

**UPPER COOK INLET COMMERCIAL FISHERIES**

**ANNUAL MANAGEMENT REPORT, 1999**

By

Jeff Fox

and

Pat Shields



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**UPPER COOK INLET STAFF**

Area Management Biologist ..... Jeff Fox  
Asst. Area Management Biologist ..... Pat Shields  
Research Project Leader ..... Kenneth E. Tarbox  
Biometrician ..... Stan Carlson  
Research Biologist ..... Bob DeCino  
Field Office Assistant ..... Sandi Seagren

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

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ALASKA DEPARTMENT OF FISH AND GAME  
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ANNUAL MANAGEMENT REPORT, 1999

Regional Information Report<sup>1</sup> 2A00-29

Submitted by:

Jeff Fox

and

Pat Shields

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<sup>1</sup> *Contribution 00-29 is from the Soldotna area office. The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished divisional reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accommodate timely reporting of recently collected information, reports in this series undergo only limited internal review and may contain preliminary data; this information may be subsequently finalized and published in the formal literature. Consequently, these reports should not be cited without prior approval of the author or the Commercial Fisheries Division.*

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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 miles long, averages 32 miles in width, and is further subdivided into six subdistricts. The Northern District is 50 miles long, averages 20 miles in width and is divided into two subdistricts. At present, all five species of Pacific salmon (*Oncorhynchus*), razor clams (*Siliqua patula*), and Pacific herring (*Clupea harengus pallasii*) are subject to commercial harvest in Upper Cook Inlet. In 1999 there was also a small commercial fishery near the Susitna River, which harvested small quantities of smelt (*Thaleichthys pacificus* & *Spirinchus thaleichthys*). 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, gillnets, and seines have been employed with varying degrees of success to harvest salmon in Upper Cook Inlet. Currently, set (fixed) gillnets are the only gear permitted in the Northern District, while both set and drift gillnets are used in the Central District. The use of seine gear is restricted to the Chinitna Bay Subdistrict where they are employed sporadically. Drift gillnets have accounted for approximately 50% of the average annual salmon harvest since 1966 with set gillnets harvesting virtually all of the remainder (Appendix A.1-5).

Commercial salmon harvest statistics specific to gear type and area are available only back to 1954 (Appendix A.6). 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 by coho (*O. kisutch*), chum (*O. keta*), pink (*O. gorbuscha*) and chinook salmon (*O. tshawytscha*) (Appendix A.7).

### *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 expanded in the late 1970's to include small-scale sac roe fisheries in Chinitna and Tuxedni Bays (Appendix A.8). The total herring harvest has averaged well under 400 tons, having an exvessel value below \$200,000 – which makes it one of the smallest herring fisheries in the state. Since 1998, the exvessel value of this fishery has been far less than in prior years, with an exvessel value of less than \$10,000 each of the last two years.

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. Gillnets are the only legal gear for herring in Upper Cook Inlet, with set gillnets 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).

Beginning in 1988 in Tuxedni Bay, significant decreases in herring abundance and a shift towards older age class herring were observed, resulting in the closure of Tuxedni Bay by emergency order prior to the 1992 season. In Chinitna Bay, and along the eastside beaches, similar declines began to materialize after the 1990 season. As a result of these declines, a Department proposal to the Alaska Board of Fisheries to open the Upper Cook Inlet herring fishery, by emergency order only, was submitted. This proposal passed and became regulation for the 1993 season, ending a long period with fixed opening dates of April 15 on the east side and April 22 on the west side of the Inlet. This action effectively closed this fishery until the herring stocks recover. Beginning in 1998 the Upper Subdistrict was reopened for two days per week from April 15 to May 20 to assess the status of this population. The herring fisheries on the west side of Cook Inlet remained closed until the status of the east side stocks is determined. In addition, the department submitted proposals to the Alaska Board of Fisheries to restructure the herring fishery to two 30-hour periods per week, beginning on Mondays and Thursdays. These proposals would also require fishermen to register prior to fishing and also to report their harvest within 12 hours of the closure of a fishing period. The proposals were passed in the form of a management plan for the 1999 season.

### *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.9). The sporadic nature of the

fishery has been more 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 exclusively 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 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 were largely unsuccessful due to excessive shell breakage or the limited availability of clams in the area open to this gear. Currently, the use of mechanical harvesters is not permitted in any area of Cook Inlet.

### **1999 COMMERCIAL SALMON FISHERY**

The commercial harvest of just over 3.0 million salmon in Upper Cook Inlet in 1999 was a great improvement over the 1998 harvest of only 2 million salmon, however, it is only 75 percent of the long-term average UCI harvest. The exvessel value of \$21.0 million is slightly below the long-term average of \$23 million, but much lower than the recent 20-year average of \$38 million.

#### ***Regulation Changes***

There were many regulation changes as a result of the Board of Fisheries meeting in February 1999, with significant changes to management plans used to conduct the UCI commercial fishery. Probably the most dramatic and most difficult change to implement was with the abundance based escapement goal in the Kenai River. Under this management plan the escapement goal and management actions change according to the level of total return to the Kenai River.

<b><u>Kenai River Total Sockeye Return</u></b>	<b><u>Escapement Goal</u></b>
Less than 2 Million	600,000-850,000
2 Million to 4 Million	750,000-950,000
Over 4 Million	850,000-1,100,000

In addition to changes in the escapement goal, there are required 24-hour no fishing periods on Fridays beginning at 12 noon (“windows”) in the Kenai and East Forelands Sections in returns of over 2 million and additional 24 hour closures if the chinook recreational fishery is restricted. The only other sockeye escapement goal change, as a result of the BOF meeting, was in the Crescent River, where the goal was reduced from a range of 50,000-100,000 to a range of 25,000-50,000 sockeye, due to productivity changes within Crescent Lake.

There were many other regulation changes resulting from the 1999 BOF meeting. These include changing the regular fishing period schedule from Monday and Friday periods to Monday and Thursday periods. The only exceptions to this fishing schedule are the set gillnet fisheries conducted under the Big River Sockeye Salmon Management Plan, 5 AAC 21.368 and Northern District King Salmon Management Plan, 5 AAC 21.366. Furthermore, all species of salmon retained from your commercial catch for personal use must now be reported on an ADF&G fish ticket. The use of aircraft “spotter pilots” is not allowed for one hour prior to, during, or one hour after a fishing period. The early July drift fishery restriction that has occurred by emergency order the last several years is now in regulation to occur between July 9 and July 15. A second late July restriction of the drift fishery was added to occur on, or immediately before, July 25, making a total of three drift restrictions in regulation. Set gillnet fisheries in Knik Arm conducted under the Fish Creek Sockeye Salmon Management Plan, 5 AAC 21.364 will not take place during the 1999-2001 fishing seasons. In 5 AAC 21.360, Kenai River Sockeye Salmon Management Plan, a change was made to allow the drift gillnet fishery to be managed independent of the set gillnet fishery in the Upper Subdistrict. This change might have an impact during the 24-hour closed periods mentioned above for the set gillnet fishery where the drift gillnet fishery may be open in a portion of the Kenai and Kasilof sections offshore of the set gillnet areas.

The east side-oriented drift area had for many years been comprised of a corridor along the Kenai Peninsula, following the contours of the beach and having an offshore boundary of 3 miles. The three-mile contour boundary required use of a patrol vessel for enforcement, was difficult for fishermen to locate precisely, and included some waters thought to be prone to mixed stock catches. Extensive discussions between staff, enforcement officers, and fishermen resulted in an offshore boundary described by a series of fixed points (Waypoints). While the new line closely resembled the old three-mile boundary, provisions were made to exclude potential mixed stock areas, add waters thought to provide target stock catches, and remain as user-friendly as possible for fishermen attempting to drift within the line while dealing with rapid tidal flow. Use of GPS navigation technology allows fishermen to determine the location of the line with high precision and allows enforcement personnel to utilize patrol aircraft to take the place of vessels for much of the time.

The new line was adopted in regulation at the beginning of the season and was utilized whenever east side-limited drift fishing was employed.

Throughout the 1999 season, emergency order announcements and fishery updates were provided to radio stations in Homer and the Kenai-Soldotna area and to processors, fishermen's organizations, and other agencies via electronic facsimile or e-mail. Emergency orders and daily escapement and harvest information were also made available through 24-hour recorded message telephone lines.

### *Sockeye Salmon*

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, escapement enumeration by sonar and weir, comparative analysis of historic commercial harvest and effort levels, and age composition studies. Two additional developing programs (genetic stock identification and in-district sonar enumeration) are currently not funded and further development awaits future funding.

The offshore test fishing program employs a chartered gillnet vessel fishing standardized stations along a transect crossing Cook Inlet from Anchor Point to the Red River delta. The program provides 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 historic run-timing profile (Table 1). In 1999, the program was again conducted aboard the F/V *Corrina Kay*, captained by Roy Self.

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.10). Operations followed standard procedures in all systems in 1999, with no unusual problems being observed (Table 2). Weirs placed on Fish Creek (Knik Arm) and Packers Creek (Kalgin Island), and operated by ADF&G Sport Fish Division and Cook Inlet Aquaculture Association, respectively, provided daily escapement counts for those systems.

Upper Cook Inlet commercial catch statistics refined to gear type, area, and date are available back to 1966. Availability of these statistics in a computerized database format make them extremely valuable for evaluating in-season fishery performance. The 1999 commercial catch by gear type, area, and date can be found in Tables 3 through 7. Total harvest by statistical area and average catch per permit are contained in Tables 8 and 9. A summary of emergency orders can be found in Table 10 and a summary of fishing periods by gear type and area in Table 11.

In-season determination of the age composition of sockeye salmon entering the principle rivers frequently provides information helpful in estimating the stock contributions in various fisheries. During the 1999 fishery, approximately 24,000 sockeye salmon were examined from catch (19,000) and escapement (5,000) samples. The age composition of adult sockeye returning to monitored systems is provided in Table 12.

The preseason forecast in 1999 was for a total return of 3.5 million, with a commercial harvest of 2 million sockeye. The forecast to the Kenai River of 1.7 million sockeye initially resulted in an escapement goal target of 600,000 to 850,000. The Upper Cook Inlet harvest of 2.7 million sockeye salmon was 700,000 fish over the preseason forecast (Appendix A.14). Much of this additional harvest is likely attributable to Kasilof River stocks, which were much stronger than forecast. Kenai stocks were also somewhat stronger than forecast. Sockeye prices at the beginning of the season were \$ 0.90 to \$ 1.10 per pound, but by the end of the season, most processors were paying \$ 1.30 to \$ 1.40 per pound, paid retroactively to the beginning of the season. This resulted in an exvessel value for sockeye of \$ 20.1 million, which was 96 % of the total UCI exvessel value for salmon.

The commercial salmon season for most areas of Upper Cook Inlet opens for Monday and Thursday regular periods beginning June 25. The exceptions to this June 25 general opening are set gillnetting in the Western Subdistrict and in the Kenai, Kasilof and East Forelands sections of the Upper Subdistrict, as well as fisheries conducted under BOF management plans.

Operating under the Big River Sockeye Salmon Management Plan adopted in 1989, a small set gillnet fishery takes place in June in the northwest corner of the Central District. Between June 1 and June 24, fishing is allowed each Monday, Wednesday, and Friday from 7:00 A.M. to 7:00 P.M. Permit holders are limited to a single 35-fathom gillnet and the minimum distance between nets is 1800 feet, three times the normal separation. Targeting an early run of sockeye salmon returning to Big River, this fishery also encounters chinook salmon migrating through the area. In the plan, the by-catch of chinook is limited to 1,000 fish, although harvests in recent years have been well below

that level. The 1999 fishery produced a catch of 4,100 sockeye, slightly below average, and a chinook catch of 764, slightly above average. Effort was light with just 6 permits making landings at the peak of the fishery as compared to past years where effort levels peaked at 33 permits.

The next fishery to open was the set gillnet fishery in the Western Subdistrict of the Central District. Harvesting primarily sockeye salmon bound for the Crescent River, this fishery opens on the first Monday or Thursday, on or after June 16<sup>th</sup>. The fishery has a regular schedule of two twelve-hour weekly fishing periods throughout the season, unless modified by emergency order. Following a period of record returns in the mid-eighties, the Crescent River sockeye return has fallen off sharply in recent years, resulting in closures of the local set gillnet fishery and closing the southwest corner of the Central District to drift fishing. Since 1990, the Crescent River on the west side of Cook Inlet has been producing at a lower level than is required to meet escapement goals, without severe restrictions to the commercial fishery. In 1999, the BEG for this system was lowered in response to decreased productivity in Crescent Lake. Early season harvests and escapement to this system were good enough that no early season restrictions were implemented to either the drift or set gillnet fisheries in this area. On July 12 it became apparent that the lower end of the escapement goal was assured and continuous fishing was allowed in the set gillnet fishery in the Western Subdistrict south of Redoubt Point until July 31. The harvest from this area was approximately 27,000 sockeye. This is a very small fishery with few participants (10-15) and even with this extended fishing time the upper end of the escapement goal was exceeded by 19,000 sockeye, with a final escapement of 68,985 sockeye. An ongoing program of gathering limnological samples from Crescent Lake throughout the summer continued to monitor zooplankton populations that remain severely depressed, but improving. The short-term outlook for sockeye salmon production from this system remains poor. The general fishing season for Upper Cook Inlet except the Central District east-side begins the first Monday or Thursday on or after June 25. The southern portion (Kasilof Section) of the east side set gillnet season opens on the first regular period beginning on or after July 1, while the northern portion (Kenai and East Foreland sections) begins fishing on the first regular period on or after July 8. A special provision of the regulation calls for opening the Kasilof Section prior to July 1 if the escapement level of sockeye salmon in the Kasilof River exceeds 50,000.

The Kasilof Section, targeting Kasilof River sockeye stocks, opened for regular Monday and Thursday fishing periods on Thursday July 1. Standard practice allows drift gillnetting in the offshore portions of this corridor whenever adjacent sections are open for set gillnetting, but not including those hours from 10:00 P.M. to 5:00 A.M. when darkness precludes enforcement of the offshore boundary. The sockeye harvest during this first period was 89,000 sockeye, with the

Kasilof set gillnets taking 24,750 and the drift fleet harvest of 54,336. This was a fairly strong harvest for this time of year and was a forewarning of a strong Kasilof return. One additional fishing period of 15 hours on July 3 was needed in the Kasilof Section prior to the Kenai and East Forelands sections opening for regular periods. The Kenai and East Forelands sections opened as scheduled on Thursday, July 8. With a strong Kasilof return, 20 hours of additional fishing time was necessary in the Kasilof Section beginning on July 8 and 13 hours on July 11 to control Kasilof escapements prior to Kenai stocks arriving in any significant numbers.

Based on past experience and the forecast run-strength of individual stocks, the basic management strategy envisioned for the 1999 season followed the theme developed over the preceding decade. In general, it has been found that the sockeye return to the Susitna River would not be capable of maintaining a standard two-period-per-week schedule throughout the fishing season and still meet the escapement objective set for the Yentna River (the principle sockeye-producing tributary of the Susitna). Some reduction of fishing time, particularly in the mixed-stock drift harvest, would be required to adequately protect this stock. Experience has also shown that the greatest benefit in reducing the drift harvest of Susitna-bound sockeye would be gained from focusing on the period from July 9-15, when northern bound fish appear to be at their greatest abundance. In contrast, Kasilof and Kenai River sockeye have generally demonstrated the ability to withstand a full fishing schedule. If the Central District mixed-stock harvest were significantly reduced to save Susitna-bound sockeye, substantial surpluses of Kenai and Kasilof-bound sockeye salmon would also occur. These fish would then need to be harvested in a more discrete manner, namely in the Central District east side set gillnet fishery and by the drift fleet confined to the Kenai and Kasilof sections. Harvesting the resulting surpluses of Kenai and Kasilof River sockeye along the east-side leads to higher harvests of Kenai River chinook and coho salmon.

The July 9-15 "window," coinciding with the peak abundance in the Central District of Susitna sockeye, encompassed two regular periods in 1999. These occurred on July 12 and July 15. Sockeye salmon entering the Central District during the first half of July are prone to accumulating in rapidly increasing numbers in "district" before suddenly moving in large numbers to their respective rivers around mid-month. The best results in reducing the Susitna catch can be achieved by restricting the fishing period immediately prior to the movement of fish out of the district. Information gathered prior to July 10 indicated that sockeye returns in general appeared to be on time and the drift period scheduled for July 12 appeared to offer the greatest likelihood of providing the desired protection of northern bound fish. Accordingly, the drift fleet was restricted to fishing only in the Kenai and Kasilof sections for the July 12 regular period.

Because the Kenai River return was forecast to be fairly weak, a conservative fishing pattern was established that restricted additional fishing time in the Kasilof Section to within 0.5-mile of the mean high tide mark beginning July 14. This pattern continued with regular periods in the entire Upper Subdistrict and additional periods restricted to the Kasilof Section, only within 0.5-mile of the mean high tide mark until July 27. In all, there were 6 days or partial days of additional fishing during this time period that were restricted to the Kasilof 0.5-mile area. This restriction excludes set gillnets from 0.5 to 1.5 miles from shore. It also eliminates drift gillnets, which lowers the exploitation rate of Kenai sockeye stocks until Kenai run strength improved or could be evaluated. In addition, the regular period scheduled for July 26 was closed in the entire Upper Subdistrict to ensure adequate Kenai escapement. Escapements to both the Kenai and Kasilof rivers increased substantially over the July 23-27 period, with the Kasilof River escapement rapidly approaching the upper end of the escapement goal range, while escapement into the Kenai was projected to be within the 600,000 to 850,000 escapement goal range. A fairly aggressive fishing pattern was necessary in the Kasilof Section to try to control escapement to the Kasilof River. However, several days of high wind and tides, combined with a great deal of debris in the water, greatly reduced the efficiency of the fishing gear, which contributed to exceeding the Kasilof River escapement goal by over 60,000 sockeye (Table 2). In the Kenai and East Forelands sections additional fishing time was allowed to harvest surplus Kenai sockeye until July 30 when the Kenai total return estimate was approaching 2 million. At that time, we were unsure which Kenai total return range was appropriate for management, over or under 2 million. We elected to try and manage for the overlap in the escapement goal ranges, which was 750,000 to 850,000 sockeye. An escapement within this range would be within the OEG range for over or under 2 million total return levels to the Kenai River. In addition, the 24-hour closed periods ("Windows") on Fridays in the Kenai and East Forelands sections were implemented as required for returns of 2 million and above. This change late in the season in escapement objectives, plus the 24 hour "window," resulted in fishing only in the Kasilof Section from July 29 until August 1, when we could project the 750,000 Kenai River sockeye salmon escapement goal. From August 1 to 7:00 P.M. on August 5, the Kenai, Kasilof and East Forelands sections were open to maintain the escapement into the Kenai River within the targeted range. The final escapement of 803,990 sockeye was approximately at the mid-point of the targeted range.

The Northern District set gillnet fishery proceeded as scheduled, fishing regular periods only, from June 25 to July 19. In mid-July the Northern District catch and escapement rate was lagging, indicating that management actions were required to assure adequate Yentna River sockeye escapement. The regular period scheduled for July 22 was closed in the Northern District. The drift fleet was also restricted to the Kenai and Kasilof sections, as required by the Northern District

Salmon Management Plan. The regular period on July 26 remained open in the Northern District, with the drift fleet and Upper Subdistrict closed because of Kenai River sockeye concerns. By July 27 additional fishing time in the Upper Subdistrict was needed to control both Kenai and Kasilof sockeye stocks where escapements were at or near desired levels. The Regular period on July 29 was again closed in the Northern District because of lagging escapements into the Susitna River. Even with these two closures of the Northern District and two closed or restricted drift periods, the final Yentna River escapement was 99,029, slightly below the lower end of the BEG of 100,000-150,000.

The commercial fishery targeting Fish Creek stocks in Knik Arm was closed by BOF action for the 1999-2001 seasons. This system has been enhanced since 1976. However, even with closures to the commercial fishery in Knik Arm and significant restrictions to the personal-use dip net fishery in Fish Creek, the final escapement of 26,691 sockeye was well below the 50,000 sockeye BEG.

Packers Creek on Kalgin Island has been enhanced since 1973, with both stocking and lake-fertilization being implemented during some portion of this project; however, both were terminated in 1998. The 1999 escapement of sockeye salmon into Packers Creek was 25,648, slightly above the upper end of the escapement goal range of 15,000 to 25,000. The 1999 return to Packers Creek was fairly weak, but has allowed a modest harvest in the Kalgin Island Subdistrict and a modest amount for cost recovery by Cook Inlet Aquaculture Association.

### *Chum Salmon*

The 1999 harvest of 174,243 chum salmon was a modest improvement from returns we have seen the last three years. The 1999 chum harvest would likely have been much higher if management actions had not restricted the drift fleet and Northern District fisheries for Yentna sockeye and Northern District coho. Since the flood of 1986, chum production in much of south central Alaska has been poor, with recent harvests well below the long-term average harvest of 563,000. The chum salmon return to Chinitna Bay was essentially unexploited, as the local set gillnet fishery was inactive due to poor prices and no tendering service from any processor. Fishermen were paid \$.15 to \$.40 per pound for chum salmon, producing an exvessel value of \$265,000 – which is just 1.3% of the overall fishery value.

### *Pink Salmon*

The 1999 harvest of 16,129 pink salmon is one of the lowest harvests on record for an odd year in Upper Cook Inlet. As with chum salmon, management actions restricting the drift fleet and Northern District fisheries for Yentna sockeye and Northern District coho, were a contributing factor to the poor pink harvest. Pink salmon escapements are not monitored in Upper Cook Inlet; however, it appears that escapements to most river systems were normal for odd year run strengths. Prices paid for pink salmon were \$.03 to \$.10 per pound, resulting in an exvessel value for this species of \$5,995.

### *Coho Salmon*

The 1999 coho harvest of 125,343 was about half of the average long-term harvest in Upper Cook Inlet and the lowest harvest since 1973. Average commercial coho harvests by decade since 1950 are 194,000, 262,000, 187,000, 529,000, and 348,000 fish, with an overall average harvest of 313,000. Commercial coho harvests in UCI during the 1980's and early 1990's were much higher than the long term average due to good coho production, and also due to strong sockeye salmon returns to Upper Cook Inlet, which resulted in more fishing time in the Central District. Coho harvests since 1997, and especially in 1999, have been reduced due to a number of factors. Most notably, wild stock coho harvests statewide have declined by an average of approximately 40 percent during the last three years, compared to the average of 1990-1998. Since 70 percent of UCI coho return as four-year-old fish, the 1995 coho escapement is a key factor in the 1999 return. During the fall of 1995, a very large flood occurred in most of south central Alaska. This event very likely had a great impact on the spawning success of the 1995 return. The flood occurred in late September, which coincides with the peak spawning time of many UCI coho stocks, and was a 147-year flood event. The winter of 1995-1996 was also very cold, with little snow for most of the winter to act as insulation for small streams, resulting in freezing of eggs in the gravel. In addition, since 1996, BOF regulations have reduced the fishing time of the drift fleet in the Central District and eliminated additional fishing time directed at coho and sockeye salmon surpluses in the Northern District and Kalgin Island subdistricts, which has resulted in marked reductions in the commercial exploitation rate.

### *Chinook Salmon*

The 1999 harvest of 14,155 chinook salmon was about equal to the recent ten year average harvest and much improved over the 1998 harvest of 7,997. The 1999 chinook harvest was valued at \$400,000 - which is approximately 1.5 percent of the total exvessel value.

Created by the Board in 1986, and conducted under the direction of the Northern District Chinook Salmon Management Plan, a minor fishery occurs each June for set gillnets in the Northern District. Each participant is allowed one 35-fathom gillnet and a minimum distance of 1,200 feet must be maintained between nets (twice the normal distance). Fishing is permitted for 6 hours each Monday in June until the quota of 12,500 chinook has been harvested or until the regular season opens on June 25. Harvest levels approached or reached the quota in the first years of the fishery, then declined substantially in the early to mid 1990s, and now appears to be gaining strength again, following trends in Northern District stock abundance. It has been the policy of the Board to maintain the balance between user groups, as defined in the management plan, when dealing with the annual variation in abundance of Northern District chinook through Department-generated emergency orders.

For 1999, with an outlook of improved general run strength, harvest potentials in sport fisheries were slightly liberalized (primarily by the reopening of the Deshka River fishery). Similarly, the commercial fishery, which had been limited to a single fishing period during poor runs, was allowed a second period. The directed chinook fishery in the Northern District was limited to the first two periods instead of the full compliment of three, to aid in rebuilding a number of stocks where escapement levels had been below desired levels in recent years. The resulting catch was 1,827 chinook from the first period and 407 from the second period. Harvest and effort for the second period was much reduced due to strong winds out of Turnagain Arm. The harvest of just over 2,100 chinook salmon in the commercial fishery was rather modest, as it appeared overall run strength was very good, and escapement objectives were achieved or exceeded in nearly all monitored streams.

The Kenai, Kasilof and East Forelands sections set gillnet fishery harvest in 1999 was 9,339 chinook salmon. The sonar count into the Kenai River was 48,000 with an estimated 12,000 fish harvested in the recreational fishery, leaving an escapement of 36,000 - which was slightly above the BEG of 17,800 to 35,700.

#### *Price, Average Weight and Participation*

In general, prices paid to fishermen for their catch in 1999 were nearly identical to the previous year. The price per pound for sockeye salmon at the beginning of the season was \$.90 to \$1.00, but rose to \$1.30 by mid-season, paid retroactively to the beginning of the year (Appendix A.11). Chinook, coho, pink and chum salmon were sold for \$1.00, \$0.45, \$0.12 and \$0.19 per pound,

respectively. It should be noted that these averages are generated from inseason grounds prices and do not reflect any post-season adjustments.

As determined from fish ticket calculations, the average weight by species generally were similar to the long-term mean. Chinook salmon averaged 23.9 pounds per fish while sockeye, coho, pink and chum salmon averaged 5.8, 5.9, 3.1 and 8.0 pounds, respectively (Table 13, Appendix A.12).

The Commercial Fisheries Entry Commission issued 575 drift gillnet permits (68% to Alaska residents) and 745 set gillnet permits (84% to Alaska residents) for the Cook Inlet area in 1999 (Appendix A.13). A total of 25 firms purchased Upper Cook Inlet fishery products during 1999 (Table 14).

### ***Salmon Enhancement***

Salmon enhancement through hatchery stocking has been a part of Upper Cook Inlet salmon production since the early 1970's. Presently, only a single commercially oriented hatchery remains operational in Upper Cook Inlet – the Trail Lakes facility located in the upper Kenai River drainage near Moose Pass. The Cook Inlet Aquaculture Association operates this facility. Trail Lakes hatchery was originally built and operated by the Department's FRED Division, but was subsequently leased to CIAA in 1990 as the state-operating budget declined. This hatchery has functioned to produce primarily sockeye salmon, with minor production of coho and chinook salmon. Many of the major projects operate without marking programs, making accurate estimates of contribution to common property harvests difficult. In general, hatchery-produced sockeye salmon have accounted for substantially less than 10 percent of the commercial catch. Upper Cook Inlet projects supported by this facility offer only one opportunity for Association cost recovery – the enhanced return of sockeye salmon to Packers Creek on Kalgin Island. Although stocking has ceased at this site, surplus fish are still returning from prior years stocking efforts. In 1999, CIAA harvested and sold 12,164 sockeye salmon averaging 3.64 pounds per fish from Packers Creek

### **Stock Status and Outlook**

In general, Upper Cook Inlet's salmon stocks remain in good condition, although several areas merit some discussion. The overall return of sockeye salmon in 1999 was 680,000 fish over forecast. The harvest of 2.7 million sockeye is above the recent 10-year average of 2.4 million

sockeye. Returns to most systems were at or below forecast with the exception of Kenai and Kasilof, both of which were well above forecast. Monitoring of sockeye salmon fry abundance in the freshwater rearing areas of the Kenai River indicate a more acute problem for that system. Based on the number of fry observed in Kenai and Skilak Lakes in recent years, this system potentially could experience very poor returns in 2000. On a positive note, based on the number of fry observed in the lake in 1997, a significant upturn should occur in the 2001 adult return. Return-per-spawner values for the Kenai River sockeye salmon run have been somewhat reduced in recent years, but high spawner numbers have sustained the return at well above average levels. Kasilof River returns, very strong through the early and mid 1980's, appear to have stabilized at somewhat lower levels, and returns there are expected to remain at about average levels over the next several years. Susitna River escapements in recent brood years have been consistently good.

After experiencing record-level returns through the mid to late '80's, the Crescent River sockeye salmon run declined dramatically and has remained very poor. Limnological assessment work done in the past four years clearly indicates a dramatic drop in available zooplankton in Crescent Lake, which is no doubt responsible for the lack of juvenile fish production. The drop in zooplankton appears to be the result of increased turbidity in the lake, limiting light penetration and primary productivity. The Department has reduced the biological escapement goal (BEG) for this system from a range of 50,000 to 100,000 to a range of 25,000 to 50,000, reflecting the decreased capability of this system to rear juvenile fish. Staff will continue to monitor rearing conditions in Crescent Lake and adjust spawning escapement goals if conditions change. Recent returns of sockeye salmon to Fish Creek in Knik Arm have been relatively poor, particularly the 1998 and 1999 returns, which experienced minimal harvest and produced less than 50% of the desired escapement. No causative factors for these poor returns are apparent and the outlook for this system is unknown.

Chum salmon production has been relatively poor in recent years, in part due to after-effects of the 1986 fall flooding of the Susitna Basin, but likely also due to poor general environmental factors. Chum salmon stocks throughout central Alaska have shown a similar drop in productivity. While the Department lacks quantitative escapement information, chum salmon escapement has undoubtedly been augmented by management actions or regulatory changes aimed principally at other species. Significant reductions in offshore drift and Northern District set gillnet fishing time to conserve Yentna River sockeye, the adoption of a Northern District Coho Salmon Management Plan further limiting these two fisheries, lack of a directed chum salmon fishery in Chinitna Bay due to market conditions, and reduced efforts aimed at chum salmon in the drift fishery due to low abundance and value have combined to significantly reduce chum exploitation. Therefore, despite

poor returns, no further conservation measures aimed specifically at chum salmon appear to be required.

Upper Cook Inlet's coho salmon stocks generally produced very strong returns throughout most of the 1980's and early 1990's, but the 1999 return appeared to be quite substandard in most drainage's. Although the parent-year escapements for the 1999 return were generally thought to be good, the realized production from this brood year was very poor. The flood of 1995 is probably the single largest causative factor. Early-run Kenai River coho salmon returns have ranged from average to fair in recent years, but harvests have been high in both the commercial fishery and in the rapidly growing sport fishery. Downturns in Kenai River coho salmon smolt production appear to be reversing, but careful monitoring of this stock will continue.

After experiencing a significant downturn in the early to mid '90s, Northern District chinook salmon stocks continue to trend significantly upward and no generalized conservation issues are currently applicable. Late-run Kenai River chinook salmon returns have been relatively stable and escapement objectives have been consistently achieved or exceeded.

## COMMERCIAL HERRING FISHERY

In 1998 the department reopened the Eastern Subdistrict of the Northern District and the Upper Subdistrict of the Central District from April 15 to May 20 by emergency order. In 1999 under the newly created Central District Herring Recovery Management Plan the fishery in the Upper Subdistrict was open for two 30-hour periods per week from April 20 to May 20.

The results of the 1999 season were encouraging with a modest harvest of 10.4 tons. The first harvests were reported on April 26 and the last fishing period was on May 21. A total of 10 permits were used to harvest herring in this fishery, a significant reduction from 1998 when 18 permits were fished. Age composition of the herring samples taken was composed of primarily 5 to 7 year old fish, with very few herring older than 9 years (Table 16). Department personnel observed many smaller herring, likely those less than 4 year olds going through the nets uncaught, providing an anecdotal indication of recruitment in the future. There was no incidental harvest of chinook salmon, sockeye salmon, or Dolly Varden char (*Salvelinus malma*) observed.

## COMMERCIAL RAZOR CLAM FISHERY

Historically the Cook Inlet Razor clam fishery on the west side of Cook Inlet has been confined to the area between Crescent River and Redoubt Point. All clams harvested in this area are directed by regulation to be sold for human consumption, except for the small percentage (less than 10%) of broken clams, which may be sold for bait. Razor clams are present throughout this area with especially dense concentrations in the Polly Creek and Crescent River areas. Beginning in 1993, the Department of Environmental Conservation certified additional area for human consumption. The additional area is located north of the existing Polly Creek certified beach to Redoubt Creek. In 1994 this certification was further extended north to Harriet Point. In the remainder of the Upper Cook Inlet Management Area, there are no restrictions on the amount of clams that can be sold for bait. Currently there is no directed effort to harvest razor clams for the bait market. The minimum legal size for razor clams is four and one-half inches (114mm) in shell length.

The 1999 fishery began on May 18 and the last reported deliveries were made on August 15. The season's harvest taken primarily from the Polly Creek/Crescent River area was 352,910 pounds (Appendix A.9). A total of 28 diggers made 1,655 landings over the course of the season. Diggers were paid an average of \$.50 per pound for their harvest, resulting in an exvessel value of this fishery of \$176,000. The summer's tide schedule can be found in Table 17.

## SUBSISTENCE

There is a long history of Alaskans harvesting fish and game for their personal consumptive needs under sport, subsistence, and commercial fishing regulations in the Cook Inlet area (Braund 1982). Since 1978, when the State of Alaska passed its first subsistence statute (AS 16.05.258), many changes have occurred in the regulations governing the harvest of fish and game for personal consumption in the Cook Inlet Area. Beginning in 1981 a new category of fisheries, personal use, was created to provide for the personal consumptive needs of state residents not able to meet their needs under other fisheries. Since their creation, numerous changes have occurred in the personal use or subsistence fisheries in Cook Inlet, resulting from challenges in the State of Alaska Court System, The Alaska State Legislature, or the Board of Fisheries process. The only personal use or subsistence fishery that has occurred consistently in Cook Inlet during this period is the Tyonek Subsistence fishery. A complete review of the various fisheries and changes that have resulted since 1978 is reported in Brannian and Fox, 1996.

### *Tyonek Subsistence Salmon Fishery*

The present subsistence fishery in the Tyonek Subdistrict was created by an Anchorage Superior Court order in May 1980. In March 1981, the Board of Fisheries adopted permanent regulations for this fishery. Originally open only to those individuals living in the village of Tyonek, recent court decisions allow any Alaska resident to participate, although very few non-villagers seek permits. Fishing is allowed only in the Tyonek Subdistrict of the Northern District. A limit of one permit per household can be issued and each permit holder is allowed a single ten-fathom gillnet, having a mesh size no greater than six inches. Fishing is allowed from 4:00 a.m. to 8:00 p.m. each Tuesday, Thursday, and Friday from May 15 to June 15, or until 4,200 chinook salmon are taken. Fishing is again allowed from 6:00 a.m. to 6:00 p.m. each Saturday after June 15, although the opening is delayed until July 1, if 4,200 chinook salmon were taken before June 16. The permit allows 25 salmon per permit holder and 10 salmon for each additional member. Chinook salmon harvests have ranged from 797 in 1990 to 2,750 in 1983 (Appendix A.15). The total reported harvest for the 1999 season was 1,314 chinook, 147 sockeye, 94 coho, 26 pink and 9 chum salmon.

## PERSONAL USE SALMON FISHERY

Under the *Upper Cook Inlet Personal Use Salmon Fishery Management Plan* (5 AAC 77.540), personal use fishing is allowed using gillnets near the Kasilof River in the waters of Upper Cook Inlet normally closed to commercial set gillnet fishing. This area encompasses approximately 1.5 miles on either side of the Kasilof River extending out from shore for 1 mile. In addition, dip net fishing is allowed in the Kenai and Kasilof rivers as well as in Fish Creek in Knik Arm. The *Upper Cook Inlet Personal Use Salmon Fishery Management Plan* received substantial changes at the BOF meeting in January of 1996. In 1995 the personal use fishery allowed gillnets in most areas of Cook Inlet normally open to commercial set gillnet fishing. However, for the 1996 season, most of this area was closed with dip net fisheries expanded to allow for approximately the same level of harvest that had occurred with gillnets in 1995.

A permit issued by the Department, along with a valid resident sport fishing license, or an exemption from licensing under AS 16.05.400, is required to participate in this fishery. The annual bag and possession limits are twenty-five salmon per head of household with an additional ten salmon for each household member.

Legal gear under these plans are set gillnets and dip nets. A set gillnet can not exceed 10 fathoms (60 feet), or 45 meshes in depth. Mesh size must be greater than four inches, but may not exceed six inches. Gillnets must be set at least 100 feet apart at all times. A legal dip net has been defined in regulation 5 AAC 39.105 (24).

### *1999 Personal Use Fishery*

A total of 16,383 permits were issued to households in the Upper Cook Inlet Personal Use fishery in 1999, with a total harvest of 190,611 salmon (Table 15). A total of 12,210 permit holders participated in one or more of the various fisheries. The personal use fishery using gillnets in the mouth of the Kasilof River opened on June 21 and was closed on June 25. A total of 11,430 salmon were harvested by 552 households participating in this fishery. By far the most popular fishery was the dip net fishery in the Kenai River, with a harvest totaling 137,088 salmon from 7,367 participating households. The Fish Creek fishery was utilized by 230 households harvesting 919 salmon. The Kasilof River dip net fishery was utilized by 1,956 households harvesting 34,337 salmon. Approximately 4,173 permits were not returned as required. A second fishery with a separate permitting system utilizing fishwheels in the Upper Yentna River was created in 1996. The 1999 harvest from 21 permits was 455 sockeye, 3 coho 15 pink and 11 chum salmon.

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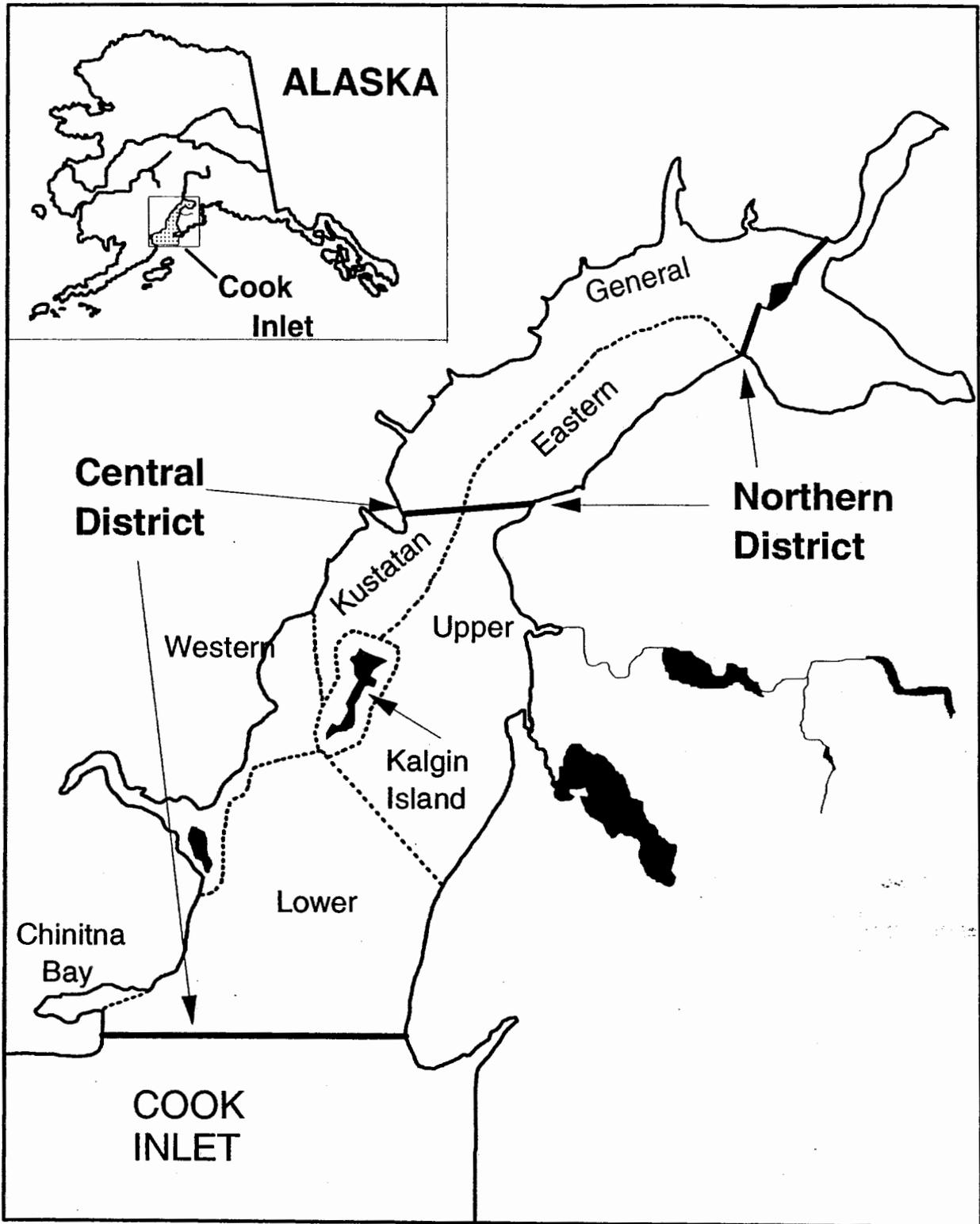


Figure 1. Map of Upper Cook Inlet commercial salmon fishing districts.

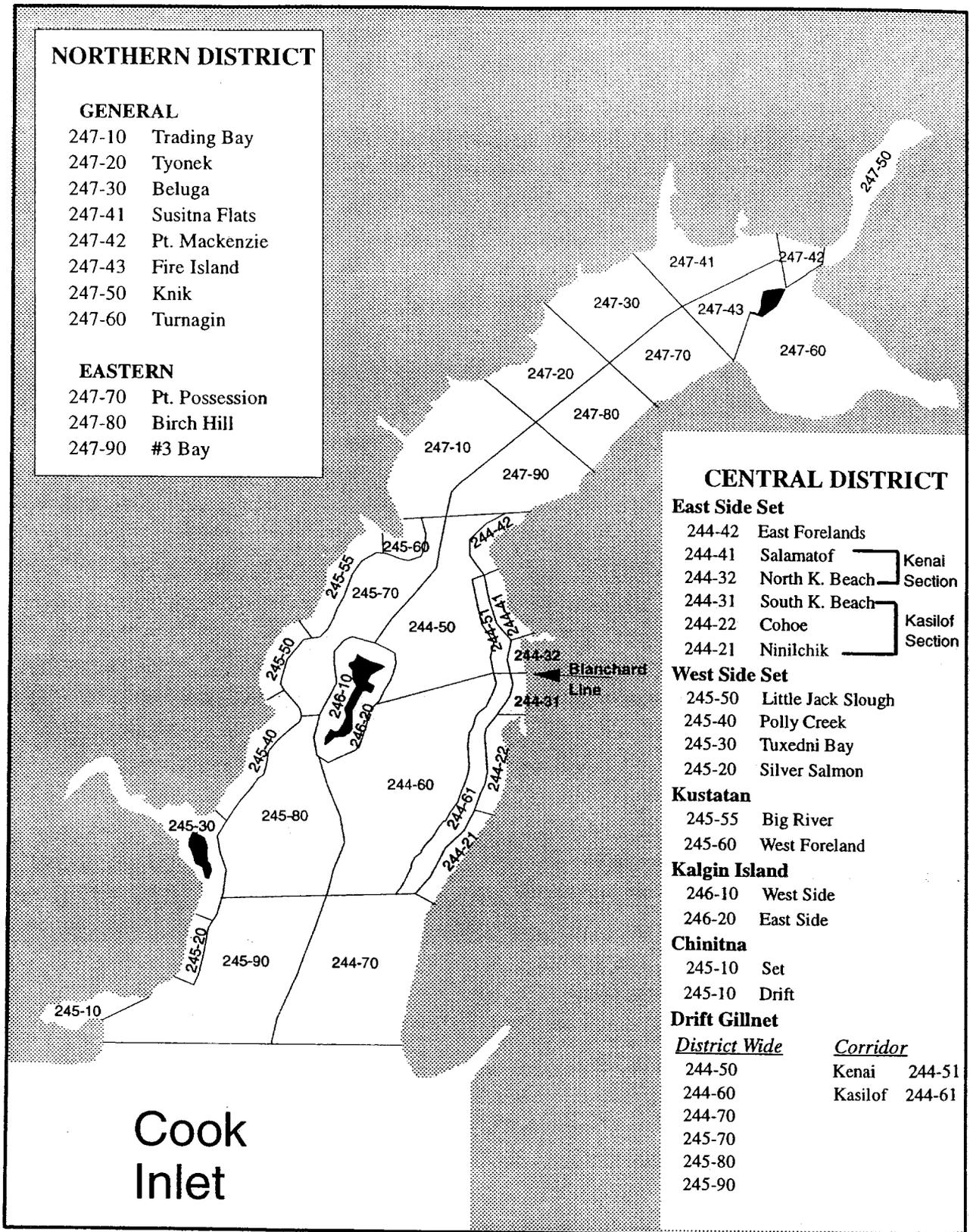


Figure 2. Upper Cook Inlet statistical areas

Table 1. Offshore sockeye salmon testfishing results, F/V Corrina Kay, 1999.

Date	Number of Stations	Fishing Time (min)	Cumulative		Cumulative		Mean Length (mm)	Water Temp (c)	Air Temp (c)	Salinity (ppm)	Beginning Wind		Ending Wind	
			Catch	Catch	Index	Index					Vel	Dir	Vel	Dir
1-Jul	6	218.5	18	18	14.6	14.6	525	8.9	14.0	30.7	20	SE	5	S
2-Jul	6	221.5	16	34	12.8	27.4	532	8.6	16.0	31.1	0		9	SE
3-Jul	6	217.0	3	37	2.5	29.9	537	9.4	16.2	30.8	5	SE	12	S
4-Jul	6	238.0	87	124	62.6	92.5	542	8.9	13.0	30.9	15	S	0	
5-Jul	6	198.5	37	161	29.8	122.3	540	9.3	14.0	30.8	10	S	10	S
6-Jul	6	221.5	27	188	21.5	143.8	530	9.4	11.5	30.8	15	N	15	N
7-Jul	6	221.0	19	207	15.0	158.7	544	9.9	13.3	30.7	10	S	18	S
8-Jul	6	228.0	59	266	51.2	210.0	530	9.9	10.7	30.4	30	S	18	S
9-Jul	6	231.5	78	344	58.6	268.6	547	9.8	13.5	31.0	23	NW	25	NW
10-Jul	6	221.5	73	417	59.3	327.9	567	9.7	13.7	30.8	0		3	NW
11-Jul	6	243.5	222	639	151.1	479.0	550	10.0	13.5	30.5	3	SE	15	SW
12-Jul	6	233.0	112	751	78.2	557.2	549	9.9	11.5	30.8	12	S	18	S
13-Jul	6	230.5	98	849	64.9	622.1	541	10.2	13.8	30.7	8	SW	10	SW
14-Jul	6	228.0	90	939	54.6	676.8	548	10.1	12.0	30.9	0		5	N
15-Jul	6	276.0	514	1453	300.9	977.7	556	10.3	12.3	30.5	8	S	18	S
16-Jul	4	197.0	279	1732	157.7	1,135.4	557	10.2	11.3	30.5	20	SE	28	SE
17-Jul	6	239.0	183	1915	135.0	1,270.4	551	10.5	12.7	30.2	25	SE	18	SW
18-Jul	6	228.5	103	2018	79.6	1,350.0	558	10.0	12.0	30.8	10	N	22	NW
19-Jul	6	228.0	94	2112	70.2	1,420.3	545	10.4	13.0	30.4	8	SE	12	S
20-Jul	1	27.5	70	2182	99.9	1,520.2	0	10.8	15.0	29.7	-		-	
21-Jul	0	-6.0 <sup>1</sup>	6	2188	66.9	1,587.1	0	0.0	0.0	0.0	-		-	
22-Jul	6	225.5	40	2228	30.3	1,617.3	563	11.4	17.8	29.2	10	SE	3	S
23-Jul	6	229.0	164	2392	128.1	1,745.4	541	11.5	13.8	28.9	12	SW	0	
24-Jul	6	239.5	199	2591	123.2	1,868.6	575	11.8	14.0	28.1	5	N	5	SW
25-Jul	6	229.5	125	2716	96.4	1,965.0	564	11.6	13.0	28.0	20	S	18	SW
26-Jul	6	216.0	42	2758	39.4	2,004.4	554	11.7	13.5	28.5	18	SW	18	SE
27-Jul	3	113.0	32	2790	25.5	2,030.0	563	11.2	13.0	29.1	25	SW	30	SW
28-Jul	6	232.0	90	2880	68.2	2,098.2	566	10.9	15.7	28.7	5	SW	0	
29-Jul	6	244.0	164	3044	101.2	2,199.4	553	10.8	13.0	30.0	12	SW	10	SW
30-Jul	6	219.5	19	3063	15.5	2,214.8	522	10.9	12.7	30.0	10	SW	15	SW
31-Jul	6	209.5	12	3075	11.1	2,225.9	535	10.4	12.7	30.4	0		0	

<sup>1</sup> The testfish boat did not fish due to high winds; data for this day are interpolated from the day before and day after.

Table 2. Sockeye salmon enumeration by river and date, 1999.

Date	Kenai River		Kasilof River		Crescent River		Yentna River		Fish Creek		Packers Lake	
	daily	cum	daily	cum	daily	cum	daily	cum	daily	cum	daily	cum
27-Jun			8,394	46,013	56	56						
28-Jun			10,509	56,522	84	140						
29-Jun			10,888	67,410	335	475						
30-Jun			8,915	76,325	2,093	2,568						
1-Jul	1,082	1,082	10,307	86,632	3,332	5,900						
2-Jul	1,024	2,106	4,287	90,919	1,954	7,854					0	0
3-Jul	823	2,929	5,077	95,996	1,452	9,306					0	0
4-Jul	783	3,712	2,565	98,561	1,675	10,981					83	83
5-Jul	1,071	4,783	5,225	103,786	1,459	12,440					32	115
6-Jul	1,845	6,628	4,585	108,371	1,357	13,797					25	140
7-Jul	2,798	9,426	9,398	117,769	745	14,542	49	49			18	158
8-Jul	3,587	13,013	11,074	128,843	2,070	16,612	84	133			76	234
9-Jul	4,520	17,533	2,181	131,024	1,500	18,112	113	246	0	0	14	248
10-Jul	3,538	21,071	2,595	133,619	817	18,929	267	513	0	0	5	253
11-Jul	2,138	23,209	3,510	137,129	538	19,467	503	1,016	0	0	81	334
12-Jul	2,150	25,359	1,978	139,107	2,965	22,432	713	1,729	0	0	161	495
13-Jul	2,089	27,448	2,460	141,567	3,109	25,541	622	2,351	0	0	26	521
14-Jul	4,162	31,610	4,444	146,011	2,043	27,584	730	3,081	0	0	35	556
15-Jul	8,188	39,798	1,798	147,809	447	28,031	1,268	4,349	0	0	132	688
16-Jul	3,859	43,657	2,553	150,362	3,857	31,888	1,336	5,685	0	0	153	841
17-Jul	10,447	54,104	6,261	156,623	5,886	37,774	1,065	6,750	0	0	282	1,123
18-Jul	24,548	78,652	4,818	161,441	3,650	41,424	1,306	8,056	0	0	77	1,200
19-Jul	32,902	111,554	5,612	167,053	3,252	44,676	2,652	10,708	0	0	210	1,410
20-Jul	20,803	132,357	9,050	176,103	4,002	48,678	5,171	15,879	0	0	140	1,550
21-Jul	28,468	160,825	17,360	193,463	1,839	50,517	6,125	22,004	0	0	559	2,109
22-Jul	40,167	200,992	18,768	212,231	3,393	53,910	9,623	31,627	0	0	168	2,277
23-Jul	47,170	248,162	13,100	225,331	2,468	56,378	11,211	42,838	0	0	235	2,512
24-Jul	41,650	289,812	11,499	236,830	1,724	58,102	7,653	50,491	0	0	259	2,771
25-Jul	69,736	359,548	10,932	247,762	1,246	59,348	5,613	56,104	0	0	81	2,852
26-Jul	55,006	414,554	11,283	259,045	1,404	60,752	3,815	59,919	0	0	459	3,311
27-Jul	58,995	473,549	11,420	270,465	1,486	62,238	4,754	64,673	1,709	1,709	1,097	4,408
28-Jul	46,487	520,036	5,048	275,513	2,148	64,386	4,818	69,491	4,239	5,948	1,621	6,029
29-Jul	30,449	550,485	5,951	281,464	1,838	66,224	6,485	75,976	4,760	10,708	919	6,948
30-Jul	22,613	573,098	4,025	285,489	586	66,810	3,652	79,628	3,726	14,434	826	7,774
31-Jul	14,935	588,033	3,626	289,115	376	67,186	4,333	83,961	1,822	16,256	712	8,486
1-Aug	18,891	606,924	3,165	292,280	361	67,547	2,964	86,925	2,551	18,807	500	8,986
2-Aug	19,185	626,109	4,072	296,352	602	68,149	1,722	88,647	2,262	21,069	605	9,591
3-Aug	14,182	640,291	4,209	300,561	317	68,466	1,859	90,506	1,252	22,321	399	9,990
4-Aug	13,986	654,277	3,246	303,807	519	68,985	1,981	92,487	1,147	23,468	223	10,213
5-Aug	11,917	666,194	2,165	305,972			1,285	93,772	921	24,389	61	10,274
6-Aug	13,309	679,503	2,214	308,186			787	94,559	274	24,663	559	10,833
7-Aug	19,390	698,893	2,285	310,471			763	95,322	665	25,328	485	11,318
8-Aug	18,759	717,652	2,163	312,634			842	96,164	131	25,459	288	11,606
9-Aug	15,279	732,931	878	313,512			648	96,812	128	25,587	603	12,209
10-Aug	7,204	740,135						97,882	436	26,023	1,210	13,419
11-Aug	7,810	747,945						98,470	96	26,119	160	13,579
12-Aug	10,816	758,761						98,764	178	26,297	230	13,809
13-Aug	6,133	764,894						98,940	165	26,462	110	13,919
14-Aug	8,782	773,676						99,029	13	26,475	45	13,964
15-Aug	10,706	784,382							32	26,507	27	13,991
16-Aug	7,040	791,422							34	26,541	185	14,176
17-Aug	6,401	797,823							29	26,570	187	14,363
18-Aug	6,167	803,990							47	26,617	775	15,138
19-Aug									16	26,633	1,512	16,650
20-Aug									30	26,663	0	16,650
21-Aug									4	26,667	15	16,665
22-Aug									0	26,667	87	16,752
23-Aug											108	16,860
24-Aug											59	16,919
25-Aug											69	16,988
26-Aug											124	17,112
27-Aug											1,016	18,128
28-Aug											506	18,634
29-Aug											124	18,758
30-Aug											159	18,917
31-Aug											6	18,923
1-Sep											77	19,000
2-Sep											0	19,000
3-Sep											6,438	25,438
4-Sep											42	25,480
5-Sep											168	25,648

Table 3. Commercial chinook salmon catch by area and date, Upper Cook Inlet 1999.

Date	Drift		East Side Setnet								Northern District												
			Salamatof		K-Beach		Cohoe/Ninilchik		Total		West Side		Kustatan		Kalgin		Chinitna Bay		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	
6/2													31	31									
6/4													174	205									
6/7													274	479					1,459	1,459	288	288	
6/9													169	648									288
6/11													31	679									288
6/14													16	695					308	1,767	59	347	
6/16													29	724									347
6/18													18	742									347
6/21											18	18	9	751									347
6/23													13	764									347
6/24													38	56									347
6/28	31	31									142	198	3	767	14	14			195	1,962	15	362	
7/1	44	75			40	40	116	116	156	156	84	282	5	772	3	17	1	1	125	2,087	16	378	
7/3	6	81			53	93	157	273	210	366		282		772		17	1	1		2,087		378	
7/5	60	141			46	139	151	424	197	563	94	376	3	775	3	20	1	1	62	2,149	4	382	
7/8	61	202	112	112	115	254	155	579	382	945	45	421		775		20	1	1	17	2,166	1	383	
7/9	10	212	1	113	58	312	134	713	193	1,138		421		775		20	1	1		2,166		383	
7/11	55	267		113	45	357	109	822	154	1,292		421		775		20	1	1		2,166		383	
7/12	82	349	91	204	269	626	383	1,205	743	2,035	43	464		775	2	22	1	1	19	2,185	4	387	
7/13		349		204		626		1,205		2,035	46	510		775		22	1	1		2,185		387	
7/14		349		204	38	664	157	1,362	195	2,230	26	536		775		22	1	1		2,185		387	
7/15	34	383	182	386	179	843	304	1,666	665	2,895	26	562		775	5	27	1	1	44	2,229	5	392	
7/16		383		386		843		1,666		2,895	9	571		775		27	1	1		2,229		392	
7/17		383		386	161	1,004	300	1,966	461	3,356	14	585		775		27	1	1		2,229		392	
7/18		383		386	113	1,117	241	2,207	354	3,710	12	597		775		27	1	1		2,229		392	
7/19	37	420	312	698	261	1,378	214	2,421	787	4,497	2	599		775	3	30	1	1	14	2,243	1	393	
7/20		420		698		1,378		2,421		4,497	16	615		775		30	1	1		2,243		393	
7/21		420		698		1,378		2,421		4,497	3	618		775		30	1	1		2,243		393	
7/22	33	453	174	872	359	1,737	130	2,551	663	5,160	39	657	1	776	2	32	1	2		2,243		393	
7/23		453		872		1,737		2,551		5,160	10	667		776		32	2	2		2,243		393	
7/24		453		872	181	1,918	151	2,702	332	5,492	6	673		776		32	7	9		2,243		393	
7/25		453		872	124	2,042	102	2,804	226	5,718		673		776		32	9	9		2,243		393	
7/26		453		872		2,042		2,804		5,718	5	678		776	1	33	9	10		2,253		393	
7/27	20	473	119	991	271	2,313	110	2,914	500	6,218		678		776		33	9	9		2,253		393	
7/28		473		991	151	2,464	90	3,004	241	6,459		678		776		33	9	9		2,253		393	
7/29	18	491	163	1,154	173	2,637	93	3,097	429	6,888	7	685		776	2	35	9	9		2,253		393	
7/30	9	500	134	1,288	220	2,857	133	3,230	487	7,375		685		776		35	9	9		2,253		393	
7/31	14	514		1,288	104	2,961	85	3,315	189	7,564	7	692		776		35	9	9		2,253		393	
8/1	15	529	91	1,379	90	3,051	64	3,379	245	7,809		692		776		35	9	9		2,253		393	
8/2	7	536	154	1,533	200	3,251	95	3,474	449	8,258	2	694		776		35	9	4		2,257		393	
8/3	4	540	81	1,614	165	3,416	75	3,549	321	8,579		694		776		35	9	9		2,257		393	
8/4	7	547	74	1,688	126	3,542	69	3,618	269	8,848		694		776		35	9	9		2,257		393	
8/5	8	555	73	1,761	93	3,635	129	3,747	295	9,143	1	695		776	1	36	9	3		2,260		393	
8/9	6	561	40	1,801	74	3,709	45	3,792	159	9,302	2	697		776		36	9	1		2,261	1	394	
8/12		561	28	1,829	35	3,744	25	3,817	88	9,390		697		776	1	37	9	9		2,261		394	
8/16		561		1,829		3,744		3,817		9,390		697		776	1	38	9	9		2,261	1	395	
8/19		561		1,829		3,744		3,817		9,390		697		776		38	9	9		2,261		395	
8/23		561		1,829		3,744		3,817		9,390		697		776		38	9	9		2,261		395	
8/26		561		1,829		3,744		3,817		9,390		697		776		38	9	9		2,261		395	
8/30		561		1,829		3,744		3,817		9,390		697		776		38	9	9		2,261		395	
9/2		561		1,829		3,744		3,817		9,390		697		776		38	9	9		2,261	1	396	

Table 4. Commercial sockeye salmon catch by area and date, Upper Cook Inlet 1999.

Date	East Side Setnet																			Northern District			
	Drift		Salamatof		K-Beach		Cohoe/Ninilchik		Total		West Side		Kustatan		Kalgin		Chinitna Bay		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	
6/2													182	182									
6/4													481	663									
6/7													789	1,452					42	42	397	397	
6/9													1,067	2,519							42	42	397
6/11													643	3,162							42	42	397
6/14													310	3,472					18	60	98	495	
6/16													228	3,700							60	60	495
6/18													159	3,859							60	60	495
6/21												38	38	68	3,927						60	60	495
6/23													147	4,074							60	60	495
6/24												204	242								60	60	495
6/28	20,805	20,805										761	1,003	12	4,086	1,651	1,651			101	161	173	668
7/1	33,531	54,336			6,166	6,166	18,584	18,584	24,750	24,750	929	1,932	13	4,099	479	2,130	15	15	298	459	369	1,037	
7/3	1,080	55,416			3,598	9,764	12,543	31,127	16,141	40,891		1,932		4,099		2,130	15	15		459		1,037	
7/5	108,494	163,910			4,174	13,938	19,586	50,713	23,760	64,651	1,307	3,239	111	4,210	461	2,591	15	212	671	299	1,336		
7/8	124,113	288,023	5,868	5,868	14,743	28,681	26,226	76,939	46,837	111,488	1,058	4,297		4,210	501	3,092	15	357	1,028	562	1,898		
7/9	2,389	290,412	9	5,877	3,979	32,660	13,350	90,289	17,338	128,826		4,297		4,210		3,092	15			1,028		1,898	
7/11	4,765	295,177		5,877	2,040	34,700	10,032	100,321	12,072	140,898		4,297		4,210		3,092	15			1,028		1,898	
7/12	30,735	325,912	2,418	8,295	10,888	45,588	31,693	132,014	44,999	185,897	1,779	6,076	6	4,216	1,089	4,181	63	78	1,698	2,726	413	2,311	
7/13		325,912		8,295		45,588		132,014		185,897	1,386	7,462		4,216		4,181		78		2,726		2,311	
7/14		325,912		8,295	2,769	48,357	11,484	143,498	14,253	200,150	1,038	8,500		4,216		4,181		78		2,726		2,311	
7/15	312,363	638,275	4,283	12,578	3,586	51,943	17,335	160,833	25,204	225,354	998	9,498	19	4,235	1,586	5,767	113	191	4,031	6,757	657	2,968	
7/16		638,275		12,578		51,943		160,833		225,354	844	10,342		4,235		5,767		191		6,757		2,968	
7/17		638,275		12,578	32,639	84,582	90,408	251,241	123,047	348,401	1,685	12,027		4,235		5,767		191		6,757		2,968	
7/18		638,275		12,578	19,418	104,000	37,832	289,073	57,250	405,651	1,462	13,489		4,235		5,767		191		6,757		2,968	
7/19	382,658	1,020,933	38,349	50,927	20,198	124,198	40,852	329,925	99,399	505,050	4,042	17,531	173	4,408	4,914	10,681	191	13,830	20,587	5,194	8,162		
7/20		1,020,933		50,927		124,198		329,925		505,050	2,208	19,739		4,408		10,681	191			20,587		8,162	
7/21		1,020,933		50,927		124,198		329,925		505,050	974	20,713		4,408		10,681	191			20,587		8,162	
7/22	64,847	1,085,780	30,397	81,324	51,131	175,329	44,640	374,565	126,168	631,218	6,934	27,647	423	4,831	8,152	18,833	151	342		20,587		8,162	
7/23		1,085,780		81,324		175,329		374,565		631,218	325	27,972		4,831		18,833	14	356		20,587		8,162	
7/24		1,085,780		81,324	28,211	203,540	23,827	398,392	52,038	683,256	3,343	31,315		4,831		18,833	313	669		20,587		8,162	
7/25		1,085,780		81,324	19,566	223,106	22,139	420,531	41,705	724,961	707	32,022		4,831		18,833		669		20,587		8,162	
7/26		1,085,780		81,324		223,106		420,531		724,961	6,422	38,444	81	4,912	8,197	27,030	669	10,323	30,910	11,025	19,187		
7/27	30,572	1,116,352	50,751	132,075	17,565	240,671	17,197	437,728	85,513	810,474	296	38,740		4,912		27,030	669			30,910		19,187	
7/28	742	1,117,094		132,075	7,570	248,241	8,317	446,045	15,887	826,361	825	39,565		4,912		27,030	669			30,910		19,187	
7/29	156,398	1,273,492	17,337	149,412	13,076	261,317	9,857	455,902	40,270	866,631	3,206	42,771	34	4,946	7,279	34,309	669			30,910		19,187	
7/30	7,042	1,280,534	11,094	160,506	15,222	276,539	15,411	471,313	41,727	908,358		42,771		4,946		34,309	40	709		30,910		19,187	
7/31	11,254	1,291,788		160,506	7,937	284,476	6,704	478,017	14,641	922,999	1,012	43,783		4,946		34,309	709			30,910		19,187	
8/1	24,162	1,315,950	17,963	178,469	11,976	296,452	7,720	485,737	37,659	960,658		43,783		4,946		34,309	709			30,910		19,187	
8/2	65,754	1,381,704	14,258	192,727	17,475	313,927	10,753	496,490	42,486	1,003,144	2,761	46,544	112	5,058	8,103	42,412	709	3,750	34,660	1,094	20,281		
8/3	6,433	1,388,137	7,638	200,365	10,400	324,327	10,514	507,004	28,552	1,031,696		46,544		5,058		42,412	709			34,660		20,281	
8/4	7,577	1,395,714	5,602	205,967	11,228	335,555	7,788	514,792	24,618	1,056,314		46,544		5,058		42,412	709			34,660		20,281	
8/5	15,993	1,411,707	6,313	212,280	6,339	341,894	11,280	526,072	23,932	1,080,246	592	47,136	114	5,172	5,378	47,790	709	1,317	35,977	172	20,453		
8/9	2,560	1,414,267	3,035	215,315	1,471	343,365	2,484	528,556	6,990	1,087,236	1,276	48,412	8	5,180	4,200	51,990	709	642	36,619	521	20,974		
8/12		1,414,267	1,731	217,046	1,187	344,552	2,752	531,308	5,670	1,092,906	623	49,035		5,180	2,757	54,747	709	188	36,807	466	21,440		
8/16		1,414,267		217,046		344,552		531,308		1,092,906	252	49,287	28	5,208	2,481	57,228	709	180	36,987	159	21,599		
8/19		1,414,267		217,046		344,552		531,308		1,092,906		49,287		5,208	465	57,693	709	35	37,022	167	21,766		
8/23		1,414,267		217,046		344,552		531,308		1,092,906	150	49,437	4	5,212	907	58,600	709	45	37,067	56	21,822		
8/26		1,414,267		217,046		344,552		531,308		1,092,906	2	49,439		5,212	338	58,938	709	28	37,095	53	21,875		
8/30		1,414,267		217,046		344,552		531,308		1,092,906	2	49,441		5,212	78	59,016	709	22	37,117	40	21,915		
9/2		1,414,267		217,046		344,552		531,308		1,092,906		49,441		5,212	63	59,079	709		37,117	28	21,943		

Table 5. Commercial Coho Catch by area and date, Upper Cook Inlet 1999.

Date	Drift		East Side Setnet								West Side		Kustatan		Kalgin		Chinitna Bay		Northern District					
	Daily	Cum	Salamatof		K-Beach		Cohoe/Niniichik		Total		Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	West Side		East Side	
6/7														15	15									
6/9															15									
6/11															15									
6/14															15									
6/16															15									
6/18															15									
6/21															15									
6/23															15									
6/24															15									
6/28	24	24									1	1		1	16									
7/1	25	49						3	3	3	4	5		16						2	2			
7/3		49						1	4	1	5	5		16								2		
7/5	316	365						2	6	2	6	8		19	5	5				6	8			
7/8	346	711	6	6	2	2	5	11	13	19	13	21		19	10	15				98	106	4	4	
7/9	9	720		6	5	7	1	12	6	25		21		19		15					106		4	
7/11	22	742		6	3	10	9	21	12	37		21		19		15					106		4	
7/12	90	832	26	32	16	26	14	35	56	93	47	68	3	22	35	50				433	539	26	30	
7/13		832		32		26		35		93	28	96		22		50					539		30	
7/14		832		32	2	28	12	47	14	107	44	140		22		50					539		30	
7/15	4,944	5,776	18	50	5	33	24	71	47	154	33	173		22	95	145	5	5	406	945	72	102		
7/16		5,776		50		33		71		154	69	242		22		145		5			945		102	
7/17		5,776		50	28	61	104	175	132	286	143	385		22		145		5			945		102	
7/18		5,776		50	40	101	33	208	73	359	103	488		22		145		5			945		102	
7/19	9,772	15,548	208	258	84	185	179	387	471	830	178	666	20	42	577	722	5	5	2,951	3,896	382	484		
7/20		15,548		258		185		387		830	124	790		42		722		5			3,896		484	
7/21		15,548		258		185		367		830	109	899		42		722		5			3,896		484	
7/22	1,457	17,005	57	315	14	199	57	444	128	958	287	1,186	98	140	632	1,354		5			3,896		484	
7/23		17,005		315		199		444		958	101	1,287		140		1,354	17	22			3,896		484	
7/24		17,005		315	29	228	235	679	264	1,222	296	1,583		140		1,354	4	26			3,896		484	
7/25		17,005		315	14	242	160	839	174	1,396	132	1,715		140		1,354		26			3,896		484	
7/26		17,005		315		242		839		1,396	246	1,961	55	195	352	1,706		26	5,133	9,029	499	983		
7/27	851	17,856	326	641	70	312	180	1,019	576	1,972	80	2,041		195		1,706		26			9,029		983	
7/28	4	17,860		641	5	317	44	1,063	49	2,021	198	2,239		195		1,706		26			9,029		983	
7/29	19,738	37,598	176	817	27	344	83	1,146	286	2,307	499	2,738	21	216	877	2,583		26			9,029		983	
7/30	287	37,885	162	979	44	388	220	1,366	426	2,733		2,738		216		2,583	19	45			9,029		983	
7/31	120	38,005		979	246	634	85	1,451	331	3,064	462	3,200		216		2,583		45			9,029		983	
8/1	1,315	39,320	354	1,333	97	731	131	1,582	582	3,646		3,200		216		2,583		45			9,029		983	
8/2	13,427	52,747	341	1,674	176	907	223	1,805	740	4,386	540	3,740	252	468	3,431	6,014		45	5,746	14,775	660	1,643		
8/3	299	53,046	246	1,920	104	1,011	386	2,191	736	5,122		3,740		468		6,014		45			14,775		1,643	
8/4	1,085	54,131	378	2,298	433	1,444	485	2,676	1,296	6,418		3,740		468		6,014		45			14,775		1,643	
8/5	7,527	61,658	1,058	3,356	271	1,715	1,098	3,774	2,427	8,845	452	4,192	152	620	1,257	7,271		45	4,351	19,126	179	1,822		
8/9	2,871	64,529	578	3,934	337	2,052	764	4,538	1,679	10,524	875	5,067	80	700	1,400	8,671		45	2,229	21,355	595	2,417		
8/12		64,529	296	4,230	306	2,358	553	5,091	1,155	11,679	433	5,500		700	553	9,224		45	725	22,080	526	2,943		
8/16		64,529		4,230		2,358		5,091		11,679	161	5,661	12	712	1,189	10,413		45	473	22,553	406	3,349		
8/19		64,529		4,230		2,358		5,091		11,679		5,661		712	91	10,504		45	224	22,777	1,085	4,434		
8/23		64,529		4,230		2,358		5,091		11,679	210	5,871	38	750	113	10,617		45	551	23,328	1,385	5,819		
8/26		64,529		4,230		2,358		5,091		11,679	114	5,985		750	73	10,690		45	263	23,591	685	6,504		
8/30		64,529		4,230		2,358		5,091		11,679	77	6,062		750	133	10,823		45	109	23,700	519	7,023		
9/2		64,529		4,230		2,358		5,091		11,679		6,062		750	19	10,842		45		23,700	212	7,235		
9/6		64,529		4,230		2,358		5,091		11,679		6,062		750		10,842		45		23,700	277	7,512		
9/9		64,529		4,230		2,358		5,091		11,679		6,062		750		10,842		45		23,700	148	7,660		
9/13		64,529		4,230		2,358		5,091		11,679		6,062		750		10,842		45		23,700	30	7,690		
9/16		64,529		4,230		2,358		5,091		11,679		6,062		750		10,842		45		23,700	46	7,736		

Table 6. Commercial pink salmon catch by area and date, Upper Cook Inlet 1999.

Date	East Side Setnet											Northern District										
	Drift		Salamatof		K-Beach		Cohoe/Ninilchik		Total		West Side		Kustatan		Kalgin		Chinitna Bay		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
4-Jun																						
7-Jun																						
9-Jun																						
11-Jun																						
14-Jun																						
16-Jun																						
18-Jun																						
21-Jun																						
23-Jun																						
24-Jun												1	1									
28-Jun	62	62									8	9										
1-Jul	122	184			6	6	14	14	20	20	10	19			1	1	1	1			3	3
3-Jul	8	192			1	7	25	39	26	46		19			1	1	1	1				3
5-Jul	228	420			17	24	79	118	96	142	73	92	1	1	26	27	1	3	3		1	4
8-Jul	191	611	27	27	11	35	105	223	143	285	54	146		1	10	37	1	8	11	6	10	10
9-Jul	5	616			27	14	49	58	72	357		146		1		37	1		11			10
11-Jul	44	660			27	7	56	90	97	454		146		1		37	1		11			10
12-Jul	73	733	31	58	28	84	181	552	240	694	81	227		1	16	53	43	44	38	49	3	13
13-Jul		733		58		84		552		694	80	307		1		53		44		49		13
14-Jul		733		58	4	88	100	652	104	798	57	364		1		53		44		49		13
15-Jul	395	1,128	21	79	13	101	215	867	249	1,047	61	425		1	45	98		44	22	71	5	18
16-Jul		1,128		79		101		867		1,047	37	462		1		98		44		71		18
17-Jul		1,128		79	18	119	194	1,061	212	1,259	30	492		1		98		44		71		18
18-Jul		1,128		79	17	136	133	1,194	150	1,409	40	532		1		98		44		71		18
19-Jul	376	1,504	47	126	72	208	456	1,650	575	1,984	74	606	1	2	101	199		44	47	118	7	25
20-Jul		1,504		126		208		1,650		1,984	80	686		2		199		44		118		25
21-Jul		1,504		126		208		1,650		1,984	28	714		2		199		44		118		25
22-Jul	233	1,737	145	271	52	260	236	1,886	433	2,417	177	891	2	4	51	250	6	50		118		25
23-Jul		1,737		271		260		1,886		2,417		891		4		250		50		118		25
24-Jul		1,737		271	100	360	556	2,442	656	3,073	406	1,297		4		250	25	75		118		25
25-Jul		1,737		271	36	396	342	2,784	378	3,451	52	1,349		4		250		75		118		25
26-Jul		1,737		271		396		2,784		3,451	160	1,509	2	6	45	295		75	114	232	18	43
27-Jul	275	2,012	96	367	76	472	347	3,131	519	3,970	27	1,536		6		295		75		232		43
28-Jul	17	2,029		367	93	565	514	3,645	607	4,577	42	1,578		6		295		75		232		43
29-Jul	556	2,585	131	498	103	668	414	4,059	648	5,225	89	1,667		6	93	388		75		232		43
30-Jul	63	2,648	83	581	156	824	1,141	5,200	1,380	6,605		1,667		6		388		75		232		43
31-Jul	94	2,742		581	108	932	446	5,646	554	7,159	61	1,728		6		388		75		232		43
1-Aug	95	2,837	57	638	42	974	312	5,958	411	7,570		1,728		6		388		75		232		43
2-Aug	424	3,261	59	697	84	1,058	498	6,456	641	8,211	141	1,869	5	11	141	529		75	193	425	43	86
3-Aug	35	3,296	50	747	44	1,102	379	6,835	473	8,684		1,869		11		529		75		425		86
4-Aug	73	3,369	55	802	37	1,139	198	7,033	290	8,974		1,869		11		529		75		425		86
5-Aug	146	3,515	49	851	7	1,146	191	7,224	247	9,221	52	1,921	1	12	23	552		75	38	463	1	87
9-Aug	37	3,552	16	867	7	1,153	52	7,276	75	9,296	35	1,956		12	56	608		75	17	480	8	95
12-Aug		3,552	5	872	1	1,154	11	7,287	17	9,313	6	1,962		12	8	616		75	3	483	9	104
16-Aug		3,552		872		1,154		7,287		9,313	1	1,963		12	5	621		75	2	485	1	105
19-Aug		3,552		872		1,154		7,287		9,313		1,963		12		621		75		485		105
23-Aug		3,552		872		1,154		7,287		9,313		1,963		12		621		75		485		105
26-Aug		3,552		872		1,154		7,287		9,313		1,963		12	1	622		75		485	1	106
30-Aug		3,552		872		1,154		7,287		9,313		1,963		12		622		75		485		106

Table 7. Commercial chum salmon catch by area and date, Upper Cook Inlet 1999.

Date	Drift		East Side Setnet								Northern District											
	Daily	Cum	Salamatof		K-Beach		Cohoe/Nimilchik		Total		West Side		Kustatan		Kalgin		Chinitna Bay		West Side		East Side	
			Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
7-Jun																						
9-Jun																						
11-Jun																						
14-Jun																						
16-Jun																						
18-Jun																						
21-Jun																						
23-Jun																						
24-Jun												2	2									
28-Jun	1,249	1,249										2	4			1	1			1	1	
1-Jul	2,971	4,220			2	2	2	2	4	4	5	9					3	3	7	8		
3-Jul	7	4,227				2	1	3	1	5		9						3		8		
5-Jul	13,440	17,667				2	14	17	14	19	26	35			2	3		3	8	16	1	1
8-Jul	7,384	25,051	2	2	1	3	1	18	4	23	30	65				3		3	53	69	1	2
9-Jul	61	25,112		2		3		18		23		65				3		3		69		2
11-Jul	173	25,285		2		3		18		23		65				3		3		69		2
12-Jul	1,307	26,592	16	18	3	6	6	24	25	48	46	111				3	29	32	294	363	6	8
13-Jul		26,592		18		6		24		48	18	129				3		32		363		8
14-Jul		26,592		18		6	2	26	2	50	20	149				3		32		363		8
15-Jul	48,214	74,806	3	21	7	13	23	49	33	83	11	160			4	7	15	47	283	646	20	28
16-Jul		74,806		21		13		49		83	18	178				7		47		646		28
17-Jul		74,806		21	1	14	8	57	9	92	49	227				7		47		646		28
18-Jul		74,806		21		14	4	61	4	96	63	290				7		47		646		28
19-Jul	50,030	124,836	8	29	1	15	14	75	23	119	66	356			8	15		47	738	1,384	53	81
20-Jul		124,836		29		15		75		119	195	551				15		47		1,384		81
21-Jul		124,836		29		15		75		119	81	632				15		47		1,384		81
22-Jul	1,128	125,964	12	41	2	17	1	76	15	134	292	924	2	2	12	27	2	49		1,384		81
23-Jul		125,964		41		17		76		134	3	927				27	17	66		1,384		81
24-Jul		125,964		41		17	4	80	4	138	374	1,301			2	27	41	107		1,384		81
25-Jul		125,964		41		17	2	82	2	140	94	1,395			2	27		107		1,384		81
26-Jul		125,964		41		17		82		140	156	1,551			2	19	46	107	1,001	2,385	182	263
27-Jul	820	126,784	20	61	22	39	9	91	51	191	46	1,597			2		46	107		2,385		263
28-Jul	3	126,787		61	1	40	1	92	2	193	105	1,702			2		46	107		2,385		263
29-Jul	21,942	148,729	12	73	1	41	3	95	16	209	313	2,015			2		46	107		2,385		263
30-Jul	126	148,855	6	79	5	46	10	105	21	230		2,015			2		56	14	121		2,385	263
31-Jul	80	148,935		79	2	48	4	109	6	236	133	2,148			2		56		121		2,385	263
1-Aug	425	149,360	13	92	1	49	6	115	20	256		2,148			2		56		121		2,385	263
2-Aug	11,346	160,706	15	107	2	51	5	120	22	278	210	2,358			2	22	78		121	814	3,199	21 284
3-Aug	117	160,823	10	117	1	52	5	125	16	294		2,358			2		78		121		3,199	284
4-Aug	315	161,138	10	127	3	55	6	131	19	313		2,358			2		78		121		3,199	284
5-Aug	4,582	165,720	25	152		55	9	140	34	347	347	2,705			2	22	100		121	338	3,537	3 287
9-Aug	609	166,329	4	156	5	60	13	153	22	369	240	2,945			2	3	103		121	65	3,602	46 333
12-Aug		166,329	1	157	1	61	2	155	4	373	84	3,029			2	6	109		121	10	3,612	6 339
16-Aug		166,329		157		61		155		373	164	3,193	1	3	37	146		121	15	3,627	1 340	
19-Aug		166,329		157		61		155		373		3,193		3	2	148		121		3,627	7 347	
23-Aug		166,329		157		61		155		373	38	3,231		3	1	149		121		3,627	3 350	
26-Aug		166,329		157		61		155		373	36	3,267		3	2	151		121		3,627	3 353	
30-Aug		166,329		157		61		155		373	13	3,280		3	1	152		121	2	3,629	3 356	

Table 8. Commercial catch by gear, statistical area and species, Upper Cook Inlet, 1999.

Gear	District	Sub-district	Stat. Area	Salmon	Chum Salmon	Sockeye	Coho	Trout	Chinook	Total
<b>Drift</b>	Central	All	All	488	561	1,414,267	64,529	3,552	166,329	1,649,238
<b>Set Net</b>	Central	Upper	24421	101	1,873	279,822	2,149	4,961	57	288,862
			24422	110	1,944	251,486	2,942	2,326	98	258,796
			24431	95	2,652	279,753	1,482	997	37	284,921
			24432	71	1,092	64,799	876	157	24	66,948
			24441	63	1,708	163,868	2,538	383	67	168,564
			24442	38	121	53,178	1,692	489	90	55,570
			All	382	9,390	1,092,906	11,679	9,313	373	2,772,899
		Kalgin Is.	24610	19	18	41,174	7,729	444	117	49,482
			24620	7	20	17,918	3,113	178	35	21,264
			All	26	38	59,092	10,842	622	152	70,746
		Chinitna	24510	3	9	709	45	75	121	959
		Western	24520	4	32	1,902	640	11	63	2,648
			24530	18	423	25,261	4,383	1,817	2,955	34,839
			24540	8	242	8,990	67	99	150	9,548
	24550		5	-	13,288	972	36	112	14,408	
	All		28	697	49,441	6,062	1,963	3,280	61,443	
	Kustatan	24555	10	766	4,177	18	1		4,962	
		24560	3	10	1,035	732	11	3	1,791	
		All	11	776	5,212	750	12	3	6,753	
	All	All	All	438	10,910	1,207,360	29,378	11,985	3,929	1,263,562
	Northern	General	24710	10	307	1,406	1,156	26	17	2,912
			24720	33	994	10,221	9,073	96	190	20,574
			24730	22	576	18,696	8,609	206	1,588	29,675
			24741	10	102	1,298	1,185	17	494	3,096
			24742	11	205	1,564	1,074	7	518	3,368
			24743	6	77	3,932	2,603	133	822	7,567
			24750	-	-	-	-	-	-	-
All		70	2,261	37,117	23,700	485	3,629	67,192		
Eastern		24770	23	229	9,111	3,047	51	276	12,714	
		24780	12	115	5,038	2,380	15	70	7,618	
		24790	11	52	7,814	2,309	41	10	10,226	
		All	37	396	21,963	7,736	107	356	30,558	
All		All	All	104	2,657	59,080	31,436	592	3,985	97,750
All	All	All	537	13,567	1,266,440	60,814	12,577	7,914	1,361,312	
<b>Seine</b>	All	All	All	0	0	0	0	0	0	0
<b>All</b>	All	All	All	975	14,128	2,680,707	125,343	16,129	174,243	3,010,550

Table 9. Commercial salmon catch per permit by statistical area, Upper Cook Inlet, 1999.

Gear	District	Subdistrict	Stat. Area	Permits	Chinook	Sockeye	Coho	Salmon	Chum	Total		
<b>Drift</b>	Central	All	All	488	1	2,898	132	7	341	3,380		
<b>Set Net</b>	Central	Upper	24421	101	19	2,771	21	49	1	2,860		
			24422	110	18	2,286	27	21	1	2,353		
			24431	95	28	2,945	16	10	0	2,999		
			24432	71	15	913	12	2	0	943		
			24441	63	27	2,601	40	6	1	2,676		
			24442	38	3	1,399	45	13	2	1,462		
			All	382	25	2,861	31	24	1	7,259		
		Kalgin Is.	24610	19	1	2,167	407	23	6	2,604		
			24620	7	3	2,560	445	25	5	3,038		
			All	26	1	2,273	417	24	6	2,721		
		Chinitna	24510	3	3	236	15	25	40	320		
		Western	24520	4	8	476	160	3	16	662		
			24530	18	24	1,403	244	101	164	1,936		
			24540	8	30	1,124	8	12	19	1,194		
			24550	5	-	2,658	194	7	22	2,882		
		All	28	25	1,766	217	70	117	2,194			
		Kustatan	24555	10	77	418	2	0	-	496		
			24560	3	3	345	244	4	1	597		
			All	11	71	474	68	1	0	614		
		All	All	All	438	25	2,757	67	27	9	2,885	
		Northern	General	24710	10	31	141	116	3	2	291	
				24720	33	30	310	275	3	6	623	
				24730	22	26	850	391	9	72	1,349	
				24741	10	10	130	119	2	49	310	
				24742	11	19	142	98	1	47	306	
				24743	6	13	655	434	22	137	1,261	
				24750	-	-	-	-	-	-	-	
				All	70	32	530	339	7	52	960	
				Eastern	24770	23	10	396	132	2	12	553
					24780	12	10	420	198	1	6	635
24790	11				5	710	210	4	1	930		
All	37				11	594	209	3	10	826		
All	All			All	104	26	568	302	6	38	940	
All	All			All	537	25	2,358	113	23	15	2,535	
<b>Seine</b>	All	All	All	0	0	0	0	0	0			
<b>All</b>	All	All	All	975	14	2,749	129	17	179	3,088		

Table 10. Commercial fishery emergency orders issued during the 1999 Upper Cook Inlet season.

Emergency Order No.	Effective Date	Action	Reason
2H-01-99	April 22	Opened herring fishing in the Upper Subdistrict of the Central District excluding that portion within 600 feet of the mean high tide mark from 6:00 a.m. on Mondays to 12:00 noon on Tuesdays, and from 6:00 a.m. on Thursdays to 12:00 noon on Fridays.	To continue the fishery that had been reopened last year as a means to assess herring stocks in the Central District.
2S-01-99	June 25	Closed the Kasilof River personal use gillnet fishery.	The harvest quota of 10,000 – 20,000 sockeye salmon had been met.
2S-02-99	June 17	Closed set gill netting in the Northern District on June 21.	To provide adequate chinook escapement to Northern district streams.
2S-03-99	July 2	Opened the Kasilof section for set and drift gill netting on July 3 from 7:00 a.m. to 10:00 p.m.	To reduce the escapement rate of Kasilof River sockeye.
2S-04-99	July 8	Extended set gillnetting in the Kasilof section on Thursday, July 8 <sup>th</sup> from 7:00 p.m. until 3:00 p.m. on Friday, July 9 <sup>th</sup> . Opened drift gillnetting in the Kasilof section on July 8 <sup>th</sup> from 7:00 p.m. until 11:00 p.m. and on July 9 <sup>th</sup> from 5:00 a.m. until 3:00 p.m.	To reduce the escapement rate of Kasilof River sockeye salmon.
2S-05-99	July 10	Opened set and drift gillnetting in the Kasilof section on Sunday, July 11 from 5:00 a.m. until 6:00 p.m.	To reduce the escapement rate of Kasilof River sockeye salmon.
2S-06-99	July 11	Closed all areas of the Central District except in the Kenai and Kasilof sections on Monday, July 12 from 7:00 a.m. to 7:00 p.m.	To reduce the exploitation of Kenai River and Susitna River sockeye salmon.
2S-07-99	July 12	Extended set gillnet fishing in the Western subdistrict south of Redoubt point from 7:00 p.m. on July 12 to 7:00 p.m. on July 13.	To reduce the escapement rate of Crescent River sockeye salmon.
2S-08-99	July 13	Extended set gillnet fishing in the Western subdistrict south of Redoubt point from 7:00 p.m. on July 13 until further notice.	To reduce the escapement rate of Crescent River sockeye salmon.
2S-09-99	July 13	Opened set gillnetting in the Kasilof section within ½ mile of shore from 5:00 a.m. on July 14 to 7:00 a.m. on July 15.	To increase the harvest rate of sockeye salmon bound for the Kasilof River.
2S-10-99	July 16	Opened set gillnetting in the Kasilof section within ½ mile of shore on July 17 from 6:00 a.m. until 10:00 p.m.	To increase the harvest rate of sockeye salmon bound for the Kasilof River.

Table 10. Page 2 of 3.

Emergency Order No.	Effective Date	Action	Reason
2S-11-99	July 17	Extends set gillnetting in the Kasilof section within ½ mile of shore on July 17 from 10:00 p.m. until 10:00 a.m. on July 18.	To increase the harvest rate of sockeye salmon bound for the Kasilof River.
2S-12-99	July 21	Closed fishing in the Northern District and in all areas of the Central District except in the Kenai and Kasilof sections of the Upper Subdistrict on July 22 from 7:00 a.m. until 7:00 p.m.	To reduce the exploitation of Kenai River and Susitna River sockeye salmon.
2S-13-99	July 23	Opened set gillnetting in the Kasilof section within ½ mile of shore on July 24 from 5:00 a.m. until 7:00 p.m.	To increase the harvest rate of sockeye salmon bound for the Kasilof River.
2S-14-99	July 24	Opened set gillnetting in the Kasilof section within ½ mile of shore on July 25 from 9:00 a.m. until 9:00 p.m.	To increase the harvest rate of sockeye salmon bound for the Kasilof River.
2S-15-99	July 25	Closed drift gillnetting in the Central District set gillnetting in the Upper Subdistrict on July 26 from 7:00 a.m. until 7:00 p.m.	To reduce the exploitation rate of Kenai River sockeye salmon.
2S-16-99	July 26	Opened set gillnetting in the Kenai, Kasilof, and East Forelands sections, and opened drift gillnetting in the Kenai and Kasilof sections on July 27 from 5:00 a.m. until 7:00 p.m.	To increase the harvest rate of sockeye salmon bound for the Kenai and Kasilof Rivers.
2S-17-99	July 27	Extended set gillnetting in the Kasilof section on July 27 from 7:00 p.m. until 12:00 noon on July 28. Opened drift gillnetting in the Kasilof Section on July 27 from 7:00 p.m. to 10:00 p.m. and on July 28 from 6:00 a.m. to 12:00 noon.	To increase the harvest rate of sockeye salmon bound for the Kasilof River.
2S-18-99	July 28	Closed the Northern District on July 29 and closed drift gillnetting in the Central District north of latitude 60 degrees 31 minutes (northwest point Kalgin Island) except in the Kenai section on July 29 from 7:00 a.m. until 7:00 p.m.	To reduce the exploitation rate of Susitna River sockeye salmon.
2S-19-99	July 29	Extended set gillnetting in the Kenai, Kasilof, and East Forelands sections on July 29 from 7:00 p.m. until 1:00 p.m. on July 30. Opened drift gillnetting in the Kenai and Kasilof sections on July 29 from 7:00 p.m. until 10:00 p.m. and on July 30 from 6:00 a.m. until 1:00 p.m.	To increase the harvest rate of sockeye salmon bound for the Kenai and Kasilof Rivers.
2S-20-99	July 30	Extended set gillnetting in the Kasilof section on July 30 from 1:00 p.m. until 9:00 p.m. on July 31. Opened drift gillnetting in the Kasilof and on July 31 from 6:00 a.m. until 9:00 p.m.	To increase the harvest rate of sockeye salmon bound for the Kasilof River.

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Emergency Order No.	Effective Date	Action	Reason
2S-21-99	July 30	Rescinded Emergency Order Number 2S-08-99 effective at 9:00 p.m. on July 31. Fishing in the Western Subdistrict south of Redoubt Point returned to regular fishing schedule of Mondays and Thursdays.	To reduce the exploitation rate of coho salmon in the Western Subdistrict.
2S-22-99	July 31	Extended set gillnetting in the Kasilof Section on July 31 from 9:00 p.m. until 7:00 a.m. on August 2. Opened set gillnetting in the Kenai and East Forelands Sections on August 1 from 5:00 a.m. until 7:00 a.m. on August 2. Opened drift gillnetting in the Kasilof Section on July 31 from 9:00 p.m. to 11:00 p.m. and opened drift gillnetting in the Kenai and Kasilof sections on August 1 from 5:00 a.m. to 11:00 p.m. and on August 2 from 5:00 a.m. to 7:00 a.m.	To increase the harvest rate of sockeye salmon bound for the Kenai and Kasilof Rivers.
2S-23-99	August 2	Extended set gillnetting in the Kenai, Kasilof, and East Forelands sections on August 2 from 7:00 p.m. until 7:00 a.m. on August 5. Opened drift gillnetting in the Kenai and Kasilof sections on August 2 from 7:00 p.m. to 10:00 p.m. and on August 3 from 5:00 a.m. to 10:00 p.m. and on August 4 from 5:00 a.m. to 10:00 p.m. and on August 5 from 5:00 a.m. to 7:00 a.m.	To increase the harvest rate of sockeye salmon bound for the Kenai and Kasilof Rivers.

Table 11. Commercial salmon fishing periods, Upper Cook Inlet, 1999.

Date	Day	Time	Set Gill Net	Drift Gill Net
2-Jun	Wed	0700-1900	Kustatan/Big River	
4-Jun	Fri	0700-1900	Kustatan/Big River	
7-Jun	Mon	0700-1900	Kustatan/Big River & Northern District	
9-Jun	Wed	0700-1900	Kustatan/Big River	
11-Jun	Fri	0700-1900	Kustatan/Big River	
14-Jun	Mon	0700-1900	Kustatan/Big River & Northern District	
16-Jun	Wed	0700-1900	Kustatan/Big River	
17-Jun	Thu	0700-1900	Western Subdistrict	
18-Jun	Fri	0700-1900	Kustatan/Big River	
21-Jun	Mon	0700-1900	Kustatan/Big River & Western Subdistrict	
23-Jun	Wed	0700-1900	Kustatan/Big River	
24-Jun	Thu	0700-1900	Western Subdistrict	
28-Jun	Mon	0700-1900	Kust/Big R, W. Subdist, & N. District	All
1-Jul	Thu	0700-1900	Kasilof Section	All
3-Jul	Sat	0700-2200	Kasilof Section	Kasilof Section
5-Jul	Mon	0700-1900	Kasilof Section	All
8-Jul	Thu	0700-1900	All	All
		1900-2300		Kasilof Section
		1900-2400	Kasilof Section	
9-Jul	Fri	0000-1500	Kasilof Section	
		0500-1500		Kasilof Section
11-Jul	Sun	0500-1800	Kasilof Section	Kasilof Section
12-Jul	Mon	0700-1900	All	Kenai & Kasilof Sections
		1900-2400	Western s. of Redoubt Pt.	
13-Jul	Tue	0000-2400	Western s. of Redoubt Pt.	
14-Jul	Wed	0500-2400	Kasilof Section within 1/2 mile of shore	
		0000-2400	Western s. of Redoubt Pt.	
15-Jul	Thu	0000-0700	Kasilof Section within 1/2 mile of shore	
		0700-1900	All	All
		0000-2400	Western s. of Redoubt Pt.	
16-Jul	Fri	0000-2400	Western s. of Redoubt Pt.	
17-Jul	Sat	0600-2400	Kasilof Section within 1/2 mile of shore	
		0000-2400	Western s. of Redoubt Pt.	
18-Jul	Sun	0000-1000	Kasilof Section within 1/2 mile of shore	
		0000-2400	Western s. of Redoubt Pt.	
19-Jul	Mon	0700-1900	All	All
		0000-2400	Western s. of Redoubt Pt.	
20-Jul	Tue	0000-2400	Western s. of Redoubt Pt.	
21-Jul	Wed	0000-2400	Western s. of Redoubt Pt.	
22-Jul	Thu	0700-1900	All except Northern District	Kenai & Kasilof Sections
		0000-2400	Western s. of Redoubt Pt.	
23-Jul	Fri	0000-2400	Western s. of Redoubt Pt.	
24-Jul	Sat	0500-1900	Kasilof Section within 1/2 mile of shore	
		0000-2400	Western s. of Redoubt Pt.	
25-Jul	Sun	0900-2100	Kasilof Section within 1/2 mile of shore	
		0000-2400	Western s. of Redoubt Pt.	

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26-Jul	Mon	0700-1900 0000-2400	Northern District & West Subdistrict Western s. of Redoubt Pt.	
27-Jul	Tue	0500-1900 1900-2400 1900-2200 0000-2400	Kenai, Kasilof, & E. Forelands Kasilof Section Western s. of Redoubt Pt.	Kenai & Kasilof Sections  Kasilof Section
28-Jul	Wed	0000-1200 0600-1200 0000-2400	Kasilof Section Western s. of Redoubt Pt.	Kasilof Section  Kasilof Section
29-Jul	Thu	0700-1900 1900-0000 1900-2200 0000-2400	All except Northern District Kenai, Kasilof, & E. Forelands Western s. of Redoubt Pt.	Kenai & Kasilof & S. of N. Kalgin  Kenai & Kasilof Sections
30-Jul	Fri	0000-1300 0600-1300 1300-2400 1300-2200 0000-2400	Kenai, Kasilof, & E. Forelands Kasilof Section Western s. of Redoubt Pt.	Kenai & Kasilof Sections  Kasilof Section
31-Jul	Sat	0000-2400 0600-2300 0000-2100	Kasilof Section Western s. of Redoubt Pt.	Kasilof Section  Kasilof Section
1-Aug	Sun	0000-2400 0500-2400 0500-2300	Kasilof Section Kenai & E. Forelands Section	Kenai & Kasilof Sections
2-Aug	Mon	0000-0700 0500-0700 0700-1900 1900-2400 1900-2200	Kenai, Kasilof, & E. Forelands All Kenai, Kasilof, & E. Forelands	Kenai & Kasilof Sections Kenai & Kasilof Sections All Kenai & Kasilof Sections
3-Aug	Tue	0000-2400 0500-2200	Kenai, Kasilof, & E. Forelands	Kenai & Kasilof Sections Kenai & Kasilof Sections
4-Aug	Wed	0000-2400 0500-2200	Kenai, Kasilof, & E. Forelands	Kenai & Kasilof Sections
5-Aug	Thu	0000-0700 0500-0700 0700-1900	Kenai, Kasilof, & E. Forelands All	Kenai & Kasilof Sections All
9-Aug	Mon	0700-1900	All	All
12-Aug	Thu	0700-1900	All	
16-Aug	Mon	0700-1900	Northern District & All West Side	
19-Aug	Thu	0700-1900	Northern District & All West Side	
23-Aug	Mon	0700-1900	Northern District & All West Side	
26-Aug	Thu	0700-1900	Northern District & All West Side	
30-Aug	Mon	0700-1900	Northern District & All West Side	

Table 12. Age composition (in percent) of sockeye salmon escapements, Upper Cook Inlet, 1999.

Stream	Age Class												
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3
Kenai River	0.0	0.0	0.3	15.1	1.2	55.4	16.8	0.1	0.4	9.5	1.0	0.1	0
Kasilof River	0.0	0.0	0.0	29.7	0.1	33.8	26.7	0.0	0.2	9.4	0.1	0	0
Yentna River	3.6	0.0	3.4	23.4	0.0	52.0	8.6	0.0	0.9	8.1	0.0	0	0
Crescent River	0.0	0.0	0.0	21.4	0.1	39.4	9.2	0.0	0.4	29.3	0.0	0.1	0.1
Fish Creek	0.0	11.6	0.0	75.0	1.0	2.5	8.6	0.0	0.2	1.0	0.2	0	0
Packers Creek	0.0	0.0	0.0	5.7	4.6	1.1	75.7	0.0	0.0	12.5	0.4	0	0

Table 13. Upper Cook Inlet salmon average weights (in pounds) by area, 1999.<sup>1</sup>

Fishery	CHINOOK	SOCKEYE	COHO	PINK	CHUM
Upper Cook Inlet Total	23.89	5.77	5.84	3.10	8.01
Northern District Total	17.30	5.78	5.73	3.39	7.88
Northern District West	17.62	6.02	5.70	3.43	7.86
Trading Bay 247-10	19.12	5.89	5.31	3.35	8.47
Tyonek 247-20	16.55	6.10	5.68	3.39	7.44
Beluga 247-30	16.54	6.26	5.73	3.96	6.73
Susitna Flat 247-41	17.03	5.33	6.44	2.65	9.03
Pt. Mackenzie 247-42	20.30	4.88	5.66	2.43	8.97
Fire Island 247-43	27.08	5.43	5.56	2.81	8.72
Knik Arm 247-50	-	-	-	-	-
Northern District East	15.48	5.38	5.80	3.20	8.12
Pt. Possession 247-70	15.42	5.57	5.80	3.43	8.29
Birch Hill 247-80	14.83	5.36	5.81	3.13	7.46
Number 3 Bay 247-90	17.15	5.16	5.80	2.93	7.80
Central District Total	25.41	5.77	5.87	3.09	8.01
Upper Subdistrict Set Total	25.96	5.39	5.85	2.91	7.50
Salamatof 244-40	28.06	6.09	5.96	3.01	7.88
Kalifonsky Beach 244-30	26.30	5.31	6.02	2.79	6.90
Cohoe/Ninilchik	24.61	5.16	5.67	2.92	7.36
Cohoe 244-22	24.24	5.24	5.56	2.80	7.52
Ninilchik 244-21	25.00	5.08	5.83	2.97	7.09
Western Subdistrict Set Total	27.51	5.14	5.54	3.16	8.06
Little Jack Slough 245-50	-	4.35	5.13	3.08	7.37
Polly Creek 245-40	27.56	5.09	5.90	3.43	7.89
Tuxedni Bay 245-30	27.31	5.55	5.57	3.15	8.12
Silver Salmon 245-20	29.63	5.49	5.96	3.27	6.94
Kustatan Subdistrict Total	24.26	5.45	6.20	3.42	8.67
Big River 245-55	24.35	5.17	4.44	4.00	-
West Foreland 245-60	16.90	6.56	6.24	3.36	8.67
Kalgin Island Subdistrict Total	20.68	4.71	5.74	2.91	7.28
West Side 246-10	23.11	4.39	5.64	2.91	7.16
East Side 246-20	18.50	5.44	5.97	2.89	7.66
Chinitna Bay Subdistrict Total	27.11	5.66	4.91	3.37	7.11
Central District Set Total	25.92	5.35	5.75	2.96	7.95
Central District Drift Total	15.61	6.12	5.93	3.52	8.01

<sup>1</sup> Pounds of fish divided by numbers of fish from commercial harvest fishtickets.

Table 14. Buyers and processors of Upper Cook Inlet fishery products, 1999.

Buyer/Processor	Plant Site	Contact	Address
Alaskan Gourmet F0403	Anchorage		PO Box 190733 Anchorage, AK 99519-0733
Alaska Salmon Purchasers F3529	Kenai	Mark Powell	HC01 Box 240 Kenai, AK 99611-0240
Alaskan Smoked Salmon F09029	Anchorage	Chris rosauer	8430 Laviento Dr. Anchorage, AK 99556-0083
Anchor Point Seafoods F3718	Homer	Donna Toci	P.O. Box 83 Anchor Point, AK 99556
Carlson Seafoods F1232-6	Kasilof	Dorius Carlson	HC2 Box 544 Kasilof Ak. 99610
Cherrier Fisheries Co Inc F3837	Kenai	Jim Walsh	P.O. Box 24425 Anchorage, AK 99524
Coal Point Trading F1757	Homer	Nancy Hillstrand	P.O. 674 Homer, Ak. 99603
Cook Inlet Processing F0186-3	Kenai	Pat Hardina	Box 8163 Nikiski Ak. 99635
Deep Creek Custom Packing F1051-5	Ninilchik	Jeff Berger	P.O. Box 39229 Ninilchik Ak. 99639
Favco Inc F0398	Anchorage	Randy Rau	P.O. Box 190968 Anchorage, AK 99519-0968
Fishhawk Fisheries F1540-1	Kenai	Steve Frick	P.O. Box 715 Astoria Or. 97103
Glacier Fresh Seafoods F1979	Seward	Keith Bailey	P.O. Box 1989 Seward, AK 99664-1989
His Catch F3293	Homer	Doug Stuart	P.O. Box 770 Homer, AK 99603-0770
Icicle Seafoods F0135	Seward	Melody Jordan	P.O. Box 79003 Seattle Wa. 98119
Inlet Fisheries Inc. F1039-7	Kenai	Patrick Klier	P.O. Box 530 Kenai Ak. 99611
Kenai Custom Seafoods F3752	Kenai	James Hill	P.O. Box 1649 Kenai, AK 99611-1649
North Alaska Fisheries F1681-7	Wasilla	Jack Schulteis	P.O. Box 877351 Wasilla Ak. 99687
Pacific Star Seafoods F1834	Kenai	Dan Foley	2300 Eastlake Ave. E. Seattle, Wa. 98102
R & J Enterprises F0838-6	Kasilof	Juanita Meier	Box 165 Kasilof Ak. 99610
Sahalee of Alaska F1485	Anchorage	Christa Lind	P.O. 104174 Anchorage, Ak. 99510
Salamatof Seafoods F0037-1	Kenai	Wylie Reed	P.O. Box 1450 Kenai Ak. 99615
Saltery Inc. F2273	Halibut Cove	David Beck	P.O. Box 6410 Halibut Cove, AK 99603-6410
Seasonal Seafoods F0998-7	Kasilof	Baily Wharton	4039 21st Ave. Seattle Wa. 98199
10th & M Seafoods F0528	Anchorage		1020 M St Anchorage, AK 99501
Trans Aqua Int'l F1193-2	Kasilof	Taka Iwasaki	One Union Sq. #2800 Seattle Wa. 981101

Table 15. Reported personal use harvest by gear, area and species, Upper Cook Inlet, 1999.

Fishery	Number of Households	Harvest					Total
		Chinook	Sockeye	Coho	Pink	Chum	
Did Not Fish	4,173						
Kasilof Gillnet	552	371	11,016	23	10	10	11,430
Kasilof Dip Net	1,956	152	33,662	234	244	45	34,337
Kenai Dip Net	7,367	632	134,058	827	1,487	84	137,088
Fish Creek Dip Net	230	0	900	13	6	0	919
Unknown	386	40	6,604	66	123	4	6,837
Permit Not Returned	2,209						
<b>Total</b>	<b>16,383</b>	<b>1,195</b>	<b>186,240</b>	<b>1,163</b>	<b>1,870</b>	<b>143</b>	<b>190,611</b>

Does not include educational or subsistence fishery harvests. Harvest data is not expanded for those permits (approximately 13.5 percent) that were not returned as required.

Appendix A.5. Upper Cook Inlet commercial chum salmon harvest by gear type and area, 1966-1999.

Year	Central District Drift Gillnet		Central District Set Gillnet				Northern District Set Gillnet		Total
	Number	%	East Side		Kalgin/West Side		Number	%	
			Number	%	Number	%			
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	89.1	399	0.1	16,954	6.3	11,836	4.4	267,686
1970	678,448	90.4	1,228	0.2	48,591	6.5	22,507	3.0	750,774
1971	274,567	84.8	128	0.0	32,647	10.1	16,603	5.1	323,945
1972	564,726	90.2	1,727	0.3	40,179	6.4	19,780	3.2	626,412
1973	605,738	90.7	1,965	0.3	29,019	4.3	30,851	4.6	667,573
1974	344,496	86.8	506	0.1	15,346	3.9	36,492	9.2	396,840
1975	886,474	93.2	980	0.1	33,347	3.5	30,787	3.2	951,588
1976	405,769	86.5	1,484	0.3	47,882	10.2	14,045	3.0	469,180
1977	1,153,454	93.5	1,413	0.1	54,708	4.4	23,861	1.9	1,233,436
1978	489,119	85.5	4,563	0.8	40,946	7.2	37,151	6.5	571,779
1979	609,239	93.8	867	0.1	30,342	4.7	9,310	1.4	649,758
1980	339,970	87.7	2,147	0.6	28,970	7.5	16,728	4.3	387,815
1981	756,922	91.0	2,386	0.3	26,461	3.2	46,208	5.6	831,977
1982	1,348,510	94.1	4,777	0.3	36,647	2.6	43,006	3.0	1,432,940
1983	1,044,636	93.7	2,822	0.3	38,079	3.4	29,321	2.6	1,114,858
1984	568,097	83.5	3,695	0.5	34,207	5.0	74,727	11.0	680,726
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	211,580	60.6	16,608	4.8	53,558	15.3	67,180	19.3	348,926
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
1990	289,521	82.4	4,611	1.3	21,355	6.1	35,710	10.2	351,197
1991	215,469	76.9	2,387	0.9	22,974	8.2	39,393	14.1	280,223
1992	232,955	84.9	2,867	1.0	13,180	4.8	25,301	9.2	274,303
1993	88,823	72.4	2,977	2.4	5,566	4.5	25,401	20.7	122,767
1994	245,854	82.1	2,944	1.0	10,443	3.5	40,059	13.4	299,300
1995	468,224	88.4	3,711	0.7	13,820	2.6	43,667	8.2	529,422
1996	140,924	90.1	1,448	0.9	2,314	1.5	11,771	7.5	156,457
1997	92,163	89.4	1,222	1.2	1,770	1.7	7,881	7.6	103,036
1998	88,036	92.0	688	0.7	2,953	3.1	3,977	4.2	95,654
1999	166,329	95.5	373	0.2	3,556	2.0	3,985	2.3	174,243
1966-99 Avg <sup>1</sup>	500,696	86.7	3,132	0.7	28,840	5.5	32,966	7.1	565,634
1990-99 Avg	202,830	85.4	2,323	1.0	9,793	3.8	23,715	9.7	238,660

<sup>1</sup> 1989 not used in average as the drift fleet did not fish due to the Exxon Valdez oil spill and this had an effect on all other fisheries.

Appendix A.6. Upper Cook Inlet commercial salmon harvest by species, 1954-1999.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1954	63,780	1,207,046	321,525	2,189,207	510,068	4,291,626
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	12,397	692,175	100,777	33,383	269,847	1,108,579
1970	8,336	732,605	275,399	814,895	776,229	2,607,464
1971	19,765	636,303	100,636	35,624	327,029	1,119,357
1972	16,086	879,824	80,933	628,574	630,103	2,235,520
1973	5,194	670,098	104,420	326,184	667,573	1,773,469
1974	6,596	497,185	200,125	483,730	396,840	1,584,476
1975	4,787	684,752	227,379	336,333	951,796	2,205,047
1976	10,865	1,664,150	208,695	1,256,728	469,802	3,610,240
1977	14,790	2,052,291	192,599	553,855	1,233,722	4,047,257
1978	17,299	2,621,421	219,193	1,688,442	571,779	5,118,134
1979	13,738	924,415	265,166	72,982	650,357	1,926,658
1980	13,798	1,573,597	271,418	1,786,430	390,675	4,035,918
1981	12,240	1,439,277	484,411	127,164	833,542	2,896,634
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	10,062	2,106,714	449,993	617,452	680,726	3,864,947
1985	24,088	4,060,429	667,213	87,828	772,849	5,612,407
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	349,139	10,450,191
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
1990	16,105	3,604,064	500,634	603,630	351,197	5,075,630
1991	13,535	2,177,576	425,724	14,663	280,223	2,911,721
1992	17,171	9,108,340	468,911	695,859	274,303	10,564,584
1993	18,719	4,754,698	306,822	100,918	122,767	5,303,924
1994	20,260	3,567,392	580,567	520,481	299,300	4,988,000
1995	17,857	2,951,827	446,954	133,575	529,422	4,079,635
1996	14,248	3,888,778	321,411	242,911	156,457	4,623,805
1997	13,235	4,176,696	152,404	70,928	103,036	4,516,299
1998	7,997	1,218,956	160,644	551,260	95,654	2,034,511
1999	14,128	2,680,707	125,343	16,129	174,243	3,010,550
Average						
46 Year	19,825	2,389,780	313,867	694,259	562,990	3,980,720
10 Year	15,326	3,812,903	348,941	295,035	238,660	4,710,866

Appendix A. 7. Approximate exvessel value of Upper Cook Inlet commercial salmon harvest by species, 1960-1999.

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	4.0%	\$ 1,296,697	73.9%	\$ 134,003	7.6%	\$ 18,291	1.0%	\$ 236,404	13.5%	\$ 1,755,394
1970	\$ 89,382	3.0%	\$ 1,190,303	39.9%	\$ 468,179	15.7%	\$ 456,354	15.3%	\$ 780,622	26.2%	\$ 2,984,840
1971	\$ 189,504	9.2%	\$ 1,250,771	61.0%	\$ 137,815	6.7%	\$ 18,402	0.9%	\$ 454,483	22.2%	\$ 2,050,974
1972	\$ 224,396	6.3%	\$ 1,863,177	52.6%	\$ 137,315	3.9%	\$ 478,246	13.5%	\$ 840,057	23.7%	\$ 3,543,192
1973	\$ 121,156	2.0%	\$ 3,225,847	52.3%	\$ 318,950	5.2%	\$ 362,658	5.9%	\$ 2,135,025	34.6%	\$ 6,163,635
1974	\$ 209,712	3.2%	\$ 3,072,221	46.8%	\$ 843,048	12.8%	\$ 919,916	14.0%	\$ 1,517,637	23.1%	\$ 6,562,535
1975	\$ 63,990	1.0%	\$ 2,628,036	39.2%	\$ 838,859	12.5%	\$ 419,173	6.3%	\$ 2,752,555	41.1%	\$ 6,702,612
1976	\$ 274,172	2.0%	\$ 8,668,095	63.4%	\$ 819,006	6.0%	\$ 1,874,915	13.7%	\$ 2,041,225	14.9%	\$ 13,677,413
1977	\$ 523,776	2.4%	\$ 13,318,720	61.8%	\$ 932,540	4.3%	\$ 767,273	3.6%	\$ 5,995,611	27.8%	\$ 21,537,920
1978	\$ 661,375	2.0%	\$ 26,167,741	80.3%	\$ 1,380,312	4.2%	\$ 2,154,176	6.6%	\$ 2,217,510	6.8%	\$ 32,581,114
1979	\$ 616,360	4.2%	\$ 8,093,280	55.3%	\$ 1,640,277	11.2%	\$ 82,339	0.6%	\$ 4,199,765	28.7%	\$ 14,632,021
1980	\$ 414,771	3.2%	\$ 7,937,699	61.7%	\$ 891,098	6.9%	\$ 2,114,283	16.4%	\$ 1,513,960	11.8%	\$ 12,871,810
1981	\$ 424,390	2.3%	\$ 11,080,411	60.1%	\$ 2,623,598	14.2%	\$ 170,038	0.9%	\$ 4,150,158	22.5%	\$ 18,448,596
1982	\$ 763,267	2.4%	\$ 25,154,115	80.0%	\$ 4,080,570	13.0%	\$ 553,635	1.8%	\$ 886,129	2.8%	\$ 31,437,716
1983	\$ 590,730	2.0%	\$ 24,016,294	81.8%	\$ 1,601,976	5.5%	\$ 41,338	0.1%	\$ 3,109,814	10.6%	\$ 29,360,152
1984	\$ 310,899	1.8%	\$ 12,450,532	71.8%	\$ 2,039,681	11.8%	\$ 522,795	3.0%	\$ 2,011,253	11.6%	\$ 17,335,160
1985	\$ 799,318	2.3%	\$ 27,497,929	80.0%	\$ 3,359,824	9.8%	\$ 57,412	0.2%	\$ 2,644,995	7.7%	\$ 34,359,478
1986	\$ 915,189	2.0%	\$ 38,683,950	83.3%	\$ 2,909,043	6.3%	\$ 724,367	1.6%	\$ 3,197,973	6.9%	\$ 46,430,522
1987	\$ 1,609,777	1.6%	\$ 95,915,522	94.9%	\$ 2,373,254	2.3%	\$ 84,439	0.1%	\$ 1,116,165	1.1%	\$ 101,099,156
1988	\$ 1,120,885	0.9%	\$ 111,537,736	91.3%	\$ 4,738,463	3.9%	\$ 650,931	0.5%	\$ 4,129,002	3.4%	\$ 122,177,017
1989	\$ 803,494	1.4%	\$ 56,194,753	95.0%	\$ 1,674,393	2.8%	\$ 86,012	0.1%	\$ 415,535	0.7%	\$ 59,174,188
1990	\$ 436,822	1.1%	\$ 35,804,485	88.0%	\$ 2,422,214	6.0%	\$ 512,591	1.3%	\$ 1,495,827	3.7%	\$ 40,671,938
1991	\$ 348,522	2.3%	\$ 12,249,200	80.4%	\$ 1,996,049	13.1%	\$ 5,478	0.0%	\$ 643,400	4.2%	\$ 15,242,649
1992	\$ 634,466	0.6%	\$ 96,026,864	96.0%	\$ 2,261,862	2.3%	\$ 404,772	0.4%	\$ 740,294	0.7%	\$ 100,068,258
1993	\$ 617,092	2.1%	\$ 27,969,409	93.1%	\$ 1,081,175	3.6%	\$ 36,935	0.1%	\$ 322,205	1.1%	\$ 30,026,815
1994	\$ 642,291	1.9%	\$ 29,441,442	85.5%	\$ 3,297,865	9.6%	\$ 240,545	0.7%	\$ 831,121	2.4%	\$ 34,453,264
1995	\$ 474,475	2.2%	\$ 19,168,077	87.1%	\$ 1,295,353	5.9%	\$ 53,114	0.2%	\$ 1,023,926	4.7%	\$ 22,014,944
1996	\$ 402,980	1.4%	\$ 28,238,578	95.0%	\$ 800,423	2.7%	\$ 44,386	0.1%	\$ 225,751	0.8%	\$ 29,712,117
1997	\$ 365,316	1.1%	\$ 31,439,536	97.1%	\$ 434,327	1.3%	\$ 12,004	0.0%	\$ 143,244	0.4%	\$ 32,394,427
1998	\$ 199,925	2.1%	\$ 8,831,336	92.6%	\$ 281,341	3.0%	\$ 96,471	1.0%	\$ 127,220	1.3%	\$ 9,536,293
1999	\$ 337,482	1.6%	\$ 20,095,838	95.5%	\$ 329,164	1.6%	\$ 5,995	0.0%	\$ 265,026	1.3%	\$ 21,033,505

Appendix A.8. Commercial herring harvest by fishery, Upper Cook Inlet, 1973-1999.

Harvest (Tons)				
Year	Eastside	Chinitna Bay	Tuxedni Bay	Total
1973	13.8	-	-	13.8
1974	36.7	-	-	36.7
1975	6.2	-	-	6.2
1976	5.8	-	-	5.8
1977	17.3	-	-	17.3
1978	8.3	55.3	-	63.6
1979	67.3	96.2	24.8	188.3
1980	37.4	20	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	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	211.8
1990	55.4	55.9	16.1	127.4
1991	13.4	15.7	1.6	30.7
1992	24.7	10.4	-	35.1
1993	-	-	-	-
1994	-	-	-	-
1995	-	-	-	-
1996	-	-	-	-
1997	-	-	-	-
1998	19.5	-	-	19.5
1999	10.4	-	-	10.4

Appendix A.9. Commercial harvest of razor clams in Cook Inlet, 1919-1999.

Year	Pounds	Year	Pounds
1919	76,963	1960	372,872
1920	11,952	1961	277,830
1921	72,000	1962	195,650
1922	510,432	1963	0
1923	470,280	1964	0
1924	156,768	1965	0
1925	0	1966	0
1926	0	1967	0
1927	25,248	1968	0
1928	0	1969	0
1929	0	1970	0
1930	0	1971	14,755
1931	No Record	1972	31,360
1932	93,840	1973	34,415
1933	No Record	1974	0
1934	No Record	1975	10,020
1935	No Record	1976	0
1936	No Record	1977	1,762
1937	8,328	1978	45,931
1938	No Record	1979	144,358
1939	No Record	1980	140,420
1940	No Record	1981	441,949
1941	0	1982	460,639
1942	0	1983	269,618
1943	0	1984	261,742
1944	0	1985	319,034
1945	15,000	1986	258,632
1946	11,424	1987	312,349
1947	11,976	1988	392,610
1948	2,160	1989	222,747
1949	9,672	1990	323,602
1950	304,073	1991	201,320
1951	112,320	1992	296,727
1952	0	1993	310,289
1953	0	1994	355,165
1954	0	1995	248,358
1955	0	1996	355,448
1956	0	1997	366,532
1957	0	1998	371,877
1958	0	1999	352,910
1959	0		

Appendix A.10. Enumeration goals and counts of sockeye salmon in selected Streams of Upper Cook Inlet, 1968-1999.

Year	Kenai River		Kasilof River		Fish Creek	
	Enumeration Goal	Enumeration Estimate <sup>1</sup>	Enumeration Goal	Enumeration Estimate <sup>1</sup>	Enumeration Goal	Enumeration Estimate <sup>2</sup>
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	N/C	75,000	N/C	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	75,000-150,000	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
1990	400,000-700,000	658,908	150,000-250,000	144,289	50,000	50,000
1991	400,000-700,000	645,000	150,000-250,000	238,000	50,000	50,500
1992	400,000-700,000	994,760	150,000-250,000	183,178	50,000	71,385
1993	400,000-700,000	813,617	150,000-250,000	149,939	50,000	117,619
1994	400,000-700,000	1,003,446	150,000-250,000	205,117	50,000	95,107
1995	450,000-700,000	628,760	150,000-250,000	205,902	50,000	115,000
1996	550,000-800,000	797,847	150,000-250,000	249,944	50,000	63,160
1997	550,000-825,000	1,064,818	150,000-250,000	266,025	50,000	54,656
1998	550,000-850,000	767,558	150,000-250,000	273,213	50,000	22,853
1999	600,000-1,100,000	803,990	150,000-250,000	313,512	50,000	26,667

Year	Susitna River		Crescent River		Packers Creek	
	Enumeration Goal	Enumeration Estimate <sup>1</sup>	Enumeration Goal	Enumeration Estimate <sup>1</sup>	Enumeration Goal	Enumeration Estimate <sup>2</sup>
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 <sup>3</sup>	50,000	59,000	0	15,687
1983	200,000	112,000 <sup>4</sup>	50,000	92,000	0	18,403
1984	200,000	279,000 <sup>5</sup>	50,000	118,000	0	30,684
1985	200,000	228,000 <sup>5</sup>	50,000	129,000	0	36,850
1986	100,000-150,000 <sup>6</sup>	92,000	50,000	N/C	0	29,604
1987	100,000-150,000 <sup>6</sup>	66,000	50,000-100,000	119,000	0	35,401
1988	100,000-150,000 <sup>6</sup>	52,347	50,000-100,000	57,716	15,000-25,000	18,607
1989	100,000-150,000 <sup>6</sup>	96,269	50,000-100,000	71,064	15,000-25,000	22,304
1990	100,000-150,000 <sup>6</sup>	140,379	50,000-100,000	52,180	15,000-25,000	31,868
1991	100,000-150,000 <sup>6</sup>	105,000	50,000-100,000	44,500	15,000-25,000	41,275
1992	100,000-150,000 <sup>6</sup>	66,057	50,000-100,000	58,227	15,000-25,000	28,361
1993	100,000-150,000 <sup>6</sup>	141,694	50,000-100,000	37,556	15,000-25,000	40,869
1994	100,000-150,000 <sup>6</sup>	128,032	50,000-100,000	30,355	15,000-25,000	30,788
1995	100,000-150,000 <sup>6</sup>	121,479	50,000-100,000	52,250	15,000-25,000	29,473
1996	100,000-150,000 <sup>6</sup>	90,781	50,000-100,000	28,729	15,000-25,000	19,095
1997	100,000-150,000 <sup>6</sup>	157,822	50,000-100,000	70,768	15,000-25,000	33,846
1998	100,000-150,000 <sup>6</sup>	119,623	50,000-100,000	62,257	15,000-25,000	17,732
1999	100,000-150,000 <sup>6</sup>	99,029	25,000-50,000	68,985	15,000-25,000	25,648

<sup>1</sup> Derived from sonar counters unless otherwise noted.

<sup>2</sup> Weir Counts.

<sup>3</sup> Poor field conditions make this a minimum estimate; mark/recapture estimate from Su-Hydro studies was 265,000.

<sup>4</sup> Minimum estimate, combining Yentna River sonar with Sunshine Station mark/recapture estimate yields 176,000.

<sup>5</sup> Yentna River sonar count combined with Sunshine Station mark/recapture estimate.

<sup>6</sup> Yentna River only.

Appendix A.11. Average price paid for commercially harvested salmon,  
Upper Cook Inlet, 1969-1999.

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
1990	1.20	1.55	0.75	0.25	0.60
1991	1.20	1.00	0.77	0.12	0.35
1992	1.50	1.60	0.75	0.15	0.40
1993	1.20	1.00	0.60	0.12	0.45
1994	1.00	1.45	0.80	0.12	0.40
1995	1.00	1.15	0.45	0.12	0.27
1996	1.00	1.15	0.40	0.05	0.19
1997	1.00	1.15	0.45	0.05	0.19
1998	1.00	1.15	0.45	0.09	0.19
1999	1.00	1.30	0.45	0.12	0.19

Price is expressed as dollars per pound.

Data Source: 1969-1983- Commercial Fisheries Entry Commission

1984-1999 Random fishticket averages, does not include bonuses  
or post season adjustments.

Appendix A.12. Average weight<sup>1</sup> (in pounds) of commercially harvested salmon, Upper Cook Inlet, 1969-1999.

Year	Chinook	Sockeye	Coho	Pink	Chum
1969	17.11	6.69	7.00	3.91	7.30
1970	26.81	5.80	6.80	4.00	7.18
1971	25.91	6.55	6.52	3.44	9.26
1972	29.68	6.23	6.28	4.00	6.67
1973	37.62	7.41	6.11	3.71	7.61
1974	36.13	6.79	6.38	4.13	7.22
1975	24.75	6.09	6.83	3.56	7.05
1976	27.43	6.85	6.43	4.03	8.05
1977	28.11	7.55	6.72	3.65	7.97
1978	32.96	7.56	6.36	3.75	7.60
1979	27.52	6.21	6.31	3.32	7.34
1980	26.14	5.93	5.76	3.48	7.33
1981	23.75	6.42	6.53	3.52	7.66
1982	28.80	7.01	7.14	3.89	8.24
1983	29.51	6.43	6.89	3.27	7.75
1984	28.61	5.91	7.08	4.03	7.58
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
1990	22.60	6.41	6.45	3.40	7.10
1991	21.46	5.63	6.09	3.11	6.56
1992	24.63	6.59	6.43	3.88	6.75
1993	27.47	5.88	5.87	3.05	5.83
1994	31.70	5.69	7.10	3.85	6.94
1995	26.57	5.65	6.44	3.31	7.16
1996	28.28	6.31	6.23	3.65	7.59
1997	27.60	6.55	6.33	3.38	7.32
1998	22.67	5.48	6.88	3.78	7.26
1999	23.89	5.77	5.84	3.10	8.01
Average	27.22	6.35	6.54	3.60	7.40

<sup>1</sup> Total poundage divided by numbers of fish from fishticket totals.

Appendix A.13. Registered units of gillnet fishing effort by gear type in Cook Inlet . 1960-1999.

Year	Drift			Set			Total
	Resident	Non-Resident	Sub-Total	Resident	Non-Resident	Sub-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	705	686	42	728	1,433
1970	537	220	757	707	65	772	1,529
1971	519	191	710	693	38	731	1,441
1972	419	152	571	672	35	707	1,278
1973	516	146	662	632	43	675	1,337
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	552	697	47	744	1,296
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
1990	408	174	582	648	97	745	1,327
1991	414	168	582	643	98	741	1,323
1992	405	178	583	638	107	745	1,328
1993	400	182	582	634	106	740	1,322
1994	392	187	579	620	117	737	1,316
1995	391	186	577	618	120	738	1,315
1996	392	190	582	622	123	745	1,327
1997	392	189	581	622	123	745	1,326
1998	394	185	579	622	123	745	1,324
1999	391	184	575	622	123	745	1,320

Source: 1960-1974 ADF&G unpublished reports, 1975-1999 Commercial Fisheries Entry Commission.

Appendix A.14. Forecast<sup>1</sup> and projected<sup>2</sup> commercial harvests of salmon by species, Upper Cook Inlet, 1984-1999.

Year	Sockeye			Coho			Pink			Chum			Chinook		
	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	3,604,064	-16%	250,000	500,026	100%	600,000	603,630	1%	400,000	351,197	-12%	25,000	16,105	-36%
1991	3,200,000	2,177,576	-32%	400,000	425,724	6%	90,000	14,663	-84%	500,000	280,223	-44%	20,000	13,535	-32%
1992	3,600,000	9,108,340	153%	400,000	468,911	17%	400,000	695,859	74%	350,000	274,303	-22%	20,000	17,171	-14%
1993	2,500,000	4,754,698	90%	450,000	306,822	-32%	25,000	100,918	304%	350,000	122,767	-65%	15,000	18,719	25%
1994	2,000,000	3,567,392	78%	400,000	580,567	45%	600,000	520,481	-13%	250,000	299,300	20%	15,000	20,260	35%
1995	2,700,000	2,951,827	9%	400,000	446,954	12%	100,000	133,575	34%	250,000	529,422	131%	15,000	17,857	19%
1996	3,300,000	3,888,778	18%	400,000	321,411	-20%	600,000	242,911	-60%	350,000	156,457	-56%	15,000	14,248	-5%
1997	5,300,000	4,176,696	-21%	400,000	152,404	-62%	100,000	70,928	-29%	250,000	103,036	-59%	15,000	13,235	-12%
1998	2,500,000	1,218,956	-51%	300,000	160,644	-46%	300,000	551,260	84%	200,000	95,654	-52%	17,000	7,997	-53%
1999	2,000,000	2,680,707	34%	300,000	125,343	-58%	75,000	16,129	-78%	200,000	174,243	-13%	16,000	14,128	-12%

<sup>1</sup> Harvest forecasts have typically been prepared using average return per spawner values, parent-year escapements and average marine maturity schedules or time series modeling tempered by available juvenile production data or combinations of these data sets.

<sup>2</sup> Harvest projections are prepared using subjective estimates of parent-year escapements, gross trends in harvest and expected intensity of fishery.

Appendix A. 15. Tyonek Subsistence salmon harvest, Upper Cook Inlet, 1980-1999.

Year	No. of Permits	Chinook	Sockeye	Coho	Pink	Chum
1980	67	1,936	262	0	0	0
1981	70	2,002	269	64	32	15
1982	69	1,565	209	113	15	4
1983	75	2,750	185	40	0	2
1984	75	2,354	310	66	3	23
1985	76	1,720	44	8	0	10
1986	65	1,523	198	210	45	44
1987	64	1,552	161	149	5	24
1988	47	1,474	52	185	6	9
1989	49	1,314	67	175	0	1
1990	42	797	92	366	124	10
1991	57	1,105	25	80	0	0
1992	57	905	74	234	7	19
1993	53	1,247	43	36	11	9
1994	49	840	41	111	0	22
1995	55	1,271	45	123	14	15
1996	49	1,032	65	110	21	18
1997	42	642	94	127	0	8
1998	49	886	127	49	1	1
1999	76	1,341	147	94	26	9

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