5,385	162	416	57	6,034
			All	666	29	5,465	124	396	26	6,041
		Kalgin Is.	246-10	44	6	466	491	73	41	1,080
			246-20	18	5	733	328	47	32	1,147
			All	49	8	689	561	85	49	1,391
		Chinitna	243-10	18	0	130	479	14	1,066	1,689
		Western	245-20	28	2	345	273	155	27	803
			245-30	47	7	1,277	158	13	291	1,746
			245-40	35	7	839	248	72	104	1,290
			245-50	12	0	194	133	3	4	333
			All	98	6	1,041	259	76	185	1,568
		Kustatan	245-55	9	2	143	871	4	28	1,047
			245-60	16	7	408	578	72	34	1,099
			All	23	5	304	692	45	32	1,079
		All	All	525	27	4,898	252	360	99	5,636
	Northern	General	247-10	54	33	221	385	132	67	838
			247-20	55	44	258	653	245	265	1,464
			247-30	51	130	373	698	406	732	2,339
			247-41	23	12	215	239	65	181	711
			247-42	22	7	250	304	69	171	800
			247-43	15	21	300	487	103	262	1,173
			247-50	32	0	1,195	363	18	85	1,662
			All	144	81	683	857	323	487	2,429
		Eastern	247-70	46	19	378	298	87	102	883
			247-80	27	9	259	214	74	19	575
			247-90	24	6	294	288	73	15	678
			All	66	19	476	400	118	85	1,097
		All	All	205	63	633	730	264	369	2,060
	All	All	All	639	42	4,227	442	381	200	5,292
Seine	All	All	All	1	0	0	100	4	0	104
All	All	All	All	1,228	24	5,541	455	383	575	6,979

ACC 6245547

Table 16. Summary of emergency orders issued during the 1988 commercial salmon fishing season in Upper Cook Inlet.

Emergency Order No.	Date	Action	Reason
2S-04-88	June 27	Opened the Chinitna Bay Subdistrict to drift and seines on regular periods through July 15.	Board policy on use of gear types in this Subdistrict.
2S-05-88	July 8	Extended Western Subdistrict set nets from 7 pm July 8 until 7pm July 11.	Favorable escapement rate in the Crescent River.
2S-06-88	July 9	Opened Upper Subdistrict set nets south of mid-K Beach from 8pm July 9 until 7pm July 10. Opened drift from mid-K Beach to Ninilchik within 3 miles of shore from 7am to 7pm July 10.	Favorable escapement rate of sockeye salmon in the Kasilof River.
2S-07-88	July 11	Extended Western Subdistrict set nets until further notice.	Favorable escapement rate in the Crescent River.
2S-08-88	July 12	Opened Upper Subdistrict set nets from 6pm July 12 until 7pm July 13. Opened drift from Collier's Dock to Ninilchik from 7am to 7pm July 13.	Favorable escapement rates in both the Kenai and Kasilof rivers.
2S-09-88	July 14	Opened Upper Subdistrict set nets from 11pm July 14 until 7am July 15.	Favorable escapement rates in both the Kenai and Kasilof rivers.
2S-10-88	July 15	Extended Upper Subdistrict set nets from 7pm July 15 until 8pm July 16. Opened drift from Collier's Dock to Ninilchik from 7am to 8pm July 16.	Favorable escapement rates in both the Kenai and Kasilof rivers.

ACE 6245546

Table 16. (page 2 of 4)

Emergency Order No.	Date	Action	Reason
2S-11-88	July 16	Extended Upper Subdistrict set nets from 8pm July 16 until 7am July 18. Opened drift within 3 miles of shore from Collier's Dock to Ninilchik from 6am to 9pm July 17.	Increasing rates of escapement in both the Kenai and Kasilof rivers.
2S-12-88	July 18	Extended Upper Subdistrict set nets from 7pm July 18 until 9pm July 19. Opened drift within 3 miles of shore from Collier's Dock to Ninilchik from 7am to 9pm July 19.	Increasing rates of escapement in both the Kenai and Kasilof rivers.
2S-13-88	July 21	Opened Upper Subdistrict set nets from 5pm July 21 until 7am July 22.	Increasing rates of escapement in both the Kenai and Kasilof rivers.
2S-14-88	July 22	Closed drift in all areas except the 3-mile corridor along east side on July 22.	Concern about overharvest of Susitna River sockeye stocks.
2S-15-88	July 22	Halted the continuous fishing time for the Western Subdistrict set nets at 7pm July 22.	Lagging sockeye escapement in the Crescent River.
2S-16-88	July 22	Reduced the closed waters at the mouth of the Kenai River effective 7am July 22.	Increase the effectiveness on Kenai River sockeye salmon.
2S-17-88	July 22	Extended the Upper Subdistrict set nets from 7pm July 22 until 7am July 25. Opened drift in 3 mile corridor from 7pm to 11pm July 22 and 6am to 11pm July 23.	Sockeye salmon escapement goal assured in Kenai River.

Table 16. (page 3 of 4)

Emergency Order No.	Date	Action	Reason
2S-18-88	July 23	Opened the Fish Creek terminal area at 3pm July 23 through midnight July 29.	Fish Creek sockeye escapement goal projected to be met.
2S-19-88	July 24	Opened drift in 3-mile corridor from 6am to 11pm July 24.	Sockeye escapement goal achieved in Kenai River.
2S-20-88	July 25	Closed set nets in Northern District and drift in all areas except 3-mile corridor on July 25.	Apparent weak return of sockeye salmon to Susitna River.
2S-21-88	July 25	Extended Upper Subdistrict set nets from 7pm July 25 until 11pm July 26. Opened drift in 3-mile corridor from 6am to 11pm July 26.	Continue to harvest surplus Kenai River sockeye salmon.
2S-22-88	July 26	Extended Upper Subdistrict set nets from 11pm July 26 until 11pm July 27. Opened drift in 3-mile corridor from 6am to 11pm July 27.	Continue to harvest surplus Kenai River sockeye salmon.
2S-23-88	July 27	Returned closed waters description at Kenai River Entrance to original wording effective 6am July 27.	Rapidly declining entry of sockeye salmon into Kenai River.
2S-24-88	July 27	Extended set nets in Upper Subdistrict north of mid Kalifonsky Beach from 11pm July 27 until 7am July 29. Opened drift in 3-mile corridor north of mid-K Beach from 6am to 11pm July 28.	Continue the harvest of surplus Kenai River sockeye salmon while relieving the harvest pressure on Kasilof River sockeye stocks where escapement was lagging.

ACE 6245550

Table 16. (page 4 of 4)

Emergency Order No.	Date	Action	Reason
2S-25-88	July 29	Extended set nets in Upper Subdistrict north of mid-K Beach from 7pm July 29 until 11pm July 30. Opened drift in 3-mile corridor north of mid-K Beach from 6am to 11pm July 30.	Continue the harvest of surplus Kenai River sockeye salmon stocks.
2S-26-88	July 30	Extended set nets in Upper Subdistrict north of mid-K Beach from 11pm July 30 until 7am August 1. Opened drift in 3-mile corridor north of mid-K Beach from 6am to 11pm July 31.	Continue the harvest of surplus Kenai River sockeye salmon stocks.
2S-27-88	August 15	Opened the Chinitna Bay Subdistrict to drift gill nets and seines on regular fishing periods beginning August 15.	Adequate chum salmon escapement in Chinitna Bay streams was attained.

Table 17. Commercial salmon fishing periods, Upper Cook Inlet, 1988.

Date	Day	Time	Set Gill Net	Drift Gill Net
June 06	Monday	0700-1300	Northern District	
June 13	Monday	0700-1300	Northern District	
June 17	Friday	0700-1900	Western	
June 20	Monday	0700-1300	Northern, Western	
		1300-1900	Western	
June 24	Friday	0700-1900	Western	
June 27	Monday	0700-1900	All except Upper	All except within 2 miles of Kenai Peninsula
July 01	Friday	0700-1900	All	All
July 04	Monday	0700-1900	All	All
July 08	Friday	0700-1900	All	All
		1900-2400	Western	
July 09	Saturday	0000-2000	Western	
		2000-2400	Western, Upper south of mid K-Beach	
July 10	Sunday	0000-0700	Western, Upper south of mid K-Beach	
		0700-1900	Western, Upper south of mid K-Beach	Mid K-Beach to Ninilchik within 3 miles
		1900-2400	Western, Upper south of mid K-Beach	
July 11	Monday	0000-0700	Western	
		0700-1900	All	All
		1900-2400	Western	
July 12	Tuesday	0000-1800	Western	
		1800-2400	Western, Upper	
July 13	Wednesday	0000-0700	Western, Upper	
		0700-1900	Western, Upper	Kikiski to Ninilchik within 3 mi.
		1900-2400	Western	
July 14	Thursday	0000-2300	Western	
		2300-2400	Western, Upper	
July 15	Friday	0000-0700	Western, Upper	
		0700-1900	All	All
		1900-2400	Western, Upper	

ACE 6245552

Table 17. (page 2 of 3)

Date	Day	Time	Set Gill Net	Drift Gill Net
July 16	Saturday	0000-0700	Western, Upper	
		0700-2000	Western, Upper	Nikiski to Ninilchik within 3 mi.
		2000-2400	Western, Upper	
July 17	Sunday	0000-0600	Western, Upper	
		0600-2100	Western, Upper	Nikiski to Ninilchik within 3 mi.
		2100-2400	Western, Upper	
July 18	Monday	0000-0700	Western, Upper	
		0700-1900	All	All except Chinitna
		1900-2400	Western, Upper north of mid K-Beach	
July 19	Tuesday	0000-0700	Western, Upper north of mid K-Beach	
		0700-2100	Western, Upper north of mid K-Beach	Nikiski to mid K-Beach within 3 mi.
July 20	Wednesday	0000-2400	Western	
July 21	Thursday	0000-1700	Western	
		1700-2400	Western, Upper	
July 22	Friday	0000-0700	Western, Upper	
		0700-1900	All	Nikiski to Ninilchik within 3 mi.
		1900-2300	Upper	Nikiski to Ninilchik within 3 mi.
		2300-2400	Upper	
July 23	Saturday	0000-0600	Upper	
		0600-1500	Upper	Nikiski to Ninilchik within 3 mi.
		1500-2300	Upper, Knik	Nikiski to Ninilchik within 3 mi.
		2300-2400	Upper, Knik	
July 24	Sunday	0000-0600	Upper, Knik	
		0600-2300	Upper, Knik	Nikiski to Ninilchik within 3 mi.
		2300-2400	Upper, Knik	
July 25	Monday	0000-0600	Upper, Knik	
		0600-0700	Upper, Knik	Nikiski to Ninilchik within 3 mi.
		0700-1900	All + Knik (Northern closed)	Nikiski to Ninilchik within 3 mi.
		1900-2300	Upper, Knik	Nikiski to Ninilchik within 3 mi.
		2300-2400	Upper, Knik	
July 26	Tuesday	0000-0600	Upper, Knik	
		0600-2300	Upper, Knik	Nikiski to Ninilchik within 3 mi.
		2300-2400	Upper north of mid K-Beach, Knik	

Table 17. (page 3 of 3)

Date	Day	Time	Set Gill Net	Drift Gill Net
July 27	Wednesday	0000-0600	Upper north of mid K-Beach, Knik	
		0600-2300	Upper north of mid K-Beach, Knik	Nikiski to mid K-Beach within 3 mi.
		2300-2400	Upper north of mid K-Beach, Knik	
July 28	Thursday	0000-0600	Upper north of mid K-Beach, Knik	
		0600-2300	Upper north of mid K-Beach, Knik	Nikiski to mid K-Beach within 3 mi.
		2300-2400	Upper north of mid K-Beach, Knik	
July 29	Friday	0000-0700	Upper north of mid K-Beach, Knik	
		0700-1900	All + Knik	All except Chinitna
		1900-2400	Upper north of mid K-Beach, Knik	
July 30	Saturday	0000-0600	Upper north of mid K-Beach	
		0600-2300	Upper north of mid K-Beach	Nikiski to mid K-Beach within 3 mi.
		2300-2400	Upper north of mid K-Beach	
July 31	Sunday	0000-0600	Upper north of mid K-Beach	
		0600-2300	Upper north of mid K-Beach	Nikiski to mid K-Beach within 3 mi.
		2300-2400	Upper north of mid K-Beach	
August 1	Monday	0000-0700	Upper north of mid K-Beach	
		0700-1900	All	All except Chinitna
August 5	Friday	0700-1900	All	All except Chinitna
August 8	Monday	0700-1900	All	All except Chinitna
August 12	Friday	0700-1900	All	All except Chinitna
August 15	Monday	0700-1900	All	All
August 19[1]	Friday	0700-1900	All except Upper	All except within 5 miles of Kenai Peninsula shoreline

[1]Fishing continued as described for August 19 each Monday and Friday for the remainder of the season.

Table 18. Aerial survey set gill net counts by subdistrict, Upper Cook Inlet, 1987.

	Central District					Northern District	
Date	Upper	Kalgin	Kustatan	Western	Chinitna	General	Eastern
6/13						96	34
6/20						83	32
7/01	1,000			133			
7/08	979						
7/13	801						
7/15		119	20	154	14	154	103
7/29	930	126	24			203[1]	88

[1] Includes 24 nets counted in Knik Arm terminal fishery.

Table 19. Daily weir counts of sockeye salmon escapement, Packers Creek, 1988.

Date	Count	Accum	Date	Count	Accum	Date	Count	Accum
16-May	0	0	27-Jun	6	721	08-Aug	425	11852
17-May	0	0	28-Jun	52	773	09-Aug	504	12356
18-May	0	0	29-Jun	48	821	10-Aug	407	12763
19-May	0	0	30-Jun	41	862	11-Aug	740	13503
20-May	0	0	01-Jul	51	913	12-Aug	481	13984
21-May	0	0	02-Jul	60	973	13-Aug	350	14334
22-May	0	0	03-Jul	12	985	14-Aug	475	14809
23-May	0	0	04-Jul	8	993	15-Aug	215	15024
24-May	0	0	05-Jul	0	993	16-Aug	289	15313
25-May	0	0	06-Jul	25	1018	17-Aug	191	15504
26-May	2	2	07-Jul	43	1061	18-Aug	84	15588
27-May	4	6	08-Jul	26	1087	19-Aug	29	15617
28-May	7	13	09-Jul	31	1118	20-Aug	66	15683
29-May	0	13	10-Jul	12	1130	21-Aug	105	15788
30-May	3	16	11-Jul	22	1152	22-Aug	429	16217
31-May	7	23	12-Jul	17	1169	23-Aug	197	16414
01-Jun	3	26	13-Jul	8	1177	24-Aug	240	16654
02-Jun	8	34	14-Jul	46	1223	25-Aug	105	16759
03-Jun	12	46	15-Jul	65	1288	26-Aug	324	17083
04-Jun	8	54	16-Jul	638	1926	27-Aug	191	17274
05-Jun	5	59	17-Jul	280	2206	28-Aug	188	17462
06-Jun	11	70	18-Jul	393	2599	29-Aug	297	17759
07-Jun	11	81	19-Jul	548	3147	30-Aug	155	17914
08-Jun	31	112	20-Jul	417	3564	31-Aug	69	17983
09-Jun	26	138	21-Jul	241	3805	01-Sep	98	18081
10-Jun	42	180	22-Jul	229	4034	02-Sep	65	18146
11-Jun	32	212	23-Jul	426	4460	03-Sep	36	18182
12-Jun	45	257	24-Jul	247	4707	04-Sep	48	18230
13-Jun	30	287	25-Jul	437	5144	05-Sep	98	18328
14-Jun	9	296	26-Jul	837	5981	06-Sep	59	18387
15-Jun	11	307	27-Jul	105	6086	07-Sep	8	18395
16-Jun	5	312	28-Jul	751	6837	08-Sep	36	18431
17-Jun	17	329	29-Jul	575	7412	09-Sep	60	18491
18-Jun	15	344	30-Jul	685	8097	10-Sep	12	18503
19-Jun	133	477	31-Jul	783	8880	11-Sep	29	18532
20-Jun	0	477	01-Aug	354	9234	12-Sep	34	18566
21-Jun	26	503	02-Aug	266	9500	13-Sep	20	18586
22-Jun	24	527	03-Aug	560	10060	14-Sep	20	18606
23-Jun	0	527	04-Aug	436	10496	15-Sep	1	18607
24-Jun	98	625	05-Aug	528	11024	16-Sep	0	18607
25-Jun	49	674	06-Aug	122	11146			
26-Jun	41	715	07-Aug	281	11427			

ACE 6245556

Table 20. Buyers and processors of Upper Cook Inlet fishery products, 1988.

Buyer/Processor	Plant Site	Contact	Address
Alaskan Gourmet, Inc.	Anchorage	Paul Schilling	P.O. Box 190733 Anchorage 99519
Allied Processing, Inc.	Kenai	Joe Nord Sr.	P.O. Box 5090 Kenai 99611
Anpac, Inc.	Anchorage	Sarah Barber	P.O. Box 92520 Anchorage 99509
Arctic Fresh Seafoods	Anchorage	Raymond Benish	6133 E. 12th St. Anchorage 99504
C - Food, Inc.	Homer	Clayton Archibek	P.O. Box 1315 Homer 99603
Chugach Alaska Fisheries	Port Graham	Larry Cambronero	4241 21st Ave. W. Seattle 98199
Cook Inlet Processing	Nikiski	Paul Dale	P.O. Box 8163 Nikiski 99635
Dahmen Seafoods, Inc.	Nikiski	Dan Claus	P.O. Box 7498 Nikiski 99635
Deep Creek Custom Packing	Ninilchik	Jeff Berger	P.O. Box 39229 Ninilchik 99639
Dragnet Fisheries	Kenai	Jay Cherrier	P.O. Box 3992 Kenai 99611
Ed's Kasilof Seafoods	Kasilof	James Trujillo	P.O. Box 18 Kasilof 99610
Icicle Seafoods, Inc. dba. Seward Fisheries	Homer	Rob Rogers	4019 21st Ave. W. Seattle 98199
Indian Valley Meats	Indian	Douglas Drum	SR Box 8809 Indian 99540
Inlet Fisheries, Inc.	Kenai	Scott Earsley	P.O. Box 1970 Soldotna 99669
Int'l Seafoods of Alaska	Kodiak	Ted Casten	P.O. Box 2997 Kodiak 99615

Table 20. (page 2 of 3)

Buyer/Processor	Plant Site	Contact	Address
John Cabot Trading Co.	Anchorage	Roy Jones	1200 E. 70th St. Anchorage 99518
Keener Packing Co.	Kenai	Michael Sawinski	HC 2 Box 738 Soldotna 99669-9706
Kenai Packers	Kenai	Clyde Sterling	P.O. Box 31179 Seattle 98103
Lobo's Local Seafood	Homer	John Wolfe	P.O. Box 2170 Homer 99603
R & J Enterprises	Kasilof	Juanita Meier	4821 E. 101st St. Anchorage 99516
Royal Alaska Shell	Kenai	Joe Dragseth	P.O. Box 1090 Kenai 99611
Royal Pacific Fisheries	Kenai	Marvin Dragseth	P.O. Box 4609 Kenai 99611
Salamatof Seafoods	Kenai	W. Tom Reed	P.O. Box 5070 Kenai 99611
Schenk, Dennis	Buyer	Dennis Schenk	P.O. Box 3294 Kenai 99611
Schenk, Terrell D.	Buyer	Terrell Schenk	P.O. Box 5146 Kenai 99611
SeaCrest Inc.	Kasilof	Tom Waterer	P.O. Box 1615 Bellevue 98009
Seafoods from Alaska	Sterling	Roland Schwanke	P.O. Box 307 Sterling 99672
Seasonal Seafoods	Kasilof	Bailey Wharton	4039 21st Ave. W. Seattle 98107
SilverTip Fish	Kasilof	Darrel Renner	P.O. Box 122 Kasilof 99610
Wards Cove Packing Co. dba. Columbia-Wards	Kenai	Ray Landry	P.O. Box C-5030 Seattle 98105-0030
Western Alaska Fisheries	Kodiak	Julie Feckley	1111 3rd Ave. Seattle 98101

ACE 6245558

Table 20. (page 3 of 3)

Buyer/Processor	Plant Site	Contact	Address
Whitney Foods	Anchorage	Bruce Mitchell	P.O. Box 190429 Anchorage 99519-0429
10th & M Seafoods	Anchorage	Bill Nix	1020 M St. Anchorage 99501

Table 21. Age, weight, length and sex composition of commercially harvested herring, Tuxedni Bay, May 6-11, 1988.

Sample Date	Age (years)	Sex: Male (No.)	Sex: Female (No.)	Sex: Unknown (No.)	Total	Percent of Total	Weight: Mean (gm)	Weight: Std. Dev.	Weight: Number Weighed	Std. Length: Mean (mm)	Std. Length: Std. Dev.	Std. Length: Number Measured	Biomass: fish X 1000	Biomass: short tons	Biomass: metric tonnes
	1														
	2														
	3														
	4	21	40	0	61	15.7	126	15.4	61	206	8.1	61	15	2	2
	5	139	148	0	287	74.0	138	14.4	287	213	6.9	287	72	11	10
5/6- 5/11	6	8	3	0	11	2.8	132	11.1	11	213	5.3	11	3	0	0
	7	8	3	0	11	2.8	165	34.5	11	225	10.5	11	3	1	0
	8	3	3	0	6	1.5	192	34.7	6	237	10.4	6	2	0	0
	9	3	4	0	7	1.8	209	15.4	7	238	4.7	7	2	0	0
	10	1	1	0	2	.5	223	24.0	2	244	.7	2	1	0	0
	11	1	0	0	1	.3	335	.0	1	267	.0	1	0	0	0
	12	1	0	0	1	.3	196	.0	1	246	.0	1	0	0	0
	13														
	14	0	1	0	1	.3	244	.0	1	248	.0	1	0	0	0
	15														
Sample Total		185	203	0	388	100.0	140	24.4	388	213	10.1	388	97	15	14

ACE 624556

Table 22. Age, weight, length and sex composition of commercially harvested herring, Chinitna Bay, May 6-14, 1988.

Sample Date	Age (years)	Sex: Male (No.)	Sex: Female (No.)	Sex: Unknown (No.)	Total	Percent of Total	Weight: Mean (gm)	Weight: Std. Dev.	Weight: Number Weighed	Std. Length: Mean (mm)	Std. Length: Std. Dev.	Std. Length: Number Measured	Biomass: fish X 1000	Biomass: short tons	Biomass: metric tonnes
	1														
	2														
	3														
	4	6	24	0	30	7.4	147	22.7	30	215	10.8	30	12	2	2
	5	70	165	0	235	58.3	163	17.5	235	223	8.1	235	91	16	15
5/6 - 5/14	6	8	16	0	24	6.0	185	29.1	24	234	11.2	24	9	2	2
	7	23	31	0	54	13.4	195	22.3	54	237	8.2	54	21	4	4
	8	16	15	0	31	7.7	207	22.9	31	238	8.0	31	12	3	2
	9	7	18	0	25	6.2	223	40.9	25	243	13.0	25	10	2	2
	10	0	2	0	2	.5	227	37.5	2	247	7.8	2	1	0	0
	11	0	1	0	1	.2	283	.0	1	262	.0	1	0	0	0
	12	1	0	0	1	.2	221	.0	1	244	.0	1	0	0	0
	13														
	14														
	15														
All Samples Combined		131	272	0	403	100.0	175	12.0	403	228	12.0	403	156	30	27

ACE 6245501

Table 23. Age, weight, length and sex composition of commercially harvested bait herring, Eastside beaches, May 12-18, 1988.

Sample Date	Age (years)	Sex: Male (No.)	Sex: Female (No.)	Sex: Unknown (No.)	Total	Percent of Total	Weight: Mean (gm)	Weight: Std. Dev.	Weight: Number Weighed	Std. Length: Mean (mm)	Std. Length: Std. Dev.	Std. Length: Number Measured	Biomass: fish X 1000	Biomass: short tons	Biomass: metric tonnes
	1														
	2														
	3														
	4	2	2	0	4	3.6	146	7.7	4	210	8.3	4	11	2	2
	5	7	26	0	33	30.0	160	30.8	33	215	9.6	33	91	16	15
5/12- 5/18	6	1	11	0	12	10.9	173	17.3	12	222	6.2	12	33	6	6
	7	9	5	0	14	12.7	174	21.8	14	225	9.9	14	39	7	7
	8	7	7	0	14	12.7	197	33.6	14	228	7.1	14	39	8	8
	9	5	11	0	16	14.5	186	23.9	16	230	6.6	16	44	9	8
	10	3	3	0	6	5.5	207	31.6	6	231	10.4	6	17	4	3
	11	2	9	0	11	10.0	214	43.6	11	236	9.6	11	30	7	7
	12														
	13														
	14														
	15														
All Samples Combined		36	74	0	110	100.0	179	11.3	110	224	11.3	110	305	60	55

ACE 6245562

Table 24. Seldovia District tide tables, April-September, 1988.

APRIL

HIGH TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Fri	1:54	18.5	2:09	18.3
2	Sat	2:18	19.2	2:44	18.6
3	Sun	3:45	19.7	4:18	18.5
4	Mon	4:10	19.8	4:53	17.9
5	Tue	4:38	19.5	5:29	16.9
6	Wed	5:08	18.8	6:11	15.6
7	Thur	5:42	17.9	7:04	14.2
8	Fri	6:26	16.7	8:13	13.0
9	Sat	7:28	15.4	9:42	12.7
10	Sun	8:57	14.4	11:08	13.5
11	Mon	10:34	14.6	-----	----
12	Tue	0:10	15.2	11:59	15.8
13	Wed	0:57	17.1	1:02	17.4
14	Thur	1:38	19.0	1:55	18.9
15	Fri	2:16	20.5	2:43	19.8
16	Sat	2:51	21.5	3:28	20.2
17	Sun	3:28	21.8	4:11	19.9
18	Mon	4:04	21.4	4:54	19.0
19	Tue	4:40	20.4	5:39	17.6
20	Wed	5:17	18.9	6:27	16.0
21	Thur	5:55	17.1	7:19	14.3
22	Fri	6:41	15.2	8:26	13.0
23	Sat	7:37	13.5	9:47	12.4
24	Sun	9:00	12.3	11:08	12.8
25	Mon	10:36	12.2	-----	----
26	Tue	0:04	13.7	11:56	12.9
27	Wed	0:41	14.8	12:49	14.1
28	Thur	1:10	16.0	1:31	15.2
29	Fri	1:39	17.1	2:09	16.3
30	Sat	2:06	18.1	2:48	17.1

LOW TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Fri	7:59	0.3	8:07	0.4
2	Sat	8:30	-0.7	8:36	0.7
3	Sun	9:59	-1.3	10:08	1.2
4	Mon	10:31	-1.6	10:38	2.1
5	Tue	11:05	-1.4	11:13	3.1
6	Wed	11:42	-0.8	11:50	4.4
7	Thur	-----	----	12:27	0.1
8	Fri	0:34	5.6	1:20	1.2
9	Sat	1:33	6.8	2:34	2.0
10	Sun	3:03	7.3	4:05	2.1
11	Mon	4:39	6.4	5:25	1.3
12	Tue	5:57	4.2	6:25	0.2
13	Wed	6:54	1.6	7:15	-0.8
14	Thur	7:43	-0.9	7:58	-1.2
15	Fri	8:28	-2.9	8:37	-1.3
16	Sat	9:09	-4.2	9:19	-0.8
17	Sun	9:50	-4.7	9:58	0.1
18	Mon	10:30	-4.3	10:36	1.4
19	Tue	11:13	-3.2	11:18	2.9
20	Wed	11:55	-1.5	-----	----
21	Thur	0:00	4.5	12:40	0.3
22	Fri	0:48	6.1	1:33	2.1
23	Sat	1:46	7.3	2:42	3.5
24	Sun	3:14	7.9	4:10	4.1
25	Mon	5:00	7.3	5:24	4.0
26	Tue	6:05	5.9	6:15	3.5
27	Wed	6:49	4.2	6:52	3.0
28	Thur	7:24	2.5	7:26	2.6
29	Fri	7:55	0.9	8:00	2.4
30	Sat	8:27	-0.5	8:32	2.2

MAY

HIGH TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Sun	2:35	19.0	3:23	17.6
2	Mon	3:04	19.5	4:02	17.7
3	Tue	3:36	19.6	4:41	17.4
4	Wed	4:11	19.4	5:23	16.7
5	Thur	4:49	18.8	6:11	15.8
6	Fri	5:34	17.9	7:04	14.9
7	Sat	6:27	16.7	8:07	14.3
8	Sun	7:33	15.4	9:20	14.3
9	Mon	8:55	14.5	10:27	15.1
10	Tue	10:21	14.4	11:24	16.3
11	Wed	11:40	15.1	-----	----
12	Thur	0:15	17.7	12:46	16.2
13	Fri	0:58	18.9	1:42	17.2
14	Sat	1:40	19.9	2:32	18.0
15	Sun	2:19	20.4	3:18	18.3
16	Mon	2:58	20.5	4:00	18.2
17	Tue	3:36	20.0	4:44	17.7
18	Wed	4:16	19.1	5:29	16.9
19	Thur	4:55	17.9	6:11	15.8
20	Fri	5;38	16.6	7:01	14.8
21	Sat	6:23	15.1	7:54	14.0
22	Sun	7:12	13.7	8:49	13.5
23	Mon	8:21	12.6	9:45	13.5
24	Tue	9:37	12.0	10:39	14.0
25	Wed	10:53	12.2	11:24	14.7
26	Thur	-----	----	12:01	12.8
27	Fri	0:01	15.6	12:54	13.8
28	Sat	0:41	16.6	1:42	14.8
29	Sun	1:18	17.5	2:24	15.8
30	Mon	1:55	18.4	3:07	16.6
31	Tue	2:33	19.1	3:49	17.0

LOW TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Sun	9:01	-1.6	9:07	2.3
2	Mon	9:34	-2.4	9:39	2.6
3	Tue	10:09	-2.7	10:18	3.0
4	Wed	10:48	-2.6	10:57	3.7
5	Thur	11:29	-2.1	11:42	4.5
6	Fri	-----	----	12:19	-1.3
7	Sat	0:35	5.3	1:14	-0.2
8	Sun	1:41	5.8	2:21	0.7
9	Mon	2:58	5.6	3:34	1.3
10	Tue	4:23	4.4	4:47	1.4
11	Wed	5:36	2.4	5:48	1.2
12	Thur	6:33	0.2	6:41	1.2
13	Fri	7:23	-1.8	7:29	1.2
14	Sat	8:09	-3.3	8:12	1.3
15	Sun	8:51	-4.1	8:53	1.6
16	Mon	9:33	-4.3	9:37	2.2
17	Tue	10:12	-3.8	10:18	2.9
18	Wed	10:53	-2.9	11:01	3.8
19	Thur	11:34	-1.6	11:44	4.8
20	Fri	-----	----	12:19	-0.2
21	Sat	0:32	5.7	1:04	1.3
22	Sun	1:28	6.5	1:57	2.6
23	Mon	2:34	6.8	2:57	3.6
24	Tue	3:54	6.4	3:59	4.2
25	Wed	5:03	5.4	4:58	4.5
26	Thur	5:57	4.0	5:46	4.6
27	Fri	6:41	2.4	6:33	4.5
28	Sat	7:18	0.8	7:15	4.2
29	Sun	7:58	-0.7	7:58	4.0
30	Mon	8:35	-2.0	8:38	3.7
31	Tue	9:14	-2.9	9:20	3.5

ACE 6245563

Table 24. (page 2 of 3)

JUNE

HIGH TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Wed	3:15	19.5	4:33	17.2
2	Thur	3:57	19.6	5:18	17.1
3	Fri	4:43	19.2	6:06	16.8
4	Sat	5:33	18.4	6:56	16.5
5	Sun	6:27	17.3	7:48	16.3
6	Mon	7:30	16.0	8:44	16.3
7	Tue	8:42	14.8	9:41	16.6
8	Wed	10:01	14.2	10:37	17.1
9	Thur	11:19	14.2	11:30	17.6
10	Fri	-----	----	12:30	14.8
11	Sat	0:22	18.2	1:31	15.6
12	Sun	1:10	18.6	2:24	16.3
13	Mon	1:55	18.9	3:12	16.8
14	Tue	2:37	19.0	3:54	17.0
15	Wed	3:19	18.8	4:36	17.0
16	Thur	4:01	18.4	5:15	16.7
17	Fri	4:41	17.7	5:54	16.3
18	Sat	5:21	16.8	6:32	15.8
19	Sun	6:03	15.7	7:11	15.4
20	Mon	6:48	14.6	7:53	15.0
21	Tue	7:41	13.4	8:34	14.7
22	Wed	8:41	12.4	9:19	14.7
23	Thur	9:53	11.9	10:05	14.9
24	Fri	11:08	12.0	10:53	15.3
25	Sat	12:17	12.7	11:45	16.0
26	Sun	-----	----	1:18	13.7
27	Mon	0:33	16.9	2:11	14.9
28	Tue	1:23	18.0	2:56	16.0
29	Wed	2:12	19.0	3:39	17.0
30	Thur	3:02	19.8	4:21	17.8

LOW TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Wed	9:55	-3.5	10:02	3.4
2	Thur	10:38	-3.7	10:49	3.4
3	Fri	11:23	-3.4	11:39	3.6
4	Sat	-----	----	12:11	-2.6
5	Sun	0:32	3.8	1:04	-1.6
6	Mon	1:35	3.8	1:59	-0.3
7	Tue	2:44	3.5	2:58	1.0
8	Wed	3:58	2.6	4:04	2.1
9	Thur	5:08	1.3	5:09	3.0
10	Fri	6:09	-0.2	6:09	3.4
11	Sat	7:05	-1.5	7:02	3.6
12	Sun	7:52	-2.5	7:53	3.6
13	Mon	8:37	-3.1	8:38	3.6
14	Tue	9:19	-3.2	9:23	3.6
15	Wed	10:00	-3.0	10:05	3.7
16	Thur	10:38	-2.4	10:46	3.9
17	Fri	11:18	-1.7	11:29	4.3
18	Sat	11:55	-0.7	-----	----
19	Sun	0:11	4.8	12:33	0.5
20	Mon	0:59	5.2	1:12	1.7
21	Tue	1:48	5.4	1:54	3.1
22	Wed	2:47	5.4	2:42	4.3
23	Thur	3:50	5.0	3:38	5.4
24	Fri	4:55	4.1	4:40	6.0
25	Sat	5:53	2.8	5:40	6.2
26	Sun	6:44	1.3	6:38	5.9
27	Mon	7:31	-0.3	7:31	5.3
28	Tue	8:17	-1.8	8:19	4.4
29	Wed	8:59	-3.2	9:04	3.6
30	Thur	9:42	-4.1	9:53	2.8

JULY

HIGH TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Fri	3:49	20.3	5:03	18.3
2	Sat	4:38	20.2	5:47	18.6
3	Sun	5:29	19.5	6:32	18.6
4	Mon	6:21	18.3	7:16	18.4
5	Tue	7:20	16.8	8:05	18.1
6	Wed	8:23	15.2	8:55	17.6
7	Thur	9:37	13.9	9:49	17.2
8	Fri	11:00	13.4	10:49	16.9
9	Sat	12:22	13.7	11:53	16.9
10	Sun	-----	----	1:29	14.5
11	Mon	0:52	17.2	2:25	15.4
12	Tue	1:45	17.6	3:07	16.2
13	Wed	2:31	18.0	3:46	16.8
14	Thur	3:13	18.3	4:20	17.2
15	Fri	3:49	18.4	4:53	17.4
16	Sat	4:27	18.2	5:25	17.4
17	Sun	5:04	17.7	5:55	17.2
18	Mon	5:42	16.8	6:24	16.9
19	Tue	6:19	15.7	6:56	16.5
20	Wed	7:03	14.6	7:28	16.0
21	Thur	7:51	13.1	8:05	15.6
22	Fri	8:55	12.1	8:52	15.2
23	Sat	10:19	11.6	9:51	15.1
24	Sun	11:51	12.0	11:00	15.4
25	Mon	-----	----	1:03	13.2
26	Tue	0:05	16.4	1:56	14.7
27	Wed	1:07	17.8	2:40	16.3
28	Thur	2:02	19.3	3:20	17.9
29	Fri	2:51	20.6	3:59	19.1
30	Sat	3:41	21.4	4:38	20.1
31	Sun	4:29	21.4	5:18	20.6

LOW TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Fri	10:27	-4.5	10:38	2.2
2	Sat	11:10	-4.3	11:29	1.8
3	Sun	11:55	-3.5	-----	----
4	Mon	0:21	1.6	12:42	-2.1
5	Tue	1:17	1.6	1:30	-0.3
6	Wed	2:18	1.6	2:23	1.8
7	Thur	3:26	1.6	3:24	3.6
8	Fri	4:39	1.2	4:33	5.0
9	Sat	5:51	0.5	5:43	5.6
10	Sun	6:52	-0.3	6:49	5.6
11	Mon	7:45	-1.0	7:42	5.2
12	Tue	8:30	-1.6	8:31	4.6
13	Wed	9:10	-2.0	9:12	3.9
14	Thur	9:47	-2.2	9:52	3.6
15	Fri	10:22	-2.0	10:30	3.3
16	Sat	10:54	-1.6	11:05	3.3
17	Sun	11:26	-0.8	11:42	3.4
18	Mon	11:58	0.3	-----	----
19	Tue	0:21	3.6	12:29	1.6
20	Wed	0:59	4.0	1:04	3.1
21	Thur	1:46	4.3	1:41	4.7
22	Fri	2:42	4.5	2:29	6.1
23	Sat	3:49	4.3	3:37	7.2
24	Sun	5:05	3.5	4:57	7.6
25	Mon	6:15	2.1	6:09	7.1
26	Tue	7:10	0.3	7:10	5.9
27	Wed	8:01	-1.6	8:03	4.3
28	Thur	8:45	-3.2	8:53	2.7
29	Fri	9:28	-4.3	9:39	1.2
30	Sat	10:09	-4.8	10:26	0.1
31	Sun	10:49	-4.4	11:11	-0.6

ACE 6245564

Table 24. (page 3 of 3)

AUGUST

HIGH TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Mon	5:18	20.7	5:57	20.6
2	Tue	6:06	19.3	6:37	20.1
3	Wed	6:59	17.5	7:20	19.2
4	Thur	8:02	15.4	8:10	17.9
5	Fri	9:14	13.7	9:06	16.7
6	Sat	10:50	12.9	10:18	15.7
7	Sun	12:22	13.3	11:37	15.5
8	Mon	-----	----	1:31	14.3
9	Tue	0:49	16.0	2:19	15.4
10	Wed	1:42	16.9	2:55	16.4
11	Thur	2:24	17.7	3:25	17.3
12	Fri	3:01	18.4	3:52	17.9
13	Sat	3:34	18.9	4:20	18.4
14	Sun	4:09	18.9	4:46	18.7
15	Mon	4:41	18.6	5:10	18.7
16	Tue	5:16	17.8	5:36	18.4
17	Wed	5:52	16.7	6:03	17.8
18	Thur	6:27	15.4	6:32	17.1
19	Fri	7:12	13.9	7:04	16.3
20	Sat	8:13	12.5	7:49	15.5
21	Sun	9:45	11.6	8:57	14.9
22	Mon	11:36	12.0	10:27	15.0
23	Tue	12:50	13.5	11:52	16.1
24	Wed	-----	----	1:37	15.4
25	Thur	0:58	18.0	2:16	17.4
26	Fri	1:52	19.8	2:53	19.2
27	Sat	2:43	21.3	3:30	20.8
28	Sun	3:29	22.2	4:05	21.9
29	Mon	4:15	22.2	4:43	22.3
30	Tue	5:02	21.3	5:21	22.0
31	Wed	5:50	19.8	5:58	21.0

LOW TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Mon	11:31	-3.3	-----	----
2	Tue	0:00	-0.7	12:14	-1.4
3	Wed	0:51	-0.3	12:59	0.8
4	Thur	1:46	0.6	1:46	3.2
5	Fri	2:54	1.5	2:46	5.4
6	Sat	4:10	2.1	4:05	6.9
7	Sun	5:37	2.0	5:32	7.3
8	Mon	6:46	1.3	6:46	6.7
9	Tue	7:39	0.4	7:39	5.6
10	Wed	8:22	-0.4	8:24	4.5
11	Thur	8:56	-1.0	9:01	3.6
12	Fri	9:26	-1.3	9:34	2.7
13	Sat	9:56	-1.3	10:06	2.2
14	Sun	10:24	-1.0	10:41	1.9
15	Mon	10:53	-0.3	11:13	1.8
16	Tue	11:21	0.9	11:44	2.1
17	Wed	11:50	2.2	-----	----
18	Thur	0:19	2.5	12:21	3.8
19	Fri	0:55	3.2	12:55	5.4
20	Sat	1:44	3.8	1:39	7.0
21	Sun	2:52	4.3	2:46	8.2
22	Mon	4:26	4.1	4:31	8.5
23	Tue	5:54	2.7	4:56	7.5
24	Wed	6:54	0.7	7:00	5.5
25	Thur	7:42	-1.3	7:51	3.3
26	Fri	8:24	-2.9	8:37	1.0
27	Sat	9:05	-3.9	9:22	-0.9
28	Sun	9:44	-4.0	10:05	-2.2
29	Mon	10:23	-3.4	10:49	-2.7
30	Tue	11:04	-1.9	11:34	-2.4
31	Wed	11:44	0.1	-----	----

SEPTEMBER

HIGH TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Mon	6:40	17.7	6:39	19.4
2	Tue	7:38	15.5	7:28	17.5
3	Wed	8:53	13.7	8:28	15.7
4	Thur	10:37	12.9	9:53	14.4
5	Fri	12:20	13.5	11:35	14.4
6	Sat	-----	----	1:19	14.7
7	Sun	0:46	15.4	1:58	15.9
8	Mon	1:35	16.5	2:27	16.9
9	Tue	2:11	17.6	2:51	17.9
10	Wed	2:45	18.5	3:16	18.8
11	Thur	3:15	19.1	3:38	19.4
12	Fri	3:48	19.3	4:03	19.8
13	Sat	4:20	19.0	4:27	19.7
14	Sun	4:54	18.4	4:53	19.4
15	Mon	5:28	17.3	5:18	18.7
16	Tue	6:06	15.9	5:47	17.8
17	Wed	6:51	14.4	6:19	16.8
18	Thur	7:51	12.9	7:09	15.6
19	Fri	9:24	12.1	8:29	14.6
20	Sat	11:14	12.7	10:11	14.7
21	Sun	12:22	14.4	11:40	16.0
22	Mon	-----	----	1:05	16.5
23	Tue	0:46	18.0	1:45	18.6
24	Wed	1:39	19.9	2:19	20.5
25	Thur	2:30	21.3	2:56	22.1
26	Fri	3:15	22.0	3:31	23.0
27	Sat	4:01	21.9	4:08	23.1
28	Sun	4:46	21.1	4:44	22.4
29	Mon	5:32	19.5	5:23	20.9
30	Tue	6:23	17.6	6:05	19.0

LOW TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Mon	0:23	-1.4	12:28	2.4
2	Tue	1:12	0.2	1:14	4.9
3	Wed	2:17	1.9	2:17	7.0
4	Thur	3:41	3.2	3:49	8.2
5	Fri	5:25	3.3	5:37	8.0
6	Sat	6:36	2.5	6:46	6.8
7	Sun	7:23	1.6	7:34	5.3
8	Mon	8:00	0.8	8:08	3.9
9	Tue	8:30	0.2	8:40	2.7
10	Wed	8:59	-0.1	9:10	1.6
11	Thur	9:23	-0.1	9:39	0.8
12	Fri	9:49	0.2	10:09	0.4
13	Sat	10:20	1.0	10:40	0.3
14	Sun	10:46	2.0	11:10	0.5
15	Mon	11:17	3.3	11:42	1.2
16	Tue	11:46	4.7	-----	----
17	Wed	0:19	2.1	12:21	6.2
18	Thur	1:06	3.1	1:11	7.7
19	Fri	2:17	3.9	2:29	8.8
20	Sat	3:56	4.0	4:20	8.6
21	Sun	5:27	2.8	5:48	6.8
22	Mon	6:30	1.0	6:46	4.3
23	Tue	7:16	-0.7	7:34	1.6
24	Wed	7:58	-1.9	8:19	-0.9
25	Thur	8:37	-2.4	9:02	-2.8
26	Fri	9:18	-2.3	9:44	-4.0
27	Sat	9:57	-1.5	10:27	-4.2
28	Sun	10:36	0.0	11:09	-3.4
29	Mon	11:17	1.9	11:55	-1.9
30	Tue	-----	----	NOON	4.0

ACE 6245565

Table 25. Kasilof River personal use gill net fishery salmon harvest by period, 21 June-26 June 1988.

Period	Total	Sockeye Salmon		Chinook Salmon	
Date	Nets	Period	Accum	Period	Accum
6/21	104	916	916	15	15
6/22	106	1,999	2,915	34	49
6/23	121	1,556	4,471	15	64
6/24	118	2,154	6,625	32	96
6/25	110	2,053	8,678	11	107
6/26	78	1,125	9,803	11	118

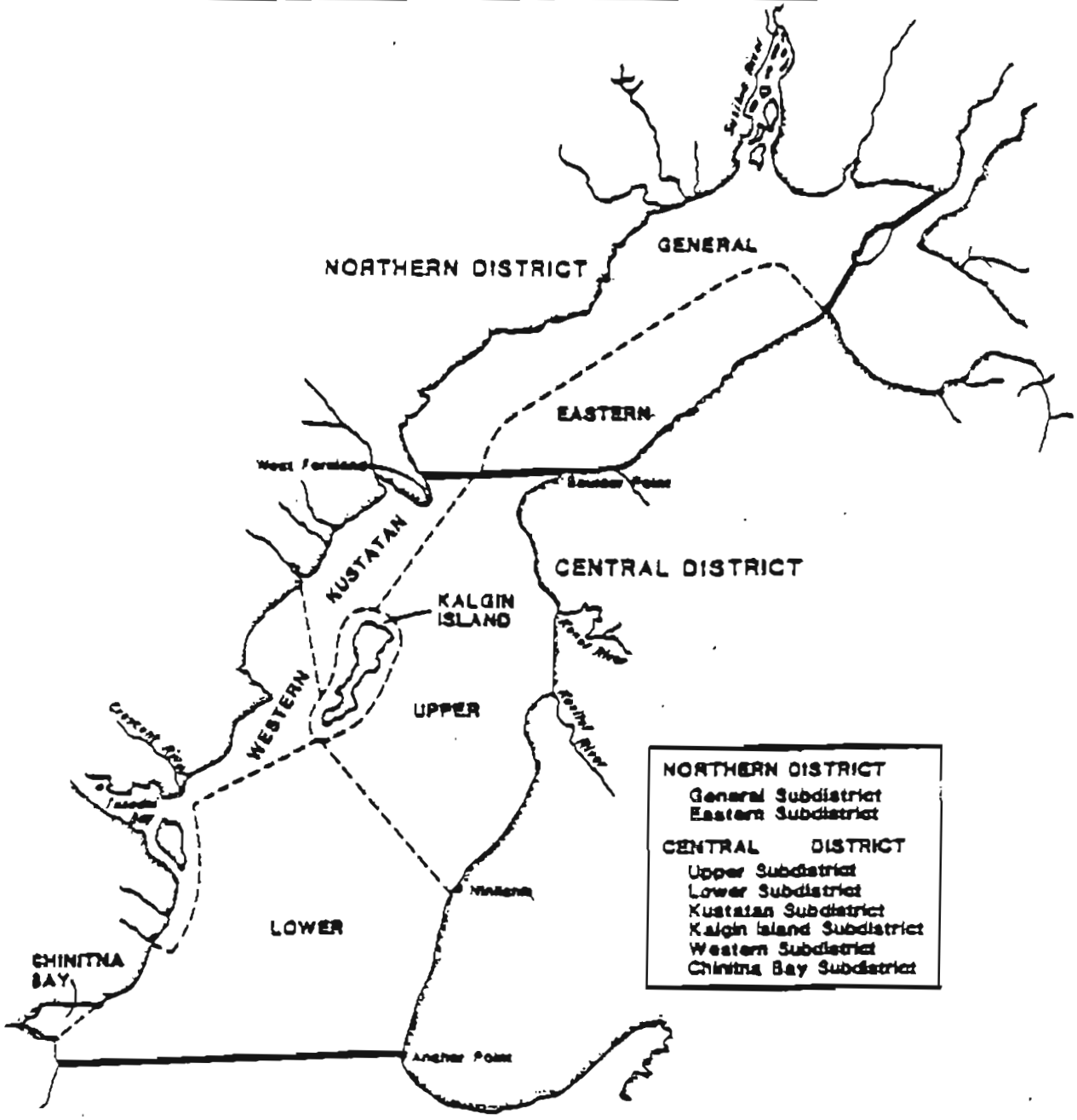
ACE 245560

Table 26. Central and Northern Districts personal use coho salmon fishery harvest by period, 1988.

Date	Total Nets	Coho Salmon/Net	Coho Salmon Catch	
			Period	Accum
9/10-11	144	7.8	1,124	1,124
9/17-18	184	8.4	1,538	2,662
Total				2,662

ACE 6245567

Figure 1. UPPER COOK INLET SALMON DISTRICTS



ACE 6245568

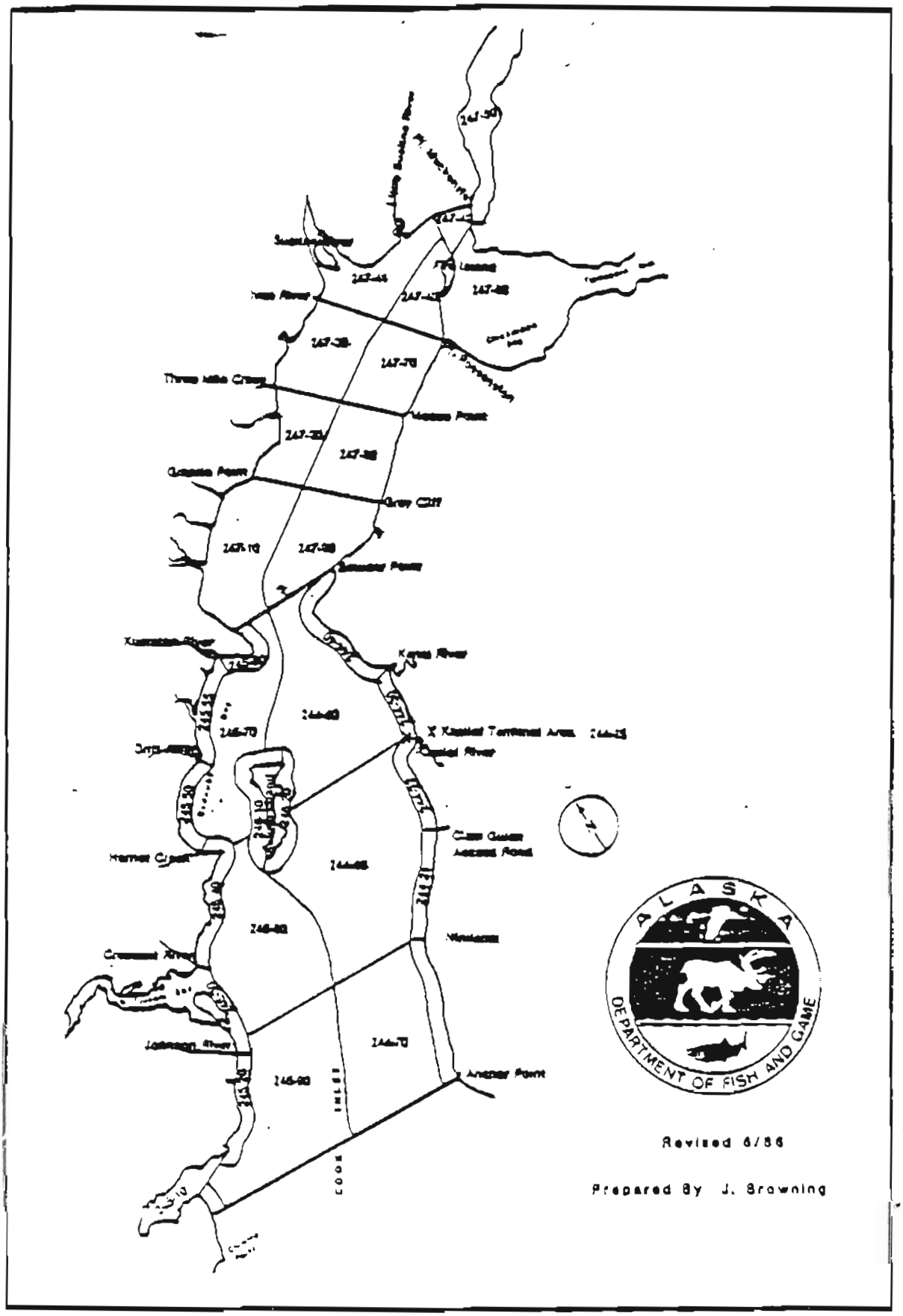


Figure 2. Upper Cook Inlet statistical areas.

ACF 6245568

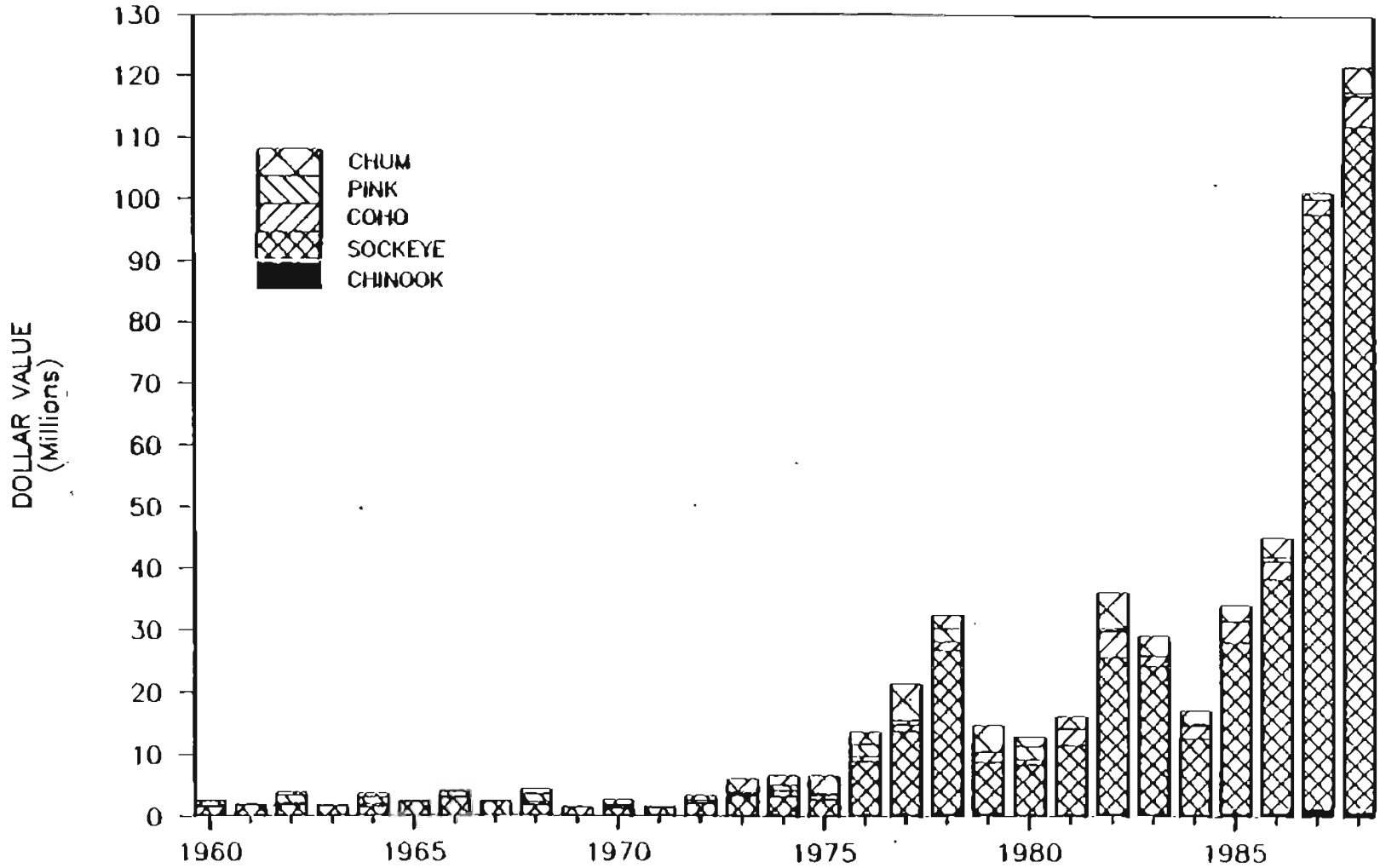


Figure 3. Approximate exvessel value of the Upper Cook Inlet commercial salmon fishery, by species, 1960–1988.

ACE 6245570

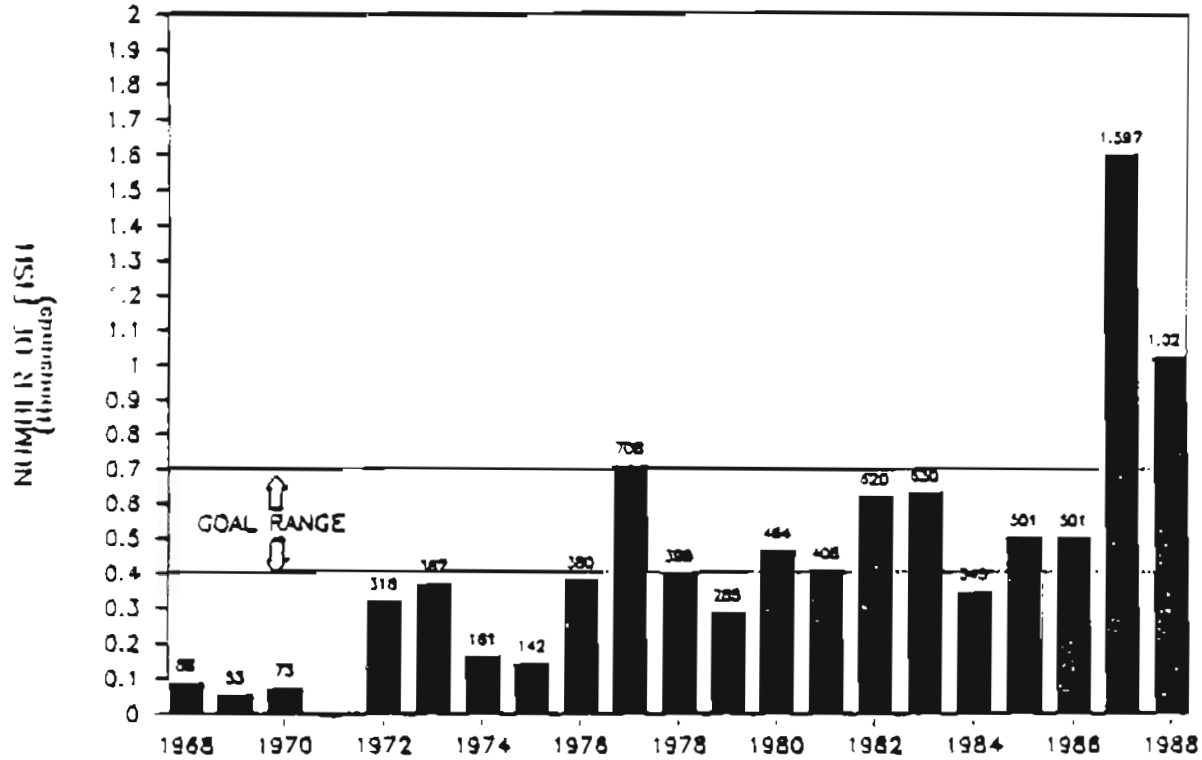


Figure 4. Kenai River sockeye salmon escapements by year.

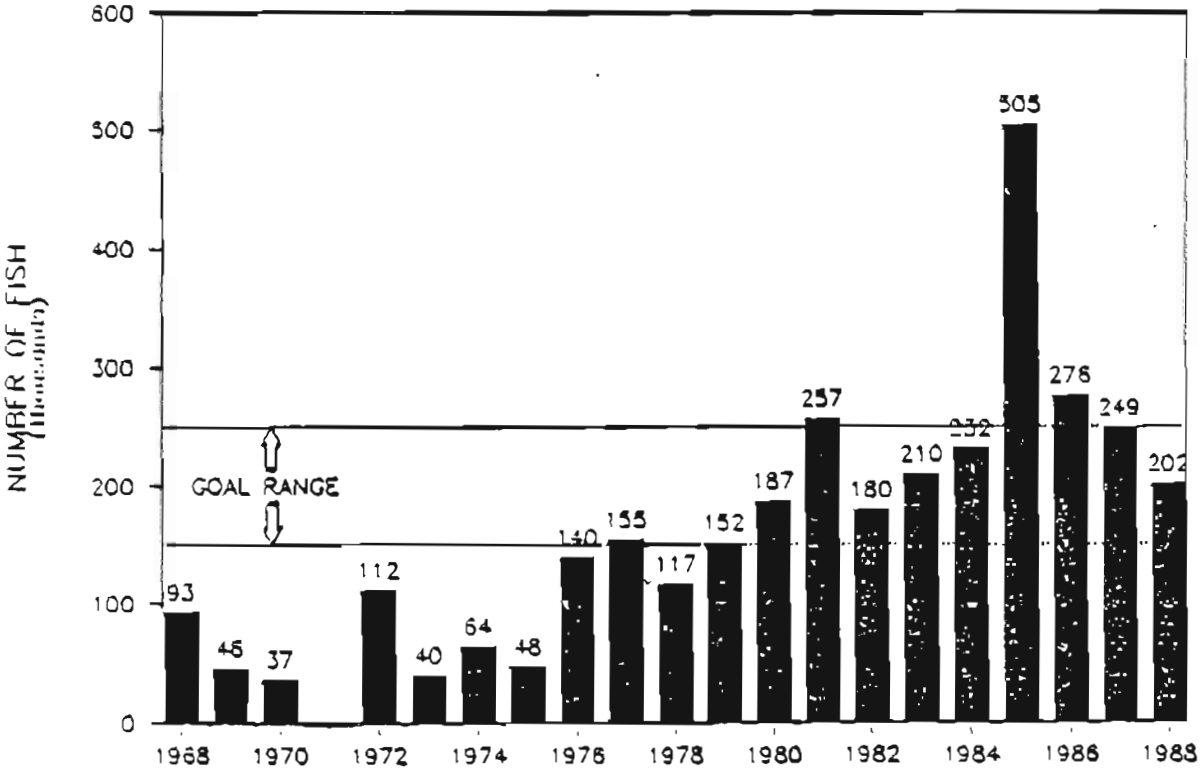


Figure 5. Kasilof River sockeye salmon escapements by year.

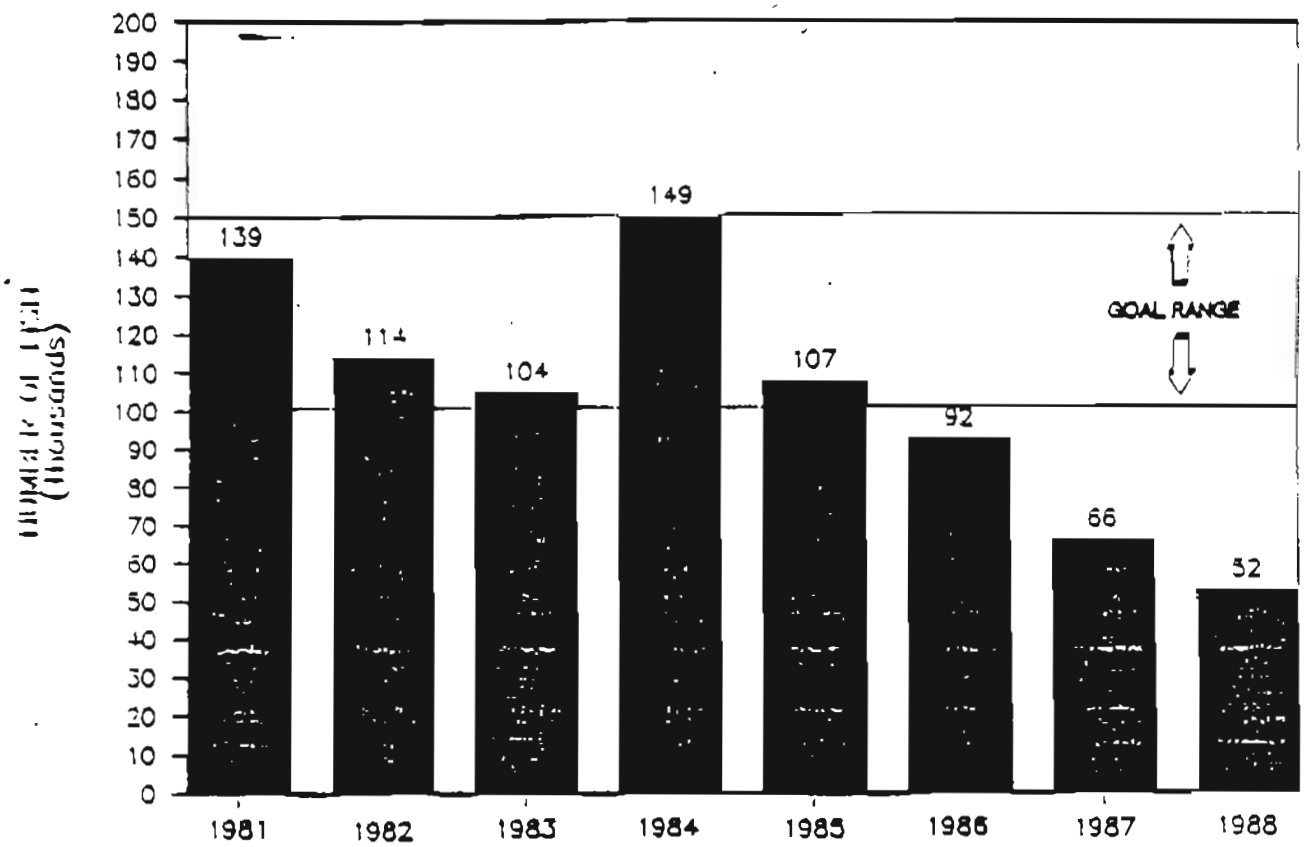


Figure 6. Yentna River sockeye salmon escapements by year.

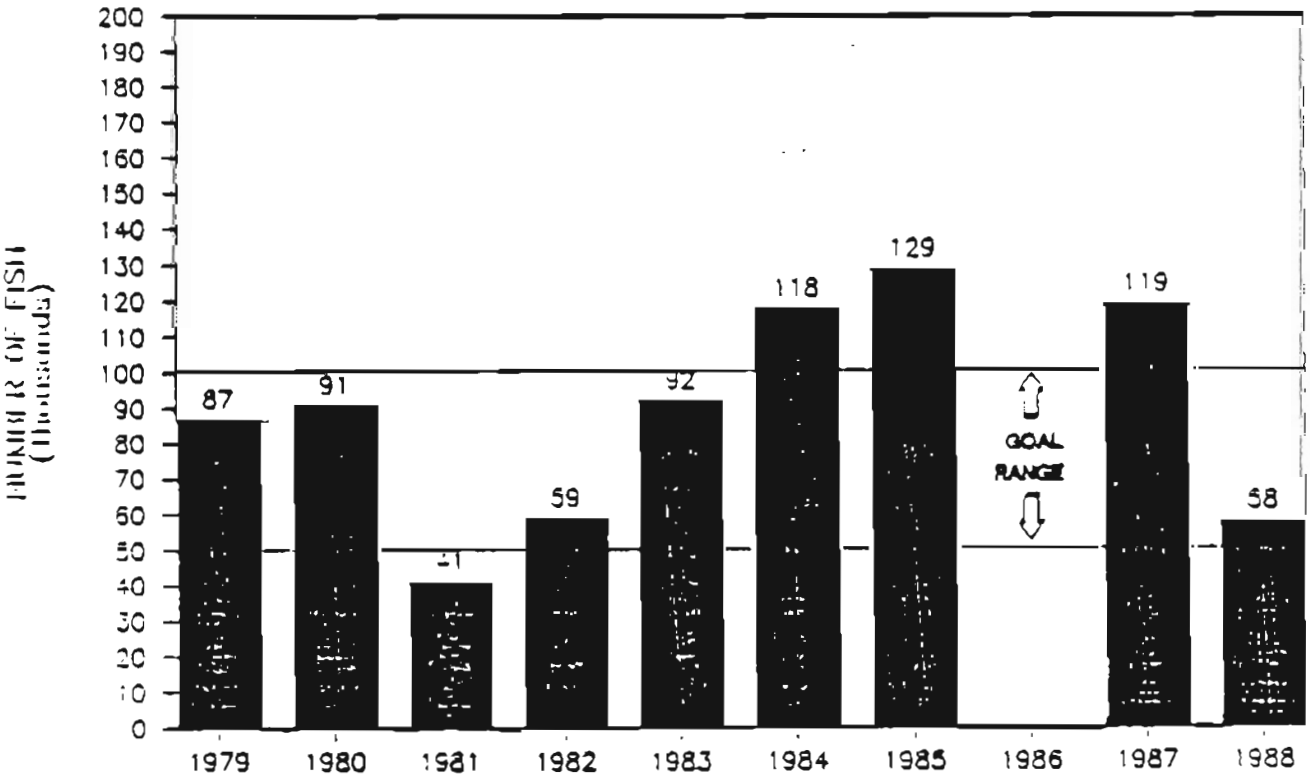


Figure 7. Crescent River sockeye salmon escapements by year.

ACE 6245572

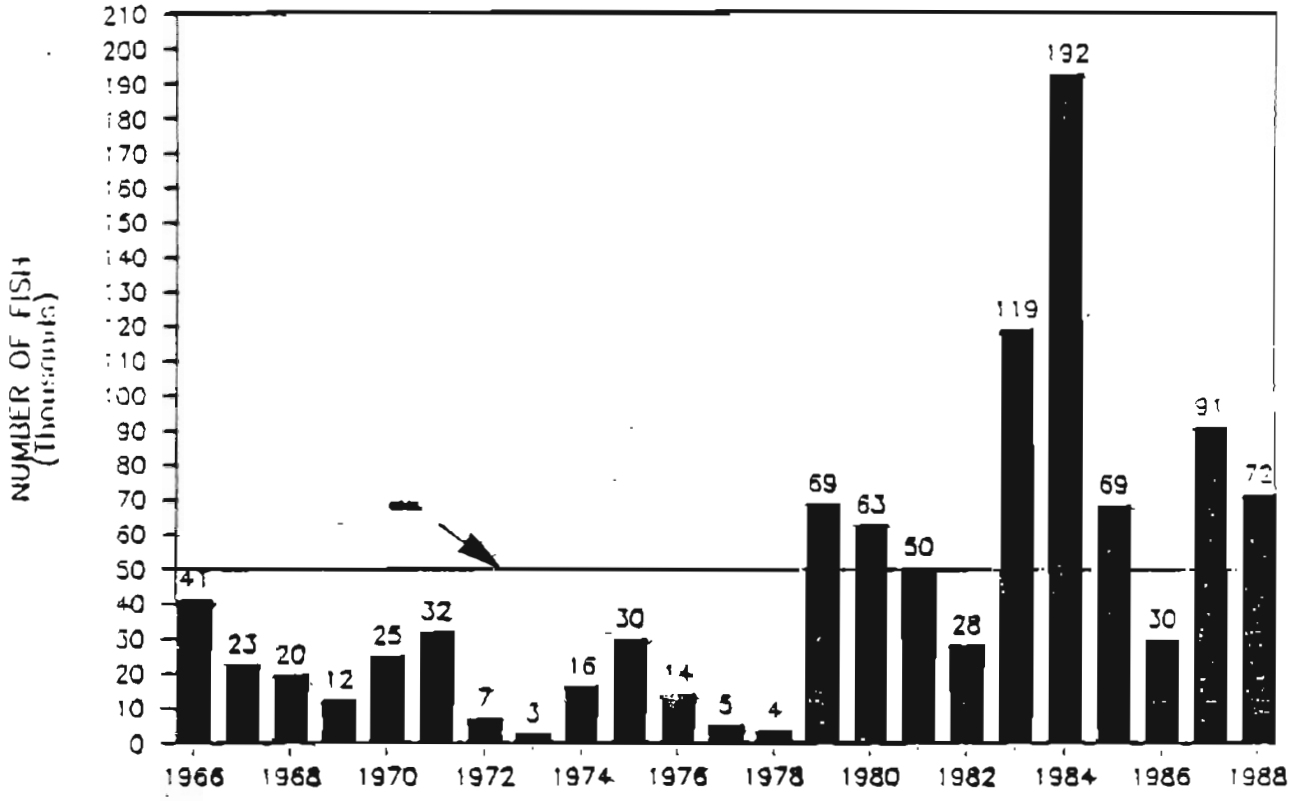


Figure 8. Fish Creek sockeye salmon escapements by year.

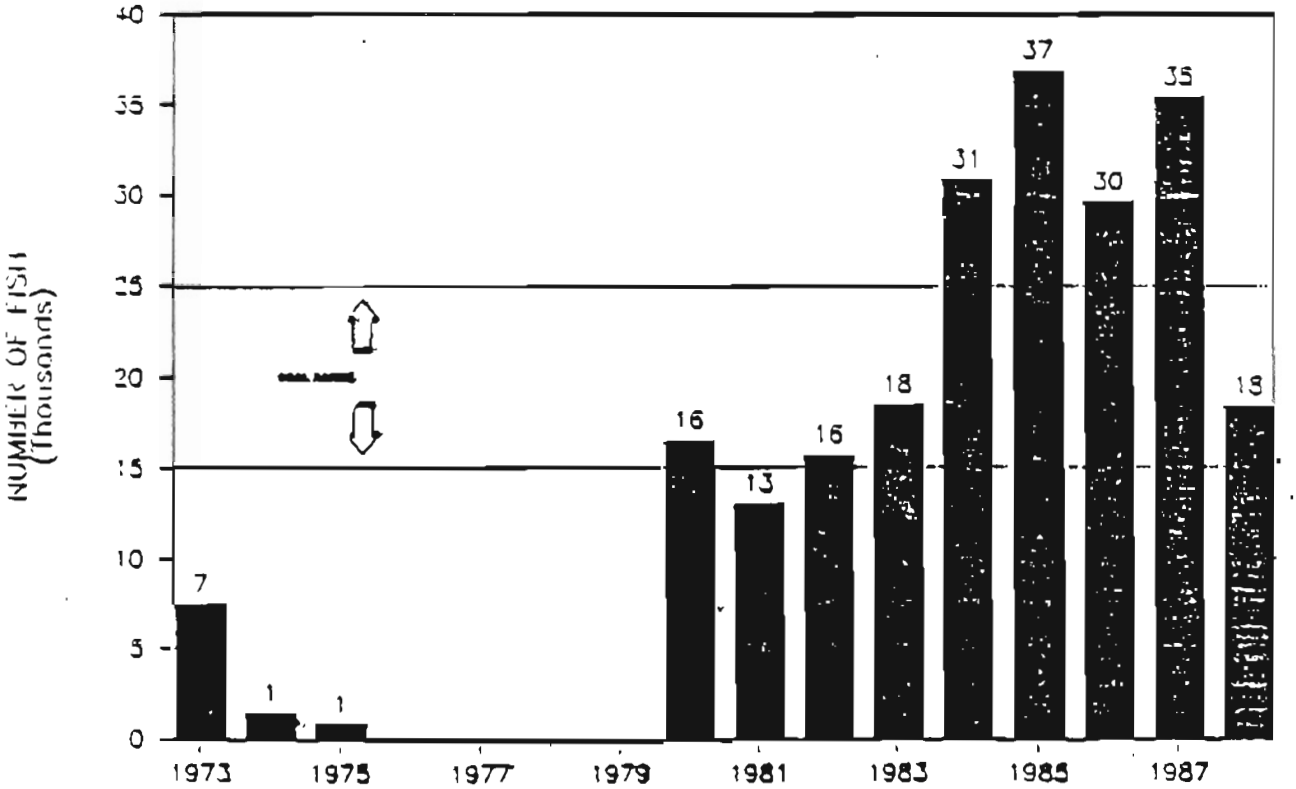


Figure 9. Packers Creek sockeye salmon escapements by year.

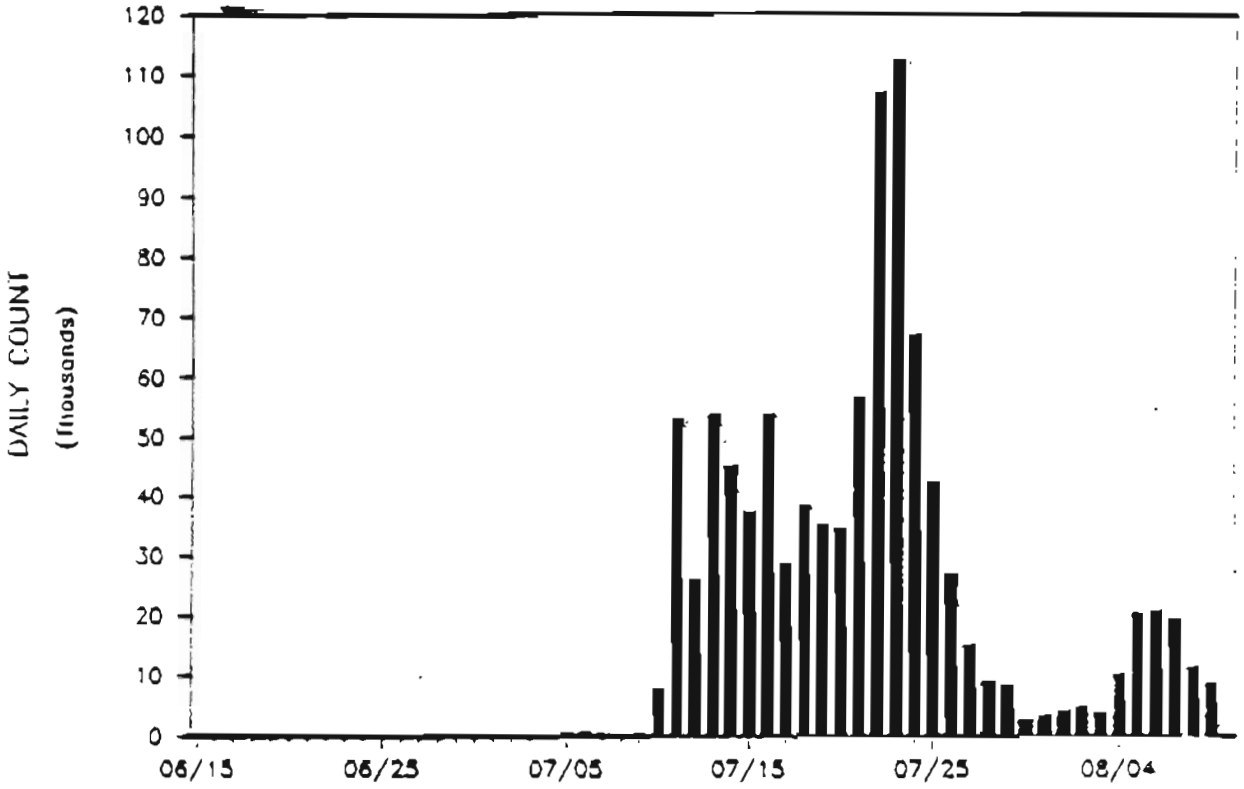


Figure 10. Daily sockeye salmon escapement estimates, Kenai River, 1988.

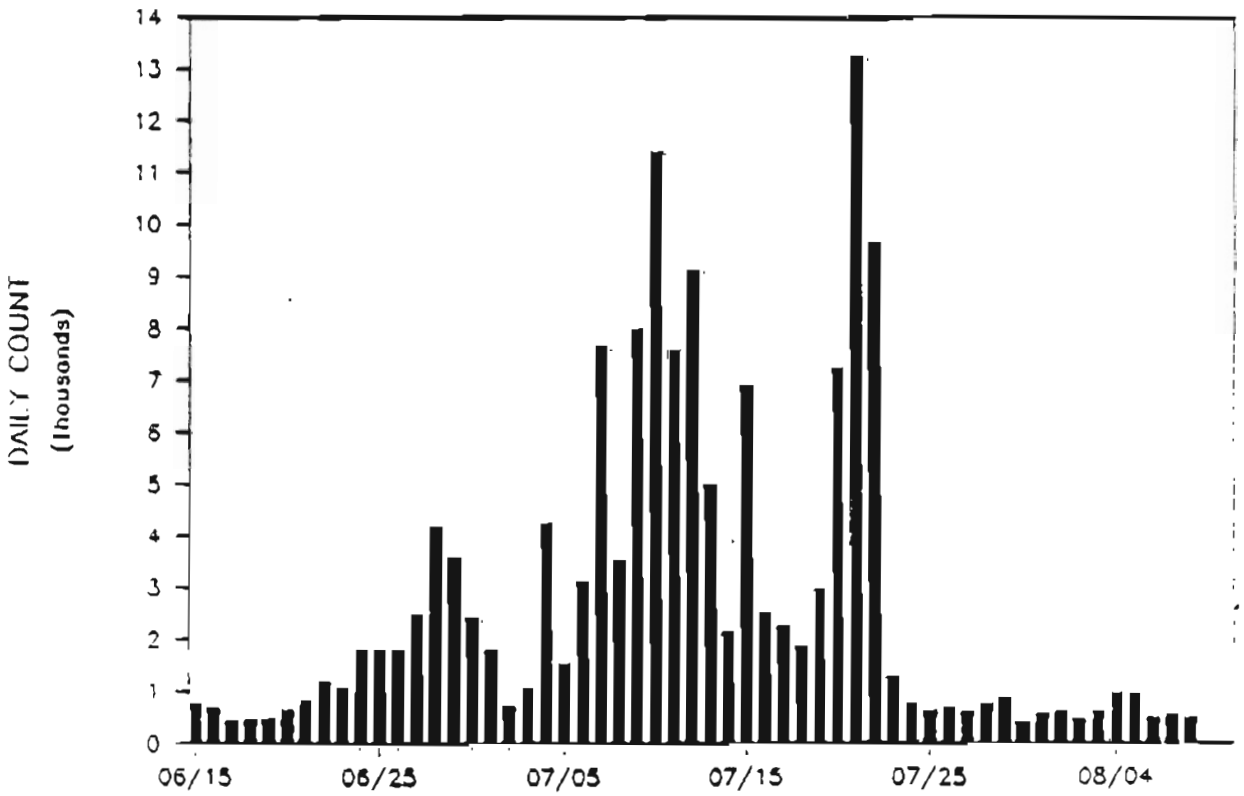


Figure 11. Daily sockeye salmon escapement estimates, Kasilof River, 1988.

ACE 6245574

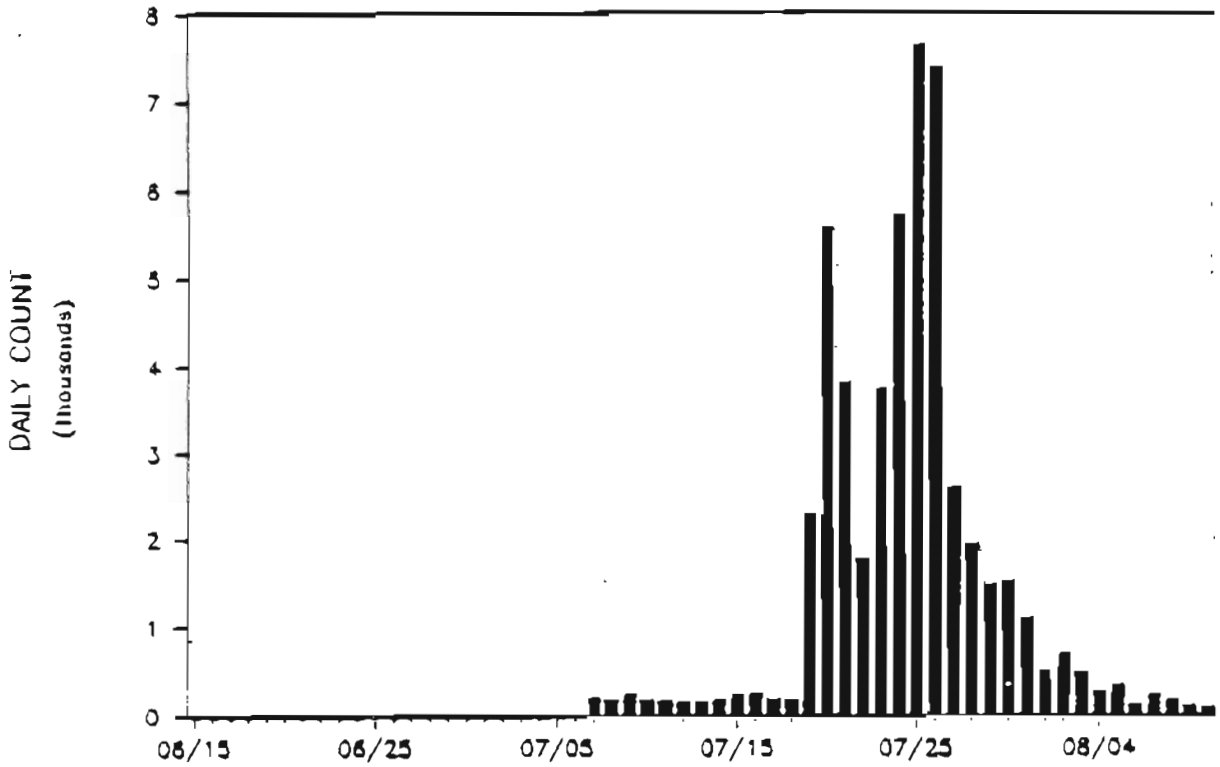


Figure 12. Daily sockeye salmon escapement estimates, Yentna River, 1983.

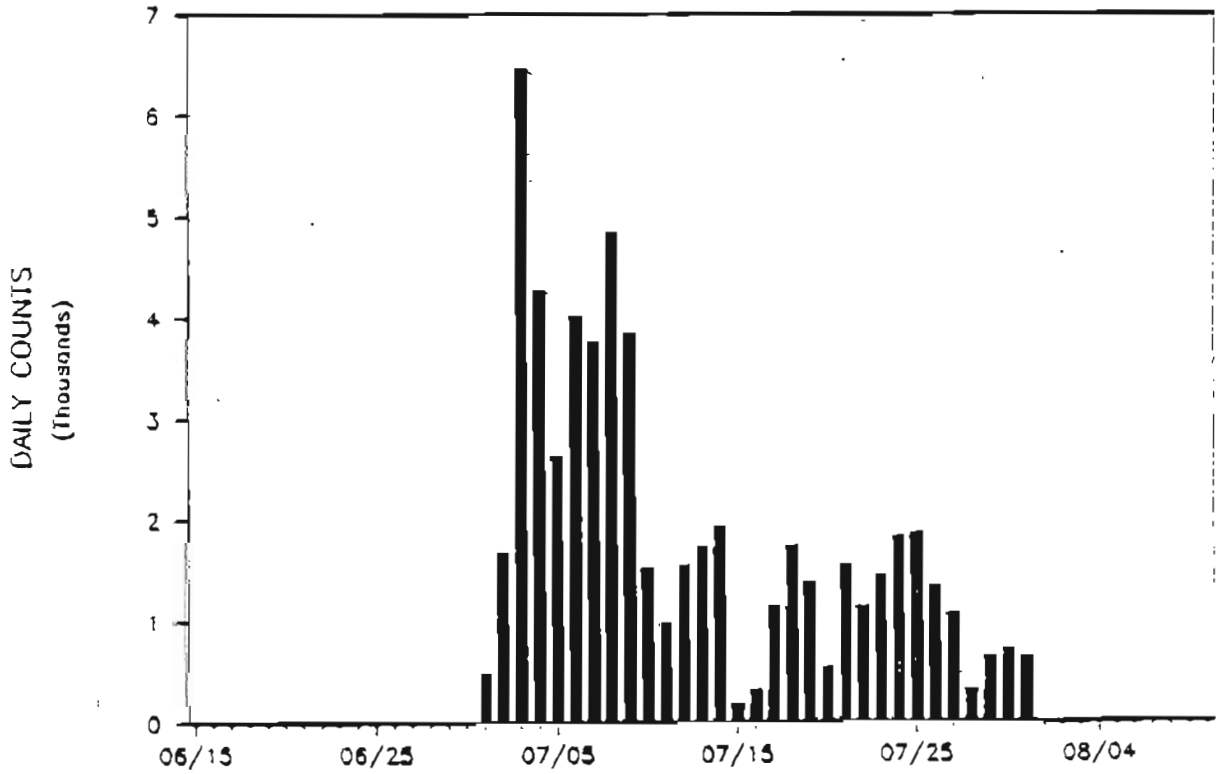


Figure 13. Daily sockeye salmon escapement estimates, Crescent River, 1983.

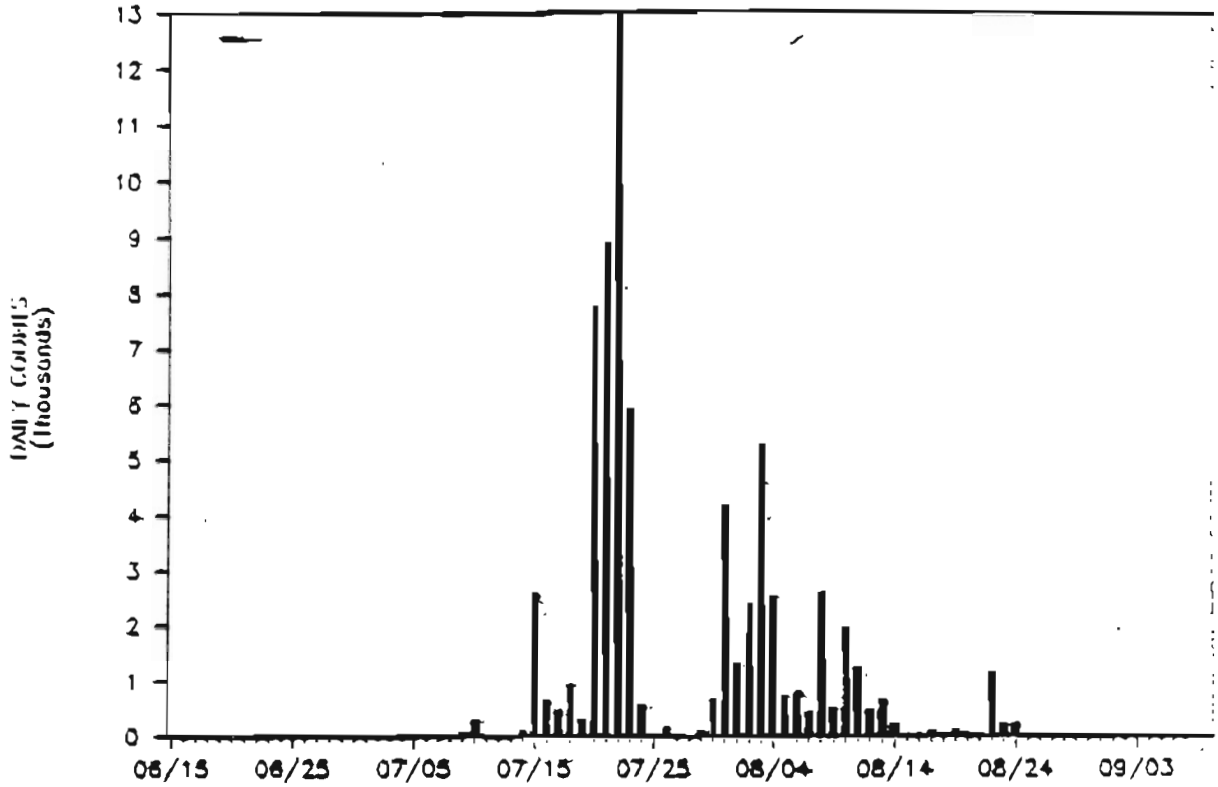


Figure 14. Daily sockeye salmon weir counts, Fish Creek, 1988.

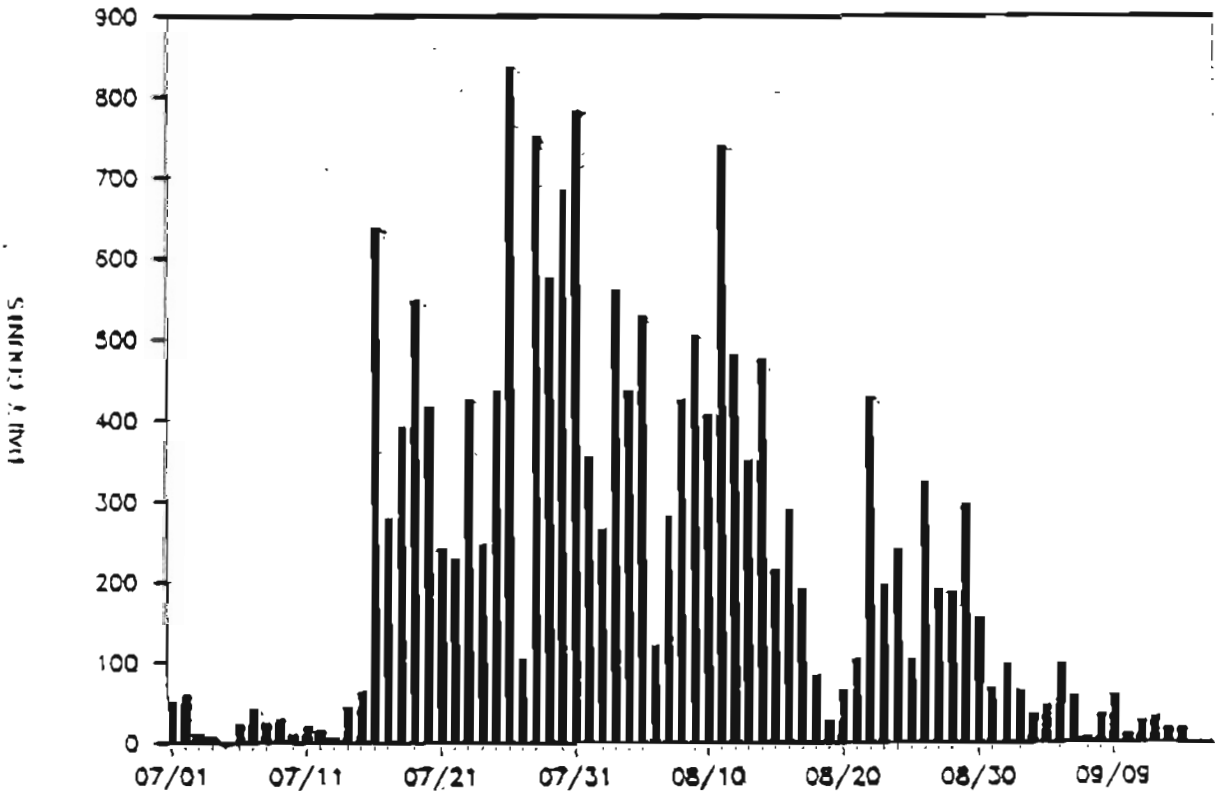


Figure 15. Daily sockeye salmon weir counts, Packers Creek, 1988.

ACE 6245576

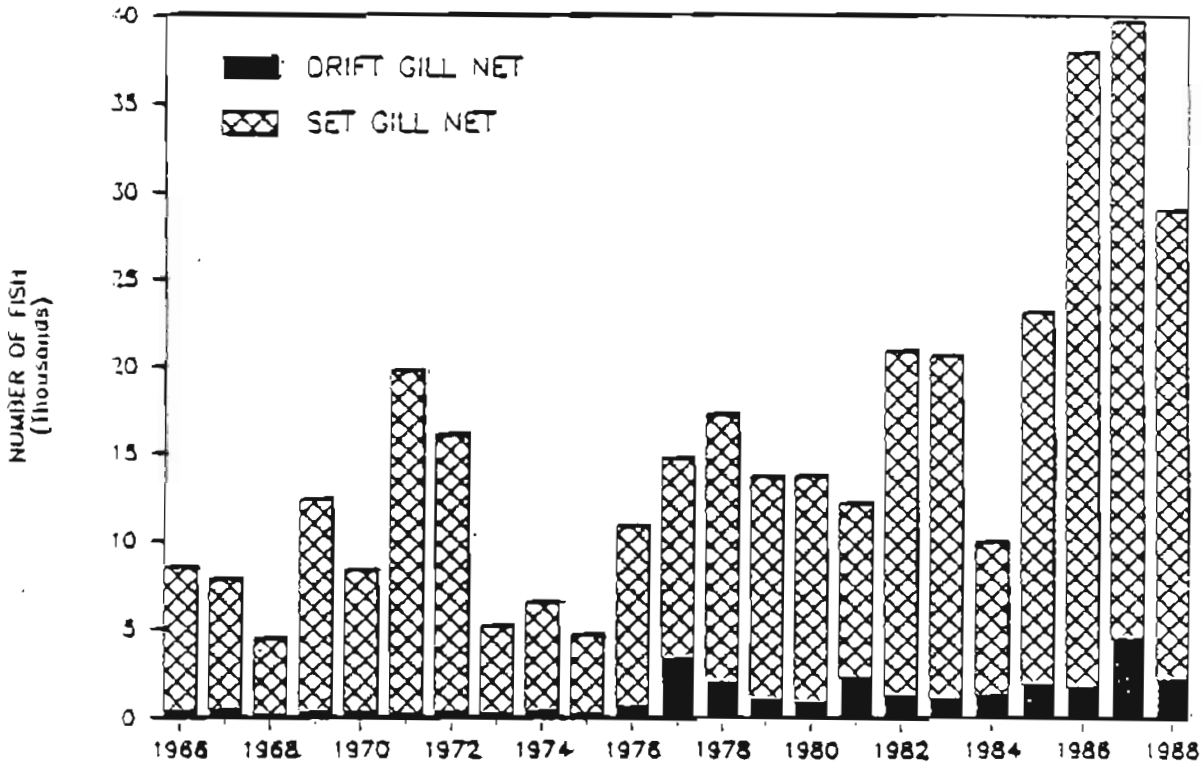
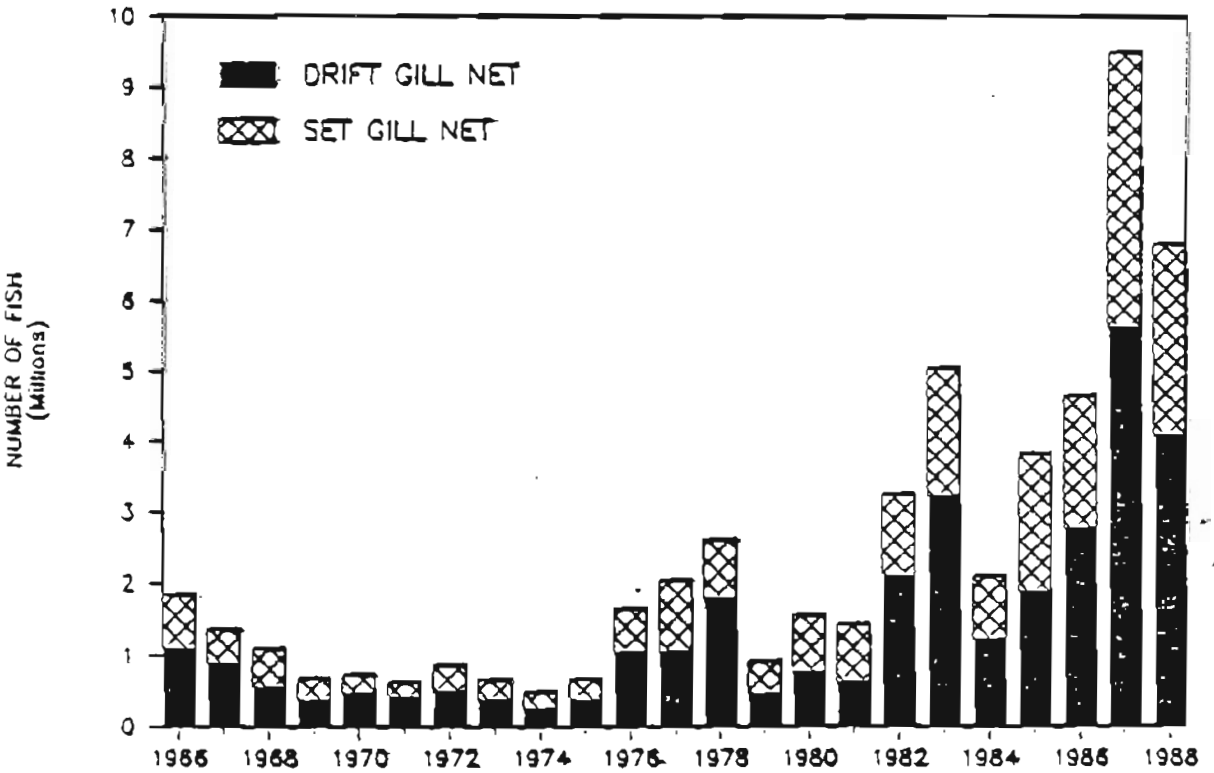


Figure 16. Chinook salmon catch by gear type, 1966–1988.



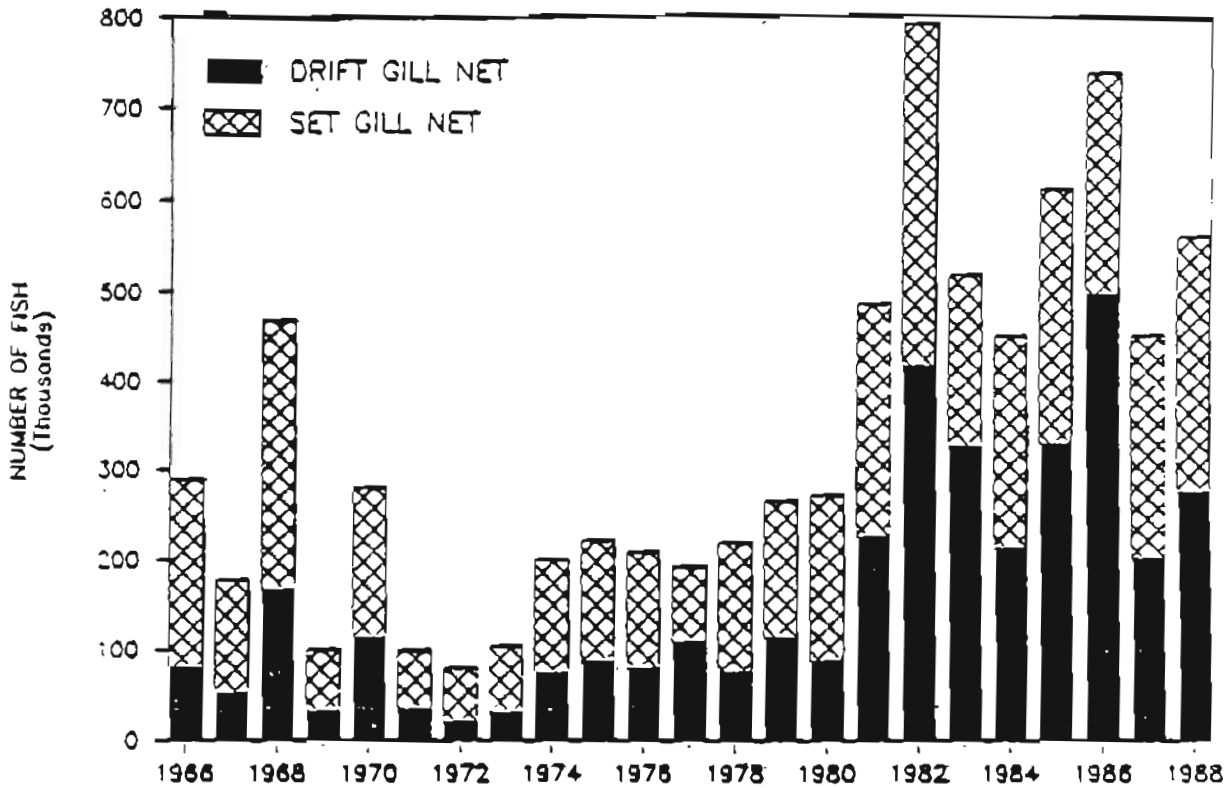


Figure 18. Coho salmon catch by gear type, 1966–1988.

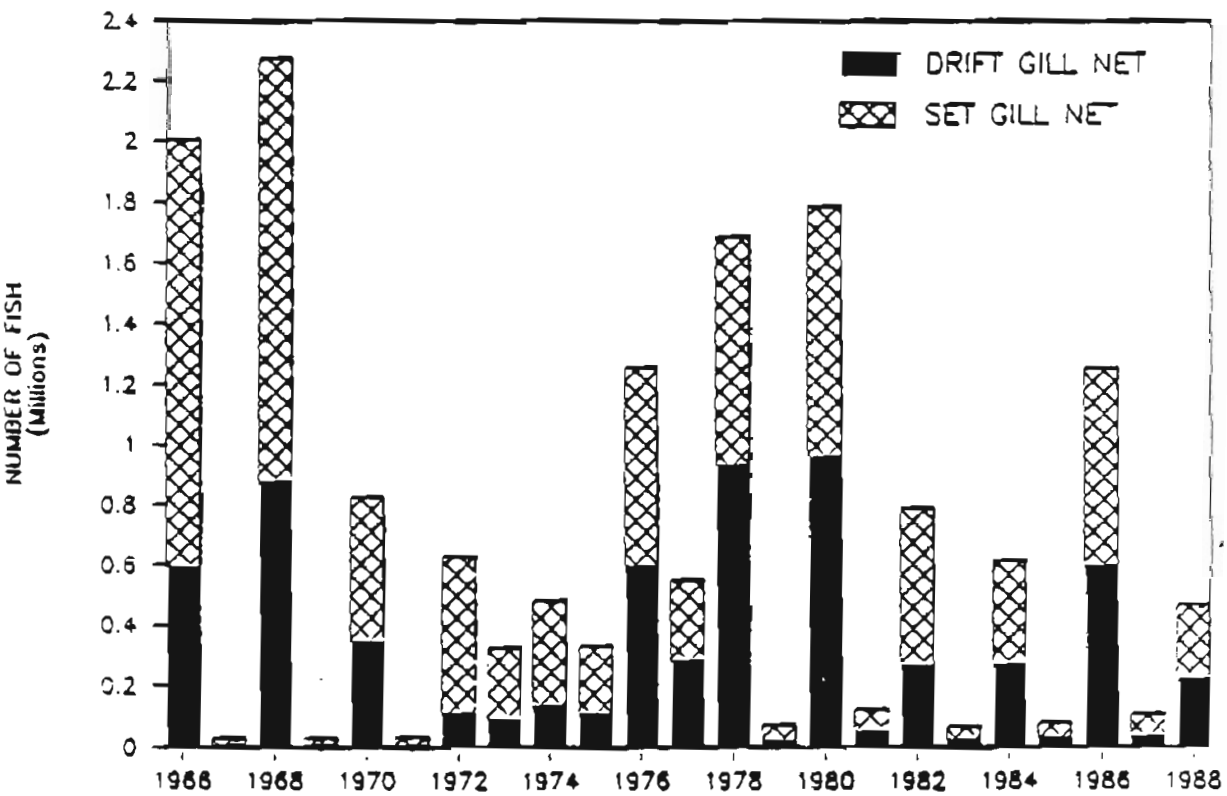


Figure 19. Pink salmon catch by gear type, 1966–1988.

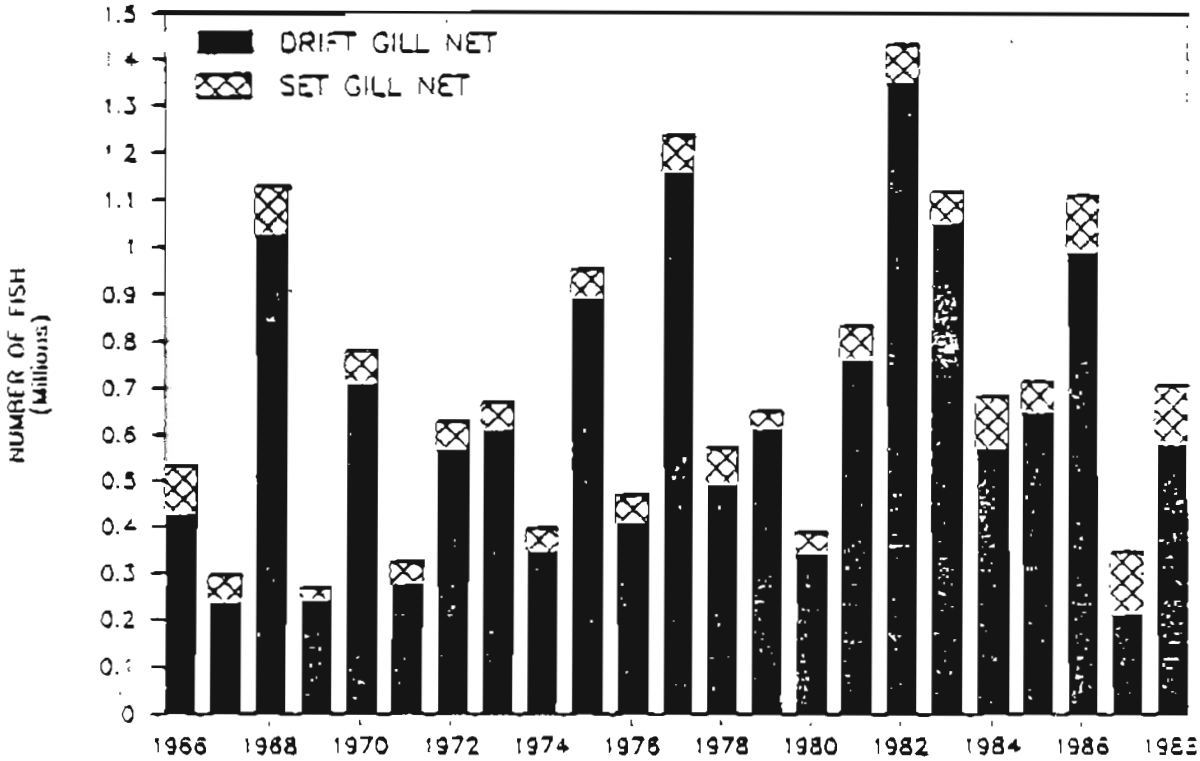


Figure 20. Chum salmon harvest by gear type, 1966–1988.

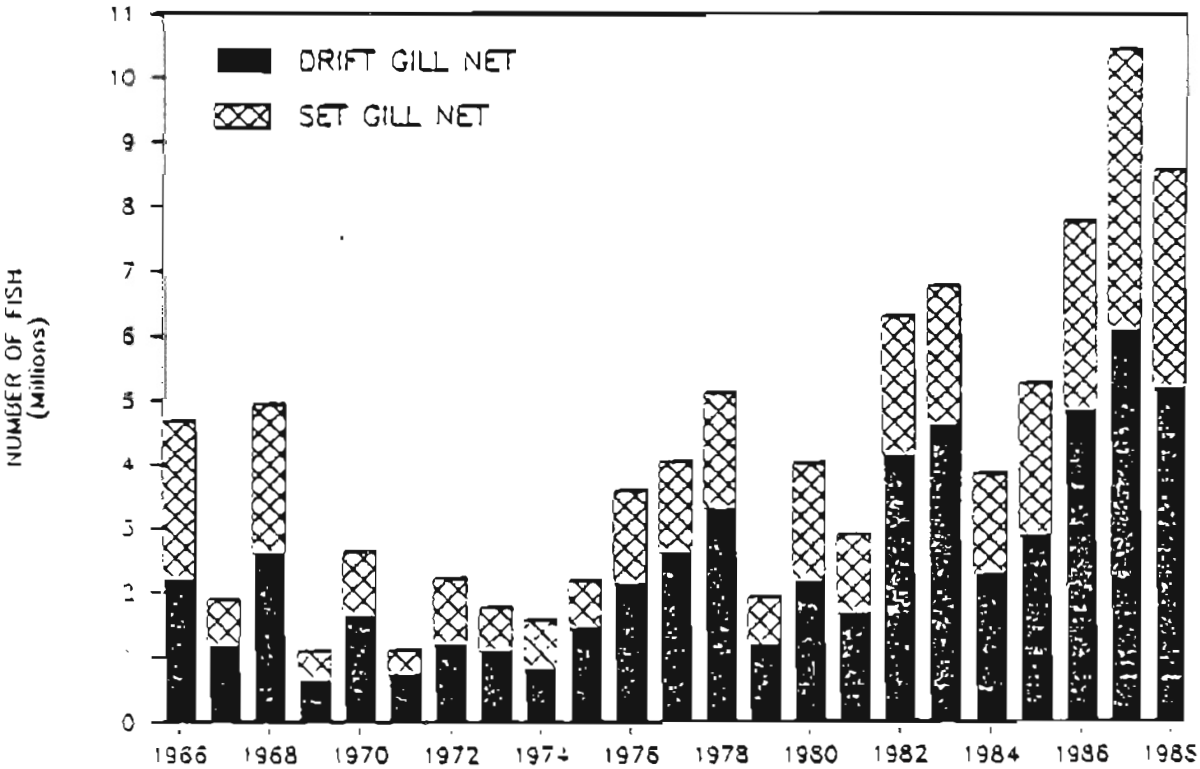


Figure 21. Salmon catch (all species) by gear type, 1966–1988.

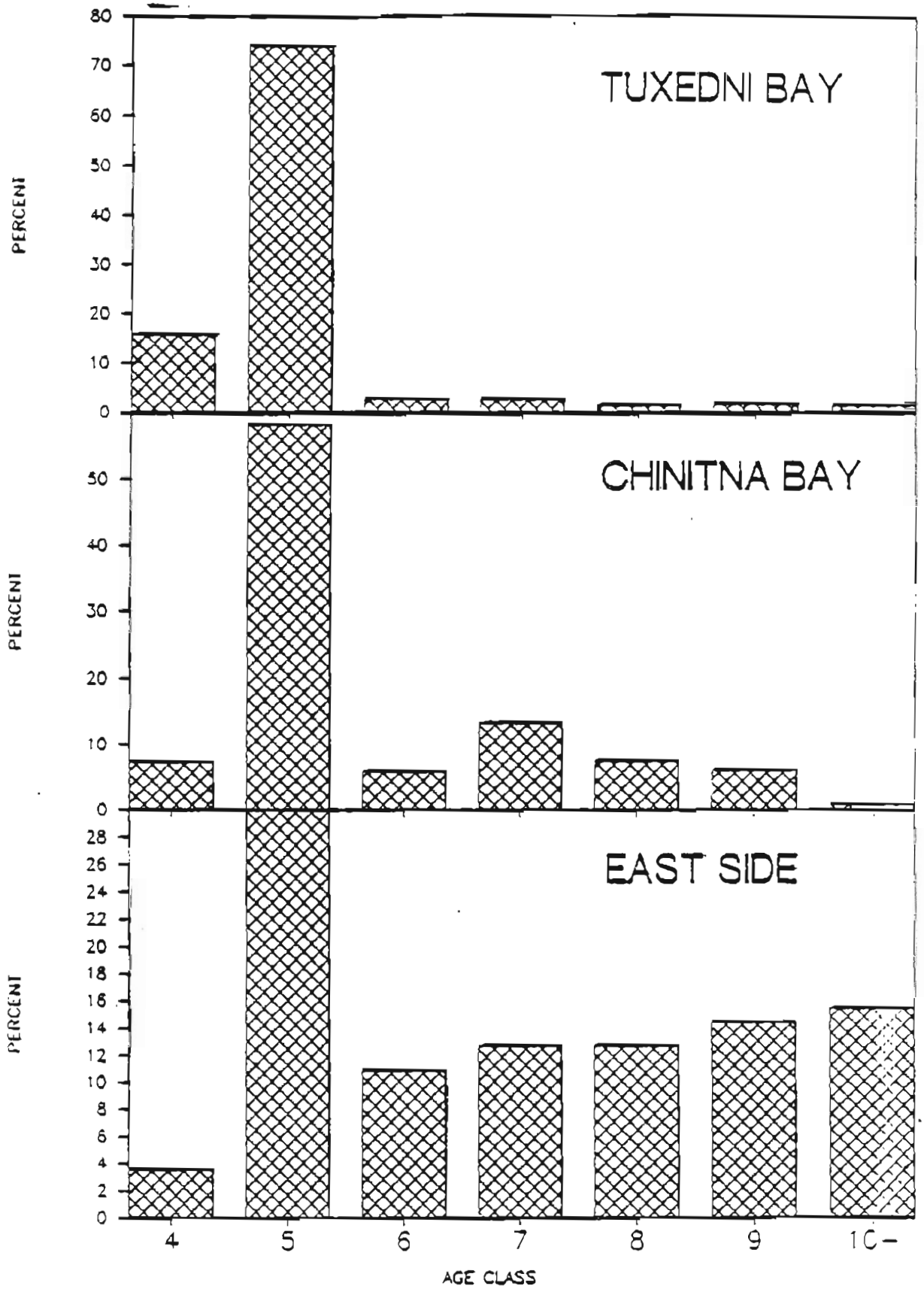


Figure 22. Age composition of the commercial herring harvest, Upper Cook Inlet, 1988.

Appendix A.1. Upper Cook Inlet commercial chinook salmon harvest by gear type and area, 1966-1988.

	Central District Drift Gill Net		Central District Set Gill Net: East Side		Central District Set Gill Net: Kalgin/West Side		Northern District Set Gill Net		
Year	Number	%	Number	%	Number	%	Number	%	Total
1966	392	4.6	7,329	85.8	401	4.7	422	4.9	8,544
1967	489	6.2	6,686	85.1	500	6.4	184	2.3	7,859
1968	182	4.0	3,304	72.8	579	12.8	471	10.4	4,536
1969	363	2.9	5,834	47.0	3,295	26.6	2,904	23.4	12,407
1970	367	4.4	5,366	64.2	1,165	13.9	1,460	17.5	8,358
1971	237	1.2	7,055	35.7	2,875	14.5	9,598	48.6	19,765
1972	375	2.3	8,600	53.5	2,199	13.7	4,912	30.6	16,086
1973	244	4.7	4,411	84.9	369	7.1	170	3.3	5,194
1974	422	6.4	5,570	84.6	425	6.5	169	2.6	6,586
1975	250	5.2	3,678	77.1	716	15.0	129	2.7	4,773
1976	692	6.4	8,249	75.9	1,469	13.5	457	4.2	10,867
1977	3,411	23.1	9,732	65.8	1,084	7.3	565	3.8	14,792
1978	2,072	12.0	12,468	72.1	2,093	12.1	669	3.9	17,302
1979	1,089	7.9	8,671	63.1	2,264	16.5	1,714	12.5	13,738
1980	889	6.4	9,643	69.9	2,273	16.5	990	7.2	13,795
1981	2,319	18.9	8,359	68.3	837	6.8	725	5.9	12,240
1982	1,293	6.2	13,658	65.4	3,203	15.3	2,716	13.0	20,870
1983	1,124	5.4	15,043	72.9	3,534	17.1	933	4.5	20,634
1984	1,377	15.6	6,165	69.9	1,495	17.0	1,004	11.4	8,819
1985	1,962	8.4	16,985	72.9	2,330	10.0	1,863	8.0	23,297
1986	1,816	4.8	18,507	48.8	2,087	5.5	15,488	40.9	37,898
1987	4,552	11.5	21,379	53.9	1,029	2.6	12,701	32.0	39,661
1988	2,212	7.6	12,838	44.3	1,117	3.9	12,836	44.3	29,003
Average	1,223	7.9	9,545	61.5	1,623	10.5	3,177	20.5	15,523

Appendix A.2. Upper Cook Inlet commercial sockeye salmon harvest by gear type and area, 1966-1988.

	Central District Drift Gill Net		Central District Set Gill Net: East Side		Central District Set Gill Net: Kalgin/West Side		Northern District Set Gill Net		
Year	Number	%	Number	%	Number	%	Number	%	Total
1966	1,103,261	59.6	485,330	26.2	132,443	7.2	131,080	7.1	1,852,114
1967	890,152	64.5	305,431	22.1	66,414	4.8	118,065	8.6	1,380,062
1968	561,737	50.8	317,535	28.7	85,049	7.7	140,575	12.7	1,104,904
1969	371,751	53.7	210,877	30.5	71,191	10.3	38,065	5.5	692,244
1970	474,718	63.6	142,701	19.1	62,724	8.4	66,458	8.9	746,634
1971	423,107	66.4	111,505	17.5	61,639	9.7	40,533	6.4	636,798
1972	505,935	57.5	204,617	23.3	83,422	9.5	85,737	9.7	879,724
1973	375,695	56.1	188,743	28.2	59,973	9.0	45,614	6.8	670,025
1974	265,751	53.5	136,889	27.5	52,957	10.7	41,563	8.4	497,160
1975	368,116	54.2	177,336	26.1	67,758	10.0	65,526	9.7	678,736
1976	1,055,767	63.4	476,376	28.6	62,338	3.7	69,649	4.2	1,664,131
1977	1,073,098	52.3	751,368	36.6	104,265	5.1	123,780	6.0	2,052,511
1978	1,803,358	68.8	660,918	25.2	105,767	4.0	51,624	2.0	2,621,667
1979	454,707	49.2	248,828	26.9	108,422	11.7	112,449	12.2	924,415
1980	770,247	48.9	559,812	35.6	137,922	8.8	105,647	6.7	1,573,637
1981	633,145	44.0	496,193	34.5	60,220	4.2	249,662	17.3	1,439,235
1982	2,103,429	64.5	971,423	29.8	66,952	2.1	118,060	3.6	3,259,864
1983	3,222,007	63.8	1,508,963	29.9	134,544	2.7	184,219	3.6	5,049,733
1984	1,234,669	58.7	490,273	23.3	161,953	7.7	218,965	10.4	2,102,767
1985	1,891,485	49.1	1,513,262	39.3	275,204	7.1	163,012	4.2	3,852,141
1986	2,780,357	59.7	1,582,959	34.0	149,566	3.2	141,818	3.0	4,654,700
1987	5,631,746	59.3	3,495,802	36.8	208,036	2.2	164,602	1.7	9,500,186
1988	4,103,664	60.3	2,426,416	35.7	145,148	2.1	129,713	1.9	6,804,941
Average	1,395,561	58.7	759,285	32.0	107,126	4.5	113,322	4.8	2,375,580

ACE 6245582

Appendix A.3. Upper Cook Inlet commercial coho salmon harvest by gear type and area, 1966-1988.

	Central District Drift Gill Net		Central District Set Gill Net: East Side		Central District Set Gill Net: Kalgin/West Side		Northern District Set Gill Net		
Year	Number	%	Number	%	Number	%	Number	%	Total
1966	80,901	27.9	68,877	23.8	59,509	20.5	80,550	27.8	289,837
1967	53,071	29.9	40,738	22.9	40,066	22.5	43,854	24.7	177,729
1968	167,383	35.8	80,828	17.3	63,301	13.5	156,648	33.5	468,160
1969	33,064	32.8	18,988	18.8	28,392	28.1	20,425	20.2	100,869
1970	114,392	40.9	30,318	10.8	52,363	18.7	82,722	29.6	279,795
1971	35,491	35.4	16,589	16.5	26,188	26.1	22,094	22.0	100,362
1972	21,578	26.7	24,673	30.5	15,319	18.9	19,346	23.9	80,916
1973	31,784	30.5	23,901	22.9	24,744	23.7	23,944	22.9	104,373
1974	75,640	37.8	36,837	18.4	40,610	20.3	47,038	23.5	200,125
1975	88,569	39.9	46,209	20.8	53,910	24.3	33,051	14.9	221,739
1976	80,731	38.7	47,873	22.9	42,224	20.2	37,850	18.1	208,678
1977	110,184	57.2	23,693	12.3	38,093	19.8	20,623	10.7	192,593
1978	76,252	34.8	34,141	15.6	61,711	28.1	47,256	21.5	219,360
1979	114,496	43.2	29,727	11.2	68,306	25.8	52,635	19.8	265,164
1980	89,510	33.0	40,281	14.8	51,487	19.0	90,098	33.2	271,376
1981	226,257	46.6	36,031	7.4	88,492	18.2	134,362	27.7	485,142
1982	416,274	52.5	108,393	13.7	182,205	23.0	85,352	10.8	792,224
1983	326,962	63.3	37,666	7.3	97,827	18.9	53,867	10.4	516,322
1984	213,336	47.4	37,166	8.3	84,615	18.8	114,786	25.5	449,903
1985	330,804	54.2	69,735	11.4	130,676	21.4	79,245	13.0	610,460
1986	496,545	67.2	71,858	9.7	82,782	11.2	88,107	11.9	739,292
1987	202,306	44.8	74,977	16.6	74,930	16.6	98,920	21.9	451,133
1988	277,006	49.5	54,972	9.8	77,440	13.8	149,742	26.8	559,160
Average	159,241	47.0	45,847	13.5	64,573	19.1	68,805	20.3	338,466

Appendix A.4. Upper Cook Inlet commercial pink salmon harvest by gear type and area, 1966-1988.

	Central District Drift Gill Net		Central District Set Gill Net: East Side		Central District Set Gill Net: Kalgin/West Side		Northern District Set Gill Net		
Year	Number	%	Number	%	Number	%	Number	%	Total
1966	593,654	29.6	969,624	48.3	70,507	3.5	371,960	18.5	2,005,745
1967	7,475	23.2	13,038	40.5	3,256	10.1	8,460	26.2	32,229
1968	880,512	38.7	785,887	34.5	75,755	3.3	534,839	23.5	2,276,993
1969	8,336	25.1	11,416	34.4	5,714	17.2	7,680	23.2	33,146
1970	346,485	41.9	281,067	34.0	24,763	3.0	174,193	21.1	826,508
1971	6,433	18.1	18,097	50.8	2,637	7.4	8,423	23.7	35,590
1972	115,096	18.3	403,706	64.2	18,936	3.0	90,830	14.5	628,568
1973	91,901	28.2	80,596	24.7	16,437	5.0	137,249	42.1	326,183
1974	140,734	29.1	291,408	60.2	9,014	1.9	42,879	8.9	484,035
1975	113,868	33.9	112,423	33.5	18,385	5.5	90,953	27.1	335,629
1976	599,600	47.7	479,009	38.1	30,044	2.4	148,090	11.8	1,256,743
1977	286,308	51.7	125,817	22.7	25,212	4.6	116,518	21.0	553,855
1978	934,178	55.3	372,865	22.1	54,785	3.2	327,270	19.4	1,689,098
1979	19,554	26.8	20,033	27.4	7,061	9.7	26,332	36.1	72,980
1980	964,526	54.0	299,444	16.8	47,963	2.7	474,488	26.6	1,786,421
1981	53,888	42.4	15,659	12.3	4,276	3.4	53,325	41.9	127,148
1982	270,380	34.2	432,715	54.7	14,242	1.8	73,307	9.3	790,644
1983	26,628	37.9	18,310	26.0	3,785	5.4	21,604	30.7	70,327
1984	273,411	44.3	220,895	35.8	16,708	2.7	106,284	17.2	617,298
1985	34,074	41.1	17,409	21.0	4,930	5.9	26,511	32.0	82,924
1986	600,266	47.8	500,855	39.9	15,061	1.2	139,002	11.1	1,255,184
1987	38,660	35.2	47,707	43.4	5,229	4.8	18,205	16.6	109,801
1988	226,753	48.3	176,042	37.5	12,935	2.8	54,210	11.5	469,940
Average	288,379	41.8	247,566	35.9	21,202	3.1	132,722	19.2	689,869

ACE 6245584

Appendix A.5. Upper Cook Inlet commercial chum salmon harvest by gear type and area, 1966-1988.

	Central District Drift Gill Net		Central District Set Gill Net: East Side		Central District Set Gill Net: Kalgin/West Side		Northern District Set Gill Net		
Year	Number	%	Number	%	Number	%	Number	%	Total
1966	424,972	79.8	7,461	1.4	64,725	12.1	35,598	6.7	532,756
1967	233,041	78.5	399	0.1	25,013	8.4	38,384	12.9	296,837
1968	1,022,900	90.7	1,563	0.1	44,986	4.0	58,454	5.2	1,127,903
1969	238,497	89.2	399	0.1	16,949	6.3	11,386	4.3	267,231
1970	705,467	90.4	1,228	0.2	48,783	6.3	24,507	3.1	779,985
1971	274,567	84.8	128	0.0	32,647	10.1	16,603	5.1	323,945
1972	564,253	90.1	1,727	0.3	40,567	6.5	19,780	3.2	626,327
1973	605,730	90.7	1,965	0.3	29,019	4.3	30,847	4.6	667,561
1974	344,594	86.8	506	0.1	15,346	3.9	36,492	9.2	396,938
1975	886,474	93.2	979	0.1	32,741	3.4	30,787	3.2	950,981
1976	405,773	86.5	1,484	0.3	47,877	10.2	14,050	3.0	469,184
1977	1,153,454	93.5	1,413	0.1	54,708	4.4	23,861	1.9	1,233,436
1978	489,065	85.5	4,617	0.8	40,946	7.2	37,331	6.5	571,959
1979	609,239	93.8	907	0.1	30,342	4.7	9,270	1.4	649,758
1980	339,970	87.4	2,147	0.6	30,105	7.7	16,728	4.3	388,950
1981	756,848	91.0	2,415	0.3	26,513	3.2	46,208	5.6	831,984
1982	1,348,510	94.1	4,777	0.3	36,647	2.6	43,006	3.0	1,432,940
1983	1,044,644	93.7	2,764	0.2	38,129	3.4	29,321	2.6	1,114,858
1984	567,480	83.4	3,675	0.5	34,207	5.0	74,727	11.0	680,089
1985	645,384	90.4	6,058	0.8	31,192	4.4	31,203	4.4	713,837
1986	987,789	89.0	6,771	0.6	38,776	3.5	75,935	6.8	1,109,271
1987	211,573	60.6	16,608	4.8	53,558	15.3	67,180	19.3	348,919
1988	578,654	81.9	11,762	1.7	40,424	5.7	75,728	10.7	706,568
Average	627,777	89.0	3,554	0.5	37,139	5.3	36,843	5.2	705,314

Appendix A.6. Upper Cook Inlet commercial salmon harvest by gear type and area, 1966-1988.

	Central District Drift Gill Net		Central District Set Gill Net: East Side		Central District Set Gill Net: Kalgin/West Side		Northern District Set Gill Net		
Year	Number	%	Number	%	Number	%	Number	%	Total
1966	2,203,180	47.0	1,538,621	32.8	327,585	7.0	619,610	13.2	4,688,996
1967	1,184,228	62.5	366,292	19.3	135,249	7.1	208,947	11.0	1,894,716
1968	2,612,714	52.6	1,189,117	24.0	269,670	5.4	890,987	18.0	4,962,488
1969	652,011	59.0	247,514	22.4	125,541	11.4	80,910	7.3	1,105,976
1970	1,641,429	62.1	460,680	17.4	189,798	6.1	349,340	13.2	2,641,247
1971	739,835	66.3	153,374	13.7	125,986	11.7	97,251	8.7	1,116,446
1972	1,207,217	54.1	643,323	28.8	160,443	5.3	220,605	9.9	2,231,588
1973	1,105,354	62.3	299,616	16.9	130,542	9.8	237,824	13.4	1,773,336
1974	827,141	52.2	471,210	29.7	118,352	11.6	168,141	10.6	1,584,844
1975	1,457,277	66.5	340,625	15.5	173,510	10.2	220,446	10.1	2,191,858
1976	2,142,563	59.4	1,012,991	28.1	183,952	7.3	270,096	7.5	3,609,602
1977	2,626,455	64.9	912,023	22.5	223,362	5.3	285,347	7.1	4,047,187
1978	3,304,925	64.6	1,085,009	21.2	265,302	5.3	464,150	9.1	5,119,386
1979	1,199,085	62.3	308,166	16.0	216,395	9.4	202,400	10.5	1,926,046
1980	2,165,142	53.7	911,327	22.6	269,750	7.5	687,951	17.1	4,034,170
1981	1,672,457	57.8	558,657	19.3	180,338	9.6	484,282	16.7	2,895,734
1982	4,139,886	65.7	1,530,966	24.3	303,249	4.7	322,441	5.1	6,296,542
1983	4,621,365	68.2	1,582,746	23.4	277,819	6.6	289,944	4.3	6,771,874
1984	2,290,273	59.3	758,174	19.6	298,978	7.5	515,766	13.4	3,863,191
1985	2,903,709	55.1	1,623,449	30.8	444,332	6.5	301,834	5.7	5,273,324
1986	4,844,773	62.3	2,180,980	28.1	288,272	3.7	460,350	5.9	7,774,375
1987	6,088,837	58.3	3,656,473	35.0	342,782	3.3	361,608	3.5	10,449,700
1988	5,188,289	60.5	2,682,030	31.3	277,064	3.2	422,229	4.9	8,569,612
Average	2,470,354	59.9	1,065,798	25.9	231,664	5.6	354,890	8.6	4,122,706

ACE 6245586

Appendix A.7. Upper Cook Inlet commercial salmon harvest by species, 1954-1988.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1954	63,780	1,207,046	321,525	2,189,207	510,068	4,291,726
1955	45,926	1,027,528	170,777	101,680	248,343	1,594,254
1956	64,977	1,258,789	198,189	1,595,375	782,051	3,899,381
1957	42,158	643,712	125,434	21,228	1,001,470	1,834,002
1958	22,727	477,392	239,765	1,648,548	471,697	2,860,129
1959	32,651	612,676	106,312	12,527	300,319	1,064,485
1960	27,512	923,314	311,461	1,411,605	659,997	3,333,889
1961	19,737	1,162,303	117,778	34,017	349,628	1,683,463
1962	20,210	1,147,573	350,324	2,711,689	970,582	5,200,378
1963	17,536	942,980	197,140	30,436	387,027	1,575,119
1964	4,531	970,055	452,654	3,231,961	1,079,084	5,738,285
1965	9,741	1,412,350	153,619	23,963	316,444	1,916,117
1966	8,544	1,852,114	289,837	2,005,745	532,756	4,688,996
1967	7,859	1,380,062	177,729	32,229	296,837	1,894,716
1968	4,536	1,104,904	469,850	2,278,197	1,119,114	4,976,601
1969	12,407	692,244	100,962	34,030	269,842	1,109,485
1970	8,358	746,634	279,989	826,639	800,829	2,662,449
1971	19,765	636,798	100,636	35,624	327,029	1,119,852
1972	16,086	879,724	80,933	628,576	630,016	2,235,335
1973	5,194	670,025	104,373	326,183	667,561	1,773,336
1974	6,586	497,160	200,125	484,035	396,938	1,584,844
1975	4,773	678,736	221,739	335,629	950,981	2,191,858
1976	10,867	1,664,131	208,710	1,256,743	469,806	3,610,257
1977	14,792	2,052,511	192,599	553,855	1,233,722	4,047,479
1978	17,302	2,621,667	219,360	1,689,098	571,959	5,119,386
1979	13,738	924,415	265,166	72,982	650,357	1,926,658
1980	13,795	1,573,637	271,378	1,786,430	390,810	4,036,050
1981	12,240	1,439,235	485,148	127,169	833,549	2,897,341
1982	20,870	3,259,864	793,937	790,648	1,433,866	6,299,185
1983	20,634	5,049,733	516,322	70,327	1,114,858	6,771,874
1984	10,041	2,105,860	449,903	617,298	680,089	3,860,839
1985	24,086	4,060,260	667,213	87,828	772,829	5,612,216
1986	37,898	4,654,700	739,292	1,255,214	1,109,271	7,796,375
1987	39,661	9,500,186	451,404	109,801	349,132	10,450,184
1988	29,003	6,804,941	559,260	469,944	706,568	8,569,716
Average	20,872	1,903,865	302,596	825,327	668,155	3,720,750

Appendix A.8. Approximate exvessel value of the Upper Cook Inlet commercial salmon harvest by species, 1960-1988.

Year	Chinook	%	Sockeye	%	Coho	%	Pink	%	Chum	%	Total
1960	$140,000	5.0	$1,334,000	47.9	$307,000	11.0	$663,000	23.8	$343,000	12.3	$2,787,000
1961	$100,000	4.7	$1,687,000	79.4	$118,000	5.6	$16,000	0.8	$204,000	9.6	$2,125,000
1962	$100,000	2.5	$1,683,000	42.3	$342,000	8.6	$1,274,000	32.0	$582,000	14.6	$3,981,000
1963	$89,000	4.6	$1,388,000	72.3	$193,000	10.1	$13,000	0.7	$236,000	12.3	$1,919,000
1964	$20,000	0.5	$1,430,000	38.9	$451,000	12.3	$1,131,000	30.8	$646,000	17.6	$3,678,000
1965	$50,000	2.0	$2,099,000	82.1	$109,000	4.3	$70,000	2.7	$230,000	9.0	$2,558,000
1966	$50,000	1.2	$2,727,000	64.4	$295,000	7.0	$823,000	19.4	$338,000	8.0	$4,233,000
1967	$49,000	1.9	$2,135,000	82.6	$187,000	7.2	$13,000	0.5	$202,000	7.8	$2,586,000
1968	$30,000	0.7	$1,758,000	40.4	$515,000	11.8	$1,209,000	27.8	$843,000	19.4	$4,355,000
1969	$70,000	4.3	$1,231,000	75.2	$109,000	6.7	$23,000	1.4	$204,000	12.5	$1,637,000
1970	$49,000	1.8	$1,135,000	42.5	$356,000	13.3	$387,000	14.5	$745,000	27.9	$2,670,000
1971	$189,000	10.7	$1,102,000	62.2	$143,000	8.1	$22,000	1.2	$316,000	17.8	$1,772,000
1972	$217,000	6.3	$1,795,000	52.0	$135,000	3.9	$473,000	13.7	$834,000	24.1	$3,454,000
1973	$122,000	2.0	$3,214,000	52.2	$320,000	5.2	$363,000	5.9	$2,134,000	34.7	$6,153,000
1974	$210,000	3.2	$3,058,000	46.5	$843,000	12.8	$946,000	14.4	$1,521,000	23.1	$6,578,000
1975	$65,000	1.0	$2,596,000	39.0	$821,000	12.3	$423,000	6.4	$2,753,000	41.3	$6,658,000
1976	$276,000	2.0	$8,626,000	63.2	$818,000	6.0	$1,879,000	13.8	$2,040,000	15.0	$13,639,000
1977	$525,000	2.4	$13,274,000	61.8	$933,000	4.3	$772,000	3.6	$5,991,000	27.9	$21,495,000
1978	$667,000	2.0	$26,128,000	80.3	$1,388,000	4.3	$2,154,000	6.6	$2,217,000	6.8	$32,554,000
1979	$625,000	4.3	$8,094,000	55.2	$1,658,000	11.3	$89,000	0.6	$4,201,000	28.6	$14,667,000
1980	$417,000	3.2	$7,932,000	61.6	$902,000	7.0	$2,114,000	16.4	$1,516,000	11.8	$12,881,000
1981	$422,000	2.6	$11,071,000	67.9	$2,638,000	16.2	$179,000	1.1	$2,005,000	12.3	$16,315,000
1982	$753,000	2.1	$25,029,000	69.0	$4,139,000	11.4	$515,000	1.4	$5,851,000	16.1	$36,287,000
1983	$585,000	2.0	$23,841,000	81.5	$1,603,000	5.5	$38,000	0.1	$3,195,000	10.9	$29,262,000
1984	$311,990	1.8	$12,445,633	71.8	$2,041,480	11.8	$522,419	3.0	$2,007,827	11.6	$17,329,349
1985	$799,173	2.3	$27,479,840	80.0	$3,358,083	9.8	$57,440	0.2	$2,646,553	7.7	$34,341,089
1986	$881,356	1.9	$37,665,832	83.3	$2,838,881	6.3	$698,527	1.5	$3,123,485	6.9	$45,208,081
1987	$1,609,681	1.6	$96,331,886	94.9	$2,368,968	2.3	$84,547	0.1	$1,115,477	1.1	$101,510,559
1988	$1,204,321	1.0	$111,102,230	91.2	$4,731,340	3.9	$650,309	0.5	$4,113,356	3.4	$121,801,556
Average		2.8		64.9		8.3		8.4		16.0	

ACE 6245588

Appendix A.9. Commercial herring harvest by fishery, Upper Cook Inlet, 1973-1988.

	Harvest (Tons)			
Year	Eastside	Chinitna Bay	Tuxedni Bay	Total
1973	13.8	0	0	13.8
1974	36.7	0	0	36.7
1975	6.2	0	0	6.2
1976	5.8	0	0	5.8
1977	17.3	0	0	17.3
1978	8.3	55.3	0	63.6
1979	67.3	96.2	24.8	188.3
1980	37.4	20.0	86.5	143.9
1981	86.2	50.5	84.9	221.6
1982	60.2	91.8	50.2	202.2
1983	165.3	49.2	238.2	452.7
1984	117.5	90.6	159.0	367.1
1985	121.7	47.4	220.5	389.6
1986	178.9	111.1	191.9	481.9
1987	130.5	65.1	152.5	348.1
1988	50.7	23.4	14.1	88.2

ACE 6245589

Appendix A.10. Commercial harvest of razor clams in Cook Inlet, 1919-1988.

Year	Pounds	Year	Pounds
1919	76,963	1954	0
1920	11,952	1955	0
1921	72,000	1956	0
1922	510,432	1957	0
1923	470,280	1958	0
1924	156,768	1959	0
1925	0	1960	372,872
1926	0	1961	277,830
1927	25,248	1962	195,650
1928	0	1963	0
1929	0	1964	0
1930	0	1965	0
1931	No Record	1966	0
1932	93,840	1967	0
1933	No Record	1968	0
1934	No Record	1969	0
1935	No Record	1970	0
1936	No Record	1971	14,755
1937	8,328	1972	31,360
1938	No Record	1973	34,415
1939	No Record	1974	0
1940	No Record	1975	10,020
1941	0	1976	0
1942	0	1977	1,762
1943	0	1978	45,931
1944	0	1979	144,358
1945	15,000	1980	140,420
1946	11,424	1981	441,949
1947	11,976	1982	460,639
1948	2,160	1983	269,618
1949	9,672	1984	261,742
1950	304,073	1985	319,034
1951	112,320	1986	258,632
1952	0	1987	312,349
1953	0	1988	392,610

ACE 6245590

Appendix A.11. Forecast[1] and projected[2] commercial harvests of salmon by species, Upper Cook Inlet, 1984-1989.

	Sockeye			Coho			Pink			Chum			Chinook		
Year	Forecast	Actual	Error	Projected	Actual	Error	Projected	Actual	Error	Projected	Actual	Error	Projected	Actual	Error
1984	2,200,000	2,102,767	- 4%	250,000	442,619	+77%	1,700,000	622,510	-63%	350,000	684,124	+95%	14,000	8,819	-37%
1985	3,700,000	4,060,260	+10%	250,000	667,213	+167%	112,500	87,828	-22%	700,000	772,829	+10%	17,500	24,086	+38%
1986	4,200,000	4,654,700	+11%	450,000	739,292	+64%	1,250,000	1,255,214	+0.4%	900,000	1,109,271	+23%	32,500	37,898	+17%
1987	4,800,000	9,500,186	+98%	500,000	451,404	-10%	150,000	109,801	-27%	1,000,000	349,132	-65%	30,000	39,661	+32%
1988	5,300,000	6,804,941	+28%	400,000	559,260	+40%	400,000	469,944	+17%	800,000	679,499	-15%	35,000	29,003	-17%
1989	2,500,000			400,000			100,000			800,000			30,000		
Average Error (non-parametric)			30%			71%			26%			42%			28%

[1] Harvest forecasts are typically prepared using average return per spawner values, parent-year escapements and average marine maturity schedules.
[2] Harvest projections are prepared using subjective estimates of parent-year escapements, gross trends in harvest and expected intensity of fishery.

ACE 6245391

Appendix A.12. Escapement goals and counts of sockeye salmon in selected streams of Upper Cook Inlet, 1968-1988.

	Kenai River		Kasilof River		Fish Creek	
Year	Escapement Goal	Escapement Estimate[1]	Escapement Goal	Escapement Estimate[1]	Escapement Goal	Escapement Estimate[2]
1968	0	88,000	0	93,000	0	19,616
1969	150,000	53,000	75,000	46,000	0	12,456
1970	150,000	73,000	75,000	37,000	0	25,000
1971	150,000	--	75,000	--	0	31,900
1972	150,000-250,000	318,000	75,000-150,000	112,000	0	6,981
1973	150,000-250,000	367,000	75,000-150,000	40,000	0	2,705
1974	150,000-250,000	161,000	75,000-150,000	152,000	0	68,739
1980	350,000-500,000	464,000	75,000-150,000	187,000	0	62,828
1981	350,000-500,000	408,000	75,000-150,000	257,000	0	50,479
1982	350,000-500,000	620,000	75,000-150,000	180,000	50,000	28,166
1983	350,000-500,000	630,000	75,000-150,000	210,000	50,000	118,797
1984	350,000-500,000	345,000	75,000-150,000	232,000	50,000	192,352
1985	350,000-500,000	501,000	75,000-150,000	503,000	50,000	68,577
1986	350,000-500,000	501,000	150,000-250,000	276,000	50,000	29,800
1987	400,000-700,000	1,397,000	150,000-250,000	249,000	50,000	91,215
1988	400,000-700,000	1,021,500	150,000-250,000	202,000	50,000	71,603

	Susitna River		Crescent River		Packers Creek	
Year	Escapement Goal	Escapement Estimate[1]	Escapement Goal	Escapement Estimate[1]	Escapement Goal	Escapement Estimate[2]
1978	200,000	94,000	0	N/C	0	N/C
1979	200,000	157,000	50,000	87,000	0	N/C
1980	200,000	191,000	50,000	91,000	0	16,477
1981	200,000	340,000	50,000	41,000	0	13,024
1982	200,000	216,000[3]	50,000	59,000	0	15,687
1983	200,000	112,000[4]	50,000	92,000	0	18,403
1984	200,000	194,000[5]	50,000	118,000	0	30,684
1985	200,000	228,000[5]	50,000	129,000	0	36,850
1986	200,000	92,000[6]	50,000-100,000	N/A	0	29,604
1987	200,000	66,000[6]	50,000-100,000	119,000	0	35,401
1988	100,000-150,000[6]	52,347[6]	50,000-100,000	57,716	15,000-25,000	18,607

[1] Derived from sonar counters unless otherwise noted.
[2] Weir counts.
[3] Poor field conditions make this a minimum estimate; mark/recapture estimate from Su-Hydro studies was 265,000.
[4] Minimum estimate. Combining Yentna sonar with Sunshine Station mark/recapture estimate yields 176,000.
[5] Yentna River sonar count combined with Sunshine Station mark/recapture estimate.
[6] Yentna River only.

ACE 6245592

Appendix A.13. Average price paid for commercially harvested salmon, Upper Cook Inlet, 1969-1988.[1]

Year	Chinook	Sockeye	Coho	Pink	Chum
1969	0.38	0.28	0.19	0.14	0.12
1970	0.40	0.28	0.25	0.14	0.14
1971	0.37	0.30	0.21	0.15	0.15
1972	0.47	0.34	0.27	0.19	0.20
1973	0.62	0.65	0.50	0.30	0.42
1974	0.88	0.91	0.66	0.46	0.53
1975	0.54	0.63	0.54	0.35	0.41
1976	0.92	0.76	0.61	0.37	0.54
1977	1.26	0.86	0.72	0.38	0.61
1978	1.16	1.32	0.99	0.34	0.51
1979	1.63	1.41	0.98	0.34	0.88
1980	1.15	0.85	0.57	0.34	0.53
1981	1.46	1.20	0.83	0.38	0.65
1982	1.27	1.10	0.72	0.18	0.49
1983	0.97	0.74	0.45	0.18	0.36
1984	1.08	1.00	0.64	0.21	0.39
1985	1.20	1.20	0.70	0.20	0.45
1986	0.90	1.40	0.60	0.15	0.38
1987	1.40	1.50	0.80	0.22	0.45
1988	1.30	2.47	1.20	0.37	0.76

[1] Expressed as dollars paid per pound.
Data Source: 1969-1983 - Commercial Fisheries Entry Commi sion.
1984-1987 - Fish ticket averages.

Appendix A.14. Average weight[1] of commercially harvested salmon, Upper Cook Inlet, 1972-1988.

Year	Chinook	Sockeye	Coho	Pink	Chum
1972	28.76	6.00	6.18	3.96	6.62
1973	37.85	7.38	6.13	3.7[illegible]	7.61
1974	36.20	6.76	6.39	4.25	7.21
1975	25.14	6.07	6.86	3.60	7.06
1976	27.63	6.82	6.43	4.04	8.04
1977	28.19	7.52	6.73	3.67	7.96
1978	33.24	7.55	6.39	3.75	7.60
1979	27.93	6.21	6.38	3.58	7.34
1980	26.29	5.93	5.83	3.48	7.32
1981	23.64	6.41	6.55	3.70	7.66
1982	28.42	6.98	7.24	3.62	8.33
1983	29.64	6.38	6.90	3.04	7.96
1984	28.77	5.91	7.09	4.03	7.57
1985	27.65	5.64	7.19	3.27	7.61
1986	25.84	5.78	6.40	3.71	7.41
1987	28.99	6.76	6.56	3.50	7.10
1988	29.66	6.61	7.05	3.74	7.66
Average	29.05	6.51	6.61	3.69	7.53

[1] Total poundage divided by numbers of fish from fish ticket totals.

ACE 6245594

Appendix A.15. Registered units of gillnet fishing effort by gear type in Cook Inlet, 1960-1988.[1]

	Drift			Set			
Year	Resident	Non-Resident	Sub-total	Resident	Non-Resident	Sub-total	Total
1960	221	67	288	511	59	570	858
1961	279	93	372	564	22	586	958
1962	260	112	372	589	28	617	989
1963	333	139	472	626	34	660	1,132
1964	323	145	468	596	35	631	1,099
1965	329	145	474	556	34	590	1,064
1966	328	176	504	580	48	628	1,132
1967	350	186	536	554	50	604	1,140
1968	407	204	611	638	43	681	1,292
1969	497	208	687	686	42	728	1,415
1970	537	220	757	707	65	772	1,529
1971	519	191	710	693	38	731	1,441
1972	419	152	571	672	35	701	1,272
1973	516	146	662	632	43	775	1,437
1974	458	150	608	764	39	803	1,411
1975	291	162	453	613	44	657	1,110
1976	343	171	514	669	42	711	1,225
1977	360	179	539	690	41	731	1,270
1978	366	183	549	698	44	742	1,291
1979	372	182	554	700	44	744	1,298
1980	373	179	554	697	47	744	1,298
1981	414	185	599	688	59	747	1,346
1982	416	175	591	697	51	748	1,339
1983	417	170	587	685	60	745	1,332
1984	426	162	588	672	72	744	1,332
1985	420	170	590	666	65	731	1,321
1986	436	178	614	682	76	758	1,372
1987	422	164	586	666	77	743	1,329
1988	421	163	584	659	82	741	1,325

[1]Source: 1960-74 ADF&G unpublished reports, 1975-88 Commercial Fisheries Entry Commission

ACE 6245595

Appendix A.16. Subsistence and personal use salmon harvest, Upper Cook Inlet, 1980-1988.

Fishery	No. of Permits	Chinook	Sockeye	Coho	Pink	Chum
Tyonek Subsistence						
1980	67	1,927	261	0	0	0
1981	70	2,002	269	62	32	13
1982	69	1,574	274	113	15	4
1983	73	2,755	251	78	0	6
1984	70	2,364	310	66	3	23
1985	176	1,967	163	91	0	10
1986	101	1,674	198	210	45	44
1987	64	1,552	161	149	10	24
1988	47	1,474	53	185	6	9
Non-Commercial Gillnet						
1981	1,108	68	466	12,713	149	305
Kasilof Personal Use						
1982	649	372	7,543	24	17	0
1983	684	307	8,846	0	0	0
1984	698	165	12,926	0	0	0
1985	692	203	10,746	0	0	0
1986	N/A	168	9,609	0	0	0
1987	N/A	184	9,375	0	0	0
1988	N/A	118	9,803	0	0	0
Fall Coho Personal Use/Subsistence						
1983	295	0	0	712	0	0
1984	309	1	2	2,261	10	7
1985	998	50	805	11,265	108	53
1986	892	0	0	2,422	0	0
1987	486	8	9	2,213	2	37
1988	449	2	19	2,662	38	10
Northern/Central Districts Subsistence						
1985	638	117	2,218	1,427	90	121
Knik Arm Subsistence						
1985	405	4	1,649	2,055	48	212

ACE 6245596-/e