UPPER COOK INLET COMMERCIAL FISHERIES

ANNUAL MANAGEMENT REPORT, 1989

By

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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 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 age composition, and establishing harvest levels that appear to be sustainable.

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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 although regulations prior to 1990 allowed 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 shell breakage or the limited availability of clams in the area open to this gear.

1989 COMMERCIAL SALMON FISHERY

The 1989 commercial harvest of 5.6 million salmon in Upper Cook Inlet is the seventh highest catch recorded for this fishery although it was the lowest harvest in five years. With an exvessel value of $59.2 million, the Upper Cook Inlet fishery represented 11.7% of the statewide commercial salmon fishery value.

The biannual review of the Upper Cook Inlet commercial salmon fishery by the Board of Fisheries in December of 1988 produced a number of regulatory changes that first took effect for the 1989 season. The Board adopted a management plan creating a new set gill net fishery near Big River during late May and June. This fishery is described and reviewed at length below. The ban on the use of spotter planes to assist in commercial salmon fishing operations, adopted in 1987, was repealed. Under a new regulation, fishermen were required to report on fish tickets all chinook salmon harvested but not sold. This regulation had little effect on the total reported catch with only four salmon retained for personal use recorded on fish tickets during the 1989 season. The Board also adopted a regulatory plan for Kenai River chinook salmon describing various

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management measures that would be employed if varying escapement levels were not achieved. The provision having a possible impact on the commercial fishery mandates a closure of all commercial fishing activity in the Central District within three miles of the Kenai Peninsula shoreline if the minimum escapement goal of 15,500 late-run Kenai River chinook salmon appeared in jeopardy.

Throughout the 1989 season, 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.

The Exxon Valdez *Oil Spill*

The grounding of the crude oil carrier *Exxon Valdez* on Bligh Reef in Prince William Sound on March 24, 1989 resulted in the spill of approximately 11 million gallons of North Slope crude oil. With time, considerable amounts of oil moved out of the sound and was transported by ocean currents along the Kenai Peninsula coastline, Kodiak Island, the Alaska Peninsula and also northward into the waters of Upper Cook Inlet. For the second time in three years the Upper Cook Inlet commercial salmon fishery was significantly affected by spilled crude oil.

When reports of oil in the offshore waters of Upper Cook Inlet were received in mid-June, the Department arranged for six test-fishing vessels, under contract to Exxon or an Exxon subcontractor, to make daily efforts to locate, document and sample any oil that might be present in Upper Cook Inlet. Crude oil, generally in the form of "mousse patties", was readily found throughout much of the Central District, being most concentrated near the tidal rips, the most important areas of harvest for the drift gill net fleet. Under the terms of a Memorandum of Understanding between the Departments of Environmental Conservation and Fish & Game, no fishery was to be opened if there was an appreciable likelihood of fouling gear and/or catch with crude oil. The test fishing observations confirmed that such fouling was likely to occur during a drift gill net opening and a series of emergency orders closed all drift gill netting in Upper Cook Inlet for the 1989 season with the single exception of Chinitna Bay, where a minor chum and coho salmon fishery occurred in late August. For the first time in thirty years, the Upper Cook Inlet salmon fishery was conducted without the presence of a drift gill net fleet.

The oil spill proved to be much less of a problem in the set gill net fishery, directly affecting only a portion of the Upper Subdistrict. Oil patties were found on the beach from Cohoe to Clam Gulch on July 6, requiring the closure of that portion of the Upper Subdistrict south of the Kasilof River for the regular Friday fishing period on July 7. When all visible oil had been removed from the beaches and test set nets fishing from the Kenai River to Ninilchik encountered no oil, the affected area was returned to the regular fishing period schedule on Monday, July 10.

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Sockeye Salmon

With a sockeye salmon harvest of 5.0 million, 1989 ranks fourth highest, being surpassed only by 1987, 1988 and 1983. Valued at $56.2 million, the sockeye salmon harvest comprised 95% of the value of the commercial salmon fishery. Ninety-one percent of the harvest occurred in the Upper Subdistrict (the east side set net fishery).

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 of the program 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 1989, the program was conducted aboard the F/V *Sea Venture*. The lack of a drift gill net fishery to provide harvest data for calculation of passage rates limited the scope of the program to providing a rough inseason estimation of run timing only.

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 had since become an integral part of the salmon management regime. Although this program had been most useful in the post-season allocation of total return by river system, limited inseason use was possible. 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 were frequently unavailable. Inseason and post-season use of this program was suspended for the 1989 season while the validity and applicability of the linear discriminant function methodology underwent a rigorous review.

Hydroacoustic devices to quantify salmon escapement into glacial rivers were 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 (Appendix A.11, Figures 4-9). Operations followed standard procedures in all systems in 1989 with no unusual problems observed (Table 2, Figures 10-15). As has become standard practice, the Susitna River escapement was monitored by sonar only in the Yentna River due to 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 extremely valuable for evaluating in-season fishery performance. The 1989

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commercial catch by gear type and area can be found in Table 3 while catches by period and area are contained in Tables 4 through 8. Total harvest by statistical area and average catch per permit are contained in Tables 9 and 10. A summary of emergency orders can be found in Table 11 and a summary of fishing periods by gear type and area in Table 12.

The first sockeye salmon fishery of 1989 was the newly adopted set gill net fishery located near the terminus of Big River in the Kustatan Subdistrict. The management plan created by the Board of Fisheries was structured to provide three twelve-hour periods weekly (Monday, Wednesday, Friday from 7:00 A.M. to 7:00 P.M.) beginning the first open weekly period on or after May 25 and ending June 24. Only set gill nets were permitted with participants limited to a single net no greater than 35 fathoms in length and having a mesh size not exceeding 5 1/8 inches. The area open to fishing included the intertidal shoreline from the Kustatan River to Drift River and a minimum distance of 1800 feet had to be maintained between nets. The Board's intent in creating this fishery was to provide for a more substantial harvest of the early return of sockeye salmon to Big River while incorporating safeguards to prevent an objectionable level of chinook salmon harvest. These safeguards included the 5 1/8 inch maximum mesh size and an overall harvest limit of 1,000 chinook salmon which, if attained, would trigger an emergency order closure of the fishery.

The results of the fishery were rather disappointing. Only 4,200 sockeye salmon were harvested, the chinook quota was nearly reached by the end of the season and the fishery was plagued by confusion over closed waters boundaries despite an effort by emergency order just prior to the season to simplify this matter. The peak, if it can be called that, of the sockeye harvest occurred on June 5 when just under 1,000 fish were taken. Chinook catches were substantial for the first three periods of the fishery and rapidly tapered off through June. It would appear that based on the experience of 1989, the future of this fishery - which harvested more pounds of chinook salmon than sockeye salmon - is somewhat clouded.

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. The 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 day's count and a projected final 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.

Throughout the course of the 1989 return, the projected final escapement for the Crescent River remained close to the midpoint of the goal and, accordingly, fishing time was maintained at two 12-hour periods per week. The final escapement of 70,532 sockeye salmon in the Crescent River was well centered within the desired range. The Western Subdistrict harvest of 55,586 sockeye salmon was well below the level of recent years but approximately equal to the long-term average.

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The closure of the drift gill net fishery due to oil contamination in the offshore areas of the Central District greatly simplified management of the remaining sockeye salmon stocks returning to Upper Cook Inlet. With no drift catch available to calibrate passage rates for the offshore test-fishing program, no attempt at judging overall run strength was possible and management options were essentially reduced to opening and closing the appropriate set net fisheries as dictated by projected run strengths and escapement levels.

When sockeye salmon abundance increased markedly on the lower Upper Subdistrict beaches, set gill netting was opened south of the Blanchard Line (a line bisecting the beach between the Kasilof and Kenai rivers) beginning at 8:00 P.M. Tuesday, July 11 and continuing until the close of the regular period on Friday, July 14. When large numbers of Kenai-bound sockeye began appearing on the beaches in the northern portion of the Upper Subdistrict on Thursday, July 13, this area was opened at 11:00 P.M. and subsequently was extended by a series of emergency orders that resulted in continuous fishing time through August 4. Concern for the escapement level in the Kasilof River limited the use of set nets south of the Blanchard Line to only regular periods from July 14 to July 19. As concern eased somewhat, this area was granted additional fishing time from 11:00 A.M. Thursday, July 20 through the end of the regular period on Friday, July 21 and again from 12:30 A.M. Sunday, July 23 until 8:00 P.M. Wednesday, August 2. The final Kasilof River sockeye escapement of 158,00 was only slightly above the minimum goal of 150,000. This apparent weakness in the Kasilof River return was unfortunate as the ability to add the considerable fishing power of the set net fishery south of the Blanchard Line during the July 14-19 period would have contributed substantially to reducing the escapement of surplus fish into the Kenai River. The Kenai River sockeye escapement totaled 1,598,000, far in excess of the escapement goal range of 500,000-700,000. The Upper Subdistrict sockeye salmon harvest totaled 4,543,066, the highest harvest on record for this fishery, and accounted for 91% of the 1989 Upper Cook Inlet commercial harvest.

In the more mixed-stock set net fisheries, namely the Kalgin Island and Kustatan Subdistricts, fishing time was permitted commensurate with expected surpluses in the combined Kenai River and Susitna River returns. Both areas fished all regularly scheduled periods and were also open continuously from July 14 through July 26. The Kustatan Subdistrict harvest of 40,256 sockeye salmon was by far the largest on record and nearly seven times the long-term average for this area. The Kalgin Island catch of 87,650 sockeye salmon was one of the better harvests on record for this area and approximately double the long-term average.

Fishing time in the Northern District set net fishery was regulated initially by the apparent strength of the sockeye salmon return passing through the district and later, by the status of the Susitna River escapement. Following strong catches (40,000) during the regular fishing period on Friday, July 14, the fishery was extended 24 hours ending at 7:00 P.M. Saturday, July 15. Although high winds hampered fishing efforts in portions of the district, the catch was again fairly heavy (55,000). As escapement began accumulating at the sonar site on the Yentna River, it was apparent that further additional fishing time would not be needed and the fishing schedule was maintained at two 12-hour periods each week. The final escapement in the Yentna of 96,000 actually fell just short of the 100,000 minimum escapement goal.

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As substantial numbers of sockeye salmon began entering Fish Creek in Knik Arm in late July, the area surrounding the mouth of Fish Creek was opened to set gill netting as provided for in the Fish Creek Sockeye Salmon Management Plan. The first day of the fishery occurred on July 24 and remained open continuously through July 29. Sockeye salmon abundance declined throughout the fishery with over half of the total harvest of 48,000 taken in the first two days. The Fish Creek escapement totaled 67,000, exceeding the point goal of 50,000.

The Northern District sockeye salmon harvest of 280,801 was the best on record for this area. Excluding those sockeye salmon taken in Knik Arm would place the harvest second only to the 1981 catch.

The return of sockeye salmon to Packers Lake on Kalgin Island is the latest of all the monitored returns, generally peaking in early August. Inseason projections of total escapement did not deviate from the desired range of 15,000 to 25,000 and no adjustments were made in the Kalgin Island set net fishery directed at altering the escapement rate into Packers Creek. The final escapement past the weir was 22,000, comfortably within the desired range.

Chum Salmon

The harvest of 122,000 chum salmon in 1989 represents the lowest harvest on record for this species and accounted for less than 1% of the value of the salmon fishery. The poor harvest can be directly correlated to the lack of a drift gill net fishery where 89% of the chum salmon harvest is normally taken.

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 normally 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.

The effective cancellation of the drift gill net fishery in 1989 precluded any need for any active management measures directed at the Susitna River return. No other fishery targets on the return to the extent that alteration of fishing time would be an effective management tool. Lacking CPUE data from a drift fishery makes it difficult to speculate on the strength of the 1989 return but a review of harvest levels in various set net fisheries and the escapement index derived at the Yentna River sonar counters (which was well in excess of any previously observed value) would make it appear reasonable to assume that the run strength was mediocre but substantially underharvested.

The chum salmon return to local streams in the Chinitna Bay Subdistrict was considerably poorer than in the recent past. When early-August escapement values in Clearwater Creek (the principal chum salmon index stream in Chinitna Bay) were below expectations the bay was closed to all commercial fishing following the

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August 11 fishing period. Despite the closure, escapement in Clearwater Creek remained well below the desired level of 10,000 with aerial survey counts never exceeding 4,000 fish. The bay was reopened to all gear types on August 28 at the completion of the chum salmon return. The catch of 8,068 chum salmon from Chinitna Bay was far below average.

Coho Salmon

The 1989 harvest of 339,201 coho salmon was just slightly above the long-term average but would have been substantially higher had the drift fishery not been closed. Drift gill nets normally account for almost half of the coho salmon taken in the commercial fishery. Valued at $1.7 million, the coho salmon harvest represented 8.2% 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, it is 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.

As with Susitna chum salmon, the lack of a drift fishery makes evaluation of coho run strength difficult but catches in the Northern District set net fishery and escapement indices at the Yentna sonar site indicate a fairly strong return and an exceptionally high escapement.

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 4, prior to the peak of the return.

Coho salmon returns to a host of smaller streams along the west side of the Central District and in the Northern District were consistently above average

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as measured by daily harvest levels throughout August. Fishing time in the Kalgin Island, Kustatan and Western subdistricts of the Central District and the Northern District was increased to three 12-hour periods per week beginning August 23 to increase the harvest level of these stocks. No escapement estimates are available for any of these streams.

Pink Salmon

The harvest of 67,430 pink salmon in 1989 represents the smallest odd-numbered year catch since 1971, primarily due to the absence of a drift gill net fishery. Abundance in other fisheries was consistent with average values. No escapement goals or management objectives are associated with odd-year pink salmon returns and, accordingly, this species did not play a role in any management action taken during the season.

Chinook Salmon

The 1989 commercial harvest of 26,742 chinook salmon was approximately equal to the recent average. Valued at $0.8 million, the chinook catch represented 1.4% of the value of the salmon fishery.

The fourth year of a directed chinook salmon fishery in the Northern District produced results very similar to past years. The three scheduled periods (June 5,12 and 19) generated a total catch of 11,068 fish with 81% being taken in the General Subdistrict. As it is currently structured, the fishery requires little active management with regular fishing periods producing catches very near the 12,500 fish quota.

The 10,919 chinook salmon harvest in the Upper Subdistrict set net fishery represents a small decline from the previous year as many fishermen continued their efforts to release any live fish encountered in their nets. The ongoing controversy over the chinook salmon catch in this fishery also makes it likely that some level of under-reporting also occurred. The escapement of late-run Kenai River chinook salmon past the set net fishery totaled 29,035 (Dave Nelson, ADF&G Soldotna, personal communication).

Post-Season Perspective

One of the more useful observations gathered during the 1989 salmon fishery was the ability of the set net fishery to accomplish adequate harvest levels of nearly all the major sockeye salmon returns without assistance from the drift gill net fishery which normally accounts for roughly 60% of the harvest. With the exception of the Kenai River, which from a long-term perspective had an unusually strong return, all other systems experienced returns that were probably of average strength and no problems were encountered in achieving full utilization of surpluses.

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The ramifications of this observation are twofold. It is becoming increasing obvious that Upper Cook Inlet has far greater fishing power than is necessary to harvest sockeye salmon returns of average strength. It is likely that as overall run-strengths return to average levels, as they surely must, serious reductions in efficiency will be necessary to achieve the proper level of exploitation. It is also apparent that set net fisheries, to the extent that they can provide a highly stock-specific harvest, offer a very effective tool in meeting escapement and harvest objectives for individual river systems. Efforts to integrate the drift gill net fleet into similarly effective harvest areas will be increasingly important in providing for suitable exploitation rates without creating a major disruption in the historic harvest distribution among gear types.

Price, Average Weight and Participation

With the exception of pink salmon, prices paid to fishermen for each species of salmon declined in 1989 (Appendix A.12). Sockeye salmon prices fell sharply from the record high price of $2.47 per pound in 1988 to an average of $1.70 per pound in 1989. Chinook, coho, pink and chum salmon sold for $1.25, $0.75, $0.40 and $0.47 per pound, respectively.

Average weights of the various species, calculated from fish ticket data, were not notably divergent from the long-term averages. Chinook salmon averaged 24.04 pounds while sockeye, coho, pink and chum salmon averaged 6.60, 6.58, 3.19 and 7.25 pounds, respectively (Appendix A.13).

While the Commercial Fisheries Entry Commission issued 585 drift gill net permits and 743 set gill net permits for Cook Inlet in 1989 (Appendix A.14), only 5 drift gill net permits were actually used to make landings. Six hundred forty five set gill net permits made landings. Twenty five firms purchased Upper Cook Inlet fishery products in 1989 (Table 13).

Outlook for 1990

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. Forecasts for prior years consisted of 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. Recent large deviations from average recruitment values have resulted in corresponding large errors in the forecast. For 1990, the forecast was prepared using a simple trend analysis of past harvests. The total return of sockeye salmon is expected to be 5.8 million fish which, after subtracting escapement needs, should produce a harvest of 4.3 million (Appendix A.15). While the current methodology does not break out returns by river system, a subjective review of parent-year escapements and fry and smolt production values would indicate that the Kenai River will again dominate while returns to the Kasilof and Susitna rivers will be comparatively weak. Returns of this strength and

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distribution will likely require stock-specific harvest strategies similar to those employed in 1987 and 1988.

The projected harvests of other species (followed by average values in parentheses) are: chum salmon - 400,000 (670,000), coho salmon - 250,000 (300,000), pink salmon - 600,000 (1,200,000) and chinook salmon - 25,000 (22,000). The below-average values for chum, pink and coho salmon are all a reflection of anticipated effects from the severe flooding of the Susitna River drainage and many other west-side streams during the fall of 1986.

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1989 COMMERCIAL HERRING FISHERY

The generally poor abundance of herring in all of the Upper Cook Inlet fisheries in 1988 generated considerable concern for the status of these stocks and a pre-season outlook informed fishermen that harvest patterns would be closely monitored and fisheries closed regardless of harvest levels if abundance was not improved substantially over 1988.

Tuxedni Bay

Tuxedni Bay and surrounding waters opened to commercial herring fishing on April 22 by regulation. An aerial survey conducted on April 27 found little in the way of effort (only ten nets were observed fishing) and conditions still very winter-like in the area. The first reported harvest occurred on April 30 although catches were very light and mature roe percentages were consistently less than 10%. Both harvest rate and roe percentage improved somewhat in early May but with the cumulative harvest reaching only 27 tons by May 11, an emergency order was issued closing the area effective at noon, May 14. The final reported harvest from Tuxedni Bay was 34.3 tons although an additional 10-15 tons were discarded on the grounds when tender service was disrupted late in the fishery. Harvest samples indicate the catch was comprised primarily of five-year-old (51%) and six-year-old (41%) herring (Table 14). The overall mature roe percentage for the fishery was estimated at 10% and the 23 permit-holders making landings were paid an average of $500 per ton.

Chinitna Bay

Although the season opened in Chinitna Bay on April 22, significant numbers of herring were not available until approximately May 10. When the harvest had reached 29 tons by May 12, a closure of the bay was announced effective at noon, May 14. Just prior to the closure date, herring abundance increased dramatically. The only two tenders servicing fishermen in the area suffered mechanical breakdowns and were not returned to service until May 15. The total harvest from Chinitna Bay of salable herring was 122.3 tons with an additional 50-80 tons discarded after spoiling. Sampling of the catch indicated that six-year-old (49.8%) and five-year-old (28.3%) fish dominated the harvest (Table 15). The average mature roe content was 10.5 % and the 27 fishermen making landings were paid just over $500 per ton.

Eastside

Despite a season opening date of April 15, the first landing of herring from the eastside of Upper Cook Inlet did not occur until April 30. The harvest rate increased on May 3, stayed fairly steady throughout mid-May before declining after May 20. The final harvest totaled 55.2 tons with 0.5 tons sold for the human food market and the remainder sold as bait. Prices ranged from $500-$1000 per ton for the 40 fishermen making landings during the fishery. The highest

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harvest (25.6 tons) came from Ninilchik Beach (statistical area 244-21) while Coho Beach (244-22), Kalifonsky Beach (244-30) and Salamatof Beach (244-40) contributed 8.1, 10.9 and 10.6 tons, respectively. Catch samples indicate that five-year-old (31.4%) and six-year-old (31.1%) fish comprised the bulk of the catch (Table 16).

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COMMERCIAL RAZOR CLAM FISHERY

The 1989 commercial razor clam fishery began in Upper Cook Inlet in early April and continued throughout the summer with the last landing occurring on September 2. The harvest was concentrated during June, July and August with these three months accounting for 88% of the total harvest of 222,747 pounds. The harvest was taken principally from the Polly Creek area with some activity also occurring just north of Redoubt Point. A total of 32 diggers made 1,700 landings during the course of the fishery. With diggers being paid an average of $0.50 per pound, the exvessel value of the harvest was $111,373. Tide tables encompassing the 1989 clam fishery can be found in Table 17.

No applications for provisional permits for hydraulic dredges were received during the 1989 season. Action by the Board of Fisheries in March of 1990 effectively deleted hydraulic dredges as legal gear for harvesting razor clams in Cook Inlet.

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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 by the Alaska legislature of subsistence priority law in 1977, primarily as the result of injunctions or decisions emanating from various levels of the judicial system and 1989 was no exception. Reversing an earlier U.S. District Court decision, the Ninth Circuit Court of Appeals found that the state definition of "rural", as it was applied in determining eligibility for subsistence hunting and fishing, was flawed. In remanding the case back to the lower court, the Court of Appeals directed that a preliminary injunction be granted the Kenaitze Indian Tribe pending final resolution of the issue at trial. The terms of the injunction were negotiated between the state and the Kenaitze Tribe, allowing for a limited in-river gill net fishery described below. The injunction was applicable for the summer of 1989 only. In December of 1989, in response to a separate suit brought by several individuals characterized as recreational hunters and fishermen, the Alaska Supreme Court ruled that a subsistence priority for the taking of fish and game based on rural residency was inconsistent with the state constitution and invalidated the state subsistence priority law, effective July 1, 1990. As of this writing, the entire legal structure of subsistence hunting and fishing is in question.

The Kenaitze Tribal Fishery

Under the terms of the injunction, the Kenaitze Tribe was issued a single permit allowing the bearer, who must be a tribal member domiciled in Game Management Units 7 or 15 (the Kenai Peninsula), to operate a single 10-fathom set gill having a mesh size no greater than 6 inches in the Kenai River downstream from a point one-quarter mile above the Warren Ames Bridge and including those marine waters adjacent to the river mouth normally closed to commercial salmon fishing. Fishing was permitted each day on a 24-hour basis from June 15 to September 15. Fishing was to terminate if 600 chinook salmon were taken prior to July 31 or if a total of 5,000 salmon were harvested. If 600 chinook salmon were taken prior to July 31, the fishery was to be reopened on August 1.

Fishing occurred primarily in an area known as the "Birches", a prominent stand of birch trees on the south bank of the river immediately upstream of the Warren Ames Bridge, and in marine waters south of the mouth of the Kenai River. The harvest, as reported by the tribal office, totaled 2,212 sockeye, 1,814 coho and 95 chinook salmon.

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

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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 1989 season resulted in a total reported harvest of 1,202 chinook, 67 sockeye, 70 coho and 1 chum salmon between May 15 and October 15 (Foster, 1989). The chinook harvest continues a trend of steadily declining catches in this fishery that began in 1983 when the harvest peaked at 2,755. Forty-nine permits were issued for the early season (Appendix A.16).

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 are set at 6:00 a.m. to 6:00 p.m. daily beginning June 21. Fishing is limited to the beaches adjacent to the mouth of the Kasilof River inside the ADF&G commercial salmon fishing regulatory markers. Participants are permitted a single 10-fathom gill net having a mesh size no greater than six inches and a depth no greater than forty-five meshes. Participants are required to have a current resident Alaska sport fishing license. The fishery is limited to a harvest of 5,000-10,000 sockeye salmon.

In 1988, as in prior years, daily net counts were made at each beach and 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 was open for ten days before achieving the sockeye salmon quota and was closed by emergency order at 6:00 p.m., Friday, June 30. The final harvest was estimated to be 9,928 sockeye and 186 chinook salmon (Table 18). Effort peaked on the second day of the fishery when 124 nets were counted and showed a generally decreasing trend as the fishery progressed. The highest daily harvest occurred on June 27 when 1,580 sockeye salmon were taken and, in general, fishing improved throughout the course of the fishery. Chinook salmon catches were highest during the first few days of the season and had declined to very low levels by the time the fishery closed.

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. Open fishing periods are scheduled from 12:00 noon, Saturday until 12:00 noon, Sunday on the last three weekends of September or until 2,500 salmon have been taken; open areas are defined as all areas along the Kenai Peninsula shoreline normally open to commercial set gillnetting from the Kasilof River north to Point Possession. Each permit holder is allotted one 10-fathom set gill net have a mesh size no greater than six inches and not exceeding 45 meshes in depth. A minimum distance of 100 feet is required between nets. A current Alaska resident sportfishing license and a permit issued by the Soldotna ADF&G office is required prior to participation in the fishery. Permit holders are required to report their catch to the Soldotna office within five days of a fishing period in which they participate.

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A total of 365 permits were issued for the 1989 fishery, a substantial decline from the 449 issued the previous year. Aerial surveys were conducted each weekend to determine the total number of nets fishing and 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 19).

The first weekend (September 9-10) generated an estimated harvest of 1,056 coho salmon from 96 nets for an average per net of 11 fish. The second weekend saw a significant increase in effort (132 nets) but a slight decline in catch per net (10) for an estimated harvest of 1,320. With the cumulative harvest of 2,376 quite close to the regulatory quota of 2,500, the last scheduled weekend of the fishery was closed by emergency order.

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Table 1. Offshore test fishing observations, F/V Sea Venture I, 1989.[1]

Date	Stations Fished	Fishing Time (min)	Sockeye Catch	Cum Catch	Index Points[2]	Cum Index	Mean Length (mm)	Mean Weight (kgs)	Water Temp (c)	Air Temp (c)	Salinity (ppm)	Wind Velocity Start	Wind Velocity End
6/23	6	241.0	19	19	14.687	14.687	568.	.00	8.0	11.7	29.5	0	2 SW
6/24	1	20.0	1	20	7.750	22.437	0.	.00	9.0	12.0	27.0	20 SW	20 SW
6/25	0	.0	0	20	8.910	31.347	0.	.00	.0	.0	.0	0	0
6/26	6	228.0	5	25	3.795	35.142	628.	.00	8.0	10.8	29.0	0 NW	0 SE
6/27	5	181.5	0	25	.000	35.142	0.	.00	8.0	11.0	29.0	15 SW	0 SW
6/28	6	227.0	18	43	12.938	48.080	577.	.00	8.0	17.0	29.0	1 S	0
6/29	5	193.5	32	75	24.285	72.365	557.	.00	8.6	12.0	28.4	0	3 NW
6/30	5	185.5	6	81	4.835	77.200	558.	.00	9.1	12.0	28.2	4 SW	14 SE
7/01	5	188.5	9	90	7.053	84.253	549.	.00	9.0	12.0	27.8	0	0
7/02	6	236.0	74	164	47.948	132.201	553.	.00	9.5	17.0	27.2	5 SW	0
7/03	0	.0	0	164	22.820	155.021	0.	.00	.0	.0	.0	0	0
7/04	6	225.0	2	166	1.570	156.591	522.	.00	10.3	12.0	28.2	8 SW	10 SW
7/05	5	181.5	0	166	.000	156.591	0.	.00	10.0	9.6	29.4	15 SE	0
7/06	6	224.0	14	180	11.121	167.712	546.	.00	9.7	13.7	28.1	0	0
7/07	5	185.5	9	189	7.299	175.011	572.	.00	9.2	13.2	28.8	6 SE	0
7/08	6	222.5	42	231	32.864	207.875	561.	.00	9.8	12.7	27.9	2 SE	6 SE
7/09	5	194.0	39	270	27.497	235.372	541.	.00	9.9	10.8	30.0	10 S	6 SE
7/10	6	232.0	29	299	21.431	256.803	582.	.00	10.5	15.2	28.3	5 SE	6 SW
7/11	5	200.0	8	307	6.356	263.159	551.	.00	10.6	10.6	30.3	6 S	14 SW
7/12	6	224.0	90	397	69.877	333.036	576.	.00	10.2	14.3	27.3	0	0
7/13	5	187.0	14	411	11.177	344.213	590.	.00	10.1	11.8	28.6	0	0
7/14	6	221.0	2	413	1.611	345.824	565.	.00	10.7	12.8	29.3	10 NW	8 NW
7/15	5	193.0	30	443	22.861	368.685	556.	.00	10.1	11.6	28.6	10 NW	7 N
7/16	6	224.0	20	463	15.282	383.967	575.	.00	10.5	15.8	25.9	6 SW	2 SE
7/17	5	181.0	0	463	.000	383.967	0.	.00	10.7	14.0	26.6	5 SW	0
7/18	6	226.5	37	500	27.501	411.468	570.	.00	10.5	17.2	26.3	2 NE	4 SW
7/19	5	180.5	8	508	6.631	418.099	581.	.00	10.8	13.0	27.7	10 SW	12 SE
7/20	6	223.0	16	524	12.667	430.766	558.	.00	11.5	13.0	27.6	8 SW	2 SW
7/21	5	183.5	39	563	27.609	458.375	580.	.00	11.3	12.4	26.7	2 S	0
7/22	6	219.5	8	571	6.554	464.929	547.	.00	11.3	12.8	25.3	4 SW	8 SW
7/23	5	147.0	35	606	25.935	490.864	583.	.00	11.1	10.8	27.8	4 NW	5 SW
7/24	6	222.5	26	632	20.214	511.078	586.	.00	10.8	18.0	25.3	4 NW	2 SW
7/25	5	180.0	11	643	9.055	520.133	584.	.00	10.8	12.2	26.3	2 NW	2 NW
7/26	0	33.5	6	649	19.226	539.359	0.	.00	10.5	12.0	22.0	6 SW	
7/27	5	183.5	18	667	14.176	553.535	573.	.00	11.1	13.4	27.4	5 SW	0
7/28	6	233.0	94	761	65.883	619.418	573.	.00	10.9	12.7	24.1	5 NW	2 NW

[1] From Tarbox (1990)
[2] Standardized catch in number of fish per hundred fathoms of net per hour fished.

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Table 2. Daily sockeye salmon escapement estimates for all monitored systems of Upper Cook Inlet, 1989.

	Kenai River		Kasilof River		Crescent River		Yentna River		Fish Creek		Packers Creek	
Date	Daily	Accum	Daily	Accum	Daily	Accum	Daily	Accum	Daily	Accum	Daily	Accum
06/15			116	116							296	1,602
06/16			193	309							52	1,654
06/17			347	656							92	1,746
06/18			261	917							34	1,780
06/19			230	1,147							91	1,871
06/20			515	1,662							655	2,526
06/21			628	2,290							111	2,637
06/22			313	2,603							57	2,694
06/23			344	2,947							117	2,811
06/24			381	3,328							420	3,231
06/25			484	3,812							357	3,588
06/26			1,071	4,883							133	3,721
06/27			996	5,879							115	3,836
06/28			1,392	7,271							165	4,001
06/29			1,741	9,012							129	4,130
06/30			2,675	11,687							120	4,250
07/01	132	132	3,817	15,504	565	565					107	4,357
07/02	692	824	8,769	24,273	836	1,401					62	4,419
07/03	1,064	1,888	3,935	28,208	1,658	3,059					32	4,451
07/04	495	2,383	822	29,030	3,792	6,851					39	4,490
07/05	1,488	3,871	6,529	35,559	2,290	9,141					69	4,559
07/06	6,221	10,092	8,231	43,790	3,725	12,866					30	4,589
07/07	8,075	18,167	7,051	50,841	3,558	16,424	262	262	3	3	87	4,676
07/08	5,008	23,175	3,851	54,692	4,378	20,802	345	607	7	10	127	4,803
07/09	3,685	26,860	5,067	59,759	2,959	23,761	281	888	9	19	0	4,803
07/10	6,382	33,242	4,131	63,890	2,427	26,188	266	1,154	25	44	0	4,803
07/11	4,592	37,834	4,303	68,193	3,121	29,309	171	1,325	16	60	0	4,803
07/12	35,054	72,888	9,030	77,223	3,614	32,923	78	1,403	0	60	25	4,828
07/13	86,787	159,675	1,879	79,102	2,729	35,652	91	1,494	0	60	48	4,876
07/14	99,801	259,476	2,240	81,342	6	35,658	326	1,820	1,308	1,368	62	4,938
07/15	77,612	337,088	2,786	84,128	1,125	36,783	432	2,252	1,582	2,950	50	4,988
07/16	49,755	386,843	5,437	89,565	6,618	43,401	280	2,532	3,315	6,265	117	5,105
07/17	76,478	463,321	7,693	97,258	4,472	47,873	2,410	4,942	500	6,765	48	5,153
07/18	92,575	555,896	2,298	99,556	1,229	49,102	4,948	9,890	4	6,769	49	5,202
07/19	31,516	587,412	2,976	102,532	1,322	50,424	5,642	15,532	2,233	9,002	221	5,423
07/20	85,602	673,014	9,982	112,514	2,905	53,329	3,901	19,433	5,200	14,202	241	5,664
07/21	127,382	800,396	5,730	118,244	1,841	55,170	3,068	22,501	8,076	22,278	125	5,789

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	Kenai River		Kasilof River		Crescent River		Yentna River		Fish Creek		Packers Creek	
Date	Daily	Accum	Daily	Accum	Daily	Accum	Daily	Accum	Daily	Accum	Daily	Accum
07/22	104,724	905,120	3,316	121,560	1,937	57,107	4,411	26,912	4,536	26,814	120	5,909
07/23	116,954	1,022,074	6,011	127,571	1,793	58,900	7,636	34,548	4,257	31,071	12	5,921
07/24	64,628	1,086,702	1,539	129,110	1,850	60,750	9,014	43,562	5,917	36,988	93	6,014
07/25	30,430	1,117,132	1,280	130,390	2,053	62,803	7,649	51,211	8,108	45,096	122	6,136
07/26	49,366	1,166,498	2,547	132,937	1,629	64,432	10,964	62,175	6,209	51,305	89	6,225
07/27	71,354	1,237,852	1,595	134,532	1,632	66,064	9,905	72,080	4,582	55,887	87	6,312
07/28	51,194	1,289,046	1,521	136,053	1,986	68,050	4,851	76,931	2,924	58,811	4	6,316
07/29	40,838	1,329,884	1,388	137,441	708	68,758	5,246	82,177	2,251	61,062	370	6,686
07/30	23,023	1,352,907	1,265	138,706	715	69,473	990	83,167	1,027	62,089	345	7,031
07/31	16,818	1,369,725	1,264	139,970	1,138	70,611	356	83,523	54	62,143	342	7,373
08/01	30,218	1,399,943	1,204	141,174	453	71,064	553	84,076	360	62,503	922	8,295
08/02	21,110	1,421,053	875	142,049			576	84,652	205	62,708	1,301	9,596
08/03	16,869	1,437,922	1,080	143,129			927	85,579	135	62,843	734	10,330
08/04	14,873	1,452,795	1,800	144,929			1,746	87,325	246	63,089	664	10,994
08/05	12,775	1,465,570	1,703	146,632			1,518	88,843	275	63,364	281	11,275
08/06	22,461	1,488,031	2,539	149,171			1,268	90,111	159	63,523	370	11,645
08/07	29,897	1,517,928	2,416	151,587			730	90,841	17	63,540	510	12,155
08/08	18,488	1,536,416	793	152,380			483	91,324	271	63,811	655	12,810
08/09	8,537	1,544,953	958	153,338			529	91,853	379	64,190	567	13,377
08/10	13,699	1,558,652	1,124	154,462			351	92,204	1,269	65,459	368	13,745
08/11	16,897	1,575,549	886	155,348			447	92,651	711	66,170	1,023	14,768
08/12	8,337	1,583,886	631	155,979			390	93,041	405	66,575	906	15,674
08/13	5,743	1,589,629	702	156,681			837	93,878	156	66,731	526	16,200
08/14	6,377	1,596,006	871	157,552			986	94,864	60	66,791	1,961	18,161
08/15	3,953	1,599,959	654	158,206			655	95,519	84	66,875	503	18,664
08/16							240	95,759	142	67,017	157	18,821
08/17							210	95,969	56	67,073	431	19,252
08/18							139	96,108	19	67,092	347	19,599
08/19							106	96,214	36	67,128	132	19,731
08/20							55	96,269	13	67,141	445	20,176
08/21									16	67,157	102	20,278
08/22									8	67,165	56	20,334
08/23									7	67,172	349	20,683
08/24									24	67,196	124	20,807
08/25									15	67,211	632	21,439
08/26									3	67,214	160	21,599

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Date	Kenai River		Kasilof River		Crescent River		Yentna River		Fish Creek		Packers Creek	
	Daily	Accum	Daily	Accum	Daily	Accum	Daily	Accum	Daily	Accum	Daily	Accum
08/27									6	67,220	144	21,743
08/28									2	67,222	65	21,808
08/29									2	67,224	126	21,934
08/30									0	67,224	37	21,971
08/31									0	67,224	0	21,971
Total		1,599,959		158,206		71,064		96,269		67,224		22,304[a]

[a] Weir was in place from May 16 through September 15. Total includes all fish counted during that time period.

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Table 3. Commercial salmon catch by area and gear type, Upper Cook Inlet, 1989.

Area/Gear	Chinook	Sockeye	Coho	Pink	Chum	Total
DRIFT	0	3	743	1	72	819
CENTRAL SET						
Upper	10,919	4,543,066	81,744	37,971	12,302	4,686,002
Kalgin Island	661	87,650	36,660	2,633	1,718	129,325
Kustatan	1,144	40,256	17,468	587	194	59,649
Western	1,272	55,856	23,342	1,899	17,797	100,166
Chinitna Bay	12	3,066	3,534	461	7,996	15,069
Subtotal	14,011	4,729,894	162,748	43,551	40,007	4,990,211
NORTHERN SET						
Eastern	2,398	79,533	41,758	3,147	17,906	144,742
General	10,333	201,268	133,952	20,731	64,042	430,326
Subtotal	12,731	280,801	175,710	23,878	81,948	575,068
SEINE	0	0	0	0	0	0
GRAND TOTAL	26,742	5,010,698	339,201	67,430	122,027	5,566,098

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Table 4. Chinook salmon catch by area and date, Upper Cook Inlet, 1989

Date	DRIFT		EAST SIDE SET NET																NORTHERN DISTRICT SET NET			
			SALAMATOF		K-BEACH		CONOE/NINILCHIK		TOTAL		WESTERN		KUSTATAN		KALGIN		CHINITNA		WEST SIDE		EAST SIDE	
	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
5-26													128	128								
5-29													162	290								
5-31													146	436								
6-02													83	519								
6-05													78	597					3,113	3,113	1,035	1,035
6-07													52	649						3,113		1,035
6-09													48	697						3,113		1,035
6-12													49	746					4,169	7,282	766	1,801
6-14													32	778						7,282		1,801
6-16											70	70	40	818						7,282		1,801
6-19											301	371	32	850					1,701	8,983	284	2,085
6-21												371	77	927						8,983		2,085
6-23											290	661	32	959						8,983		2,085
6-26											163	824	133	1,092	501	501	1	1	739	9,722	222	2,307
6-30											132	956	20	1,112	49	550	2	3	257	9,979	55	2,362
7-03			75	75	135	135	307	307	517	517	57	1,013	2	1,114	11	561		3	101	10,080	12	2,374
7-07			134	209	197	332		307	331	848	85	1,098	4	1,118	14	575	5	8	54	10,134	6	2,380
7-10			135	344	379	711	437	744	951	1,799	76	1,174	5	1,123	11	586		8	46	10,180	2	2,382
7-11				344	12	723	45	789	57	1,856		1,174		1,123		586		8		10,180		2,382
7-12				344	199	922	331	1,120	530	2,386		1,174		1,123		586		8		10,180		2,382
7-13			522	866	116	1,038	220	1,340	858	3,244		1,174		1,123		586		8		10,180		2,382
7-14			43	909	68	1,106	157	1,497	268	3,512	35	1,209		1,123	10	596		8	20	10,200	2	2,384
7-15			93	1,002	96	1,202		1,497	189	3,701		1,209	1	1,124	6	602		8	26	10,226	3	2,387
7-16			82	1,084	141	1,343		1,497	223	3,924		1,209		1,124	11	613		8		10,226		2,387
7-17			137	1,221	157	1,500	232	1,729	526	4,450	20	1,229		1,124	9	622		8	27	10,253	2	2,389
7-18			89	1,310	92	1,592		1,729	181	4,631		1,229	2	1,126	3	625		8		10,253		2,389
7-19			69	1,379	122	1,714		1,729	191	4,822		1,229	1	1,127	12	637		8		10,253		2,389
7-20			65	1,444	221	1,935	207	1,936	493	5,315		1,229		1,127	12	649		8		10,253		2,389
7-21			62	1,506	176	2,111	348	2,284	586	5,901	11	1,240	1	1,128	4	653	1	9	31	10,284		2,389
7-22			36	1,542	64	2,175		2,284	100	6,001		1,240	1	1,129	1	654		9		10,284		2,389
7-23			74	1,616	131	2,306	277	2,561	482	6,483		1,240	1	1,130	3	657		9		10,284		2,389
7-24			72	1,688	127	2,433	294	2,855	493	6,976	9	1,249	2	1,132		657	1	10	12	10,296	1	2,390
7-25			92	1,780	86	2,519	241	3,096	419	7,395		1,249	1	1,133		657		10	1	10,297		2,390
7-26			59	1,839	113	2,632	273	3,369	445	7,840		1,249		1,133		657		10	1	10,298		2,390
7-27			75	1,914	97	2,729	236	3,605	408	8,248		1,249		1,133		657		10		10,298		2,390
7-28			104	2,018	79	2,808	210	3,815	393	8,641	4	1,253	1	1,134	2	659	1	11	11	10,309	1	2,391
7-29			69	2,087	71	2,879	235	4,050	375	9,016		1,253		1,134		659		11		10,309		2,391
7-30			55	2,142	118	2,997	150	4,200	323	9,339		1,253		1,134		659		11		10,309		2,391
7-31			56	2,198	70	3,067	151	4,351	277	9,616	9	1,262	2	1,136	1	660		11	7	10,316	1	2,392
8-01			52	2,250	64	3,131	169	4,520	285	9,901		1,262		1,136		660		11		10,316		2,392
8-02			66	2,316	99	3,230	146	4,666	311	10,212		1,262		1,136		660		11		10,316		2,392
8-03			50	2,366	33	3,263		4,666	83	10,295		1,262		1,136		660		11		10,316		2,392
8-04			57	2,423	98	3,361	172	4,838	327	10,622	5	1,267		1,136	2	662		11	8	10,324	1	2,393
8-07			33	2,456	84	3,445	65	4,903	182	10,804	1	1,268	5	1,141	1	663	1	12	2	10,326	1	2,394
8-08				2,456		3,445		4,903		10,804		1,268		1,141		663		12		10,326		2,394
8-11			5	2,461	47	3,492	33	4,936	85	10,889		1,268	1	1,142		663		12	3	10,329	1	2,395
8-14			4	2,465	17	3,509	9	4,945	30	10,919	1	1,269	1	1,143		663		12	2	10,331	1	2,396
8-18				2,465		3,509		4,945		10,919	1	1,270	1	1,144		663		12	1	10,332		2,396
8-21				2,465		3,509		4,945		10,919	1	1,271		1,144	1	664		12		10,332		2,396
8-23				2,465		3,509		4,945		10,919		1,271		1,144		664		12	1	10,333	1	2,397
8-25				2,465		3,509		4,945		10,919		1,271		1,144		664		12		10,333		2,397
8-28				2,465		3,509		4,945		10,919		1,271		1,144		664		12		10,333	1	2,398
8-30				2,465		3,509		4,945		10,919	1	1,272		1,144		664		12		10,333		2,398

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Table 5 Sockeye salmon catch by area and date, Upper Cook Inlet 1989

	DRIFT		EAST SIDE SET NET																		NORTHERN DISTRICT SET NET			
			SALAMATOF		K-BEACH		COHOE/NINILCHIK		TOTAL		WESTERN		KUSTATAN		KALGIN		CHINITNA		WEST SIDE		EAST SIDE	
Date	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
5-26													142	142								
5-29													236	378								
5-31													389	767								
6-02													259	1,026								
6-05													968	1,994					217	217	430	430
6-07													597	2,591						217		430
6-09													238	2,829						217		430
6-12													283	3,112					331	548	477	907
6-14													90	3,202						548		907
6-16											239	239	299	3,501						548		907
6-19											654	893	139	3,640					83	631	161	1,068
6-21												893	347	3,987						631		1,068
6-23											1,599	2,492	209	4,196						631		1,068
6-26											1,862	4,354	245	4,441	3,264	3,264	173	173	70	701	185	1,253
6-30											5,242	9,596	205	4,646	1,912	5,176	711	884	250	951	552	1,805
7-03			2,465	2,465	8,191	8,191	18,571	18,571	29,227	29,227	3,964	13,560	60	4,706	748	5,924	595	1,479	374	1,325	664	2,469
7-07			4,964	7,429	11,372	19,563		18,571	16,336	45,563	2,928	16,488	342	5,048	1,402	7,326	459	1,938	2,550	3,875	2,500	4,969
7-10			6,581	14,010	11,925	31,488	23,439	42,010	41,945	87,508	3,859	20,347	331	5,379	1,280	8,606	164	2,102	1,958	5,833	1,520	6,489
7-11				14,010	694	32,182	8,164	50,174	8,858	96,366		20,347		5,379		8,606		2,102		5,833		6,489
7-12				14,010	37,575	69,757	34,290	84,464	71,865	168,231		20,347		5,379		8,606		2,102		5,833		6,489
7-13			111,011	125,021	116,608	186,365	29,209	113,673	256,828	425,059		20,347		5,379		8,606		2,102		5,833		6,489
7-14			93,791	218,812	88,039	274,404	23,886	137,559	205,716	630,775	6,223	26,570	1,945	7,324	6,696	15,302	181	2,283	16,611	22,444	23,546	30,035
7-15			78,648	297,460	50,729	325,133		137,559	129,377	760,152		26,570	3,703	11,027	3,801	19,103		2,283	32,373	54,817	23,117	53,152
7-16			155,451	452,911	117,249	442,382		137,559	272,700	1,032,852		26,570	1,886	12,913	5,036	24,139		2,283		54,817		53,152
7-17			159,835	612,746	117,249	559,631	29,797	167,356	306,881	1,339,733	2,932	29,502	2,161	15,074	6,099	30,238	90	2,373	30,523	85,340	4,671	57,823
7-18			66,043	678,789	31,800	591,431		167,356	97,843	1,437,576		29,502	1,290	16,364	1,179	31,417		2,373		85,340		57,823
7-19			132,762	811,551	118,459	709,890		167,356	251,221	1,688,797		29,502	1,178	17,542	5,331	36,748		2,373		85,340		57,823
7-20			193,306	1,004,857	145,299	855,189	65,898	233,254	404,503	2,093,300		29,502	4,360	21,902	6,656	43,404		2,373		85,340		57,823
7-21			128,999	1,133,856	154,549	1,009,738	82,903	316,157	366,451	2,459,751	5,494	34,996	2,006	23,908	5,570	48,974	89	2,462	32,334	117,674	11,057	68,880
7-22			137,019	1,270,875	100,768	1,110,506		316,157	237,787	2,697,538		34,996	2,979	26,887	1,844	50,818		2,462		117,674		68,880
7-23			84,802	1,355,677	79,074	1,189,580	94,902	411,059	258,778	2,956,316		34,996	2,677	29,564	6,936	57,754		2,462		117,674		68,880
7-24			37,027	1,392,704	61,504	1,251,084	64,572	475,631	163,103	3,119,419	5,210	40,206	3,994	33,558	2,144	59,898	467	2,929	29,264	146,938	3,885	72,765
7-25			49,662	1,442,366	68,645	1,319,729	79,962	555,593	198,269	3,317,688		40,206	1,101	34,659	950	60,848		2,929	13,827	160,765		72,765
7-26			106,138	1,548,504	133,388	1,453,117	70,501	626,094	310,027	3,627,715		40,206	2,578	37,237	4,040	64,888		2,929	7,558	168,323		72,765
7-27			49,365	1,597,869	62,071	1,515,188	39,790	665,884	151,226	3,778,941		40,206		37,237		64,888		2,929	6,750	175,073		72,765
7-28			44,146	1,642,015	50,200	1,565,388	23,979	689,863	118,325	3,897,266	5,800	46,006	1,231	38,468	3,028	67,916	56	2,985	11,366	186,439	1,400	74,165
7-29			19,220	1,661,235	37,198	1,602,586	48,949	738,812	105,367	4,002,633		46,006		38,468		67,916		2,985	4,205	190,644		74,165
7-30			14,103	1,675,338	42,783	1,645,369	67,879	806,691	124,765	4,127,398		46,006		38,468		67,916		2,985		190,644		74,165
7-31			43,364	1,718,702	47,569	1,692,938	48,383	855,074	139,316	4,266,714	4,130	50,136	874	39,342	11,729	79,645	29	3,014	4,609	195,253	1,520	75,685
8-01			31,666	1,750,368	32,639	1,725,577	33,290	888,364	97,595	4,364,309		50,136		39,342		79,645		3,014		195,253		75,685
8-02			24,884	1,775,252	20,563	1,746,140	21,557	909,921	67,004	4,431,313		50,136		39,342		79,645		3,014		195,253		75,685
8-03			7,948	1,783,200	17,724	1,763,864		909,921	25,672	4,456,985		50,136		39,342		79,645		3,014		195,253		75,685
8-04			8,775	1,791,975	23,630	1,787,494	15,619	925,540	48,024	4,505,009	2,647	52,783	320	39,662	2,910	82,555	11	3,025	2,433	197,686	658	76,343
8-07			12,404	1,804,379	5,711	1,793,205	6,327	931,867	24,442	4,529,451	1,532	54,315	293	39,955	2,426	84,981	15	3,040	1,837	199,523	1,192	77,535
8-08				1,804,379		1,793,205		931,867		4,529,451		54,315		39,955		84,981		3,040	48	199,571		77,535
8-11			1,848	1,806,227	2,334	1,795,539	2,938	934,805	7,120	4,536,571	383	54,698	114	40,069	997	85,978	22	3,062	651	200,222	862	78,397
8-14			1,313	1,807,540	1,437	1,796,976	3,745	938,550	6,495	4,543,066	756	55,454	120	40,189	663	86,641		3,062	406	200,628	397	78,794
8-18				1,807,540		1,796,976		938,550		4,543,066	118	55,572	24	40,213	376	87,017		3,062	86	200,714	154	78,948
8-21				1,807,540		1,796,976		938,550		4,543,066	84	55,656	27	40,240	286	87,303		3,062	418	201,132	204	79,152
8-23				1,807,540		1,796,976		938,550		4,543,066	48	55,704	16	40,256	104	87,407		3,062	100	201,232	89	79,241
8-25				1,807,540		1,796,976		938,550		4,543,066	13	55,717		40,256	168	87,575		3,062	8	201,240	127	79,368
8-28	2	2		1,807,540		1,796,976		938,550		4,543,066	19	55,736		40,256	23	87,598	3	3,065	21	201,261	39	79,407
8-30	1	3		1,807,540		1,796,976		938,550		4,543,066	25	55,761		40,256	31	87,629		3,065		201,261	86	79,493
9-01		3		1,807,540		1,796,976		938,550		4,543,066	42	55,803		40,256		87,629		3,065	2	201,263	8	79,501
9-04		3		1,807,540		1,796,976		938,550		4,543,066	52	55,855		40,256		87,629	4	3,069	2	201,265	17	79,518
9-06		3		1,807,540		1,796,976		938,550		4,543,066	1	55,856		40,256	7	87,636		3,069	2	201,267	8	79,526
9-08		3		1,807,540		1,796,976		938,550		4,543,066		55,856		40,256	8	87,644		3,069	1	201,268	7	79,533
9-11		3		1,807,540		1,796,976		938,550		4,543,066		55,856		40,256	6	87,650		3,069		201,268		79,533

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Table 6. Coho salmon catch by area and date, Upper Cook Inlet, 1989

	DRIFT		EAST SIDE SET NET																NORTHERN DISTRICT SET NET			
			SALAMATOF		K-BEACH		CONOE/NINILCHIK		TOTAL		WESTERN		KUSTATAN		KALGIN		CHINITNA		WEST SIDE		EAST SIDE	
Date	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
6-26											1	1	2	2								
6-30											4	5	4	6	3	3			6	6		
7-03			7	7	7	7	2	2	16	16	10	15		6	10	13			24	30	5	5
7-07			26	33	4	11		2	30	46	27	42	27	33	128	141	16	16	348	378	36	41
7-10			36	69	53	64	8	10	97	143	78	120	50	83	138	279		16	549	927	24	65
7-11				69		64	1	11	1	144		120		83		279		16		927		65
7-12				69	9	73	28	39	37	181		120		83		279		16		927		65
7-13			466	535	30	103	92	131	588	769		120		83		279		16		927		65
7-14			966	1,501	50	153	69	200	1,085	1,854	112	232	123	206	622	901	4	20	1,961	2,888	880	945
7-15			616	2,117	43	196		200	659	2,513		232	197	403	371	1,272		20	3,108	5,996	1,139	2,084
7-16			910	3,027	76	272		200	986	3,499		232	107	510	828	2,100		20		5,996		2,084
7-17			428	3,455	23	295	39	239	490	3,989	200	432	739	1,249	676	2,776	9	29	6,610	12,606	377	2,461
7-18			213	3,668	27	322		239	240	4,229		432	132	1,381	117	2,893		29		12,606		2,461
7-19			615	4,283	40	362		239	655	4,884		432	294	1,675	1,259	4,152		29		12,606		2,461
7-20			595	4,878	80	442	89	328	764	5,648		432	522	2,197	1,429	5,581		29		12,606		2,461
7-21			894	5,772	151	593	2,931	3,259	3,976	9,624	569	1,001	301	2,498	928	6,509	26	55	15,470	28,076	977	3,438
7-22			1,017	6,789	118	711		3,259	1,135	10,759		1,001	546	3,044	778	7,287		55		28,076		3,438
7-23			1,443	8,232	226	937	290	3,549	1,959	12,718		1,001	671	3,715	2,847	10,134		55		28,076		3,438
7-24			1,949	10,181	241	1,178	425	3,974	2,615	15,333	1,103	2,104	1,807	5,522	569	10,703	136	191	11,910	39,986	1,312	4,750
7-25			1,012	11,193	89	1,267	193	4,167	1,294	16,627		2,104	558	6,080	412	11,115		191	738	40,724		4,750
7-26			2,662	13,855	202	1,469	241	4,408	3,105	19,732		2,104	2,091	8,171	1,723	12,838		191	856	41,580		4,750
7-27			1,409	15,264	99	1,568	255	4,663	1,763	21,495		2,104		8,171		12,838		191	1,190	42,770		4,750
7-28			1,288	16,552	316	1,884	345	5,008	1,949	23,444	1,224	3,328	1,682	9,853	3,141	15,979	35	226	25,734	68,504	834	5,584
7-29			5,856	22,408	1,428	3,312	1,867	6,875	9,151	32,595		3,328		9,853		15,979		226	1,621	70,125		5,584
7-30			4,984	27,392	1,995	5,307	3,915	10,790	10,894	43,489		3,328		9,853		15,979		226		70,125		5,584
7-31			2,979	30,371	870	6,177	1,615	12,405	5,464	48,953	2,144	5,472	1,659	11,512	9,254	25,233	442	668	17,204	87,329	2,013	7,597
8-01			2,545	32,916	758	6,935	1,330	13,735	4,633	53,586		5,472		11,512		25,233		668		87,329		7,597
8-02			2,258	35,174	1,180	8,115	1,948	15,683	5,386	58,972		5,472		11,512		25,233		668		87,329		7,597
8-03			1,497	36,671	690	8,805		15,683	2,187	61,159		5,472		11,512		25,233		668		87,329		7,597
8-04			1,321	37,992	1,165	9,970	784	16,467	3,270	64,429	1,717	7,189	786	12,298	3,773	29,006	157	825	11,221	98,550	1,319	8,916
8-07			1,902	39,894	868	10,838	1,492	17,959	4,262	68,691	2,061	9,250	1,637	13,935	2,403	31,409	259	1,084	11,510	110,060	1,544	10,460
8-08				39,894		10,838		17,959		68,691		9,250		13,935		31,409		1,084	242	110,302		10,460
8-11			2,206	42,100	1,188	12,026	2,993	20,952	6,387	75,078	1,094	10,344	1,524	15,459	1,028	32,437	1,039	2,123	9,489	119,791	4,157	14,617
8-14			1,841	43,941	824	12,850	4,001	24,953	6,666	81,744	1,937	12,281	526	15,985	515	32,952		2,123	5,904	125,695	4,117	18,734
8-18				43,941		12,850		24,953		81,744	1,896	14,177	233	16,218	665	33,617		2,123	797	126,492	1,170	19,904
8-21				43,941		12,850		24,953		81,744	2,086	16,263	682	16,900	1,242	34,859		2,123	2,540	129,032	4,335	24,239
8-23				43,941		12,850		24,953		81,744	1,053	17,316	379	17,279	573	35,432		2,123	1,090	130,122	3,655	27,894
8-25				43,941		12,850		24,953		81,744	1,098	18,414		17,279	871	36,303		2,123	1,008	131,130	4,845	32,739
8-28	531	531		43,941		12,850		24,953		81,744	1,126	19,540		17,279	103	36,406	1,524	3,647	1,071	132,201	2,725	35,464
8-30		531		43,941		12,850		24,953		81,744	1,120	20,660	189	17,468	98	36,504		3,647	435	132,636	2,472	37,936
9-01		531		43,941		12,850		24,953		81,744	73	20,733		17,468		36,504		3,647	126	132,762	305	38,241
9-04	212	743		43,941		12,850		24,953		81,744	1,198	21,931		17,468		36,504	630	4,277	477	133,239	1,572	39,813
9-06		743		43,941		12,850		24,953		81,744	475	22,406		17,468	20	36,524		4,277	375	133,614	1,007	40,820
9-08		743		43,941		12,850		24,953		81,744	326	22,732		17,468	91	36,615		4,277	338	133,952	393	41,213
9-11		743		43,941		12,850		24,953		81,744	223	22,955		17,468	45	36,660		4,277		133,952	365	41,578
9-13		743		43,941		12,850		24,953		81,744	225	23,180		17,468		36,660		4,277		133,952	180	41,758
9-15		743		43,941		12,850		24,953		81,744	162	23,342		17,468		36,660		4,277		133,952		41,758

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table 7. Pink salmon catch by area and date, Upper Cook Inlet, 1989

	DRIFT		EAST SIDE SET NET																NORTHERN DISTRICT SET NET			
			SALAMATOF		K-BEACH		CONOE/NINILCHIK		TOTAL		WESTERN		KUSTATAN		KALGIN		CHINITNA		WEST SIDE		EAST SIDE	
Date	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
5-26																						
5-29																						
5-31																						
6-02																						
6-05																						
6-07																						
6-09																						
6-12																						
6-14																						
6-16																						
6-19											1	1										
6-21												1										
6-23											4	5										
6-26											7	12			6	6	2	2	1	1	7	7
6-30											46	58	2	2	14	20	15	17	5	6	32	39
7-03			34	34	28	28	189	189	251	251	50	108		2	7	27	7	24	14	20	33	72
7-07			170	204	184	212		189	354	605	91	199	4	6	55	82	30	54	206	226	168	240
7-10			577	781	261	473	1,202	1,391	2,040	2,645	263	462	13	19	124	206	47	101	585	811	447	687
7-11				781	2	475	116	1,507	118	2,763		462		19		206		101		811		687
7-12				781	129	604	1,445	2,952	1,574	4,337		462		19		206		101		811		687
7-13			116	897	83	687	3,409	6,361	3,608	7,945		462		19		206		101		811		687
7-14			276	1,173	114	801	2,824	9,185	3,214	11,159	290	752	16	35	* 143	349	24	125	592	1,403	217	904
7-15			273	1,446	248	1,049		9,185	521	11,680		752	18	53	146	495		125	744	2,147	169	1,073
7-16			442	1,888	360	1,409		9,185	802	12,482		752	9	62	234	729		125		2,147		1,073
7-17			484	2,372	274	1,683	1,585	10,770	2,343	14,825	149	901	67	129	151	880	56	181	2,735	4,882	211	1,284
7-18			456	2,828	212	1,895		10,770	668	15,493		901	23	152	53	933		181		4,882		1,284
7-19			712	3,540	205	2,100		10,770	917	16,410		901	11	163	117	1,050		181		4,882		1,284
7-20			664	4,204	241	2,341	1,067	11,837	1,972	18,382		901	36	199	146	1,196		181		4,882		1,284
7-21			762	4,966	313	2,654	1,251	13,088	2,326	20,708	177	1,078	24	223	262	1,458	34	215	3,493	8,375	642	1,926
7-22			512	5,478	115	2,769		13,088	627	21,335		1,078	32	255	51	1,509		215		8,375		1,926
7-23			543	6,021	197	2,966	1,139	14,227	1,879	23,214		1,078	48	303	335	1,844		215		8,375		1,926
7-24			458	6,479	72	3,038	744	14,971	1,274	24,488	332	1,410	108	411	91	1,935	93	308	3,938	12,313	506	2,432
7-25			422	6,901	92	3,130	689	15,660	1,203	25,691		1,410	6	417	60	1,995		308	84	12,397		2,432
7-26			581	7,482	42	3,172	493	16,153	1,116	26,807		1,410	67	484	121	2,116		308	63	12,460		2,432
7-27			395	7,877	30	3,202	439	16,592	864	27,671		1,410		484		2,116		308	121	12,581		2,432
7-28			491	8,368	92	3,294	481	17,073	1,064	28,735	225	1,635	61	545	124	2,240	44	352	4,755	17,336	120	2,552
7-29			523	8,891	78	3,372	1,358	18,431	1,959	30,694		1,635		545		2,240		352	151	17,487		2,552
7-30			740	9,631	232	3,604	1,565	19,996	2,537	33,231		1,635		545		2,240		352		17,487		2,552
7-31			684	10,315	101	3,705	741	20,737	1,526	34,757	72	1,707	17	562	226	2,466	42	394	1,615	19,102	354	2,906
8-01			512	10,827	105	3,810	842	21,579	1,459	36,216		1,707		562		2,466		394		19,102		2,906
8-02			236	11,063	98	3,908	379	21,958	713	36,929		1,707		562		2,466		394		19,102		2,906
8-03			213	11,276	78	3,986		21,958	291	37,220		1,707		562		2,466		394		19,102		2,906
8-04			160	11,436	61	4,047	109	22,067	330	37,550	62	1,769	5	567	125	2,591	13	407	854	19,956	98	3,004
8-07			83	11,519	8	4,055	81	22,148	172	37,722	49	1,818	10	577	25	2,616	35	442	407	20,363	69	3,073
8-08				11,519		4,055		22,148		37,722		1,818		577		2,616		442	17	20,380		3,073
8-11			37	11,556	8	4,063	71	22,219	116	37,838	22	1,840	1	578	2	2,618	19	461	213	20,593	39	3,112
8-14			17	11,573	3	4,066	113	22,332	133	37,971	35	1,875	5	583	5	2,623		461	73	20,666	9	3,121
8-18				11,573		4,066		22,332		37,971	5	1,880	1	584	1	2,624		461	11	20,677	14	3,135
8-21				11,573		4,066		22,332		37,971	7	1,887	3	587	5	2,629		461	26	20,703	5	3,140
8-23				11,573		4,066		22,332		37,971	3	1,890		587	3	2,632		461	8	20,711	4	3,144
8-25				11,573		4,066		22,332		37,971	6	1,896		587	1	2,633		461	8	20,719	2	3,146
8-28				11,573		4,066		22,332		37,971	3	1,899		587		2,633		461	10	20,729		3,146
8-30				11,573		4,066		22,332		37,971		1,899		587		2,633		461		20,729		3,146
9-01				11,573		4,066		22,332		37,971		1,899		587		2,633		461	1	20,730	1	3,147
9-04	1	1		11,573		4,066		22,332		37,971		1,899		587		2,633	1	462	1	20,731		3,147

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Table 8 Chum salmon catch by area and date Upper Cook Inlet 1989

Date	DRIFT		EAST SIDE SET NET								WESTERN		KUSTATAN		KALGIN		CHINITNA		NORTHERN DISTRICT SET NET			
			SALAMATOF		K-BEACH		CONOE/NINILCHIK		TOTAL										WEST SIDE		EAST SIDE	
	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
6-02																						
6-05																						
6-07																						
6-09																						
6-12													1	1					1	1	1	1
6-14														1						1		1
6-16											4	4		1						1		1
6-19											1	5		1						1	1	2
6-21												5		1						1		2
6-23											10	15		1						1		2
6-26											7	22	1	2	2	2	17	17	10	11	3	5
6-30											26	48		2	6	8	66	83	75	86	2	7
7-03			22	22	3	3	2	2	27	27	26	74	1	3	1	9	52	135	90	176		7
7-07			9	31	3	6		2	12	39	78	152		3	5	14	121	256	299	475	86	93
7-10			20	51	9	15	1	3	30	69	128	280	1	4	14	28	131	387	88	563	10	103
7-11				51		15		3		69		280		4		28		387		563		103
7-12				51	2	17	4	7	6	75		280		4		28		387		563		103
7-13			757	808	1	18	20	27	778	853		280		4		28		387		563		103
7-14			648	1,456	2	20	25	52	675	1,528	263	543		4	8	36	112	499	562	1,125	1,706	1,809
7-15			326	1,782	11	31		52	337	1,865		543	1	5	74	110		499	1,711	2,836	1,927	3,736
7-16			256	2,038	5	36		52	261	2,126		543		5	127	237		499		2,836		3,736
7-17			186	2,224	1	37	7	59	194	2,320	362	905		5	75	312	173	672	3,809	6,645	883	4,619
7-18			187	2,411	2	39		59	189	2,509		905	1	6	3	315		672		6,645		4,619
7-19			211	2,622	1	40		59	212	2,721		905	1	7	69	384		672		6,645		4,619
7-20			244	2,866	5	45	3	62	252	2,973		905		7	57	441		672		6,645		4,619
7-21			203	3,069	4	49	2	64	209	3,182	638	1,543		7	60	501	357	1,029	6,031	12,676	3,207	7,826
7-22			173	3,242	4	53		64	177	3,359		1,543	2	9	38	539		1,029		12,676		7,826
7-23			228	3,470		53	163	227	391	3,750		1,543		9	105	644		1,029		12,676		7,826
7-24			253	3,723	3	56	29	256	285	4,035	1,308	2,851	4	13	24	668	724	1,753	10,365	23,041	2,622	10,448
7-25			177	3,900	3	59	19	275	199	4,234		2,851		13	27	695		1,753	756	23,797		10,448
7-26			297	4,197	8	67	10	285	315	4,549		2,851	6	19	166	861		1,753	697	24,494		10,448
7-27			177	4,374	2	69	9	294	188	4,737		2,851		19		861		1,753	763	25,257		10,448
7-28			186	4,560	99	168	19	313	304	5,041	1,672	4,523	22	41	87	948	105	1,858	12,377	37,634	1,676	12,124
7-29			973	5,533	20	188	274	587	1,267	6,308		4,523		41		948		1,858	1,516	39,150		12,124
7-30			1,550	7,083	33	221	1,051	1,638	2,634	8,942		4,523		41		948		1,858		39,150		12,124
7-31			625	7,708	14	235	176	1,814	815	9,757	2,930	7,453	31	72	219	1,167	1,536	3,394	11,252	50,402	2,211	14,335
8-01			809	8,517	18	253	137	1,951	964	10,721		7,453		72		1,167		3,394		50,402		14,335
8-02			413	8,930	50	303	207	2,158	670	11,391		7,453		72		1,167		3,394		50,402		14,335
8-03			312	9,242	14	317		2,158	326	11,717		7,453		72		1,167		3,394		50,402		14,335
8-04			140	9,382	10	327	10	2,168	160	11,877	3,285	10,738	6	78	81	1,248	780	4,174	6,864	57,266	2,220	16,555
8-07			49	9,431		327	14	2,182	63	11,940	2,810	13,548	48	126	370	1,618	2,067	6,241	3,992	61,258	503	17,058
8-08				9,431		327		2,182		11,940		13,548		126		1,618		6,241	15	61,273		17,058
8-11			82	9,513	8	335	49	2,231	139	12,079	2,131	15,679	41	167	25	1,643	1,681	7,922	1,728	63,001	547	17,605
8-14			15	9,528	1	336	207	2,438	223	12,302	1,355	17,034	11	178	10	1,653		7,922	903	63,904	129	17,734
8-18				9,528		336		2,438		12,302	509	17,543	4	182	12	1,665		7,922	36	63,940	57	17,791
8-21				9,528		336		2,438		12,302	84	17,627	6	188	14	1,679		7,922	42	63,982	25	17,816
8-23				9,528		336		2,438		12,302	54	17,681	6	194	19	1,698		7,922	26	64,008	26	17,842
8-25				9,528		336		2,438		12,302	35	17,716		194	18	1,716		7,922	13	64,021	32	17,874
8-28	67	67		9,528		336		2,438		12,302	52	17,768		194	1	1,717	131	8,053	5	64,026	11	17,885
8-30		67		9,528		336		2,438		12,302	3	17,771		194	1	1,718		8,053	1	64,027	10	17,895
9-01		67		9,528		336		2,438		12,302	1	17,772		194		1,718		8,053	2	64,029		17,895
9-04	5	72		9,528		336		2,438		12,302	23	17,795		194		1,718	15	8,068		64,029	6	17,901
9-06		72		9,528		336		2,438		12,302		17,795		194		1,718		8,068	4	64,033	3	17,904
9-08		72		9,528		336		2,438		12,302		17,795		194		1,718		8,068	9	64,042		17,904
9-11		72		9,528		336		2,438		12,302	2	17,797		194		1,718		8,068		64,042	2	17,906

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Table 9. Commercial catch by gear, statistical area and species, Upper Cook Inlet, 1989.

Gear	District	Subdistrict	Stat Area	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
Drift	Central	All	All	5	0	3	743	1	72	819
Set Net	Central	Upper	244-21	100	3,256	240,475	9,018	14,166	461	267,376
			244-22	109	1,689	698,075	15,935	8,166	1,977	725,842
			244-30	176	3,509	1,796,976	12,850	4,066	336	1,817,737
			244-40	143	2,465	1,807,540	43,941	11,573	9,528	1,875,047
			All	424	10,919	4,543,066	81,744	37,971	12,302	4,686,002
		Kalgin Is.	246-10	27	514	52,567	25,268	1,844	1,472	81,665
			246-20	11	150	35,083	11,392	789	246	47,660
			All	33	664	87,650	36,660	2,633	1,718	129,325
		Chinitna	245-10	8	12	3,066	3,534	461	7,996	15,069
		Western	245-20	11	81	3,870	7,611	435	723	12,720
			245-30	34	581	28,390	6,188	900	12,770	48,829
			245-40	12	457	16,184	3,491	311	3,692	24,135
			245-50	9	153	7,412	6,052	253	612	14,482
			All	58	1,272	55,856	23,342	1,899	17,797	100,166
		Kustatan	245-55	45	1,012	8,059	6,145	139	81	15,436
			245-60	14	132	32,197	11,323	448	113	44,213
			All	54	1,144	40,256	17,468	587	194	59,649
		All	All	519	14,011	4,729,894	162,748	43,551	40,007	4,990,211
	Northern	General	247-10	49	3,257	33,755	16,420	2,725	1,852	58,009
			247-20	44	2,024	34,213	27,151	3,903	6,225	73,516
			247-30	40	3,663	53,739	57,473	11,127	30,054	156,056
			247-41	17	615	6,891	5,774	738	4,593	18,611
			247-42	15	154	8,627	4,402	273	2,578	16,034
			247-43	12	616	16,118	16,657	1,420	13,761	48,572
			247-50	30	4	47,925	6,075	545	4,979	59,528
			All	136	10,333	201,268	133,952	20,731	64,042	430,326
		Eastern	247-70	29	1,395	54,966	17,311	1,812	17,082	92,566
			247-80	15	618	17,754	10,638	815	706	30,531
			247-90	15	385	6,813	13,809	520	118	21,645
			All	54	2,398	79,533	41,758	3,147	17,906	144,742
		All	All	175	12,731	280,801	175,710	23,878	81,948	575,068
	All	All	All	645	26,742	5,010,695	338,458	67,429	121,955	5,565,279
Seine	All	All	All	0	0	0	0	0	0	0
All	All	All	All	650	26,742	5,010,698	339,201	67,430	122,027	5,566,098

ACE 6208208

Table 10. Commercial salmon catch per permit by statistical area, Upper Cook Inlet, 1989.

Gear	District	Subdistrict	Stat Area	Permits	Chinook	Sockeye	Coho	Pink	Chum	Total
Drift	Central	All	All	5	0	1	149	0	14	164
Set Net	Central	Upper	244-21	100	33	2,405	90	142	5	2,674
			244-22	109	15	6,404	146	75	18	6,659
			244-30	176	20	10,210	73	23	2	10,328
			244-40	143	17	12,640	307	81	67	13,112
			All	424	26	10,715	193	90	29	11,052
		Kalgin Is.	246-10	27	19	1,947	936	68	55	3,025
			246-20	11	14	3,189	1,036	72	22	4,333
			All	33	20	2,656	1,111	80	52	3,919
		Chinitna	245-10	8	2	383	442	58	1,000	1,884
		Western	245-20	11	7	352	692	40	66	1,156
			245-30	34	17	835	182	26	376	1,436
			245-40	12	38	1,349	291	26	308	2,011
			245-50	9	17	824	672	28	68	1,609
			All	58	22	963	402	33	307	1,727
		Kustatan	245-55	45	22	179	137	3	2	343
			245-60	14	9	2,300	809	32	8	3,158
			All	54	21	745	323	11	4	1,105
		All	All	519	27	9,113	314	84	77	9,615
	Northern	General	247-10	49	66	689	335	56	38	1,184
			247-20	44	46	778	617	89	141	1,671
			247-30	40	92	1,343	1,437	278	751	3,901
			247-41	17	36	405	340	43	270	1,095
			247-42	15	10	575	293	18	172	1,069
			247-43	12	51	1,343	1,388	118	1,147	4,048
			247-50	30	0	1,598	203	18	166	1,984
			All	136	76	1,480	985	152	471	3,164
		Eastern	247-70	29	48	1,895	597	62	589	3,192
			247-80	15	41	1,184	709	54	47	2,035
			247-90	15	26	454	921	35	8	1,443
			All	54	44	1,473	773	58	332	2,680
		All	All	175	73	1,605	1,004	136	468	3,286
	All	All	All	645	41	7,769	525	105	189	8,628
Seine	All	All	All	0	0	0	0	0	0	0
All	All	All	All	650	41	7,709	522	104	188	8,563

ACE 6208209

Table 11. Commercial salmon fishery emergency orders issued during the 1989 Upper Cook Inlet season.

Emergency Order No.	Effective Date	Action	Reason
2S-01-89	May 01	Amended the closed waters description in the Big River area.	Provide better protection to salmon streams in the area and make more effective use of the open waters.
2S-03-89	May 25	Opened the Big River fishery under permit by the Commissioner.	Delay in the effective date of the new regulation.
2S-04-89	June 26	Closed drift gillnetting in the Central District on Monday, June 26.	Crude oil in southern portion of the district.
2S-05-89	June 30	Closed drift gillnetting in the Central District on Friday, June 30 and Monday, July 3.	Crude oil in southern portion of the district.
2S-06-89	July 7	Closed drift gillnetting in the Central District on Friday, July 7 and Monday, July 10.	Crude oil throughout most of the district.
2S-07-89	July 7	Closed set gillnetting in Upper Subdistrict south of Kasilof River on Friday, July 7.	Crude oil on Cohoe Beach.
2S-08-89	July 11	Opened set gillnetting in Upper Subdistrict south of the Blanchard Line from 8PM Tuesday, July 11 until 11PM Wednesday, July 12.	Slow down the escapement rate in the Kasilof River.
2S-09-89	July 12	Closed drift gillnetting in the Central District on Friday, July 14 and Monday, July 17.	Crude oil throughout most of the district.

ACE 6208210

Table 11. (Page 2 of 5)

Emergency Order No.	Effective Date	Action	Reason
2S-10-89	July 12	Extended set gillnetting in Upper Subdistrict south of Blanchard Line from 11PM Wednesday, July 12 until the end of the regular period on Friday, July 14.	To slow the escapement rate in the Kasilof River.
2S-11-89	July 13	Opened set gillnetting in Upper Subdistrict north of Blanchard Line from 11AM Thursday, July 13 until the end of the regular period on Friday, July 14.	To slow the escapement rate in the Kenai River.
2S-12-89	July 14	Opened set gillnetting in the Northern District, Kalgin Island and Kustatan Subdistricts, and the Upper Subdistrict north of the Blanchard Line from 7PM Friday, July 14 until 7PM Saturday, July 15.	To harvest anticipated surplus sockeye salmon bound for the Kenai and Susitna Rivers.
2S-13-89	July 15	Extended set gillnetting in the Kalgin Island and Kustatan Subdistricts and the Upper Subdistrict north of the Blanchard Line from 7PM Saturday, July 15 until the end of the regular period on Monday, July 17.	To slow the escapement rate of sockeye salmon into the Kenai River.
2S-14-89	July 17	Extended set gillnetting in the Kalgin Island and Kustatan Subdistricts and the Upper Subdistrict north of the Blanchard Line from 7PM Monday, July 17 until 7PM Tuesday, July 18.	To slow the escapement rate of sockeye salmon into the Kenai River.

ACE 6208211

Table 11. (Page 3 of 5)

Emergency Order No.	Effective Date	Action	Reason
2S-15-89	July 18	Extended set gillnetting in the Kalgin Island and Kustatan Subdistricts and the Upper Subdistrict north of the Blanchard Line from 7PM Tuesday, July 18 until the end of the regular period on Friday, July 21.	To slow the escapement rate of sockeye salmon into the Kenai River.
2S-16-89	July 19	Closed drift gillnetting in all areas of the Central District through August 5.	Crude oil throughout most of the district.
2S-17-89	July 20	Opened set gillnetting in the Upper Subdistrict south of the Blanchard Line from 12 noon, Thursday, July 20 until the end of the regular period on Friday, July 21.	Improved escapement rate in the Kasilof River.
2S-18-89	July 21	Extended set gillnetting in the Kalgin Island, Kustatan Subdistricts and that portion of the Upper Subdistrict north of the Blanchard Line from 7PM Friday, July 21 until the end of the regular period on Monday, July 24.	To harvest surplus Kenai River sockeyes.
2S-19-89	July 23	Opened set gillnetting in the Upper Subdistrict south of the Blanchard Line from 12:30 AM Sunday, July 23 until the end of the regular period on Monday, July 24.	Improved escapement rate in the Kasilof River.
2S-20-89	July 23	Opened the Fish Creek Terminal Area at 11:30 PM Sunday, July 23.	The 50,000 fish escapement goal projected to be met.

ACE 6208212

Table 11. (Page 4 of 5)

Emergency Order No.	Effective Date	Action	Reason
2S-21-89	July 24	Extended set gillnetting in the Kustatan, Kalgin Island and Upper Subdistricts from 7:00 P.M. Monday, July 24 until 7:00 P.M. Wednesday, July 26.	Kenai River escapement goal achieved.
2S-22-89	July 26	Extended set gillnetting in the Upper Subdistrict from 7:00 P.M. Wednesday, July 26 until the end of the regular period on Friday, July 28.	Kenai River escapement goal achieved.
2S-23-89	July 28	Extended set gillnetting in the Upper Subdistrict from 7:00 P.M. Friday, July 28 until the end of the regular period on Monday, July 31.	Kenai River escapement goal achieved.
2S-24-89	July 31	Extended set gillnetting in the Upper Subdistrict from 7:00 P.M. Monday, July 31 until 8:00 P.M. Wednesday, August 2.	Kenai River escapement goal achieved.
2S-25-89	Aug. 2	Extended set gillnetting in the Upper Subdistrict north of the Blanchard Line from 8:00 P.M. Wednesday, August 2 until the end of the regular period on Friday, August 4.	Kenai River escapement goal achieved.
2S-26-89	Aug. 5	Closed drift gillnetting in all areas of the Central District except the Chinitna Bay Subdistrict for the remainder of the 1989 season.	Continued oil contamination in the tide rips.
2S-27-89	Aug. 12	Closed set gillnetting in the Chinitna Bay Subdistrict until further notice.	Inadequate chum salmon escapement in Clearwater Creek.

ACE 6208213

Table 11. (Page 5 of 5)

Emergency Order No.	Effective Date	Action	Reason
2S-28-89	Aug. 23	Opened set gillnetting in the Northern District and the Kalgin Island, Western and Kustatan Subdistricts from 7:00 A.M. to 7:00 P.M. each Wednesday for the remainder of the season. Also, opened set and drift gillnetting and seining in the Chinitna Bay Subdistrict each Monday and Friday from 7:00 A.M. to 7:00 P.M. for the remainder of the season, effective Monday, August 28.	Declining effort in most areas coupled with strong coho salmon returns. Chum return completed in Chinitna Bay.

ACE 6208214

Table 12. Commercial salmon fishing periods by gear type and area, Upper Cook Inlet, 1989.

Date	Day	Time	Set Gill Net	Drift Gill Net
May 26	Fri	0700-1900	Big River Area	
May 29	Mon	0700-1900	Big River Area	
May 31	Wed	0700-1900	Big River Area	
June 02	Fri	0700-1900	Big River Area	
June 05	Mon	0700-1300	Northern District, Big River	
		1300-1900	Big River Area	
June 07	Wed	0700-1900	Big River Area	
June 09	Fri	0700-1900	Big River Area	
June 12	Mon	0700-1300	Northern District, Big River	
		1300-1900	Big River Area	
June 14	Wed	0700-1900	Big River Area	
June 16	Fri	0700-1900	Big River Area, Western	
June 19	Mon	0700-1300	Big River, Western, Northern	
		1300-1900	Big River Area, Western	
June 21	Wed	0700-1900	Big River Area	
June 23	Fri	0700-1900	Big River Area, Western	
June 26	Mon	0700-1900	All except Upper Subdistrict	Closed
June 30	Fri	0700-1900	All except Upper Subdistrict	Closed
July 3	Mon	0700-1900	All	Closed
July 7	Fri	0700-1900	All except Upper south of Kasilof	Closed
July 10	Mon	0700-1900	All	Closed
July 11	Tues	2000-2400	Upper south of mid K-Beach	
July 12	Wed	0000-2400	Upper south of mid K-Beach	
July 13	Thur	0000-1100	Upper south of mid K-Beach	
		1100-2400	Upper	
July 14	Fri	0000-0700	Upper	
		0700-1900	All	Closed
		1900-2400	Northern, Kalgin Island, Kustatan and Upper north of mid K-Beach	
July 15	Sat	0000-1900	Northern, Kalgin Island, Kustatan and Upper north of mid K-Beach	
		1900-2400	Kalgin, Kustatan, Upper n. of mid K-beach	
July 16	Sun	0000-2400	Kalgin, Kustatan, Upper n. of mid K-beach	
July 17	Mon	0000-0700	Kalgin, Kustatan, Upper n. of mid K-beach	
		0700-1900	All	Closed
		1900-2400	Kalgin, Kustatan, Upper n. of mid K-beach	
July 18	Tues	0000-2400	Kalgin, Kustatan, Upper n. of mid K-beach	
July 19	Wed	0000-2400	Kalgin, Kustatan, Upper n. of mid K-beach	

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Table 12. (Page 2 of 2)

Date	Day	Time	Set Gill Net	Drift Gill Net
July 20	Thur	0000-1100	Kalgin, Kustatan, Upper n. of mid K-beach	
		1100-2400	Kalgin, Kustatan, Upper	
July 21	Fri	0000-0700	Kalgin, Kustatan, Upper	
		0700-1900	All	Closed
		1900-2400	Kalgin, Kustatan, Upper n. of mid K-beach	
July 22	Sat	0000-2400	Kalgin, Kustatan, Upper n. of mid K-beach	
July 23	Sun	0000-0030	Kalgin, Kustatan, Upper n. of mid K-beach	
		0030-2330	Kalgin, Kustatan, Upper	
		2330-2400	Kalgin, Kustatan, Upper, Knik	
July 24	Mon	0000-0700	Kalgin, Kustatan, Upper, Knik	
		0700-1900	All	Closed
		1900-2400	Kalgin, Kustatan, Upper, Knik	
July 25	Tue	0000-2400	Kalgin, Kustatan, Upper, Knik	
July 26	Wed	0000-1900	Kalgin, Kustatan, Upper, Knik	
		1900-2400	Upper, Knik	
July 27	Thur	0000-2400	Upper, Knik	
July 28	Fri	0000-0700	Upper, Knik	
		0700-1900	All + Knik	Closed
		1900-2400	Upper, Knik	
July 29	Sat	0000-2400	Upper, Knik	
July 30	Sun	0000-2400	Upper	
July 31	Mon	0000-0700	Upper	
		0700-1900	All	Closed
		1900-2400	Upper	
August 1	Tue	0000-2400	Upper	
August 2	Wed	0000-2000	Upper	
		2000-2400	Upper north of mid K-Beach	
August 3	Thur	0000-2400	Upper north of mid K-Beach	
August 4	Fri	0000-0700	Upper north of mid K-Beach	
		0700-1900	All	Closed
August 7	Mon	0700-1900	All	Closed
August 11	Fri	0700-1900	All	Closed
August 14	Mon	0700-1900	All except Chinitna Bay	Closed
August 18	Fri	0700-1900	All except Chinitna, Upper	Closed
August 21	Mon	0700-1900	All except Chinitna, Upper	Closed
August 23	Wed	0700-1900	All except Chinitna, Upper	
August 25	Fri	0700-1900	All except Chinitna, Upper	Closed
August 28	Mon	0700-1900	All except Upper	Chinitna
August 30	Wed	0700-1900	All except Chinitna, Upper	
Sept. 1	Fri	0700-1900	All except Upper	Chinitna

Fishing continued each Monday, Wednesday and Friday as described for August 28, 30 and September 1 for the remainder of the year.

ACE 6208216

Table 13. Buyers and processors of Upper Cook Inlet fishery products, 1989.

Buyer/Processor	Plant Site	Contact	Address
Alaskan Gourmet, Inc.	Anchorage	Paul Schilling	P.O. Box 190733 Anchorage 99519
Allied Processing, Inc.	Kenai	Joe Nord	P.O. Box 5090 Kenai 99611
Anpac, Inc.	Anchorage	Sarah Barber	P.O. Box 92520 Anchorage 99509
Chugach Alaska Fisheries	Port Graham	Larry Cambronero	Fishermen's Center #207 Seattle 98119
Cook Inlet Processing	Kenai	Pat Hardina	P.O. Box 8163 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	Thomas W. King	4019 21st Ave. W. Seattle 98199
Inlet Fisheries, Inc.	Kenai	Scott Earsley	P.O. Box 530 Kenai 99611
John Cabot Company	Seldovia	Keith Robbins	Drawer E Seldovia 99663
John Cabot Company	Anchorage	Roy Jones	1200 E. 70th Street Anchorage 99518
Keener Packing Company	Kenai	Michael Sawinski	HC 2 Box 738 Soldotna 99669-9706
Kenai Packers	Kenai	Bruce Eckfeldt	P.O. Box 31179 Seattle 98103
Pacific Alaska Seafood Co. dba Dahmen Seafood	Nikiski	Dan Claus	P.O. Box 7498 Nikiski 99635
Prime Alaska Seafoods	Anchorage	Jack N. Mclean	6135 Mike Street Anchorage 99518
R & J Enterprises	Kasilof	Juanita Meier	4821 E. 101st Street Anchorage 99516
Royal Pacific Fisheries	Kenai	Marvin Dragseth	P.O. Box 4609 Kenai 99611
Salamatof Seafoods	Kenai	Wylie T. Reed	P.O. Box 5070 Kenai 99611
Seafoods from Alaska	Sterling	Roland Schwanke	P.O. Box 307 Sterling 99672

- Continued -

ACE 6208217

Table 13. (p. 2 of 2)

Sea-Nik Foods	Sterling	James A. Garroutte	P.O. Box 73 Ninilchik 99639
Silvertip Fish	Kasilof	Darrel Renner	P.O. Box 122 Kasilof 99610
Trans-Aqua Int'l Inc.	Kasilof	Fumiya Uchiyama	One Union Sq., #2800 Seattle 98101
Wards Cove Packing Company dba Columbia-Wards	Kenai	Ray Landry	P.O. Box C-5030 Seattle 98105-0030
Way Ward Wind Seafoods	Eagle River	Max Hulse	P.O. Box 770881 Eagle River 99577

ACE 6208218

Table 14. Age, sex, and size composition of Pacific herring sac roe harvest by gill net in Tuxedni Bay, Upper Cook Inlet, 5-13 May 1989.

		Sex				Percent	Weight			Length			Biomass		
	Age	No. Male	No. Female	No. Unknown	Total No.	of Total	Mean (g)	SD	Number Weighed	Mean (mm)	SD	Number Measured	No. Fish X 1000	tons	tonnes
5-13 May	1														
	2														
	3														
	4	4	5	0	9	2.2	115	21.7	9	211	11.5	9	6	1	1
	5	100	105	0	205	50.6	149	17.7	205	221	8.8	205	144	24	22
	6	76	89	0	165	40.7	168	19.0	165	228	8.6	165	116	22	20
	7	6	7	0	13	3.2	177	25.9	13	232	8.2	13	9	2	2
	8	5	3	0	8	2.0	196	21.0	8	242	11.9	8	6	1	1
	9	1	1	0	2	.5	206	53.7	2	246	10.6	2	1	0	0
	10	2	1	0	3	.7	243	28.6	3	249	3.6	3	2	1	1
	11														
	12														
	13														
	14														
	15														
	16														
Total		194 (47.9%)	211 (52.1%)	0	405	100.0	159	24.1	405	225	10.4	405	285	50	45

ACE 6208219

Table 15. Age, sex, and size composition of Pacific herring sac roe harvest by gill net in Chinitna Bay, Upper Cook Inlet, 12-14 May 1989.

		Sex				Percent	Weight			Length			Biomass		
	Age	No. Male	No. Female	No. Unknown	Total No.	of Total	Mean (g)	SD	Number Weighed	Mean (mm)	SD	Number Measured	No. Fish X 1000	tons	tonnes
	1														
	2														
	3														
	4	5	6	0	11	1.5	135	18.0	11	217	10.1	11	15	2	2
	5	83	121	6	210	28.3	159	18.8	210	227	8.2	210	292	51	46
	6	160	196	13	369	49.8	174	20.7	369	233	8.4	369	512	98	89
	7	23	24	1	48	6.5	188	22.7	48	240	9.9	48	67	14	13
12-14 May	8	28	26	0	54	7.3	206	27.7	54	246	8.8	54	75	17	15
	9	14	15	0	29	3.9	232	34.8	29	252	9.5	29	40	10	9
	10	7	7	0	14	1.9	232	28.1	14	250	9.1	14	19	5	5
	11	3	2	0	5	.7	242	32.8	5	254	13.5	5	7	2	2
	12	1	0	0	1	.1	248	.0	1	262	.0	1	1	0	0
	13														
	14														
	15														
	16														
Total		324 (44.9%)	397 (55.1%)	20	741	100.0	176	29.6	741	234	11.3	741	1029	200	181

Table 16. Age, sex, and size composition of Pacific herring sac roe harvest by gill net in Eastside, Upper Cook Inlet, 12-22 May 1989.

		Sex				Percent	Weight			Length			Biomass		
	Age	No. Male	No. Female	No. Unknown	Total No.	of Total	Mean (g)	SD	Number Weighed	Mean (mm)	SD	Number Measured	No. Fish X 1000	tons	tonnes
12-22 May	1														
	2														
	3	0	1	0	1	.2	76	.0	1	173	.0	1	1	0	0
	4	8	16	0	24	5.9	123	16.5	24	204	8.9	24	24	3	3
	5	34	93	1	128	31.4	148	19.6	128	215	10.4	128	130	21	19
	6	40	75	12	127	31.1	163	20.4	127	223	9.6	127	129	23	21
	7	11	19	8	38	9.3	174	21.5	38	232	7.1	38	38	7	7
	8	11	8	8	27	6.6	184	27.1	27	236	9.2	27	27	6	5
	9	11	14	6	31	7.6	193	23.2	31	238	7.5	31	31	7	6
	10	3	9	4	16	3.9	199	34.4	16	238	8.4	16	16	4	3
	11	2	7	2	11	2.7	233	27.7	11	249	10.1	11	11	3	3
	12	1	4	0	5	1.2	241	32.9	5	242	8.2	5	5	1	1
	13														
	14														
	15														
	16														
Total		121 (33.0%)	246 (67.0%)	41	408	100.0	165	31.8	408	224	14.4	408	413	75	68

ACE 6208220

Table 17. Seldovia District tide tables, April-September, 1989.

APRIL

HIGH TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Sat	10:00	14.3	11:38	14.8
2	Sun	-----	----	12:15	15.9
3	Mon	1:16	16.9	1:15	17.8
4	Tue	1:52	18.9	2:06	19.5
5	Wed	2:30	20.7	2:53	20.6
6	Thur	3:06	22.0	3:40	21.1
7	Fri	3:44	22.5	4:26	20.7
8	Sat	4:22	22.3	5:13	19.6
9	Sun	5:02	21.3	6:02	18.0
10	Mon	5:45	19.6	6:56	16.1
11	Tue	6:32	17.5	8:01	14.4
12	Wed	7:32	15.4	9:24	13.3
13	Thur	8:50	13.7	10:53	13.3
14	Fri	10:29	13.1	-----	----
15	Sat	0:04	14.1	10:54	13.6
16	Sun	0:52	15.1	12:54	14.5
17	Mon	1:23	16.1	1:37	15.5
18	Tue	1:51	17.1	2:11	16.5
19	Wed	2:16	18.0	2:46	17.2
20	Thur	2:41	18.7	3:20	17.7
21	Fri	3:08	19.1	3:54	17.8
22	Sat	3:36	19.2	4:28	17.4
23	Sun	4:05	18.9	5:05	16.7
24	Mon	4:34	18.4	5:44	15.7
25	Tue	5:09	17.5	6:27	14.6
26	Wed	5:47	16.5	7:19	13.6
27	Thur	6:34	15.4	8:26	13.0
28	Fri	7:41	14.3	9:40	13.2
29	Sat	9:08	13.8	10:46	14.2
30	Sun	10:35	14.1	11:41	15.7

LOW TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Sat	4:06	7.1	4:51	1.9
2	Sun	6:17	4.8	6:46	0.4
3	Mon	7:10	2.1	7:31	-0.9
4	Tue	7:56	-0.6	8:12	-1.7
5	Wed	8:39	-2.9	8:54	-2.0
6	Thur	9:21	-4.5	9:34	-1.7
7	Fri	10:06	-5.2	10:15	-0.7
8	Sat	10:49	-5.0	10:57	0.6
9	Sun	11:34	-3.8	11:42	2.3
10	Mon	-----	----	12:23	-2.0
11	Tue	0:31	4.2	1:19	0.0
12	Wed	1:30	5.9	2:29	1.9
13	Thur	2:50	7.0	3:57	2.9
14	Fri	4:35	6.9	5:24	3.0
15	Sat	5:57	5.7	6:20	2.7
16	Sun	6:49	4.2	7:02	2.3
17	Mon	7:28	2.6	7:34	2.0
18	Tue	8:00	1.2	8:06	1.8
19	Wed	8:32	0.0	8:37	1.8
20	Thur	9:01	-0.9	9:06	2.0
21	Fri	9:33	-1.5	9:36	2.3
22	Sat	10:03	-1.6	10:09	2.9
23	Sun	10:35	-1.4	10:43	3.7
24	Mon	11:10	-0.9	11:17	4.6
25	Tue	11:47	-0.2	11:57	5.5
26	Wed	-----	----	12:32	0.7
27	Thur	0:45	6.4	1:27	1.6
28	Fri	1:51	7.0	2:36	2.2
29	Sat	3:15	6.7	3:53	2.3
30	Sun	4:41	5.3	5:03	1.9

MAY

HIGH TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Mon	11:51	15.3	-----	----
2	Tue	0:28	17.5	12:54	16.8
3	Wed	1:10	19.2	1:50	18.2
4	Thur	1:52	20.6	2:40	19.1
5	Fri	2:35	21.5	3:27	19.6
6	Sat	3:16	21.8	4:17	19.4
7	Sun	3:58	21.3	5:05	18.7
8	Mon	4:41	20.2	5:52	17.5
9	Tue	5:29	18.7	6:45	16.2
10	Wed	6:18	16.8	7:44	15.0
11	Thur	7:14	15.0	8:48	14.2
12	Fri	8:23	13.5	9:54	14.0
13	Sat	9:45	12.6	10:55	14.2
14	Sun	11:03	12.6	11:45	14.8
15	Mon	-----	----	12:09	13.2
16	Tue	0:22	15.6	1:02	14.0
17	Wed	0:54	16.4	1:45	14.9
18	Thur	1:26	17.2	2:24	15.8
19	Fri	1:58	17.8	3:01	16.4
20	Sat	2:32	18.3	3:39	16.7
21	Sun	3:04	18.6	4:18	16.7
22	Mon	3:41	18.5	4:57	16.4
23	Tue	4:18	18.2	5:36	15.9
24	Wed	4:57	17.7	6:21	15.4
25	Thur	5:42	16.9	7:10	15.0
26	Fri	6:35	15.9	8:02	14.9
27	Sat	7:37	14.8	8:58	15.1
28	Sun	8:51	14.1	9:56	15.8
29	Mon	10:11	14.0	10:49	16.7
30	Tue	11:27	14.5	11:43	17.8
31	Wed	-----	----	12:38	15.5

LOW TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Mon	5:49	3.0	6:03	1.3
2	Tue	6:45	0.4	6:54	0.7
3	Wed	7:31	-2.0	7:40	0.3
4	Thur	8:17	-4.0	8:25	0.2
5	Fri	9:03	-5.2	9:11	0.4
6	Sat	9:48	-5.6	9:56	1.0
7	Sun	10:33	-5.1	10:41	1.9
8	Mon	11:19	-3.9	11:29	3.1
9	Tue	-----	----	12:06	-2.2
10	Wed	0:19	4.3	1:01	-0.4
11	Thur	1:20	5.4	1:57	1.3
12	Fri	2:29	6.1	3:06	2.6
13	Sat	3:54	6.0	4:15	3.5
14	Sun	5:12	5.1	5:13	3.8
15	Mon	6:09	3.8	6:04	4.0
16	Tue	6:52	2.5	6:46	4.0
17	Wed	7:27	1.1	7:23	3.9
18	Thur	8:00	0.0	7:58	3.8
19	Fri	8:35	-1.0	8:35	3.7
20	Sat	9:09	-1.6	9:12	3.7
21	Sun	9:42	-2.0	9:47	3.9
22	Mon	10:18	-2.1	10:26	4.2
23	Tue	10:57	-1.9	11:05	4.5
24	Wed	11:39	-1.4	11:51	4.9
25	Thur	-----	----	12:23	-0.8
26	Fri	0:43	5.2	1:12	0.1
27	Sat	1:46	5.2	2:10	1.0
28	Sun	2:56	4.7	3:12	1.8
29	Mon	4:11	3.4	4:18	2.3
30	Tue	5:18	1.5	5:22	2.6
31	Wed	6:17	-0.5	6:20	2.6

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JUNE

HIGH TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Thur	0:33	18.9	1:37	16.6
2	Fri	1:21	19.9	2:31	17.5
3	Sat	2:09	20.4	3:23	18.1
4	Sun	2:57	20.6	4:09	18.2
5	Mon	3:42	20.2	4:56	18.0
6	Tue	4:28	19.4	5:42	17.5
7	Wed	5:15	18.3	6:27	16.8
8	Thur	6:03	16.8	7:14	16.0
9	Fri	6:51	15.3	8:02	15.4
10	Sat	7:46	13.8	8:50	14.9
11	Sun	8:50	12.7	9:37	14.7
12	Mon	10:01	12.1	10:23	14.8
13	Tue	11:16	12.1	11:11	15.1
14	Wed	12:25	12.7	11:55	15.6
15	Thur	-----	----	1:21	13.5
16	Fri	0:39	16.2	2:07	14.5
17	Sat	1:21	17.0	2:46	15.3
18	Sun	2:03	17.7	3:27	16.0
19	Mon	2:45	18.3	4:06	16.5
20	Tue	3:27	18.7	4:45	16.9
21	Wed	4:09	18.8	5:23	17.0
22	Thur	4:51	18.5	6:03	17.1
23	Fri	5:39	17.9	6:45	17.1
24	Sat	6:29	16.9	7:28	17.1
25	Sun	7:25	15.7	8:15	17.1
26	Mon	8:31	14.5	9:08	17.1
27	Tue	9:49	13.8	10:04	17.3
28	Wed	11:11	13.7	11:03	17.6
29	Thur	-----	----	12:28	14.3
30	Fri	0:04	18.1	1:34	15.4

LOW TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Thur	7:13	-2.4	7:15	2.5
2	Fri	8:00	-3.9	8:06	2.3
3	Sat	8:49	-4.7	8:55	2.2
4	Sun	9:36	-4.9	9:42	2.3
5	Mon	10:21	-4.6	10:28	2.6
6	Tue	11:05	-3.6	11:17	3.1
7	Wed	11:50	-2.4	-----	---
8	Thur	0:06	3.8	12:35	-0.9
9	Fri	0:58	4.4	1:21	0.7
10	Sat	1:54	4.9	2:09	2.3
11	Sun	2:59	5.1	3:01	3.7
12	Mon	4:05	4.8	3:57	4.8
13	Tue	5:11	4.0	4:56	5.6
14	Wed	6:07	3.0	5:48	5.9
15	Thur	6:52	1.8	6:41	5.8
16	Fri	7:31	0.6	7:26	5.5
17	Sat	8:12	-0.5	8:11	5.1
18	Sun	8:49	-1.5	8:53	4.6
19	Mon	9:27	-2.2	9:33	4.1
20	Tue	10:07	-2.7	10:14	3.8
21	Wed	10:44	-2.9	10:57	3.5
22	Thur	11:26	-2.7	11:44	3.3
23	Fri	-----	---	12:06	-2.0
24	Sat	0:32	3.1	12:51	-0.9
25	Sun	1:28	2.9	1:41	0.5
26	Mon	2:31	2.6	2:36	2.0
27	Tue	3:37	1.9	3:38	3.4
28	Wed	4:51	0.9	4:47	4.3
29	Thur	5:59	-0.4	5:56	4.6
30	Fri	7:00	-1.7	6:57	4.4

JULY

HIGH TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Sat	1:02	18.6	2:30	16.4
2	Sun	1:57	19.2	3:17	17.3
3	Mon	2:49	19.6	4:02	17.8
4	Tue	3:34	19.6	4:41	18.1
5	Wed	4:17	19.2	5:20	18.0
6	Thur	4:59	18.5	5:58	17.7
7	Fri	5:42	17.4	6:34	17.2
8	Sat	6:23	16.1	7:09	16.6
9	Sun	7:09	14.7	7:44	16.0
10	Mon	7:59	13.3	8:21	15.4
11	Tue	9:02	12.1	9:06	14.9
12	Wed	10:21	11.5	10:00	14.7
13	Thur	11:47	11.7	10:58	14.8
14	Fri	-----	----	1:03	12.6
15	Sat	0:01	15.4	1:55	13.8
16	Sun	0:54	16.3	2:37	15.0
17	Mon	1:45	17.5	3:12	16.2
18	Tue	2:30	18.6	3:47	17.3
19	Wed	3:15	19.5	4:23	18.2
20	Thur	3:57	20.0	4:58	18.8
21	Fri	4:43	19.9	5:33	19.3
22	Sat	5:29	19.3	6:11	19.4
23	Sun	6:16	18.1	6:51	19.1
24	Mon	7:12	16.6	7:36	18.6
25	Tue	8:13	14.9	8:26	17.9
26	Wed	9:29	13.6	9:26	17.1
27	Thur	11:03	13.2	10:37	16.7
28	Fri	12:28	13.9	11:53	16.9
29	Sat	-----	----	1:34	15.1
30	Sun	1:00	17.6	2:27	16.3
31	Mon	1:55	18.4	3:09	17.4

LOW TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Sat	7:52	-2.8	7:55	3.8
2	Sun	8:41	-3.6	8:45	3.2
3	Mon	8:27	-3.9	9:33	2.7
4	Tue	10:09	-3.8	10:17	2.5
5	Wed	10:49	-3.2	11:02	2.5
6	Thur	11:27	-2.2	11:44	2.8
7	Fri	-----	---	12:03	-0.9
8	Sat	0:26	3.2	12:38	0.7
9	Sun	1:11	3.7	1:14	2.4
10	Mon	1:57	4.2	1:56	4.1
11	Tue	2:55	4.5	2:42	5.7
12	Wed	4:02	4.5	3:43	6.9
13	Thur	5:11	3.9	4:42	7.5
14	Fri	6:17	2.9	6:04	7.4
15	Sat	7:10	1.6	7:02	6.7
16	Sun	7:53	0.2	7:50	5.7
17	Mon	8:33	-1.2	8:35	4.6
18	Tue	9:11	-2.4	9:19	3.4
19	Wed	9:48	-3.2	9:59	2.4
20	Thur	10:46	-3.6	10:43	1.5
21	Fri	11:05	-3.3	11:25	1.0
22	Sat	11:44	-2.4	-----	---
23	Sun	0:11	0.7	12:34	-0.8
24	Mon	1:03	0.8	1:09	1.0
25	Tue	2:02	1.1	2:02	3.1
26	Wed	3:08	1.4	3:06	4.9
27	Thur	4:27	1.3	4:23	6.1
28	Fri	5:48	0.6	5:45	6.2
29	Sat	6:54	-0.4	6:54	5.5
30	Sun	7:50	-1.5	7:52	4.3
31	Mon	8:35	-2.3	8:40	3.2

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AUGUST

HIGH TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Tue	2:43	19.1	3:44	18.2
2	Wed	3:25	19.5	4:16	18.8
3	Thur	4:04	19.5	4:48	19.0
4	Fri	4:40	19.0	5:18	18.9
5	Sat	5:18	18.2	5:47	18.5
6	Sun	5:54	17.0	6:14	17.8
7	Mon	6:32	15.6	6:43	17.0
8	Tue	7:14	14.1	7:17	16.1
9	Wed	8:10	12.6	7:57	15.2
10	Thur	9:27	11.5	8:52	14.4
11	Fri	11:16	11.4	10:08	14.2
12	Sat	12:44	14.7	11:28	14.7
13	Sun	-----	----	1:34	13.8
14	Mon	0:38	16.0	2:11	15.4
15	Tue	1:31	17.7	2:46	17.1
16	Wed	2:16	19.3	3:18	18.6
17	Thur	3:00	20.5	3:50	19.9
18	Fri	3:45	21.2	4:24	20.9
19	Sat	4:28	21.2	4:59	21.3
20	Sun	5:13	20.5	5:34	21.2
21	Mon	6:03	19.0	6:14	20.5
22	Tue	6:54	17.1	6:59	19.3
23	Wed	7:57	15.2	7:48	17.8
24	Thur	9:18	13.6	8:58	16.4
25	Fri	11:01	13.3	10:26	15.6
26	Sat	12:30	14.2	11:56	16.0
27	Sun	-----	----	1:31	15.6
28	Mon	1:04	17.0	2:11	16.9
29	Tue	1:53	18.1	2:46	18.0
30	Wed	2:35	18.9	3:18	18.9
31	Thur	3:12	19.4	3:44	19.5

LOW TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Tue	9:15	-2.7	9:22	2.3
2	Wed	9:51	-2.8	10:01	1.8
3	Thur	10:24	-2.3	10:38	1.5
4	Fri	10:56	-1.5	11:15	1.6
5	Sat	11:26	-0.2	11:50	2.0
6	Sun	11:57	1.3	-----	---
7	Mon	0:26	2.6	12:27	3.0
8	Tue	1:04	3.3	12:59	4.8
9	Wed	1:49	4.1	1:41	6.5
10	Thur	2:49	4.8	2:39	7.9
11	Fri	4:15	4.9	4:07	8.7
12	Sat	5:45	4.1	5:37	8.4
13	Sun	6:46	2.5	6:44	7.2
14	Mon	7:32	0.8	7:34	5.5
15	Tue	8:12	-0.9	8:17	3.7
16	Wed	8:48	-2.3	8:59	1.9
17	Thur	9:23	-3.2	9:39	0.3
18	Fri	10:01	-3.4	10:21	-0.9
19	Sat	10:38	-2.9	11:03	-1.5
20	Sun	11:18	-1.6	11:48	-1.5
21	Mon	11:58	0.2	-----	---
22	Tue	0:37	-0.9	12:42	2.3
23	Wed	1:33	0.3	1:35	4.6
24	Thur	2:42	1.5	2:44	6.5
25	Fri	4:11	2.2	4:16	7.4
26	Sat	5:43	1.8	5:51	6.9
27	Sun	6:52	0.8	7:00	5.5
28	Mon	7:40	-0.3	7:50	3.9
29	Tue	8:19	-1.0	8:28	2.6
30	Wed	8:54	-1.3	9:04	1.5
31	Thur	9:23	-1.3	9:39	0.8

SEPTEMBER

HIGH TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Fri	3:45	19.6	4:09	19.8
2	Sat	4:18	19.3	4:34	19.8
3	Sun	4:51	18.7	4:59	19.4
4	Mon	5:26	17.6	5:26	18.7
5	Tue	6:00	16.3	5:51	17.7
6	Wed	6:43	14.7	6:23	16.6
7	Thur	7:30	13.1	6:59	15.4
8	Fri	8:47	11.8	7:56	14.3
9	Sat	10:42	11.6	9:29	13.7
10	Sun	12:17	12.8	11:06	14.4
11	Mon	-----	----	1:02	14.4
12	Tue	0:17	16.0	1:39	16.3
13	Wed	1:11	17.9	2:08	18.2
14	Thur	2:00	19.7	2:40	20.0
15	Fri	2:45	21.1	3:13	21.5
16	Sat	3:29	21.8	3:47	22.5
17	Sun	4:12	21.7	4:23	22.7
18	Mon	4:59	20.9	5:01	22.3
19	Tue	5:47	19.3	5:42	21.0
20	Wed	6:41	17.3	6:27	19.3
21	Thur	7:46	15.3	7:24	17.2
22	Fri	9:12	13.9	8:42	15.4
23	Sat	10:55	13.8	10:23	14.7
24	Sun	12:15	14.9	11:53	15.3
25	Mon	-----	----	1:07	16.2
26	Tue	0:57	16.4	1:42	17.4
27	Wed	1:45	17.5	2:14	18.4
28	Thur	2:19	18.3	2:39	19.2
29	Fri	2:53	18.9	3:02	19.8
30	Sat	3:25	19.2	3:26	20.1

LOW TIDES

Date	Day	A.M. Time	A.M. Feet	P.M. Time	P.M. Feet
1	Fri	9:53	-0.9	10:11	0.4
2	Sat	10:20	-0.1	10:41	0.4
3	Sun	10:51	1.1	11:13	0.8
4	Mon	11:20	2.5	11:44	1.5
5	Tue	11:48	4.0	-----	---
6	Wed	0:18	2.4	12:19	5.6
7	Thur	0:59	3.5	12:58	7.2
8	Fri	1:53	4.6	1:51	8.6
9	Sat	3:19	5.2	3:31	9.4
10	Sun	5:06	4.6	5:16	9.6
11	Mon	6:12	3.0	6:25	6.8
12	Tue	7:02	1.3	7:13	4.6
13	Wed	7:39	-0.4	7:56	2.1
14	Thur	8:16	-1.6	8:37	-0.2
15	Fri	8:55	-2.3	9:17	-2.0
16	Sat	9:33	-2.3	9:59	-3.3
17	Sun	10:11	-1.5	10:41	-3.6
18	Mon	10:53	-0.2	11:26	-3.1
19	Tue	11:34	1.6	-----	---
20	Wed	0:14	-1.8	12:21	3.7
21	Thur	1:11	0.0	1:17	5.8
22	Fri	2:20	1.8	2:33	7.3
23	Sat	3:55	2.8	4:18	7.7
24	Sun	5:27	2.6	5:53	6.5
25	Mon	6:33	1.8	6:52	4.8
26	Tue	7:18	1.1	7:34	3.2
27	Wed	7:53	0.7	8:11	1.8
28	Thur	8:22	0.5	8:43	0.6
29	Fri	8:53	0.6	9:12	-0.2
30	Sat	9:18	1.0	9:42	-0.6

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Table 18. Kasilof River personal use gill net fishery salmon harvest by period, 21 June - 30 June 1989.

Period	Total	Sockeye Salmon		Chinook Salmon	
Date	Nets	Period	Accum	Period	Accum
6/21	114	578	578	26	26
6/22	124	660	1,230	21	47
6/23	115	527	1,765	67	114
6/24	119	408	2,173	4	118
6/25	123	889	3,062	19	137
6/26	108	1,121	4,183	6	143
6/27	102	1,580	5,763	18	161
6/28	84	1,476	7,239	11	172
6/29	67	1,273	8,512	8	180
6/30	80	1,416	9,928	6	186

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Table 19. Central and Northern Districts personal use coho salmon fishery harvest by period, 1989.

Date	Total Nets	Coho Salmon/Net	Coho Salmon Catch	
			Period	Accum
9/09-10	96	11	1,056	1,056
9/16-17	132	10	1,320	2,376

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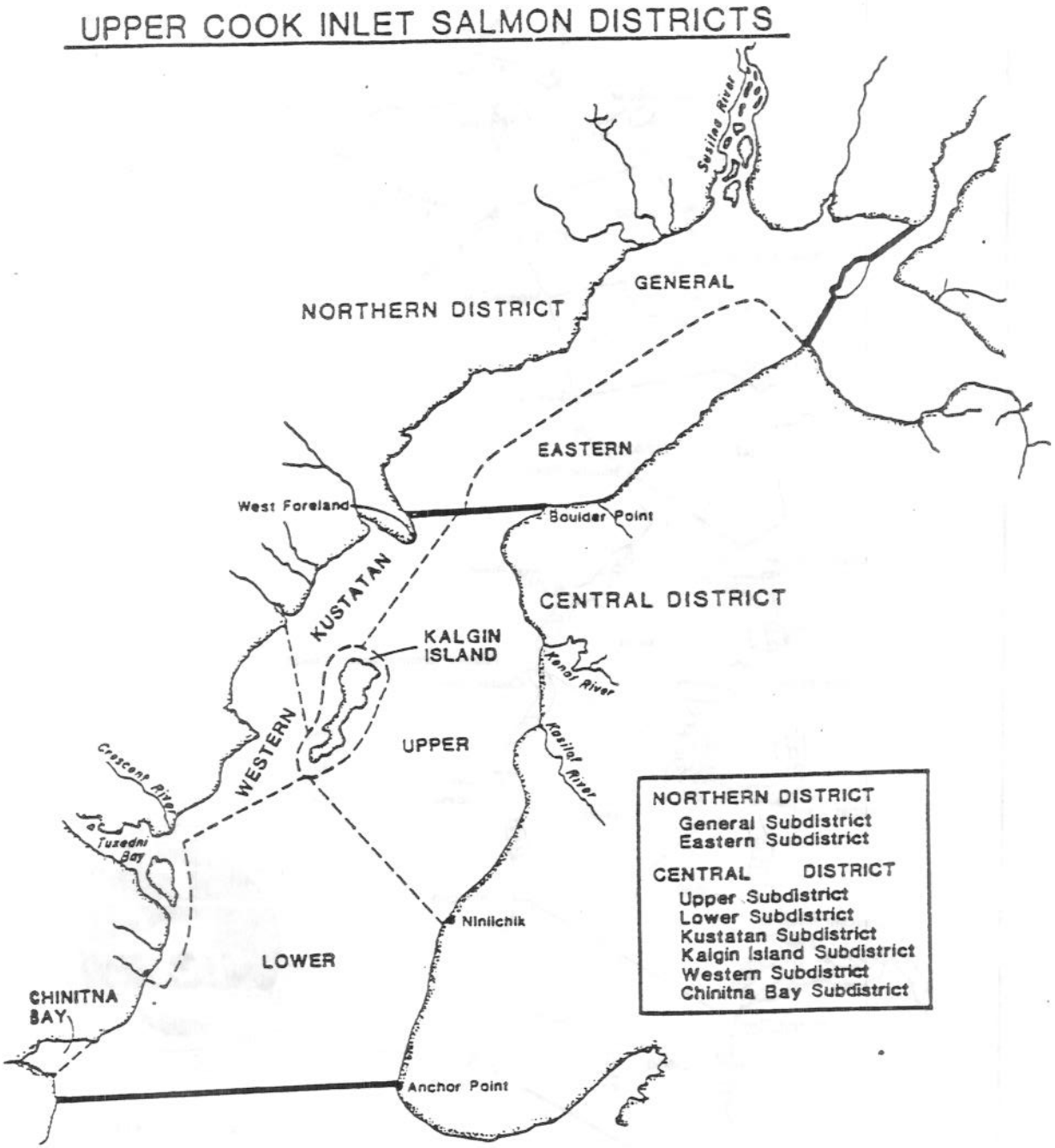

Figure 1. Upper Cook Inlet salmon districts.

ACE 6208226

Figure 2. Upper Cook Inlet statistical areas.

ACE 6208227

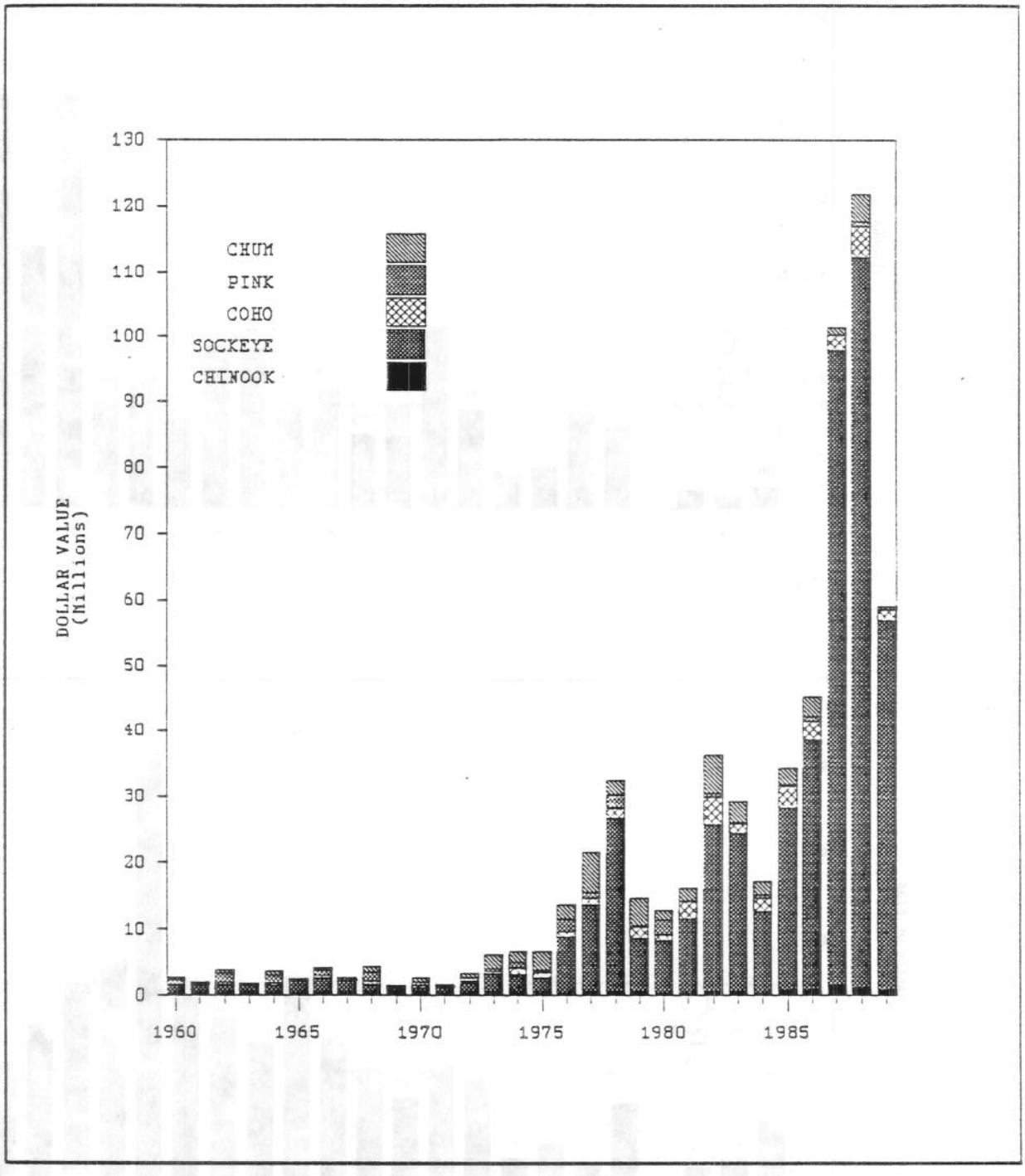

Figure 3. Approximate exvessel value of the Upper Cook Inlet commercial salmon fishery, by species, 1960-1989.

ACE 6208228

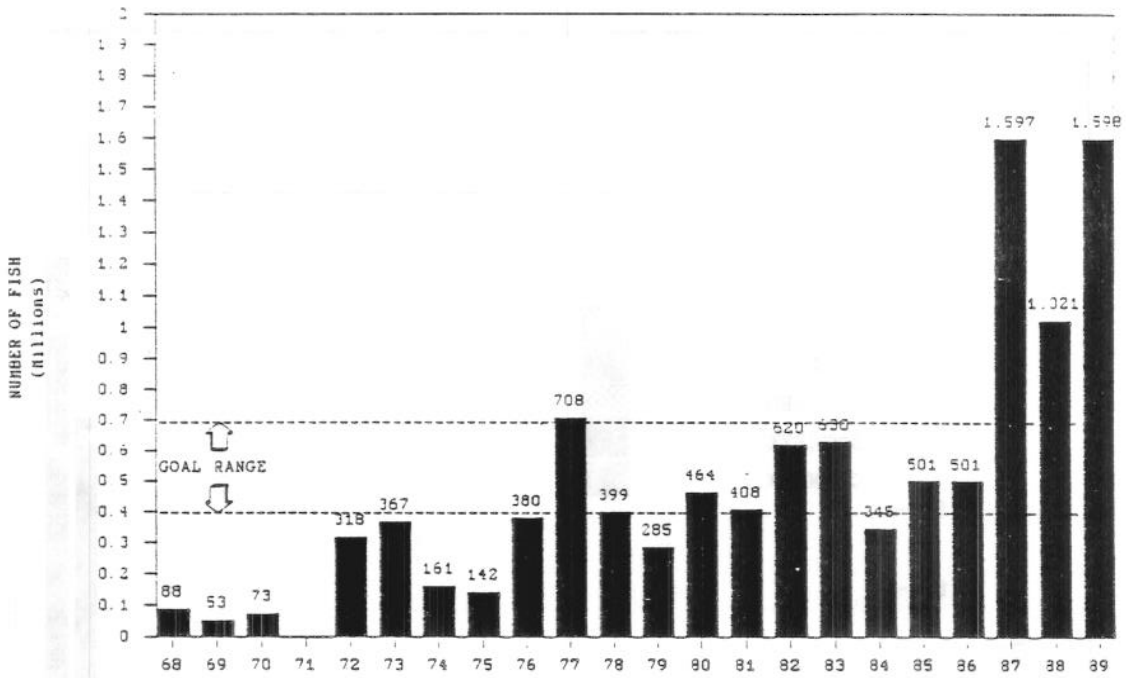

Figure 4. Kenai River sockeye salmon escapements, 1968-89.

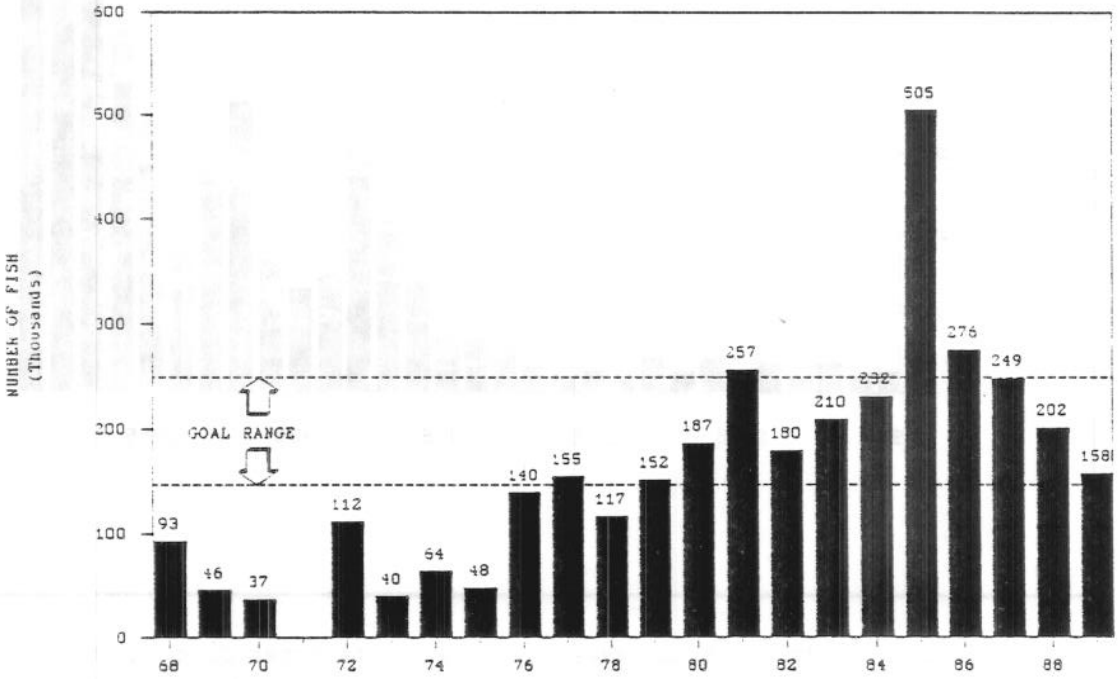

Figure 5. Kasilof River sockeye salmon escapements, 1968-89.

ACE 6208229

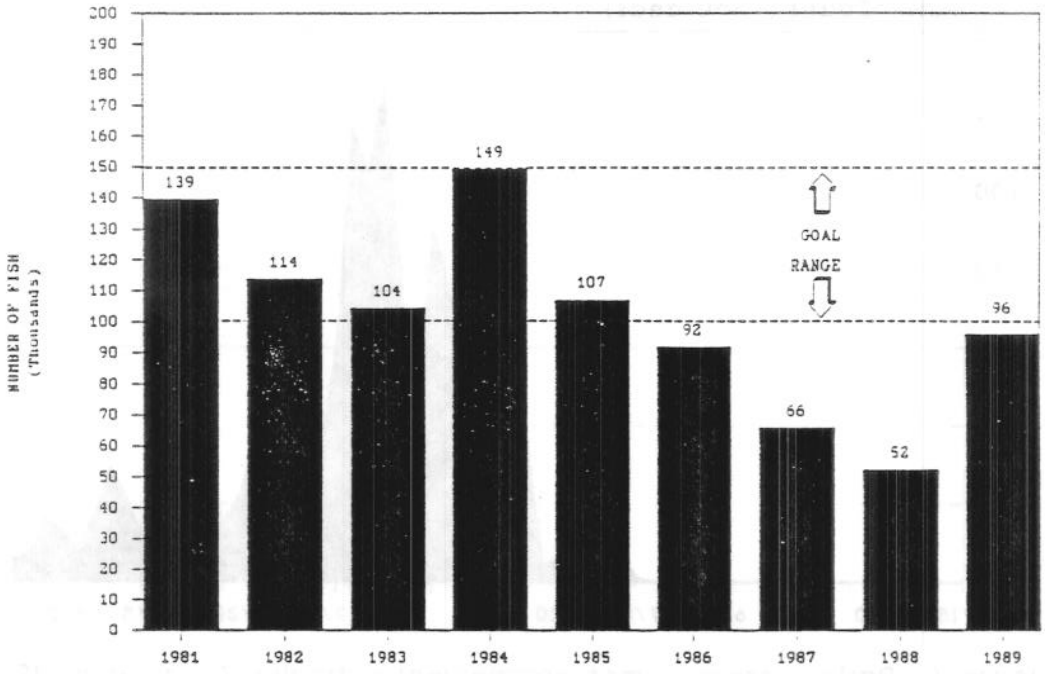

Figure 6. Yentna River sockeye salmon escapements, 1981-89

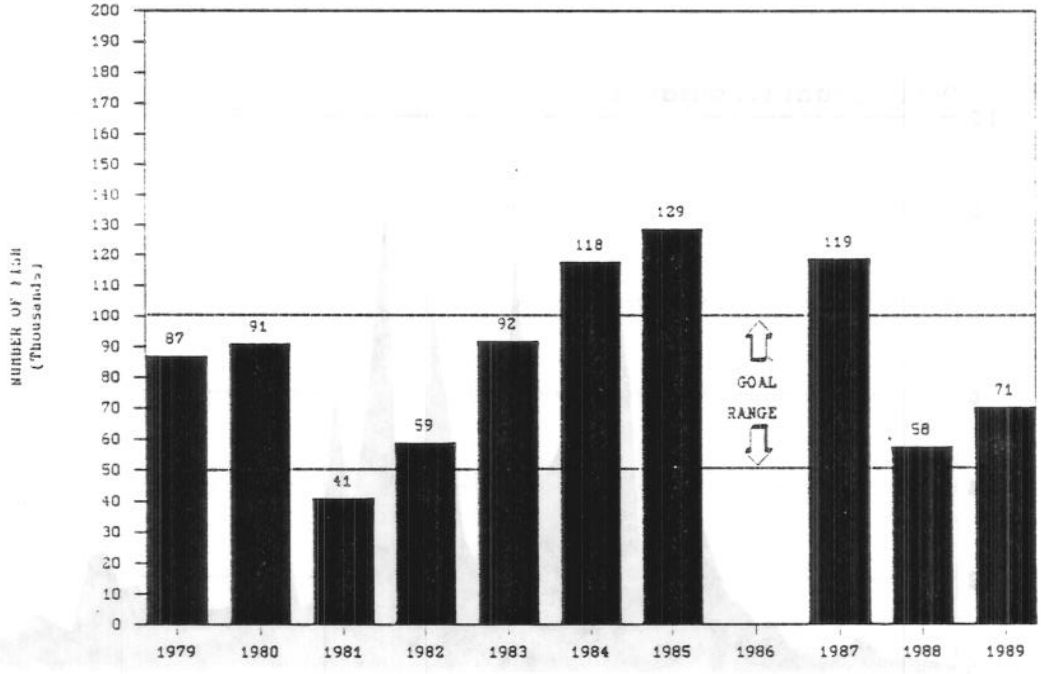

Figure 7. Crescent River sockeye salmon escapements, 1979-89

ACE 6208230

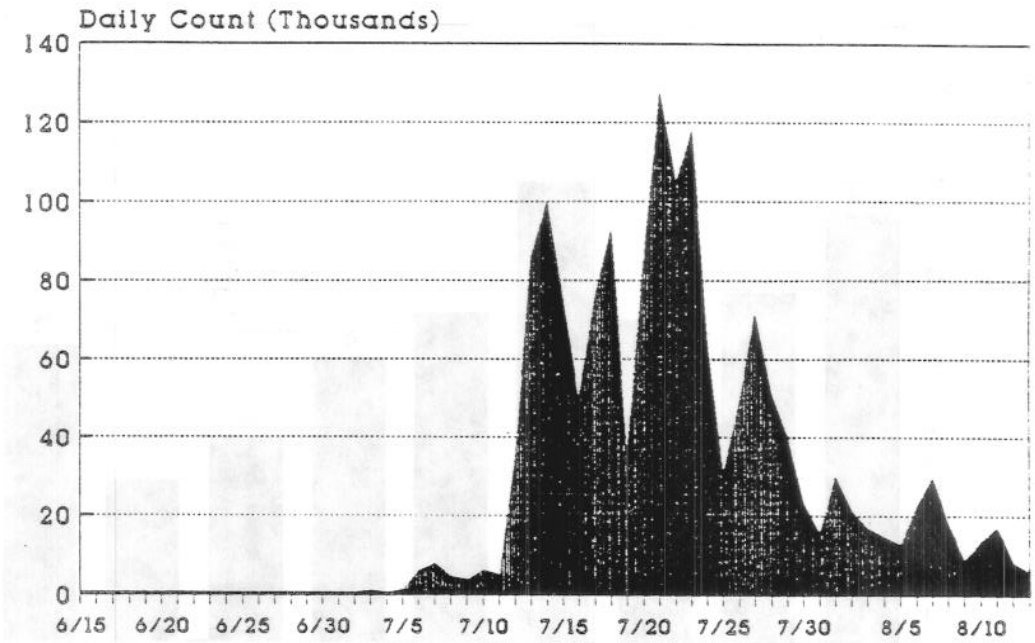

Figure 10. Daily sockeye salmon escapement estimates, Kenai River, 1989.

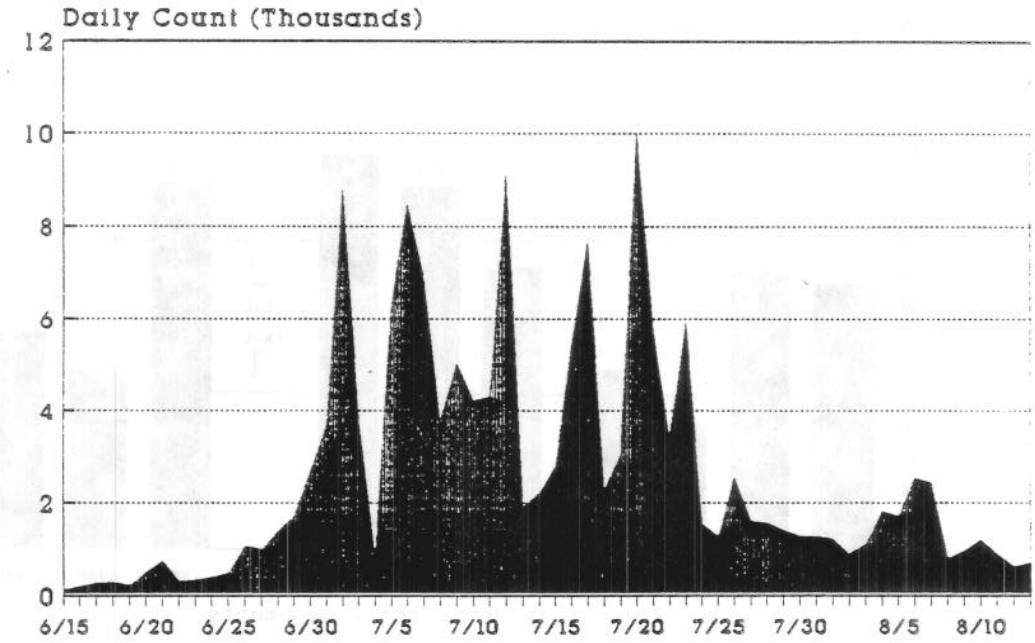

Figure 11. Daily sockeye salmon escapement, Kasilof River, 1989.

ACE 6208231

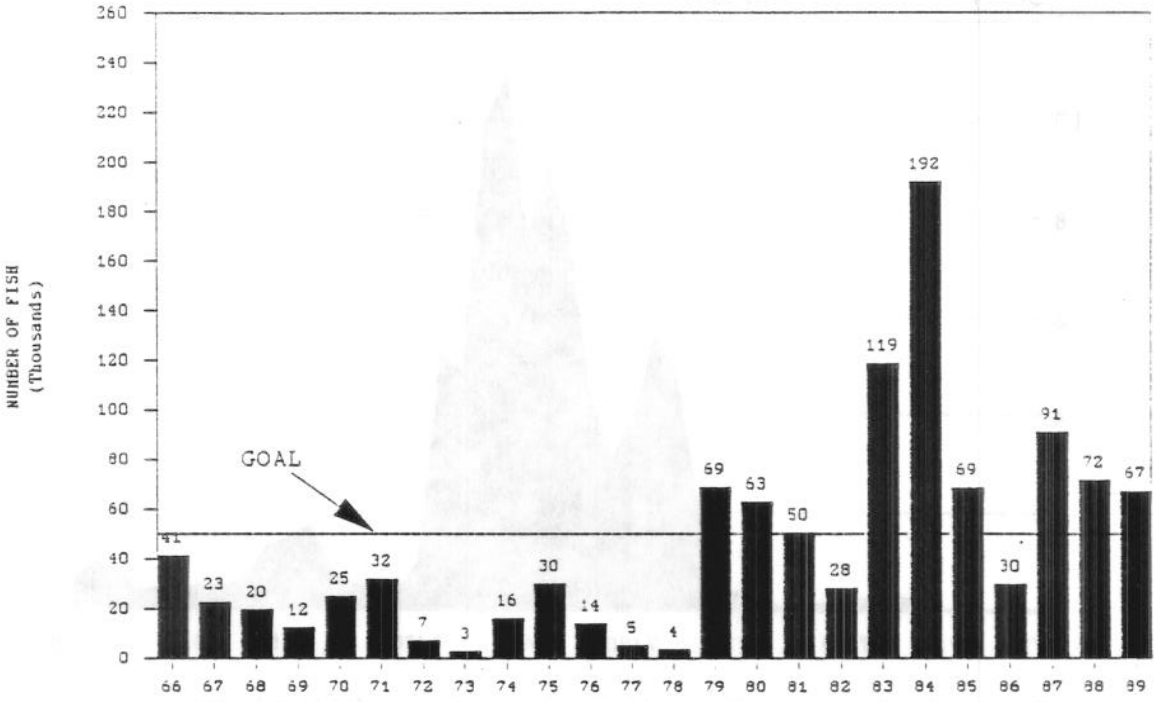

Figure 8 Fish Creek sockeye salmon escapements, 1966-1989

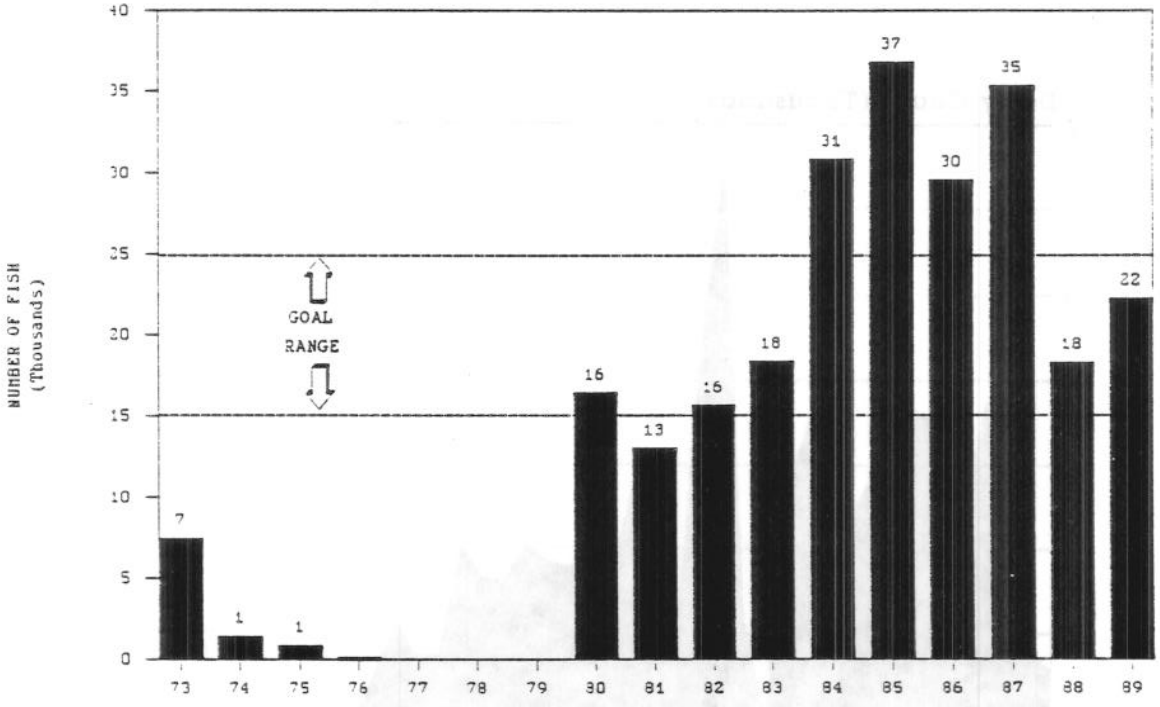

Figure 9 Packers Creek sockeye salmon escapements, 1973-1989

ACE 6208232

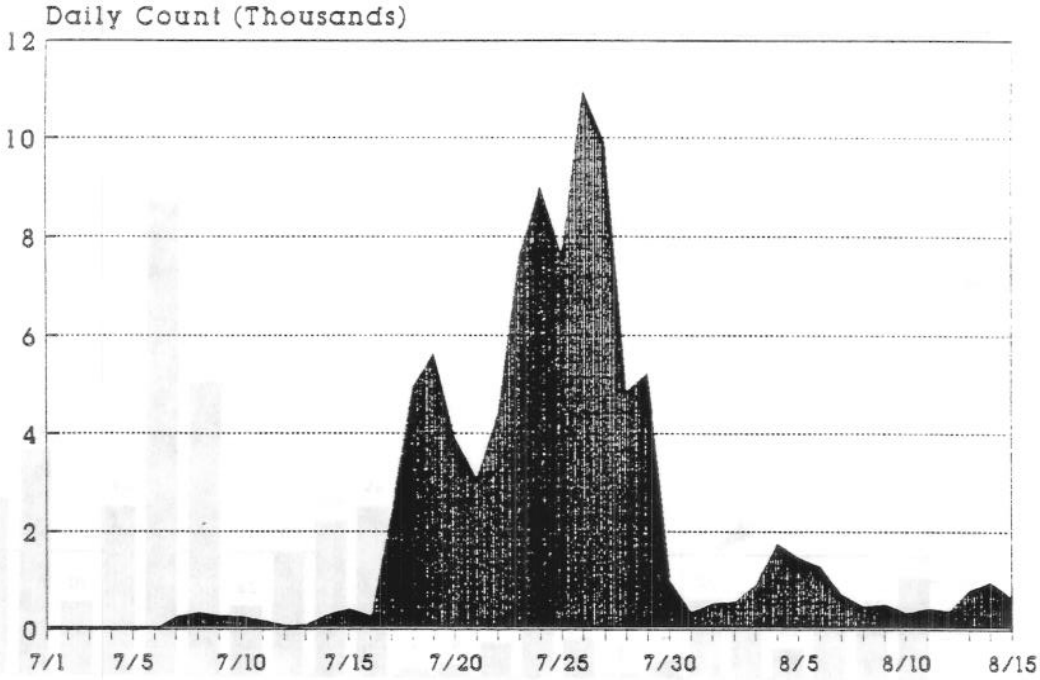

Figure 12. Daily sockeye salmon escapement, Yentna River, 1989.

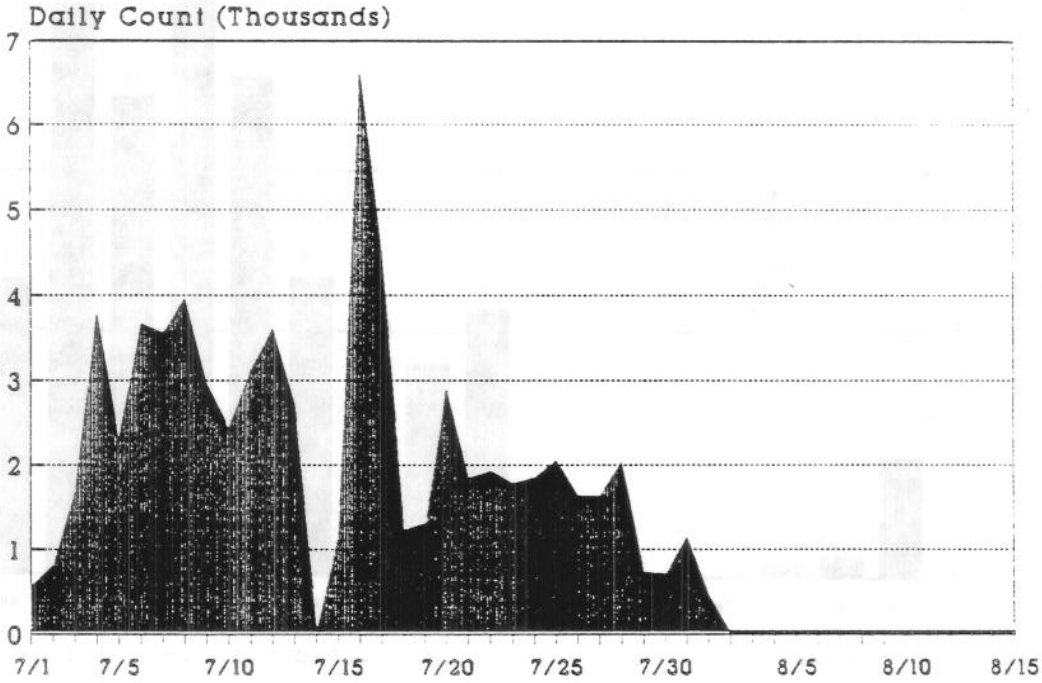

Figure 13. Daily sockeye salmon escapement, Crescent River, 1989.

ACE 6208233

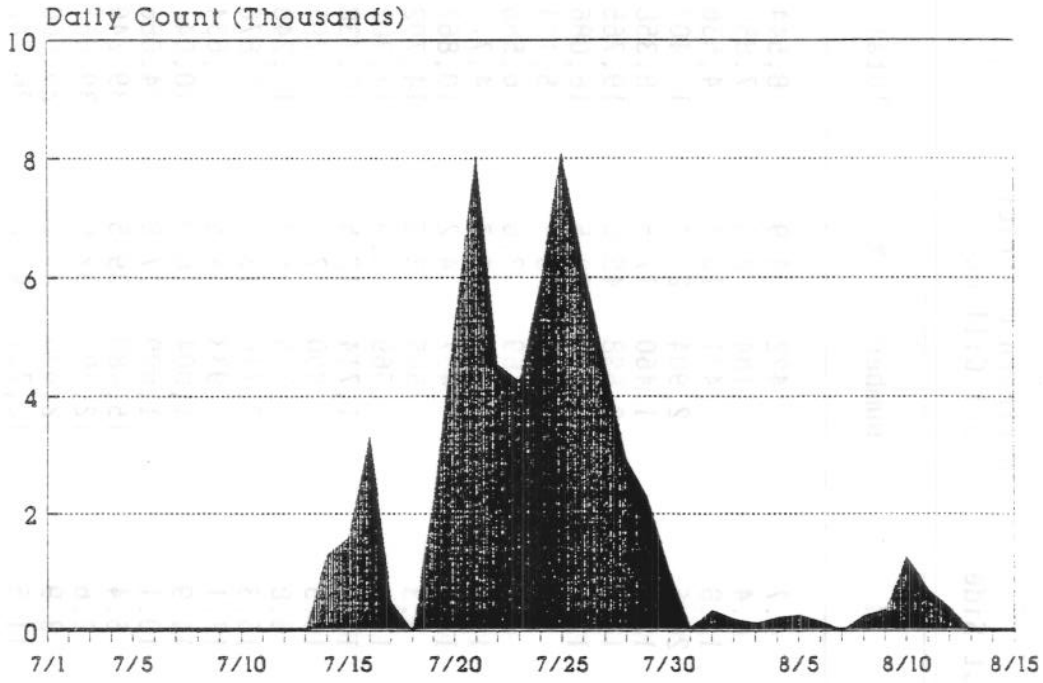

Figure 14. Daily sockeye salmon weir counts, Fish Creek, 1989.

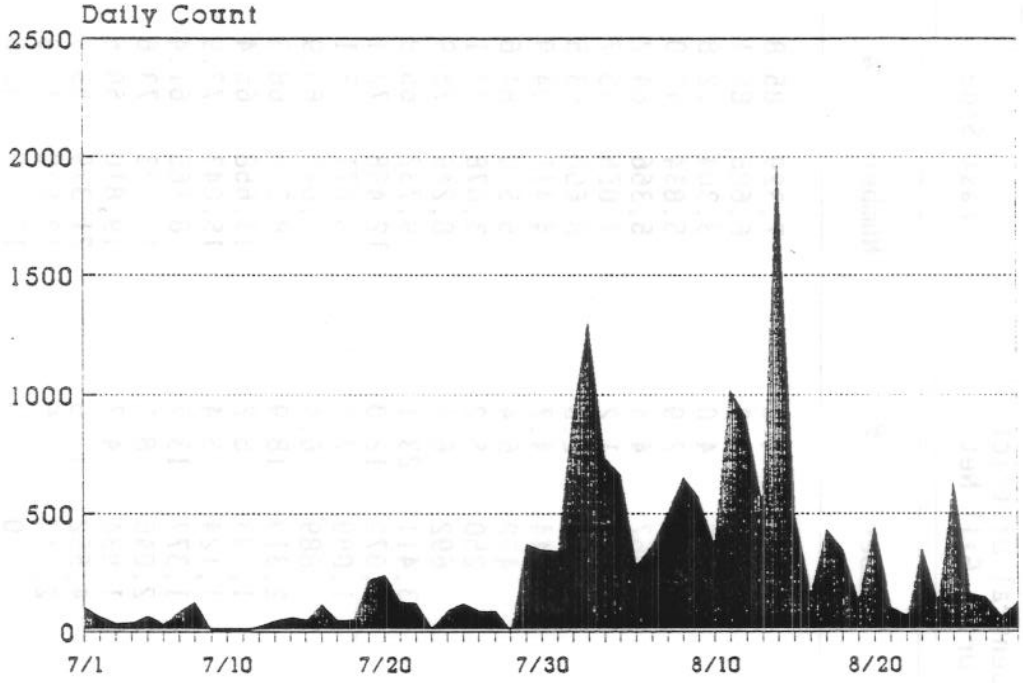

Figure 15. Daily sockeye salmon weir counts, Packers Creek, 1989.

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Appendix A.1. Upper Cook Inlet commercial chinook salmon harvest by gear type and area, 1966-1989.

	Central District Drift Gill Net		Central District Set Gill Net				Northern District Set Gill Net		
			East Side		Kalgin/West Side				
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	30.5	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	13.7	6,165	61.4	1,495	14.9	1,004	10.0	10,041
1985	2,046	8.5	17,723	73.6	2,427	10.1	1,890	7.8	24,086
1986	1,834	4.7	19,810	50.5	2,108	5.4	15,488	39.5	39,240
1987	4,552	11.5	21,379	53.9	1,029	2.6	12,701	32.0	39,661
1988	2,217	7.6	12,870	44.3	1,137	3.9	12,836	44.2	29,060
1989	0	0.0	10,919	40.8	3,092	11.6	12,731	47.6	26,742
Average	1,177	7.3	9,688	60.1	1,690	10.5	3,577	22.2	16,132

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Appendix A.2. Upper Cook Inlet commercial sockeye salmon harvest by gear type and area, 1966-1989.

	Central District Drift Gill Net		Central District Set Gill Net				Northern District Set Gill Net		
			East Side		Kalgin/West Side				
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	58.6	490,273	23.3	161,953	7.7	218,695	10.4	2,105,860
1985	2,032,957	50.1	1,561,031	38.4	285,081	7.0	181,191	4.5	4,060,260
1986	2,834,534	59.2	1,657,904	34.6	153,714	3.2	141,830	3.0	4,787,982
1987	5,631,746	59.3	3,495,802	36.8	208,036	2.2	164,602	1.7	9,500,186
1988	4,129,878	60.4	2,428,597	35.5	146,154	2.1	129,713	1.9	6,834,342
1989	3	0.0	4,543,066	90.7	186,828	3.7	280,801	5.6	5,010,698
Average	1,346,657	53.8	922,147	36.9	111,074	4.4	121,047	4.8	2,500,955

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Appendix A.3. Upper Cook Inlet commercial coho salmon harvest by gear type and area, 1966-1989.

	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	357,388	53.6	70,657	10.6	147,331	22.1	91,837	13.8	667,213
1986	506,405	66.9	76,385	10.1	85,932	11.4	88,108	11.6	756,830
1987	202,306	44.8	74,977	16.6	74,930	16.6	98,920	21.9	451,404
1988	277,703	49.6	55,419	9.9	77,058	13.8	149,742	26.7	560,022
1989	743	0.2	81,744	24.1	81,004	23.9	175,710	51.8	339,201
Average	154,184	45.1	47,588	13.9	66,067	19.3	73,784	21.6	341,639

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Appendix A.4. Upper Cook Inlet commercial pink salmon harvest by gear type and area, 1966-1989.

	Central District Drift Gill Net		Central District Set Gill Net				Northern District Set Gill Net		
			East Side		Kalgin/West Side				
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	34,228	39.0	17,715	20.2	5,653	6.4	30,232	34.4	87,828
1986	614,453	47.3	530,445	40.8	15,460	1.2	139,002	10.7	1,299,360
1987	38,660	35.2	47,707	43.4	5,229	4.8	18,205	16.6	109,801
1988	226,776	48.3	179,092	38.1	9,890	2.1	54,210	11.5	469,972
1989	1	0.0	37,971	56.3	5,580	8.3	23,878	35.4	67,430
Average	276,962	41.6	240,206	36.1	20,471	3.1	128,342	19.3	665,980

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Appendix A.5. Upper Cook Inlet commercial chum salmon harvest by gear type and area, 1966-1989.

	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	700,848	90.7	4,133	0.5	31,746	4.1	36,122	4.7	772,849
1986	1,012,028	89.2	7,027	0.6	39,078	3.4	76,040	6.7	1,134,173
1987	211,573	60.6	16,608	4.8	53,558	15.3	67,180	19.3	348,919
1988	580,650	81.9	11,841	1.7	40,354	5.7	75,728	10.7	708,573
1989	72	0.1	12,302	10.1	27,705	22.7	81,948	67.2	122,027
Average	605,027	88.4	3,853	0.6	36,779	5.4	38,932	5.7	684,590

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Appendix A.6. Upper Cook Inlet commercial salmon harvest by gear type and area, 1966-1989.

	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	62.6	364,541	19.3	135,249	7.1	208,947	11.0	1,892,965
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	460,676	17.4	189,798	7.2	349,340	13.2	2,641,243
1971	739,835	66.3	153,374	13.7	125,986	11.3	97,251	8.7	1,116,446
1972	1,207,217	54.1	643,323	28.8	160,443	7.2	220,605	9.9	2,231,588
1973	1,105,354	62.3	299,616	16.9	130,542	7.4	237,824	13.4	1,773,336
1974	827,141	52.2	471,210	29.7	118,352	7.5	168,141	10.6	1,584,844
1975	1,457,277	66.5	340,625	15.5	173,510	7.9	220,446	10.1	2,191,858
1976	2,142,563	59.4	1,012,991	28.1	183,952	5.1	270,096	7.5	3,609,602
1977	2,626,455	64.9	912,023	22.5	223,362	5.5	285,347	7.1	4,047,187
1978	3,304,925	64.6	1,085,009	21.2	265,302	5.2	464,150	9.1	5,119,386
1979	1,199,085	62.3	308,166	16.0	216,395	11.2	202,400	10.5	1,926,046
1980	2,165,142	53.7	911,327	22.6	269,750	6.7	687,951	17.1	4,034,170
1981	1,672,457	57.8	558,657	19.3	180,338	6.2	484,282	16.7	2,895,734
1982	4,139,886	65.7	1,530,966	24.3	303,249	4.8	322,441	5.1	6,296,542
1983	4,621,365	68.2	1,582,746	23.4	277,819	4.1	289,944	4.3	6,771,874
1984	2,290,273	59.3	758,174	19.6	298,978	7.7	515,766	13.4	3,863,191
1985	3,127,467	55.7	1,671,259	29.8	472,238	8.4	341,272	6.1	5,612,236
1986	4,969,254	62.0	2,291,571	28.6	296,292	3.7	460,468	5.7	8,017,585
1987	6,088,837	58.3	3,656,473	35.0	342,782	3.3	361,608	3.5	10,449,700
1988	5,217,224	60.7	2,687,819	31.2	274,593	3.2	422,229	4.9	8,601,865
1989	819	0.0	4,686,002	84.2	304,209	5.5	575,068	10.3	5,566,098
Average	2,383,172	56.6	1,223,408	29.1	236,081	5.6	365,712	8.7	4,208,373

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Appendix A.7. Upper Cook Inlet commercial salmon harvest by species, 1954-1989.

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	39,240	4,787,982	756,830	1,299,360	1,134,173	8,017,585
1987	39,661	9,500,186	451,404	109,801	349,132	10,450,184
1988	29,060	6,834,342	560,022	469,972	708,573	8,601,969
1989	26,742	5,010,698	339,201	67,430	122,027	5,566,098
Average	21,074	1,994,684	304,121	805,502	653,732	3,779,051

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Appendix A.8. Approximate exvessel value of the Upper Cook Inlet commercial salmon harvest by species, 1960-1989.

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	$354,000	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
1989	$803,494	1.4	$56,194,753	95.0	$1,674,393	2.8	$86,012	0.1	$415,535	0.7	$59,174,187
Average		2.8		65.9		8.2		8.1		15.5	

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Appendix A.9. Commercial herring harvest by fishery, Upper Cook Inlet, 1973-1989.

	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
1989	55.2	122.3	34.3	211.7

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Appendix A.10. Commercial harvest of razor clams in Cook Inlet, 1919-1989.

Year	Pounds	Year	Pounds
1919	76,963	1955	0
1920	11,952	1956	0
1921	72,000	1957	0
1922	510,432	1958	0
1923	470,280	1959	0
1924	156,768	1960	372,872
1925	0	1961	277,830
1926	0	1962	195,650
1927	25,248	1963	0
1928	0	1964	0
1929	0	1965	0
1930	0	1966	0
1931	No Record	1967	0
1932	93,840	1968	0
1933	No Record	1969	0
1934	No Record	1970	0
1935	No Record	1971	14,755
1936	No Record	1972	31,360
1937	8,328	1973	34,415
1938	No Record	1974	0
1939	No Record	1975	10,020
1940	No Record	1976	0
1941	0	1977	1,762
1942	0	1978	45,931
1943	0	1979	144,358
1944	0	1980	140,420
1945	15,000	1981	441,949
1946	11,424	1982	460,639
1947	11,976	1983	269,618
1948	2,160	1984	261,742
1949	9,672	1985	319,034
1950	304,073	1986	258,632
1951	112,320	1987	312,349
1952	0	1988	392,610
1953	0	1989	222,747
1954	0		

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Appendix A.11. Escapement goals and counts of sockeye salmon in selected streams of Upper Cook Inlet, 1968-1989.

	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	64,000	0	16,225
1975	150,000-250,000	142,000	75,000-150,000	48,000	0	29,882
1976	150,000-250,000	380,000	75,000-150,000	140,000	0	14,032
1977	150,000-250,000	708,000	75,000-150,000	155,000	0	5,183
1978	350,000-500,000	399,000	75,000-150,000	117,000	0	3,555
1979	350,000-500,000	285,000	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	28,164
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	1,597,000	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
1989	400,000-700,000	1,599,959	150,000-250,000	158,206	50,000	67,224

	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
1989	100,000-150,000[6]	96,269[6]	50,000-100,000	71,064	15,000-25,000	22,304

[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.

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Appendix A.12. Average price paid for commercially harvested salmon, Upper Cook Inlet, 1969-1989.[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
1989	1.25	1.70	0.75	0.40	0.47

[1] Expressed as dollars paid per pound.
Data Source: 1969-1983 - Commercial Fisheries Entry Commission.
1984-1989 - Fish ticket averages.

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Appendix A.13. Average weight[1] of commercially harvested salmon, Upper Cook Inlet, 1972-1989.

Year	Chinook	Sockeye	Coho	Pink	Chum
1972	28.76	6.00	6.18	3.96	6.62
1973	37.85	7.38	6.13	3.71	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	25.91	5.77	6.41	3.72	7.42
1987	28.99	6.73	6.57	3.50	7.10
1988	29.67	6.61	7.05	3.74	7.67
1989	24.04	6.60	6.58	3.19	7.25
Average	28.77	6.51	6.61	3.66	7.51

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

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Appendix A.14. Registered units of gillnet fishing effort by gear type in Cook Inlet, 1960-1989.[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
1989	420	165	585	648	95	743	1,328

[1]Source: 1960-74 ADF&G unpublished reports, 1975-89 Commercial Fisheries Entry Commission

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Appendix A.15. Forecast[1] and projected[2] commercial harvests of salmon by species, Upper Cook Inlet, 1984-1990.

	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	4,787,982	+14%	450,000	756,830	+68%	1,250,000	1,299,360	+ 4%	900,000	1,134,173	+26%	32,500	39,240	+21%
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	6,834,342	+29%	400,000	560,022	+40%	400,000	469,972	+17%	800,000	708,573	-11%	35,000	29,060	-17%
1989	2,500,000	5,010,698	+100%	400,000	339,201	-15%	100,000	67,430	-33%	800,000	122,027	-85%	30,000	26,742	-11%
1990	4,300,000			250,000			600,000			400,000			25,000		
Average Error (non-parametric)			42%			63%			28%			49%			26%

[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.

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Appendix A.16. Subsistence and personal use salmon harvest, Upper Cook Inlet, 1980-1989.

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
1989	49	1,202	67	70	0	1
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
1989	N/A	186	9,928	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
1989	365	0	0	2,376	0	0
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
Kenaitze In-River Subsistence						
1989	N/A	95	2,212	1,814	0	0

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