ANNUAL MANAGEMENT REPORT FOR THE SUBSISTENCE AND COMMERCIAL FISHERIES OF THE KUSKOKWIM AREA 1995

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PREFACE

This is the thirty-fourth (1985/1986 was a single report) Annual Management Report detailing the management activities of the Division of Commercial Fisheries Management and Development staff in the Kuskokwim Area. The 1960-1974 management reports for the "Kuskokwim District" appear in the Arctic-Yukon-Kuskokwim Area report series. The 1975-1986 management reports appear in the Kuskokwim Area Annual Report series. The Annual Management Report became a part of the Regional Information Report Series in 1987.

Data presented in this report supersede information found in previous management reports. This report includes summary data from many special research projects. Complete documentation of these projects and results appear in separate reports. The bibliography includes both referenced and unreferenced reports concerning the Kuskokwim Area fisheries. Some of the data presented is preliminary and may be presented with minor differences in future reports.

Subsistence catch estimates for the years before 1978 are different from the estimates presented in the Kuskokwim Area Annual Management Reports for 1978 through 1984. The historical data was reanalyzed in 1978 and tables were revised. The method and the reason for the revision was not recorded. In an effort to standardize the subsistence catch data, the estimates originally reported in the Management Reports before 1978 have replaced the 1978 revisions.

To simplify use of this report, the tabular data are separated into current year tables and appendices. The appendices are separated by fishery and fishing district. The appendices show annual comparisons and information that seldom change.

The ages of fish in this report are presented as both total age, year spawned to year recorded and in the European notation. In the European system the number of winters in freshwater after hatching is followed by the number of winters in salt water. The fresh and salt water winters are separated by a decimal point. To derive total age from the European system you must add the fresh and saltwater winters and add one for the year of spawning. For example an age 1.3 chinook salmon's total age is 5 years; 1+3+1=5.

PART I. SALMON FISHERY

Fishery Resources

Six species of Pacific salmon are indigenous to the area; chinook or "king" salmon, *Oncorhynchus tshawytscha*, sockeye or "red" salmon, *O. nerka*, coho or "silver" salmon , *O. kisutch*, pink or "humpy" salmon, *O. gorbuscha*, chum or "dog" salmon, *O. keta*, and rainbow trout, *O. mykis*. The Kuskokwim River drainage has the largest populations of chinook, sockeye, coho and chum salmon in the area. Pink salmon occur throughout the area. Little quantitative data on the population size of pink salmon is available because of the lack of commercial markets and interest by subsistence fishers. Rainbow trout are rare or absent upstream of the Aniak River drainage and west of the Kuskokwim River. The largest populations in the area are found in the Kanektok and Goodnews Rivers. There is no commercial fishery for rainbow trout. Their contribution to the subsistence fishery has not been quantified, except in the Kanektok River (Wagner 1991). There is a growing sport fishery on all six species that is documented by the Division of Sport Fish (Jones 1995).

Management Programs

The management objective for chinook, coho, and chum salmon in Districts 1 and 2 is to achieve desired escapement objectives (Appendix A.1) and allow for the orderly harvest of fish surplus to spawning requirements. Sockeye and pink salmon are not actively managed. The management objective for chinook, coho, and sockeye salmon in Districts 4 and 5 is to achieve desired escapement objectives (Appendix A.1) and allow for the orderly harvest of fish surplus to spawning requirements. Chum and pink salmon are not actively managed. Subsistence uses receive the highest priority among consumptive uses of the resources. Inseason management depends heavily on commercial catch data, the test fisheries and escapement models. Escapement models predict the final escapement by extrapolating the inseason counts using the historical percentage of run passage for that date.

COMMERCIAL FISHERY

Prior to 1983, a management strategy of conservatively increasing the commercial catch harvest guidelines to establish definite trends between catch and escapement allowed development of the fishery. The change from a harvest-guideline-based management strategy to an escapement-objective-based strategy in 1983 appears to be increasing the average harvest (Appendix A.2). The only stock in the Kuskokwim Area which is a conservation concern[2] is Goodnews Bay chinook salmon. The failure of Aniak River chum salmon to reach its escapement objective in 1992 and 1993 will require special management measures in the 1996 through 1998 return years to prevent the creation of a conservation concern.

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[2] A conservation concern is a stock which fails to reach its escapement objective despite repeated proactive management measures.

Area and District Boundaries

The Kuskokwim Area includes all waters of Alaska between Cape Newenham and the Naskonat Peninsula, plus Nunivak and St. Matthew Islands (Figure 1). Commercial salmon fishing occurs in four districts in the area:

District 1, the Lower Kuskokwim River, consists of the Kuskokwim River from a line between Apokak Slough and Popokamiut, upstream to a line between ADF&G regulatory markers located at Bogus Creek, about nine miles above the Tuluksak River (Figure 2). The downstream boundary has been in effect since 1986 and the upstream boundary was established in 1994 (Appendix A.3).

District 2, the Middle Kuskokwim River, consists of the Kuskokwim River from ADF&G regulatory markers located at the upstream entrance to the second slough on the west bank downstream from Kalskag to the regulatory markers at Chuathbaluk (Figure 3). The downstream boundary of District 2 was used for the first time in 1990 (Appendix A.3).

District 4, Quinhagak, consists of the waters of Kuskokwim Bay between the mouth of Weelung Creek (misspelled in the regulations as Wheeling) and the South Mouth of the Arolik River (Figure 4). The northern boundary was new in 1990 and the first boundary change since 1960 (Appendix A.3).

District 5 consists of the waters of Goodnews Bay (Figure 5). This boundary has been in effect since the inception of the fishery in 1968.

The letter code assigned to the Kuskokwim Area by the Commercial Fisheries Entry Commission is "W". It precedes the district number on the figures and in news releases (e.g. W-1). This helps the public differentiate between announcements for the Yukon River districts (Y) and the Kuskokwim River (W) districts.

Public Communications

Communicating management plans and decisions to the public is often challenging. Many people in the Kuskokwim Area cannot read or speak English. More often, English is a second language, which increases the challenge of communicating management plans and decisions. The Department and the Kuskokwim River Salmon Management Working Group (Working Group) relationship has dramatically improved the acceptance and understanding of many users. Special regulation notices are broadcast over local radio stations, VHF and CB radio in English and Yup'ik. The Department participates in school and workshop programs in the winter. News releases are now much more widely distributed through a computerized FAX system.

Commercial Fishery Data

Catch per unit effort or CPUE is catch during a fishing period divided by the product of the number of unique CFEC permits used in a fishing period multiplied by the total number of hours the district was open to commercial fishing. Commercial CPUE equals catch per permit-hour in this report.

Computer tabulations of fish tickets provide the commercial catch data presented in this report. The computer software program used to tabulate fish ticket data is the statewide system provided by the Division of Commercial Fisheries Computer Services section.

Management of the commercial harvest is complicated by the need to provide optimum spawning escapements, as well as sufficient harvest to the important subsistence fishery. In recent years, salmon migratory timing data bases have become extensive enough to assist inseason management.

The commercial fishery has expanded during the last ten years. This expansion is due to increased participation by individual fishers and improvements in fishing gear, tendering, and processing capabilities. In 1995, 829 of the 832 permit holders made at least one landing (Appendix A.4). The number of permits fished in 1995 was a record. Since 824 permit holders fished in 1989 and 1990, the number of active permits has declined slightly until this year (Appendix A.4).

Appendix A.6 shows that permit-hours peaked in 1975; probably due to the impending limited entry permit moratorium. Since that time, maintaining adequate subsistence harvests and average spawning escapements required reductions in fishing time. Fisher efficiency has increased, as the increase in harvest (Appendix A.2) and the decrease in permit-hours (Appendix A.6) shows. Improved run strength, escapement based management, and increased participation has resulted in permit-hours stabilizing around 105,000 since 1988 (Appendix A.6).

Commercial fishing regulations set maximum gillnet specifications of 6-inch or smaller mesh, 50 fathoms in length and 45 meshes in depth for all districts. Fishing periods in District 1 and 2 are usually six hours in duration from 1:00 p.m. until 7:00 p.m., as required by the management plan. Longer fishing periods divide the extra time before 1:00 p.m. and after 7:00 p.m. In Districts 4 and 5 fishing periods are normally 12 hours in length. Fishers prefer daylight fishing hours so the periods are normally 9:00 a.m. until 9:00 p.m.

Adjustments of the number and duration of commercial fishing periods and time intervals between periods are the primary methods of distributing the harvest throughout the run. This avoids over harvesting discrete stocks and allows harvests to remain within guidelines, achievement of escapement objectives, and sufficient fishing time for the subsistence fishery. Commercial fishing periods varied between 6 and 12 hours in length depending on the species, effort, and return magnitude. Run magnitude is measured by commercial catch data and by various Department. USFWS and industry sponsored projects.

Kuskokwim Area fishers owned 97 percent of the commercial permits in 1995 (excluding educational permits held by local schools). Non-local Alaskan residents owned 2 percent (16) of the permits. Only 4 permits are owned by non-residents (Table 10).

Escapement Monitoring

Selected major spawning systems in the Kuskokwim Area received provisional spawning escapement objectives in 1983 (Appendix A.1). The objectives were typically the average escapement counts obtained under acceptable conditions in these systems using available data. The objectives represented the minimum escapement levels needed to maintain salmon stocks at historic levels of abundance. Continuing evaluation of the escapement data provided for refinements to the objectives. Annual assessment of spawning ground escapement is provided by aerial surveys, weirs and sonar projects.

Aerial surveys are conducted in "key" streams and lakes throughout the Kuskokwim Area. The surveys are best suited for indexing chinook and sockeye escapements. Surveys are typically conducted when these species are at peak abundance on the spawning grounds. The success and accuracy of aerial surveys are often hampered by turbid water conditions and inclement weather.

In addition to aerial surveys, Kuskokwim River spawning ground escapements are also monitored at Kogrukluk River weir and Aniak River sonar (Figure 1). Kogrukluk River weir began operation in 1976 and is the oldest continuous escapement project operated by the Department in the Kuskokwim Area, excluding aerial surveys. Tagging studies conducted near Tuluksak in 1961 suggest that travel time of chum and chinook salmon migrating from the upper end of District 1 to the Kogrukluk River weir is approximately 25 days (Hamner 1986). Travel time to Aniak River sonar is about 9 days. The Aniak River is thought to be the single largest producer of chum salmon in the Kuskokwim drainage. The chum salmon biological escapement goal (BEG) for the Aniak River is 250,000 and the BEG for the Kogrukluk River weir is 30,000. Aniak River sonar was established in 1980 and is typically only operated during the chum salmon season. Aniak sonar counts are not apportioned by species but studies have shown that most fish passing the site during the operational period are chum salmon. A spatial expansion factor of 1.6 is used to adjust sonar counts for that part of the river not counted by the sonar. A redesign of the Aniak sonar project, to be initiated during the 1996 season, will provide full coverage of the river and net sampling to evaluate species composition.

Escapement projection models have been developed for both the Kogrukluk and Aniak projects. The projections help provide a more timely estimate of the final escapement by extrapolating the inseason counts by the historical percentage of run passage through the most recent date. Daily percentage of run passage from the projection models are used to estimate escapement during periods when the projects are not operating.

In District 4, aerial surveys are the only means currently employed to assess spawning ground escapement. In District 5, escapements are assessed by means of the Middle Fork Goodnews River weir as well as by aerial surveys. Salmon migration time from the fishing district to the weir is just a few days and timely enough to be used for inseason management.

Except for District 5, inseason spawning ground escapement estimates for use by management are difficult to obtain in the Kuskokwim Area. In District 4, timely estimates are limited to an occasional aerial survey. Consequently, inseason management in District 4 emphasizes the use of commercial catch data. In the Kuskokwim River most spawning streams are many miles upstream of the commercial fishing district so there is a long delay between commercial fishing periods and the observed fish passage at escapement projects. The delay is typically too late to adjust fishing effort during the early part of the season. The escapement projection models described earlier have only had modest usefulness for inseason management needs. Therefore, inseason salmon management on the Kuskokwim River depends primarily on commercial catch data, test fisheries and Kuskokwim River sonar.

When using commercial harvest information, managers compare current year catch numbers and commercial catch-per-unit-effort data (defined as catch per permit-hour) with historic data in order to provide an inseason assessment of run strength. However, the usefulness of this approach can be confounded by inconsistencies in the number of participating fishers, the duration of commercial fishing periods and other variables that might influence catch or the actual "effort" applied by fishers. The practicality of this approach is also limited by the need to have a commercial fishing period in order to make an assessment.

Daily inseason assessment of run strength was also available from three drift gillnet test fisheries operated on the Kuskokwim River. The Lower Kuskokwim Test Fishery (river mile 25) was operated as a partnership between the Association of Village Council Presidents, the Bering Sea Fishermen's Association, and the Department. This was the first year of operation for the Lower Kuskokwim Test Fishery. The project was essentially a redesign of its predecessor, the Eek Test Fishery (1988-1994), however, the design changes were significant enough to make data from the two projects not comparable. The Bethel test fishery (river mile 80) began in 1984 and has been the oldest operating and most useful test fishery in the area. The Aniak test fishery (river mile 220) began in 1992 and was operated as a partnership between the processor in Aniak and the Department. The Aniak test fishery was operated nearly every day during the 1995 season, however in past years operation was discontinuous with frequent and sometimes prolonged periods during which no test fishing occurred.

The Kuskokwim River sonar project, located roughly 5 km (3 mi) upstream from Bethel, provided daily passage estimates for management of chinook, sockeye, and chum salmon from 4 June through 20 July in 1995. Total passage estimates during that time included 208,282 chinook, 161,631 sockeye, and 530,937 chum salmon (Table 9). In addition, 240 pink salmon, 2,563 coho salmon, 55,809 whitefish species, and 249,598 other species were estimated to have been detected. Begun as a feasibility study in 1988, this mainstem sonar project has developed into a viable assessment tool capable of providing daily salmon abundance estimates to area managers inseason. The project uses sonar data to estimate total fish passage and gillnet catch data to estimate species composition. Conceptually unchanged since its inception, the acoustic sampling design consists of two distinct elements. Most (290 m) of the river is continuously sampled by horizontally oriented sonar looking outward from each bank. The remainder of the river (20 m) is sampled with down-looking sonar during repeated bank-to-bank transects, for three one-hour intervals per day. In both cases, all fish were hand tallied from paper chart recordings. Species composition was estimated using catch and effort data from a suite of different mesh-sized gillnets designed to effectively sample all size classes of fish detected acoustically. Set gillnets were used to sample the area within 40 m of the right bank, while drift gillnets were used to sample the remainder of the river. Gillnets twice as deep (8.5 m) as those used to collect historic test fishing and sonar species apportionment data, were used to sample the entire water column in the deeper portions of the river after 15 June.

SEASON SUMMARY

The 1995 Kuskokwim Area salmon season opened by emergency order in District 4, Quinhagak, on 13 June. The salmon season closed by regulation on 8 September following the final fishing period in District 4 on 6 September.

In 1995, 829 of the 832 Kuskokwim Area permit holders made at least one landing. This is a record for the number of permits fished in the Kuskokwim Area (Appendix A.4). The total commercial catch was 72,352 chinook, 198,045 sockeye, 555,539 coho, 318 pink and 707,212 chum salmon (Appendix A.2). Overall the 1995 Kuskokwim Area commercial salmon harvest of 1.5 million was about 11 percent above the 1985-1994 average (Appendix A.2). The average prices paid per pound, however, were generally low (Appendix A.7). The chinook salmon catch of 72,352 was 25 percent above average, but the price per pound of $0.60 was $0.16 below the ten year average. Likewise, the sockeye salmon catch of 198,045 was 22 percent above average, but the $0.71 paid per pound was $0.20 below average. The coho salmon catch of 555,539 was about 9 percent below average. The price in 1995 of $0.41 per pound was $0.23 below the average coho value. It was also the lowest price paid to fishers since 1983. The pink salmon catch of 318 was average for an odd year and brought a price of $0.12 a pound, $0.02 above average. The chum salmon catch of 707,212 was 32 percent above average. The $0.18 per pound paid to fishers, however, was $0.11 below average and the lowest since 1973.

Kuskokwim Area permit holders received $4,209,752 for their catch, excluding bonuses and other incentives not reported on fish tickets. The value of the catch was 24 percent below the previous ten year average of $5,538,242 (Appendix A.4). The average permit holder earned $5,078 from the commercial salmon harvest in 1995. This is 26 percent below the ten year average of $6,860.

Weak chum salmon markets limited the processing capacity available in the Kuskokwim Area in 1995. The Kuskokwim River fisheries were impacted most. During June and July, managers restricted the duration of nearly all openings in the Kuskokwim River to 4 hours so as not to exceed the processing limits. Fishers in District 2 were substantially impacted because they generally had to transport their catches to District 1 to find a buyer. In August additional processing capacity became available for the coho season and the length of the fishing periods reverted to the more normal 6 hour duration. During past years 8 hour periods have also been allowed, but not in 1995.

The poor chum salmon markets prompted some Kuskokwim River fishers to redirect their efforts to the more lucrative chinook and sockeye fisheries in Districts 4 and 5. The above average number of fishers participating in these Kuskokwim Bay Districts has been a trend in recent years (Appendices C.6 and D.6). The trend is a result of poor markets and concerns about chum salmon stocks in the Kuskokwim River coupled with higher profitability and stronger salmon returns in Kuskokwim Bay. Permit-hours were below average in Districts 1 and 2 due to shorter than normal openings during the chum salmon fishery. Effort was above average in Districts 4 and 5 due to strong salmon runs (Appendix A.6).

Kuskokwim River (District 1 and 2)

The Working Group continued to work closely with the department in 1995 to help manage the Kuskokwim River salmon fisheries. The Working Group is comprised of representatives from several Kuskokwim River salmon user groups. Through uncommon dedication by all the concerned parties the Working Group provided inseason management recommendations that served as a cooperative approach to management with the department (Table 12). During the season the Working Group met 20 times to evaluate the status of the salmon runs and make recommendations to the Department.

The 1995 preseason outlook was for an average size chum salmon run. The return of five year old fish, spawned in 1990, were expected to be average based on their return as age four salmon in 1994. The return of four year old chum salmon from the 1991 escapement were also expected to be near average in abundance based on parent year escapement.

There were nine commercial fishing periods in District 1 during the chum salmon season (Table 13). District 2 had eight openings (Table 14). A total of 605,918 chum salmon were harvested by approximately 720 permit holders (Appendix B.17). This was the third highest chum salmon harvest on record. The average price per pound for chum salmon was $0.18 making the ex-vessel value of the catch worth $742,478.

With one exception, all openings during the commercial chum salmon fishery were 4 hours in length instead of the more typical 6 or 8 hours. The shorter periods were necessary because of limited processing capacity and the need to improve the quality of the catch. The reduced duration of fishing periods likely confounded the common management practice of comparing current year and historical commercial catch statistics, particularly CPUE, to evaluate run strength.

Run assessment through mid-June showed weak chum salmon abundance. Consequently, during the 18 June meeting the Working Group and the Department decided not to set a commercial fishing period. By 20 June, indicators showed increasing chum salmon run strength. The Working Group reconvened and recommended that a 4 hour commercial fishing period be set for 22 June. The department concurred. In compliance with 5 AAC 07.365 KUSKOKWIM RIVER SALMON MANAGEMENT PLAN this first period only included the lower half of District 1. The upper half of District 1 and all of District 2 remained closed. The catch of 49,157 chum salmon was about 30 percent below historical catches that occurred near that same date in 1989 and 1992 (Appendix B.36). The below average catch on 22 June was attributed to the reduced hours fished. Staff agreed that the delay of the first opening, coupled with the reduction in the hours fished, was adequately conservative in allowing a sufficient number of chum salmon to pass through the commercial fishing district through 22 June.

For the remainder of the chum salmon season, run strength indicators generally improved and suggested an average run size. A normal fishing schedule was allowed consisting of essentially two commercial fishing periods per week through 21 July. Of the resulting nine commercial fishing periods, eight were 4 hours in duration and one was 6 hours (Table 13). In all instances the short hours were a result of the limited processing capacity. Staff generally viewed the short hours as a conservative measure which would benefit spawning escapement, so there were generally no initial concerns of over-harvesting the chum salmon run. On 24 July the Working Group and the Department agreed to stop fishing until the coho salmon run was strong enough to resume commercial fishing.

The first commercial fishing period in District 2 occurred on 26 June. This was the only commercial period in which there was a processor available to buy fish in the district. Following the 26 June opening, the number of permit holders in District 2 dropped from 16 to an average of 7 per period for the balance of the chum salmon season (Table 14). Low prices and a relatively long run to the tenders located in District 1 made fishing unprofitable for many District 2 permit holders.

There was a marked difference between the 1995 Kuskokwim River inseason assessment of chum salmon run strength on which management was based and the run reconstruction derived from the Kuskokwim River sonar program. Comparison of Bethel test fishery cumulative CPUE to target test fishery thresholds was the primary run assessment tool used to manage the Kuskokwim River chum salmon fishery in 1995 (Appendix B.11). The Bethel test fishery cumulative CPUE was above threshold throughout the season (Figure 12). Catches and CPUE in the commercial fishery was generally good and suggested a strong run inseason. A test fish project on the Kuskokwim River at Aniak suggested adequate abundance (Appendix B.16). We did not use inseason run construction data from the Kuskokwim River sonar project to manage the Kuskokwim River fishery in 1995.

Interannual comparisons of Kuskokwim River sonar and Bethel test fish data between 1995 and 1993, taking into account water level for the test fishery, indicated close agreement between the two projects. Both projects showed remarkable agreement in describing the timing and magnitude of the run. There was an unusually large commercial catch above the Bethel test fishery and sonar site in 1995. However, we did not make the necessary adjustments in our inseason assessment of the test fish data. There have been concerns about the 1995 field data from the Aniak sonar escapement project. We do not know if we achieved the Aniak River BEG in 1995. However, based on weir counts the BEG for the Kogrukluk River weir was achieved in 1995.

Based on our reevaluation of the 1995 season for the Kuskokwim River, the department believes that the chum salmon run was probably over-harvested. The total run of chum salmon into the Kuskokwim River in 1995 is estimated to be 982,000 ± 24,000 fish (95% confidence interval) based on run reconstruction data from the Kuskokwim River sonar project (Table 2). The total commercial and subsistence catch of chum salmon in the Kuskokwim River was 676,000 ± 7,000 fish (variance is a result of the subsistence survey component). The resulting escapement estimate of 283,000-330,000 is below the minimum desired drainage wide escapement level of 506,000 chum salmon.

In August the processing capacity in the Kuskokwim River salmon fishery increased. Based on the strength of the coho salmon run, the department and the Working Group agreed to reopen the commercial fishery on 4 August for 6 hours in Districts 1 and 2. Many permit holders did not participate in this opening to protest the low prices paid for coho salmon. Even though prices did not increase, the number of permit holders fishing in District 1 increased to normal levels during subsequent periods. The number of permit holders fishing in District 2 continued to be about half historical levels due to the lack of a buyer in the district.

The department recommended a total of 9 fishing periods in District 1 (Table 13) and District 2 (Table 14) during the 1995 coho salmon season. The Working Group agreed with the department's recommendations. Coho salmon abundance, coupled with improved processing capacity, allowed all 9 commercial fishing periods to be 6 hours in duration. The Kuskokwim River was closed to commercial fishing after the last period on 1 September.

There is no drainage wide escapement level set for coho salmon. The only means to assess achievement of such a level would be by using the Kuskokwim River sonar, but the sonar is not operated through the coho season. In 1995 the sonar project was concluded on 20 July. The only tool managers have to assess coho salmon escapement is Kogrukluk River weir. The minimum escapement goal for coho salmon passage at Kogrukluk River weir is 25,000. The estimated passage for 1995 was 27,856 (Appendix A.8).

Chinook Salmon

The combined commercial and subsistence chinook salmon harvest has increased from an average of 56,000 fish from 1960-1969 to 100,524 during 1985-1994 (Appendix B.29). A conservation concern for Kuskokwim River chinook salmon arose following a series of years with poor chinook salmon escapements in the mid 1980's (Figure 6). Besides the poor escapements, the low number of female chinook salmon in the escapement at the Kogrukluk River weir compounded the conservation concern (Appendix B.38).

Beginning in 1984, the Board began restricting the commercial fishery because the Department was unable to correct the problem through inseason management measures. In 1985, a shift to 6-inch or smaller commercial gillnets reduced the harvest of larger female chinook salmon. This gear change was successful in reducing the sex ratio of the commercial catch from 43 percent to 29 percent female. However, total escapement continued to be below acceptable levels (Figure 6). To provide for the subsistence harvest and maintain average spawning escapements the directed commercial harvest of chinook salmon was prohibited in 1987. This action resulted in improved chinook salmon escapements in subsequent years (Figure 6). An unexpected benefit of the improved status of chinook salmon in the Kuskokwim River was an increase in the commercial harvest of chinook salmon (Appendix B.38). The subsistence fishery continues to target large chinook salmon with "king" gear. Improved survival, perhaps related to elimination of the directed high seas salmon fishery, played a role in the success of these management changes.

Since 1987 the chinook salmon catch has been incidental to the chum salmon fishery in Districts 1 and 2. In 1995 the commercial harvest of 30,846 was below the recent ten year average of 35,577 (Appendix B.17). This is likely due in part to the delayed start of the commercial fishery.

Chinook salmon escapement goals were achieved at the Kogrukluk weir (Appendix A.8) and in all nine aerial survey index streams flown in 1995 (Appendix B.37). The estimated chinook salmon passage of 208,282 at the Kuskokwim River sonar was a record for that project (Appendix B.38). A strong run of chinook salmon, the relatively late start of the commercial fishery and shorter openings produced the highest escapement index on record (Figure 6).

Sockeye Salmon

The sockeye salmon catch is incidental to the chum salmon fishery in Districts 1 and 2. Before 1981, sockeye and chum salmon were not accurately differentiated in commercial or subsistence catches. This prevented an accurate record of the sockeye and chum salmon harvest in the Kuskokwim River. Sockeye salmon comprised 5 to 33 percent of the combined sockeye-chum salmon catch since 1981. Before 1981, the reported sockeye salmon catch was less than 2 percent of the sockeye-chum salmon catch (Appendix B.17). In 1995 the commercial harvest of 92,500 sockeye salmon was above the recent ten year average of 83,786 (Appendix B.17).

Sockeye salmon escapement is documented ancillary to the other species. The Kogrukluk weir escapement estimate of 10,996 sockeye salmon in 1995 was above average (Appendix A.8). Estimated sockeye salmon passage at the Kuskokwim River sonar was 161,631, the lowest in the three years of project operation (Appendix B.38).

Chum Salmon

Before 1971, chum salmon were an incidental catch during the chinook and coho directed salmon fisheries. The expansion of the commercial chum salmon fishery began in 1971. Based on the 1924-1943 subsistence harvest estimates, a total chum salmon harvest of 400,000 appeared to be consistent with the reproductive potential of the run (Appendix A.2). A combined commercial and subsistence catch of 400,000 chum salmon was the management goal from 1971 to 1979. Subsistence catches for the entire river have declined since the inception of the commercial fishery in 1971 (Appendix B.30). From 1971 to 1980 the average subsistence harvest was 173,689. The average harvest declined to 136,203 for the period 1981 to 1990 (Appendix B.30). This is thought to be due to the decline in the use of dog teams for transportation, not the increased commercial harvest.

The commercial chum salmon harvest for the Kuskokwim River (Districts 1 and 2) has averaged 476,637 salmon in the last ten years (Appendix B.17).

The following guidelines are used to manage the commercial harvest:

1. Chum salmon run assessment projects indicate that escapements will be adequate.

2. Commercial catch per unit effort compares to previous years when escapement was adequate.

3. Subsistence fishers report adequate subsistence catches.

Declining run strength normally results in a 1 to 2 week closure beginning in the last half of July. Before 1985, only that portion of District 1 downstream of Bethel was open to commercial fishing during the chum salmon fishery. The Board instructed the department to use the entire length of District 1 beginning in 1985. Low chum escapements occurred in 1986 and 1987. Runs in 1988 and 1989 were at record high levels, but in order to reach escapement objectives more time was required between fishing periods. The 1990 and 1991 runs were smaller but a 4 to 6 day spacing between periods resulted in approaching or reaching chum salmon escapement objectives.

The Kuskokwim River has two major channels at the site where the Eek test fishery occurred. The Eek test fishery, which operated in only the eastern channel, was a very poor indicator of chum salmon run strength in 1994. In 1995 the project was redesigned to include drift stations in both channels. The redesigned project, renamed the Lower Kuskokwim test fishery, was a better predictor of the commercial catch below Bethel than its predecessor, but the project still lacked consistency and reliability. The Bethel test fish index for chum salmon was an accurate indicator of commercial catches above Bethel. The Aniak River sonar escapement estimate for 1995 is not considered reliable due to lack of documentation and difficulties with project operation. Escapement estimates from the Kogrukluk River weir indicated that the chum salmon escapement objective was met for this system, possibly due to the relatively late start of commercial fishing on the Kuskokwim River (Appendix A.8).

Coho Salmon

Kuskokwim River managers have a limited number of indicators of coho salmon abundance in the drainage: three test fisheries (Lower Kuskokwim, Bethel and Aniak), Kogrukluk River weir, commercial catch data and an informal collection of subsistence information. The Kogrukluk River weir has a coho salmon escapement objective of 25,000 fish. Commercial catch per unit effort (CPUE) in District 2 during coho season is being assessed as an indicator of abundance of coho salmon above District 1. The CPUE in District 2 has been useful when weir data are unavailable.

Traditionally, coho salmon (locally called "rain fish") were not well utilized for subsistence because of poor drying conditions during rainy fall weather. Subsistence use of coho salmon has increased in areas where freezers are available to preserve fish. In recent years, Subsistence Division staff have started their surveys after coho salmon have completed migration to the upper river villages. This has probably increased numbers of coho salmon reported because subsistence users have completed their coho salmon catches by the time the survey data is collected in October and November unlike subsistence data from prior years when subsistence surveyors were conducted prior to coho migration.

Commercial fishery management in the Kuskokwim River is based on coho salmon abundance when that species dominates the commercial catch. Run strength is assessed by evaluating catches in the test fisheries, CPUE of the commercial fleet, and escapement trends at Kogrukluk River weir. Fishing periods are simultaneous in Districts 1 and 2 throughout the season which closes by regulation on September 1. Record runs in 1984 and 1994 as well as a late run in 1989 resulted in extensions of the season in those years. The management strategy is similar to that for chum salmon.

In the most recent 20 years of fishing for this species, catches have ranged from the 1983 catch of 196,000 coho salmon to the record harvest in 1994 of 724,689 fish (Appendix B.17). The most recent ten year average harvest is 531,000 fish. Since 1985 when both districts have had buyers the number of permit holders that fished has ranged from 650 to 775. In 1995 a total of 721 permit holders harvested 471,461 coho salmon in the Kuskokwim River districts.

Under cooperative management of the commercial fishery with the Kuskokwim River Salmon Management Working Group, the coho salmon escapement goal at the Kogrukluk River weir has been achieved in three out of eight years. Distrust by the public of the Bethel test fishery, lag time of Kogrukluk River weir escapements, and lack of sufficient additional data contributed to the over-fishing. The Department's uncertainty during the early portions of the run often caused corrective actions to come too late to make a significant difference in escapement needs to the upper drainage as indexed by Kogrukluk River weir. Escapement at Kogrukluk Weir in the last few years has increased and appears to be closer to achieving or exceeding escapement goals.

In 1995, Kogrukluk River weir operated for a portion of the coho migration period. Based on an early run timing model, an estimated 27,856 coho salmon escaped, which met the escapement goal of 25,000 fish (Appendix A.8). Use of the early-run-timing model provides the most conservative estimate of escapement.

In the last decade, when buyers have been present in District 2, commercial fishing has been simultaneous with District 1. The commercial fishing effort in District 2 has been fairly consistent and this has provided a CPUE that has correlated with escapement at the Kogrukluk River weir. An average cumulative CPUE of 43 or greater for fishing periods between 1 and 21 August has resulted in the escapement goal being reached (Figure 13). The 1995 cumulative CPUE was 54 which may be artificially high due to the lower than normal participation in the fishery.

The Bethel test fishery cumulative CPUE in 1995 was comparable to years when the Kogrukluk River weir achieved escapement. The delayed opening of coho salmon fishing probably allowed a number of coho salmon to escape the commercial fishery.

Quinhagak (District 4)

District 4 is located in the marine waters adjacent to the village of Quinhagak at the mouth of the Kanektok River, about 25 miles south of the Kuskokwim River (Figure 4). Commercial fishing occurs only in the marine waters of Kuskokwim Bay to ensure adequate escapement of salmon into the Kanektok and Arolik Rivers. Commercial fishing occurs primarily in the tidal channels that radiate out into the bay from freshwater streams in the district. An important sport fishery occurs in the Kanektok and Arolik River drainages (Jones 1995).

Commercial fishing effort in this district has increased considerably in the last decade. The number of permit holders in the last two decades has ranged from 117 in 1982 to a record high during the 1993 season of 409 (Appendix C.6). The previous 10 year average is 326 permit holders. In the Kuskokwim Area, permit holders have unrestricted movement between commercial fishing districts. Changes in the June Kuskokwim River commercial fishery have shifted effort to District 4, which has a directed chinook salmon fishery.

District 4 opened on 13 June in compliance with 5 AAC 07.367 DISTRICT 4 SALMON MANAGEMENT PLAN, which requires an opening before 16 June. This first opening resulted in an above average catch of chinook salmon (Table 19). Commercial fishing continued two times a week until sockeye salmon dominated the catch during the 29 June opening. Above average chinook salmon catches in the commercial and subsistence fisheries suggested an above average run. Commercial fishing remained on a regular schedule of three 12 hour periods per week until 8 September when it closed by regulation. In 1995, early aerial surveys of the Kanektok River drainage were unsuccessful due to high turbid water. During the 1995 season, 382 permit holders made commercial deliveries (Table 19).

The chinook salmon catch of 38,584 is the second highest catch on record, well above the 10 year average of 19,262 (Appendix C.1). Buyers paid an average price of $0.60 per pound. The ex-vessel value of chinook salmon was $417,000 (Table 11).

The directed sockeye salmon fishery peaked on 10 July at 9,894 sockeye salmon. The total sockeye salmon catch of 68,194 is above the ten year average of 42,948 fish (Appendix C.1). Poor aerial survey conditions continued during the sockeye salmon migration and escapement estimates are unavailable. The average price paid for sockeye salmon was $0.71 per pound. The ex-vessel value for sockeye in District 4 was $326,700.

Chum salmon are an incidental catch in the chinook and sockeye salmon commercial fisheries in District 4. The 1995 chum salmon catch of 81,463 was twice the 10 year average of 40,509 fish (Appendix C.1). Chum salmon brought an average of $0.18 per pound, resulting in $106,000 in payment to permit holders (Table 11). Escapement for chum salmon is unknown due to poor aerial survey conditions.

Coho salmon dominated the commercial catch in this district on 31 July. Commercial catches, when compared with historical catches, suggest that the coho salmon run in this district was above average. If comparisons between current and historical catches indicate a strong coho run in District 4, fishing can continue for three 12 hour periods per week. The coho catch peaked with a period catch of 9,133 fish on 9 August (Table 19). The commercial salmon fishing season closed by regulation on 8 September. The 1995 coho salmon harvest of 66,203 fish is above the 10 year average of 54,643 fish (Appendix C.1). Permit holders were paid an average of $0.41 per pound. The ex-vessel value of coho salmon in District 4 was $207,900. Weather and water conditions prevented coho escapement assessment by aerial surveys, but sport fishing catches indicated coho salmon were well distributed throughout the drainage.

Goodnews Bay (District 5)

District 5 is the southernmost salmon district in the Kuskokwim Area (Figure 5). Fishing primarily is with drift gillnets in tidal channels in Goodnews Bay and a few setnets or, set gillnets near the mouth of the bay. The number of commercial fishers peaked in 1988 when 125 permits holders fished and has averaged 94 permit holders (Appendix D.6). In 1995, participation was above average at 118 permit holders due to extension of fishing periods in the Goodnews Bay district. An important sport fishery occurs in the Goodnews River drainage (Jones 1995).

A counting tower on the middle fork of the Goodnews River provided estimates of salmon escapement from 1981 through 1990. In 1991 a weir replaced the tower. This provided more accurate counts at a lower cost; the savings has allowed the project to enumerate a portion of the coho salmon escapement. The primary objective of this project is to provide daily escapement information to improve management of the commercial fishery. The Middle Fork Goodnews River weir project also provides a calibration of aerial survey accuracy.

In 1995, District 5 opened to commercial fishing on 29 June (Table 20). Two 12-hour periods a week were allowed until the majority of the chinook salmon run had passed the commercial fishery. Over the last 4 years, the chinook salmon management strategy in this district has been to open the commercial fishery 5 to 7 days later than the normal historical opening date as an attempt to increase escapement of chinook salmon into the Goodnews River drainage. In 1995, this strategy helped achieve an estimated passage of 4,836 chinook salmon through the Middle Fork Goodnews River weir, exceeding the escapement goal of 3,500 fish. The commercial harvest of 2,922 chinook salmon was below the ten year average of 3,224 fish (Appendix D.1). Buyers in this district paid an average of $0.60 per pound, which totaled $31,339 paid for this species (Table 11).

The sockeye salmon catch in District 5 was above average during the first commercial period this season. As the season progressed, sockeye salmon increased in abundance in the district and escapement weir counts remained strong, above desired levels When the Goodnews River weir began passing good numbers of sockeye salmon, and the escapement goal was being approached, fishing time was increased from 12- to 36-hour periods from 10 to 20 July (Table 20). This was the longest fishing time allowed during the peak of the sockeye salmon season. The commercial harvest in 1995 of 37,351 sockeye salmon was slightly above the ten year average of 35,887 fish (Appendix D.1). Sockeye salmon prices averaged $0.71 per pound resulting in $175,552 paid to permit holders in 1995 (Table 11). The department's weir on the middle fork of the Goodnews estimated a sockeye salmon passage of 39,009, well above the escapement goal of 25,000 fish (Appendix D.13).

The chum salmon catch is incidental to the sockeye salmon fishery in District 5. The 1995 catch of 19,832 fish was above the ten year average of 16,984 fish (Appendix D.1). Permit holders were paid $0.18 per pound for this species, for a total value of $21,427 (Table 11). The chum salmon escapement of 33,699 fish at the Middle Fork Goodnews River weir exceeded the goal of 15,000 fish (Appendix D.13).

The 1995 coho salmon catch of 17,875 fish was below the ten year average of 23,612 fish (Appendix D.1). Commercial permit holders received $0.39 per pound for a total value of $58,061 (Table 11). The Goodnews River weir enumerated 5,415 coho salmon in 1995. This is a minimal estimate because the weir concluded operation well before the peak of the coho migration. High water and poor flying conditions prevented any aerial surveys of the Goodnews River drainage in 1995.

Enforcement

The Fish and Wildlife Protection Division of the Department of Public Safety were present in the Kuskokwim Area from early June until early September. Personnel available for this program were four commissioned and one non-commissioned officer. They used one C-185 and three Supercub aircraft and one Boston Whaler. Citations were issued for commercial fishing in closed waters, closed season or closed period, no commercial fishing or crew member license, and identification of vessels and gear.

OUTLOOK FOR 1996

The Kuskokwim Area has no formal forecast for salmon returns. Broad expectations are developed based on an evaluation of brood year escapements, trends in harvest, and approximate trends in productivity.

Chinook Salmon

Most chinook salmon return to the Kuskokwim Area at age 6, 5, or 4 so the primary brood years for 1996 will be 1990, 1991 and 1992. Chinook salmon escapement in the Kuskokwim River drainage is monitored by aerial surveys of selected streams and at Kogrukluk River weir. Escapement data is also available from the Tuluksak River (operated 1991 through 1994) and Kwethluk River weirs (operated 1992) which were operated by U. S. Fish and Wildlife Service projects. In Kuskokwim Bay, chinook escapement is monitored by aerial surveys of Kanektok and Goodnews Rivers and at Goodnews River weir.

Districts 1 and 2

The return of chinook salmon to the Kuskokwim River in 1996 is expected to be at average or below average abundance. In 1990 chinook salmon passage at Kogrukluk River weir was 2 percent above the minimum objective (Appendix A.8) and the objectives were achieved in 4 of 9 aerial survey streams (Appendix B.37). In 1991 chinook passage at Kogrukluk weir was 22 percent below the minimum objective and aerial survey objectives were achieved in 2 of 6 streams. In 1992 Kogrukluk escapement was 32 percent below objective and 4 of 8 aerial survey objectives were achieved. In addition, for the past three years chinook abundance in the Kuskokwim River has been bolstered by strong survival of the 1989 brood year. The offspring from this brood year returned to the Kuskokwim River in 1993, 1994 and 1995 at ages 4, 5 and 6. This cohort was the dominant age group in the commercial catch during each of these years. The cohort will return as 7 year olds in 1996, but this age class usually constitutes less than 10 percent of the commercial catch.

The incidental commercial harvest of chinook salmon in the Kuskokwim River is driven by the intensity of the chum salmon directed fishery. Chum salmon abundance is expected to be below average, therefore the incidental chinook catch is also expected to be below average. Still, the chinook harvest may approach average levels if a proposed management plan is adopted which allows a commercial fishery on early run chum salmon stocks (see chum salmon outlook for Districts 1 and 2). The plan would allow commercial fishing to occur in mid-June, before the bulk of the chum salmon begin to arrive. If the plan is accepted, the commercial harvest of chinook salmon is excepted to be between 20,000 and 45,000 which is average to below average. If the plan is not accepted the harvest will likely be well below 20,000 (Table 21).

District 4

District 4, Quinhagak, currently has the only directed commercial chinook salmon fishery in the Kuskokwim Area. The Kanektok River chinook salmon escapement index was well below objective levels in all three brood years (Appendix C.7). The harvest trend in recent years has also been below average, except for 1995. As in the Kuskokwim River, the bulk of the 1995 commercial chinook harvest in District 4 was attributed to age 6 fish. The 1996 commercial harvest will likely be between 10,000 to 20,000 which is the lower half of the historic range (Table 21).

District 5

In District 5, Goodnews Bay, the chinook stocks have been depressed for the past several years and a rebuilding program has been underway. Escapement to Middle Fork Goodnews River was below objective in two of the three brood years (Appendix D.13). The harvest trend has also generally been below average due to low returns and the impact of the chinook salmon rebuilding program. For the 1996 season the incidental catch of chinook salmon in District 5 will probably be between 2,000 and 3,000 which is in the central range of the past 10 years (Table 21).

Sockeye Salmon

Sockeye salmon return primarily at age 5 in the Kuskokwim Area, so the 1991 brood year will have the most influence on the 1996 returns. In the Kuskokwim River, sockeye salmon harvest is incidental to the directed commercial fishery on chum salmon. Kuskokwim Bay districts support directed sockeye fisheries.

Districts 1 and 2

Sockeye salmon are harvested incidentally during the chum directed commercial fishery on the Kuskokwim River. The return of sockeye salmon to the Kuskokwim River is expected to be above average in 1996. The 1991 brood year escapement at Kogrukluk River weir was well above average (Appendix A.8), but additional sockeye salmon escapement data is very limited. The quantity of sockeye salmon harvested in the Kuskokwim River will be driven by the intensity of the chum fishery in late June and early July. Given the poor outlook for the 1996 chum salmon return to the Kuskokwim River, and the temporal overlapping of the two species, the incidental sockeye harvest is expected to be between 30,000 and 60,000 (Table 21).

District 4

Sockeye salmon returns to District 4 are expected to be good in 1996. The 1991 brood year escapement as indexed by aerial surveys in the Kanektok River was 43,000 sockeye salmon, which is well above the escapement objective of 15,000 and the ten year average of 27,000 (Appendix C.7). The 1991 return supported an average commercial harvest of 53,657 sockeye (Appendix C.1). In the last few years the trend has been toward above average commercial harvests while still achieving escapement objectives. The sockeye harvest in District 4 is again expected to be between 50,000 and 80,000, which is above average (Table 21).

District 5

District 5 is expected to have a good sockeye return in 1996. The 1991 brood year escapement past the Goodnews River weir was 47,000, which exceeded the objective of 20,000 to 30,000. The District 5 commercial harvest has been above average in recent years and the escapement objective has been achieved or exceeded. The harvest in 1995 returned to more normal levels, but sockeye escapement remained high at 39,000. The District 5 sockeye harvest is again expected to be average to above average, ranging from 35,000 to 70,000 (Table 21).

Chum Salmon

Chum salmon return to the Kuskokwim Area primarily at 5 and 4 years of age, so the main brood years contributing to next season's return will be 1991 and 1992. The commercial fisheries in Districts 1 and 2 of the Kuskokwim River target chum salmon. Chum salmon catches in Districts 4 and 5 of Kuskokwim Bay are incidental to the directed sockeye fisheries.

Districts 1 and 2

Below average numbers of chum salmon are expected to return to the Kuskokwim River in 1996. Spawning escapements for early-run stocks are thought to be indexed by the Kogrukluk River weir. Brood year escapement at the Kogrukluk River weir was 19 percent below objective in 1991, but 14 percent above objective in 1992 (Appendix A.8). This may result in average abundance at the start of the 1996 season. However, the bulk of chum salmon production for the Kuskokwim River is attributed to the Aniak River drainage. Chum salmon timing in the Aniak River suggests that this stock enters the Kuskokwim River a little later than the stocks indexed by Kogrukluk River weir. Chum salmon escapement to the Aniak River in 1991 was 26 percent above objective, while the 1992 escapement was 66 percent below objective. Conservation actions will likely be necessary to ensure escapement needs at Aniak River are achieved. In recent years, the Aniak River has demonstrated some widely fluctuating productivity in its chum salmon stocks. The cause of this volatility is unknown, but introduces a wider margin for error in the pre-season outlook. The 1996 chum salmon harvest in the Kuskokwim River is expected to be below average, perhaps in the range of 100,000 to 300,000 (Table 21).

District 4

In District 4, aerial surveys of the Kanektok River have shown chum salmon escapements to be well below objective for the past several years (Appendix C.7). However, the incidental harvest of chum salmon taken during the sockeye directed fishery has been well above average (Appendix C.1). The chum salmon harvest is driven by the level of commercial effort targeting sockeye salmon. Consequently, the above average abundance of sockeye salmon in recent years has resulted in higher than normal harvest of chum salmon. The increased harvests also correspond to an increased number of permit holders participating in the District 4 fishery. This trend may continue in 1996 given the limited commercial fishing expected in the Kuskokwim River. The numbers of chum salmon harvested in District 4 have not shown the decline that would be expected from the aerial survey record. Escapement assessment in the Kanektok River is limited to aerial surveys which may provide an inadequate index of chum salmon escapement in that river. Because the chum salmon commercial harvest is related to the directed sockeye salmon harvest, the chum salmon harvest in District 4 will likely be above average with a harvest of 60,000 to 90,000 (Table 21).

District 5

In District 5, chum salmon escapement past the Middle Fork Goodnews River weir was 83 percent above objective in 1991 and 47 percent above objective in 1992 (Appendix D.13). The chum salmon harvest is incidental to the sockeye directed fishery. Given the outlook of average sockeye salmon abundance in 1996, the incidental chum salmon harvest in District 5 is expected to be 10,000 to 20,000, which is near average (Table 21).

Coho Salmon

Coho salmon return to the Kuskokwim Area primarily as 4 year old fish, so 1992 will be the key brood year for 1996 returns. There is very little information on which to base the coho salmon run outlooks. The Kogrukluk River and Tuluksak River weirs were the only coho salmon escapement projects in the Kuskokwim Area in 1992 and both projects are located on small to moderate sized tributaries of the Kuskokwim River.

Districts 1 and 2

Coho salmon escapement past Kogrukluk River weir in the 1992 brood year was 4 percent above objective. Tuluksak River weir was in its second year of operation in 1992 and total coho passage was 61 percent above the previous year. This compares to coho passage at Kogrukluk weir which was 62 percent higher than the previous year. These escapement results suggest at least an average coho return in 1996. However, it appears that coho salmon survival has been well above average in recent years. As a result the 1996 return may be larger than the limited parent year escapement data would suggest. Given this uncertainty, the outlook for the Kuskokwim River coho return ranges from average to above average. Harvest is expected to be between 500,000 and 700,000 (Table 21).

District 4

Commercial harvest data are the only guide to anticipating coho salmon returns in District 4. In 1992 the coho harvest was well above average (Appendix C.1). In the last five years coho salmon catches have been above average, ranging from 43,000 to 86,000. Based on brood year commercial catch data and the recent trend towards above average returns, the 1996 harvest is expected to be average to above average, in the range of 50,000 to 90,000 (Table 21).

District 5

Commercial harvest data are the only guide to anticipating coho salmon returns in District 5. The coho harvest in the 1992 brood year was near average (Appendix D.1). Harvest in the past five years has been volatile ranging from 13,000 to 47,000. The 1996 coho harvest in District 5 is expected to be within the range of 15,000 to 30,000 (Table 21).

SUBSISTENCE SALMON FISHERY

Background

Subsistence fishing and summer fishing camps have a long history in the Kuskokwim Area. The harvest of fish and wildlife for subsistence use continues to be an important component of the mixed subsistence-cash economy throughout the area. During summer, early June through August, the day-to-day activities of many Kuskokwim Area households revolve around the harvesting, processing, and preserving of salmon for subsistence use.

The Kuskokwim Area subsistence salmon fishery is one of the largest and most important in the state. More than 1,600 households in the region annually harvest salmon for subsistence use. Many other households, which are not directly involved in catching salmon, participate by assisting family and friends with cutting, drying, smoking, and associated preservation activities (salting, canning and freezing).

There are 37 communities consisting of approximately 4,100 households within the Kuskokwim Area (Figure 1). The majority of these households (3,431) are located in 26 communities situated along the main channel of the Kuskokwim River or its tributaries. Bethel is the largest Kuskokwim River community and 58% (1,974) of the main channel households are found there. Along the northern shore of Kuskokwim Bay, a total of 175 households were recorded in Kwigillingok, Kongiganak and Kipnuk. These communities also harvest

Kuskokwim River salmon stocks, however, local salmon stocks are also utilized. Along the eastern shore of Kuskokwim Bay the 191 households of Quinhagak, Goodnews Bay, and Platinum utilize salmon stocks primarily from the Kanektok, Arolik, and Goodnews River systems. The remaining 271 Kuskokwim area households are located in the northerly coastal communities of Mekoryuk, Toksook Bay, Nightmute, Tununak, and Newtok along the Bering Sea. These communities harvest salmon bound for both local and more distant (Yukon-Kuskokwim) drainages.

Six species of salmon (chinook, chum, sockeye, coho, pink and rainbow trout) are harvested in the Kuskokwim Area for subsistence use. Annual subsistence harvest surveys have been aimed at gathering data on only chinook, sockeye, chum, and coho salmon. Subsistence catches of chinook salmon in the Kuskokwim Area often exceed the commercial catch of this species (Appendix A.2.).

Subsistence Salmon Fishing Regulations

Participation

Beginning in 1990 individuals who had been Alaskan residents for the preceding 12 consecutive months were eligible to harvest Kuskokwim Area salmon for subsistence use. Prior to 1990 there were additional restrictions on participation in the fishery. These are described in earlier annual management reports for the Kuskokwim Area. The majority of those individuals subsistence fishing for salmon are residents of the area. Some people living in other parts of the state who have family or friends in the region return each year to harvest or help process salmon.

Licenses, Permits, and Gear

In 1995 licenses and permits were not required for subsistence fishing in the Kuskokwim Area. Salmon harvested for subsistence use could be caught using set and drift gillnets, beach seines, and fish wheels. In the Holitna, Kanektok, Arolik, and Goodnews River drainages only, spears could also be used. The total length of set or drift gillnets in use by an individual could not exceed 50 fathoms. Unless changed by emergency order, gillnets used for harvesting salmon anywhere in the Kuskokwim Area could be of any size mesh; nets with six inch or smaller mesh could not be more than 45 meshes in depth and nets with greater than six inch mesh could not be more than 35 meshes in depth. All gillnets used for subsistence fishing were required to have a buoy attached with the name and address of the operator written on it. Fish wheels were required to have the name and address of the operator inscribed on the side of the fish wheel facing midstream of the river (ADF&G 1992). There were no restrictions on the number of salmon that could be harvested by individual fishers or households.

In-Season Closures

Subsistence salmon fishing is periodically closed in the commercial fishing districts and adjacent areas before, during, and after commercial fishing periods. Generally speaking, the majority of commercial fishers are local residents who also participate in the subsistence fishery. The purpose of these closures is to discourage illegal commercial fishing and to help prevent the sale of subsistence caught salmon in the commercial fishery.

Regulations adopted by the Alaska Board of Fisheries closed subsistence salmon fishing in each of the four commercial salmon fishing districts 16 hours before, during, and 6 hours after each commercial salmon fishing period in the respective fishing district. The Kanektok and Arolik Rivers in District 4 and Goodnews River in

District 5 were closed to all subsistence fishing 16 hours before, during and 6 hours after each commercial fishing period in those districts. Only in District 2 did the tributaries close to subsistence salmon fishing before, during and after the commercial fishing periods. In District 1, Kuskokuak Slough opened to subsistence fishing after each commercial fishing period. That portion of the Kuskokwim River between Districts 1 and 2 was closed to subsistence fishing at the same time subsistence closures occurred in District 1.

SUBSISTENCE SALMON HARVEST SURVEYS

The management of Kuskokwim Area salmon fisheries requires that the Department know how many salmon are harvested in both the subsistence and commercial fisheries. Data on the subsistence harvest of salmon are collected annually. The Division of Commercial Fisheries Management and Development began annual subsistence salmon harvest surveys along the Kuskokwim River in 1960, in Quinhagak in 1967, and in Goodnews Bay and Platinum in 1979. In 1988, the Division of Subsistence took over the annual subsistence salmon harvest surveys under reimbursable service agreements with the Division of Commercial Fisheries Management and Development and have been responsible for collecting and analyzing the data since then.

Methods

During 1995, four methods were used to gather subsistence salmon harvest data. These methods were:

1) subsistence salmon catch calendars,

2) post-season community surveys of Kuskokwim Area households,

3) postcard surveys,

4) telephone surveys.

After the 1994 data analysis had been completed, the Division of Subsistence updated its household list database in order to better define households potentially harvesting Kuskokwim Area salmon stocks in 1995 for subsistence use. Each household in the database was designated as either "usually fish" or "does not usually fish" depending on past fishing history. Households listed in the database were the basis of sampling and estimation of subsistence salmon harvests for the Kuskokwim Area. Each household on the list was assigned a unique identifier through which subsequent information could be tracked.

The goals of the post-season survey were to:

1) collect harvest data that would result in a total harvest estimate for subsistence salmon by species for the Kuskokwim Fisheries Management Area by community;

2) compile information on fishing effort, gear types, participation rates, and timing of the subsistence harvest;

3) update community household lists and identify fishing households;

4) identify if subsistence salmon needs were being met, and if not, why.

Catch Calendars

In May 1995, subsistence salmon catch calendars were mailed to all Kuskokwim Area households which had been identified as "usually fish." Three similar, but unique, catch calendars (Appendix S.1) were designed for recording the daily catch of each salmon species harvested for subsistence use. One style of calendar was sent to households in communities along the Lower and Middle regions of the Kuskokwim River, to communities along the Bering Sea coast and along North Kuskokwim Bay, as well as those communities in the Upper Kuskokwim River region upstream as far as the community of Stony River. A second style of calendar was sent to the remaining households in the Upper Kuskokwim River region and a third style was sent to households in Quinhagak, Goodnews Bay, and Platinum. Where addresses were available, the calendars were mailed to post office boxes; otherwise calendars were sent general delivery for the post office clerk to distribute. Each calendar was postage paid and addressed for return to the Division of Subsistence office in Bethel. Subsistence salmon catch calendars were distributed to 1,647 households.

Household Surveys

The second method of collecting subsistence salmon harvest information was the post-season household surveys. With this method, staff traveled to communities and interviewed residents on a house-to-house basis about their 1995 salmon fishing efforts. Similar to the approach used in developing the catch calendars, three color-coded survey instruments were developed and used (Appendix S.2). Except for local terms used for the salmon species, the survey questions asked in each region were identical.

Thirty-six communities were targeted for post-season surveys over a two-month period beginning in early October after most residents had completed salmon fishing for the season and after most hunters had returned home from fall moose and caribou hunting. Communities in which residents usually harvest salmon through October were surveyed in November. Division of Subsistence staff conducted house-to-house surveys in 25 communities. House-to-house surveys were not attempted in 11 communities (Bethel, McGrath, Telida, Kipnuk, Kwigillingok, Kasigluk, Mekoryuk, Newtok, Nightmute, Toksook Bay, and Tununak). Communities where house-to-house surveys were not attempted were surveyed using calendar, postcard, or telephone surveys. Beginning in 1988, the Division has made an effort to survey all the villages in the Kuskokwim Area. The villages of Kwigillingok and Kipnuk have declined to participate in the survey for the majority of those years, and the village of Kasigluk has declined to participate since 1992. Budget constraints have precluded attempts to conduct house-to-house surveys in Bethel, where there are nearly 2,000 households, and in Mekoryuk, Newtok, Nightmute, Toksook Bay, Tununak, Chefornak, and Telida where salmon harvests have been relatively low. Through trial and error, Subsistence Division surveyors have determined that postcard and telephone surveys are the most efficient methods for surveying McGrath.

Survey work was conducted systematically. Prior to beginning the community surveys, efforts were made to inform and prepare residents for the arrival of staff doing the surveys. This was done weeks or days in advance of their arrival through letters to city, tribal, or traditional council offices in each community, radio announcements, posters in public buildings and phone calls to community officials.

Upon arrival in a community, staff checked in with the city or council office to introduce themselves and outline their task. Staff used community household checklists, prepared in advance, to help them identify households they needed to contact while conducting household surveys. Each "checklist" contained a listing of all known households in the community, identified those households which were reported to have subsistence fished in 1994, households which were mailed 1995 catch calendars, and identified which households had already returned their 1995 catch calendars to the department. Knowledgeable individuals in the community helped to update the community household list and identify which households "usually fish" and which households "usually do not fish." These individuals helped to identify households that subsistence fished for salmon in 1995.

Staff attempted to contact all households that were either identified as "usually fish" or were known to have fished during 1995. Structured interviews were conducted with these households through the use of a survey instrument. Subsistence salmon catch calendars that had not been mailed back to the department were also collected. If time permitted, other households on the community list were contacted about their salmon fishing activities. In 1995, 1,022 households were surveyed using this method.

Postcard Surveys

The third method of collecting information on subsistence harvest of salmon was through the use of postcard surveys (Appendix S.3). The postcard survey simply asked if the household harvested salmon from the Kuskokwim Area for subsistence use, the species and quantities harvested, the type of fishing gear used, if subsistence salmon needs were met, and if not, why. The postcard could be separated in half and returned postage paid. This type of survey was the primary method of obtaining harvest data from identified "usually fish" households in Bethel and McGrath.

Postcard surveys were mailed out to Bethel and McGrath households in late September. Households that had not returned their catch calendar or postcard survey were contacted by telephone in November. If a household did not have a telephone, a second postcard was sent in November. A primary factor limiting contacts of Bethel households was that for many, neither a mailing address nor telephone number was available. Households in other communities that were not available during the staff visits to conduct house-to-house surveys or had not returned their salmon catch calendar were also mailed postcard surveys. Approximately 1,922 households were mailed postcard surveys.

Telephone Surveys

The fourth method of collecting information on subsistence harvest of salmon was through telephone surveys. These surveys were conducted in Bethel and McGrath and followed the questioning format of the postcards except households were not asked if their subsistence needs were met. A total of 324 households were surveyed using this method.

Subsistence Salmon Harvest Estimation

Information from the four information sources (catch calendars, household, postcard, and telephone surveys) was entered into a computer database. Data were verified against source documents, and several logic checks of the data were made. The master list of names and addresses of resident households was updated to reflect changes in household composition and number of households residing in each community. The unique household numbering system was maintained on the master list and on the database tables containing information from each of the four information sources.

In order to provide a single best estimate for a household's harvest of a salmon species during 1995, information was compiled from the various information sources. This process was conducted by a single researcher on the project to ensure data consistency. In most cases, there were few discrepancies between the information available from the different sources. In those cases where a household was determined to have fished for salmon, but no salmon harvest could be quantified through any information source, the harvest was identified as "missing."

Guidelines developed during the course of the process to composite harvest information included the assumptions that:

(1) the salmon catch calendar contained the best means of recording the household's harvest;

(2) information from the different sources needed to be evaluated concurrently in order to identify the harvest for each species;

(3) information from the different sources for a particular species may be different due to the timing of the collection of this information;

(4) information on the use of salmon to feed dogs be used as a minimum estimate of the household's harvest if no other information was available.

Salmon harvests identified as "removed from the commercial catch for subsistence use" were included in the household's subsistence harvest.

The average community catch (C_k) was estimated for salmon species from the composite catch per household data using the following formula:

$$C_k = \Sigma^1_{i=0} \ (N_{ki} * C_{ki}) / \Sigma^1_{i=0} \ N_{ki}$$

where
k = community
i = indicates whether the group "usually fishes" (1) or "usually does not fish"(0)
N_{ki} = number of households that "usually fish" or "usually do not fish "
C_{ki} = mean harvest for households that "usually fish" or "usually do not fish"

The total community catch (T_k) was estimated by $T_k = \Sigma^1_{i=0} (N_{ki} * C_{ki})$ and its variance (V_k) includes a finite population correction factor:

$$V_k = \Sigma^1_{i=0} ((N_{ki}^2)(1-(n_{ki}/ N_{ki}))(s_{ki}^2/ n_{ki}))$$

where n_{ki} = number of households for which information is available that "usually fish" or "usually do not fish" and S_{ki}^2 = variance for the amount harvested for the "usually fish" or "usually do not fish" households.

If fewer than 30 households or less than 50% of all households in a community were contacted, the reported harvest was used for the estimated harvest. Community catch estimates and their variances were summed across communities for region subtotals and across all regions for Kuskokwim Management Area totals.

1995 Sampling Summary

A summary of the sampling information by community and fishing area is presented in Table 22. Of the estimated 4,068 households located in the Kuskokwim Area, information was obtained on 1,841 (45%).

In total, 1,650 households have been classified as "usually fish." In 1995, subsistence salmon harvest information was collected from 1,170 (71%) of these households. In total, 2,420 households have been classified as "usually do not fish" for subsistence salmon. Information was collected from 671 (28%) of these households. Many (65%) of the households classified as "usually do not fish" resided in Bethel.

Of the total 3,431 defined households living in the Kuskokwim River drainage, 1,699 (50%) were contacted. Sixty-one percent (1,041) of the Kuskokwim River drainage households contacted fished for subsistence salmon in 1995. The Bethel household list was updated in 1995. Names and addresses on the 1994 State of Alaska Permanent Fund list for the Bethel area were compared to the master list and new households were added. Bethel residents also supplied new information to the Subsistence Division via the survey postcards that clarified household associations and identified the deceased. In this manner a total of 1,974 Bethel households were identified. This was an increase of 899 Bethel households from 1994. However, only 671 (34%) Bethel households provided fishing or harvest data to the Department.

In the District 4 and District 5 communities of Quinhagak, Goodnews Bay, and Platinum, the majority, 173 (90%), of the 191 households living in the region were contacted. Of these contacted households, 118 (68%) fished for subsistence salmon in 1995.

In Kongiganak, Kipnuk, and Kwigillingok, communities along northern Kuskokwim Bay, data were obtained only from Kongiganak. These data represent 31% of the population of this area. Seventy-two percent of the households in Kongiganak reported fishing for subsistence salmon in 1995.

In total 271 households have been identified in the Bering Sea coast communities of Mekoryuk, Newtok, Nightmute, Toksook Bay, and Tununak. Because house-to-house surveys were not conducted in these communities, data were obtained only by catch calendars and postcards. Three households in this region provided information and 2 reported harvesting salmon. Based on data gathered in other years, actual participation in salmon harvesting activities is thought to be much greater than that reported by catch calendars or postcard surveys.

House-to-house surveys continue to be the primary vehicle for gathering data on harvest and use of subsistence salmon. Except for Bethel and McGrath where postcard surveys and telephone interviews were the primary data collection method, house-to-house surveys accounted for 51 percent of all households contacted.

In total 16% (256) of the 1,647 subsistence salmon calendars which were mailed pre-season were used and returned. There were responses to 485 (25%) of the 1,922 postcard surveys which were mailed to Kuskokwim Area households who had not returned harvest calendars and were not interviewed by staff.

1995 Harvest Summary

A summary of the subsistence salmon harvest estimates by community and fishing area are presented in Table 23. The 1995 total subsistence salmon harvest estimates for the Kuskokwim Area are 104,292 chinook, 72,444 chum, 29,444 sockeye, and 43,387 coho salmon.

Chinook and chum salmon harvests usually account for the largest proportion of the total subsistence salmon harvest and this was again the case in 1995. During most years the total subsistence chum salmon harvest is usually greater than each of the other salmon species. In 1994 and again in 1995 this has reversed. In 1994, the chinook catch outnumbered the chum catch by 21,372 fish. In 1995, this difference in harvest increased to 31,848 chinook salmon.

The subsistence harvest in the District 1 accounts for 76 percent of the total 1995 subsistence salmon harvest in the Kuskokwim area. Correspondingly, approximately 70 percent of the area population resides in District 1.

A total of 1,047 households responded to a survey question aimed at determining if households caught enough salmon to meet their subsistence salmon needs for the year. A total of 798 (76%) of the households responding indicated that their subsistence salmon needs were met, 249 (24%) reported that their household's subsistence salmon needs were not met.

The percentage of households from each area responding that subsistence needs were met was as follows; North Kuskokwim Bay (76%), District 1 (79%), District 2 (73%), Upper Kuskokwim (65%), District 4 (71%), and District 5 (79%). The percentage of households from each area responding that subsistence needs were not met was as follows; North Kuskokwim Bay (24%), District 1 (21%), District 2 (27%), Upper Kuskokwim (35%), District 4 (29%), and District 5 (21%). The Bering Sea Coast communities are not included in this discussion due to the fact that only one response was received from this area.

More than three-quarters (79%) of the households whose needs were not met gave reasons of a personal nature as the cause. These personal reasons included: lack of necessary equipment such as a boat, motor, gear, smokehouse, fish-camp, or lack of money to repair equipment or buy gasoline; lack of freezer space; sickness or physical disability, a death or birth in the family, other health reasons; lack of time due to wage employment, other job related obligations, or enough effort; primary household fishers and processors were not at home during the summer. One family remarked that they had given half of their catch away.

Other reasons given for unmet salmon subsistence needs were given as follows: Low salmon abundance (2%), natural factors (2%), and regulatory reasons (1%). Fifteen percent of these respondents did not provide a reason why their subsistence salmon needs were not met.

A cross-district comparison of these responses shows a few minor distinctions. Personal reasons were given by the majority of all respondents in all the districts of the region. The comments on regulations came from Districts 1 and 2. Abundance was cited by members of District 1 and the upriver district. Natural factors affected the harvest in Districts 1 and 5.

When staff asked households how they expected to meet their subsistence shortfalls, 100 (40%) of the above 249 households responded. A total of 40 reported that they hoped to harvest other fish including whitefish, sheefish, pike, burbot, tomcod, blackfish, smelt, and trout. Twenty-two of the respondents remarked that they would supplement with caribou and moose. Nine of the respondents planned to buy groceries and 20 respondents stated

they weren't sure how they would compensate for the shortage of subsistence salmon. Other responses included harvesting beaver, ducks, ptarmigan, muskrats, porcupine, rationing, sportfishing, using chinook salmon or commercial dog food to feed dogs, going without, gardening, using previously canned food, buying dry fish, asking other villagers for help, and food stamps.

When asked what gear type was used to harvest subsistence salmon 1,015 households provided information. Of these respondents 763 indicated they used drift gillnets, 264 used set gillnets, 111 used a rod and reel, and 10 used a fish wheel. Neither spears nor seines were used to harvest subsistence salmon by the households that supplied information on gear type.

PART II: FRESHWATER FIN FISH FISHERY

Several species other than salmon, herring, and halibut are used for commercial, subsistence, and recreation purposes in the Kuskokwim Area. They are inconnu or sheefish, *Stenodus leucichthys;* whitefish, *Coregonus* spp. and *Prosopium* spp.; char, *Salvelinus* spp; burbot, *Lota lota*; Arctic grayling, *Thymallus arcticus*; northern pike, *Esox lucius;* Arctic lamprey, *Lampetra japonica;* rainbow smelt, *Osmerus mordax;* blackfish, *Dallia pectoralis*; rainbow trout, *Onychornynchus mykiss;* lake trout, *Salvelinus namaycush;* threespine stickleback, *Gasterosteus aculeatus;* ninespine stickleback, *Pungitius pungitius;* and longnose sucker, *Catostomus catostomus* (Appendix A.9). The Division of Sport Fish documents the recreational fisheries.

Subsistence Fishery

Methods used for harvesting subsistence freshwater fin fish include set and drift gill nets, seine, fishwheels, long lines, dip nets, jigging (hook and line through the ice), and pots (locally called "traps"). Subsistence harvests occur year round. These fish may be eaten fresh, dried, smoked, or frozen. Most are used for human consumption, however, some are also used for dog food. Regulations do not limit the number of freshwater fish that may be harvested using subsistence gear. Harvest data for these species are not collected on an annual basis. Data for a few Kuskokwim Area communities may be found in the Division of Subsistence Technical Paper series.

Commercial Fishery

The commercial fishery has been sporadic, primarily harvesting whitefish and burbot for local markets. Some of the whitefish harvest occurs under the ice in the winter.

A permit from the Commercial Fisheries Entry Commission is required. A permit from the Department to conduct commercial fisheries on whitefish, pike, smelt, burbot, and lamprey is also required. Those species may also be taken incidentally to commercial salmon fishing. One freshwater permit was issued in 1995 for the Kuskokwim Area. The guidelines for permits are:

1. All waters of the area are open, except for the Johnson River drainage and Whitefish Lake, to commercial freshwater fin fishing. The heavy subsistence utilization of those species in these areas is the reason for the closure.

2. Whitefish, cisco, smelt, pike, burbot, and lamprey may be taken. Sheefish, char, and trout may not be taken due to their small population, low reproductive rates, and their heavy utilization in the subsistence and sport fisheries.

3. All legal commercial gear types are allowed.

4. Gillnets must be greater than 2½ and less than 5 inches stretch mesh. Long lines and set lines must use hooks with a gap between point and shank larger than 3/4 inch.

Appendix F.1 presents the freshwater fin fish fishery catches and value since 1977. Only 1 permit holder landed fish in 1995. The ex-vessel value to the harvest was $2,507.

Status of the Stocks

The Department does not monitor the status of the freshwater species in the Kuskokwim Area. Limited Department observations, advisory committee recommendations and fishers interviews give no indication of declining populations in most drainages.

PART III: MISCELLANEOUS SALTWATER FINFISH

A poorly documented commercial fishery on Saffron, *Eleginus gracilus*, or "Tom Cod" has occurred in the Kuskokwim Area for some time. These fish were surplus to subsistence needs and fishers and local stores were (often still are) unaware of the regulatory requirements. The Department has been trying to inform buyers and sellers of these requirements. Since 1988 we have had information on the sale of fish exported from the coastal villages to Bethel. Sales within the villages are still undocumented. The available data on this fishery is reported in Appendix G.1. No landings were documented in 1995.

PART IV. HERRING FISHERY

INTRODUCTION

Area and District Boundaries

There are five commercial gillnet sac roe districts and a subsistence Pacific herring *Clupea harengus* fishery in the Kuskokwim Area. The Security Cove District includes all waters between the latitude of Cape Newenham and the latitude of the Salmon River (Figure 7). The Goodnews Bay District includes the waters of Goodnews Bay inside the north and south spits at the mouth and a line between the Ukfigag and Tunulik Rivers. The Cape Avinof District (Figure 8) consists of all waters landward of Kikegtek, Pingurbek and Kwigluk Islands from the longitude of Ishkowik River (162° 44' W. long) to the longitude of the Ursukfak River (164° 11' W. long). The Nelson

Island District consists of all waters north of Chinigyak Cape and east of Atmak Point, and all waters north of Talurarevuk Point and south of the southernmost tip of Chinit Point and east of 165° 30' W. long., and all waters north of the northernmost tip of Chinit Point and south of Kigigak Island and east of 165° 30' W. long. (Figure 9). The Nunivak Island District includes all waters extending three miles seaward of mean low water along the northern and east sides of Nunivak Islands from Kikoojit Rocks (60° 20' 00" N. lat., 166° 39' 05" W. long.) to Kaksajookalik Island (59° 45' 10" N. lat., 166° 14' 20" W. long.), the western most point of Cape Mendenhall (Figure 10).

Management Programs

The Security Cove and Goodnews Bay commercial herring fisheries are managed under the Bering Sea Herring Fishery Management Plan which sets the maximum exploitation rate at 20% of the estimated spawning biomass. The Department attempts to harvest stocks in good condition (large volume, increasing abundance, good recruitment) at the upper end of the exploitation range (15-20%). Stocks in poor condition (small volume, decreasing abundance, poor recruitment) are exploited at lower than maximum rates (0-15%). The Alaska Board of Fisheries has directed the Department to manage the commercial herring fisheries in the Nelson Island, and Cape Avinof Districts for an exploitation rate not to exceed 15% of the estimated available biomass. To provide additional protection for the subsistence herring harvest in the Nelson Island District, the following guidelines have been established by the Board of Fisheries:

1. The commercial fishery will be allowed to take up to 15% of the herring biomass, compared to up to 20% for most other fisheries having stocks of similar size and condition.

2. The commercial fishing season will be opened when a biomass of 3,000 tons or spawning activity is documented.

3. Periodic closures of the commercial fishery will be scheduled, during which time only subsistence fishing will be allowed.

4. Several important subsistence use areas occur throughout the district (e.g. waters around Cape Vancouver) and specific areas may be closed to commercial fishing to insure the adequacy of subsistence harvests.

5. The Department will use all available means, including input from local residents, to insure the adequacy of subsistence herring harvests during the commercial fishing season.

In 1990 the Nelson and Nunivak Island Districts were given limited entry status by the Commercial Fisheries Entry Commissions. Entry permits were issued to qualified applicants who had fished in these fisheries before 1 January 1988.

Season Summary

The total Kuskokwim Area herring harvest for 1995 was 3,985 tons with a total estimated value to the fishers of approximately $2,899,000 (Appendix H.1). This was the highest catch and ex-vessel value in the history of the Kuskokwim Bay fishery. The average price paid in all districts was $600 per ton for 10% roe recovery, with an increase or decrease of $60 per ton for each percentage point above or below 10%. This was $300 more per ton than in 1994. Commercial fisheries occurred in all districts. The only food and bait fishery in this area occurs during the sac roe fishery when the roe content is below the processors' acceptable minimums. Food/bait sales are a smaller portion of the harvest. Food and bait sales totaled 7 tons, while the sac roe harvest was 3,974 tons. Approximately 3 tons of herring were lost when a fishing vessel swamped.

Fishing effort, measured in number of fishers who made deliveries, increased from 1994 levels by 23% in Goodnews Bay, 8% in Nunivak Island and 9% at Cape Avinof while decreasing 4% at Nelson Island (Appendix H.2). A total of 439 permit holders landed herring in the Kuskokwim Area, an increase of 44% from 1994. Twelve companies bought herring in the Kuskokwim Area in 1995. Average percent roe recovery, from sac roe quality herring, ranged from 10.6 in the Nelson Island District to 13.5 in the Goodnews Bay District. The overall average sac roe content was 12.2%, a record for the Kuskokwim Area. Percent harvest of estimated herring biomass ranged from 0.9 in the Nunivak Island District to 25.0 in the Goodnews Bay District (Appendix H.1).

The 1995 total estimated herring spawning biomass was 26,886 tons for the surveyed portion of the Kuskokwim Area herring districts. This was 1% higher than the 1994 estimate (Appendix H.1). Ages 9 and older herring comprised 31% of the total biomass (Table 24). Younger age fish (ages 3, 4, and 5) accounted for 40% of the total run in number of fish (Table 25).

STOCK STATUS

Assessment Methods

Aerial surveys were flown throughout the herring spawning season in all Kuskokwim Area commercial fishing districts to determine relative abundance, distribution, and biomass of herring. Occurrence and extent of milt, numbers of fishing vessels, and visibility features affecting survey quality were also recorded. Data collection methods were similar to those used since 1978.

Approximately 32 h were spent conducting aerial surveys in the Kuskokwim Area: 10 h in Security Cove and Goodnews Bay, 2 h in the Cape Avinof District, 8 h in Nelson Island and 11 h in Nunivak Island. Weather and sea conditions were fair at best in all districts, with the majority of surveys being conducted under poor conditions.

Standard conversions of 1.52 tons/538 ft^2 (water depths less than 16 ft), 2.58 tons/538 ft^2 (water depths between 16 and 26 ft) and 2.83 tons/538 ft^2 (water depths greater than 26 ft) were used to convert estimated herring school surface areas to biomass within all districts.

Test fishing with variable mesh gillnets occurred in all districts to determine age, sex, size and sexual maturity of herring and to note occurrence of other schooling fishes. The sampling goal for test fish catches was to sample

a minimum of 60 herring per day or 420 per week from each district. Commercial landings were sampled in all fishing districts. Age composition of herring collected from the Department test fishery and the commercial catch is summarized, by district, in Table 25. Additionally, volunteer gillnet vessels collected herring samples within all districts. This information allows interpretation and modification of aerial survey biomass data.

Ground surveys conducted in some districts provide information on the distribution and density of eel grass beds and herring spawn deposition.

Spawning Populations

Security Cove District

Eleven aerial surveys were flown on 11 days during the 1995 season, from 7 May to 1 June. Only one of these surveys was flown under acceptable conditions. Herring schools were first observed in the district on 7 May (636 tons). On May 11, 5,279 short ton (st) of herring were observed during an aerial survey. The herring biomass expected to return to the Security Cove District in 1995 was 6,702 st based on preseason projections. Since no acceptable surveys occurred besides the May 11 survey, the preseason forecasted biomass of 6,702 st was used as the total biomass estimate for 1995. A total of 18.2 miles of spawn was observed in the district with peak spawning activity (8.5 miles) on 11 May.

The Security Cove test fish crew fished from 9 May to 29 May with variable mesh gillnets. From this catch, 1,306 herring were sampled for age, sex, size and maturity. Age 9 and older herring comprised 26% of the biomass (Table 24) while 3 to 5 year old fish were 41% of the return in numbers of fish (Table 25).

Volunteer commercial fishers collected herring samples from designated areas of the district that industry roe technicians evaluated for roe quality. This program allowed the openings to be timed to maximize roe production.

Goodnews Bay District

Ten aerial surveys were flown on 10 days during the 1995 season, from 7 May to 1 June. None of these were flown under satisfactory conditions. A survey on 11 May saw 3,302 tons in the district. The herring biomass expected to return to the Goodnews Bay District in 1995 was 4,224 st based on preseason projections. Since no acceptable surveys occurred, the preseason forecasted biomass of 4,224 st was used as the total biomass estimate for 1995. One half mile of spawn was observed during an aerial surveys of the district on 10 May.

Test fishing occurred from 5 May to 29 May. The catch of 1,540 herring were sampled for age-sex-size data. Age 7 and 8 herring dominated both the biomass (22% and 20%) and the return in numbers of fish (22% and 18%) (Table 25). Age 9 and older herring made up 39% of the biomass (Table 24) while aged 3 to 5 fish were 26% of the test catch (Table 25).

Volunteer commercial fishers collected herring samples from designated areas of the Bay which industry roe technicians evaluated for roe quality. This program allowed the openings to be timed to maximize roe production.

Cape Avinof District

Between 23 May and 6 June, three aerial surveys were flown in the Cape Avinof District. None of these surveys were flown under satisfactory conditions. An aerial survey on 6 June saw 253 tons of herring. The total biomass present in the district was estimated to be 3,627 tons based on a comparison of the commercial fishery CPUE in 1994 and 1995. No spawn was observed during aerial surveys in the Cape Avinof District in 1995. Spawning was documented by the test fish crew and local residents.

The Department's test fishery near Kipnuk captured 1,039 herring between 24 May and 7 June to sample for age-sex-size data. Age 7 herring were the predominant age class (25%) while 27% of the biomass was age 9 or older (Table 24). Recruit herring represented 46% of the return in numbers of fish (Table 25).

Commercial fishers brought in herring samples from various areas in the district for industry roe technicians to evaluate. This information was used to help determine the timing of fishing periods.

Nelson Island District

Fifteen aerial surveys were flown on 15 days from 15 May to 6 June during the 1995 season. Five of these surveys were made under acceptable conditions. During an aerial survey on 22 May, 3,715 st of herring were observed in the district. On a second survey, flown 31 May, 3,323 st of herring were seen. Changes in age composition of test catches before and after 28 May indicate that some new fish had entered the district after 28 May. The total biomass estimate of 7,754 st was calculated by combining the 22 May and 31 May surveys and the commercial harvest before 224 May. A total of 5.5 miles of spawn was observed during aerial surveys of the district. Peak spawning was observed on 28 May when 3.2 miles of spawn were sighted.

Test fishing with variable mesh gillnets occurred from 17 May to 15 June. Age, sex, size and maturity information was taken from 2,089 herring. Age 3 to 5 fish made up 39% of the test catch with 29% being age 9 or older herring. Age 7 herring dominated the return in biomass (25%); (Table 24) while age 5 dominated in numbers of fish (24%); (Table 25).

Nunivak Island District

Eight aerial surveys were flown on 8 days between 17 May and 6 June 1995. Five surveys were made under acceptable conditions. During an aerial survey on 31 May, 842 tons of herring were observed. A total of 4.4 linear mi of spawn was observed during aerial surveys with a peak spawn of 3.1 mi documented on 21 May. An industry spotter pilot reported sighting approximately 10 mi of spawn on 20 May.

The Department test fishery sampled 1,369 herring for biological data between 13 May and 7 June. Age 7 herring dominated the return in biomass (20%) (Table 24) while age 5 fish dominated in number of fish (27%); (Table 25). Age 9 and older herring comprised 35% of the biomass and recruit herring were 46% of the run in number of fish.

SUBSISTENCE FISHERY

Subsistence fishing for herring in the northeastern Bering Sea is very important in villages of the Yukon-Kuskokwim River delta. The subsistence fishery is conducted primarily by residents of the coastal villages of Kwigillingok, Kongiganak, Kipnuk, Chefornak, Toksook Bay, Umkumiut, Nightmute, Tununak, and Newtok. The herring stocks utilized by the subsistence fishery are the same ones targeted by the commercial fishery in the nearby commercial fishing districts.

Subsistence harvest surveys have occurred annually in Nelson Island villages since 1985 and sporadically in Kuskokwim delta villages since 1975. Average annual herring subsistence harvests have been at least 110 tons since 1975 (Appendix H.3). The 1995 subsistence survey of Nelson Island communities resulted in an estimated 99 tons of subsistence herring harvested. Subsistence survey results reflect harvest trends and reported catches represent minimum figures because not all fishers are contacted and other Kuskokwim River delta villages were not surveyed.

Most Nelson Island families expressed satisfaction with this year's subsistence herring fishery. Timing of the fishery, quality and quantity of herring and excellent drying weather cooperated to produce a good season. Herring of high fat content were relatively few which minimized spoilage.

COMMERCIAL FISHERY

Security Cove District

The commercial herring fishery in the Security Cove District has opened and closed by emergency order since 1981 to provide for an orderly fishery and allow periodic assessment of herring biomass. In 1995, 106 fishers harvested 1,257 tons of herring in two commercial periods for a total fishing time of 12 hours. The average roe recovery of the harvest was 12.3%. An additional 35 tons was harvested during an ADF&G aerial survey calibration study.

The fishery opened 14 May for four hours and 101 permit holders caught a total of 324 tons of herring with an average roe content of 13.1%. A second opening was scheduled for the same day for eight hours and 933 tons of herring with a roe content of 12.2% were caught by 97 permit holders. On May 18, 35 tons of herring with an average roe content of 8.0% was taken by a chartered seine vessel as part of an aerial survey calibration program. During the 1995 herring season, 12 processors bought herring from 106 permit holders who made 257 deliveries, with an estimated ex-vessel value of $56,000. The exploitation rate was 19.3% of the available biomass (Appendix H.1).

A sample of 424 herring was taken from the commercial catch. Age 8 herring comprised the largest age group in the harvest biomass. Age 9 and older herring made up 53.1% of the catch by weight (Table 24). Recruit herring comprised less than 1% of the harvest.

Goodnews Bay District

Since 1981, commercial herring fishing in Goodnews Bay has opened and closed by emergency order to provide for an orderly fishery and periodic assessments of herring biomass. In 1995, 1,054 tons were harvested in nine commercial periods for a total fishing time of 56 hours.

A meeting with fishers and processors was held on 18 May. Commercial fishers brought catch samples to the meeting for evaluation by industry roe technicians. Roe content of commercial test fish samples averaged 12.6%. The fishery first opened on 19 May for 6 hours. A total of 79 permit holders delivered 97 tons of sac roe herring with an average roe content of 12.6%. During a seven hour period on 26 May, 141 tons of herring were caught. Approximately 200 tons remained on the harvest quota. The largest previous catch had been 164 tons during a six hour period on 22 May. A seven hour period was justified given catch rates from previous openings. The harvest quota was exceeded when catch rates increased dramatically during the final period and 395 tons were taken.

The catch consisted of 1,051 tons (Appendix H.1) of sac roe quality herring with an average roe content of 13.5% and three tons of waste. Period catches ranged from 10 tons on May 20 to 395 tons on May 26 (Table 26). During the fishery, roe content ranged from 12.3 to 14.1%. Four processors bought herring from 127 permit holders who made 878 deliveries with an estimated ex-vessel value of $848,000. The exploitation rate was 25.0% of the available biomass (AppendixH.1).

A sample of 420 herring was taken from the commercial catch. The largest age class in the harvest, 26%, was age 8. Age 9 and older herring made up 56% of the catch (Table 24). Recruit herring comprised less than 1% of the harvest.

Cape Avinof District

As in all AYK districts, commercial herring fishing is regulated by emergency order. In 1995, 485 tons of herring were harvested during eight commercial openings for a total fishing time of 48 hours.

The district was first opened to commercial fishing for six hours on May 26. The harvest was 66 tons of sac roe herring with an average roe content of 11.9%. Forty-eight permit holders made deliveries. Between May 27 and May 30 the district was reopened seven times for 42 hours of fishing time. Catches ranged from 18 tons on May 28 to 158 tons on May 30 (Table 26). Roe content ranged from 11.2% to 13.1%.

A total of 485 tons of sac roe herring with an average roe content of 12.5% were caught. In the Cape Avinof District, 93 fishers made 537 deliveries with an exvessel value of $363,000 to two processors. The exploitation rate was 13.4% of the available biomass (Appendix H.1).

A total of 442 herring were sampled from the commercial catch. Age 8 herring dominated the harvest. Age 9 and older herring made up 65.3% of the catch (Table 24). Recruit herring comprised less than 1% of the harvest.

Nelson Island District

During the 1995 season, 1,113 tons of sac roe herring with an average roe content of 10.6% were harvested. The fishery consisted of six commercial openings from 21 to 29 May for a total fishing time of 28 hours.

The first opening was for five hours on 21 May. The harvest of 316 tons with an average roe content of 11.1% was taken by 83 permit holders. The second opening was for six hours on 21 May. Eighty-six fishers landed 288 tons of sac roe herring with an average roe content of 11.4%. The next commercial period was on 22 May for 2.5 hours. Catch from this period totaled 112 tons of sac roe herring with a roe content of 9.8%. On 27 May, 155 tons of sac roe herring with 9.3% roe content were harvested. On 28 May, 66 permit holders harvested 126 tons of herring with an average roe content of 10.6% during a six hour period. The final period of the season lasted 2.5 hours on 28 May. Fifty-five permit holders delivered 116 tons with an average roe content of 10.2% (Table 26).

Four processors paid approximately $710,000 to 100 permit holders. The exploitation rate was 14.3% of the available biomass (Appendix H.1).

A total of 724 herring were sampled from the commercial catch. Age 11 herring dominated the harvest by weight (24%). Age 9 and older herring made up 84% of the catch by weight (Table 24). Recruit herring comprised less than 1% of the harvest.

Nunivak Island District

Commercial fishing for herring in the Nunivak Island District began in 1985. To provide for an orderly fishery and to allow for periodic assessment of herring biomass, the fishery has opened and closed by emergency order. The Nunivak Island District had seven commercial herring periods in 1995 for a total fishing time of 423 hours. Fishers harvested 33 tons of sac roe herring with an average roe content of 11.0% and 7 tons of bait.

The district was open for 6, six-hour periods from 19 to 22 May. On 22 May the fishery remained opened continuously until 7 June (Table 26). The season ended after processors left the area on 5 June. Two processors purchased $22,000 worth of herring from 13 permit holders. The exploitation rate was 0.9% of the projected biomass or 4.9% of the peak aerial survey biomass (Appendix H.1).

A total of 110 herring were sampled from the commercial catch. Recruit herring comprised less than 1% of the harvest. Age 7, 8 and 11 herring equally dominated the harvest biomass; however age 7 dominated the catch in numbers of fish. Herring age 9 and older comprised 58.0% of the catch sample by weight (Table 24).

Enforcement

The Division of Fish and Wildlife Protection (FWP) was present in the Goodnews Bay and Nelson Island districts this year. At least ten people from FWP using the P/V Walstad, two supercub aircraft, a Cessna 185 and a FWP skiff were involved with the Kuskokwim area fisheries. A few citations were issued in the Kuskokwim area however no fish were confiscated.

OUTLOOK AND MANAGEMENT STRATEGY FOR 1996

Projections from postseason escapement estimates, using historical mean rates of survival and current mean weights for each age class, and estimates of recruitment for each age class (Wespedstad 1982), suggest that the 1996 spawning biomass for the Kuskokwim Bay herring stocks (Security Cove to Nunivak Island) will be approximately 22,535 tons with a projected harvest of 3,113 tons (Table 27). If the return is as expected, a moderate reduction in biomass will be observed in all districts. However, variability in the quality of aerial survey assessments of biomass and deviations from the assumed survival or recruitment rates may result in the observed biomass being either above or below these projections. Therefore, harvest levels will be adjusted during the season according to observed herring spawning biomass. In addition, in accordance with the AYK Region harvest policy, newly recruited age classes (age 2 through 5 year-old-herring) will not be targeted by the commercial fishery. If herring abundance cannot be determined by aerial survey methods, stock abundance will be assessed using information from the projected biomass, test and commercial catches and spawn deposition observations

Security Cove District

The 1996 projected return to the Security Cove District is 5,623 tons. A 20% exploitation rate would result in a harvest of about 1,125 tons (Table 27). A larger catch may occur if the 1996 biomass assessment is greater than the projection. Commercial fishing will not be allowed until the observed biomass reaches 1,200 tons or significant spawning activity is observed. The occurrence and length of fishing periods will depend on stock strength, fishing effort, and spawning activity.

Ages 5, 6 and 8 herring are expected to dominate the return. Age 9 and older herring are expected to comprise approximately 25% of the biomass.

Goodnews Bay District

The management strategy for this district will be similar to that planned for Security Cove. The season will open and close by emergency order when a biomass of 1,200 tons is observed or spawning activity occurs. The 1996 projected return of herring to the Goodnews Bay District is 2,847 tons. A 20% exploitation rate would result in a harvest of 569 tons (Table 27). A larger catch may occur if the 1996 biomass assessment is greater than the projection.

Age 8 and 9 herring are expected to comprise nearly 50% of the biomass. Age 9 and older herring are expected to comprise nearly 33% of the biomass.

Cape Avinof District

Either significant spawning activity or a biomass of 500 tons must be observed before the commercial herring season can be opened. The season will open and close by emergency order. The projected 1996 biomass for the Cape Avinof District is 3,230 tons (Table 27). The exploitation rate will be no greater than 15% because of the limited database for this area and the priority of subsistence fishing. Assuming a 15% commercial exploitation rate, the projected harvest would be 484 tons of herring.

Age 5, 6 and 8 herring are expected to dominate the returning population. Age 9 and older herring are expected to comprise nearly 25% of the biomass.

Nelson Island District

In the Bering Sea Herring Fishery Management Plan, the Alaska Board of Fisheries set a minimum biomass threshold of 3,000 tons necessary for a commercial herring fishery in the Nelson Island District. The inseason estimate of herring biomass must exceed the threshold level before a commercial fishery can be allowed. The spawning biomass projected to return to the Nelson Island District in 1996 is 6,638 tons (Table 27). At an exploitation rate of 15%, the harvest will be 996 tons of herring. A larger catch may occur if the 1996 biomass assessment is greater than the projection.

Age 8 herring are expected to dominate the biomass; age 6 herring are expected to dominate in numbers of fish. Age 9 and older herring are expected to comprise almost 33% of the biomass in 1996.

Guidelines established by the Board of Fisheries (see above) that provide additional protection for the subsistence harvest of herring will be followed.

Nunivak Island District

The commercial season will open when the biomass reaches 1,500 tons or when significant spawning is observed. The projected biomass of herring returning to the Nunivak Island District in 1996 is 4,197 tons. A 20% exploitation rate would result in a 839 ton harvest (Table 27). A larger catch may occur if the 1996 biomass assessment is greater than the projection.

Age 6 is expected to dominate the biomass. Age 9 and older herring are expected to comprise nearly 33% of the return.

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TABLES

Table 1. Peak aerial survey salmon escapement estimates in Kuskokwim Area spawning tributaries by species, 1995[a].

Location	Date	Chinook	Sockeye	Coho	Chum
KUSKOKWIM RIVER:					
Aniak River	20-Jul	3,171	1,050	na	7,675
Salmon River (Aniak)	20-Jul	1,442	50	na	1,403
Kipchuk River	20-Jul	1,215	100	na	40
Holokuk River	22-Jul	181	0	na	1,430
Oskawalik River	22-Jul	289	0	na	1,909
Holitna River	22-Jul	1,887	1,780	na	11,100
Gagaryak River	26-Jul	1,193	0	na	0
Cheeneetnuk River	26-Jul	1,565	0	na	350
Hoholitna River	27-Jul	140	0	na	210
Telequana Lake	27-Jul	20	8,150	na	0
Can Creek	27-Jul	34	0	na	1,510
Salmon R. (Pitka Fork)	28-Jul	1,911	0	na	0
Tatliwiksuk River	28-Jul	249	0	na	966
George River	28-Jul	1,169	0	na	420
Kisaralik River	28-Jul	1,243	0	na	0
KUSKOKWIM BAY:					
Kinegnak River	22-Jul	85	1,450	na	3,190
Salmon River	22-Jul	8	400	na	600
Arolik River	22-Aug	1,742	5,000	na	5,290
Goodnews River	25-Jul	3,314	0	na	0
Kanektok River	18-Aug	0	2,250	2,900	250

a Peak aerial salmon escapement index count. Aerial index counts do not represent total escapement, but reflect annual spawner abundance trends when made using standard survey methods under acceptable conditions.

Table 2. Kuskokwim River chum salmon run reconstruction estimate for 1995.

	Lower 95% CI [a]	Number of Fish (X1000)	Lower 95% CI [a]
Total Run [b]	958	982	1006
Total Catch [c]	669	676	683
Escapement [d]	283	306	330

[a] Because only sonar and subsistence estimates have estimates of confidence intervals, the confidence interval values shown here are maxima and minima.

[b] The Total Run is the sum of the sonar estimate, the commercial catch down river of the sonar site and the subsistence catch down river of the sonar site.

[c] The Total Catch is the sum of the commercial catch above and below the sonar site, and the subsistence catch above and below the sonar site.

[d] The Escapement is the Total Run minus the Total Catch. Note that the 95% CI's for Escapement are not calculated by simple arithmetic differences of the CI values for the Total Run and Total Catch.

Table 3. Daily and cumulative salmon escapement for the Kogrukluk weir, 1995.

	Chinook		Sockeye		Coho		Chum	
Date	Daily count	Cum. count	Daily count	Cum count	Daily count	Cum. count	Daily count	Cum. count
19-Jun	2.1	2	0.0	0	0.0	0	3.1	3
20-Jun	2.1	4	0.0	0	0.0	0	0.0	3
21-Jun	2.1	6	0.3	0	0.0	0	3.1	6
22-Jun	6.2	12	0.6	1	0.0	0	9.4	16
23-Jun	16.5	29	1.3	2	0.0	0	9.4	25
24-Jun	22.7	52	4.2	6	0.0	0	15.6	41
25-Jun	43.3	95	6.4	13	0.0	0	31.3	72
26-Jun	51.6	146	6.9	20	0.0	0	43.8	116
27-Jun	97.0	243	12.1	32	0.0	0	62.5	178
28-Jun	136.2	380	17.2	49	0.0	0	25.0	203
29-Jun	208.4	588	43.6	92	0.0	0	125.1	328
30-Jun	206.3	794	62.3	155	0.0	0	181.3	510
01-Jul	416.7	1211	81.3	236	0.0	0	328.3	838
02-Jul	515.8	1727	147.5	383	0.0	0	525.3	1363
03-Jul	313	2040	31	414	0	0	913	2276
04-Jul	2024	4064	236	650	0	0	1583	3859
05-Jul	1462	5526	383	1033	0	0	2050	5909
06-Jul	1779	7305	537	1570	0	0	1134	7043
07-Jul	1306	8611	458	2028	0	0	2149	9192
08-Jul	1133	9744	430	2458	0	0	1399	10591
09-Jul	679	10423	501	2959	0	0	766	11357
10-Jul	1826	12249	708	3667	0	0	1196	12553
11-Jul	797	13046	806	4473	0	0	1146	13699
12-Jul	1714	14760	337	4810	0	0	1338.5	15038
13-Jul	764	15524	395	5205	0	0	1531	16569
14-Jul	375	15899	212	5417	0	0	1151	17720
15-Jul	246	16145	362	5779	0	0	867	18587
16-Jul	774	16919	621	6400	0	0	1007	19594
17-Jul	689	17608	694	7094	0	0	1770	21364
18-Jul	373	17981	369	7463	0	0	1023	22387
19-Jul	475	18456	494	7957	2	2	1188	23575
20-Jul	274	18730	263	8220	1	3	553	24128
21-Jul	266	18996	493	8713	0	3	1023	25151
22-Jul	362	19358	472	9185	1	4	933	26084
23-Jul	151	19509	258	9443	1	5	1015	27099
24-Jul	134	19643	216	9659	1	6	727	27826
25-Jul	220	19863	232	9891	2	8	542	28368
26-Jul	159	20022	137	10028	1	9	334	28702
27-Jul	135	20157	258	10286	0	9	306	29008
28-Jul	67	20224	92	10378	2	11	249	29257
29-Jul	67	20291	103	10481	0	11	285	29542
30-Jul	76	20367	151	10632	1	12	329	29871
31-Jul	27	20394	56	10688	0	12	216	30087
01-Aug	24	20418	42	10730	1	13	171	30258
02-Aug	25	20443	70	10800	1	14	206	30464
03-Aug	47	20490	54	10854	2	16	209	30673
04-Aug	21	20511	38	10892	2	18	104	30777
05-Aug	11	20522	19	10911	1	19	59	30836
06-Aug	10	20532	9	10920	0	19	42	30878
07-Aug	4	20536	8	10928	1	20	47	30925
08-Aug	15	20551	17	10945	2	22	44	30969
09-Aug	10	20561	10	10955	7	29	37	31006
10-Aug	10.3	20571	6.1	10962	67.9	97	32	31038

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Table 3 (Page 2 of 2)

Date	Chinook Daily count	Chinook Cum. count	Sockeye Daily count	Sockeye Cum. count	Coho Daily count	Coho Cum. count	Chum Daily count	Chum Cum. count
11-Aug	10.3	20581	4.3	10966	74.3	171	40.6	31078
12-Aug	14.4	20596	6.6	10972	140.3	312	53.2	31131
13-Aug	6.2	20602	2.8	10975	194.4	506	46.9	31178
14-Aug	4.1	20606	11.6	10987	162.0	668	28.1	31206
15-Aug	2.1	20608	0.0	10987	220.8	889	15.6	31222
16-Aug	1	20609	0	10987	241.6	1130	5	31227
17-Aug	3	20612	1	10988	80	1210	2	31229
18-Aug	2	20614	1	10989	327	1537	3	31232
19-Aug	0	20614	2	10991	521	2058	7	31239
20-Aug	2	20616	1	10992	669	2727	3	31242
21-Aug	3	20619	1	10993	855	3582	1	31243
22-Aug	1	20620	1	10994	818	4400	3	31246
23-Aug	1	20621	0	10994	931	5331	0	31246
24-Aug	1	20622	0	10994	902	6233	6	31252
25-Aug	0	20622	0	10994	1002	7235	0	31252
26-Aug	0	20622	0	10994	1116	8351	2	31254
27-Aug	3	20625	0	10994	1198	9549	1	31255
28-Aug	2	20627	0	10994	1962	11511	1	31256
29-Aug	1	20628	0	10994	1263	12774	2	31258
30-Aug	0	20628	0	10994	1785	14559	0	31258
31-Aug	0	20628	1	10995	1166	15725	1	31259
01-Sep	1	20629	0	10995	1104.0	16829	1	31260
02-Sep	1	20630	0	10995	1101.6	17931	0	31260
03-Sep	0	20630	0	10995	749	18680	3	31263
04-Sep	0	20630	0	10995	903	19583	0	31263
05-Sep	0	20630	1	10996	630	20213	2	31265
06-Sep	0	20630	0	10996	586	20799	0	31265
07-Sep	0.0	20630	0.0	10996	894.7	21694	0.0	31265
08-Sep	0.0	20630	0.0	10996	904.4	22598	0.0	31265
09-Sep	0.0	20630	0.0	10996	976.8	23575	0.0	31265
10-Sep	0.0	20630	0.0	10996	699.7	24274	0.0	31265
11-Sep	0.0	20630	0.0	10996	250.7	24525	0.0	31265
12-Sep	0.0	20630	0.0	10996	782.4	25308	0.0	31265
13-Sep	0.0	20630	0.0	10996	526.9	25834	0.0	31265
14-Sep	0.0	20630	0.0	10996	363.9	26198	0.0	31265
15-Sep	0.0	20630	0.0	10996	160.9	26359	0.0	31265
16-Sep	0.0	20630	0.0	10996	195.8	26555	0.0	31265
17-Sep	0.0	20630	0.0	10996	240.7	26796	0.0	31265
18-Sep	0.0	20630	0.0	10996	274.6	27070	0.0	31265
19-Sep	0.0	20630	0.0	10996	100.1	27170	0.0	31265
20-Sep	0.0	20630	0.0	10996	214.1	27384	0.0	31265
21-Sep	0.0	20630	0.0	10996	255.4	27640	0.0	31265
22-Sep	0.0	20630	0.0	10996	35.8	27676	0.0	31265
23-Sep	0.0	20630	0.0	10996	72.7	27748	0.0	31265
24-Sep	0.0	20630	0.0	10996	22.2	27771	0.0	31265
25-Sep	0.0	20630	0.0	10996	29.7	27800	0.0	31265
26-Sep	0.0	20630	0.0	10996	1.4	27802	0.0	31265
27-Sep	0.0	20630	0.0	10996	3.3	27805	0.0	31265
28-Sep	0.0	20630	0.0	10996	6.1	27811	0.0	31265
29-Sep	0.0	20630	0.0	10996	3.9	27815	0.0	31265
30-Sep	0.0	20630	0.0	10996	3.9	27819	0.0	31265
01-Oct	0.0	20630	0.0	10996	5.5	27824	0.0	31265
02-Oct	0.0	20630	0.0	10996	8.3	27833	0.0	31265
03-Oct	0.0	20630	0.0	10996	14.4	27847	0.0	31265
04-Oct	0.0	20630	0.0	10996	14.4	27861	0.0	31265

Note: Numbers with decimal points are estimates calculated from historical passage data

Table 4. Daily chinook salmon estimated season escapements using early, normal and late timing models, Kogrukluk River, Alaska, 1995.

			Early Run Timing		Normal Run Timing		Late Run Timing	
Date	Daily Count	Cum. Count	Cum. Prop.	Total Esc. Est.	Cum. Prop.	Total Esc.Est.	Cum. Prop.	Total Esc. Est.
19-Jun	2.1	2	0.0001	20630	0.0000		0.0000	
20-Jun	2.1	4	0.0002	20630	0.0001	41260	0.0000	
21-Jun	2.1	6	0.0003	20630	0.0002	30945	0.0000	
22-Jun	6.2	12	0.0006	20630	0.0004	30945	0.0000	
23-Jun	16.5	29	0.0014	20630	0.0009	32091	0.0000	
24-Jun	22.7	52	0.0025	20630	0.0017	30339	0.0000	
25-Jun	43.3	95	0.0046	20630	0.0031	30613	0.0003	316330
26-Jun	51.6	146	0.0071	20630	0.0061	24012	0.0009	162749
27-Jun	97.0	243	0.0118	20630	0.0105	23184	0.0019	128124
28-Jun	136.2	380	0.0184	20630	0.0131	28977	0.0048	79082
29-Jun	208.4	588	0.0285	20630	0.0231	25453	0.0098	59996
30-Jun	206.3	794	0.0385	20630	0.0298	26653	0.0179	44372
01-Jul	416.7	1211	0.0587	20630	0.0430	28163	0.0234	51752
02-Jul	515.8	1727	0.0837	20630	0.0717	24083	0.0358	48233
03-Jul	313	2040	0.1347	15143	0.1068	19099	0.0577	35351
04-Jul	2024	4064	0.1631	24916	0.1348	30146	0.0772	52639
05-Jul	1462	5526	0.2091	26426	0.1653	33429	0.1036	53337
06-Jul	1779	7305	0.2424	30135	0.2035	35896	0.1301	56147
07-Jul	1306	8611	0.2918	29509	0.2379	36195	0.1538	55987
08-Jul	1133	9744	0.3522	27665	0.2761	35291	0.1853	52584
09-Jul	679	10423	0.4109	25366	0.3493	29839	0.2144	48614
10-Jul	1826	12249	0.4660	26285	0.4134	29629	0.2779	44076
11-Jul	797	13046	0.5255	24825	0.4496	29016	0.3203	40730
12-Jul	1714	14760	0.6183	23871	0.5016	29425	0.3828	38557
13-Jul	764	15524	0.6409	24222	0.5533	28057	0.4765	32579
14-Jul	375	15899	0.6801	23377	0.6178	25734	0.5555	28621
15-Jul	246	16145	0.7650	21104	0.6718	24032	0.6030	26774
16-Jul	774	16919	0.8169	20711	0.7130	23729	0.6603	25623
17-Jul	689	17608	0.8426	20897	0.7699	22870	0.7175	24540
18-Jul	373	17981	0.8776	20489	0.8026	22403	0.7669	23446
19-Jul	475	18456	0.8889	20762	0.8271	22314	0.8034	22972
20-Jul	274	18730	0.9084	20618	0.8552	21901	0.8297	22574
21-Jul	266	18996	0.9271	20489	0.8777	21643	0.8701	21832
22-Jul	362	19358	0.9346	20712	0.9001	21506	0.8921	21699
23-Jul	151	19509	0.9441	20664	0.9236	21123	0.9113	21408
24-Jul	134	19643	0.9502	20672	0.9386	20928	0.9312	21094
25-Jul	220	19863	0.9568	20760	0.9507	20893	0.9393	21146
26-Jul	159	20022	0.9655	20737	0.9567	20928	0.9502	21071
27-Jul	135	20157	0.9730	20716	0.9618	20957	0.9561	21082
28-Jul	67	20224	0.9754	20734	0.9677	20899	0.9630	21001
29-Jul	67	20291	0.9801	20703	0.9725	20865	0.9685	20951
30-Jul	76	20367	0.9830	20719	0.9769	20848	0.9729	20934
31-Jul	27	20394	0.9855	20694	0.9816	20776	0.9759	20897
01-Aug	24	20418	0.9873	20680	0.9847	20735	0.9793	20849
02-Aug	25	20443	0.9898	20653	0.9864	20725	0.9825	20807
03-Aug	47	20490	0.9925	20645	0.9886	20726	0.9846	20810
04-Aug	21	20511	0.9935	20645	0.9902	20714	0.9854	20815
05-Aug	11	20522	0.9947	20631	0.9913	20702	0.9868	20796
06-Aug	10	20532	0.9956	20622	0.9927	20683	0.9880	20781
07-Aug	4	20536	0.9962	20614	0.9944	20651	0.9887	20770
08-Aug	15	20551	0.9971	20611	0.9960	20633	0.9903	20752
09-Aug	10	20561	0.9977	20608	0.9968	20627	0.9919	20729
10-Aug	10.3	20571	0.9982	20608	0.9971	20631	0.9931	20714
11-Aug	10.3	20581	0.9987	20608	0.9979	20625	0.9942	20701
12-Aug	14.4	20596	0.9994	20608	0.9980	20637	0.9953	20693
13-Aug	6.2	20602	0.9997	20608	0.9987	20629	0.9963	20679
14-Aug	4.1	20606	0.9999	20608	0.9990	20627	0.9965	20679
15-Aug	2.1	20608	1.0000	20608	0.9992	20625	0.9971	20668
16-Aug	1	20609	1.0000	20609	0.9994	20622	0.9981	20648
17-Aug	3	20612	1.0000	20612	0.9995	20623	0.9985	20643
18-Aug	2	20614	1.0000	20614	0.9996	20622	0.9989	20637
19-Aug	0	20614	1.0000	20614	0.9996	20622	0.9990	20635
20-Aug	2	20616	1.0000	20616	0.9997	20622	0.9992	20633
21-Aug	3	20619	1.0000	20619	0.9998	20623	0.9994	20632
22-Aug	1	20620	1.0000	20620	0.9999	20622	0.9995	20631
23-Aug	10	20630	1.0000	20630	1.0000	20630	0.9996	20638

Note: Numbers with decimal points are estimates calculated from historical passage data.

Table 5. Daily sockeye salmon estimated season escapements using early, normal and late timing models, Kogrukluk River, Alaska, 1995.

			Early Run Timing		Normal Run Timing		Late Run Timing	
Date	Daily Count	Cum. Count	Cum. Prop.	Total Esc. Est.	Cum. Prop.	Total Esc.Est.	Cum. Prop.	Total Esc. Est.
21-Jun	0.3	0	0.00024	1075	0.00002	10996	0.00000	
22-Jun	0.6	1	0.00055	1529	0.00008	10996	0.00000	
23-Jun	1.3	2	0.00161	1359	0.00020	10996	0.00000	
24-Jun	4.2	6	0.00437	1467	0.00058	10996	0.00000	
25-Jun	6.4	13	0.00858	1488	0.00116	10996	0.00000	
26-Jun	6.9	20	0.01362	1441	0.00178	10996	0.00000	
27-Jun	12.1	32	0.02076	1526	0.00288	10996	0.00000	
28-Jun	17.2	49	0.03305	1478	0.00444	10996	0.00000	
29-Jun	43.6	92	0.06294	1468	0.00840	10996	0.00002	3903654
30-Jun	62.3	155	0.10196	1517	0.01406	10996	0.00008	2009529
01-Jul	81.3	236	0.15587	1514	0.02146	10996	0.00020	1189687
02-Jul	147.5	383	0.22517	1703	0.03487	10996	0.00038	1007626
03-Jul	31	414	0.27721	1495	0.05047	8211	0.00069	602151
04-Jul	236	650	0.31175	2086	0.06702	9704	0.00252	257743
05-Jul	383	1033	0.35592	2904	0.08507	12147	0.00344	300312
06-Jul	537	1570	0.40247	3902	0.11262	13944	0.00551	285227
07-Jul	458	2028	0.43540	4659	0.14174	14311	0.00986	205625
08-Jul	430	2458	0.47061	5224	0.18631	13195	0.02134	115228
09-Jul	501	2959	0.50947	5809	0.23679	12498	0.03877	76332
10-Jul	708	3667	0.54015	6790	0.29430	12461	0.05965	61486
11-Jul	806	4473	0.58340	7668	0.35035	12769	0.08924	50128
12-Jul	337	4810	0.66636	7219	0.40559	11860	0.13994	34375
13-Jul	395	5205	0.72072	7223	0.46534	11186	0.19362	26884
14-Jul	212	5417	0.78281	6921	0.52513	10316	0.22689	23877
15-Jul	362	5779	0.84558	6835	0.58598	9863	0.26772	21587
16-Jul	621	6400	0.88629	7222	0.64022	9997	0.31544	20290
17-Jul	694	7094	0.94250	7527	0.68852	10304	0.35788	19823
18-Jul	369	7463	0.94565	7892	0.72971	10228	0.39757	18773
19-Jul	494	7957	0.95730	8312	0.76015	10468	0.45699	17413
20-Jul	263	8220	0.96665	8504	0.78987	10407	0.49736	16528
21-Jul	493	8713	0.97388	8947	0.82214	10599	0.54485	15992
22-Jul	472	9185	0.98001	9373	0.84698	10845	0.57398	16003
23-Jul	258	9443	0.98497	9587	0.86715	10890	0.60037	15729
24-Jul	216	9659	0.98840	9773	0.88869	10869	0.65244	14805
25-Jul	232	9891	0.99091	9982	0.90668	10909	0.70796	13972
26-Jul	137	10028	0.99252	10104	0.91968	10904	0.74467	13467
27-Jul	258	10286	0.99425	10346	0.93215	11035	0.78229	13149
28-Jul	92	10378	0.99554	10425	0.94565	10975	0.82680	12553
29-Jul	103	10481	0.99652	10518	0.95730	10949	0.86281	12148
30-Jul	151	10632	0.99715	10663	0.96665	10999	0.89287	11908
31-Jul	56	10688	0.99770	10713	0.97388	10975	0.91420	11692
01-Aug	42	10730	0.99810	10751	0.98001	10949	0.93898	11428
02-Aug	70	10800	0.99870	10815	0.98497	10965	0.95205	11344
03-Aug	54	10854	0.99890	10866	0.98840	10982	0.96192	11284
04-Aug	38	10892	0.99895	10904	0.99091	10992	0.97132	11214
05-Aug	19	10911	0.99898	10923	0.99252	10994	0.97752	11162
06-Aug	9	10920	0.99901	10931	0.99425	10984	0.98371	11101
07-Aug	8	10928	0.99940	10935	0.99554	10977	0.98591	11085
08-Aug	17	10945	0.99970	10949	0.99652	10984	0.98871	11070
09-Aug	10	10955	0.99979	10958	0.99715	10987	0.99124	11052
10-Aug	6.1	10962	1.00000	10962	0.99770	10987	0.99268	11042
11-Aug	4.3	10966	1.00000	10966	0.99810	10987	0.99444	11027
12-Aug	6.6	10972	1.00000	10972	0.99870	10987	0.99631	11013
13-Aug	2.8	10975	1.00000	10975	0.99895	10987	0.99670	11012
14-Aug	11.6	10987	1.00000	10987	1.00000	10987	0.99742	11015
15-Aug	0.0	10987	1.00000	10987	1.00000	10987	0.99814	11007
16-Aug	0	10987	1.00000	10987	1.00000	10987	0.99885	10999
17-Aug	1	10988	1.00000	10988	1.00000	10988	0.99957	10993
18-Aug	1	10989	1.00000	10989	1.00000	10989	1.00000	10989
'9-Aug	2	10991	1.00000	10991	1.00000	10991	1.00000	10991
0-Aug	1	10992	1.00000	10992	1.00000	10992	1.00000	10992
21-Aug	4	10996	1.00000	10996	1.00000	10996	1.00000	10996

Note: Numbers with decimal points are estimates calculated from historical passage data.

Table 6. Daily chum salmon estimated season escapements using early, normal and late timing models, Kogrukluk River, Alaska, 1995.

			Early Run Timing		Normal Run Timing		Late Run Timing	
Date	Daily Count	Cum. Count	Cum. Prop.	Total Esc. Est.	Cum. Prop.	Total Esc. Est.	Cum. Prop.	Total Esc. Est.
19-Jun	3.1	3	0.00010	31265	0.00010	31265	0.00000	
20-Jun	0.0	3	0.00020	15633	0.00010	31265	0.00000	
21-Jun	3.1	6	0.00040	15633	0.00020	31265	0.00000	
22-Jun	9.4	16	0.00090	17370	0.00050	31265	0.00000	
23-Jun	9.4	25	0.00160	15633	0.00080	31265	0.00010	250121
24-Jun	15.6	41	0.00230	17672	0.00130	31265	0.00010	406447
25-Jun	31.3	72	0.00330	21791	0.00230	31265	0.00010	719098
26-Jun	43.8	116	0.00580	19945	0.00370	31265	0.00070	165259
27-Jun	62.5	178	0.00910	19584	0.00570	31265	0.00090	198012
28-Jun	25.0	203	0.01380	14726	0.00650	31265	0.00180	112902
29-Jun	125.1	328	0.02260	14526	0.01050	31265	0.00430	76345
30-Jun	181.3	510	0.03590	14196	0.01630	31265	0.00820	62149
01-Jul	328.3	838	0.05790	14472	0.02680	31265	0.01830	45787
02-Jul	525.3	1363	0.08190	16644	0.04360	31265	0.02670	51055
03-Jul	913	2276	0.11140	20432	0.06510	34964	0.04000	56904
04-Jul	1583	3859	0.14520	26578	0.09670	39909	0.05720	67468
05-Jul	2050	5909	0.19660	30057	0.11730	50376	0.07620	77548
06-Jul	1134	7043	0.24500	28748	0.15490	45469	0.09030	77997
07-Jul	2149	9192	0.27430	33511	0.21000	43772	0.12800	71814
08-Jul	1399	10591	0.32420	32669	0.27130	39039	0.14990	70655
09-Jul	766	11357	0.37430	30342	0.32640	34795	0.18430	61623
10-Jul	1196	12553	0.43710	28719	0.36690	34214	0.21870	57399
11-Jul	1146	13699	0.48490	28252	0.44160	31022	0.24940	54928
12-Jul	1338.5	15038	0.53650	28029	0.49270	30521	0.29090	51694
13-Jul	1531	16569	0.57840	28646	0.53520	30958	0.33790	49034
14-Jul	1151	17720	0.63210	28033	0.57230	30962	0.39670	44668
15-Jul	867	18587	0.68860	26992	0.62250	29858	0.43860	42377
16-Jul	1007	19594	0.73630	26611	0.67090	29205	0.49150	39865
17-Jul	1770	21364	0.76470	27937	0.70770	30187	0.54190	39424
18-Jul	1023	22387	0.80320	27872	0.74960	29865	0.57900	38664
19-Jul	1188	23575	0.81470	28937	0.77350	30478	0.61340	38433
20-Jul	553	24128	0.83220	28993	0.80130	30111	0.64410	37459
21-Jul	1023	25151	0.87270	28819	0.83330	30182	0.67510	37255
22-Jul	933	26084	0.88950	29324	0.85570	30482	0.70260	37124
23-Jul	1015	27099	0.90630	29900	0.86930	31173	0.73110	37066
24-Jul	727	27826	0.92270	30157	0.87770	31703	0.77850	35743
25-Jul	542	28368	0.93090	30473	0.89530	31685	0.80830	35095
26-Jul	334	28702	0.93990	30537	0.90530	31704	0.83410	34410
27-Jul	306	29008	0.94980	30541	0.91590	31671	0.85460	33943
28-Jul	249	29257	0.95790	30542	0.92860	31506	0.87670	33371
29-Jul	285	29542	0.96530	30604	0.94020	31421	0.89540	32993
30-Jul	329	29871	0.97170	30741	0.94940	31463	0.91140	32774
31-Jul	216	30087	0.97870	30741	0.95620	31465	0.92840	32407
01-Aug	171	30258	0.98470	30728	0.96110	31482	0.94090	32158
02-Aug	206	30464	0.98880	30809	0.96700	31503	0.95350	31949
03-Aug	209	30673	0.99170	30929	0.97260	31537	0.96240	31871
04-Aug	104	30777	0.99350	30978	0.97850	31453	0.96860	31774
05-Aug	59	30836	0.99430	31012	0.98240	31388	0.97430	31649
06-Aug	42	30878	0.99510	31030	0.98450	31364	0.97860	31553
07-Aug	47	30925	0.99580	31055	0.98730	31322	0.98160	31504
08-Aug	44	30969	0.99660	31074	0.98910	31310	0.98450	31456
09-Aug	37	31006	0.99770	31077	0.99080	31294	0.98690	31417
10-Aug	32	31038	0.99810	31097	0.99260	31269	0.98930	31373
11-Aug	40.6	31078	0.99840	31128	0.99390	31269	0.99090	31364
12-Aug	53.2	31131	0.99880	31169	0.99560	31269	0.99240	31370
13-Aug	46.9	31178	0.99940	31197	0.99710	31269	0.99380	31373
14-Aug	28.1	31206	0.99950	31222	0.99800	31269	0.99520	31357
15-Aug	15.6	31222	0.99950	31238	0.99850	31269	0.99600	31348
16-Aug	5	31227	0.99960	31240	0.99890	31262	0.99690	31324
17-Aug	2	31229	0.99970	31238	0.99930	31251	0.99780	31298
18-Aug	3	31232	0.99980	31238	0.99950	31248	0.99860	31276
19-Aug	7	31239	0.99990	31242	0.99960	31252	0.99890	31274
20-Aug	3	31242	1.00000	31242	0.99970	31251	0.99940	31261
21-Aug	1	31243	1.00000	31243	0.99980	31249	0.99960	31256
22-Aug	3	31246	1.00000	31246	0.99980	31252	0.99970	31256
23-Aug	0	31246	1.00000	31246	0.99990	31249	0.99970	31256
24-Aug	6	31252	1.00000	31252	0.99990	31255	0.99970	31262
25-Aug	0	31252	1.00000	31252	0.99990	31255	0.99970	31262
26-Aug	2	31254	1.00000	31254	1.00000	31254	0.99980	31260
27-Aug	11	31265	1.00000	31265	1.00000	31265	0.99990	31268

Note: Numbers with decimal points are estimates calculated from historical passage data.

Table 7. Daily coho salmon estimated season escapements using early, normal and late timing models, Kogrukluk River, Alaska, 1995.

			Early Run Timing		Normal Run Timing		Late Run Timing	
Date	Daily Count	Cum. Count	Cum. Prop.	Total Esc. Est.	Cum. Prop.	Total Esc.Est.	Cum. Prop.	Total Esc. Est
20-Jul	3	3	0.00002	150000	0.00001	300000	0.00000	
21-Jul	0	3	0.00002	1500[illegible]	[illegible].00001	300000	0.00000	
22-Jul	1	4	0.00002	200[illegible]	[illegible].00001	400000	0.00000	
23-Jul	1	5	0.00002	250[illegible]	[illegible].00001	500000	0.00000	
24-Jul	1	6	0.00002	300	[illegible].0001	600000	0.00000	
25-Jul	2	8	0.00005	160	[illegible].0002	400000	0.00000	
26-Jul	1	9	0.00009	100	[illegible].003	300000	0.00000	
27-Jul	0	9	0.00011	81[illegible]	[illegible].004	225000	0.00000	
28-Jul	2	11	0.00012	91[illegible]	[illegible].004	275000	0.00000	
29-Jul	0	11	0.00020	55	[illegible].007	157143	0.00000	
30-Jul	1	12	0.00044	27[illegible]	[illegible].015	80000	0.00000	
31-Jul	0	12	0.00075	16[illegible]	[illegible].023	52174	0.00000	
01-Aug	1	13	0.00101	12[illegible]	[illegible].0030	43333	0.00000	
02-Aug	1	14	0.00163	85[illegible]	[illegible].051	27451	0.00000	
03-Aug	2	16	0.00206	[illegible]	[illegible].068	23529	0.00000	
04-Aug	2	18	0.00276	6[illegible]	[illegible].098	18367	0.00000	
05-Aug	1	19	0.00365	52[illegible]	[illegible].0138	13768	0.00000	
06-Aug	0	19	0.00473	401[illegible]	[illegible].00197	9645	0.00000	
07-Aug	1	20	0.00608	328[illegible]	[illegible].00268	7463	0.00000	
08-Aug	2	22	0.00800	275	[illegible].00374	5882	0.00000	
09-Aug	7	29	0.01016	285[illegible]	[illegible].00506	5731	0.00000	
10-Aug	67.9	97	0.01261	768[illegible]	[illegible].00658	14734	0.00054	179531
11-Aug	74.3	171	0.01529	11200	[illegible].00846	20245	0.00162	105724
12-Aug	140.3	312	0.02035	15312	0.01184	26318	0.00333	93575
13-Aug	194.4	506	0.02736	18495	0.01693	29889	0.00649	77968
14-Aug	162.0	668	0.03320	20120	0.02131	31346	0.00942	70911
15-Aug	220.8	889	0.04116	21592	0.02710	32795	0.01303	68207
16-Aug	241.6	1130	0.04987	22665	0.03332	33922	0.01677	67400
17-Aug	80	1210	0.05981	20236	0.04054	29854	0.02125	56955
18-Aug	327	1537	0.07730	19887	0.05393	28505	0.03055	50321
19-Aug	521	2058	0.09809	20984	0.07050	29196	0.04290	47979
20-Aug	669	2727	0.11877	22963	0.08518	32018	0.05158	52875
21-Aug	855	3582	0.13864	25839	0.09932	36068	0.05998	59725
22-Aug	818	4400	0.15779	27887	0.11506	38243	0.07233	60836
23-Aug	931	5331	0.18674	28549	0.13406	39768	0.08138	65511
24-Aug	902	6233	0.22540	27654	0.15881	39250	0.09220	67606
25-Aug	1002	7235	0.26861	26936	0.18613	38872	0.10365	69805
26-Aug	1116	8351	0.32028	26075	0.22063	37852	0.12097	69036
27-Aug	1198	9549	0.38252	24964	0.26197	36452	0.14140	67534
28-Aug	1962	11511	0.42461	27110	0.29157	39480	0.15852	72617
29-Aug	1263	12774	0.46451	27501	0.32325	39518	0.18199	70192
30-Aug	1785	14559	0.49481	29424	0.34694	41965	0.19907	73137
31-Aug	1166	15725	0.52569	29914	0.37184	42290	0.21798	72141
01-Sep	1104.0	16829	0.56330	29876	0.40357	41701	0.24384	69018
02-Sep	1101.6	17931	0.60042	29864	0.43886	40858	0.27729	64665
03-Sep	749	18680	0.64526	28949	0.47480	39343	0.30433	61380
04-Sep	903	19583	0.67412	29050	0.51353	38134	0.35293	55487
05-Sep	630	20213	0.71597	28231	0.55375	36502	0.39153	51625
06-Sep	586	20799	0.74516	27912	0.58636	35471	0.42755	48647
07-Sep	894.7	21694	0.77742	27905	0.62790	34549	0.47838	45348
08-Sep	904.4	22598	0.81003	27898	0.65813	34337	0.50623	44640
09-Sep	976.8	23575	0.84525	27891	0.68839	34246	0.53152	44353
10-Sep	699.7	24274	0.87048	27886	0.71570	33917	0.56090	43278
11-Sep	250.7	24525	0.87952	27885	0.74926	32732	0.61898	39622
12-Sep	782.4	25308	0.90773	27880	0.78163	32378	0.65552	38607
13-Sep	526.9	25834	0.92673	27877	0.79990	32297	0.67305	38384
14-Sep	363.9	26198	0.93985	27875	0.81681	32074	0.69376	37763
15-Sep	160.9	26359	0.94565	27874	0.84481	31201	0.74396	35431
16-Sep	195.8	26555	0.95271	27873	0.85833	30938	0.76393	34761
17-Sep	240.7	26796	0.96139	27872	0.86881	30842	0.77623	34520
18-Sep	274.6	27070	0.97129	27870	0.88595	30555	0.80060	33812
19-Sep	100.1	27170	0.97490	27870	0.91053	29840	0.84615	32111
20-Sep	214.1	27384	0.98262	27869	0.92301	29669	0.86340	31717
21-Sep	255.4	27640	0.99183	27868	0.93556	29544	0.87928	31435
22-Sep	35.8	27676	0.99312	27867	0.94659	29237	0.90005	30749
23-Sep	72.7	27748	0.99574	27867	0.95999	28905	0.92423	30023
24-Sep	22.2	27771	0.99654	27867	0.96802	28688	0.93949	29559
25-Sep	29.7	27800	0.99761	27867	0.97517	28508	0.95272	29180
26-Sep	1.4	27802	0.99766	27867	0.97919	28392	0.96072	28938
27-Sep	3.3	27805	0.99778	27867	0.98556	28212	0.97332	28567
28-Sep	6.1	27811	0.99800	27867	0.98913	28117	0.98024	28372
29-Sep	3.9	27815	0.99814	27867	0.99207	28037	0.98624	28203
30-Sep	3.9	27819	0.99828	27867	0.99377	27993	0.98925	28121
01-Oct	5.5	27824	0.99848	27867	0.99505	27963	0.99162	28059
02-Oct	8.3	27833	0.99878	27867	0.99572	27952	0.99265	28039
03-Oct	14.4	27847	0.99930	27867	0.99652	27944	0.99373	28023
04-Oct	14.4	27861	0.99982	27866	0.99728	27937	0.99473	28009

Note: Numbers with decimal points are estimates calculated from historical passage data.

Table 8. 1995 Goodnews River Weir Project Daily Counts

DATE	CHINOOK	SOCKEYE	CHUM	COHO	PINK
19-Jun	28	0	1		
20-Jun	19	75	5		
21-Jun	5	146	16		
22-Jun	17	236	34		
23-Jun	39	353	56		
24-Jun	71	564	50		
25-Jun	85	509	77		
26-Jun	69	768	159		
27-Jun	28	592	40		
28-Jun	33	1033	148		
29-Jun	64	868	110		
30-Jun	132	902	384		
1-Jul	126	1251	1004		
2-Jul	284	1918	1607		
3-Jul	407	1583	845		
4-Jul	275	1515	804		
5-Jul	291	1216	691		
6-Jul	171	1256	811		
7-Jul	151	1631	333		
8-Jul	77	1854	950		
9-Jul	40	1548	567		
10-Jul	105	2339	2492		
11-Jul	446	2058	2192		2
12-Jul	160	1040	1290		7
13-Jul	99	1358	715		12
14-Jul	248	1562	1214		14
15-Jul	213	1200	1134		10
16-Jul	36	611	1284		2
17-Jul	209	1329	914		10
18-Jul	55	663	1043		11
19-Jul	48	749	1212		3
20-Jul	177	1191	1815		46
21-Jul	74	490	802		15
22-Jul	42	360	335		6
23-Jul	59	620	1109		10
24-Jul	112	538	985		20
25-Jul	44	280	532		7
26-Jul	28	403	1107		11
27-Jul	22.0[a]	259.0[a]	660.0[a]		10.0[a]
28-Jul	30	124	162		9
29-Jul	16	115	213		5
30-Jul	21	186	450		8
31-Jul	16	163	516		18
1-Aug	6	92	313	1	5
2-Aug	31	140	313	15	8
3-Aug	11	114	346	11	9
4-Aug	3	50	238	3	3
5-Aug	10	103	210	9	3
6-Aug	12	92	235	20	2
7-Aug	8	124	155	28	2
8-Aug	7	42	147	6	1
9-Aug	16	198	218	45	10
10-Aug	6	49	118	30	3
11-Aug	6	72	72	31	3
12-Aug	3	76	131	124	2
13-Aug	13	51	41	164	4
14-Aug	5	49	65	111	4
15-Aug	1	40	33	100	1
16-Aug	1	67	32	240	7
17-Aug	4	20	29	202	1
18-Aug	6	29	45	376	2
19-Aug	3	22	15	228	3
20-Aug	0	22	25	219	5
21-Aug	3	22	10	525	1
22-Aug	1	11	13	467	5
23-Aug	2	7	7	205	0
24-Aug	3	24	7	309	2
25-Aug	1	9	7	737	5
26-Aug	1	13	0	344	2
27-Aug	0	12	4	368	1
28-Aug	1	3	2	497	0
TOTAL	4,836	39,009	33,699	5,415	330

a Decimal points indicate that passage for that day has been estimated.

Table 9. Historic cumulative salmon passage estimates at the Kuskokwim River sonar site

	Chinook			Sockeye			Chum						
Date	1993	1994	1995	1993	1994	1995	1993	1994	1995	Objective[1]	Ave. % Passage[2]	1995 Projection[3]	1995 Surplus Above Sonar[4]
06/01	0	0	0	0	0	0	0	0	0	56	0		
06/02	0	0	0	0	0	0	0	0	0	169	0		
06/03	651	0	0	105	0	0	17	0	0	264	0		
06/04	2,000	0	3,738	323	0	17	51	0	10	302	0		
06/05	3,297	5,007	7,739	532	0	38	84	1,160	22	581	0	21,098	(535,902)
06/06	4,759	9,067	11,529	768	0	55	[illegible]	1,939	32	[illegible]	0	15,152	(541,848)
06/07	6,625	12,612	16,795	1,069	0	80	[illegible]	2,754	46	[illegible]	0	17,088	(539,912)
06/08	7,198	17,104	23,123	1,162	0	106	184	5,075	61	2,108	0	16,119	(540,881)
06/09	12,145	21,406	26,251	1,623	0	773	1,286	7,668	411	3,429	1	66,766	(490,234)
06/10	14,263	26,544	29,411	1,821	0	1,418	1,758	11,258	793	4,385	1	100,726	(456,274)
06/11	17,636	31,257	34,877	2,136	17	2,519	2,509	14,398	1,469	5,910	1	138,448	(418,552)
06/12	19,311	36,910	43,735	4,009	38	4,367	3,006	18,150	1,897	8,043	1	131,370	(425,630)
06/13	21,360	46,398	62,182	6,300	78	7,939	3,612	24,763	2,726	11,072	2	137,140	(419,860)
06/14	23,343	51,592	76,702	8,518	833	10,936	4,200	34,435	3,405	13,287	2	142,739	(414,261)
06/15	28,587	57,602	86,597	16,616	1,685	12,940	5,175	45,453	9,507	19,130	3	276,811	(280,189)
06/16	32,393	63,067	94,636	22,495	2,192	14,720	6,233	55,596	14,744	24,060	4	341,332	(215,668)
06/17	39,142	65,521	105,818	32,919	3,810	17,043	7,750	66,024	21,740	30,390	5	398,462	(158,538)
06/18	43,998	67,539	114,556	40,788	4,865	19,659	10,061	73,912	29,779	37,96	7	436,926	(120,074)
06/19	48,622	70,050	123,049	48,278	6,272	22,207	12,261	85,189	37,836	49,62	9	424,646	(132,354)
06/20	53,376	73,060	135,393	55,982	9,617	25,861	14,523	100,397	48,912	59,924	11	454,645	(102,355)
06/21	56,246	75,056	141,610	63,853	12,107	29,890	20,679	111,411	62,205	70,642	13	490,475	(66,525)
06/22	59,111	76,669	146,836	71,713	14,339	33,764	26,827	120,119	73,497	84,507	15	484,430	(72,570)
06/23	62,116	79,159	151,856	79,958	23,727	37,757	33,276	135,836	84,821	100,225	18	471,391	(85,609)
06/24	64,403	81,165	156,426	93,130	35,667	41,806	45,985	149,508	92,799	113,290	20	456,253	(100,747)
06/25	66,440	85,492	162,023	104,859	55,644	46,748	57,302	175,737	102,563	131,322	24	435,019	(121,981)
06/26	67,994	92,426	169,268	113,811	79,294	53,096	65,939	189,374	115,100	144,040	26	445,090	(111,910)
06/27	69,948	96,280	174,061	127,385	92,926	62,968	70,470	197,213	123,920	165,279	30	417,617	(139,383)
06/28	72,549	99,871	179,100	145,460	105,854	73,698	76,502	204,598	133,317	176,775	32	420,069	(136,931)
06/29	74,800	102,499	184,622	161,103	114,770	84,853	81,723	217,843	143,079	200,135	36	398,206	(158,794)
06/30	75,500	105,824	186,979	187,448	126,114	90,342	97,317	234,609	162,181	221,847	40	407,195	(149,805)
07/01	76,151	109,475	189,695	211,926	138,757	96,811	111,805	253,967	183,859	241,063	43	424,824	(132,176)
07/02	76,612	111,263	192,917	229,274	176,235	104,306	122,073	287,174	209,215	254,107	46	458,597	(98,403)
07/03	76,934	112,967	195,914	233,507	212,001	114,697	133,119	318,810	238,556	279,351	50	475,658	(81,342)
07/04	77,304	114,893	197,892	238,358	252,585	121,509	145,778	354,594	257,550	303,326	54	472,942	(84,058)
07/05	77,701	115,721	200,424	243,549	267,561	130,372	159,326	399,943	283,446	327,411	59	482,206	(74,794)
07/06	78,210	116,844	201,364	251,473	284,072	135,340	169,354	449,840	303,163	345,637	62	488,553	(68,447)
07/07	78,647	117,330	202,349	258,284	295,799	140,267	177,974	485,215	322,931	366,102	66	491,318	(65,682)
07/08	79,108	117,832	203,776	265,449	300,529	148,216	187,043	527,796	354,111	385,060	69	512,231	(44,769)

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Table 9. (Page 2 of 2)

Date	Chinook 1993	Chinook 1994	Chinook 1995	Sockeye 1993	Sockeye 1994	Sockeye 1995	Chum 1993	Chum 1994	Chum 1995	Objective[a]	Ave. % Passage[b]	1995 Projection[c]	1995 Surplus Above Sonar[d]
07/09	80,236	118,351	204,314	267,869	305,769	153,006	193,734	576,405	387,290	403,950	73	534,028	(22,972)
07/10	81,368	118,756	204,648	270,296	309,504	156,431	200,448	609,718	409,757	417,888	75	546,163	(10,837)
07/11	82,523	119,257	204,891	272,772	315,608	159,087	207,294	629,278	427,019	425,960	76	558,385	1,385
07/12	82,670	119,642	205,757	274,630	320,290	159,516	222,342	643,860	446,063	435,947	78	569,924	12,924
07/13	82,814	119,954	206,647	276,451	324,124	159,925	237,079	656,366	464,855	450,445	81	574,819	17,819
07/14	82,975	120,152	207,496	278,485	325,618	160,298	253,547	670,741	482,317	459,735	83	584,360	27,360
07/15	83,226	120,343	207,662	279,653	326,727	160,547	277,211	681,330	491,507	466,833	84	586,440	29,440
07/16	83,466	120,515	207,861	280,763	328,269	160,820	299,702	695,810	500,607	472,913	85	589,618	32,618
07/17	83,624	120,575	208,069	281,500	331,891	161,097	314,627	711,678	508,683	480,500	86	589,670	32,670
07/18	83,752	120,788	208,151	281,500	335,233	161,292	334,680	726,217	517,440	489,605	88	588,667	31,667
07/19	83,883	120,968	208,222	281,500	337,915	161,467	355,455	738,753	524,659	498,805	90	585,870	28,870
07/20	83,997	120,968	208,282	281,500	338,050	161,631	373,412	744,290	530,937	505,949	91	584,510	27,510
07/21	84,081	120,968		281,684	338,140		384,007	748,525		511,872	92		
07/22	84,152	120,968		281,838	338,254		392,887	753,861		520,400	93		
07/23	84,235	121,399		282,021	338,637		403,417	761,211		525,050	94		
07/24	87,072	122,227		282,021	339,372		407,322	774,281		528,078	95		
07/25	89,782	122,922		282,021	339,988		411,051	785,313		532,440	96		
07/26	93,019	122,922		282,021	339,988		415,506	790,159		533,770	96		
07/27	93,205	122,922		282,186	339,988		417,280	794,335		537,063	96		
07/28	93,355	122,922		282,319	339,988		418,702	799,155		539,481	97		
07/29	93,515	122,922		282,461	339,988		420,229	800,915		542,874	97		
07/30	93,515	122,922		282,461	339,988		421,005	802,798		544,383	98		
07/31	93,515	122,922		282,461	339,988		421,679	804,416		546,197	98		
08/01	93,515	123,079		282,461	339,988		422,378	807,073		547,235	98		
08/02	93,515	123,302		282,461	339,988		422,583	810,682		548,432	98		
08/03	93,515	123,561		282,461	339,988		422,843	814,844		549,546	99		
08/04	93,515	123,561		282,461	339,988		423,093	815,689		550,803	99		
08/05	93,515	123,561		282,461	339,988		423,288	816,350		551,112	99		
08/06	93,515	123,561		282,461	339,988		423,512	817,155		552,196	99		
08/07	93,515	123,561		282,461	339,988		423,688	817,408		552,950	99		
08/08	93,515	123,561		282,461	339,988		423,688	817,832		553,310	99		
08/09	93,515	123,561		282,461	339,988		423,688	818,147		553,766	99		
08/10	93,515	123,561		282,461	340,006		423,688	818,147		555,554	100		
08/11	93,515	123,561		282,461	340,022		423,832	818,147		555,913	100		
08/12	93,515	123,561		282,461	340,032		423,986	818,147		556,262	100		
08/13	93,515	123,561		282,461	340,032		424,097	818,147		556,337	100		
08/14	93,515	123,561		282,461	340,032		424,097	818,147		556,364	100		
08/15	93,515	123,561		282,461	340,032		424,097	818,147		556,565	100		

[a] The objective is the product of the average daily proportion of passage and 557,000. The 557,000 is the minimum number of chum salmon needed for escapement (506,000), plus the historic median subsistence harvest above the sonar site (51,000).

[b] The Average Percent Passage is based on the 1985 -1994 average chum salmon passage observed from the Bethel test fishery; the post-season run reconstruction in Table 14 uses 1995 run timing only.

[c] The 1995 Projection is the product of the proportion passage and the cumulative passage to date.

[d] The 1995 Surplus Above Sonar is the estimated surplus for commercial harvest ;i.e., the 1995 Projection minus the Objective.

Table 10. Kuskokwim Area salmon entry permits issued by village, 1995

Village	Number of Entry Permits
Akiachak	64
Akiak	24
Aniak	11
Atmautluak	28
Bethel	165
Chefornak	5
Eek	38
Goodnews Bay	29
Kalskags	8
Kasigluk	44
Kipnuk	17
Kongiganak	21
Kwethluk	57
Kwigillingok	20
Mekoryuk	2
Napakiak	37
Napaskiak	33
Nunapitchuk	46
Oscarville	3
Platinum	7
Quinhagak	77
Sleetmute	1
Tuluksak	27
Tuntutuliak	45
KUSKOKWIM AREA SUBTOTAL	**809**
Anchorage	9
Dillingham	1
Fairbanks	3
Manokotak	2
Togiak	1
NON-LOCAL ALASKA RESIDENTS SUBTOTAL	**16**
Valencia, CA	1
Dunwoody, GA	1
Weirsdale, FL	1
Paul Smiths, NY	1
NON-RESIDENT SUBTOTAL	**4**
TOTAL NUMBER OF PERMITS	**832**

Table 11. **Ex-vessel Value of Kuskokwim Area Salmon Catch by District, 1995.**

	Chinook	Sockeye	Coho	Pink	Chum	Total
Lower Kuskowkim River, District W-1						
			1995			
Fish	28,054	90,026	455,269	93	588,250	1,161,692
Pounds	459,487	631,732	3,204,249	335	4,023,741	
Price	0.61	0.71	0.41	0.15	0.18	
Value	$280,287	$448,530	$1,313,742	$50	$724,273	$2,766,883
			Ave. 1988-94			
Fish	36,298	69,367	537,490	7,611	509,910	1,160,676
Value	$384,610	$471,700	$2,338,428	$2,558	$1,115,251	$4,312,548
Middle Kuskokwim River, District W-2						
			1995			
Fish	2,792	2,474	16,192	0	17,668	39,126
Pounds	48,002	17,789	109,547	0	123,359	
Price	0.60	0.70	0.41		0.18	
Value	$28,801	$12,452	$44,914	$0	$22,205	$108,372
			Ave. 1988-94			
Fish	1,172	1,654	22,090	35	16,281	41,232
Value	$14,204	$11,026	$85,458	$19	$28,412	$139,118
Quinhagak, District W-4						
			1995			
Fish	38,584	68,194	66,203	186	81,462	254,630
Pounds	695,048	460,161	507,085	689	589,118	
Price	0.60	0.70	0.40	0.12	0.18	
Value	$417,029	$322,113	$202,834	$83	$106,041	$1,048,099
			Ave. 1988-94			
Fish	16,194	56,233	58,404	19,119	49,488	199,438
Value	$187,589	$316,244	$303,611	$5,895	$97,713	$911,052
Goodnews Bay, District W-5						
			1995			
Fish	2,922	37,351	17,875	39	19,832	78,019
Pounds	52,231	250,789	148,874	143	142,848	
Price	0.60	0.70	0.39	0.13	0.15	
Value	$31,339	$175,552	$58,061	$19	$21,427	$286,398
			Ave. 1988-94			
Fish	2,909	42,758	24,455	5,511	19,060	94,693
Value	$37,235	$268,370	$142,532	$1,614	$42,667	$492,418
Kuskowkim Area Total						
			1995			
Fish	72,352	198,045	555,539	318	707,212	1,533,467
Pounds	1,254,768	1,360,471	3,969,755	1,167	4,879,066	
Price	0.60	0.70	0.41	0.13	0.18	
Value	$757,456	$958,647	$1,619,551	$152	$873,946	$4,209,752
			Ave. 1988-94			
Fish	56,573	170,012	642,439	32,277	594,740	1,496,040
Value	$623,638	$1,067,339	$2,870,030	$10,086	$1,284,043	$5,855,135

Table 12. Executive summary of working group and department actions, 1995.

DATE	
17 June	Phil Mundy presented his report, "Recommendations for strengthening the cooperative management process of the Kuskokwim River Salmon Management Working Group." Short presentations were made on the 1995 salmon run outlook (ADF&G), a Kuskokwim chum salmon radio tagging study (BSFA), new test fisheries (AVCP), upriver issues and concerns (KNA) and Marketing issues (Inlet Salmon). Public testimony affecting management was heard.
18 June	The Working Group elected Joe Lomack and Stuart Currie Co-Chairs and amended their by-laws to establish the position of Vice-Chair. The Vice-Chair was defined as the Co-Chairs alternate with duties to act as Chair in the absence or at the pleasure of the Co-Chairs. New members were seated: Angela Morgan, mid-river subsistence, Francine Brown, sport fish, and Henry Hill, upriver commercial. Dept. recommendation: Meet again on 20 June Working Group recommendation: Meet again on 20 June Actual outcome: Working Group met on 20 June
20 June	Dept. recommendation: Four hour period in District W-1, downstream of Bethel on 22 June Working Group recommendation: Four hour period in District W-1, downstream of Bethel on 22 June Actual outcome: Four hour period in District W-1, downstream of Bethel on 22 June
23 June	Dept. recommendation: Four hour period in Districts W-1 and W-2 on 26 June Working Group recommendation: Four hour period in Districts W-1 and W-2 on 26 June Actual outcome: Four hour period in Districts W-1 and W-2 on 26 June
27 June	Dept. recommendation: Four hour period in Districts W-1 and W-2 on 29 June Working Group recommendation: Four hour period in Districts W-1 and W-2 on 29 June Actual outcome: Four hour period in Districts W-1 and W-2 on 29 June
30 June	The Working Group failed to make a quorum. The Working Group agreeded to leave responsibility for management for the Kuskokwim River salmon fishery to the Department until another Working Group Meeting could be called. Next meeeting to be at call of the Chairs. Actual outcome: Four hour period in Districts W-1 and W-2 on 3 July
5 July	Dept. recommendation: Four hour period in Districts W-1 and W-2 on 6 July Working Group recommendation: Six hour period in Districts W-1 and W-2 on 6 July - MOTION FAILED Four hour period in Districts W-1 and W-2 on 6 July Actual outcome: Four hour period in Districts W-1 and W-2 on 6 July

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Table 12. (page 2 of 3)

DATE	
7 July	Dept. recommendation: Four hour period in Districts W-1 and W-2 on 10 July Working Group recommendation: Four hour period in Districts W-1 and W-2 on 10 July Actual outcome: Four hour period in Districts W-1 and W-2 on 10 July
8 July	The Department presented a report on escapement and run assessment projects used for management of the Kuskokwim River commercial and subsistence salmon fishery. The meeting was held in Bethel.
10 July	The Department presented a report on escapement and run assessment projects used for management of the Kuskokwim River commercial and subsistence salmon fishery. The meeting was held in Aniak.
11 July	Dept. recommendation: Four hour period in Districts W-1 and W-2 on 14 July Working Group recommendation: Four hour period in Districts W-1 and W-2 on 14 July Actual outcome: Four hour period in Districts W-1 and W-2 on 14 July
17 July	Dept. recommendation: Six hour period in Districts W-1 and W-2 on 18 July Working Group recommendation: Six hour period in Districts W-1 and W-2 on 18 July Actual outcome: Six hour period in Districts W-1 and W-2 on 18 July
19 July	Dept. recommendation: Six hour period in Districts W-1 and W-2 on 21 July Working Group recommendation: Four hour period in Districts W-1 and W-2 on 21 July Actual outcome: Four hour period in Districts W-1 and W-2 on 21 July
24 July	Dept. recommendation: Meet again at the call of the Chair Working Group recommendation: Meet again at the call of the Chair Actual outcome: The Working Group met again on 2 August
2 August	Dept. recommendation: Meet again on 4 August Working Group recommendation: Six hour period in Districts W-1 and W-2 on 4 August Actual outcome: Six hour period in Districts W-1 and W-2 on 4 August
5 August	Dept. recommendation: Six hour period in Districts W-1 and W-2 on 8 August Working Group recommendation: Six hour period in Districts W-1 and W-2 on 8 August Actual outcome: Six hour period in Districts W-1 and W-2 on 8 August
7 August	Meeting in Bethel to discuss Kuskokwim River chum salmon management in 1996 and 1997. Based on very poor chum salmon escapements to the Aniak River in 1992 and 1993, commercial fishing in the Kuskowkim River may have to be severly restricted. The Working Group discussed ways to maximize the commercial salmon catch while protecting Aniak chum salmon.

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Table 12. (page 3 of 3)

DATE	
9 August	Dept. recommendation: Meet again on 11 August Working Group recommendation: Six hour period in Districts W-1 and W-2 on 11 August Actual outcome: Department will announce if they will accept the Working Group's recommendation by 1200 on 10 August. The Department vetoed the Working Group's recommendation.
11 August	Dept. recommendation: Six hour period in Districts W-1 and W-2 on 13 August Working Group recommendation: Six hour period in Districts W-1 and W-2 on 12 August Actual outcome: Six hour period in Districts W-1 and W-2 on 12 August
14 August	Dept. recommendation: Six hour period in Districts W-1 and W-2 on 16 August Working Group recommendation: Six hour period in Districts W-1 and W-2 on 16 August Actual outcome: Six hour period in Districts W-1 and W-2 on 16 August
17 August	Dept. recommendation: Six hour period in Districts W-1 and W-2 on 18 August Working Group recommendation: Six hour period in Districts W-1 and W-2 on 19 August Actual outcome: Six hour period in Districts W-1 and W-2 on 19 August
21 August	Dept. recommendation: Six hour period in Districts W-1 and W-2 on 23 August Working Group recommendation: Six hour period in Districts W-1 and W-2 on 22 August Actual outcome: Six hour period in Districts W-1 and W-2 on 22 August
24 August	Dept. recommendation: Six hour period in Districts W-1 and W-2 on 25 August or 26 August Working Group recommendation: Six hour period in Districts W-1 and W-2 on 26 August Actual outcome: Six hour period in Districts W-1 and W-2 on 26 August
28 August	Dept. recommendation: Six hour periods in Districts W-1 and W-2 on 29 August and 1 September Working Group recommendation: Six hour periods in Districts W-1 and W-2 on 29 August and 1 September and to close the season on 1 September Actual outcome: Six hour periods in Districts W-1 and W-2 on 29 August and 1 September Season closed on 1 September

Table 13. Lower Kuskokwim River, District 1, commercial salmon harvest and fishing effort by period, 1995.

				CHINOOK		SOCKEYE		COHO		PINK		CHUM	
PERIOD	DATE	HOURS	PERMITS	NUMBER	CPUE	NUMBER	CPUE	NUMBER	CPUE	NUMBER	CPUE	NUMBER	CPUE
1	6/22	4	569	6895	3.03	4420	1.94					49157	21.60
2	6/26	4	567	9452	4.17	17867	7.88					88091	38.84
3	6/29	4	566	4972	2.20	19770	8.73					88641	39.15
4	7/03	4	475	2847	1.50	17078	8.99			2		89427	47.07
5	7/06	4	481	1521	.79	14765	7.67					81246	42.23
6	7/10	4	494	906	.46	7100	3.59	21	.01	2		86368	43.71
7	7/14	4	435	546	.31	4219	2.42	221	.13	5		43137	24.79
8	7/18	6	336	366	.18	2482	1.23	671	.33	9		37294	18.50
9	7/21	4	368	202	.14	940	.64	1272	.86	6		21039	14.29
10	8/04	6	234	64	.05	123	.09	48665	34.66	5		1072	.76
11	8/08	6	611	95	.03	363	.10	98548	26.88	8		1229	.34
12	8/12	6	617	50	.01	359	.10	102421	27.67	8		899	.24
13	8/16	6	593	52	.01	147	.04	65713	18.47	12		208	.06
14	8/19	6	555	28	.01	87	.03	41057	12.33	8		133	.04
15	8/22	6	497	16	.01	113	.04	43978	14.75	7		157	.05
16	8/26	6	477	25	.01	117	.04	29129	10.18	10		101	.04
17	8/29	6	355	15	.01	45	.02	17790	8.35	8		39	.02
18	9/01	6	219	2		31	.02	5783	4.40	3		12	.01
TOTALS			712	28054	.43	90026	1.37	455269	6.95	93		588250	8.98

Table 14. Middle Kuskokwim River, District 2, commercial salmon harvest and fishing effort by period, 1995.

				CHINOOK		SOCKEYE		COHO		CHUM	
PERIOD	DATE	HOURS	PERMITS	NUMBER	CPUE	NUMBER	CPUE	NUMBER	CPUE	NUMBER	CPUE
1	6/26	4	16	1656	25.88	535	8.36			3628	56.69
2	6/29	4	13	707	13.60	620	11.92			3577	68.79
3	7/03	4	9	284	7.89	456	12.67			2200	61.11
4	7/06	4	8	74	2.31	331	10.34			2372	74.13
5	7/10	4	6	32	1.33	293	12.21			1874	78.08
6	7/14	4	2	7	.88	51	6.38			480	60.00
7	7/18	6	6	9	.25	44	1.22	6	.17	1638	45.50
8	7/21	4	5	4	.20	132	6.60	13	.65	899	44.95
9	8/04	6	6	10	.28	4	.11	1321	36.69	484	13.44
10	8/08	6	9	2	.04	6	.11	2816	52.15	379	7.02
11	8/12	6	8	5	.10	1	.02	2643	55.06	79	1.65
12	8/16	6	12	1	.01			4398	61.08	41	.57
13	8/19	6	5	1	.03			1679	55.97	4	.13
14	8/22	6	8			1	.02	1750	36.46	9	.19
15	8/26	6	3					712	39.56		
16	8/29	6	3					660	36.67	4	.22
17	9/01	6	1					194	32.33		
TOTALS			21	2792	1.51	2474	1.34	16192	8.76	17668	9.56

Table 15. The 1995 commercial salmon catch statistics for statistical area 335-11.

Fishing Period	Date	Hours	Permits	Permit Hours	Chinook Catch	Chinook CPUE	Chinook Ave.Wt. (lbs.)	Sockeye Catch	Sockeye CPUE	Sockeye Ave.Wt. (lbs.)	Chum Catch	Chum CPUE	Chum Ave.Wt. (lbs.)	Coho Catch	Coho CPUE	Coho Ave.Wt. (lbs.)
1	6/22	4	120	480	1,794	3.74	15.7	1,225	2.55	7.0	8,912	18.57	7.1	0	0.00	
2	6/26	4	117	468	1,242	2.65	16.4	4,950	10.58	7.1	16,819	35.94	6.9	0	0.00	
3	6/29	4	124	496	752	1.52	16.8	4,383	8.84	7.0	18,410	37.12	7.0	0	0.00	
	Subtotal			1,444	3,788	2.62		10,558	7.31		44,141	30.57		0	0.00	
4	7/3	4	117	468	453	0.97	17.4	3,199	6.84	7.1	17,751	37.93	6.8	0	0.00	
5	7/6	4	103	412	238	0.58	17.9	1,530	3.71	7.1	15,670	38.03	6.7	0	0.00	
6	7/10	4	96	384	111	0.29	21.1	927	2.41	6.9	14,650	38.15	6.6	0	0.00	
7	7/14	4	95	380	153	0.40	16.8	1,574	4.14	6.5	7,637	20.10	6.6	62	0.16	6.7
	Subtotal			1,644	955	0.58		7,230	4.40		55,708	33.89		62	0.04	
8	7/18	6	83	498	68	0.14	19.5	455	0.91	6.5	8,539	17.15	6.4	170	0.34	6.7
9	7/21	4	55	220	33	0.15	20.6	130	0.59	5.8	2,642	12.01	6.2	443	2.01	5.9
	Subtotal			718	101	0.14		585	0.81		11,181	15.57		613	0.85	
10	8/4	6	88	528	21	0.04	18.6	77	0.15	6.9	82	0.16	6.1	10,613	20.10	6.7
11	8/8	6	120	720	10	0.01	17.7	87	0.12	7.1	94	0.13	6.4	10,166	14.12	6.9
12	8/12	6	115	690	7	0.01	16.6	269	0.39	7.2	106	0.15	6.8	14,836	21.50	7.3
	Subtotal			1,938	38	0.02		433	0.22		282	0.15		35,615	18.38	
13	8/16	6	91	546	7	0.01	15.3	67	0.12	7.2	16	0.03	6.9	6,867	12.58	7.0
14	8/19	6	100	600	7	0.01	19.3	55	0.09	6.6	22	0.04	7.0	6,886	11.48	7.2
15	8/22	6	89	534	7	0.01	12.7	76	0.14	6.9	22	0.04	6.8	7,332	13.73	7.4
16	8/26	6	85	510	11	0.02	11.5	77	0.15	7.0	19	0.04	6.7	3,905	7.66	7.5
17	8/29	6	43	258	3	0.01	21.0	26	0.10	6.5	10	0.04	6.6	1,269	4.92	7.3
18	9/1	6	23	138	0	0.00		22	0.16	7.2	3	0.02	7.0	872	6.32	7.5
	Subtotal			2,586	35	0.01		323	0.12		92	0.04		27,131	10.49	
	TOTAL			8,330	4,917	0.59		19,129	2.30		111,404	13.37		63,421	7.61	

Table 16. The 1995 commercial salmon catch statistics for statistical area 335-12

Fishing Period	Date	Hours	Permits	Permit Hours	Chinook Catch	Chinook CPUE	Chinook Ave.Wt. (lbs.)	Sockeye Catch	Sockeye CPUE	Sockeye Ave.Wt. (lbs.)	Chum Catch	Chum CPUE	Chum Ave.Wt. (lbs.)	Coho Catch	Coho CPUE	Coho Ave.Wt. (lbs.)
1	6/22	4	449	1796	5,101	2.84	15.9	3,195	1.78	7.3	40,245	22.41	7.0	0	0.00	
2	6/26	4	270	1080	4,196	3.89	16.0	5,882	5.45	6.8	38,893	36.01	7.0	0	0.00	
3	6/29	4	257	1028	1,865	1.81	15.7	6,668	6.49	6.8	45,700	44.46	7.0	0	0.00	
	Subtotal			3,904	11,162	2.86		15,745	4.03		124,838	31.98		0	0.00	
4	7/3	4	152	608	637	1.05	17.3	3,324	5.47	7.0	30,563	50.27	6.9	0	0.00	
5	7/6	4	196	784	439	0.56	17.0	4,866	6.21	7.3	33,073	42.18	6.9	0	0.00	
6	7/10	4	188	752	267	0.36	19.2	1,447	1.92	7.3	30,094	40.02	6.8	15	0.02	7.30
7	7/14	4	203	812	195	0.24	17.5	786	0.97	7.0	18,045	22.22	6.6	112	0.14	6.7
	Subtotal			2,956	1,538	0.52		10,423	3.53		111,775	37.81		127	0.04	
8	7/18	6	109	654	105	0.16	17.6	457	0.70	7.2	11,341	17.34	6.7	236	0.36	6.9
9	7/21	4	171	684	56	0.08	16.6	173	0.25	7.0	7,988	11.68	6.5	436	0.64	6.4
	Subtotal			1,338	161	0.12		630	0.47		19,329	14.45		672	0.50	
10	8/4	6	59	354	14	0.04	11.9	18	0.05	7.2	259	0.73	6.3	14,545	41.09	6.8
11	8/8	6	265	1,590	35	0.02	18.9	66	0.04	7.2	473	0.30	6.7	41,623	26.18	6.9
12	8/12	6	280	1,680	14	0.01	19.4	58	0.03	7.6	202	0.12	6.9	48,136	28.65	7.0
	Subtotal			3,624	63	0.02		142	0.04		934	0.26		104,304	28.78	
13	8/16	6	251	1,506	14	0.01	15.8	23	0.02	6.7	76	0.05	6.1	18,086	12.01	7.3
14	8/19	6	242	1,452	11	0.01	17.5	20	0.01	6.9	61	0.04	6.7	16,437	11.32	7.2
15	8/22	6	213	1,278	2	0.00	16.0	21	0.02	7.0	83	0.06	6.6	17,312	13.55	7.3
16	8/26	6	191	1,146	9	0.01	18.3	30	0.03	7.2	48	0.04	6.4	9,299	8.11	7.4
17	8/29	6	152	912	5	0.01	27.0	14	0.02	5.9	15	0.02	6.9	8,186	8.98	7.4
18	9/1	6	79	474	1	0.00	13.0	7	0.01	6.3	7	0.01	7.0	1,108	2.34	7.4
	Subtotal			6,768	42	0.01		115	0.02		290	0.04		70,428	10.41	
	TOTAL			18,590	12,966	0.70		27,055	1.46		257,166	13.83		175,531	9.44	

Table 17. The 1995 commercial salmon catch statistics for statistical area 335-13.

Fishing Period	Date	Hours	Permits	Permit Hours	Chinook Catch	Chinook CPUE	Chinook Ave.Wt. (lbs.)	Sockeye Catch	Sockeye CPUE	Sockeye Ave.Wt. (lbs.)	Chum Catch	Chum CPUE	Chum Ave.Wt. (lbs.)	Coho Catch	Coho CPUE	Coho Ave.Wt. (lbs.)
1	6/22	4						CLOSED	TO	COMMERCIAL	FISHING					
2	6/26	4	193	772	3,970	5.14	15.1	8,526	11.04	6.9	36,766	47.62	6.9		0.00	
3	6/29	4	151	604	1,848	3.06	16.6	5,351	8.86	7.1	14,574	24.13	7.0		0.00	
	Subtotal			1,376	5,818	4.23		13,877	10.09		51,340	37.31		0	0.00	
4	7/3	4	153	612	1,103	1.80	17.6	6,341	10.36	7.0	26,526	43.34	6.9		0.00	
5	7/6	4	140	560	596	1.06	18.1	5,499	9.82	7.3	21,883	39.08	6.8		0.00	
6	7/10	4	163	652	371	0.57	19.2	1,975	3.03	7.3	27,758	42.57	6.7	6	0.01	5.3
7	7/14	4	87	348	126	0.36	17.2	552	1.59	7.3	9,049	26.00	6.5	42	0.12	6.9
	Subtotal			2,172	2,196	1.01		14,367	6.61		85,216	39.23		48	0.02	
8	7/18	6	96	576	114	0.20	18.8	358	0.62	7.4	8,770	15.23	6.4	206	0.36	6.5
9	7/21	4	100	400	88	0.22	17.8	217	0.54	7.3	6,679	16.70	6.5	307	0.77	6.6
	Subtotal			976	202	0.21		575	0.59		15,449	15.83		513	0.53	
10	8/4	6	26	156	26	0.17	19.9	28	0.18	8.1	605	3.88	6.2	22,165	142.08	6.5
11	8/8	6	40	240	40	0.17	18.9	181	0.75	7.2	393	1.64	6.9	36,567	152.36	7.0
12	8/12	6	19	114	19	0.17	15.4	22	0.19	8.2	451	3.96	7.7	29,290	256.93	7.0
	Subtotal			510	85	0.17		231	0.45		1,449	2.84		88,022	172.59	
13	8/16	6	17	102	17	0.17	16.9	50	0.49	7.2	74	0.73	6.6	29,628	290.47	7.1
14	8/19	6	5	30	5	0.17	20.4	8	0.27	7.4	34	1.13	7.1	12,069	402.30	7.0
15	8/22	6	4	24	4	0.17	13.8	9	0.38	6.9	35	1.46	6.9	15,120	630.00	7.2
16	8/26	6	3	18	3	0.17	22.0	9	0.50	8.6	14	0.78	7.3	10,316	573.11	7.3
17	8/29	6	5	30	5	0.17	13.2	3	0.10	5.0	6	0.20	8.0	6,154	205.13	7.4
18	9/1	6	1	6	1	0.17	23.0	2	0.33	4.5	2	0.33	10.0	2,893	482.17	7.4
	Subtotal			210	35	0.17		81	0.39		165	0.79		76,180	362.76	
	TOTAL			5,244	8,336	1.59		29,131	5.56		153,619	29.29		164,763	31.42	

Table 18. The 1995 commercial salmon catch statistics for statistical area 335-14.

Fishing Period	Date	Hours	Permits	Permit Hours	Chinook Catch	Chinook CPUE	Chinook Ave.Wt. (lbs.)	Sockeye Catch	Sockeye CPUE	Sockeye Ave.Wt. (lbs.)	Chum Catch	Chum CPUE	Chum Ave.Wt. (lbs.)	Coho Catch	Coho CPUE	Coho Ave.Wt. (lbs.)
1	6/22	4						CLOSED	TO	COMMERCIAL	FISHING					
2	6/26	4	4	16	841	52.56	13.3	91	5.69	6.3	674	42.13	6.9	0	0.00	
3	6/29	4	33	132	8,105	61.40	16.6	1,786	13.53	7.4	4,896	37.09	7.0	0	0.00	
	Subtotal			148	8,946	60.45		1,877	12.68		5,570	37.64		0	0.00	
4	7/3	4	55	220	11,406	51.85	17.4	4,214	19.15	6.8	14,587	66.30	6.8	0	0.00	
5	7/6	4	45	180	4,923	27.35	19.9	2,870	15.94	7.2	10,620	59.00	6.9	0	0.00	
6	7/10	4	48	192	3,091	16.10	19.7	2,751	14.33	6.8	13,866	72.22	6.6	0	0.00	
7	7/14	4	50	200	1,304	6.52	18.1	1,307	6.54	6.7	8,406	42.03	6.6	5	0.03	11.4
	Subtotal			792	20,724	26.17		11,142	14.07		47,479	59.95		5	0.01	
8	7/18	6	50	300	1,691	5.64	21.4	1,212	4.04	6.6	8,644	28.81	6.3	59	0.20	8.0
9	7/21	4	42	168	670	3.99	26.8	420	2.50	6.7	3,730	22.20	6.4	86	0.51	7.1
	Subtotal			468	2,361	5.04		1,632	3.49		12,374	26.44		145	0.31	
10	8/4	6	6	36	102	2.83	34.0	0	0.00		126	3.50	5.7	1,342	37.28	6.5
11	8/8	6	36	216	198	0.92	19.8	29	0.13	7.3	269	1.25	6.8	10,192	47.19	6.7
12	8/12	6	43	258	184	0.71	18.4	10	0.04	7.3	140	0.54	6.6	10,159	39.38	6.9
	Subtotal			510	484	0.95		39	0.08		535	1.05		21,693	42.54	
13	8/16	6	52	312	265	0.85	18.9	7	0.02	9.3	42	0.13	7.1	11,132	35.68	6.9
14	8/19	6	55	330	163	0.49	32.6	4	0.01	6.0	16	0.05	7.6	5,665	17.17	7.0
15	8/22	6	47	282	101	0.36	33.7	7	0.02	9.1	17	0.06	8.6	4,214	14.94	7.3
16	8/26	6	52	312	57	0.18	28.5	1	0.00	12.0	20	0.06	8.4	5,609	17.98	7.1
17	8/29	6	40	240	42	0.18	21.0	2	0.01	10.0	8	0.03	10.1	2,181	9.09	8.1
18	9/1	6	15	90	0	0.00		0	0.00		0	0.00		910	10.11	7.6
	Subtotal			1,566	628	0.40		21	0.01		103	0.07		29,711	18.97	
	TOTAL			3,484	33,143	9.51		14,711	4.22		66,061	18.96		51,554	14.80	

Table 19. Quinhagak, District 4, commercial salmon harvest and effort by period, 1995.

				CHINOOK		SOCKEYE		COHO		PINK		CHUM	
PERIOD	DATE	HOURS	PERMITS	NUMBER	CPUE	NUMBER	CPUE	NUMBER	CPUE	NUMBER	CPUE	NUMBER	CPUE
1	6/13	12	116	7621	5.47	55	.04					182	.13
2	6/17	12	239	8190	2.86	356	.12					1916	.67
3	6/20	12	215	7341	2.85	485	.19					2760	1.07
4	6/24	12	173	6073	2.93	3266	1.57					5990	2.89
5	6/26	6	70	1506	3.59	805	1.92					2851	6.79
6	6/29	12	70	2048	2.44	4765	5.67					8231	9.80
7	7/03	12	37	1096	2.47	7045	15.87					8074	18.18
8	7/05	12	107	1073	.84	4366	3.40					7481	5.83
9	7/07	12	57	676	.99	4812	7.04					7138	10.44
10	7/10	12	85	804	.79	9894	9.70					5667	5.56
11	7/12	12	98	516	.44	6827	5.81					9074	7.72
12	7/14	12	112	438	.33	5738	4.27					5381	4.00
13	7/17	12	127	287	.19	5166	3.39			2		4193	2.75
14	7/19	12	79	140	.15	3532	3.73			2		3184	3.36
15	7/21	12	57	162	.24	2523	3.69	7	.01	4	.01	2086	3.05
16	7/24	12	52	156	.25	2610	4.18	93	.15	13	.02	2713	4.35
17	7/26	12	52	71	.11	1404	2.25	116	.19	9	.01	1279	2.05
18	7/28	12	43	63	.12	879	1.70	390	.76	19	.04	975	1.89
19	7/31	12	51	54	.09	730	1.19	954	1.56	26	.04	715	1.17
20	8/02	12	59	30	.04	583	.82	3706	5.23	16	.02	459	.65
21	8/04	12	65	37	.05	387	.50	4293	5.50	1		262	.34
22	8/07	12	100	49	.04	481	.40	4614	3.85	23	.02	260	.22
23	8/09	12	79	36	.04	307	.32	9133	9.63	10	.01	166	.18
24	8/11	12	90	31	.03	192	.18	5471	5.07	4		110	.10
25	8/14	12	112	25	.02	194	.14	4252	3.16	12	.01	98	.07
26	8/16	12	48	10	.02	133	.23	2515	4.37	3	.01	47	.08
27	8/18	12	68	10	.01	146	.18	5879	7.20	8	.01	49	.06
28	8/21	12	82	11	.01	139	.14	4816	4.89	3		26	.03
29	8/23	12	75	11	.01	102	.11	8588	9.54	1		27	.03
30	8/25	12	77	3		114	.12	2440	2.64	7	.01	25	.03
31	8/28	12	67	4		68	.08	4176	5.19	6	.01	17	.02
32	8/30	12	67	9	.01	58	.07	2193	2.73	8	.01	18	.02
33	9/01	12	41	3	.01	32	.07	2565	5.21	11	.02	8	.02
34	9/04	12	NO COMMERCIAL FISHING - NO BUYER										
35	9/06	12	NO COMMERCIAL FISHING - NO BUYER										
TOTALS			382	38584	.26	68194	.46	66203	.44	186		81462	.55

Table 20. Goodnews Bay, District 5, commercial salmon harvest and effort by period, 1995.

				CHINOOK		SOCKEYE		COHO		PINK		CHUM	
PERIOD	DATE	HOURS	PERMITS	NUMBER	CPUE	NUMBER	CPUE	NUMBER	CPUE	NUMBER	CPUE	NUMBER	CPUE
1	6/26	12	NO COMMERCIAL FISHING - NO BUYER										
2	6/29	12	30	914	2.54	1412	3.92					1242	3.45
3	7/03	12	32	264	.69	1427	3.72					2540	6.61
4	7/05	12	33	229	.58	2380	6.01					1324	3.34
5	7/07	12	38	274	.60	2476	5.43					2207	4.84
6	7/08	12	43	202	.39	4362	8.45					2090	4.05
7	7/10	36	59	326	.15	8140	3.83			2		4835	2.28
8	7/13	36	68	182	.07	4291	1.75					1361	.56
9	7/17	36	57	156	.08	3642	1.77					2115	1.03
10	7/20	36	36	109	.08	2601	2.01	1		1		1187	.92
11	7/24	12	26	54	.17	829	2.66	4	.01	4	.01	355	1.14
12	7/26	12	30	41	.11	852	2.37	6	.02	5	.01	226	.63
13	7/28	12	16	22	.11	578	3.01	3	.02	1	.01	81	.42
14	7/31	12	23	17	.06	667	2.42	30	.11	1		77	.28
15	8/02	12	23	20	.07	634	2.30	109	.39	4	.01	66	.24
16	8/07	12	23	17	.06	692	2.51	520	1.88	4	.01	62	.22
17	8/11	12	21	20	.08	146	.58	1289	5.12	2	.01	11	.04
18	8/14	12	26	13	.04	353	1.13	2455	7.87			15	.05
19	8/16	12	29	17	.05	310	.89	1290	3.71	3	.01	14	.04
20	8/18	12	30	10	.03	318	.88	2378	6.61			9	.03
21	8/21	12	34	11	.03	373	.91	2147	5.26	3	.01	5	.01
22	8/25	12	35	11	.03	353	.84	2039	4.85	3	.01	8	.02
23	8/28	12	29	11	.03	186	.53	2322	6.67	2	.01	1	
24	8/30	12	31	1		171	.46	2173	5.84				
25	9/01	12	25	1		158	.53	1109	3.70	4	.01	1	
TOTALS			118	2922	.06	37351	.82	17875	.39	39		19832	.44

Table 21. Preliminary projections of the 1996 Kuskokwim Area commercial salmon harvest in thousands of fish by species and management district.[a]

	MANAGEMENT DISTRICT			KUSKOKWIM
	KUSKOKWIM RIVER	QUINHAGAK	GOODNEWS BAY	AREA TOTAL
CHINOOK	20 - 45	10 - 20	2 - 3	32 - 68
SOCKEYE	30 - 60	50 - 80	35 - 70	115 - 210
COHO	500 - 700	50 - 90	15 - 30	565 - 820
PINK[b]	30 - 3	10 - 60	1 - 18	41 - 81
CHUM	100 - 300	60 - 90	10 - 20	170 - 410
TOTAL	680 - 1108	180 - 340	63 - 141	923 - 1589

a Except as noted, all catches are based on catches from 1985 through 1995

b Kuskokwim Area pink salmon display a strong odd-even year cycle; the 1996 projections are based on the even years catches only.

Table 22. 1995 Kuskokwim Area subsistence salmon project sampling summary

COMMUNITY	Total HH	CALENDARS Mailed	CALENDARS Returned	POSTCARDS Mailed	POSTCARDS Returned	Household Surveys	Phone Surveys	Any Information	Subsist. Fished
Kipnuk	82	5	0	0	0	0	0	0	
Kwigillingok	35	3	0	0	0	0	0	0	
Kongiganak	58	44	0	2	2	34	0	34	28
N. KUSKOKWIM BAY TOTALS	175	52	0	2	2	34	0	34	28
Tuntutuliak	70	57	10	0	0	51	0	51	38
Eek	73	59	17	0	0	53	0	59	43
Kasigluk	78	8	4	0	0	0	0	4	4
Nunapitchuk	93	77	15	1	1	72	0	79	58
Atmautluak	52	46	4	1	1	42	0	41	36
Napakiak	65	56	9	2	2	39	0	49	32
Napaskiak	79	62	6	0	0	47	0	51	36
Oscarville	13	10	6	1	1	10	0	11	9
Bethel	1,974	393	53	1,789	416	0	284	634	300
Kwethluk	132	105	26	0	0	84	0	84	67
Akiachak	104	87	11	1	0	74	0	81	66
Akiak	57	49	5	2	2	36	0	44	39
Tuluksak	65	53	9	1	1	47	0	53	43
LOWER KUSKOKWIM TOTALS	2,855	1,062	175	1,798	424	555	284	1,241	771
Lower Kalskag	71	55	12	1	1	42	0	52	35
Upper Kalskag	37	29	12	0	0	28	0	32	23
Aniak	153	106	6	2	0	126	0	127	91
Chauthbaluk	32	27	6	1	1	21	0	24	17
MIDDLE KUSKOKWIM TOTALS	293	217	36	4	2	217	0	235	166
Crooked Creek	26	22	3	1	1	14	0	19	12
Red Devil	19	16	3	3	3	11	0	14	10
Sleetmute	41	35	8	0	0	26	0	29	25
Stony River	16	11	3	0	0	11	0	12	7
Lime Village	15	7	0	0	0	5	0	9	5
McGrath	120	36	6	112	52	0	39	82	32
Takotna	13	0	0	0	0	0	0	0	0
Nikolai	30	18	4	1	0	21	1	24	13
Telida	3	0	0	0	0	0	0	0	
UPPER KUSKOKWIM TOTALS	283	145	27	117	56	88	40	189	104
Quinhagak	125	102	12	0	0	92	0	94	76
Goodnews Bay	56	36	4	0	0	32	0	39	18
Platinum	10	7	0	0	0	4	0	7	5
S KUSKOKWIM BAY TOTALS	191	145	16	0	0	128	0	140	99
Mekoryak	54	13	0	1	1	0	0	0	
Newtok	49	1	0	0	0	0	0	0	
Nightmute	25	1	0	0	0	0	0	0	
Toksook Bay	74	10	2	0	0	0	0	2	2
Tununak	63	1	0	0	0	0	0	0	
BERING SEA COAST TOTALS	271	26	2	1	1	0	0	2	2
KUSKOKWIM AREA TOTALS	4,068	1,647	256	1,922	485	1,022	324	1,841	1,170

Table 23. 1995 Kuskokwim Area subsistence salmon harvests

COMMUNITY	Total HH's	HH's Contacted	CHINOOK Reported Harvest	CHINOOK Est.* Total	CHUM Reported Harvest	CHUM Est.* Total	SOCKEYE Reported Harvest	SOCKEYE Est.* Total	COHO Reported Harvest	COHO Est.* Total
Kipnuk	82	0	0		0		0		0	
Kwigillingok	35	0	0		0		0		0	
Kongiganak	58	34	472	843	714	1,275	297	530	339	605
N. KUSKOKWIM BAY	175	34	472	843	714	1,275	297	530	339	605
Tuntutuliak	70	51	2,814	4,023	2,441	3,488	793	1,134	252	365
Eek	73	59	2,914	3,535	672	815	232	282	287	347
Kasigluk	78	4	392	392	453	453	110	110	237	237
Nunapitchuk	93	79	3,596	4,326	3,514	4,226	721	867	523	630
Atmautluak	52	41	1,548	1,935	2,850	3,563	904	1,130	465	581
Napakiak	65	49	2,601	3,902	2,056	3,084	639	959	260	390
Napaskiak	79	51	2,847	4,984	2,468	4,271	914	1605	359	580
Oscarville	13	11	1,046	1,278	740	904	301	368	0	
Bethel	1,974	634	17,135	34,033	8,674	19,122	4,346	9,985	10,306	24,094
Kwethluk	132	84	5,933	9,121	3,918	6,023	1,580	2,429	823	1,265
Akiachak	104	81	4,958	6,571	3,069	4,074	1,520	2,019	509	677
Akiak	57	44	2,990	3,910	1,463	1,913	504	659	393	514
Tuluksak	65	53	3,405	4,333	2,063	2,609	983	1,244	417	531
LOWER KUSKOKWIM	2,855	1,241	52,179	82,343	34,381	54,545	13,547	22,791	14,831	30,211
Lower Kalskag	71	52	3,609	5,250	1,029	1,497	481	701	507	739
Upper Kalskag	37	32	1,004	1,221	1,139	1,387	41	50	143	174
Aniak	153	127	2,874	3,532	2,993	3,683	818	1,007	1,060	1,304
Chuathbaluk	32	24	1,778	2,615	1,229	1,807	321	472	57	84
MIDDLE KUSKOKWIM	293	235	9,265	12,618	6,390	8,374	1,661	2,230	1,767	2,301
Crooked Creek	26	19	590	934	226	358	121	192	243	381
Red Devil	19	14	342	418	660	965	433	597	1,138	1,667
Sleetmute	41	29	595	857	1,148	1,699	502	743	728	1,075
Stony River	16	12	356	559	875	1,375	854	1,342	689	1,083
Lime Village	15	9	72	144	460	920	350	700	123	246
McGrath	120	82	621	812	1,211	1,531	0	0	1,767	2,262
Takotna	13	0	0	0	0	0	0	0	0	
Nikolai	30	24	756	1,045	222	307	0	0	408	565
Telida	3	0	0	0	0	0	0	0	0	
UPPER KUSKOKWIM	283	189	3,332	4,769	4,802	7,155	2,260	3,574	5,096	7,279
KUSKOKWIM RIVER	3,606	1,699	65,248	100,573	46,287	71,349	17,765	29,125	22,033	40,396
Quinhagak	125	94	2,043	2,715	524	696	433	575	1,994	2,650
Goodnews Bay	56	39	518	902	92	160	133	230	176	313
Platinum	10	7	8	8	0	0	9	9	6	6
S. KUSKOKWIM BAY	191	140	2,569	3,625	616	856	575	814	2,176	2,969
Mekoryuk	54	0	0		0		0		0	
Newtok	49	0	0		0		0		0	
Nightmute	25	0	0		0		0		0	
Toksook Bay	74	2	94	94	239	239	5	5	22	22
Tununak	69	0	0		0		0		0	
BERING SEA COAST	271	2	94	94	239	239	5	5	22	22
TOTALS	4,068	1,841	67,911	104,292	47,142	72,444	18,345	29,944	24,231	43,387

* If less than 30 or 50% of households in a community were contacted, then reported harvest is used for estimated harvest.

Table 24. Kuskokwim area Pacific herring proportion of biomass by age class, 1995.

District	Age (years) 2	3	4	5	6	7	8	9	10	11	12	13+	Total weight (st)
Commercial catch[a]													
Security Cove				0.3	1.4	16.9	28.4	6.1	14.6	16.7	7.3	8.4	1292
Goodnews Bay				0.3	2.5	16.7	25.0	13.1	18.6	13.9	5.8	4.1	1054
Cape Avinof				0.4	0.8	16.3	17.3	9.7	16.9	15.5	10.1	13.0	485
Nelson Island				0.1	0.1	4.9	11.3	4.9	10.6	24.4	16.3	27.3	1113
Nunivak Island						22.0	19.5	2.4	7.3	19.5	14.6	17.1	41
All Districts				0.3	1.2	13.5	21.3	8.0	14.8	18.0	9.8	13.2	3985
Test Fishery[b]													
Security Cove		0.2	12.2	14.1	8.2	20.9	18.2	3.8	6.3	7.2	3.8	5.2	6702
Goodnews Bay		0.0	7.0	8.2	4.5	21.5	19.9	5.1	7.2	8.8	5.0	12.8	4219
Cape Avinof		0.9	10.9	20.1	5.8	24.6	10.7	5.2	6.5	7.2	4.2	4.1	3627
Nelson Island		0.1	7.8	17.4	5.0	24.5	15.9	4.5	4.7	8.0	4.0	8.1	7754
Nunivak Island	0.1	0.1	10.7	19.0	5.5	20.3	9.5	2.9	5.4	7.2	5.9	12.7	4579
All Districts	0.0	0.2	9.7	15.8	5.9	22.4	15.3	4.2	5.9	7.8	4.5	8.4	26881

a Commercial drift gill net
b ADF&G variable mesh gill net

Table 25. Kuskokwim area Pacific herring age frequency by district, 1995.

District	Age (years) 2	3	4	5	6	7	8	9	10	11	12	13+	Sample Size
Commercial catch[a]													
Security Cove				0.5	1.8	20.2	30.9	6.1	13.6	14.3	6.1	6.4	391
Goodnews Bay				0.5	3.3	19.5	26.4	12.9	17.0	12.2	4.8	3.3	394
Cape Avinof				0.5	1.0	19.9	18.9	10.1	15.8	14.0	8.8	10.9	386
Nelson Island				0.1	0.1	6.2	13.1	5.3	11.0	24.4	15.7	24.1	681
Nunivak Island					1.1	25.0	21.6	2.3	8.0	18.2	11.4	12.5	88
All Districts				0.4	1.3	15.3	20.9	7.8	13.6	17.5	10.0	13.2	1940
Test Fishery[b]													
Security Cove		0.7	24.6	22.1	9.5	19.1	12.1	2.3	2.6	3.0	1.7	2.4	1227
Goodnews Bay		0.1	14.0	12.1	5.5	22.1	18.2	4.1	5.5	6.7	3.5	8.2	1458
Cape Avinof		2.1	18.2	25.5	6.1	21.8	8.5	3.8	4.4	4.6	2.5	2.2	948
Nelson Island		0.4	14.6	24.1	5.8	23.1	12.9	3.5	3.3	5.2	2.5	4.7	2000
Nunivak Island	0.3	0.3	18.9	26.5	5.8	19.0	7.8	2.1	3.8	4.8	3.7	7.0	1177
All Districts	0.0	0.6	17.5	21.8	6.4	21.3	12.4	3.2	3.9	5.0	2.8	5.1	6810

a Commercial drift gill net
b ADF&G variable mesh gill net

Table 26. Summary of Pacific herring commercial harvest by fishing period for Kuskokwim Area fishing districts, Alaska, 1995.

District	Period	Date	Time	Total hours	Harvest (st)
Security Cove	1	5/14	0900-1300	4.0	324.4
	2	5/14-15	1700-0100	8.0	932.7
	3[a]	5/18	-----	---	35.0
			Total	12.0	1,292.1
Goodnews Bay	1	5/19	0800-1400	6.0	97.4
	2	5/20	0900-1500	6.0	10.1
	3	5/21	1000-1600	6.0	55.1
	4	5/22	1030-1630	6.0	163.5
	5	5/23	1130-1730	6.0	22.8
	6	5/24	1200-1800	6.0	25.6
	7	5/25	1400-2000	6.0	142.5
	8	5/26	0200-0900	7.0	141.4
	9	5/26	1430-2130	7.0	395.1
			Total	56.0	1,053.5
Cape Avinof	1	5/26	1700-2300	6.0	66.3
	2	5/27	0600-1200	6.0	43.0
	3	5/27	1800-2400	6.0	46.5
	4	5/28	0700-1300	6.0	17.5
	5	5/28-29	2000-0200	6.0	103.9
	6	5/29	0830-1430	6.0	24.1
	7	5/29-30	2100-0300	6.0	157.7
	8	5/30	0930-1530	6.0	26.4
			Total	48.0	485.4
Nelson Island	1	5/21	0300-0800	5.0	316.3
	2	5/21	1400-2000	6.0	287.6
	3	5/22	0530-0800	2.5	111.8
	4	5/27-28	1900-0100	6.0	155.4
	5	5/28	0700-1300	6.0	125.5
	6	5/28-29	2230-0100	2.5	115.9
			Total	28.0	1,112.5
Nunivak Island	1	5/19	1100-1700	6.0	0.0
	2	5/19-20	2300-0500	6.0	12.3
	3	5/20	1200-1800	6.0	8.6
	4	5/21	0000-0600	6.0	0.0
	5	5/21	0700-1300	6.0	0.2
	6	5/22	1600-2200	6.0	0.0
	7	5/22-6/7	1000-1300	387.0	19.7
			Total	423.0	40.8

a aerial survey calibration test fishery catch

Table 27. Projections of Pacific herring spawning biomass and harvest for commercial fishing districts in the Kuskokwim Area, Alaska, 1996.

	1996 Projection[a]			
District	Biomass (st)	Threshold (st)[b]	Harvest (st)	Exploitation Rate (%)
Security Cove	5,623	1,200	1,125	20
Goodnews Bay	2,847	1,200	569	20
Cape Avinof	3,230	500	484	15
Nelson Island	6,638	3,000	996	15
Nunivak Island	4,197	1,500	839	20
Total	22,535		4,013	

a Preseason projection. Projection may be adjusted based on inseason biomass estimates.

b Threshold biomass needed to allow a commercial fishery from 5 AAC 27.060 Bering Sea Herring Fishery Management Plan

Table 28. A sustained yield scenario for Kuskokwim River chum salmon.

1983-1992 Median Commercial Catch	1983-1992[a] Median Subsistence Catch	Mediun Total Catch	2 R/S[b] Spawning Escapement	Total Run
424,000	82,000	506,000	506,000	1,012,000

Spawning Escapement	Median Subsistence Catch above Sonar	Minimum Run Size for Escapement and Subsistence
506,000	51,000[c]	557,000

a Chum salmon were separated from other small salmon in the subsistence catch beginning in 1985. 1986-1987 are excluded due to incomplete data.

b Productivity level typical for chum salmon.

c Excludes 1993 from above database due to closure and mesh restriction

FIGURES

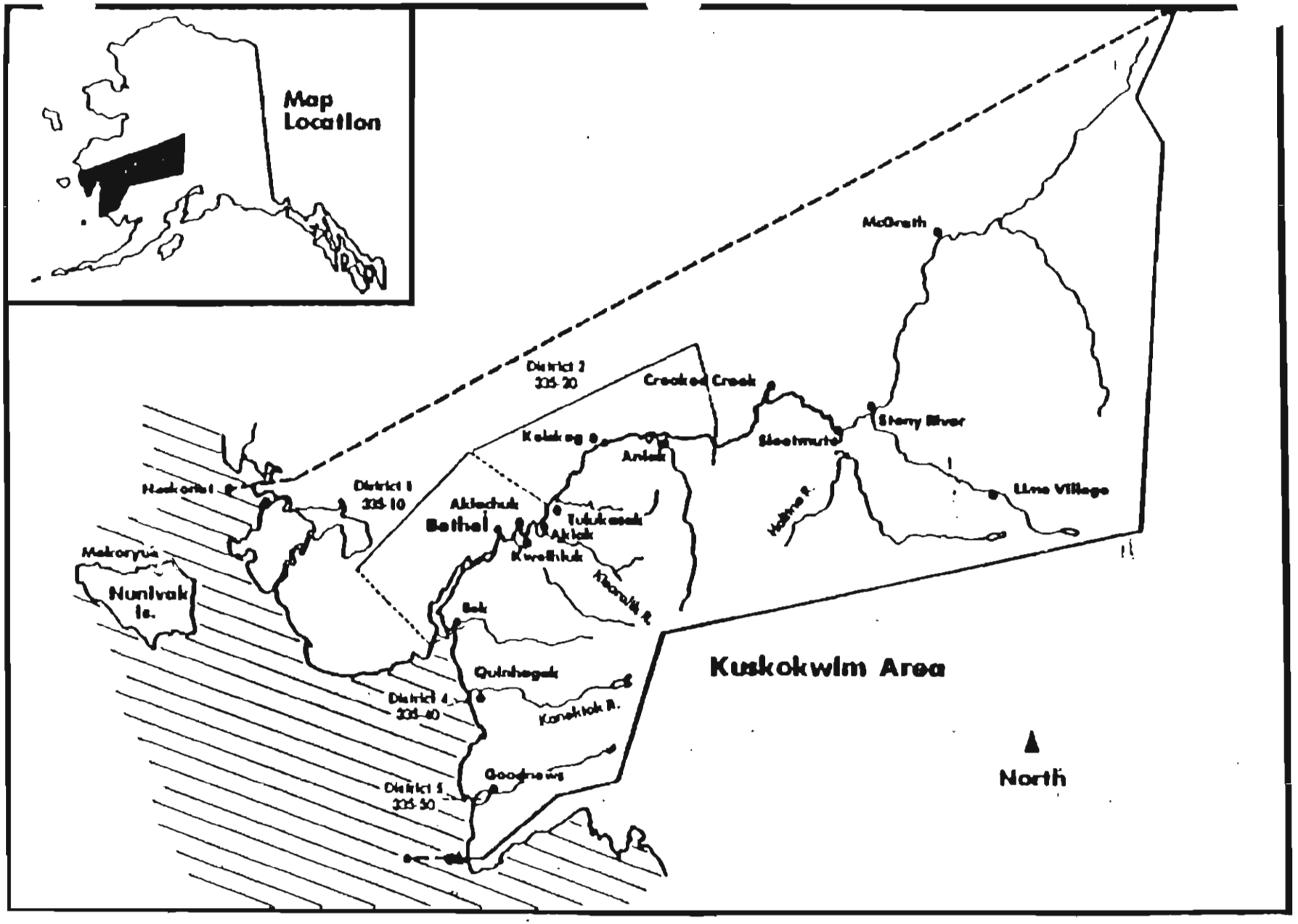
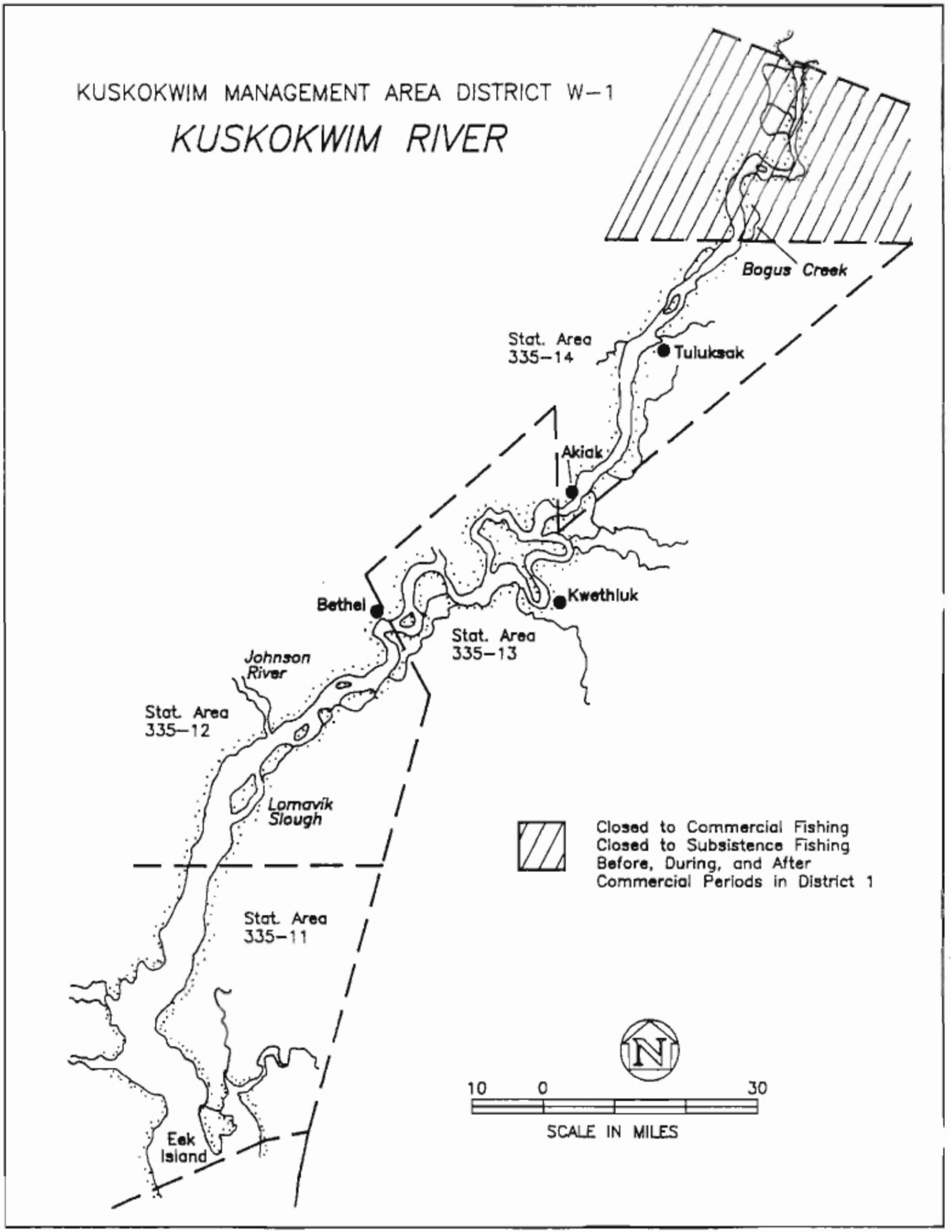
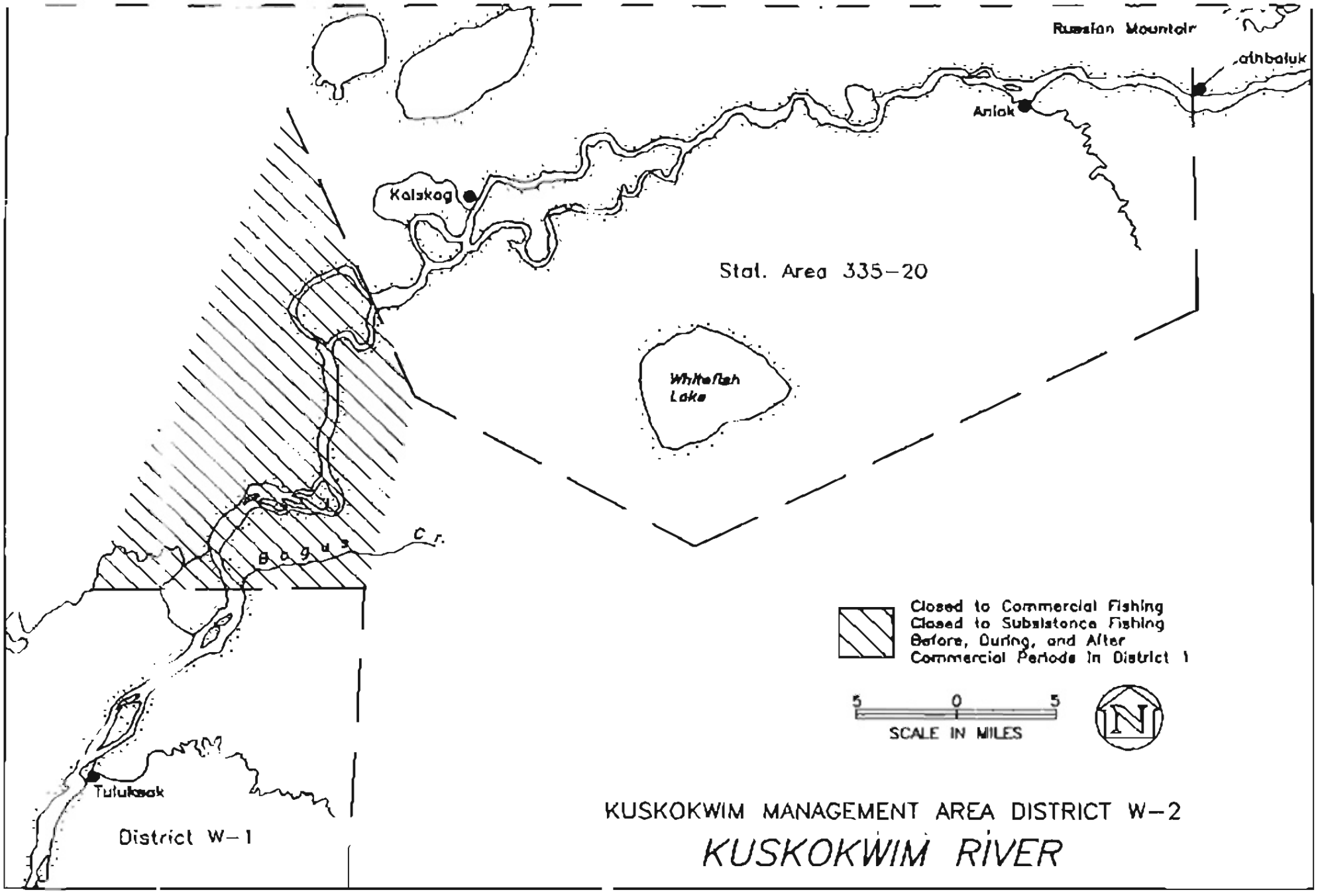


Figure 1. Kuskokwim Area Map


KUSKOKWIM MANAGEMENT AREA DISTRICT W-1
KUSKOKWIM RIVER
Bogus Creek
Stat. Area
335-14
Tuluksak
Akiak
Kwethluk
Bethel
Stat. Area
335-13
Johnson
River
Stat. Area
335-12
Lomavik
Slough
Closed to Commercial Fishing
Closed to Subsistence Fishing
Before, During, and After
Commercial Periods in District 1
Stat. Area
335-11
N
10
0
30
SCALE IN MILES
Eek
Island


Russian Mountain
Aniak
Kalskag
Stat. Area 335-20
Whitefish Lake
Bogus Cr.
Tuluksak
District W-1
Closed to Commercial Fishing
Closed to Subsistence Fishing
Before, During, and After
Commercial Periods in District 1
5 0 5
SCALE IN MILES
N
KUSKOKWIM MANAGEMENT AREA DISTRICT W-2
KUSKOKWIM RIVER

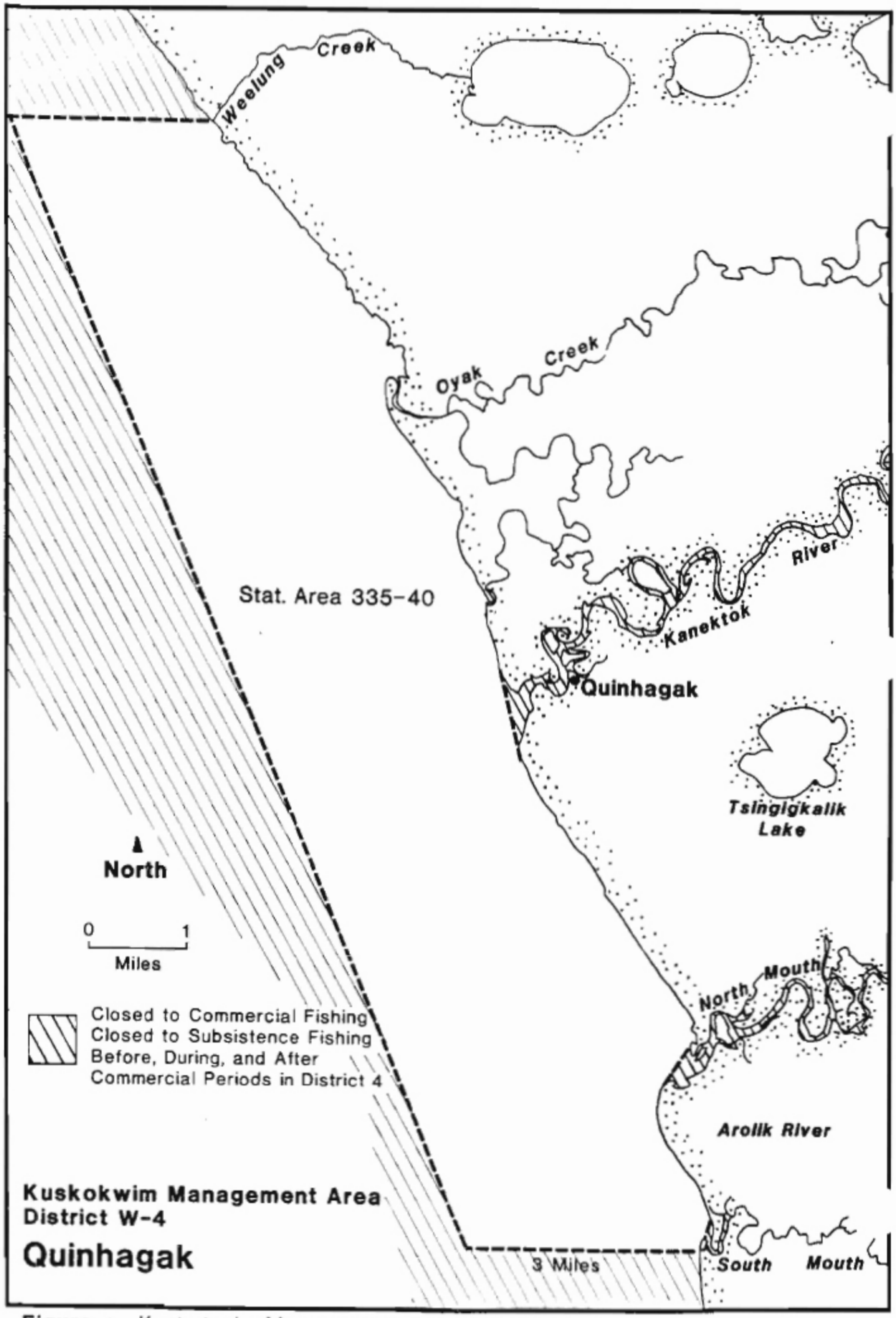


Figure 4. Kuskokwim Management Area, District W-4

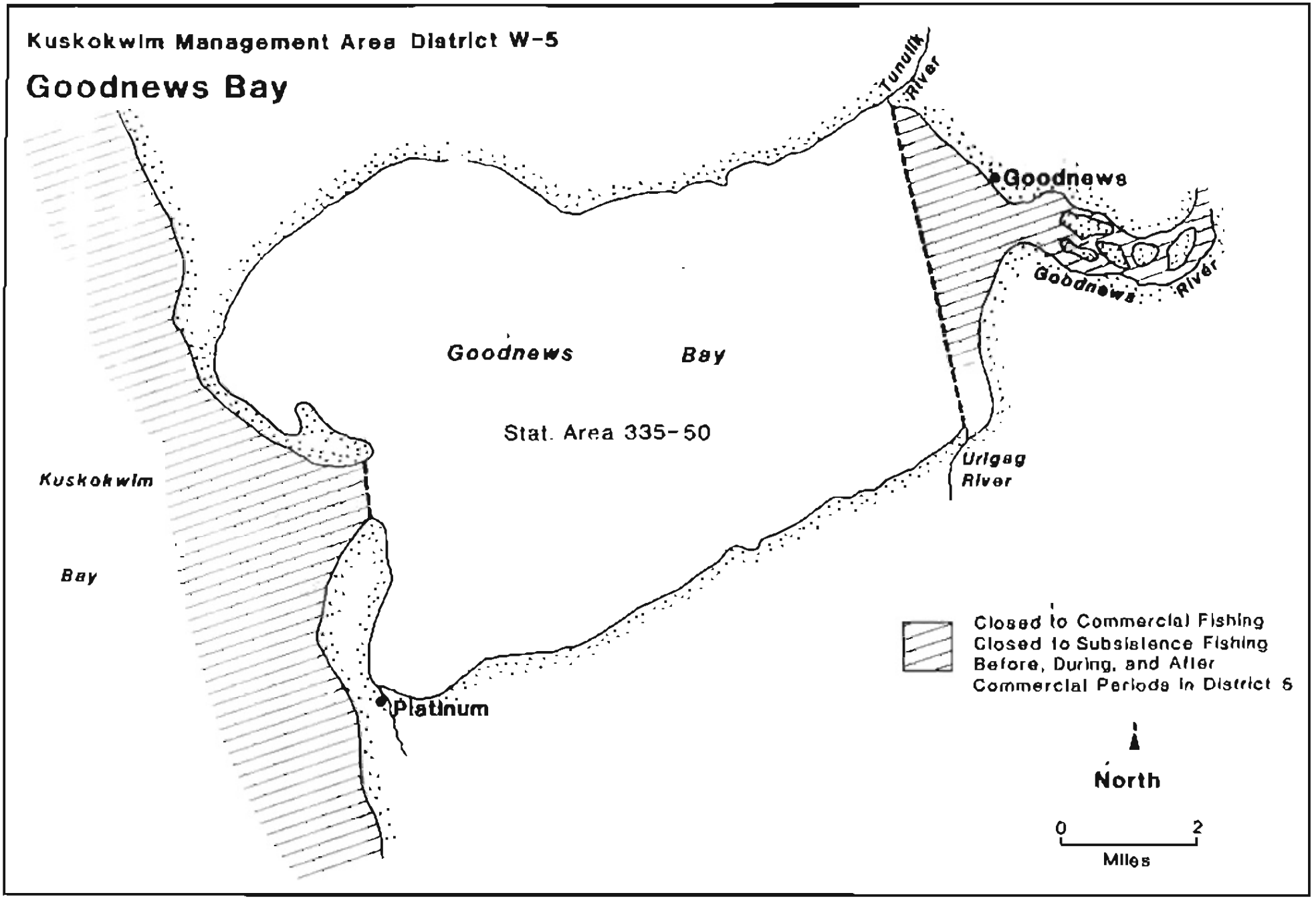


Figure 5. Kuskokwim Management Area, District W-5

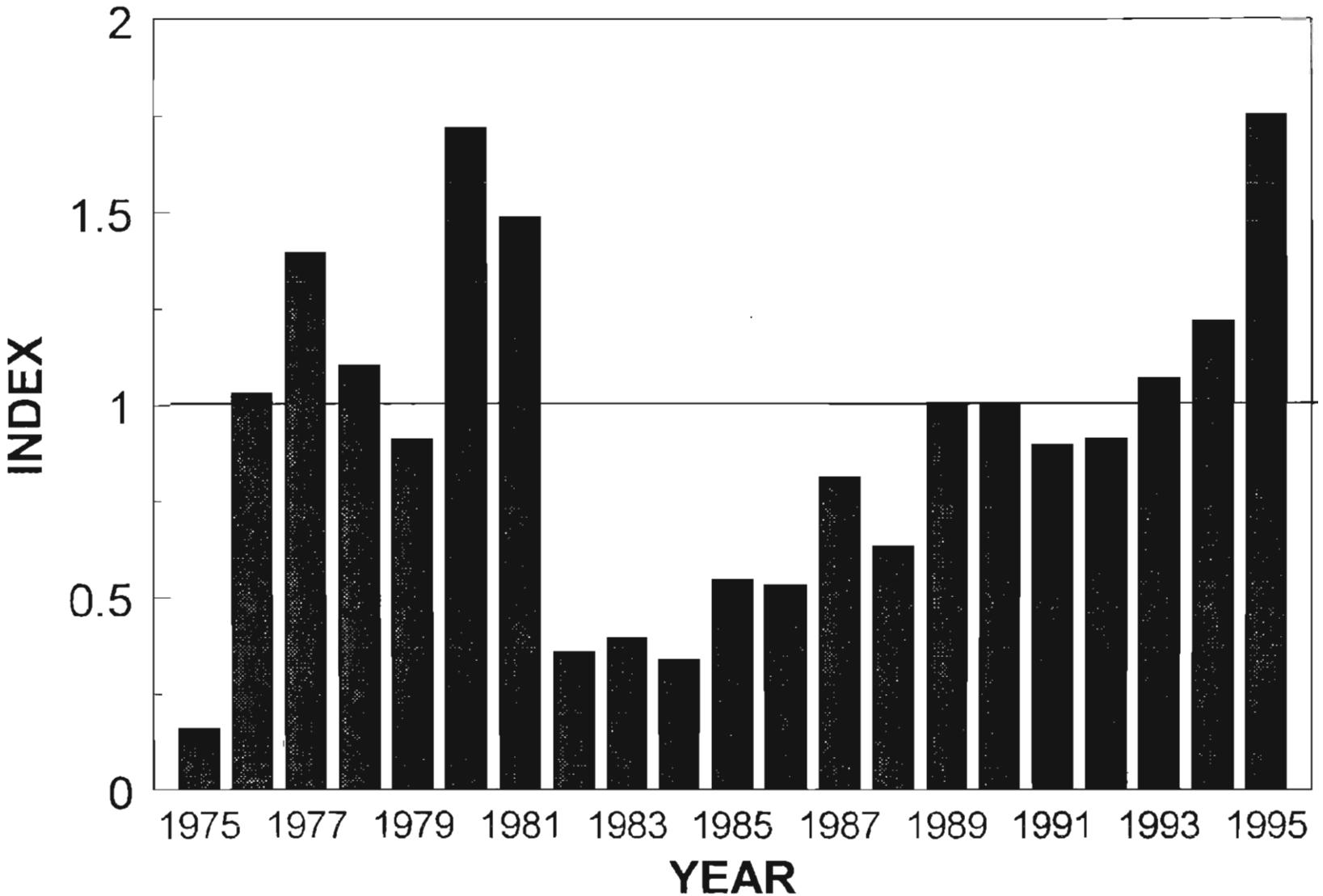


Figure 6. Kuskokwim River drainage chinook salmon escapement index, 1995.
Estimated proportion of chinook escapement goal achieved for Kuskokwim River drainage. Based on median escapement goal proportion for streams sampled by aerial surveys.

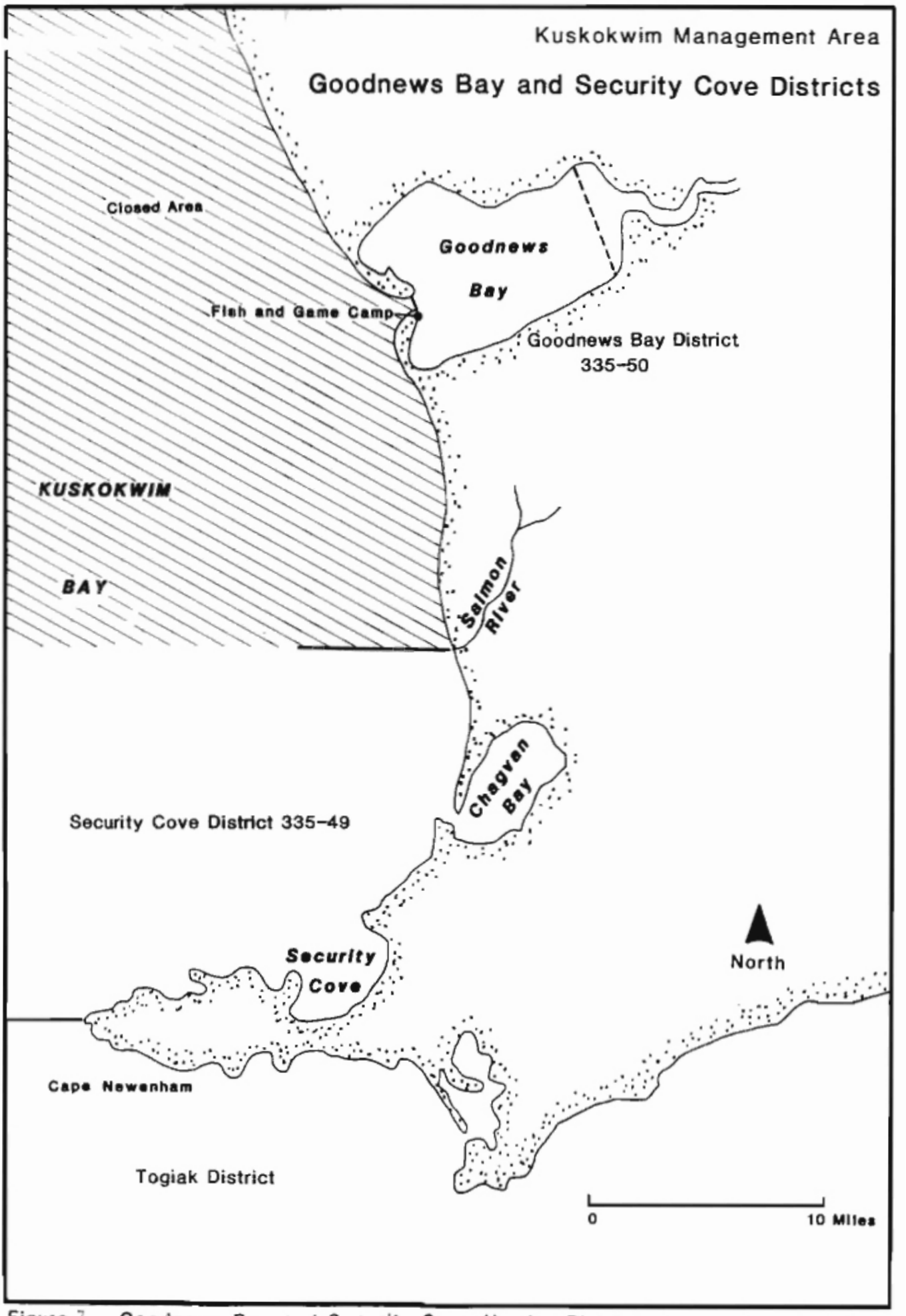


Figure 7. Goodnews Bay and Security Cove Herring Districts

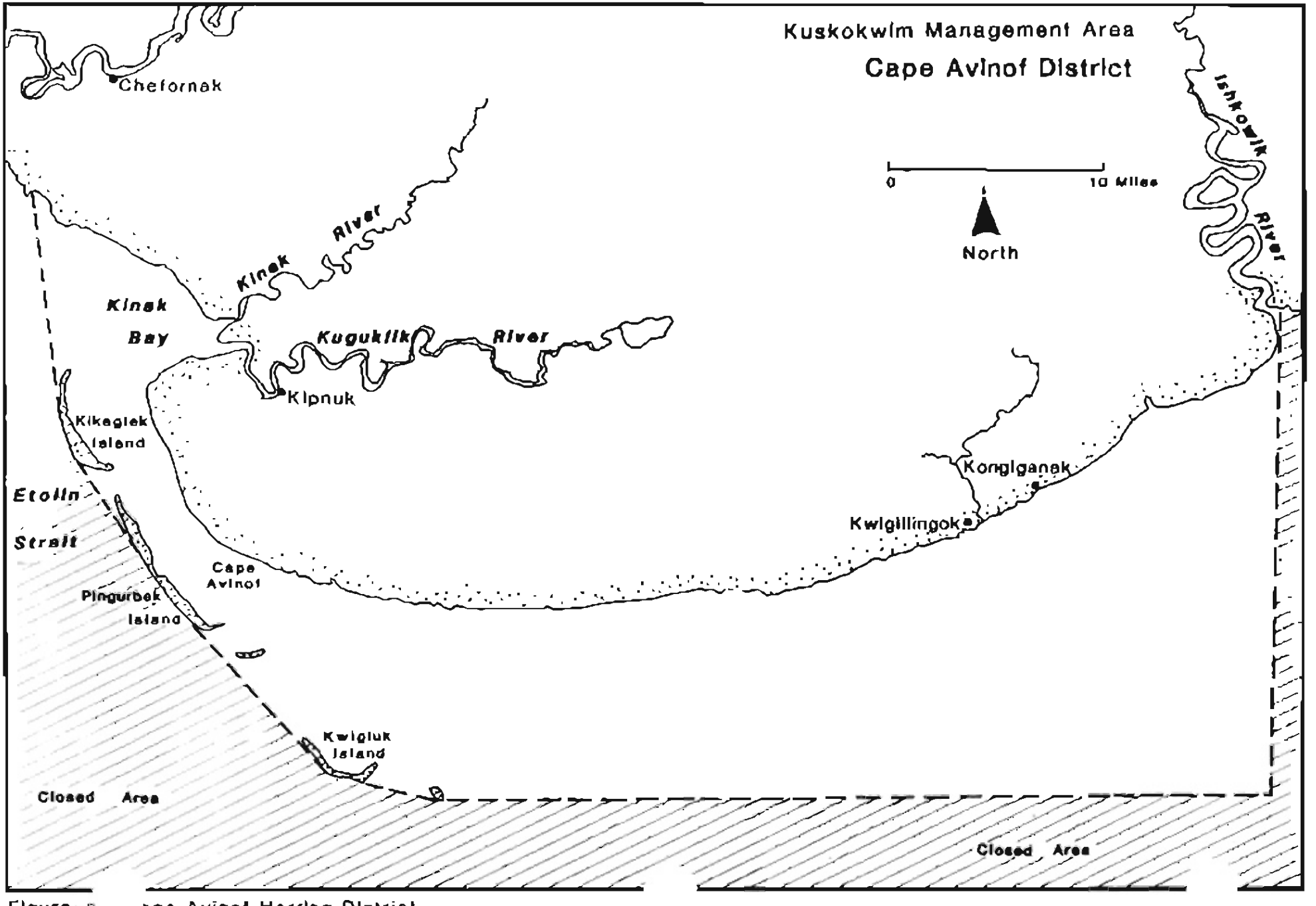


Figure 8. ape Avinof Herring District

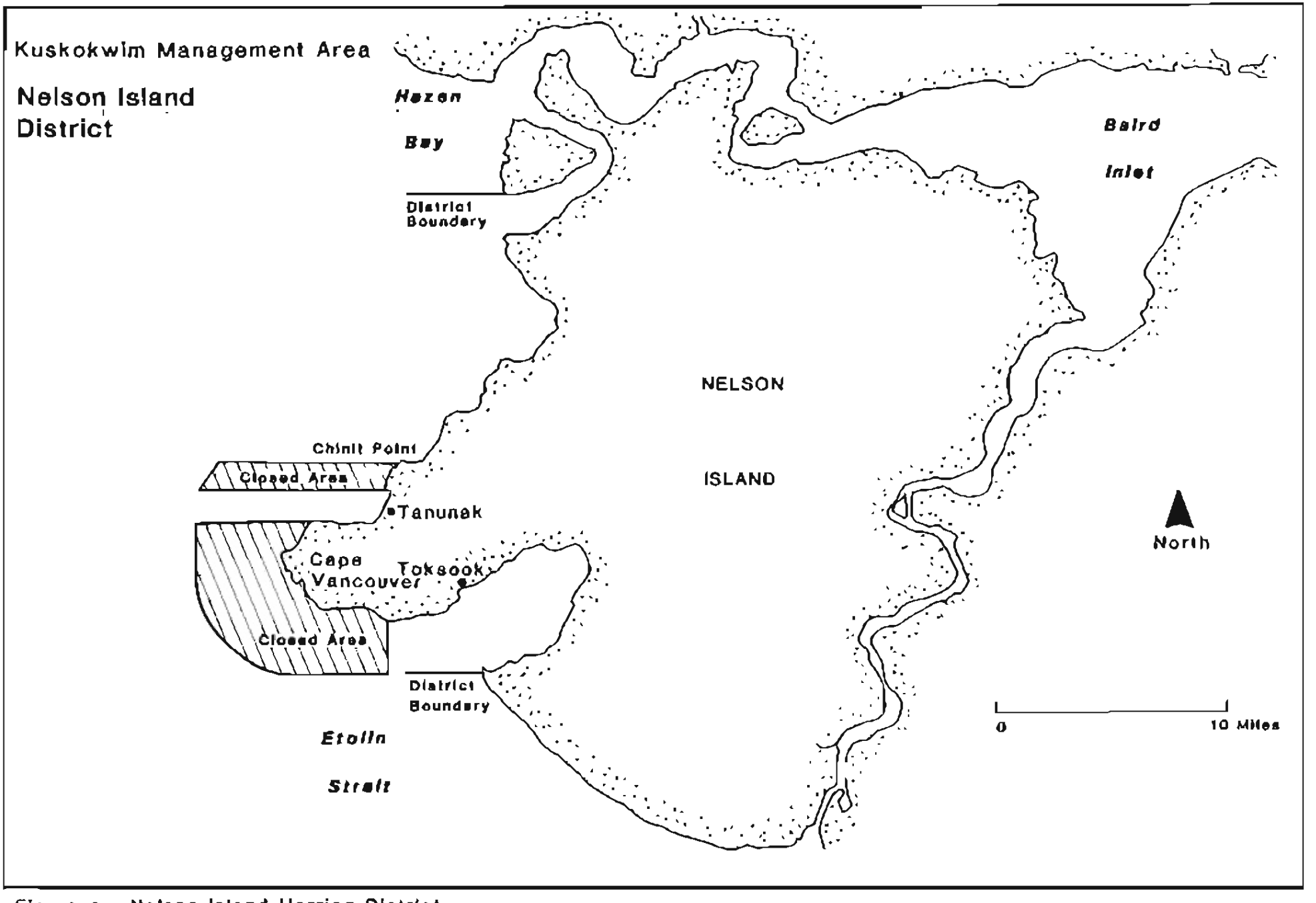


Figure 9. Nelson Island Herring District

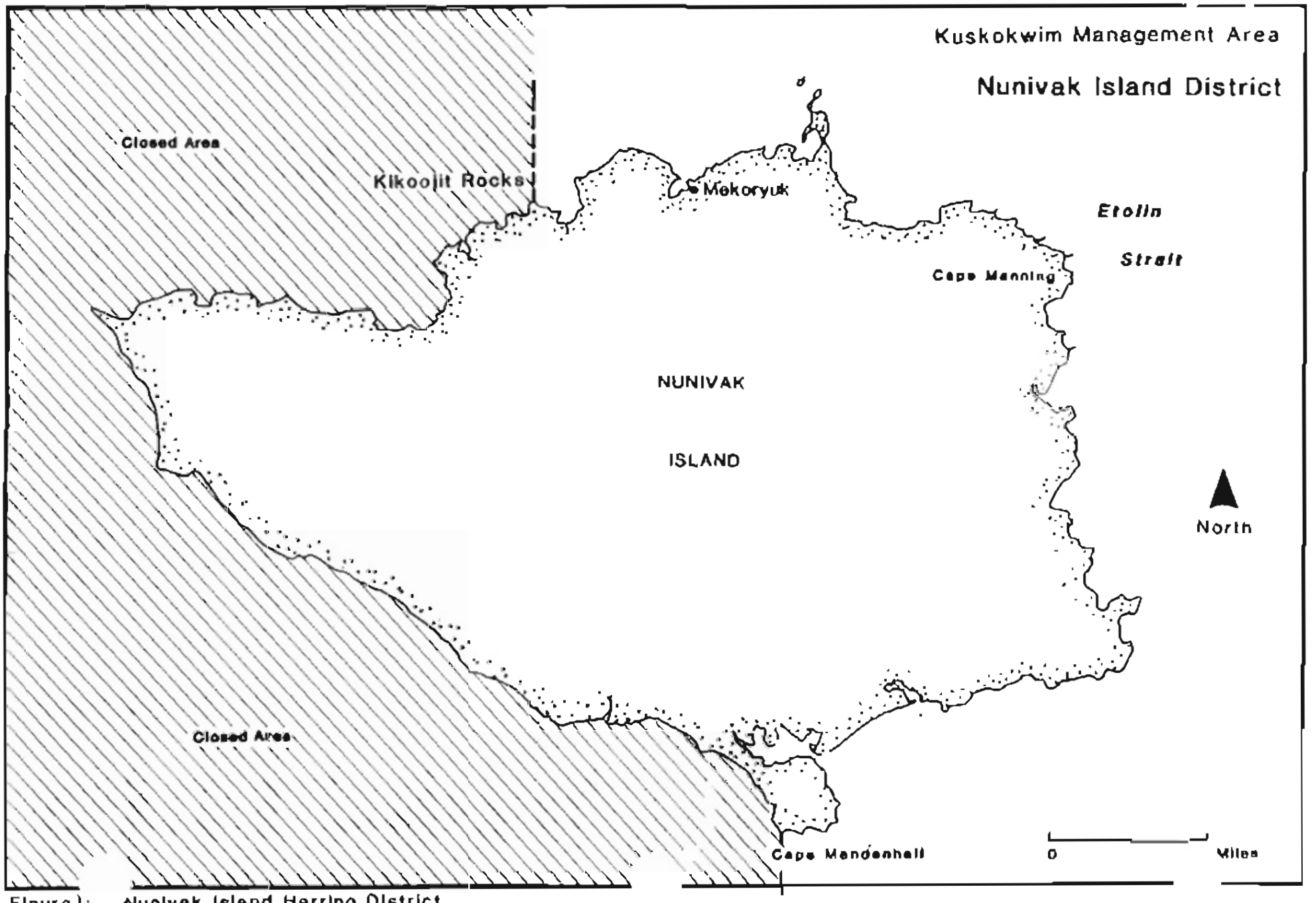


Figure 1b. Nunivak Island Herring District

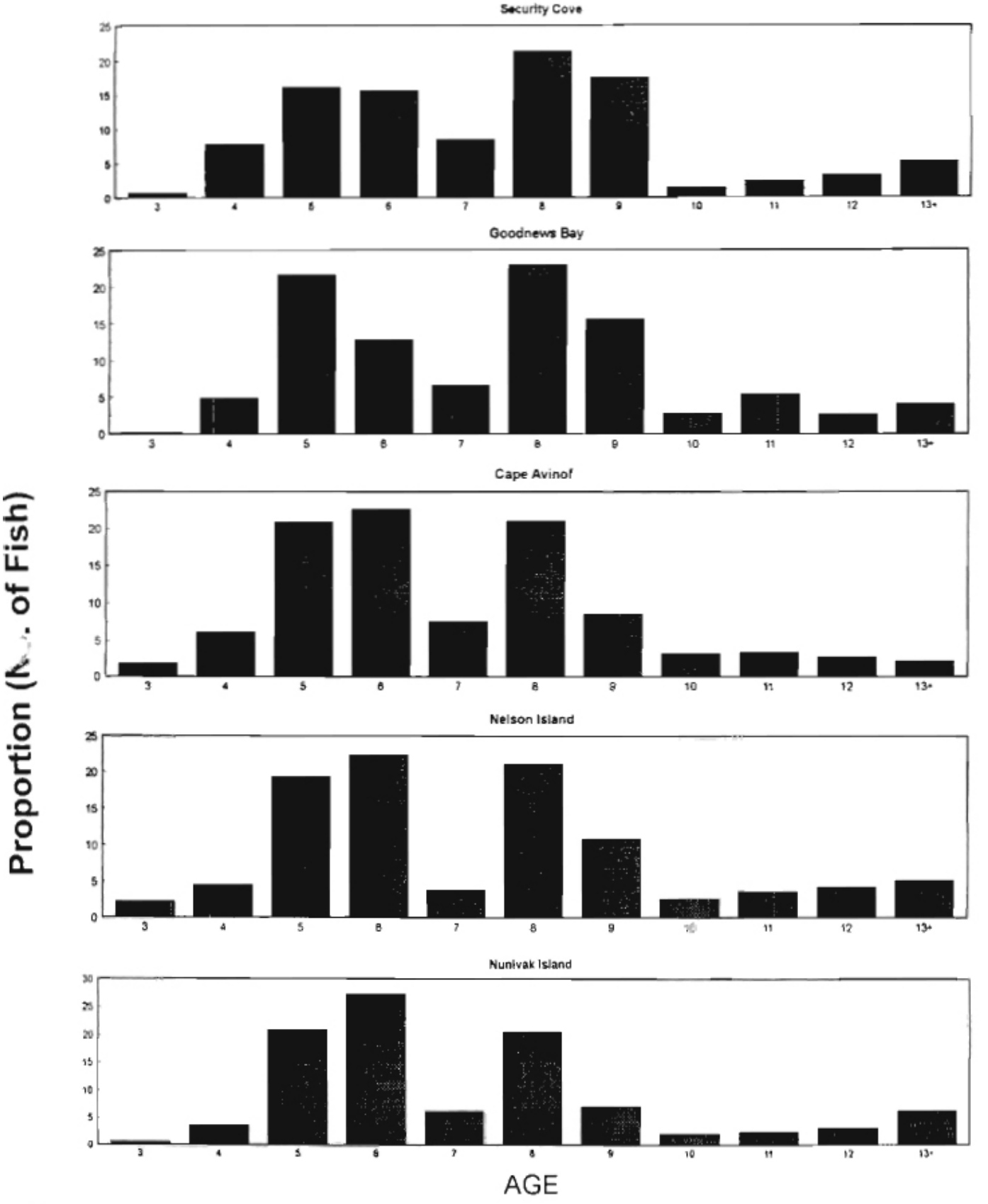


Figure 11. Age composition of Pacific Heringis spawning populations and commercial harvest, Kuskokwim Area, 1995.

APPENDICES

APPENDIX A

Appendix A.1 Kuskokwim Area escapement index objectives for chinook, sockeye, coho and chum salmon.

	Escapement Objectives[a]			
	Chinook	Sockeye	Coho	Chum
KUSKOKWIM RIVER:				
1. Kwethluk River				
a. 3-step Mt. to Canyon Cr.	1.0	-	-	7.0
b. Canyon Creek	0.2	-	-	-
2. Kisaralik River				
a. Airstrip to Kisaralik L.	1.0	-	-	8.0
b. Kasigluk R. (upper to lower)	0.1	-	-	4.0
3. Tuluksak R. (Fog R. to Bear Cr.)	0.4	-	-	5.0
4. Aniak River				
a. Buckstock R. to Aniak L.	1.5	-	-	10.0
b. Salmon River	0.6	-	-	3.0
c. Aniak Sonar Project[b]	-	-	-	250.0
5. Holitna River				
a. Nogamut to Kashegelok	2.0	1.0	-	12.0
b. Kogrukluk Weir[c]	10.0		25.0	30.0
6. Salmon River (Pitka Fork)	1.3	-	-	-
KUSKOKWIM BAY:				
1. Kanektok River to Kagati Lake	5.8	15.0	25.0	30.5
2. Goodnews River System				
a. Main Fork and lakes	1.6	10.4	15.0	17.0
b. Middle Fork and lakes	0.8	5.0	2.0	4.0
c. Middle Fork Weir[c]	3.5	25.0	-	15.0

a Escapement objectives in thousands of fish are preliminary and are subject to change as additional data becomes available. Unless otherwise indicated, escapement objectives are based on aerial index counts which do not represent total escapement, but do reflect annual spawner abundance trends when made using standard survey methods under acceptable survey conditions.

b Sonar total escapement estimates.

c Weir total escapement estimates.

Appendix A.2. Kuskokwim Area commercial, subsistence, and personal use salmon catches, 1913-1995.

	COMMERCIAL CATCH						SUBSISTENCE CATCH			COMBINED TOTAL
Year	Chinook	Sockeye	Coho	Pink	Chum	Total	Chinook	Other[a]	Total	HARVEST
1913	7,800					7,800				7,800
1914		2,667				2,667				2,567
1915										
1916	949					949				949
1917	7,878					7,878				7,878
1918	3,055					3,055				3,055
1919	4,836					4,836				4,836
1920	34,853					34,853				34,853
1921	9,854					9,854				9,854
1922	8,944	6,120				15,064			180,000	195,064
1923	7,254					7,254				7,254
1924	19,253	900	7,167	7,167		34,487	17,700	203,148	220,848	255,335
1925	1,644	5,800				7,444	10,800	230,850	241,650	249,094
1926									738,576	738,576
1927									286,254	286,254
1928									481,090	481,090
1929									560,196	560,196
1930	7,626	2,448				10,074			538,650	548,724
1931	8,541					8,541			389,367	397,908
1932	9,339					9,339			746,415	755,754
1933							6,290	443,998	450,288	450,288
1934							20,800	597,132	617,932	617,932
1935	6,448		8,296			14,744	22,930	554,040	576,970	591,714
1936	624					624	33,500	549,423	582,923	583,547
1937	480					480			537,111	537,591
1938	624		828			1,452	10,153	400,242	410,395	411,847
1939	134					134	14,000	125,425	139,425	139,559
1940	247		500			747	8,000	415,523	423,523	424,270
1941	187		674			861	8,000	415,523	423,523	424,384
1942							6,400	325,339	331,739	331,739
1943							6,400	325,339	331,739	331,739
:::										
1946	2,288		674			2,962				2,962
1947	5,356					5,356				5,356
:::										
1951	4,210					4,210				4,210
:::										
1954	57					57				57
:::										
1959	3,760					3,760				3,760
1960	5,969	5,649	5,498		3	17,119	18,752	301,753	320,505	337,624
1961	23,246	2,308	5,090	91	18,864	49,599	27,457	179,529	206,986	256,585

- Continued -

Year	COMMERCIAL CATCH Chinook	Sockeye	Coho	Pink	Chum	Total	SUBSISTENCE CATCH Chinook	Coho[b]	Small[c]	Total	COMBINED TOTAL HARVEST
1962	20,867	10,313	12,598	4,340	45,707	93,825	13,455	161,849	175,304	269,129	362,954
1963	18,571		15,660			34,231	33,180	137,649	170,829	205,060	239,291
1964	21,230	13,422	28,992	939	707	65,290	29,017	190,191	219,208	284,498	349,788
1965	24,965	1,886	12,191		4,242	43,284	24,697		250,878	275,575	318,859
1966	25,823	1,030	22,985	268	2,610	52,716	49,022		175,735	224,757	277,473
1967	29,986	652	58,239		8,235	97,112	60,919		214,468	275,387	372,499
1968	43,157	5,887	154,302	75,818	19,694	298,858	35,380		278,008	313,388	612,246
1969	64,777	10,362	110,473	1,251	50,377	237,240	40,208		204,105	244,313	481,553
1970	65,032	12,654	62,245	27,422	60,566	227,919	69,219	11,868	246,810	327,897	555,816
1971	44,936	6,054	10,006	13	99,423	160,432	42,926	6,899	116,391	166,216	326,648
1972	55,482	4,312	23,888	1,952	97,197	182,823	40,145	1,325	120,316	161,786	344,609
1973	51,374	5,224	152,408	634	184,207	393,847	38,526	23,746	179,259	241,531	635,378
1974	30,670	29,003	179,579	60,052	196,127	495,431	26,665	32,780	277,170	336,615	832,046
1975	27,799	17,535	109,814	899	223,532	379,579	47,569		176,389	223,958	603,537
1976	49,262	13,636	112,138	39,998	231,877	446,903	57,899	4,312	223,792	286,003	732,906
1977	58,256	18,621	263,728	434	298,959	639,998	57,925	12,193	203,397	273,515	913,513
1978	63,194	13,734	247,271	61,968	282,044	668,211	38,209	12,427	125,052	175,698	843,909
1979	53,314	39,463	308,683	574	297,167	699,201	57,031		163,451	220,482	919,683
1980	48,242	42,213	327,908	30,306	561,483	1,010,152	62,139	47,335	168,987	278,461	1,288,613
1981	79,378	105,940	278,581	463	485,635	950,003	63,248	28,301	163,554	255,103	1,205,106
1982	79,816	97,716	567,451	18,259	325,471	1,088,713	60,426	45,181	195,691	301,298	1,390,011
1983	93,676	90,834	249,018	379	306,554	740,461	51,020	2,834	149,172	203,026	943,487
1984	74,006	81,307	829,965	23,902	488,482	1,497,662	60,944	15,016	144,651	220,335	1,717,997

Year	COMMERCIAL CATCH Chinook	Sockeye	Coho	Pink	Chum	Total	SUBSISTENCE CATCH Chinook	Sockeye	Coho	Pink	Chum	Total	COMBINED TOTAL
1985	74,083	121,221	382,096	111	224,680	802,191	85,720	33,631	24,667	1,062	96,791	201,871	1,004,062
1986	44,972	142,029	736,910	16,569	349,268	1,289,748	54,256		29,742		142,930[a]	226,928	1,516,676
1987	65,558	170,849	478,594	163	603,274	1,318,438	71,804	31,555	18,085	291	70,709	192,444	1,510,882
1988[a]	74,552	149,927	623,719	37,592	1,443,916	2,239,706	56,695	25,571	32,426		118,181	232,873	2,565,615
1989[a]	67,003	82,628	556,312	819	802,199	1,508,961	77,030	33,958	50,046		132,858	293,934	1,802,853
1990	88,706	203,374	445,062	16,082	522,535	1,272,759	77,328	32,218	44,519		108,557	262,622	1,535,381
1991	68,170	202,441	556,818	522	501,692	1,309,643	85,143	51,821	53,478		93,037	283,479	1,593,122
1992	67,597	192,341	772,449	85,978	436,506	1,554,871	61,499	31,497	40,155		87,954	221,105	1,775,956
1993	26,636	167,235	686,570	71	94,937	975,449	75,466	41,323	28,848		48,235	193,872	1,169,321
1994	27,345	191,169	856,100	84,870	360,893	1,519,228	84,009	32,403	29,914		63,831	210,157	1,729,385
1995	72,352	198,045	555,539	318	707,212	1,533,466	104,290	29,945	43,387		72,443	250,065	1,783,531
Ten Year Average (1985-1994)	58,062	162,321	609,463	337[a]	533,990	1,379,107	68,895	34,886[a]	35,188		91,128[a]	231,919	1,620,356

a Primarily chum and coho salmon.
b Reported subsistence coho salmon harvest only. Coho salmon subsistence harvest is poorly documented with no Kuskokwim River estimate attempted prior to 1988.
c Includes sockeye, pink and chum salmon.

Appendix A.3. Historic events which have potential or actual influence on the commercial salmon fisheries of the Kuskokwim Area.

YEAR	EVENT[a]
1954	• Commercial chinook salmon quota established.
1959	• First chinook landing since quota established.
1960	• Kanektok Counting Tower (1960-1962) • Kuskokwim Area divided into four subdistricts; Lower Kuskokwim River (Subdistrict 1), Middle Kuskokwim River (Subdistrict 2), Upper Kuskokwim River (Subdistrict 3), Quinhagak (Subdistrict 4). District boundaries are not well recorded; in the Aniak area some commonly used drift sites overlap between District 2 and 3 which confused catch reporting. • Kuskokwim River Drainage Surveys, 1960.
1961	• ADF&G Kuskokwim River tagging study.
1962	• ADF&G Kuskokwim River tagging study. • Boundary between Subdistricts 2 and 3 changed; the new location was not recorded but the most likely location was Kolmakoff River. The reason for the change was to move the boundary to a point which was between commonly used gillnet locations and thereby avoid confusion in catch reporting. As a result, there were no landings in Subdistrict 3.
1963	• ADF&G Kuskokwim River tagging study. • Boundaries of subdistrict documented; Subdistrict 1 extended from Kuskokuak to Mishevik Slough, Subdistrict 2 was from Mishevik Slough to Kolmakoff River, Subdistrict 3 was upstream of Kolmakoff River.
1965	• Kwegooyuk test fishery (1965-1984; no records available for 1965)
1966	• ADF&G Kuskokwim River tagging study. • Subdistrict 3 was deleted from the regulations due to a lack of landings.
1968	• Goodnews Bay was established as District and opened for coho season.
1969	• District 4 tagging study • Kogrukluk River (a.k.a. Holitna River, Ignatti) tower/weir (1969-present).
1970	• Effect of explosive detonation in ice on northern pike.
1971	• Commercial fishing time in the Kuskokwim River reduced from two 24 hour periods per week to two 12 hour period per week. • Chum fishery begins in the Kuskokwim River; season was from 25 June to 31 July, location limited to waters downstream of Napakiak, mesh size restricted to 6 in. or smaller. • Fishing periods established by Emergency Order in August. • Gillnet mesh size in Districts 4 and 5 restricted to 6 inch or smaller.
1976	• Commercial fishing time in the Kuskokwim River was reduced from two 12 hour periods per week to two 6 hour periods per week. • Eek River reconnaissance survey. • Study on genetic variants in chum and chinook salmon.

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YEAR	EVENT*
1977	• Fishing periods to be established by Emergency Order before 26 June and after 31 July. • Limited entry permits issued. • Subsistence fishing closed 24 hours before and 6 hours after each commercial fishing period. • Hoholitna River reconnaissance survey.
1978	• Kasigluk River reconnaissance survey. • Kwethluk River sonar project.
1979	• The portion of District 1 used during the chum salmon season was extended from Napakiak upstream to Bethel. • Kasigluk River sonar project. • High seas salmon fleet moved to 20° west.
1980	• Subsistence fishing closed 24 hours before, during and 6 hours after each commercial fishing period. • Aniak River sonar project.
1981	• Pilot test fish and FanScan projects at Bethel. • Inventory of Kisaralik River and Lake. • Goodnews River counting tower (1981-1990). • Salmon River (Pitka Fork drainage) weir project (1981-1984).
1982	• Kanektok River sonar project (1982-1986).
1983	• Pilot test fish project at Bethel using drift gillnets.
1984	• Kwegooyuk test fishery replaced by the Bethel drift test fishery.
1985	• Commercial fishing restricted to mesh sizes less than or equal to 6 inches. • Chum season utilizes entire length of District 1.
1986	• *Migratory timing of coho salmon in the Kuskokwim Area, 1979-1984.* • Kuskokwim River salmon abundance estimate based on calibrated test fish CPUE. • Downstream boundary of District 1 extended to a line from Apokak Slough to Popokamiut.
1987	• Discontinued the directed chinook salmon fishery in the Kuskokwim River. • First fishing period restricted to that portion of District 1 which is downstream of Bethel due to chinook conservation concerns. • Subsistence fishing in all of District is closed before, during and after commercial periods. • South peninsula sockeye and chum salmon tagging study.
1988	• Review of the estimation of Kuskokwim River annual salmon passage through expansion of the Bethel test fish CPUE. • Kuskokwim River sonar project (1988-present). • Kuskokwim River subsistence test fisheries (1988-1990). • District 1 upstream boundary extended to Bogus Creek. • District 2 reduced in size; downstream boundary moved upstream to High Bluffs, the upstream boundary moved downstream to Chuathbaluk.

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YEAR	EVENT[a]
1988	• Portion of Kuskokwim River between Districts 1 and 2 closed to subsistence fishing when District 1 subsistence fishing is closed. • Reorganization of District 1 Statistical Areas. • District 4 Salmon Management Plan adopted. • Establishment of the Kuskokwim River Salmon Management Working Group (1988-present). • Eek Test Fishery (1988-1990, 1992 to present).
1989	• USFWS conducted genetic sampling throughout the Kuskokwim Area. • USFWS conducted chinook tagging study in the lower Kuskokwim River. • Record low temperatures recorded in interior Alaska coupled with shallow snow pack threaten survival of salmon eggs/fry from 1988 spawning.
1990	• ADF&G genetic sampling (1990 - present). • Reorganization of District 1 statistical areas. • Upstream boundary of District 1 moved downstream from Bogus Creek to Big Island. • Downstream boundary of District 2 moved upstream to second slough below Kalskag. • District 4 northern boundary is extended north to Weelung Creek.
1991	• USFWS begins operation of weir on Tuluksak River (1991-present). • Weir replaces counting tower on Goodnews River (1991-present).
1992	• Initiation of the Aniak and Chuathbaluk test fisheries. • Eek test fishery is re-established for the coho season. • USFWS begins operation of the Kwethluk River weir (1992) • Ban on high-seas drift gillnet fishing imposed. • Failure of age 4 chum salmon in the Kuskokwim River; Aniak drainage especially hard hit; attributed to cold winter of 1988-89.
1993	• Failure of age 4 and 5 chum salmon in the Kuskokwim River, Yukon River, and the Norton Sound/Kotzebue Area; cause unknown; especially hard hit were the Aniak drainage and the Yukon fall chum; commercial fishing severely restricted, chum sport fishery was closed, and the subsistence salmon fishery was restricted and closed for a period of time (first time ever).
1994	• ADF&G genetic sampling. • Working Group commissioned and Dr. Mundy started "Recommendations for Strengthening the Cooperative Management Process of the Kuskokwim River Salmon Management Working Group"
1995	• Bering Sea Fishermen's Association operates a chum salmon radio telemetry project on the Kuskokwim River. • Takotna Community School operates a pilot salmon counting tower on the Takotna River. • AVCP and BSFA operate the Lower Kuskokwim test fishery in cooperation with the department; the project is a modification of the Eek test fishery.

a For additional information on specific topics refer to the Region III Report Catalog or historic Area Management Reports for the Kuskokwim Area.

Appendix A.4. Estimated dollar value of Kuskokwim Area commercial salmon fishery, 1964-1995.

Year	Gross Value of Catch to Fishermen	Permits Fished[a]	Average Income
1964	83,030		
1965	90,950		
1966	87,466		
1967	138,647		
1968	290,370		
1969	297,233		
1970	362,470		
1971	371,220		
1972	360,727		
1973	827,735		
1974	1,056,042		
1975	899,178		
1976	1,380,229		
1977	3,891,950		
1978	2,337,470		
1979	3,678,000		
1980	2,725,134		
1981	3,766,525		
1982	4,213,954		
1983	2,670,400		
1984	5,809,000	774	7,505
1985	3,248,089	781	4,159
1986	4,746,089	789	6,015
1987	6,392,822	798	8,011
1988	12,514,492	811	15,431
1989	5,194,025	824	6,303
1990	4,865,070	824	5,904
1991	3,961,423	820	4,831
1992	5,295,912	814	6,506
1993	3,962,890	807	4,911
1994	5,201,611	797	6,526
1995	4,209,752	829	5,078
Ten year Average (1985-1994)	$5,538,242	807	$6,860

a Number of permits that made at least one delivery

Appendix A.5. Maximum, mean, and minimum number of permits used in a single period by district, 1962-1995.

	District 1			District 2			District 4			District 5		
Year	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.
1962	190	121	25				32	19	7		Closed	
1963	103	17	1	17	10	2	30	13	1		Closed	
1964	113	30	1	30	4	1	29	15	1		Closed	
1965	164	43	1	5	3	1	31	13	1		Closed	
1966	172	122	61	1	1	1	12	8	1		Closed	
1967	208	144	10	4	2	1	19	8	1		Closed	
1968	262	164	2				78	38	8	17	13	5
1969	274	161	1	11	2	1	119	51	1	28	21	10
1970	320	198	22	11	6	3	75	48	21	25	16	5
1971	355	117	5	20	14	2	48	36	3	11	9	8
1972	341	149	28	12	10	8				12	9	5
1973	372	234	3	18	11	1	70	42	17	17	10	5
1974	444	272	25							40	23	7
1975	483	280	12				106	47	13	30	20	10
1976	495	357	174	55	33	11	99	44	5	35	13	4
1977	487	380	204	83	54	24	172	70	7	21	15	5
1978	509	390	72	24	12	3	123	38	3	24	15	5
1979	549	456	179	33	27	20	126	63	12	27	19	6
1980	482	421	319	37	23	12	101	56	3	35	22	9
1981	541	442	278	151	42	11	106	69	30	38	24	10
1982	499	414	302	47	7	10	107	67	5	30	25	7
1983	547	442	323	34	24	9	134	70	10	62	30	11
1984	542	411	39	33	17	8	165	82	34	47	38	29
1985	530	446	262	15	11	6	191	84	7	47	34	12
1986	600	489	234	27	9	3	216	86	2	52	31	19
1987	607	513	132	22	16	13	253	105	48	75	41	23
1988	640	583	408	21	17	13	202	73	9	68	39	22
1989	679	509	126	22	17	14	140	77	51	65	39	10
1990	653	614	534	18	16	14	218	106	1	58	27	1
1991	662	589	512	19	17	16	227	81	4	50	28	1
1992	653	577	374	21	15	9	187	86	19	91	34	17
1993	654	556	274	17	16	13	219	94	10	80	40	10
1994	606	501	157	17	13	6	171	69	13	88	34	2
1995	617	469	219	16	7	1	239	87	41	68	32	16

Appendix A.6. Commercial Fishing Effort in Kuskokwim Area by Permit-Hour[a], 1960-1995.

Year	Dist. 1	Dist. 2	Dist. 3	Dist. 4	Dist. 5	Total
1960	5,136	960	648	4,368	Closed	11,112
1961	16,200	1,512	1,512	4,992	Closed	24,216
1962	14,274		0	8,434	Closed	22,708
1963	5,712	1,722	0	5,520	Closed	12,954
1964	6,468	1,140	0		Closed	7,608
1965	13,500	546	0	3,696	Closed	17,742
1966	18,270		Closed		Closed	18,270
1967	88,248	1,932		3,954	Closed	94,134
1968	77,466	720		7,986	4,704	90,876
1969	67,140	1,488		29,952	14,055	112,635
1970	56,646	2,414		22,080	9,756	91,896
1971	18,060	1,842				19,902
1972	47,802					47,802
1973	77,478	3,072		18,372	2,928	101,850
1974	124,569	4,950		18,984	8,148	156,651
1975	181,786	3,648		12,312	5,400	203,146
1976	82,788	3,894		14,784	4,848	106,314
1977	73,944	3,426		17,592	3,780	98,742
1978	71,856	1,892		14,952	3,672	92,372
1979	49,608	984		27,096	8,220	85,908
1980	33,370	714		21,636	9,504	65,224
1981	45,096	1,248		25,656	11,256	83,256
1982	46,108	1,128		22,656	14,556	84,448
1983	47,040	708		20,748	9,456	77,952
1984	62,643	1,050		31,488	14,004	109,185
1985	37,452	462		22,254	8,544	68,712
1986	48,744	606		25,740	10,572	85,662
1987	60,525	576		21,222	10,332	92,655
1988	81,724	912		27,440	14,064	124,140
1989	66,470	816		26,134	12,552	105,972
1990	50,642	1,051		44,520	10,548	106,761
1991	62,672	1,320		29,160	11,532	104,684
1992	54,288	1,164		35,380	15,180	106,012
1993	39,210	774		35,988	13,118	89,090
1994	54,750	702		26,580	15,768	96,800
1995	42,784	602		34,020	14,844	92,250
Ten Year Average (1985-94)	55,648	908		29,442	12,221	98,050

a The number of permits that made deliveries times the number of hours in the period.

Appendix A.7. Mean salmon weights and prices paid to commercial fishers in the Kuskokwim Area, 1967-1995.

	Mean Weight - Pounds					Average Price - $/Pound				
Year	Chinook	Sockeye	Coho	Pink	Chum	Chinook	Sockeye	Coho	Pink	Chum
1967	27.8	7.4	5.9	a	7.0	0.13	0.05	0.09	a	0.04
1968	23.8	6.2	7.2	4.0	7.9	0.16	0.10	0.09	0.05	0.04
1969	19.6	6.2	7.3	3.6	5.8	0.19	0.15	0.10	0.06	0.07
1970	18.9	5.4	7.3	3.3	6.1	0.20	0.21	0.14	0.08	0.08
1971[b]	26.2	6.9	6.1	a	6.4	0.17	0.10	0.13	a	0.08
1972	a	a	a	a	a	0.20	a	0.16	a	0.08
1973	a	a	a	a	a	0.25	a	0.26	a	0.19
1974	a	a	a	a	a	0.46	0.34	0.27	0.23	0.25
1975	a	a	a	a	a	0.54	a	0.31	a	0.26
1976[c]	17.0	6.7	7.8	3.5	7.0	0.64	0.43	0.40	0.25	0.27
1977	22.7	8.3	7.8	3.9	7.3	1.15	0.45	0.65	0.25	0.45
1978	24.2	6.5	7.1	3.9	8.9	0.50	0.49	0.40	0.12	0.32
1979	16.6	6.9	7.9	3.9	7.0	0.66	0.53	0.75	0.11	0.37
1980	14.1	6.7	6.9	3.6	6.4	0.47	0.31	0.64	0.12	0.24
1981	17.8	7.2	6.4	3.5	7.5	0.84	0.61	0.63	0.11	0.23
1982	19.3	7.2	7.3	3.6	7.3	0.82	0.41	0.53	0.05	0.22
1983	18.8	6.8	6.8	3.5	7.4	0.54	0.51	0.39	0.05	0.33
1984	16.4	6.6	7.7	3.2	6.7	0.89	0.52	0.55	0.07	0.28
1985	17.0	7.0	7.5	3.6	7.1	0.71	0.59	0.51	0.05	0.25
1986	17.0	7.2	6.4	3.4	6.8	0.80	0.70	0.60	0.05	0.25
1987	15.2	7.5	7.2	3.7	6.8	1.10	1.30	0.73	0.10	0.27
1988	15.1	7.3	7.5	3.4	8.1	1.30	1.42	1.25	0.15	0.40
1989	16.6	7.2	7.3	3.4	6.8	0.75	1.20	0.55	0.05	0.26
1990	15.1	6.7	6.5	3.2	6.9	0.56	1.05	0.75	0.12	0.26
1991	15.3	6.9	6.5	3.4	6.3	0.56	0.67	0.45	0.12	0.31
1992	13.4	7.0	7.3	3.9	6.8	0.66	0.90	0.45	0.06	0.32
1993	14.3	7.1	6.6	3.4	6.5	0.62	0.70	0.58	0.25	0.40
1994	15.6	6.9	7.6	3.6	6.6	0.51	0.53	0.57	0.08	0.21
1995	17.3	6.9	7.2	3.7	6.9	0.60	0.71	0.41	0.12	0.18
Ten Year Average (1985-94)	15.5	7.1	7.0	3.5	6.9	0.76	0.91	0.64	0.10	0.29

a Information unavailable.

b Information was not available for district 5.

c Information was not available for district 4.

Appendix A.8. Historic salmon escapement data from selected Kuskokwim Area projects, 1976-1995

YEAR	Operating Period	SPECIES Chinook	Sockeye	Coho	Pink	Chum
KOGRUGLUK WEIR[a] Objectives		10,000		25,000		30,000
1976	06/29 to 07/31	5,579	2,326	b	-	8,117
1977	07/14 to 07/27	1,945	1,637	b	2	19,444
1978	06/28 to 07/31	13,667	1,670	b	2	48,125
1979	07/01 to 07/24	11,338	2,628	b	1	18,599
1980	07/01 to 07/11	6,572	3,200	b	1	41,777
1981	06/27 to 10/25	16,655	18,066	11,455	6	57,365
1982	07/09 to 09/14	10,993	17,297	37,796	19	64,077
1983	06/22 to 07/02	2,992	1,176	8,538	-	9,407
1984	06/19 to 09/15	4,928	4,133	27,595	-	41,484
1985	06/29 to 09/07	4,619	4,359	16,441	-	15,005
1986	07/06 to 10/05	5,038	4,224	22,506	-	14,693
1987	08/09 to 09/23	4,063	b	22,821	-	17,422
1988	07/05 to 09/17	8,505	4,397	13,512	-	39,540
1989	07/07 to 09/14	11,940	5,811	b	-	39,548
1990	06/28 to 09/07	10,218	8,406	6,132	1	26,765
1991	07/04 to 09/15	7,850	16,455	9,933	4	24,188
1992	07/01 to 08/21	6,755	7,540	26,057	11	34,105
1993	07/02 to 09/06	12,332	29,358	20,517	0	31,899
1994	07/02 to 09/10	15,227	14,192	34,695	23	46,192
1995	07/02 to 09/06	20,630	10,996	27,856	2	31,265
ANIAK SONAR[c] Objective						250,000
1980	06/22 to 07/30	56,469	-	-	-	1,169,470
	08/16 to 09/12	-	-	81,556	-	-
1981	06/16 to 08/06	42,060	-	-	-	589,286
1982	06/21 to 08/01	33,864	-	-	-	442,461
1983	06/18 to 07/28	4,911	-	-	-	129,367
1984	06/16 to 07/30	-	-	-	-	266,976
1985	06/22 to 07/28	-	-	-	-	253,051
1986	06/26 to 07/24	-	-	-	-	209,080
1987	06/22 to 07/31	-	-	-	-	193,013
1988	06/22 to 07/31	-	-	-	-	401,511
1989	06/21 to 07/24	-	-	-	-	243,922
1990	06/23 to 08/06	-	-	-	-	232,260
1991	06/29 to 07/29	-	-	-	-	314,166
1992	06/22 to 07/29	-	-	-	-	84,269
1993	06/24 to 07/28	-	-	-	-	13,870
1994	06/28 to 07/28	-	-	-	-	388,163
1995	06/23 to 07/23	-	-	-	-	d

-Continued-

Appendix A.8. (Page 2 of 2)

YEAR	Operating Period	SPECIES Chinook	Sockeye	Coho	Pink	Chum
TULUKSAK RIVER WEIR						
1991	06/12 to 09/18	697	34	4,651	391	7,675
1992	06/24 to 09/10	1,083	129	7,501	2,458	11,183
1993	06/17 to 09/10	2,218	88	8,328	210	13,804
1994	06/29 to 09/11	2,922	94	8,213	3,450	15,707
KWETHLUK RIVER WEIR						
1992	06/18 to 09/12	9,675	1,316	45,605	45,952	30,596
MIDDLE FORK GOODNEWS RIVER TOWER/WEIR[e]						
Objectives		3,500	25,000	NA	NA	15,000
1981	06/13 to 08/15	3,688	49,108	357	1,327	21,827
1982	06/23 to 08/03	1,395	56,255	62	13,855	6,767
1983	06/11 to 07/28	6,027	25,816	0	34	15,548
1984	06/15 to 07/31	3,260	32,053	249	13,744	19,003
1985	06/27 to 07/31	2,831	24,131	282	144	10,367
1986	06/16 to 07/24	2,083	51,069	163	8,133	14,756
1987	06/22 to 07/30	2,274	28,871	62	62	17,519
1988	06/23 to 07/30	2,712	15,799	6	6,781	20,799
1989	06/29 to 07/31	1,915	21,186	145	246	10,380
1990	06/19 to 07/24	3,636	31,679	0	3,378	6,410
1991[f]	06/29 to 08/24	2,147	47,397	1,978	1,694	27,525
1992	06/29 to 08/25	1,899	27,267	150	23,030	22,023
1993	06/22 to 08/18	2,491	26,044	1,374	253	14,472
1994	06/23 to 08/08	3,856	55,751	309	38,705	35,134
1995	06/19 to 08/28	4,836	39,009	5,415	330	33,699

a Pink salmon can pass freely through the Kogrukluk Weir.
b No counts or incomplete count as project was not operated during the species' migration.
c Aniak sonar counts are adjusted to provide the total estimated escapements.
d Reliable escapement estimates are not available from Aniak River Sonar for 1995.
e The Goodnews River salmon counting tower's scheduled termination date precludes adeqate assessment of the coho and pink salmon escapement.
f The Goodnews tower was converted into a weir in 1991.

Appendix A.9. Fish species commonly found in the Kuskokwim Area[a].

Species Code	Genus and Species	Common Name
110	Gadus macrocephalus	Pacific Cod
113	Eleginus gracilis	Saffron Cod
129	Platichthys stellatus	Starry Flounder
122	Pleuronectes glacialis	Arctic Flounder
127	Pleuronectes aspera	Yellowfin Sole
128	Pleuronectes vetulus	English Sole
162	Cottus cognatus	Slimy Sculpin
166	Oligocottus maculosus	Tidepool Sculpin
192	Hexagrammos stelleri	Whitespotted Greenling
200	Hippoglossus stenolepis	Pacific Halibut
230	Clupea pallasi	Pacific Herring
410	Oncorhynchus tshawytscha	Chinook Salmon
420	Onchornynchus nerka	Sockeye Salmon
430	Onchornynchus kisutch	Coho Salmon
440	Onchornynchus gorbuscha	Pink Salmon
450	Onchornynchus keta	Chum Salmon
500	Esox lucius	Northern Pike
513	Osmerus mordax	Rainbow Smelt
514	Hypomesus olidus	Pond Smelt
516	Mallotus villosus	Capelin
520	Salvelinus alpinus	Arctic Char
532	Salvelinus malma	Dolly Varden
541	Onchornynchus mykiss	Rainbow Trout
550	Salvelinus namaycush	Lake Trout
570	Stenodus leucichthys	Inconnu
588	Coregonus nasus	Broad Whitefish
589	Coregonus pidschian	Humpback Whitefish
583	Coregonus sardinella	Least Cisco
584	Coregonus autumnalis	Arctic Cisco
586	Prosopium cylindraceum	Round Whitefish
590	Lota lota	Burbot
600	Lampetra tridentata	Pacific Lamprey
601	Lampetra japonica	Arctic Lamprey
610	Thymallus arcticus	Arctic Grayling
630	Dallia pectoralis	Alaska Blackfish
640	Catostomus catostomus	Longnose Sucker
660	Gasterosteus aculeatus	Threespine Stickleback
661	Pungitius pungitius	Ninespine Stickleback
670	Percopsis omiscomaycus	Trout Perch
NA	Megalocottus platycephalus	Belligerent Sculpin
NA	Myoxocephalus quadricornis	Fourhorn Sculpin

a Based on American Fisheries Society Special Publication No. 20, Common and Scientific Names of Fishes from the United States and Canada (Fifth Edition). Committee and Names of Fishes, Bethesda, Maryland, 1991.

Appendix . Kuskokwim Area subsistence chinook salmon harvest by village. 1960-199.

COMMUNITY	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
KIPNUK			248	11	123	75	a						
KWIGILLINGOK	250	35	43	106	339	a	250	957	70		220	200	10
KONGIGANAK	b	b	b	b						385	891	41	
TUNTUTULIAK	226	2,226	842	2,853	1,826	1,575	3,097	3,462	2,214	2,195	3,558	1,841	3,214
EEK				c	c	2,921	4,572	2,566	2,038	2,065	1,882	1,969	
KASIGLUK & EEK					1,857	3,123							
KASIGLUK	135	1,215	127	1,302	c	c	1,032	2,766	1,485	2,888	3,931	1,645	1,292
NUNAPITCHUK	683	2,042	848	1,874	636	490	2,213	1,926	1,750	2,279	4,680	1,978	2,496
ATMAUTLUAK	b	b	b	b	b	b	b	b	b	b	1,205	548	864
NAPAKIAK	1,830	2,573	2,191	3,148	2,677	2,872	3,658	3,895	2,468	3,546	4,960	1,868	2,009
NAPASKIAK	536	1,258	759	1,569	2,201	1,071	2,710	2,998	1,663	2,227	3,446	1,916	1,578
OSCARVILLE	1,968	282	75	309	339	688	322	1,127	393	457	542	570	196
BETHEL	1,923	4,150	1,378	7,019	4,114	3,371	8,046	13,925	6,205	7,472	17,026	8,731	8,371
KWETHLUK	2,692	3,763	2,329	5,050	3,262	2,887	6,551	6,993	2,848	3,187	7,932	5,564	5,137
AKIACHAK	1,626	3,052	1,800	2,533	3,488	3,685	4,904	5,543	3,755	2,602	7,022	4,818	3,872
AKIAK	1,865	3,159	906	2,869	2,495	1,345	3,670	3,660	1,822	1,275	3,290	2,688	1,899
TULUKSAK	737	1,486	493	1,295	572	1,021	1,576	1,709	1,048	1,131	1,995	1,280	1,318
LOWER KALSKAG	961	571	c	c	710	c	c	c	1,502	2,102	2,146	2,355	2,604
UPPER KALSKAG	667	1,049	c	c	1,143	c	c	c	1,619	1,623	734	601	401
KALSKAGS COMB.			805	2,661		1,395	3,379	3,567					
ANIAK	1,057	688	185	602	1,104	c	2,072	1,280	517	1,406	2,136	1,076	2,105
ANIAK[d]					642								
CHUATHBALUK	64	54	10	30	74	c	139	217	34	180	219	179	261
NAPAIMUTE	20	16	44	52	134	a	78	60	94	19	22	17	20
CROOKED CREEK	747	518	561	859	1,358	374	1,446	585	77	541	684	291	183
GEORGETOWN							12		0	9	2	0	0
RED DEVIL	c	40	c	c	c	c			111	142	232	135	182
SLEETMUTE	c	222	c	c	c	c	303	343	207	267	161	181	69
SLEETMUTE[e]	465	262	144	228	314	79			318	409	393	316	251
KASHEGELOK[f]							10						
STONY RIVER	435	25	31		299	79	636	303	176	2,187	105	402	95
LIME VILLAGE										50	15	2,119	
MCGRATH							300	25					
TAKOTNA													
NIKOLAI													
TELIDA													
QUINHAGAK								1,349	2,756				
GOODNEWS BAY													
PLATINUM													
TOTAL	18,887	28,934	13,582	34,482	29,017	24,697	49,325	61,262	35,698	40,617	69,612	43,242	40,396

Explanation of the above footnotes can be found at the end of this table.

(continued)

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COMMUNITY	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
KIPNUK[g]										60			
KWIGILLINGOK[g]				75	382	75							
KONGIGANAK				122	361					52			235
TUNTUTULIAK	2,859	1,577	3,492	4,807	2,470	1,656	2,268	2,545	4,446	1,984	2,523	3,519	2,644
EEK	1,981	2,356	2,110	3,232	2,675	1,807	2,003	1,557	1,731	2,578	2,040		1,436
KASIGLUK	1,864	1,411	1,713	1,613	1,324	608	1,142	1,704	3,377	3,115			2,054
NUNAPITCHUK	2,663	1,165	2,092	2,578	2,622	2,178	2,109	2,612	2,918	2,577	2,688		2,019
ATMAUTLUAK	1,106	382	1,042	1,159	1,015	966	2,242	1,288	1,247	1,752			1,559
NAPAKIAK	1,763	1,224	2,864	3,330	2,702	2,140	2,191	2,582	3,017	3,500	2,047		1,805
NAPASKIAK	2,048	900	2,303	3,566	1,989	2,122	2,085	3,160	2,911	2,872			2,155
OSCARVILLE	586	180	891	623	672	349	629	477	495	523			916
BETHEL	8,898	4,631	11,688	13,215	9,408	6,905	11,564	12,591	15,367	13,516	8,492	11,066	6,940
KWETHLUK	3,444	2,694	3,179	4,193	5,563	3,172	6,919	7,627	6,167	5,897		6,732	4,937
AKIACHAK	2,592	1,726	3,534	4,915	5,407	2,951	4,818	5,405	3,094	4,468		5,588	3,254
AKIAK	1,895	1,292	2,837	3,076	2,880	1,850	3,567	3,355	2,386	2,745		3,413	2,975
TULUKSAK	1,322	883	1,338	1,411	2,906	1,906	1,489	2,807	2,446	2,220	1,671	2,286	2,749
LOWER KALSKAG	1,309	1,586	2,755	4,536	1,750	1,951	2,821	3,917	3,271	2,594		3,242	1,707
UPPER KALSKAG	938	463	1,752	1,413	2,813	1,253	1,590	1,889	1,171	963		657	605
ANIAK	1,030	1,952	1,391	1,490	4,991	1,331	2,634	2,750	3,102	2,071	3,174	1,847	1,828
CHUATHBALUK	942	674	594	657	1,507	1,238	2,189	1,507	841	1,491			1,102
NAPAIMUTE	13	6	16	420	176	144	149	90	45	138			53
CROOKED CREEK	269	650	238	264	619	488	728	654	512	515			218
GEORGETOWN	0				66	0		93					
RED DEVIL	138	205	623	195	324	153	488	255	298	273			176
SLEETMUTE	504	269	256	356	684	300	755	220	728	242		154	745
SLEETMUTE[e]	642	474	879	551	1,008	453	988	475	1,026	515			921
KASHEGELOK[f]				156	233	92							
STONY RIVER	287	439	761	620	33	182	171	332	233	419			167
LIME VILLAGE			100	33	0		38						
McGRATH							581			160	830	730	59
TAKOTNA							65						
NIKOLAI							60		500	778	750	795	615
TELIDA													
QUINHAGAK					2,012	2,328	1,420	1,940	2,562	2,402	2,542	3,109	2,341
GOODNEWS BAY					574		228	498	1,309	1,185	1,004	597	399
PLATINUM							110	192	100	51	62	32	27
MEKORYUK													
NEWTOK													
NIGHTMUTE													
TOKSOOK BAY													
TUNUNAK													
TOTAL	**39,093**	**27,139**	**48,448**	**58,606**	**59,166**	**38,598**	**58,041**	**62,522**	**65,300**	**61,656**	**51,020[h]**	**60,668[h]**	**46,641**

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COMMUNITY	1986	1987	1988i	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
KIPNUK[a]				54	108	80		348	150				
KWIGILLINGOK[a]							9	80	7				
KONGIGANAK			585	1,412	1,442	755	904	781	1,271	843			
TUNTUTULIAK	2,452	2,522	2,741	3,781	4,044	4,143	3,416	3,716	4,679	4,023			
EEK			2,212	1,580	4,913	2,301	2,083	2,550	2,917	3,535			
KASIGLUK			1,367	2,194	3,101	2,955	94	548	694	392			
NUNAPITCHUK	3,410	3,372	2,297	3,170	3,199	3,938	3,575	3,749	4,746	4,326			
ATMAUTLUAK			1,131	1,227	2,569	1,784	1,422	1,818	1,819	1,935			
NAPAKIAK		2,760	3,091	3,710	4,158	2,543	3,328	3,972	3,545	3,902			
NAPASKIAK		2,907	3,898	4,699	4,972	3,864	4,133	5,671	6,356	4,984			
OSCARVILLE		745	415	1,591	898	1,422	122	1,475	1,385	1,278			
BETHEL	11,984	8,107	15,038	24,929	19,670	29,445	17,364	22,160	24,531	34,033			
KWETHLUK	5,824	8,779	10,976	7,988	9,215	7,511	6,504	9,070	9,262	9,121			
AKIACHAK		4,871	9,563	5,559	7,043	5,657	4,243	7,110	8,081	6,571			
AKIAK		3,683	3,706	4,811	5,108	3,247	3,207	4,280	4,759	3,910			
TULUKSAK		3,712	3,289	3,791	1,834	3,351	2,382	3,755	4,640	4,333			
LOWER KALSKAG	1,666		3,024	3,380	2,426	3,845	2,269	3,955	3,976	5,250			
UPPER KALSKAG	587		859	1,256	1,558	987	1,366	1,679	1,340	1,221			
ANIAK	4,624	2,131	4,071	3,406	3,123	3,260	3,925	4,618	3,413	3,532			
CHUATHBALUK			34	403	1,674	791	933	1,447	1,043	2,615			
CROOKED CREEK			618	451	929	947	442	771	968	934			
RED DEVIL			263	189	273	168	328	449	409	418			
SLEETMUTE			433	420	711	770	801	1,767	1,327	857			
STONY RIVER			315	692	498	586	209	445	359	559			
LIME VILLAGE			341	105	240	60	0	41	216	144			
MCGRATH			440	522	1,171	880	1038	567	1,052	812			
TAKOTNA			100	62	62	0	0	0	0				
NIKOLAI			136	716	560	337	605	475	472	1,045			
TELIDA				1					0				
QUINHAGAK	2,682	3,663	3,690	3,542	5,942	3,693	3,447	3,368	3,995	2,715			
GOODNEWS BAY	513	640	289	419	351	894	292	628	744	902			
PLATINUM	42	176	21	48	188	20	56	80	72	8			
MEKORYUK[a]				0	0	0		0	6				
NEWTOK[a]				5	1	0		0	2				
NIGHTMUTE[a]					3	20			8				
TOKSOOK BAY[a]				127	143	25	49	128	341	94			
TUNUNAK[a]				5	0	15		5	0				
OTHER[a]					0	0		0	0	0			
TOTAL	**54,256[b]**	**71,804[c]**	**74,944**	**86,244**	**92,126**	**90,295**	**68,568**	**91,506**	**98,584**	**104,290**			

a Data collected, combined with unspecified village or villages.
b Village not yet founded.
c Data collected, but reported with another village.
d Aniak, Chuathbaluk and Russian Mission.
e Sleetmute to Red Devil.
f Kashegelok and Holitna.
g Reported catch only.
h Kuskokwim Area total estimate based on a village subsistence survey.
i. Beginning in 1988,estimate based on new formula, data not comparable to previous years.

Appendix A.11. Kuskokwim Area subsistence sockeye salmon harvest by village, 1985 - 1995.

COMMUNITY	1985	1986	1987	1988c	1989	1990	1991	1992	1993	1994	1995
KIPNUK[a]					402	175	136		90	132	
KWIGILLINGOK[a]									140	5	
KONGIGANAK	130			830	658	423	517	905	705	702	530
TUNTUTULIAK	1,498	288	991	600	1,173	1,954	1,768	1,835	977	3,185	1,134
EEK	241			336	170	1,177	477	623	395	461	282
KASIGLUK	1,138			376	235	793	1,421	81	122	275	110
NUNAPITCHUK	1,447	905	1,187	884	1,026	1,097	2,184	2,273	2,503	1,555	867
ATMAUTLUAK	1,308			320	1,143	1,501	881	1,304	1,387	796	1,130
NAPAKIAK	1,242		1,439	1,087	1,752	1,375	1,176	1,315	1,150	1,627	959
NAPASKIAK	1,181		2,199	1,120	721	1,227	2,673	2,428	3,495	1,933	1,605
OSCARVILLE	942		438	1,752	404	153	711	35	932	324	368
BETHEL	3,409	7,730	3,810	5,614	7,356	6,404	17,805	7,194	10,540	8,571	9,985
KWETHLUK	5,584	5,423	3,845	5,190	2,494	4,055	3,723	1,829	3,745	3,742	2,429
AKIACHAK	3,182		3,532	4,890	2,420	3,120	4,123	3,153	4,467	3,323	2,019
AKIAK	1,368		1,883	1,378	2,492	1,672	1,708	1,458	3,558	1,786	659
TULUKSAK	1,620		1,733	1,493	2,314	1,094	3,595	2,034	2,492	1,426	1,244
LOWER KALSKAG	948	783		1,581	769	828	1,062	467	2,357	950	701
UPPER KALSKAG	187	1,182		345	338	287	268	333	349	298	50
ANIAK	2,116	2,652	2,101	1,078	959	1,329	2,069	1,166	1,578	571	1,007
CHUATHBALUK	1,797			44	215	1,178	1,246	471	823	995	472
NAPAIMUTE	125										
CROOKED CREEK	1,218			327	436	1,556	998	458	831	512	192
RED DEVIL	205			437	356	445	426	315	662	337	597
SLEETMUTE	1,351			898	776	1,060	1,164	855	1,609	1,158	743
STONY RIVER	585			195	1,084	835	1,912	1,316	1,488	802	1,342
LIME VILLAGE				0	5,653	2,333	956	0	2,800	1,760	700
McGRATH				0	0	0	0	0	0	0	0
TAKOTNA				0	0	0	0	0	0	0	0
NIKOLAI			0	0	0	0	0	0	0	0	0
TELIDA					0			0			
QUINHAGAK	106	423	1,067	1,261	633	1,928	1,772	1,264	1082	1,000	575
GOODNEWS BAY	562	860	834	898	710	970	1,132	612	784	701	230
PLATINUM	142	83	121	167	151	153	133	158	51	101	9
MEKORYUK[a]				1	0	50	1	0	1	87	
NEWTOK[a]				50		10	3			0	20
NIGHTMUTE[a]						10	210			15	
TOKSOOK BAY[a]					277	242	105	1	66	228	5
TUNUNAK[a]					83	7	50		30	0	
OTHER[a]						0	0	1	0		0
TOTAL	**33,632**	**20,239[b]**	**25,180[b]**	**33,101**	**37,209**	**39,433**	**56,402**	**33,884**	**51,210**	**39,378**	**29,945**

a Reported harvest only.
b Estimated total based on sampled villages.
c Beginning in 1988, estimate based on new formula, data not comparable to previous years.

Appendix A.1 Kuskokwim Area subsistence coho salmon harvest by village, 1985 - 1995.

COMMUNITY	1985	1986	1987	1988c	1989	1990	1991	1992	1993	1994	1995
KIPNUK[a]					200	460	30		25	185	
KWIGILLINGOK[a]									80		
KONGIGANAK	88			1,146	562	413	524	544	502	566	605
TUNTUTULIAK	371	1,692	760	754	508	1,135	729	737	837	441	365
EEK	406			291	349	1,620	334	500	200	426	347
KASIGLUK	1,763			906	772	938	1,769	174	228	387	237
NUNAPITCHUK	513	1,084	696	898	469	573	1,119	2,226	316	781	630
ATMAUTLUAK	326			337	971	350	254	518	426	411	581
NAPAKIAK	836		959	588	1,757	1,700	597	1,237	590	920	390
NAPASKIAK	415		629	1,503	1,130	922	754	866	783	2,012	580
OSCARVILLE	155		40	50	430	43	136		0	49	0
BETHEL	6,094	19,351	8,077	8,291	22,820	19,433	29,062	15,940	13,809	12,271	24,094
KWETHLUK	3,041	3,545	2,537	5,240	3,917	3,926	2,380	2,325	1,816	1,816	1,265
AKIACHAK	967		286	7,927	1,890	1,592	2,393	2,147	1,326	1,531	677
AKIAK	1,270		1,294	1,577	4,959	1,591	2,231	1,137	1,315	1,110	514
TULUKSAK	1,723		337	1,537	1,483	924	1,903	1,544	412	292	531
LOWER KALSKAG	596	2,211		158	981	365	497	469	786	845	739
UPPER KALSKAG	105	759		136	688	300	510	931	354	184	174
ANIAK	1,552	1,051	2,302	1,903	2,640	1,454	1,165	1,831	1,091	1,682	1,304
CHUATHBALUK	393			72	272	813	93	349	366	795	84
NAPAIMUTE	211										
CROOKED CREEK	290			89	530	886	277	413	409	581	381
RED DEVIL	846			672	1,591	866	1,132	1,160	1,673	1,077	1,667
SLEETMUTE	1,330			1,776	1,009	1,023	1,557	1,132	880	649	1,075
STONY RIVER	395			161	611	423	502	670	512	505	1,083
LIME VILLAGE				1,055	2,025	538	336	300	618	960	246
McGRATH				790	534	2,294	882	2,780	1,989	2,558	2,262
TAKOTNA				0	0	40	0	0	0	0	0
NIKOLAI	550			530	328	73	66	173	267	125	565
TELIDA					60			0			
QUINHAGAK	67	41	125	4,317	3,787	4,125	3,232	2,958	2,152	2,739	2,650
GOODNEWS BAY	210	0	0	1,072	830	1,556	1,789	1,062	1,197	452	313
PLATINUM	11	8	43	90	77	90	34	190	29	77	6
MEKORYUK[a]					106	52	130	2	53	87	
NEWTOK[a]						15	4	0		0	0
NIGHTMUTE[a]					70		20			0	
TOKSOOK BAY[a]					35	46	1	15	57	116	22
TUNUNAK[a]					9	0			70	0	
OTHER[a]							39		0	0	0
TOTAL	**24,524**	**29,742[b]**	**18,085[b]**	**43,865**	**58,394**	**50,524**	**56,479**	**44,329**	**35,170**	**36,630**	**43,387**

a Reported harvest only.
b Estimated total based on sampled villages.
c Beginning in 1988, estimate based on new formula, data not comparable to previous years.

Appendix A.13. Kuskokwim Area subsistence chum salmon harvest by village, 1985 - 1995.

COMMUNITY	1985	1986	1987	1988c	1989	1990	1991	1992	1993	1994	1995
KIPNUK*						540	205		601	214	
KWIGILLINGOK*									200	5	
KONGIGANAK	671			1,473	1,967	980	1,006	1,524	811	1,340	1,275
TUNTUTULIAK	4,346	2,734	5,385	4,700	5,068	6,250	4,755	5,863	2,967	5,232	3,488
EEK	401			1,323	972	3,090	794	1,313	237	624	815
KASIGLUK	4,199			3,541	3,058	3,335	3,137	26	374	537	453
NUNAPITCHUK	4,346	4,676	4,621	7,331	6,923	5,240	5,810	8,229	4,774	4,587	4,226
ATMAUTLUAK	4,440			4,695	3,014	4,006	2,394	3,183	1,345	1,455	3,563
NAPAKIAK	3,686		2,784	4,535	7,068	8,389	2,340	4,401	2,281	4,096	3,084
NAPASKIAK	5,810		6,832	11,623	13,079	8,166	6,582	6,061	3,622	5,605	4,271
OSCARVILLE	1,294		1,135	2,461	1,341	925	1,141	29	566	676	904
BETHEL	9,260	14,778	7,974	17,442	25,661	18,457	22,966	14,943	9,203	12,410	19,122
KWETHLUK	6,866	9,736	7,636	21,352	10,341	11,102	5,497	7,647	3,450	6,102	6,023
AKIACHAK	5,931		4,355	17,749	7,913	8,971	5,994	5,882	3,436	6,286	4,074
AKIAK	6,724		3,837	6,699	13,000	8,136	6,668	5,907	7,549	4,599	1,913
TULUKSAK	6,064		3,466	7,046	9,796	5,712	5,695	4,798	3,834	2,533	2,609
LOWER KALSKAG	4,637	2,538		8,232	4,976	4,098	2,815	2,758	3,087	2,758	1,497
UPPER KALSKAG	1,855	3,684		3,317	3,427	1,321	2,438	2,843	578	864	1,387
ANIAK	8,804	5,905	5,751	11,628	10,404	8,901	3,564	7,777	2,900	2,612	3,683
CHUATHBALUK	3,782			450	2,051	4,510	1,912	2,502	2,895	1,615	1,807
NAPAIMUTE	414										
CROOKED CREEK	2,888			768	779	2,884	1,367	848	715	649	358
RED DEVIL	1,021			3,168	1,376	1,466	1,236	1,523	927	1,322	965
SLEETMUTE	3,689			4,873	1,813	1,874	1,862	3,151	681	1,533	1,699
STONY RIVER	722			3,405	1,352	1,132	602	1,201	775	932	1,375
LIME VILLAGE				913	2,100	2,500	715		508	2,080	920
McGRATH				639	1,380	2,703	1,068	2,854	590	1,294	1,531
TAKOTNA					200	250	56	0	0	0	0
NIKOLAI	2,900			2,404	1,221	882	396	818	353	308	307
TELIDA					15			0			
QUINHAGAK	901	808	1,084	1,065	1,568	3,197	1,593	1,833	1,008	1,452	696
GOODNEWS BAY	339	188	371	405	620	193	144	843	188	444	160
PLATINUM	9	3	207	43	164	139	4	85	0	45	0
MEKORYUK*				500	2,915	1,067	1,178		808	2,337	
NEWTOK*				22		20	4			0	0
NIGHTMUTE*					30	35	60			7	
TOKSOOK BAY*					86	224	103	246	296	660	239
TUNUNAK*					16	65	105		30	0	
OTHER*							3	1			0
TOTAL	95,999	142,930[b]	70,709[b]	153,978	145,748	130,550	96,197	99,089	61,589	77,212	72,443

a Reported harvest only.
b Estimated total based on sampled villages.
c Beginning in 1988, estimate based on new formula, data not comparable to previous years.

APPENDIX B

Appendix B.1. Kuskokwim River distances*.

Location	Distance from the Mouth		Distance from Bethel	
	Kilometer	Miles	Kilometer	Miles
Popokamiut (Lower boundary District 1)	-3	-2	-129	-80
Kuskokwim River Mouth 60.80 N, 162.42 W	0	0	-125	-78
Eek Island, Southernmost tip, (Lower boundary District 1)	19	12	-106	-66
Apokak Slough (Lower boundary District 1)	35	22	-90	-56
Eek River	39	24	-87	-54
Kwegooyuk	42	26	-84	-52
Kinak River	48	30	-78	-48
Tuntutuliak Village	56	35	-87	-54
Kialik River	59	37	-66	-41
Fowler Island	83	52	-42	-26
Johnson River	93	58	-32	-20
Napakiak Village	104	65	-21	-13
Napaskiak Village	115	71	-12	-7
Oscarville Village	115	71	-11	-7
Bethel City	125	78	0	0
Gweek River	145	90	20	12
Kwethluk Village	159	99	34	21
Akiachak Village	169	105	43	27
Kasigluk River	173	108	48	30
Kisaralik River	175	109	50	31
Akiak Village	190	118	64	40
Mishevik Slough,	212	132	87	54
Tuluksak Village	218	136	93	58
Nelson Island	220	137	95	59
(District 1 Boundary), Bogus Creek	234	146	109	68
High Bluffs	264	164	139	86
Boundary of District 2	295	183	170	105
Mud Creek Slough	297	185	172	107
Kalskag Village	309	192	184	114
Aniak Village, Aniak River	362	225	237	147
Chuathbaluk Village (Upper boundary District 2)	375	233	250	155
Kolmakof River	395	246	270	168
Napaimiut Village	410	255	285	177

(Continued)

Appendix B.1. (Page 2 of 2)

Location	Distance from the Mouth		Distance from Bethel	
	Kilometer	Miles	Kilometer	Miles
Holokuk River	415	258	290	180
Oskawalik River	449	279	324	201
Crooked Creek Village	466	290	341	212
Georgetown Village, George River	497	309	372	231
Red Devil Village	526	327	401	249
Sleetmute village	539	335	414	257
Holitna River	540	336	415	258
Stony River Village	585	364	460	286
Stony River	587	365	462	287
Swift River	611	380	486	302
Tatlawisksuk River	616	383	491	305
Devil's Elbow	645	401	520	323
Vinasale	740	460	615	382
McGrath Village	815	507	690	429
Middle Fork	889	553	764	475
Big River	801	560	776	482
Pitka Fork	920	572	795	494
Medra Village	928	577	803	499
South Fork	931	579	806	501
East Fork	943	586	818	508
North Fork	943	586	818	508
Nikolai Village	999	621	874	543
Swift Fork	1,136	706	1,011	628
Telida Village	1,184	736	1,059	658
Highpower Creek	1,200	746	1,075	668
Fish Creek	1,284	798	1,159	720
North Fork Lake	1,334	829	1,209	751
Top of Kuskokwim Drainage	1,498	931	1,373	853

a These distances were taken from the USGS 1:36,300 series of topographic maps. The "mouth" was defined as the point where the "grassland" banks are 24 miles apart. Some locations are not on the mainstem of the Kuskokwim River, as a result their mileages appear to be out of sequence since they are listed in the order of the turn off.

Appendix B2. Mean daily CPUE for salmon caught in the Lower Kuskokwim test fishery.

Date	Chinook			Sockeye			Chum			Coho		
	Eek	Tunt.	Avg.	Eek	Tunt.	Avg.	Eek	Tunt.	Avg.	Eek	Tunt.	Avg.
5/31	0	0	0	0	0	0	0	0	0	0	0	0
6/01	0	0	0	0	0	0	0	0	0	0	0	0
6/02	1	0	0	0	0	0	1	0	0	0	0	0
6/03	5	0	2	0	0	0	0	0	0	0	0	0
6/04	1	0	0	0	0	0	1	0	0	0	0	0
6/05	2	0	1	0	0	0	1	0	1	0	0	0
6/06	13	5	9	0	0	0	1	1	1	0	0	0
6/07	10	1	6	0	0	0	1	1	1	0	0	0
6/08	5	2	4	0	0	0	0	2	1	0	0	0
6/09	12	11	11	0	0	0	4	1	3	0	0	0
6/10	14	6	10	0	2	1	1	1	1	0	0	0
6/11	21	10	16	3	4	3	5	5	5	0	0	0
6/12	13	20	16	0	5	3	5	22	14	0	0	0
6/13	2	8	5	1	1	1	1	10	6	0	0	0
6/14	5	14	9	2	5	3	4	2	3	0	0	0
6/15	15	5	10	8	6	7	5	6	5	0	0	0
6/16	11	6	9	3	3	3	12	24	18	0	0	0
6/17	4	21	13	4	7	6	16	32	24	0	0	0
6/18	7	6	6	11	3	7	42	60	51	0	0	0
6/19	5	7	6	5	7	6	24	84	54	0	0	0
6/20	8	7	7	5	4	5	18	34	26	0	0	0
6/21	7	4	6	2	1	2	33	16	24	0	0	0
6/22c	10	3	6	6	2	4	57	32	45	0	0	0
6/23	12	1	7	10	3	6	81	49	65	0	0	0
6/24	3	1	2	19	5	12	57	19	38	0	0	0
6/25	3	3	3	21	8	14	80	49	64	0	0	0
6/26c	2	2	2	14	8	11	53	103	78	0	0	0
6/27	1	0	0	8	9	8	27	158	92	0	0	0
6/28	2	2	2	13	5	9	45	76	61	0	0	0
6/29c	1	1	1	15	4	10	43	56	50	0	0	0
6/30	0	0	0	17	4	10	41	36	39	0	0	0
7/01	1	2	1	10	5	8	38	49	44	0	0	0
7/02	0	0	0	5	10	7	42	56	49	0	0	0
7/03c	0	1	0	8	12	10	38	64	51	0	0	0
7/04	0	1	1	10	13	12	34	73	54	0	0	0
7/05	3	1	2	9	14	12	37	113	75	0	0	0
7/06c	2	1	1	9	7	8	53	81	67	0	0	0
7/07	1	0	1	8	0	4	68	50	59	0	0	0
7/08	0	0	0	8	0	4	84	85	84	0	0	0
7/09	1	0	0	8	10	9	13	171	92	0	0	0
7/10c	1	0	0	5	5	5	16	94	55	0	0	0
7/11	1	0	0	2	1	1	19	17	18	0	0	0
7/12	0	0	0	1	1	1	29	22	25	0	0	0
7/13	0	0	0	0	1	0	11	53	32	1	0	1
7/14c	1	0	0	3	1	2	22	47	34	1	0	1
7/15	1	0	1	5	1	3	32	42	37	1	0	0
7/16	0	0	0	1	1	1	12	36	24	2	0	1

-Continued-

Appendix B2. (Page 2 of 2)

Date	Chinook			Sockeye			Chum			Coho		
	Eek	Tunt.	Avg.	Eek	Tunt.	Avg.	Eek	Tunt.	Avg.	Eek	Tunt.	Avg.
7/17	0	0	0	1	0	0	10	25	18	0	0	0
7/18c	0	1	0	0	1	0	11	18	14	0	0	0
7/19	1	1	1	0	1	1	12	11	11	1	0	0
7/20	0	0	0	1	0	1	8	4	6	0	1	1
7/21c	0	0	0	1	0	0	5	23	14	1	4	2
7/22	0	0	0	0	0	0	3	42	23	1	7	4
7/23	0	0	0	1	0	0	9	13	11	10	8	9
7/24	0	0	0	1	1	1	14	3	8	20	2	11
7/25	1	0	0	12	0	6	13	6	10	69	2	36
7/26	0	0	0	3	0	2	13	5	9	41	4	23
7/27	0	0	0	2	0	1	26	8	17	58	3	31
7/28	0	0	0	1	1	1	3	7	5	23	21	22
7/29	1	0	0	2	0	1	1	17	9	17	54	36
7/30	0	0	0	1	0	0	3	4	4	54	12	33
7/31	0	0	0	2	0	1	1	7	4	38	12	25
8/01	0	0	0	0	1	0	5	5	5	32	48	40
8/02	0	0	0	0	1	0	3	9	6	58	45	51
8/03	0	0	0	0	0	0	2	3	2	62	10	36
8/04c	0	0	0	0	0	0	1	1	1	67	20	43
8/05	0	0	0	0	0	0	0	0	0	72	29	50
8/06	0	0	0	0	0	0	0	2	1	72	22	47
8/07	0	0	0	1	0	1	1	0	1	64	27	45
8/08c	0	0	0	1	0	1	1	0	0	69	27	48
8/09	0	0	0	1	0	1	0	0	0	74	27	50
8/10	0	0	0	0	1	0	0	2	1	61	59	60
8/11	0	0	0	0	2	1	0	2	1	9	118	64
8/12c	0	0	0	1	1	1	0	1	0	25	83	54
8/13	0	0	0	2	0	1	0	0	0	41	48	45
8/14	0	0	0	0	0	0	0	0	0	22	18	20
8/15	0	0	0	0	0	0	0	0	0	39	12	26
8/16c	0	0	0	0	0	0	0	0	0	27	21	24
8/17	0	0	0	0	1	0	0	0	0	15	29	22
8/18	0	0	0	0	0	0	0	0	0	32	6	19
8/19c	0	0	0	0	0	0	0	0	0	28	10	19
8/20	0	0	0	0	0	0	0	0	0	24	14	19
8/21	0	0	0	0	0	0	0	0	0	35	5	20
8/22c	0	0	0	0	0	0	0	0	0	29	5	17
8/23	0	0	0	1	0	0	0	1	0	23	5	14
8/24	1	0	0	0	0	0	0	0	0	14	14	14
8/25	0	0	0	1	0	0	0	0	0	11	9	10
8/26c	0	0	0	0	0	0	0	0	0	14	7	11
8/27	0	0	0	0	0	0	0	0	0	17	4	11
8/28	0	0	0	0	0	0	0	0	0	12	2	7
8/29c	0	0	0	0	0	0	0	0	0	7	2	5
8/30	0	0	0	0	0	0	0	0	0	2	2	2
8/31	0	0	0	0	0	0	0	0	0	2	2	2

"c" indicates days when commercial fishing periods occurred in District 1

Appendix B3. Cumulative mean daily CPUE for salmon caught in the Lower Kuskokwim test fishery.

Date	Chinook			Sockeye			Chum			Coho		
	Eek	Tunt.	Avg.	Eek	Tunt.	Avg.	Eek	Tunt.	Avg.	Eek	Tunt.	Avg.
5/31	0	0	0	0	0	0	0	0	0	0	0	0
6/01	0	0	0	0	0	0	0	0	0	0	0	0
6/02	1	0	0	0	0	0	1	0	0	0	0	0
6/03	5	0	3	0	0	0	1	0	0	0	0	0
6/04	6	0	3	0	0	0	1	0	1	0	0	0
6/05	8	0	4	0	0	0	2	0	1	0	0	0
6/06	21	5	13	0	0	0	3	1	2	0	0	0
6/07	30	7	18	0	0	0	4	1	3	0	0	0
6/08	36	8	22	0	0	0	4	3	3	0	0	0
6/09	48	19	33	0	0	0	8	4	6	0	0	0
6/10	62	24	43	0	2	1	9	6	8	0	0	0
6/11	83	34	59	3	6	4	14	11	13	0	0	0
6/12	96	54	75	3	11	7	19	34	26	0	0	0
6/13	97	62	80	4	12	8	20	44	32	0	0	0
6/14	102	76	89	6	16	11	24	45	35	0	0	0
6/15	117	81	99	14	22	18	29	51	40	0	0	0
6/16	128	87	108	17	25	21	41	75	58	0	0	0
6/17	133	108	120	21	32	27	57	107	82	0	0	0
6/18	140	114	127	32	35	34	99	167	133	0	0	0
6/19	145	121	133	37	42	40	123	250	187	0	0	0
6/20	153	128	140	42	47	44	141	285	213	0	0	0
6/21	160	132	146	45	47	46	174	301	237	0	0	0
6/22c	170	134	152	50	49	50	231	333	282	0	0	0
6/23	182	136	159	60	52	56	312	382	347	0	0	0
6/24	184	137	160	79	57	68	369	401	385	0	0	0
6/25	187	140	163	99	65	82	449	450	449	0	0	0
6/26c	189	141	165	114	73	93	502	553	527	0	0	0
6/27	190	141	166	121	82	101	528	711	620	0	0	0
6/28	192	143	168	134	86	110	573	787	680	0	0	0
6/29c	193	144	169	149	90	120	617	843	730	0	0	0
6/30	193	144	169	166	94	130	658	879	768	0	0	0
7/01	194	146	170	176	99	138	696	928	812	0	0	0
7/02	194	146	170	181	108	145	738	984	861	0	0	0
7/03c	194	147	170	189	120	154	776	1048	912	0	0	0
7/04	194	148	171	199	134	166	811	1121	966	0	0	0
7/05	197	149	173	208	147	178	848	1234	1041	0	0	0
7/06c	199	150	174	217	154	186	901	1315	1108	0	0	0
7/07	200	150	175	226	154	190	969	1365	1167	0	0	0
7/08	200	150	175	233	154	194	1053	1449	1251	0	0	0
7/09	201	150	175	241	165	203	1066	1620	1343	0	0	0
7/10c	202	150	176	246	170	208	1081	1714	1398	0	0	0
7/11	202	150	176	249	171	210	1100	1731	1415	0	0	0
7/12	202	150	176	250	172	211	1129	1753	1441	0	0	0
7/13	202	150	176	250	172	211	1140	1806	1473	1	0	1
7/14c	203	150	176	253	173	213	1161	1853	1507	2	0	1
7/15	204	150	177	258	174	216	1193	1895	1544	3	0	2

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Appendix B3. (Page 2 of 2)

Date	Chinook			Sockeye			Chum			Coho		
	Eek	Tunt.	Avg.	Eek	Tunt.	Avg.	Eek	Tunt.	Avg.	Eek	Tunt.	Avg.
7/16	204	150	177	259	175	217	1205	1931	1568	5	0	3
7/17	204	150	177	260	175	217	1215	1956	1586	5	0	3
7/18c	205	150	177	260	176	218	1226	1974	1600	6	0	3
7/19	205	151	178	260	177	218	1238	1985	1612	7	0	3
7/20	205	151	178	261	177	219	1245	1990	1617	7	1	4
7/21c	205	151	178	262	177	219	1251	2013	1632	7	5	6
7/22	205	151	178	262	177	219	1254	2055	1654	8	12	10
7/23	205	151	178	263	177	220	1263	2068	1665	19	20	19
7/24	205	151	178	264	178	221	1277	2071	1674	39	22	30
7/25	206	151	179	276	178	227	1290	2077	1684	108	25	66
7/26	206	151	179	279	178	228	1303	2082	1693	149	29	89
7/27	206	151	179	281	178	229	1329	2090	1710	208	32	120
7/28	206	151	179	281	179	230	1332	2098	1715	231	53	142
7/29	207	151	179	283	179	231	1333	2114	1723	248	108	178
7/30	207	151	179	284	179	231	1336	2119	1727	302	120	211
7/31	207	151	179	285	179	232	1336	2125	1731	339	131	235
8/01	207	151	179	285	180	232	1341	2130	1736	372	180	276
8/02	207	151	179	285	181	233	1344	2139	1742	430	225	327
8/03	207	151	179	285	181	233	1346	2142	1744	492	235	364
8/04c	207	151	179	285	181	233	1347	2143	1745	559	255	407
8/05	207	151	179	285	181	233	1347	2143	1745	631	284	457
8/06	207	151	179	285	181	233	1347	2145	1746	703	306	504
8/07	207	151	179	286	181	233	1348	2145	1746	767	333	550
8/08c	207	151	179	287	181	234	1348	2145	1747	836	360	598
8/09	207	151	179	289	181	235	1348	2145	1747	909	387	648
8/10	207	151	179	289	181	235	1348	2147	1748	970	445	708
8/11	207	151	179	289	183	236	1348	2149	1749	979	563	771
8/12c	207	151	179	289	184	237	1348	2150	1749	1004	647	826
8/13	207	151	179	291	184	237	1348	2150	1749	1045	695	870
8/14	207	151	179	291	184	237	1348	2150	1749	1068	713	890
8/15	207	151	179	291	184	237	1348	2150	1749	1107	725	916
8/16c	207	151	179	291	184	237	1348	2150	1749	1134	746	940
8/17	207	151	179	291	185	238	1348	2150	1749	1149	775	962
8/18	207	151	179	291	185	238	1348	2150	1749	1181	780	981
8/19c	207	151	179	291	185	238	1348	2150	1749	1209	790	999
8/20	207	151	179	291	185	238	1348	2150	1749	1233	803	1018
8/21	207	151	179	291	185	238	1348	2150	1749	1267	809	1038
8/22c	207	151	179	291	185	238	1348	2150	1749	1296	814	1055
8/23	207	151	179	292	185	238	1348	2151	1750	1320	819	1069
8/24	208	151	180	292	185	238	1348	2151	1750	1333	833	1083
8/25	208	151	180	293	185	239	1348	2151	1750	1344	842	1093
8/26c	208	151	180	293	185	239	1348	2151	1750	1358	849	1104
8/27	208	151	180	293	185	239	1348	2151	1750	1376	853	1115
8/28	208	151	180	293	185	239	1348	2151	1750	1388	855	1122
8/29c	208	151	180	293	185	239	1348	2151	1750	1395	857	1126
8/30	208	151	180	293	185	239	1348	2151	1750	1398	860	1129
8/31	208	151	180	293	185	239	1348	2151	1750	1400	862	1131

"c" indicates days when commercial fishing periods occurred in District 1

Appendix B4. Daily percent passage for salmon caught in the Lower Kuskokwim test fishery.

Date		Chinook			Sockeye			Chum			Coho		
		Eek	Tunt.	Avg.	Eek	Tunt.	Avg.	Eek	Tunt.	Avg.	Eek	Tunt.	Avg.
5/31		0	0	0	0	0	0	0	0	0	0	0	0
6/01		0	0	0	0	0	0	0	0	0	0	0	0
6/02		0	0	0	0	0	0	0	0	0	0	0	0
6/03		3	0	1	0	0	0	0	0	0	0	0	0
6/04		3	0	2	0	0	0	0	0	0	0	0	0
6/05		4	0	2	0	0	0	0	0	0	0	0	0
6/06		10	3	7	0	0	0	0	0	0	0	0	0
6/07		15	4	10	0	0	0	0	0	0	0	0	0
6/08		17	5	12	0	0	0	0	0	0	0	0	0
6/09		23	12	18	0	0	0	1	0	0	0	0	0
6/10		30	16	24	0	1	0	1	0	0	0	0	0
6/11		40	23	33	1	3	2	1	1	1	0	0	0
6/12		46	36	42	1	6	3	1	2	2	0	0	0
6/13		47	41	44	1	6	3	1	2	2	0	0	0
6/14		49	50	50	2	9	5	2	2	2	0	0	0
6/15		56	53	55	5	12	8	2	2	2	0	0	0
6/16		62	57	60	6	14	9	3	3	3	0	0	0
6/17		64	71	67	7	17	11	4	5	5	0	0	0
6/18		67	75	71	11	19	14	7	8	8	0	0	0
6/19		70	80	74	13	23	17	9	12	11	0	0	0
6/20		74	84	78	14	25	19	10	13	12	0	0	0
6/21		77	87	81	15	26	19	13	14	14	0	0	0
6/22	c	82	89	85	17	27	21	17	15	16	0	0	0
6/23		87	90	88	20	28	23	23	18	20	0	0	0
6/24		89	90	89	27	31	28	27	19	22	0	0	0
6/25		90	92	91	34	35	34	33	21	26	0	0	0
6/26	c	91	93	92	39	39	39	37	26	30	0	0	0
6/27		91	93	92	41	44	42	39	33	35	0	0	0
6/28		92	95	93	46	47	46	43	37	39	0	0	0
6/29	c	93	95	94	51	49	50	46	39	42	0	0	0
6/30		93	95	94	57	51	54	49	41	44	0	0	0
7/01		93	96	95	60	53	58	52	43	46	0	0	0
7/02		93	96	95	62	59	61	55	46	49	0	0	0
7/03	c	93	97	95	64	65	65	58	49	52	0	0	0
7/04		93	98	95	68	72	70	60	52	55	0	0	0
7/05		95	98	96	71	80	74	63	57	59	0	0	0
7/06	c	96	99	97	74	84	78	67	61	63	0	0	0
7/07		96	99	97	77	84	80	72	63	67	0	0	0
7/08		96	99	97	80	84	81	78	67	72	0	0	0
7/09		97	99	98	82	89	85	79	75	77	0	0	0
7/10	c	97	99	98	84	92	87	80	80	80	0	0	0
7/11		97	99	98	85	92	88	82	80	81	0	0	0
7/12		97	99	98	85	93	88	84	81	82	0	0	0
7/13		97	99	98	85	93	88	85	84	84	0	0	0
7/14	c	98	99	98	86	94	89	86	86	86	0	0	0
7/15		98	99	99	88	94	90	88	88	88	0	0	0
7/16		98	99	99	88	95	91	89	90	90	0	0	0

- continued -

Appendix B4. (continued)

Date		Chinook			Sockeye			Chum			Coho		
		Eek	Tunt.	Avg.	Eek	Tunt.	Avg.	Eek	Tunt.	Avg.	Eek	Tunt.	Avg.
7/17		98	99	99	89	95	91	90	91	91	0	0	0
7/18	c	98	99	99	89	95	91	91	92	91	0	0	0
7/19		99	100	99	89	96	91	92	92	92	0	0	0
7/20		99	100	99	89	96	92	92	92	92	0	0	0
7/21	c	99	100	99	89	96	92	93	94	93	1	1	1
7/22		99	100	99	89	96	92	93	96	95	1	1	1
7/23		99	100	99	90	96	92	94	96	95	1	2	2
7/24		99	100	99	90	96	92	95	96	96	3	3	3
7/25		99	100	100	94	96	95	96	97	96	8	3	6
7/26		99	100	100	95	96	96	97	97	97	11	3	8
7/27		99	100	100	96	96	96	99	97	98	15	4	11
7/28		99	100	100	96	97	96	99	98	98	16	6	13
7/29		100	100	100	97	97	97	99	98	98	18	13	16
7/30		100	100	100	97	97	97	99	98	99	22	14	19
7/31		100	100	100	97	97	97	99	99	99	24	15	21
8/01		100	100	100	97	97	97	99	99	99	27	21	24
8/02		100	100	100	97	98	97	100	99	100	31	26	29
8/03		100	100	100	97	98	97	100	100	100	35	27	32
8/04	c	100	100	100	97	98	97	100	100	100	40	30	36
8/05		100	100	100	97	98	97	100	100	100	45	33	40
8/06		100	100	100	97	98	97	100	100	100	50	35	45
8/07		100	100	100	98	98	98	100	100	100	55	39	49
8/08	c	100	100	100	98	98	98	100	100	100	60	42	53
8/09		100	100	100	99	98	98	100	100	100	65	45	57
8/10		100	100	100	99	98	98	100	100	100	69	52	63
8/11		100	100	100	99	99	99	100	100	100	70	65	68
8/12	c	100	100	100	99	99	99	100	100	100	72	75	73
8/13		100	100	100	99	99	99	100	100	100	75	81	77
8/14		100	100	100	99	99	99	100	100	100	76	83	79
8/15		100	100	100	99	99	99	100	100	100	79	84	81
8/16	c	100	100	100	99	100	99	100	100	100	81	87	83
8/17		100	100	100	99	100	100	100	100	100	82	90	85
8/18		100	100	100	99	100	100	100	100	100	84	91	87
8/19	c	100	100	100	99	100	100	100	100	100	86	92	88
8/20		100	100	100	99	100	100	100	100	100	88	93	90
8/21		100	100	100	99	100	100	100	100	100	91	94	92
8/22	c	100	100	100	99	100	100	100	100	100	93	94	93
8/23		100	100	100	100	100	100	100	100	100	94	95	95
8/24		100	100	100	100	100	100	100	100	100	95	97	96
8/25		100	100	100	100	100	100	100	100	100	96	98	97
8/26	c	100	100	100	100	100	100	100	100	100	97	98	98
8/27		100	100	100	100	100	100	100	100	100	98	99	99
8/28		100	100	100	100	100	100	100	100	100	99	99	99
8/29	c	100	100	100	100	100	100	100	100	100	100	99	100
8/30		100	100	100	100	100	100	100	100	100	100	100	100
8/31		100	100	100	100	100	100	100	100	100	100	100	100

"c" indicates days when commercial fishing periods occurred in District 1

Appendix B5. Historic daily and cumulative CPUE for chinook salmon catches in the Bethel test fishery.

Date	Daily CPUE												Cumulative CPUE											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
6/01	0	0				0	0		0	3	3	3	1	0				0	0		0	3	3	0
6/02	1	0			3	0	2	0	0	4	2	3	3	0			3	0	2	0	0	7	5	3
6/03	0	0	0		0	0	0	0	0	10	3	1	3	0	0		3	0	2	0	0	17	7	3
6/04	0	0	[illegible]	0	0	0	1	0	0	3	2	1	3	0	3	0	3	0	3	0	0	20	9	4
6/05	0	0	[illegible]	5	2	0	1	[illegible]	0	8	11	3	3	0	4	5	5	0	4	1	0	28	20	7
6/06	0	0	1	3	0	0	1	3	2	11	15	2	3	0	6	8	5	0	6	4	2	39	35	9
6/07	2	0	5	5	3	2	3	6	0	5	2	10	5	0	10	13	8	2	8	10	2	45	37	19
6/08	3	0	0	16	22	7	4	2	3	8	5	15	7	0	10	29	30	8	13	11	5	52	42	34
6/09	6	0	1	9	14	9	5	1	6	29	5	2	13	0	12	38	44	17	17	13	11	81	47	36
6/10	5	0	0	20	5	15	8	0	7	16	2	10	18	0	12	59	49	32	25	13	18	97	48	46
6/11	5	0	0	18	21	4	14	3	21	3	0	10	23	0	12	77	71	36	39	16	39	100	48	55
6/12	13	0	0	22	18	9	14	0	22	20	7	17	35	0	12	98	89	45	53	16	61	120	55	73
6/13	3	0	0	13	11	11	6	2	21	14	16	16	38	0	12	112	100	56	58	17	82	134	71	89
6/14	5	0	1	21	3	27	2	2	18	10	52	10	43	0	13	133	103	83	61	19	100	143	123	99
6/15	17	0	9	10	8	19	9	1	11	22	15	3	60	0	22	143	111	102	69	20	111	166	138	102
6/16	14	0	20	11	8 c	7	11	3	21	17	13	3	74	0	42	154	119 c	109	81	23	132	182	151	105
6/17	4	0	14	54	21	21	6	3	24	37	14	11	78	0	56	208	140	130	87	26	156	220	164	116
6/18	26	0	4	14 c	7	35	13	12	9 c	30	2	24	104	0	59	222 c	147	165	100	38	165 c	250	166	140
6/19	14	0	15	13	13	19 c	26	6	5	29	22	31	118	0	74	235	160	185 c	126	43	170	279	188	171
6/20	14	1 c	3	18	25 c	16	9 c	15 c	9	30	13	8	132	1 c	77	253	185 c	201	135 c	59 c	179	309	201	179
6/21	5	7	17	23	16	14	12	6	9	27	20	29	137	8	94	277	201	215	146	64	188	336	221	208
6/22	12	0	15	30	13	17	19	4	0 c	31	29	11 c	149	8	109	306	214	231	165	68	188 c	367	251	219 c
6/23	4	3	14	26	16	23 c	9	6	6	13	12	22	153	11	123	333	231	255 c	174	74	194	380	263	241
6/24	11	0 c	13	9 c	21 c	21	24	6 c	14	21	3 c	25	164	11 c	136	342 c	252 c	276	198	80 c	208	401	266 c	266
6/25	4 c	4	1	38	8	26	34 c	7	12 c	8 c	10	22	169 c	15	138	379	260	302	232 c	87	220 c	409 c	276	288
6/26	4	0	5 c	20	10	48 c	31	4	11	2	2	35 c	173	15	143 c	400	270	350 c	263	91	230	410	278	323 c
6/27	6	3 c	8	25	14	50	13	2	9	5	11	12	178	18 c	151	425	284	401	276	93	239	416	289	335
6/28	10 c	8	0	15	5 c	11	25	7	13	5	3	5	188 c	26	151	440	289 c	412	301	99	252	420	292	340
6/29	4	9	3	18	3	3	21 c	16	11 c	7	15	19 c	192	35	154	458	292	415	322 c	116	263 c	427	307	359 c
6/30	1	4	3 c	12 c	3	22 c	0	9	6	12	7	15	194	38	156 c	471 c	296	437 c	322	125	268	440	314	374
7/01	6	12 c	7	15	12	11	2	9 c	11	3	5	13	200	51 c	163	486	307	448	324	133 c	279	443	318	387
7/02	14 c	1	6	9	1 c	3	9	6	6	4	3	3	214 c	52	169	495	306 c	451	333	141	285	446	322	390
7/03	3	9	7 c	3 c	5	9 c	17	6	7	3	5	9 c	217	60	176 c	496 c	313	461 c	350	147	293	450	327	399 c
7/04	11	6 c	3	8	5	7	20	6	10	3	3	9	228	67 c	179	506	318	468	370	153	303	453	330	408
7/05	4 c	9	3	7	8 c	10 c	5 c	1	3	0	5	7	232 c	76	182	513	326 c	477 c	375 c	154	306	453	334	415
7/06	6	8	1	9	0	2	6	2 c	0 c	0	5	0 c	238	85	183	522	326	479	381	156 c	306 c	453	339	415 c
7/07	0	3	1 c	15 c	0	9	8	3	0	2	11	3	238	87	184 c	537 c	326	486	388	159	308	455	350	418
7/08	3	5	4	0	0 c	4 c	14	2	3	2	2	5	240	93	189	537	326 c	492 c	403	160	309	457	352	423
7/09	7 c	5	3	1	0	5	5 c	0	0	4	3	6	248 c	98	191	538	326	496	408 c	160	309	461	355	429
7/10	2	1	0 c	3	0	4	0	2	3	2	0	0 c	250	99	191 c	541	326	500	408	162	313	464	355	429 c
7/11	0	2	2	2 c	0 c	0 c	0	0	4	2	0	2	250	102	193	543 c	326 c	500 c	408	162	317	466	355	431
7/12	1 c	1	0	2	0	1	4	0	4	2	0	0	251 c	103	193	545	326	501	411	162	321	468	355	431
7/13	1	1	0	2	0	0	2	2 c	4	0	0	0	252	105	193	548	326	501	414	163 c	325	468	355	431
7/14	0	0	1	1	8 c	0 c	2 c	1	0	0	0 c	0 c	252	105	194	549	334 c	501 c	416 c	165	325	468	355 c	431 c
7/15	1	2	0	0 c	0	0	2	1	0	0	0	0	253	106	194	549 c	334	501	418	166	325	468	356	431
7/16	8 c	0	0	0	8	0	2	2	4	0	0	0	261 c	106	194	549	341	501	420	168	329	468	356	431
7/17	0	1	0	3	6	1	2	0	5	2	0	0	261	107	194	551	347	503	422	168	335	470	356	431
7/18	2	0	0	0	2 c	2 c	0	2 c	6	0	2	0 c	263	107	194	551	349 c	504 c	422	170 c	341	470	357	431 c

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Appendix B5. (continued)

Date	Daily CPUE												Cumulative CPUE											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
7/19	0	0	0	14	0	1	0	2	3	2	2 c	0	263	107	194	566	349	505	422	172	344	473	359 c	431
7/20	3	0	0	1 c	0	5	0	0	0	0	0	2	266	107	194	567 c	349	510	422	172	344	473	359	433
7/21	0	0	2	2	0 c	1	0	0	0	0	0	0 c	266	107	196	569	349 c	511	422	172	344	473	359	433 c
7/22	0	0	2	0	0	6	4	0 c	0	0	0	0	266	107	196	569	349	518	425	172 c	344	473	359	433
7/23	0	0	0	3	0	0	0	0	0	0	0 c	0	266	107	196	572	349	518	425	172	344	473	359 c	433
7/24	1	0	3	0	1	0	2	0	0	0	0	0	267	107	201	572	350	518	427	172	344	473	359	433
7/25	0	0	0	0	0 c	0	0	0 c	0	0	0	0	267	107	201	572	350 c	518	427	172 c	344	473	359	433
7/26	2	0	0	0	2	0	4	0	0	0	0 c	0	268	107	201	572	352	518	431	172	344	473	359 c	433
7/27	0	2	0	4	2	0 c	0	0	0	0	0	4	268	109	201	577	354	518 c	431	172	344	473	359	438
7/28	0	0	0	0	0 c	0	2	0	0	0	0	0	268	109	201	577	354 c	518	433	172	344	473	359	438
7/29	0	2	0	0	0	0	4	0 c	0	0	0 c	0	268	111	201	577	354	518	438	172 c	344	473	359 c	438
7/30	0 c	0	0	0	4	0	0	0	0	0	0	2	268 c	111	201	577	358	518	438	172	344	473	359	440
7/31	3	0	0 c	0	0	0	0	0	0	0 c	0	0	271	111	201 c	577	358	518	438	172	344	473 c	359	440
8/01	2	0	0	0	0 c	0	0 c	0 c	0 c	0	0	0	273	111	201	577	358 c	518	438 c	172 c	344	473	359	440
8/02	0 c	0 c	0	0	0	1	0	0	0	0	0	0	273 c	111 c	201	577	358	519	438	172	344	473	359	440
8/03	0	0	0	1	0	0 c	0	0	0 c	0	0	0	273	111	201	578	358	519 c	438	172	344 c	473	359	440
8/04	0 c	0	0 c	0	0 c	0	0	0	0	0 c	0 c	0 c	273 c	111	201 c	578	358 c	519	438	172	344	473 c	359 c	440 c
8/05	0	0 c	0	0	0	0	0	0 c	0	0	0	0	273	111 c	201	578	358	519	438	172 c	344	473	359	440
8/06	0	0	0	0 c	0	0	2 c	0	0 c	0 c	0	0	273	111	201	578 c	358	519	439 c	172	344 c	473 c	359	440
8/07	0	0	0 c	2	0	0 c	0	0	2	0	0	0	273	111	201 c	580	358	519 c	439	172	347	473	359	440
8/08	0	2 c	0	0	0 c	0	0	0 c	0	0	0	0 c	273	113 c	201	580	358 c	519	439	172 c	347	473	359	440 c
8/09	0 c	0	0	0	0	1 c	0	0	0	0 c	0 c	0	273 c	113	201	580	358	520	439	172	347	473 c	359 c	440
8/10	0	0	0	0	0 c	0	2 c	0	0	0	0	0	273	113	201	580	358 c	520	441 c	172	347	473	359	440
8/11	0	0	0 c	2	3	0	0	0	0 c	0	0	0	273	113	201 c	582	361	520	441	172	347 c	473	359	440
8/12	0	0 c	0	0	0 c	0 c	0	0 c	0	0	0 c	0 c	273	113 c	201	582	361 c	520 c	441	172 c	347	473	359 c	440 c
8/13	0 c	0	0 c	0 c	0	2	0 c	0	0	0	0	0	273 c	113	201 c	582 c	361	522	441 c	172	347	473	359	440
8/14	0	0	0	0	0	0	0	0 c	0 c	0 c	0	0	273	113	201	582	361	522	441	172 c	347 c	473 c	359	440
8/15	0	0 c	0 c	0	0 c	0 c	2	0	0	0	0 c	0	273	113 c	201 c	582	361 c	522 c	443	172	347	473	359 c	440
8/16	0 c	0	0	0	0	0	0 c	0	0	0	0	0 c	273 c	113	201	582	361	522	443 c	172	347	473	359	440 c
8/17	0	0	0	0 c	0	0	0	0	0 c	0 c	0	0	273	113	201	582 c	361	522	443	172	347 c	473 c	359	440
8/18	0	0	0 c	0	0 c	0 c	0	0	0	0	0 c	0	273	113	201 c	582	361 c	522 c	443	172	347	473	359 c	440
8/19	0	0 c	0	0 c	0	0	0	0 c	2	0	0	0 c	273	113 c	201	582 c	361	522	443	172 c	349	473	359	440 c
8/20	0 c	1	0	0	0 c	2	0 c	0	0 c	0	0	0	273 c	114	201	582	361 c	523	443 c	172	349 c	473	359	440
8/21	0	0	0 c	0 c	0	0	0	0	0	0 c	0	0	273	114	201 c	582 c	361	523	443	172	349	473 c	359	440
8/22	0	0 c	0	0	0	0	0	0	0	0	0 c	0 c	273	114 c	201	582	361	523	443	172	349	473	359 c	440 c
8/23	0 c	0	0	0	0	0 c	0	0	0	0	0	0	273 c	114	201	582	361	523 c	443	172	349	473	359	440
8/24	0	0	0	0 c	0	0	0	0	0	0 c	2	0	273	114	201	582 c	361	523	443	172	349 c	473	362	440
8/25	0	0	0 c	0	0	0	0	0	0	0 c	0 c	0	273	114	201 c	582	361	523	443	172	349	473 c	362 c	440
8/26	0	0 c	0	0	0	0 c	2	0 c	0	0	0	0 c	273	114 c	201	582	361	523 c	445	172 c	349	473	362	440 c
8/27	0 c	0	0	0 c	0 c	0	0 c	0	0 c	0	0 c	0	273 c	114	201	582 c	361 c	523	445 c	172	349 c	473	362 c	440
8/28	0	0	0 c	0	0	0	0	0	0	0 c	0	0	273	114	201 c	582	361	523	445	172	349	473 c	362	440
8/29	0	0 c		0	0	0 c	0	0	0	0	0	0 c	273	114 c		582	361	523 c	445	172	349	473	362	440 c
8/30	0 c	0		0		0	0	0	0	0	0 c		c										c	
8/31	0			0 c	c	0	0	0	0 c	0	0					c	c				c			
9/01	0		c	0			c			c				c	c			c				c		c

"c" indicates days when commercial fishing periods occured in District 1

Appendix B6. Historic daily percent passage of chinook salmon in the Bethel test fishery.

Date	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Mean 85-95
6/01	1	0	0	0	0	0	0	0	0	1	1	0	0
6/02	1	0	0	0	1	0	0	0	0	1	1	1	0
6/03	1	0	0	0	1	0	0	0	0	4	2	1	1
6/04	1	0	1	0	1	0	1	0	0	4	2	1	1
6/05	1	0	2	1	1	0	1	1	0	6	6	2	2
6/06	1	0	3	1	1	0	1	2	0	8	10	2	3
6/07	2	0	5	2	2	0	2	6	0	9	10	4	4
6/08	3	0	5	5	8	2	3	7	1	11	12	8	5
6/09	5	0	6	7	12	3	4	7	3	17	13	8	7
6/10	7	0	6	10	14	6	6	7	5	20	13	10	9
6/11	8	0	6	13	20	7	9	9	11	21	13	13	11
6/12	13	0	6	17	25	9	12	9	17	25	15	17	14
6/13	14	0	6	19	28	11	13	10	23	28	20	20	16
6/14	16	0	6	23	29	16	14	11	29	30	34	22	19
6/15	22	0	11	25	31	20	16	12	32	35	38	23	22
6/16	27	0	21	26	33	21	18	13	38	39	42	24	25
6/17	29	0	28	36	39	25	20	15	45	46	45	26	29
6/18	38	0	30	38	41	32	23	22	47	53	46	32	33
6/19	43	0	37	40	44	35	28	25	49	59	52	39	38
6/20	48	1	38	44	51	38	30	34	51	65	56	41	42
6/21	50	7	47	48	56	41	33	37	54	71	61	47	46
6/22	55	7	54	53	59	44	37	40	54	78	69	50	50
6/23	56	9	61	57	64	49	39	43	56	80	73	55	54
6/24	60	9	68	59	70	53	45	46	60	85	73	60	57
6/25	62	13	68	65	72	58	52	51	63	86	76	65	61
6/26	63	13	71	69	75	67	59	53	66	87	77	74	64
6/27	65	15	75	73	79	77	62	54	69	88	80	76	68
6/28	69	23	75	76	80	79	68	58	72	89	81	77	70
6/29	70	30	76	79	81	79	73	67	75	90	85	82	74
6/30	71	34	78	81	82	83	73	72	77	93	87	85	76
7/01	73	44	81	83	85	86	73	77	80	94	88	88	79
7/02	78	45	84	85	85	86	75	82	82	94	89	89	81
7/03	79	53	87	86	87	88	79	86	84	95	90	91	84
7/04	83	59	89	87	88	89	83	89	87	96	91	93	86
7/05	85	67	90	88	90	91	85	90	88	96	92	94	88
7/06	87	74	91	90	90	92	86	91	88	96	94	94	89
7/07	87	77	92	92	90	93	88	92	88	96	97	95	91
7/08	88	81	94	92	90	94	91	93	89	97	97	96	92
7/09	91	86	95	92	90	95	92	93	89	98	98	98	93
7/10	92	87	95	93	90	96	92	94	90	98	98	98	94
7/11	92	89	96	93	90	96	92	94	91	99	98	98	94
7/12	92	90	96	94	90	96	93	94	92	99	98	98	94
7/13	92	92	96	94	90	96	93	95	93	99	98	98	95
7/14	92	92	97	94	92	96	94	96	93	99	98	98	95
7/15	93	93	97	94	92	96	94	97	93	99	98	98	95

- continued -

Appendix B6. (continued)

Date	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Mean 85-95
7/16	95	93	97	94	95	96	95	98	95	99	98	98	96
7/17	95	94	97	95	96	96	95	98	96	100	98	98	96
7/18	96	94	97	95	97	96	95	99	98	100	99	98	97
7/19	96	94	97	97	97	97	95	100	99	100	99	98	97
7/20	97	94	97	97	97	98	95	100	99	100	99	99	98
7/21	97	94	98	98	97	98	95	100	99	100	99	99	98
7/22	97	94	99	98	97	99	96	100	99	100	99	99	98
7/23	97	94	99	98	97	99	96	100	99	100	99	99	98
7/24	98	94	100	98	97	99	96	100	99	100	99	99	98
7/25	98	94	100	98	97	99	96	100	99	100	99	99	98
7/26	98	94	100	98	98	99	97	100	99	100	99	99	98
7/27	98	96	100	99	98	99	97	100	99	100	99	99	99
7/28	98	96	100	99	98	99	98	100	99	100	99	99	99
7/29	98	97	100	99	98	99	99	100	99	100	99	99	99
7/30	98	97	100	99	99	99	99	100	99	100	99	100	99
7/31	99	97	100	99	99	99	99	100	99	100	99	100	99
8/01	100	97	100	99	99	99	99	100	99	100	99	100	99
8/02	100	97	100	99	99	99	99	100	99	100	99	100	99
8/03	100	97	100	99	99	99	99	100	99	100	99	100	99
8/04	100	97	100	99	99	99	99	100	99	100	99	100	99
8/05	100	97	100	99	99	99	99	100	99	100	99	100	99
8/06	100	97	100	99	99	99	99	100	99	100	99	100	99
8/07	100	97	100	100	99	99	99	100	99	100	99	100	99
8/08	100	99	100	100	99	99	99	100	99	100	99	100	100
8/09	100	99	100	100	99	99	99	100	99	100	99	100	100
8/10	100	99	100	100	99	99	100	100	99	100	99	100	100
8/11	100	99	100	100	100	99	100	100	99	100	99	100	100
8/12	100	99	100	100	100	99	100	100	99	100	99	100	100
8/13	100	99	100	100	100	100	100	100	99	100	99	100	100
8/14	100	99	100	100	100	100	100	100	99	100	99	100	100
8/15	100	99	100	100	100	100	100	100	99	100	99	100	100
8/16	100	99	100	100	100	100	100	100	99	100	99	100	100
8/17	100	99	100	100	100	100	100	100	99	100	99	100	100
8/18	100	99	100	100	100	100	100	100	99	100	99	100	100
8/19	100	99	100	100	100	100	100	100	100	100	99	100	100
8/20	100	100	100	100	100	100	100	100	100	100	99	100	100
8/21	100	100	100	100	100	100	100	100	100	100	99	100	100
8/22	100	100	100	100	100	100	100	100	100	100	99	100	100
8/23	100	100	100	100	100	100	100	100	100	100	99	100	100
8/24	100	100	100	100	100	100	100	100	100	100	100	100	100
8/25	100	100	100	100	100	100	100	100	100	100	100	100	100
8/26	100	100	100	100	100	100	100	100	100	100	100	100	100
8/27	100	100	100	100	100	100	100	100	100	100	100	100	100
8/28	100	100	100	100	100	100	100	100	100	100	100	100	100
8/29	100	100	100	100	100	100	100	100	100	100	100	100	100

Appendix B7. Historic daily and cumulative CPUE for sockeye salmon catches in the Bethel test fishery.

Date	Daily CPUE												Cumulative CPUE											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
6/01	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
6/02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6/03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6/04	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0
6/05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0
6/06	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	9	0	3	0	0	0	0	0	0
6/07	3	0	6	9	0	0	0	0	0	0	0	0	3	0	6	18	0	3	0	0	0	0	0	0
6/08	0	0	8	17	12	0	0	0	0	3	0	0	3	0	14	35	12	3	0	0	0	3	0	0
6/09	0	0	13	13	14	3	0	0	0	3	0	0	3	0	27	48	27	6	0	0	0	6	0	0
6/10	0	0	3	16	12	3	0	0	0	0	0	0	3	0	30	64	38	9	0	0	0	6	0	0
6/11	5	0	21	16	43	20	8	0	0	7	0	0	8	0	50	80	82	29	6	0	0	14	0	0
6/12	0	0	6	112	82	12	3	0	0	6	0	3	8	0	56	191	143	40	11	0	0	20	0	3
6/13	2	0	11	49	47	11	0	3	9	31	0	3	10	0	68	240	191	51	11	3	9	50	0	6
6/14	6	0	5	9	14	27	16	3	13	7	3	7	16	0	73	249	205	78	27	6	22	57	3	13
6/15	0	0	48	42	9	24	14	3	13	3	3	13	16	0	121	290	214	102	41	9	35	60	6	26
6/16	7	0	102	166	7 c	15	20	0	14	23	0	16	23	0	223	456	221 c	117	60	9	49	83	6	42
6/17	7	0	49	252	28	15	53	12	48	66	10	3	30	0	273	710	247	132	123	21	97	149	16	45
6/18	22	3	79	69 c	46	46	16	51	45 c	41	0	19	52	3	352	779 c	296	178	139	71	142 c	190	18	64
6/19	0	13	119	17	98	28 c	38	11	9	16	55	28	52	16	471	796	394	207 c	177	83	151	207	71	92
6/20	14	0 c	34	47	26 c	19	31 c	39 c	15	63	10	6	66	16 c	505	843	419 c	226	207 c	122 c	167	269	80	98
6/21	5	12	145	76	135	53	15	9	28	138	76	66	71	28	650	919	554	278	222	130	194	406	156	164
6/22	26	11	189	166	135	58	14	43	36 c	46	29	49 c	97	40	819	1,085	690	336	236	173	230 c	451	185	213 c
6/23	0	97	63	355	117	36 c	77	17	39	54	73	22	97	137	882	1,440	807	372 c	313	190	269	506	258	235
6/24	31	0 c	33	142 c	63 c	40	80	6 c	67	90	108 c	31	128	137 c	915	1,582 c	869 c	412	374	196 c	336	568	366 c	266
6/25	41 c	135	228	49	79	83	91 c	9	96 c	110 c	36	134	169 c	272	1,141	1,631	898	495	464 c	204	432 c	705 c	404	400
6/26	19	128	198 c	82	116	26 c	25	6	19	23	40	74 c	186	400	1,339 c	1,693	1,013	521 c	489	210	451	728	443	475 c
6/27	48	126 c	202	34	69	63	43	21	49	21	26	28	236	526 c	1,541	1,727	1,082	574	532	231	499	749	469	502
6/28	20 c	117	138	41	42 c	40	90	38	141	25	23	131	256 c	643	1,679	1,768	1,124 c	614	622	270	640	774	492	633
6/29	3	256	20	37	9	36	104 c	26	108 c	62	169	61 c	259	899	1,699	1,805	1,133	648	726 c	296	748 c	836	661	694 c
6/30	18	150	221 c	164 c	46	40 c	8	20	71	428	20	84	277	1,049	1,920 c	1,969 c	1,176	688 c	732	316	819	1,264	701	758
7/01	34	190 c	15	241	91	13	24	28 c	36	117	13	88	311	1,239 c	1,935	2,211	1,269	702	756	343 c	854	1,380	714	846
7/02	46 c	54	96	63	28 c	11	24	35	38	56	29	69	357 c	1,293	2,032	2,273	1,297 c	713	780	378	890	1,435	742	915
7/03	24	68	85 c	36 c	32	22 c	65	62	78	14	190	108 c	381	1,361	2,117 c	2,309 c	1,329	736 c	845	440	987	1,449	932	1,023 c
7/04	38	33 c	32	124	54	1	98	36	22	57	83	66	416	1,394 c	2,149	2,433	1,383	737	941	476	989	1,506	1,025	1,089
7/05	35 c	46	42	166	45 c	5 c	22 c	38	6	10	73	128	451 c	1,439	2,191	2,599	1,426 c	742 c	963 c	514	995	1,515	1,097	1,217
7/06	23	58	33	12	17	3	3	7 c	12 c	32	160	32 c	475	1,496	2,224	2,611	1,445	745	966	521 c	1,006 c	1,546	1,267	1,249 c
7/07	24	58	74 c	44 c	11	13	23	7	0	20	35	45	498	1,553	2,298 c	2,655 c	1,456	759	986	528	1,008	1,566	1,292	1,294
7/08	27	3	21	6	13 c	15 c	36	0	13	58	44	30	525	1,556	2,319	2,662	1,469 c	774 c	1,027	528	1,020	1,625	1,336	1,324
7/09	17 c	23	11	30	10	3	29 c	27	3	6	65	13	542 c	1,579	2,330	2,691	1,478	777	1,056 c	555	1,024	1,631	1,422	1,337
7/10	2	6	2 c	30	5	0	14	6	4	4	29	0 c	545	1,584	2,332 c	2,722	1,483	777	1,089	581	1,028	1,635	1,451	1,337 c
7/11	2	12	9	4 c	4 c	2 c	6	3	7	4	6	7	547	1,587	2,341	2,726 c	1,488 c	779 c	1,076	563	1,034	1,639	1,457	1,343
7/12	2 c	6	23	3	0	5	4	3	5	0	4	2	548 c	1,603	2,365	2,729	1,488	784	1,080	566	1,040	1,639	1,461	1,346
7/13	0	6	17	7	0	4	8	3 c	19	21	0	4	549	1,607	2,382	2,736	1,488	788	1,088	569 c	1,059	1,680	1,461	1,350
7/14	1	2	13	5	3 c	0 c	6 c	3	23	30	2 c	2 c	550	1,609	2,395	2,741	1,491 c	788 c	1,093 c	572	1,062	1,690	1,463 c	1,352 c
7/15	3	0	2	3 c	2	0	8	3	4	9	0	0	553	1,609	2,397	2,744 c	1,492	788	1,102	575	1,066	1,696	1,463	1,352
7/16	10 c	9	8	0	0	8	4	0	10	2	0	0	562 c	1,618	2,404	2,744	1,492	795	1,106	575	1,097	1,700	1,463	1,352
7/17	2	4	8	2	3	1	0	2	4	0	2	0	564	1,622	2,411	2,746	1,496	797	1,106	577	1,101	1,700	1,465	1,352
7/18	5	4	3	0	2 c	1 c	0	0 c	6	0	2	0 c	569	1,626	2,414	2,746	1,498 c	798 c	1,106	577 c	1,107	1,700	1,468	1,352 c

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Appendix B7. (continued)

Date	Daily CPUE												Cumulative CPUE											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
7/19	4	3	4	6	0	1	2	0	0	0	0 c	0	573	1,629	2,418	2,752	1,498	799	1,108	577	1,107	1,700	1,468 c	1,352
7/20	0	5	4	3 c	0	0	0	0	0	0	0	4	573	1,635	2,421	2,755 c	1,498	799	1,108	577	1,107	1,700	1,468	1,357
7/21	2	5	7	0	0 c	0	0	0	0	2	1	0 c	575	1,638	2,428	2,755	1,498 c	799	1,108	577	1,107	1,703	1,468	1,357 c
7/22	1	8	3	0	1	0	0	2 c	0	2	2	0	576	1,646	2,431	2,755	1,498	799	1,108	579 c	1,107	1,705	1,471	1,357
7/23	0	3	3	0	0	0	0	2	0	0	0 c	2	576	1,651	2,434	2,755	1,498	799	1,108	581	1,107	1,705	1,471 c	1,359
7/24	0	0	0	0	1	0	0	0	0	0	2	0	576	1,651	2,434	2,755	1,500	799	1,108	581	1,107	1,705	1,473	1,359
7/25	2	0	0	0	0 c	0	0	0 c	0	0	0	0	578	1,651	2,434	2,755	1,500 c	799	1,108	581 c	1,107	1,705	1,473	1,359
7/26	2	2	0	0	0	0	0	0	0	0	0 c	0	579	1,653	2,434	2,755	1,500	799	1,108	581	1,107	1,705	1,473 c	1,359
7/27	0	0	1	0	0	0 c	0	0	0	0	0	0	579	1,653	2,435	2,755	1,500	799 c	1,108	581	1,107	1,705	1,473	1,359
7/28	0	0	0	0	0 c	0	2	0	0	0	0	2	579	1,653	2,435	2,755	1,500 c	799	1,108	581	1,107	1,705	1,473	1,361
7/29	0	0	2	0	0	0	0	0 c	0	0	0 c	0	579	1,653	2,437	2,755	1,500	799	1,109	581 c	1,107	1,705	1,473 c	1,361
7/30	0 c	0	2	0	0	0	1	0	0	0	0	0	579 c	1,653	2,439	2,755	1,500	799	1,111	581	1,107	1,705	1,473	1,361
7/31	0	0	0 c	0	1	0	2	0	0	0 c	0	0	579	1,653	2,439 c	2,755	1,501	799	1,113	581	1,107	1,705 c	1,473	1,361
8/01	0	0	1	0	0 c	0	0 c	0 c	0	0	0	2	579	1,653	2,441	2,755	1,501 c	799	1,113 c	581 c	1,107	1,705	1,473	1,363
8/02	0 c	0 c	0	2	0	0	0	0	0	0	0	0	579 c	1,653 c	2,441	2,757	1,501	799	1,113	581	1,107	1,705	1,473	1,363
8/03	0	2	0	2	0	0 c	0	0	0 c	0	0	2	579	1,654	2,441	2,759	1,501	799 c	1,113	581	1,107 c	1,705	1,473	1,365
8/04	0 c	0	0 c	0	0 c	0	0	0	0	0 c	0 c	0 c	579 c	1,654	2,441 c	2,759	1,501 c	799	1,113	581	1,107	1,705 c	1,473 c	1,365 c
8/05	0	0 c	0	0	0	0	0	0 c	0	0	0	0	579	1,654 c	2,441	2,759	1,501	799	1,113	581 c	1,107	1,705	1,473	1,365
8/06	0	0	1	0 c	0	0	2 c	0	0 c	0 c	0	0	579	1,654	2,442	2,759 c	1,501	799	1,114 c	581	1,107 c	1,705 c	1,473	1,365
8/07	0	0	0 c	0	0	0 c	0	0	0	0	0	2	579	1,654	2,442 c	2,759	1,501	799 c	1,114	581	1,107	1,705	1,473	1,367
8/08	0	0 c	0	0	0 c	0	0	0 c	0	0	0	0 c	579	1,654 c	2,442	2,759	1,501 c	799	1,114	581 c	1,107	1,705	1,473	1,367 c
8/09	0 c	0	0	0	0	0 c	0	0	0	0 c	0 c	0	579 c	1,654	2,442	2,759	1,501	799 c	1,114	581	1,107	1,705 c	1,473 c	1,367
8/10	0	0	3	0	0 c	0	0 c	0	0	0	2	0	579	1,654	2,444	2,759	1,501 c	799	1,114 c	581	1,107	1,705	1,475	1,367
8/11	0	0	0 c	0	0	0	0	0	0	0 c	0	0	579	1,654	2,444 c	2,759	1,501	799	1,114	581	1,107 c	1,705	1,475	1,367
8/12	0	0 c	0	2	0 c	0	0 c	0	0 c	2	0	0 c	579	1,654 c	2,444	2,761	1,501 c	799 c	1,114	581 c	1,109	1,705	1,475 c	1,367 c
8/13	0 c	0	0 c	0 c	0	0	0 c	0	0	0	0	0	579 c	1,654	2,444 c	2,761 c	1,501	799	1,114 c	581	1,109	1,705	1,475	1,367
8/14	0	0	0	0	0	0	0	0 c	0 c	0 c	0	0	579	1,654	2,444	2,761	1,501	799	1,114	581 c	1,109 c	1,705 c	1,475	1,367
8/15	0	0 c	0 c	0	0 c	0 c	0 c	0	0	0	0 c	0	579	1,654 c	2,444 c	2,761	1,501 c	799 c	1,114	581	1,109	1,705	1,475 c	1,367
8/16	0 c	0	0	0	0	0	0 c	0	0	0	0	0 c	579 c	1,654	2,444	2,761	1,501	799	1,114 c	581	1,109	1,705	1,475	1,367 c
8/17	0	0	0	0 c	0	0	0	0	0 c	0 c	0 c	0	579	1,654	2,444	2,761 c	1,501	799	1,114	581	1,109 c	1,705 c	1,475	1,367
8/18	0	0	0 c	0	0 c	0 c	0 c	0	0	0	0 c	0	579	1,654	2,444 c	2,761	1,501 c	799 c	1,114	581	1,109	1,705	1,475 c	1,367
8/19	0	0 c	0	0 c	0	0	0	0 c	0	0	0	0 c	579	1,654 c	2,444	2,761 c	1,501	799	1,114	581 c	1,109	1,705	1,475	1,367 c
8/20	0 c	0	0	0	0 c	0	0 c	0	0 c	0	0 c	0	579 c	1,654	2,444	2,761	1,501 c	799	1,114 c	581	1,109 c	1,705	1,475	1,367
8/21	0	0	0 c	0 c	0	0	0	0	0	0	0 c	0	579	1,654	2,444 c	2,761 c	1,501	799	1,114	581	1,109	1,705 c	1,475	1,367
8/22	0	0 c	0	0	0	0	0	0	0	0	0 c	0 c	579	1,654 c	2,444	2,761	1,501	799	1,114	581	1,109	1,705	1,475 c	1,367 c
8/23	0 c	0	0	0	0	0 c	0	0	0	0	0	0	579 c	1,654	2,444	2,761	1,501	799 c	1,114	581	1,109	1,705	1,475	1,367
8/24	0	0	1	1 c	0	0	0	0	0 c	0	0	0	579	1,654	2,445	2,762 c	1,501	799	1,114	581	1,109 c	1,705	1,475	1,367
8/25	0	0	0 c	0	0	0	0	0	0	0	0 c	0 c	579	1,654	2,445 c	2,762	1,501	799	1,114	581	1,109	1,705 c	1,475 c	1,367
8/26	0	0 c	0	0	0	0	0 c	0	0 c	0	0	0 c	579	1,654 c	2,445	2,762	1,501	799 c	1,114	581 c	1,109	1,705	1,475	1,367 c
8/27	0 c	0	0	0 c	0 c	0 c	0	0 c	0	0 c	0 c	0	579 c	1,654	2,445	2,762 c	1,501 c	799	1,114 c	581	1,109 c	1,705	1,475 c	1,367
8/28	0	0	0 c	0	0	0	0	0	0	0	0 c	0	579	1,654	2,445 c	2,762	1,501	799	1,114	581	1,109	1,705 c	1,475	1,367
8/29	0	0 c		0	0	0 c	0	0	0	0	0	0 c	579	1,654 c		2,762	1,501	799 c	1,114	581	1,109	1,705	1,475	1,367 c
8/30	0 c	0		0		0	0	0	0	0	0 c		579 c	1,654		2,762		799	1,114	581	1,109	1,705	1,475 c	
8/31	0			1/0 c	c	0	0	0	0 c	0	0		579			2,762 c	c	799	1,114	581	1,109 c	1,705	1,475	
9/01	0		c	1/0		c				c		c	579		c	2,762		c				c		c

"c" indicates days when commercial fishing periods occured in District 1

Appendix B8. Historic daily percent passage of sockeye salmon in the Bethel test fishery.

Date	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Mean 84-95
6/01	0	0	0	0	0	0	0	0	0	0	0	0	0
6/02	0	0	0	0	0	0	0	0	0	0	0	0	0
6/03	0	0	0	0	0	0	0	0	0	0	0	0	0
6/04	0	0	0	0	0	0	0	0	0	0	0	0	0
6/05	0	0	0	0	0	0	0	0	0	0	0	0	0
6/06	0	0	0	0	0	0	0	0	0	0	0	0	0
6/07	0	0	0	1	0	0	0	0	0	0	0	0	0
6/08	0	0	1	1	1	0	0	0	0	0	0	0	0
6/09	0	0	1	2	2	1	0	0	0	0	0	0	1
6/10	0	0	1	2	3	1	0	0	0	0	0	0	1
6/11	1	0	2	3	5	4	1	0	0	1	0	0	1
6/12	1	0	2	7	10	5	1	0	0	1	0	0	2
6/13	2	0	3	9	13	6	1	0	1	3	0	0	3
6/14	3	0	3	9	14	10	2	1	2	3	0	1	4
6/15	3	0	5	11	14	13	4	1	3	4	0	2	5
6/16	4	0	9	17	15	15	5	1	4	5	0	3	7
6/17	5	0	11	26	16	17	11	4	9	9	1	3	9
6/18	9	0	14	28	20	22	12	12	13	11	1	5	12
6/19	9	1	19	29	26	26	16	14	14	12	5	7	15
6/20	11	1	21	31	28	28	19	21	15	16	5	7	17
6/21	12	2	27	33	37	35	20	22	18	24	11	12	21
6/22	17	2	33	39	46	42	21	30	21	26	13	16	26
6/23	17	8	36	52	54	47	28	33	24	30	18	17	30
6/24	22	8	37	57	58	52	34	34	30	35	25	19	34
6/25	29	16	47	59	60	62	42	35	39	41	27	29	41
6/26	32	24	55	61	68	65	44	36	41	43	30	35	44
6/27	41	32	63	63	72	72	48	40	45	44	32	37	49
6/28	44	39	69	64	75	77	56	46	58	45	33	46	54
6/29	45	54	69	65	76	81	65	51	67	49	46	51	60
6/30	48	63	79	71	78	86	66	54	74	74	47	55	66
7/01	54	75	79	80	85	88	68	59	77	81	48	62	71
7/02	62	78	83	82	86	89	70	65	80	84	50	67	75
7/03	66	82	87	84	89	92	76	76	87	85	63	75	80
7/04	72	84	88	88	92	92	84	82	89	88	69	80	84
7/05	78	87	90	94	95	93	86	89	90	89	74	89	88
7/06	82	90	91	95	96	93	87	90	91	91	85	91	90
7/07	86	94	94	96	97	95	89	91	91	92	88	95	92
7/08	91	94	95	96	98	97	92	91	92	95	91	97	94
7/09	94	95	95	97	99	97	95	96	92	96	96	98	96
7/10	94	96	95	99	99	97	96	97	93	96	98	98	96
7/11	94	97	96	99	99	98	97	97	93	96	99	98	97
7/12	95	97	97	99	99	98	97	98	94	96	99	98	97
7/13	95	97	97	99	99	99	98	98	95	97	99	99	98
7/14	95	97	98	99	99	99	98	99	98	99	99	99	98
7/15	95	97	98	99	99	99	99	99	98	100	99	99	98

- continued -

Appendix B8. (continued)

Date	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Mean 84-95
7/16	97	98	98	99	99	100	99	99	99	100	99	99	99
7/17	97	98	99	99	100	100	99	99	99	100	99	99	99
7/18	98	98	99	99	100	100	99	99	100	100	99	99	99
7/19	99	98	99	100	100	100	99	99	100	100	99	99	99
7/20	99	99	99	100	100	100	99	99	100	100	99	99	99
7/21	99	99	99	100	100	100	99	99	100	100	100	99	100
7/22	99	100	99	100	100	100	99	100	100	100	100	99	100
7/23	99	100	100	100	100	100	99	100	100	100	100	99	100
7/24	99	100	100	100	100	100	99	100	100	100	100	99	100
7/25	100	100	100	100	100	100	99	100	100	100	100	99	100
7/26	100	100	100	100	100	100	99	100	100	100	100	99	100
7/27	100	100	100	100	100	100	99	100	100	100	100	99	100
7/28	100	100	100	100	100	100	100	100	100	100	100	100	100
7/29	100	100	100	100	100	100	100	100	100	100	100	100	100
7/30	100	100	100	100	100	100	100	100	100	100	100	100	100
7/31	100	100	100	100	100	100	100	100	100	100	100	100	100
8/01	100	100	100	100	100	100	100	100	100	100	100	100	100
8/02	100	100	100	100	100	100	100	100	100	100	100	100	100
8/03	100	100	100	100	100	100	100	100	100	100	100	100	100
8/04	100	100	100	100	100	100	100	100	100	100	100	100	100
8/05	100	100	100	100	100	100	100	100	100	100	100	100	100
8/06	100	100	100	100	100	100	100	100	100	100	100	100	100
8/07	100	100	100	100	100	100	100	100	100	100	100	100	100
8/08	100	100	100	100	100	100	100	100	100	100	100	100	100
8/09	100	100	100	100	100	100	100	100	100	100	100	100	100
8/10	100	100	100	100	100	100	100	100	100	100	100	100	100
8/11	100	100	100	100	100	100	100	100	100	100	100	100	100
8/12	100	100	100	100	100	100	100	100	100	100	100	100	100
8/13	100	100	100	100	100	100	100	100	100	100	100	100	100
8/14	100	100	100	100	100	100	100	100	100	100	100	100	100
8/15	100	100	100	100	100	100	100	100	100	100	100	100	100
8/16	100	100	100	100	100	100	100	100	100	100	100	100	100
8/17	100	100	100	100	100	100	100	100	100	100	100	100	100
8/18	100	100	100	100	100	100	100	100	100	100	100	100	100
8/19	100	100	100	100	100	100	100	100	100	100	100	100	100
8/20	100	100	100	100	100	100	100	100	100	100	100	100	100
8/21	100	100	100	100	100	100	100	100	100	100	100	100	100
8/22	100	100	100	100	100	100	100	100	100	100	100	100	100
8/23	100	100	100	100	100	100	100	100	100	100	100	100	100
8/24	100	100	100	100	100	100	100	100	100	100	100	100	100
8/25	100	100	100	100	100	100	100	100	100	100	100	100	100
8/26	100	100	100	100	100	100	100	100	100	100	100	100	100
8/27	100	100	100	100	100	100	100	100	100	100	100	100	100
8/28	100	100	100	100	100	100	100	100	100	100	100	100	100
8/29	100	100	100	100	100	100	100	100	100	100	100	100	100

Ac 39 Historic daily and cumulative CPUE for coho salmon catches in the Bethel fishery

Date	Daily CPUE											Cumulative CPUE										
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
7/15	0	2	0 c	0	2	0	0	0	0	2	0	0	2	0 c	2	6	0	0	8	7	5	0
7/16	0	2	0	0	0	0	0	2	0	2	0	0	4	0	2	6	0	0	10	7	8	0
7/17	2	2	0	4	2	0	0	1	0	0	0	2	6	0	6	6	0	0	11	7	8	0
7/18	0	2	0	0 c	4 c	0	0 c	7	0	2	0 c	2	8	0	6 c	12 c	0	0 c	18	7	10	0 c
7/19	2	4	0	0	0	4	2	8	8	9 c	0	3	11	0	6	12	4	2	27	18	18 c	0
7/20	4	4	0 c	4	10	13	6	5	2	0	4	7	15	0 c	10	22	17	8	31	18	18	4
7/21	5	10	0	2 c	7	10	7	3	5	0	0 c	12	25	0	12 c	30	27	15	34	23	18	4 c
7/22	20	8	7	4	16	7	4 c	7	24	22	0	33	33	7	16	46	34	19 c	40	47	40	4
7/23	0	21	2	0	6	3	6	2	28	6 c	6	33	54	9	16	51	37	25	43	75	46 c	11
7/24	2	54	0	12	8	8	4	4	9	48	2	35	107	9	28	57	45	29	47	84	95	13
7/25	24	29	0	16 c	4	2	7 c	9	6	38	18	59	136	9	44 c	61	47	36 c	55	90	133	31
7/26	21	28	0	8	0	2	2	11	4	11 c	8	80	163	9	53	61	49	38	68	95	144 c	39
7/27	8	74	2	44	2 c	10	23	10	20	13	11	88	236	11	97	63 c	59	61	76	114	157	50
7/28	15	20	2	72 c	9	43	34	11	71	27	15	103	256	14	169 c	72	102	95	88	185	184	65
7/29	40	64	12	28	8	35	42 c	23	67	28 c	4	143	320	25	197	80	136	137 c	110	252	210 c	69
7/30	14	54	5	43	37	12	71	25	69	68	22	157	374	30	239	117	148	208	135	322	278	91
7/31	29	31 c	5	75	343	10	64	13	73 c	101	25	186	405 c	35	314	480	158	271	148	395 c	377	116
8/01	50 c	323	13	43 c	218	26 c	42 c	32	73	75	36	237 c	727	47	358 c	678	184 c	314 c	179	468	452	151
8/02	37	101	40	32	447	22	24	17	148	33	30	274	828	87	390	1,125	205	337	190	618	486	181
8/03	69	404	93	79	78 c	21	118	50 c	302	21	337	343	1,233	180	468	1,203 c	226	455	246 c	917	507	517
8/04	60	419 c	69	42 c	24	54	124	11	538 c	13 c	150 c	402	1,652 c	249	511 c	1,227	260	570	257	1,455 c	520 c	668 c
8/05	47 c	253	27	45	159	65	10 c	11	127	2	102	450 c	1,905	276	556	1,386	345	589 c	268	1,587	522	769
8/06	92	249	42 c	300	348	78 c	32	57 c	318 c	24	131	542	2,154	318 c	856	1,734	473 c	621	325 c	1,900 c	548	900
8/07	182	210 c	103	370	196 c	50	20	56	102	178	145	724	2,363 c	421	1,226	1,929 c	473	641	381	2,002	723	1,045
8/08	86 c	86	53	180 c	54	73	84 c	115	73	230	32 c	809 c	2,450	475	1,409 c	1,983	546	705 c	498	2,075	953	1,077 c
8/09	114	180	34	41	185 c	118	43	250	34 c	156 c	109	924	2,630	509	1,450	2,168 c	664	748	748	2,108 c	1,110 c	1,186
8/10	124	297	43	108 c	33	58 c	42	675	11	190	69	1,047	2,927	551	1,558 c	2,207	722 c	790	1,421	2,120	1,300	1,256
8/11	218	87 c	35	257	111	64	35	420 c	25	392	69	1,266	3,014 c	587	1,813	2,312	788	824	1,841 c	2,144	1,691	1,324
8/12	96 c	326	189	256 c	74 c	210	248 c	91	66	137 c	35 c	1,361 c	3,340	776	2,070 c	2,386 c	998	1,072 c	1,932	2,210	1,828 c	1,359 c
8/13	75	96 c	142 c	68	24	180 c	91	123	32	64	75	1,437	3,436 c	918 c	2,138	2,410	1,176 c	1,163	2,056	2,242	1,892	1,434
8/14	29	64	348	174	17	166	40 c	128 c	0 c	93	186	1,466	3,501	1,266	2,312	2,427	1,342	1,203 c	2,183 c	2,242 c	1,985	1,620
8/15	84 c	180 c	205	185 c	2 c	258	36	41	9	66 c	29	1,550 c	3,681 c	1,470	2,497 c	2,429 c	1,600	1,230	2,224	2,252	2,051 c	1,649
8/16	69	55	121	58	0	108 c	20	80	109	72	28 c	1,619	3,735	1,591	2,555	2,429	1,708 c	1,258	2,304	2,361	2,123	1,677 c
8/17	19	48	107 c	152	15	91	25	78 c	18 c	307	44	1,637	3,784	1,699 c	2,706	2,444	1,798	1,284	2,382 c	2,379 c	2,430	1,721
8/18	23	101 c	52	112 c	4 c	86	88	41	33	188 c	45	1,661	3,885 c	1,751	2,818 c	2,448 c	1,884	1,371	2,422	2,412	2,619 c	1,766
8/19	8 c	91	19 c	35	6	81	35 c	32	136	22	8 c	1,669 c	3,976	1,770 c	2,853	2,455	1,945	1,406 c	2,455	2,548	2,640	1,775 c
8/20	12	30	9	41 c	14	83 c	26	137 c	114	60	13	1,680	4,006	1,779	2,894 c	2,468	2,029 c	1,433	2,502 c	2,682	2,700	1,788
8/21	17	84 c	16 c	10	35	33	38	17	27 c	64	31	1,698	4,100 c	1,795 c	2,903	2,503	2,067	1,471	2,809	2,689 c	2,765	1,819
8/22	0 c	52	9	74	22	69	20	42	4	19 c	54 c	1,698 c	4,152	1,804	2,979	2,526	2,136	1,491	2,851	2,693	2,784 c	1,873 c
8/23	17	136	21	68	11 c	131	10	53	0	13	26	1,715	4,288	1,825	3,046	2,536 c	2,267	1,501	2,703	2,693	2,797	1,899
8/24	8	100	25 c	108	3	40	26	4 c	4	141	12	1,723	4,388	1,850 c	3,154	2,539	2,307	1,527	2,707 c	2,697	2,838	1,911
8/25	12	26 c	9	121	26	81	14	21	9 c	81 c	43	1,734	4,414 c	1,859	3,275	2,564	2,388	1,540	2,729	2,700 c	3,019 c	1,954
8/26	0 c	43	19	89	10 c	56	42 c	13	18	42	27 c	1,734 c	4,457	1,878	3,364	2,574 c	2,424	1,583 c	2,741	2,724	3,061	1,981 c
8/27	10	10	32 c	64 c	17	39 c	17	9 c	10	59 c	2	1,744	4,467	1,910 c	3,429 c	2,591	2,463 c	1,600	2,750 c	2,734	3,119 c	1,983
8/28	34	4 c	50	9	17	2	18	4	12 c	19	11	1,778	4,471 c	1,960	3,437	2,609	2,465	1,618	2,754	2,745 c	3,138	1,994
8/29	12 c		35	4	8 c	13	18	2	13	2	4 c	1,790 c		1,995	3,441	2,615 c	2,477	1,638	2,757	2,758	3,141	1,998 c
8/30	0		48		2	8	9	5	5	9 c		1,790		2,043		2,616	2,485	1,645	2,762	2,763	3,150 c	
8/31			0 c	c	7	0	0	4 c	2					2,043 c	c	2,624	2,485	1,645	2,766 c	2,765	3,150	
9/01		c	20		c				c		c		c	2,063		c				c		c

"c" indicates days when commercial fishing periods occurred in District 1

Appendix B10. Historic daily percent passage for coho salmon catches in the Bethel test fish.

Date	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Mean 85-95
7/15	0	0	0	0	0	0	0	0	0	0	0	0
7/16	0	0	0	0	0	0	0	0	0	0	0	0
7/17	0	0	0	0	0	0	0	0	0	0	0	0
7/18	0	0	0	0	0	0	0	1	0	0	0	0
7/19	0	0	0	0	0	0	0	1	1	1	0	0
7/20	0	0	0	0	1	1	0	1	1	1	0	1
7/21	1	1	0	0	1	1	1	1	1	1	0	1
7/22	2	1	0	0	2	1	1	1	2	1	0	1
7/23	2	1	0	0	2	1	1	2	3	1	1	1
7/24	2	2	0	1	2	2	2	2	3	3	1	2
7/25	3	3	0	1	2	2	2	2	3	4	2	2
7/26	4	4	0	2	2	2	2	2	3	5	2	3
7/27	5	5	1	3	2	2	4	3	4	5	2	3
7/28	6	6	1	5	3	4	6	3	7	6	3	4
7/29	8	7	1	6	3	5	8	4	9	7	3	6
7/30	9	8	1	7	4	6	13	5	12	9	5	7
7/31	10	9	2	9	18	6	16	5	14	12	6	10
8/01	13	16	2	10	26	7	19	6	17	14	8	13
8/02	15	19	4	11	43	8	20	7	22	15	9	16
8/03	19	28	9	14	46	9	28	9	33	16	26	21
8/04	22	37	12	15	47	11	35	9	53	17	33	26
8/05	25	43	14	16	53	14	36	10	57	17	38	29
8/06	30	48	16	25	66	17	38	12	69	17	45	35
8/07	40	53	21	36	74	19	39	14	72	23	52	40
8/08	45	55	23	41	76	22	43	18	75	30	54	44
8/09	52	59	25	42	83	27	45	27	76	35	59	48
8/10	59	65	27	45	84	29	48	51	77	41	63	54
8/11	71	67	29	53	88	32	50	67	78	54	66	59
8/12	76	75	38	60	91	40	65	70	80	58	68	66
8/13	80	77	45	62	92	47	71	74	81	60	72	69
8/14	82	78	62	67	93	54	73	79	81	63	81	74
8/15	87	82	72	73	93	64	75	80	81	65	83	78
8/16	90	84	78	74	93	69	76	83	85	67	84	80
8/17	91	85	83	79	93	72	78	86	86	77	86	83
8/18	93	87	86	82	93	76	83	88	87	83	88	86
8/19	93	89	87	83	94	78	85	89	92	84	89	87
8/20	94	90	87	84	94	82	87	94	96	86	89	89
8/21	95	92	88	84	95	83	89	94	97	88	91	91
8/22	95	93	88	87	96	86	91	96	97	88	94	92
8/23	96	96	89	89	97	91	91	98	97	89	95	93
8/24	96	98	91	92	97	93	93	98	98	93	96	95
8/25	97	99	91	95	98	95	94	99	98	96	98	96
8/26	97	100	92	98	98	98	96	99	98	97	99	97
8/27	97	100	93	100	99	99	97	99	99	99	99	98
8/28	99	100	96	100	99	99	98	100	99	100	100	99
8/29	100		98	100	100	100	99	100	100	100	100	100
8/30	100		100		100	100	100	100	100	100		100
8/31			100		100	100	100	100	100			100

Appendix B11. Historic daily and cumulative CPUE for chum salmon catches in the Bethel test fishery.

Date	Daily												Cumulative											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
6/01	0	0	0	0	0	3	0		0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
6/02	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	3	0	0	0	0	10	0
6/03	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	3	0	0	0	0	18	0
6/04	5	0	0	0	0	0	0	0	0	0	3	0	5	0	0	0	0	3	0	0	0	0	21	0
6/05	0	0	6	3	9	3	0	0	0	0	0	0	5	0	6	3	9	6	0	0	0	0	21	0
6/06	0	0	10	12	0	0	3	0	7	3	7	0	5	0	16	16	9	6	3	0	7	3	28	0
6/07	0	0	0	6	3	6	0	0	3	0	3	0	5	0	16	22	12	11	3	0	10	3	31	0
6/08	2	0	8	9	11	10	0	0	3	0	0	0	7	0	24	30	23	22	3	0	13	3	31	0
6/09	10	0	28	15	38	9	0	0	3	0	10	0	17	0	53	45	61	30	3	0	16	3	41	0
6/10	10	0	6	6	29	12	0	0	6	6	0	0	28	0	59	52	90	42	3	0	22	9	41	0
6/11	3	0	9	21	63	3	0	0	12	8	3	6	30	0	68	72	153	45	3	0	34	17	44	6
6/12	15	0	9	13	91	17	3	3	9	0	13	0	45	0	77	86	244	62	6	3	43	17	57	6
6/13	8	3	0	19	87	20	0	0	44	9	28	3	53	3	77	105	331	82	6	3	87	27	86	10
6/14	11	0	9	3	19	7	13	6	21	7	56	6	63	3	86	108	350	90	18	9	108	33	142	16
6/15	5	3	38	10	45	36	0	0	105	13	143	26	68	5	124	117	395	126	18	9	212	46	285	42
6/16	31	3	46	42	26 c	24	3	0	118	3	59	48	100	8	170	159	421 c	150	21	9	328	49	343	90
6/17	41	8	121	122	56	4	22	0	55	10	52	51	141	16	290	281	477	154	43	9	383	59	395	141
6/18	75	8	108	41 c	195	49	20	0	43 c	35	20	63	216	25	398	322 c	671	203	63	9	426 c	93	416	204
6/19	9	65	151	6	160	68 c	28	0	0	0	263	36	225	90	549	328	832	271 c	91	9	426	93	678	240
6/20	20	115 c	64	60	50 c	44	9 c	25 c	33	11	26	80	245	205 c	613	388	881 c	315	100 c	34 c	460	105	705	320
6/21	52	3	87	24	143	76	30	3	58	44	278	153	297	207	700	412	1,025	391	130	37	518	149	983	473
6/22	8	25	104	200	251	56	22	9	49 c	95	125	94 c	305	232	804	613	1,276	446	152	46	567 c	244	1,107	567 c
6/23	108	28	203	103	246	79 c	53	14	53	65	190	111	413	260	1,007	715	1,522	525 c	205	60	620	310	1,297	678
6/24	167	3 c	112	48 c	86 c	167	77	6 c	29	126	112 c	51	580	263 c	1,119	763 c	1,608 c	692	282	66 c	649	436	1,408 c	729
6/25	166 c	52	460	66	16	208	32 c	9	39 c	107 c	10	219	746 c	315	1,579	829	1,624	900	314 c	74	688 c	543 c	1,419	948
6/26	86	65	177 c	100	63	111 c	49	32	43	0	17	157 c	832	380	1,756 c	928	1,687	1,011 c	363	106	732	543	1,435	1,105 c
6/27	109	58 c	109	87	306	134	168	58	212	7	16	25	941	438 c	1,865	1,015	1,993	1,145	531	163	943	550	1,451	1,130
6/28	105 c	24	35	105	109 c	78	72	50	107	13	7	59	1,045 c	463	1,901	1,120	2,101 c	1,223	603	213	1,050	563	1,458	1,190
6/29	22	180	6	268	108	122	87 c	64	130 c	30	111	146 c	1,068	643	1,907	1,389	2,210	1,345	690 c	277	1,180 c	594	1,569	1,335 c
6/30	59	177	105 c	246 c	88	106 c	32	8	136	153	7	111	1,126	820	2,012 c	1,635 c	2,298	1,452 c	722	285	1,316	746	1,575	1,447
7/01	115	77 c	3	152	382	115	67	30 c	124	120	10	164	1,241	896 c	2,015	1,787	2,680	1,567	789	315 c	1,440	866	1,585	1,610
7/02	160 c	31	70	120	188 c	66	28	91	43	19	19	144	1,401 c	928	2,085	1,906	2,868 c	1,633	817	406	1,483	885	1,604	1,755
7/03	66	24	193 c	34 c	437	78 c	200	22	267	125	192	291 c	1,467	952	2,277 c	1,941 c	3,308	1,711 c	1,017	427	1,750	1,010	1,796	2,045 c
7/04	209	5 c	123	82	469	57	214	33	322	82	141	168	1,677	957 c	2,401	2,003	3,775	1,768	1,231	461	2,072	1,092	1,937	2,213
7/05	163 c	40	309	177	192 c	182 c	188 c	6	169	78	88	214	1,840 c	997	2,709	2,180	3,966 c	1,950 c	1,419 c	466	2,261	1,170	2,025	2,427
7/06	48	25	140	389	120	59	26	12 c	105 c	39	383	58 c	1,888	1,022	2,850	2,569	4,086	2,009	1,445	478 c	2,366 c	1,209	2,408	2,485 c
7/07	60	93	62 c	463 c	27	117	173	12	13	24	245	274	1,948	1,115	2,912 c	3,032 c	4,114	2,126	1,618	490	2,379	1,233	2,653	2,759
7/08	48	3	66	36	34 c	65 c	136	9	139	71	732	271	1,996	1,118	2,979	3,070	4,148 c	2,190 c	1,754	499	2,518	1,304	3,385	3,029
7/09	52 c	5	246	272	92	57	61 c	60	48	31	394	219	2,048 c	1,123	3,225	3,342	4,240	2,247	1,815 c	559	2,567	1,335	3,779	3,248
7/10	39	0	34 c	208	148	66	81	48	48	28	253	27 c	2,087	1,123	3,260 c	3,550	4,388	2,314	1,896	605	2,613	1,363	4,031	3,275 c
7/11	7	0	87	63 c	83 c	3 c	78	26	48	37	69	98	2,093	1,123	3,347	3,612 c	4,471 c	2,317 c	1,975	631	2,661	1,400	4,100	3,373
7/12	16 c	3	163	53	65	7	74	43	59	62	33	73	2,109 c	1,126	3,510	3,665	4,536	2,324	2,048	674	2,719	1,461	4,133	3,446
7/13	16	10	134	87	63	55	23	21 c	51	270	108	49	2,125	1,137	3,644	3,752	4,599	2,379	2,071	695 c	2,770	1,731	4,241	3,495
7/14	7	0	25	255	38 c	35 c	33 c	28	49	67	57 c	66 c	2,132	1,137	3,669	4,007	4,637 c	2,414 c	2,104 c	723	2,820	1,798	4,298 c	3,561 c
7/15	91	0	10	61 c	69	11	24	20	27	140	38	30	2,224	1,137	3,679	4,068 c	4,706	2,424	2,128	743	2,846	1,938	4,336	3,591
7/16	24 c	6	16	33	82	20	37	12	21	88	32	17	2,248 c	1,142	3,696	4,101	4,788	2,445	2,165	755	2,867	2,026	4,368	3,608
7/17	15	32	43	107	64	17	24	16	23	75	15	15	2,262	1,174	3,739	4,208	4,852	2,462	2,190	770	2,890	2,101	4,383	3,623
7/18	14	9	43	125	57 c	23 c	59	51 c	25	53	48	21 c	2,276	1,183	3,782	4,333	4,909 c	2,485 c	2,249	821 c	2,915	2,154	4,431	3,645 c

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Appendix B11. (continued)

Date	Daily												Cumulative											
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
7/19	16	19	50	202	18	16	66	16	29	84	26 c	8	2,292	1,202	3,831	4,635	4,925	2,501	2,316	837	2,944	2,248	4,457 c	3,653
7/20	9	7	38	170 c	29	29	73	16	4	52	9	38	2,301	1,209	3,867	4,706 c	4,954	2,530	2,388	853	2,948	2,299	4,465	3,690
7/21	18	5	52	23	38 c	13	57	40	3	51	0	36 c	2,318	1,214	3,919	4,729	4,990 c	2,543	2,445	864	2,952	2,360	4,465	3,725 c
7/22	1	12	34	12	10	7	40	57 c	0	134	82	42	2,319	1,226	3,953	4,740	4,999	2,551	2,465	961 c	2,952	2,484	4,547	3,767
7/23	9	6	28	8	8	13	35	33	23	26	38	43	2,328	1,231	3,979	4,748	5,005	2,564	2,520	983	2,975	2,512	4,586 c	3,810
7/24	3	2	29	28	24	0	24	12	8	9	55	27	2,331	1,233	4,008	4,776	5,030	2,564	2,544	995	2,981	2,521	4,641	3,837
7/25	8	9	11	41	15 c	4	8	58 c	10	0	20	16	2,339	1,243	4,019	4,817	5,045 c	2,568	2,552	1,051 c	2,991	2,521	4,660	3,853
7/26	7	6	2	20	13	0	2	8	7	2	9 c	27	2,346	1,249	4,021	4,837	5,058	2,568	2,554	1,059	2,999	2,523	4,675 c	3,879
7/27	7	2	3	4	18	0 c	18	49	8	7	9	17	2,353	1,251	4,023	4,841	5,075	2,568 c	2,572	1,108	3,008	2,530	4,684	3,897
7/28	3	4	7	8	10 c	0	35	18	9	4	18	24	2,356	1,255	4,031	4,847	5,085 c	2,568	2,607	1,126	3,015	2,534	4,702	3,920
7/29	8	10	11	5	13	1	38	36 c	4	5	11 c	9	2,364	1,265	4,042	4,852	5,096	2,570	2,643	1,162 c	3,018	2,539	4,712 c	3,929
7/30	6 c	4	5	2	23	0	9	14	6	2	6	2	2,370 c	1,269	4,047	4,854	5,120	2,570	2,651	1,175	3,025	2,541	4,719	3,931
7/31	1	1	0 c	1	6	14	2	24	0	6 c	14	10	2,370	1,270	4,047 c	4,856	5,126	2,584	2,653	1,189	3,075	2,547 c	4,732	3,942
8/01	2	0	6	4	5 c	6	6 c	6 c	0	6	18	8	2,372	1,270	4,051	4,860	5,131 c	2,590	2,659 c	1,207 c	3,025	2,552	4,748	3,950
8/02	3 c	1 c	0	3	4	6	6	6	15	7	10	7	2,375 c	1,271 c	4,061	4,863	5,136	2,598	2,666	1,213	3,040	2,558	4,759	3,952
8/03	3	2	4	9	8	4 c	6	12	2 c	2	2	12	2,378	1,272	4,055	4,872	5,147	2,602 c	2,671	1,224	3,042 c	2,561	4,761	3,964
8/04	6 c	8	0 c	11	3 c	1	2	10	0	11 c	2 c	6 c	2,383 c	1,281	4,055 c	4,884	5,145 c	2,603	2,672	1,234	3,042	2,571 c	4,763 c	3,970 c
8/05	7	0 c	0	3	3	0	1	0 c	0	9	2	7	2,385	1,281 c	4,055	4,887	5,148	2,603	2,673	1,234 c	3,042	2,581	4,765	3,972
8/06	0	4	3	4 c	7	3	23 c	2	4 c	2 c	0	4	2,385	1,285	4,058	4,891 c	5,155	2,606	2,697 c	1,236	3,046 c	2,583 c	4,765	3,977
8/07	0	6	1 c	0	19	2 c	6	2	0	0	4	4	2,386	1,290	4,059 c	4,891	5,174	2,606 c	2,703	1,236	3,046	2,583	4,769	3,981
8/08	0	0 c	0	0	3 c	0	0	5 c	0	0	9	0 c	2,385	1,290 c	4,059	4,891	5,177 c	2,606	2,703	1,243 c	3,046	2,583	4,778	3,981 c
8/09	0 c	0	2	2	3	7 c	4	2	4	0 c	7 c	0	2,385 c	1,290	4,062	4,893	5,180	2,610 c	2,707	1,245	3,050	2,583 c	4,785 c	3,981
8/10	0	36	0	2	4 c	0	2 c	3	0	0	2	0	2,385	1,326	4,062	4,895	5,184 c	2,610	2,708 c	1,248	3,050	2,583	4,787	3,981
8/11	0	1	0 c	0	3	0	2	4	2 c	0	4	2	2,385	1,327	4,062 c	4,895	5,187	2,610	2,710	1,252	3,052 c	2,583	4,791	3,983
8/12	0	0 c	0	0	2 c	0 c	4	3 c	6	0	2 c	0 c	2,385	1,327 c	4,062	4,895	5,189 c	2,610 c	2,714	1,256 c	3,058	2,583	4,793	3,983 c
8/13	0 c	0	0 c	0 c	0	0	0 c	2	0	0	0	0	2,385 c	1,327	4,062 c	4,895 c	5,189	2,610	2,714 c	1,257	3,058	2,583	4,793	3,983
8/14	0	0	2	0	0	0	0	0 c	0 c	0 c	0	2	2,385	1,327	4,063	4,895	5,189	2,610	2,714	1,257 c	3,058 c	2,583 c	4,793	3,985
8/15	0	0 c	2 c	4	0 c	0 c	2	2	6	0	0 c	0	2,385	1,327 c	4,066 c	4,899	5,189	2,610	2,716	1,258	3,058	2,583	4,793 c	3,985
8/16	0 c	0	0	1	0	0	2 c	6	0	0	2	0 c	2,385 c	1,327	4,066	4,900	5,189	2,610	2,716 c	1,258	3,058	2,583	4,795	3,985 c
8/17	0	0	0	0 c	0	0	0	2	0 c	0 c	0	0	2,385	1,327	4,066	4,900	5,189	2,610	2,716	1,260	3,058 c	2,583 c	4,795	3,985
8/18	2	0	0 c	0	0 c	0 c	0	2	0	0	2 c	0	2,387	1,327	4,066 c	4,900	5,189 c	2,610 c	2,718	1,262	3,058	2,583	4,797 c	3,985
8/19	0	0 c	0	0 c	0	0	0	0 c	0	2	0	0 c	2,387	1,327 c	4,066	4,900	5,189	2,610	2,718	1,262 c	3,058	2,585	4,797	3,985 c
8/20	0 c	0	0	0	0 c	0	0 c	0	0 c	0 c	0	0	2,387 c	1,327	4,066	4,900	5,189 c	2,610	2,718 c	1,262	3,058 c	2,585	4,797	3,985
8/21	0	0	0 c	0 c	0	0	0	0	0	0 c	0	0	2,387	1,327	4,066 c	4,900 c	5,189 c	2,610	2,718	1,262	3,058	2,586 c	4,797	3,985
8/22	0	0 c	0	0	0	0	2	0	0	0	0 c	7 c	2,387	1,327 c	4,066	4,900	5,189	2,610	2,720	1,262	3,058	2,585	4,797 c	3,987 c
8/23	0 c	0	0	0	0	0 c	0	0	0	0	0	0	2,387 c	1,327	4,066	4,900	5,189	2,610 c	2,720	1,262	3,058	2,585	4,797	3,987
8/24	0	0	0	0 c	0	0	0	0	0 c	0	0	0	2,387	1,327	4,066	4,900 c	5,189	2,610	2,720	1,262	3,058 c	2,585	4,797	3,987
8/25	0	0	0 c	0	0	0	0	0	0	0 c	0 c	0	2,387	1,327	4,066 c	4,900	5,189	2,610	2,720	1,262	3,058	2,585 c	4,797 c	3,987
8/26	0	0 c	0	0	0	0 c	0	0 c	0	0	0	0 c	2,387	1,327 c	4,066	4,900	5,189	2,610 c	2,720	1,262 c	3,058	2,585	4,797	3,987 c
8/27	0 c	0	0	0	0 c	0	2 c	0	0 c	0	0 c	0	2,387 c	1,327	4,066	4,900	5,189 c	2,610	2,722	1,262	3,058 c	2,585	4,797 c	3,987
8/28	0	0	0 c	0	0	0	0	0	0	0 c	0	0	2,387	1,327	4,066	4,900	5,189	2,610	2,722	1,262	3,058	2,585 c	4,797	3,987
8/29	0	0 c		0	0	0 c	0	0	0	7	0	0 c	2,387	1,327 c		4,900	5,189	2,610	2,722	1,262	3,058	2,587	4,797	3,987 c
8/30	0 c	0		0		0	0	0	0	0	0 c		2,387 c	1,327		4,900		2,610	2,722	1,262	3,058	2,587	4,797 c	
8/31	0			0 c	c	0	0	0	0 c	0			2,387			4,900 c		2,610 c	2,722	1,262	3,058 c	2,587		
9/01	0		c	0		c				c		c	2,387			c 4,900			c				c	c

"c" indicates days when commercial fishing periods occured in District 1.

Appendix B12. Historic daily percent passage of chum salmon in the Bethel test fishery.

Date	Percent Passage												
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Mean 85-95
6/01	0	0	0	0	0	0	0	0	0	0	0	0	0
6/02	0	0	0	0	0	0	0	0	0	0	0	0	0
6/03	0	0	0	0	0	0	0	0	0	0	0	0	0
6/04	0	0	0	0	0	0	0	0	0	0	0	0	0
6/05	0	0	0	0	0	0	0	0	0	0	0	0	0
6/06	0	0	0	0	0	0	0	0	0	0	1	0	0
6/07	0	0	0	0	0	0	0	0	0	0	1	0	0
6/08	0	0	1	1	0	1	0	0	0	0	1	0	0
6/09	1	0	1	1	1	1	0	0	1	0	1	0	1
6/10	1	0	1	1	2	2	0	0	1	0	1	0	1
6/11	1	0	2	1	3	2	0	0	1	1	1	0	1
6/12	2	0	2	2	5	2	0	0	1	1	1	0	1
6/13	2	0	2	2	6	3	0	0	3	1	2	0	2
6/14	3	0	2	2	7	3	1	1	4	1	3	0	2
6/15	3	0	3	2	8	5	1	1	7	2	6	1	3
6/16	4	1	4	3	8	6	1	1	11	2	7	2	4
6/17	6	1	7	6	9	6	2	1	13	2	8	4	5
6/18	9	2	10	7	13	8	2	1	14	4	9	5	7
6/19	9	7	14	7	16	10	3	1	14	4	14	6	9
6/20	10	15	15	8	17	12	4	3	15	4	15	8	10
6/21	12	16	17	8	20	15	5	3	17	6	20	12	13
6/22	13	17	20	13	25	17	6	4	19	9	23	14	15
6/23	17	20	25	15	29	20	8	5	20	12	27	17	18
6/24	24	20	28	16	31	27	10	5	21	17	29	18	20
6/25	31	24	39	17	31	34	12	6	23	21	30	24	24
6/26	35	29	43	19	33	39	13	8	24	21	30	28	27
6/27	39	33	46	21	38	44	20	13	31	21	30	28	30
6/28	44	35	47	23	40	47	22	17	34	22	30	30	33
6/29	45	48	47	28	43	52	25	22	39	23	33	33	36
6/30	47	62	49	33	44	56	27	23	43	29	33	36	40
7/01	52	68	50	36	52	60	29	25	47	33	33	40	44
7/02	59	70	51	39	55	63	30	32	48	34	33	44	47
7/03	61	72	56	40	64	66	37	34	57	39	37	51	51
7/04	70	72	59	41	73	68	45	36	68	42	40	56	56
7/05	77	75	67	44	76	75	52	37	74	45	42	61	60
7/06	79	77	70	52	79	77	53	38	77	47	50	62	64
7/07	82	84	72	62	79	81	59	39	78	48	55	69	67
7/08	84	84	73	63	80	84	64	40	82	50	71	76	71
7/09	86	85	79	68	82	86	67	44	84	52	79	81	74
7/10	87	85	80	72	85	89	70	48	85	53	84	82	77
7/11	88	85	82	74	86	89	73	50	87	54	85	85	78
7/12	88	85	86	75	87	89	75	53	89	57	86	86	80
7/13	89	86	90	77	89	91	76	55	91	67	88	88	82
7/14	89	86	90	82	89	92	77	57	92	70	90	89	84
7/15	93	86	90	83	91	93	78	59	93	75	90	90	85

- continued -

Appendix B12. (continued)

Date	Percent Passage												
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Mean 85-95
7/16	94	86	91	84	92	94	80	60	94	78	91	90	86
7/17	95	88	92	86	94	94	81	61	95	81	91	91	87
7/18	95	89	93	88	95	95	83	65	95	83	92	91	89
7/19	96	91	94	93	95	96	85	66	96	87	93	92	90
7/20	96	91	95	96	95	97	88	68	96	89	93	93	91
7/21	97	91	96	97	96	97	90	71	97	91	93	93	92
7/22	97	92	97	97	96	98	91	75	97	96	95	94	94
7/23	98	93	98	97	96	98	93	78	97	97	96	96	95
7/24	98	93	99	97	97	98	94	79	97	98	97	96	95
7/25	98	94	99	98	97	98	94	83	98	98	97	97	96
7/26	98	94	99	99	97	98	94	84	98	98	97	97	96
7/27	99	94	99	99	98	98	95	88	98	98	98	98	97
7/28	99	95	99	99	98	98	96	89	99	98	98	98	97
7/29	99	95	99	99	98	98	97	92	99	98	98	99	98
7/30	99	96	100	99	99	98	97	93	99	98	98	99	98
7/31	99	96	100	99	99	99	98	95	99	99	99	99	98
8/01	99	96	100	99	99	99	98	96	99	99	99	99	98
8/02	100	96	100	99	99	100	98	96	99	99	99	99	99
8/03	100	96	100	99	99	100	98	97	99	99	99	99	99
8/04	100	96	100	100	99	100	98	98	99	99	99	100	99
8/05	100	96	100	100	99	100	98	98	99	100	99	100	99
8/06	100	97	100	100	99	100	99	98	100	100	99	100	99
8/07	100	97	100	100	100	100	99	98	100	100	99	100	99
8/08	100	97	100	100	100	100	99	98	100	100	100	100	99
8/09	100	97	100	100	100	100	100	99	100	100	100	100	100
8/10	100	100	100	100	100	100	100	99	100	100	100	100	100
8/11	100	100	100	100	100	100	100	99	100	100	100	100	100
8/12	100	100	100	100	100	100	100	99	100	100	100	100	100
8/13	100	100	100	100	100	100	100	100	100	100	100	100	100
8/14	100	100	100	100	100	100	100	100	100	100	100	100	100
8/15	100	100	100	100	100	100	100	100	100	100	100	100	100
8/16	100	100	100	100	100	100	100	100	100	100	100	100	100
8/17	100	100	100	100	100	100	100	100	100	100	100	100	100
8/18	100	100	100	100	100	100	100	100	100	100	100	100	100
8/19	100	100	100	100	100	100	100	100	100	100	100	100	100
8/20	100	100	100	100	100	100	100	100	100	100	100	100	100
8/21	100	100	100	100	100	100	100	100	100	100	100	100	100
8/22	100	100	100	100	100	100	100	100	100	100	100	100	100
8/23	100	100	100	100	100	100	100	100	100	100	100	100	100
8/24	100	100	100	100	100	100	100	100	100	100	100	100	100
8/25	100	100	100	100	100	100	100	100	100	100	100	100	100
8/26	100	100	100	100	100	100	100	100	100	100	100	100	100
8/27	100	100	100	100	100	100	100	100	100	100	100	100	100
8/28	100	100	100	100	100	100	100	100	100	100	100	100	100
8/29	100	100	100	100	100	100	100	100	100	100	100	100	100

Appendix B.13. Historic mean daily CPUE for chinook salmon caught in the Aniak test fishery.

Date	Both Shores				South Shore (Aniak)				North Shore			
	1992	1993	1994	1995	1992	1993	1994	1995	1992	1993	1994	1995
5/31										0		
6/01		2				0				3		
6/02		1				0				2		
6/03		2				0				4		
6/04		3				1				5		
6/05		3				2				3		
6/06		8				9				7		
6/07		5				2				7		
6/08		23				4				33		
6/09		7				4				10		
6/10		9				3				11		
6/11		13				3				18		
6/12		5				3				6		
6/13		5	37			4	3			5	54	
6/14		12	49			7	7			18	91	
6/15		44			0	8				62		
6/16	23	42			3	16			42	68	64	
6/17	13	54	59		3	24	13		22	83	104	
6/18	23 c	74	74		6 c	23	15		40 c	125	134	
6/19	22	16	77		14	15	59		31	16	112	
6/20	30	22	89		13	23	17		46	22	161	
6/21	20	56	66		35	58	35		5	54	97	
6/22	17 c	55	36	c	13 c	38	24	c	22 c	73	48	c
6/23	56	93	29		27	32	7		85	155	50	
6/24	49	96	25 c		63	56	20 c		36	136	30 c	
6/25	15 c	58 c	14		13 c	70 c	6		16 c	56 c	21	
6/26	25	54	12	c	27	70	0	c	24	38	25	c
6/27	15	46	18	42	14	54	17	25	17	37	18	50
6/28	22	40	8	61	31	46	8	68	13	34	8	54
6/29	31 c	55	7	33 c	23 c	59	11	21 c	40 c	50	5	44 c
6/30	32	39	19	26	27	46	21	12	37	31	17	40
7/01	16	55	11	14	3	72	7	13	28	38	15	16
7/02	28	33	5	19	38	52	0	12	19	13	11	26
7/03	15	18	22	30 c	22	23	27	28 c	8	13	16	32 c
7/04	13	18	23		14	23	10		12	13	30	
7/05	11	21	40	15	9	14	11	11	12	29	55	16
7/06	c	14	49	24 c	c	14	29	14 c	c	13	59	29 c
7/07		5	20			7	3			4	29	
7/08	37	12	15	2	46	14	10	5	28	11	21	0
7/09	55	5		3	89	0		5	21	10		2
7/10				8 c				14 c				5 c
7/11	25			0	35			0	15			0
7/12	10	0		12	13	0		21	8	0		7
7/13	9	0		5	12	0		8	5	0		3
7/14	17	10	c	3 c	33	10	c	0 c	2	10	c	4 c
7/15	3	9		4	7	14		5	0	3		2
7/16	7	6		6	12	7		12	2	5		0
7/17	4			2	6			5	2			0
7/18	2			5 c	0			9 c	3			0 c
7/19	1		c	3	1		c	5	0		c	0
7/20	3			2	7			2	0			2
7/21	2			1 c	0			3 c	4			0 c

- continued -

Appendix B.13. (continued)

Date	Both Shores				South Shore (Aniak)				North Shore			
	1992	1993	1994	1995	1992	1993	1994	1995	1992	1993	1994	1995
7/22	4			2	4			5	4			0
7/23	0		c	1	0		c	2	0		c	0
7/24	2			3	3			4	0			2
7/25	0		0	2	0		0	4	0		0	0
7/26	1		0 c		0		0 c		2		0 c	
7/27	1		0	2	0		0	4	2		0	0
7/28	2		3	1	2		3	2	2		3	0
7/29	0		1 c	3	0		0 c	2	0		1 c	3
7/30	2		0	2	5		0	0	4		0	3
7/31	0	c	1	2	0	c	1	2	0	c	0	2
8/01	3		0	0	2		0	0	3		0	0
8/02	1	0	1	2	1	0	0	2	1	0	2	2
8/03	0 c	1	0	0	0 c	2	0	0	0 c	0	0	0
8/04	0	2 c	0 c	c	0	3 c	0 c	c	0	0 c	0 c	c
8/05	0	0	0	7	0	0	0	11	0	0	0	4
8/06	0 c	0 c	0	4	0 c	0 c	0	6	0 c	0 c	0	3
8/07	0	1	0	1	0	0	0	2	0	2	0	0
8/08	0	0	0	0 c	0	0	0	0 c	0	0	0	0 c
8/09	1	0 c	0 c	0	2	0 c	0 c	0	0	0 c	0 c	0
8/10	0	0	0	2	0	0	0	2	0	0	0	2
8/11	0 c	0	0	0	0 c	0	0	0	0 c	0	0	0
8/12	0	0	1 c	0 c	0	0	0 c	0 c	0	0	2 c	0 c
8/13	0	2	0	1	0	3	0	2	0	0	0	0
8/14	0 c	0 c	0	1	0 c	0 c	0	2	0 c	0 c	0	0
8/15	0	0	0 c	0	0	0	0 c	0	0	0	0 c	0
8/16	0	0	0	0 c	0	0	0	0 c	0	0	0	0 c
8/17	0 c	0 c	0	0	0 c	0 c	0	0	0 c	0 c	0	0
8/18	0	0	0 c	0	0	0	0 c	0	0	0	0 c	0
8/19	1	0	0	c	0	0		c	0	0	0	c
8/20	0 c	0	0		0 c	0		0	1/0 c	0	0	
8/21	0	0 c	0	0	0	0 c	0	0	0	0 c	0	0
8/22	0	0	0 c	0 c	0	0	0 c	0 c	0	0	0 c	0 c
8/23	0	0	0	0	0	0	0	0	0	0	0	0
8/24	0 c	0	0	0	0 c	0	0	0	0 c	0	0	0
8/25	0	0 c	c		0	0 c	c		0	0 c	c	
8/26	0	0		c	0	0		c	0	0		c
8/27	0 c	0	0 c	0	0 c	0	0 c	0	0 c	0	0 c	0
8/28	0	0 c	0	0	0	0 c	0	0	0	0 c	0	0
8/29	0	0	0	0 c	0	0	0	0 c	0	0	0	0 c
8/30	0	0	c	0	0	0	c	0	0	0	c	0
8/31	0 c	0			0 c	0			0 c	0		
9/01	0	0 c		c	0	0 c		c	0	0 c		c
9/02	0	0	c		0	0	c		0	0	c	
9/03	0	0			0	0			0	0		
9/04	0				0	0			0			
9/05	0				0				0			
9/06	0				0				0			
9/07	0				0				0			
9/08	0				0				0			
9/09	0				0				0			
9/10	0				0				0			
9/11	0				0				0			
9/12	0				0				0			

c = indicates days when commercial fishing periods occured in District 1.

Appendix B.14. Historic mean daily CPUE for sockeye salmon caught in the Aniak test fishery.

Date	Both Shores				South Shore (Aniak)				North Shore			
	1992	1993	1994	1995	1992	1993	1994	1995	1992	1993	1994	1995
5/31										0		
6/01		0				0				0		
6/02		0				0				0		
6/03		0				0				0		
6/04		0				0				0		
6/05		0				0				0		
6/06		0				0				0		
6/07		0				0				0		
6/08		0				0				0		
6/09		0				0				0		
6/10		0				0				0		
6/11		0				0				0		
6/12		1				0				2		
6/13		0	1			0	0			0	2	
6/14		2	1			0	0			3	2	
6/15		4			4	0				6		
6/16	0	5			0	2			0	8	0	
6/17	2	18	0		2	4	0		3	33	0	
6/18	7 c	21	4		7 c	12	2		8 c	30	7	
6/19	10	13	0		2	21	0		18	4	0	
6/20	15	22	4		3	23	2		26	21	5	
6/21	6	63	4		0	45	2		12	81	5	
6/22	15 c	78	6	c	6 c	78	0	c	24 c	78	12	c
6/23	17	107	10		7	158	2		28	57	18	
6/24	18	151	31 c		16	133	0 c	11	20	168	22 c	
6/25	14 c	110 c	52		28 c	41 c	8		0 c	135 c	97	
6/26	16	162	1	c	4	167	0	c	28	157	3	c
6/27	21	142	44	26	11	158	25	19	32	125	63	30
6/28	4	126	66	21	7	55	23	26	2	198	110	15
6/29	8 c	131	120	39 c	9 c	59	34	10 c	6 c	202	163	69 c
6/30	13	152	82	43	7	70	99	5	20	233	65	81
7/01	20	94	116	75	2	71	84	41	39	116	149	108
7/02	39	154	129	88	39	73	56	72	39	235	201	104
7/03	23	293	30	79 c	23	183	11	68 c	24	403	49	90 c
7/04	20	213	160		11	23	113		30	403	183	
7/05	43	143	126	106	78	79	78	57	7	208	151	131
7/06	c	163	107	93 c	c	69	65	60 c	c	257	128	110 c
7/07		130	77			55	82			205	74	
7/08	154	101	101	37	92	69	127	27	138	134	75	47
7/09	90	87		98	50	82		130	84	93		82
7/10				54 c				38 c				62 c
7/11	31			55	23			46	24			59
7/12	19	26		47	13	28		42	15	25		49
7/13	33	17		45	18	14		38	32	21		49
7/14	5	19	c	5 c	3	34	c	7 c	4	3	c	4 c
7/15	33	3		12	21	7		12	30	0		12
7/16	37	14		20	18	23		22	38	5		19
7/17	32			12	9			14	39			9
7/18	42			7 c	15			7 c	48			8 c
7/19	46		c	8	8		c	11	62		c	3
7/20	50			6	32			5	43			7
7/21	19			7 c	14			13 c	15			0 c
7/22	46			3	21			2	48			3

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Appendix B.14. (continued)

Date	Both Shores				South Shore (Aniak)				North Shore			
	1992	1993	1994	1995	1992	1993	1994	1995	1992	1993	1994	1995
7/23	16		c	4	10		c	7	14		c	0
7/24	8			4	7			7	5			2
7/25	11		7	1	5		15	0	12		0	2
7/26	10		4 c		5		7 c		10		0 c	
7/27	17		0	2	12		0	4	13		0	0
7/28	3		2	2	0		0	2	5		3	2
7/29	8		0 c	2	6		0 c	0	6		0 c	3
7/30	2		0	1	15		0	2	21		0	0
7/31	3	c	0	0	0	c	0	0	5	c	0	0
8/01	0		0	2	0		0	0	0		0	4
8/02	4	0	0	2	2	0	0	2	3	0	0	2
8/03	0 c	1	0	0	0 c	0	0	0	0 c	2	0	0
8/04	0	0 c	0 c	c	0	0 c	0 c	c	0	0 c	0 c	c
8/05	0	0	0	0	0	0	0	0	0	0	0	0
8/06	2 c	2 c	0	2	5 c	1 c	0	0	2 c	2 c	0	3
8/07	0	0	0	0	0	0	0	0	0	0	0	0
8/08	1	0	0	0 c	1	0	0	0 c	1	0	0	0 c
8/09	3	0 c	0 c	1	3	0 c	0 c	2	2	0 c	0 c	0
8/10	0	0	0	0	0	0	0	0	0	0	0	0
8/11	0 c	0	0	1	0 c	0	0	2	0 c	0	0	0
8/12	0	0	0 c	0 c	0	0	0 c	0 c	0	0	0 c	0 c
8/13	0	0	0	0	0	0	0	0	0	0	0	0
8/14	0 c	0 c	0	0	0 c	0 c	0	0	0 c	0 c	0	0
8/15	0	0	0 c	0	0	0	0 c	0	0	0	0 c	0
8/16	0	0	0	0 c	0	0	0	0 c	0	0	0	0 c
8/17	0 c	1 c	0	0	0 c	0 c	0	0	0 c	1 c	0	0
8/18	0	0	0 c	0	0	0	0 c	0	0	0	0 c	0
8/19	0	0	0	c	0	0	0	c	0	0	0	c
8/20	0 c	0	0		0 c	0	0		0 c	0	0	
8/21	0	0 c	0	0	0	0 c	0	0	0	0 c	0	0
8/22	0	0	0 c	0 c	0	0	0 c	0 c	0	0	0 c	0 c
8/23	0	0	0	0	0	0	0	0	0	0	0	0
8/24	0 c	0	0	0	0 c	0	0	0	0 c	0	0	0
8/25	0	0 c	c		0	0 c	c	0	0	0 c	c	0
8/26	0	0		c	0	0		0 c	0	0		0 c
8/27	0 c	0	0 c	0	0 c	0	0 c	0	0 c	0	0 c	0
8/28	0	0 c	0	0	0	0 c	0	0	0	0 c	0	0
8/29	0	0	0	0 c	0	0	0	0 c	0	0	0	0 c
8/30	0	0	c	0	0	0	c	0	0	0	c	0
8/31	0 c	0			0 c	0			0 c	0		
9/01	0	0 c		c	0	0 c		c	0	0 c		c
9/02	0	0	c		0	0	c		0	0	c	
9/03	0	0			0	0			0	0		
9/04	0				0	0			0			
9/05	0				0				0			
9/06	0				0				0			
9/07	0				0				0			
9/08	0				0				0			
9/09	0				0				0			

c = indicates days when commercial fishing periods occured in District 1.

Appendix B.15. Historic mean daily CPUE for coho salmon caught in the Aniak test fishery.

Date	Both Shores				South Shore (Aniak)				North Shore			
	1992	1993	1994	1995	1992	1993	1994	1995	1992	1993	1994	1995
7/15	0	2		0	0	3		0	0	0		0
7/16	0	0		0	0	0		0	0	0		0
7/17	0			0	0			0	0			0
7/18	4			4 c	7			7 c	0			1 c
7/19	0		c	0	0		c	0	0			0
7/20	0			1	0			0	0			2
7/21	8			6 c	10			10 c	5			2 c
7/22	5			2	11			4	0			0
7/23	8		c	1	8		c	2	7			0
7/24	7			1	8			2	6			0
7/25	8		21	2	9		29	4	7		14	0
7/26	14		19 c		15		18 c		12		21 c	
7/27	31		47	5	51		46	7	10		48	3
7/28	25		41	8	39		41	6	10		40	10
7/29	48		26 c	10	35		40 c	6	62		11	14
7/30	48		40	26	40		48	35	15		33	17
7/31	94	c	50	37	101	c	70	28	88	c	30	46
8/01	115		43	28	163		55	18	67		31	39
8/02	142	197	87	65	149	230	91	61	135	163	83	69
8/03	120 c	269	80	56	112 c	224	134	49	127 c	314	69	64
8/04	163	113 c	161 c	c	203	129 c	156 c	c	124	97 c	170 c	c
8/05	115	118	82	110	122	55	69	92	108	180	88	128
8/06	127 c	174 c	353	146	113 c	139 c	273	75	140 c	242 c	434	216
8/07	95	189	156	175	122	99	117	131	68	233	195	220
8/08	33	139	429	174 c	44	60	291	131 c	21	217	567	218 c
8/09	33	148 c	265 c	230	35	197 c	105 c	154	30	51 c	425	307
8/10	40	149	206	151	24	138	103	106	55	161	309	197
8/11	60 c	96	241	207	21 c	38	128	156	100 c	154	354	258
8/12	61	105	271 c	210 c	51	70	108 c	171 c	70	175	435	249 c
8/13	153	126	243	277	66	61	137	93	240	254	350	461
8/14	215 c	58 c	181	167	59 c	12 c	143	106	371 c	104 c	218	227
8/15	162	48	259 c	171	103	19	166 c	138	222	77	353	203
8/16	179	88	102	170 c	49	39	70	133 c	308	137	134	206 c
8/17	69 c	89 c	112	131	50 c	55 c	109	72	88 c	106 c	115	190
8/18	76	148	98 c	141	29	93	66 c	110	123	204	130	171
8/19	36	91	34	c	27	52	33	c	45	130	34	c
8/20	67 c	74	37		35 c	18	35		100 c	102	40	
8/21	37	86 c	68	246	26	5 c	58	199	49	126 c	77	270
8/22	26	35	27 c	105 c	31	3	40 c	82 c	20	51	20	127 c
8/23	63	92	23	140	80	33	23	125	45	152	23	154
8/24	33 c	127	38	121	36 c	43	40	116	31 c	210	37	123
8/25	13	84 c	c		8	46 c	c		19	122 c	c	
8/26	80	122		c	19	65		c	142	179		c
8/27	47 c	46	14 c	59	28 c	27	13 c	77	85 c	65	15	42
8/28	104	29 c	12	53	12	27 c	15	72	195	30 c	9	35
8/29	101	43	14	22 c	13	20	6	36 c	188	66	21	7 c
8/30	34	32	c	0	35	25	c	0	33	40		0
8/31	35 c	7			9 c	6			61 c	9		
9/01	75	28 c		c	27	21 c		c	123	37 c		c
9/02	118	25	c		53	15	c		183	35	c	
9/03	40	14			35	12			46	16		
9/04	34				26	25			41			
9/05	22				25				19			
9/06	48				79				18			
9/07	32				48				17			
9/08	37				50				25			
9/09	25				36				13			
9/10	26				38				15			
9/11	156				57				21			
9/12	77				10				29			

c = indicates days when commercial fishing period occured in District 1.

Appendix B.16. Historic mean daily CPUE for chum salmon caught in the Aniak test fishery.

Date	Both Shores				South Shore (Aniak)				North Shore			
	1992	1993	1994	1995	1992	1993	1994	1995	1992	1993	1994	1995
5/31										0		
6/01		0				0				0		
6/02		0				0				0		
6/03		1				1				1		
6/04		1				1				1		
6/05		1				0				3		
6/06		1				0				1		
6/07		1				1				1		
6/08		2				0				3		
6/09		1				1				1		
6/10		0				0				0		
6/11		2				2				2		
6/12		8				0				11		
6/13		8	41			3	14			9	54	
6/14		5	41			0	10			10	71	
6/15		21			11	4				28		
6/16	60	18			33	7			86	29	45	
6/17	92	27	28		23	10	7		162	44	49	
6/18	48 c	29	43		35 c	12	9		60 c	47	77	
6/19	90	13	46		56	7	52		124	18	36	
6/20	89	18	140		21	12	107		156	25	173	
6/21	40	94	78		25	72	49		56	117	108	
6/22	126 c	116	73	c	102 c	89	57	c	150 c	143	89	c
6/23	153	137	106		59	113	42		247	162	170	
6/24	140	176	106 c		146	149	45 c	67	134	204	168 c	
6/25	62 c	108 c	143		85 c	105 c	58		39 c	105 c	229	
6/26	61	155	72	c	35	140	8	c	88	169	136	c
6/27	114	149	199	407	74	182	134	253	155	116	264	484
6/28	29	189	157	248	44	110	107	198	14	269	207	298
6/29	79 c	234	249	387 c	58 c	120	143	174 c	100 c	347	302	600 c
6/30	63	186	204	310	83	129	208	167	42	243	199	452
7/01	230	166	398	516	59	161	353	282	402	172	444	750
7/02	259	163	356	287	182	106	229	166	336	220	484	409
7/03	153	155	109	374 c	156	77	76	281 c	149	233	142	467 c
7/04	202	155	344		151	77	223		253	233	405	511
7/05	218	283	385	517	258	86	236	440	178	480	459	555
7/06	c	368	379	402 c	c	185	236	355 c	c	547	451	425 c
7/07		369	543			230	237	411		508	696	538
7/08	484	276	351	559	637	161	250	466	332	392	453	651
7/09	527	353		476	698	223		391	355	483		519
7/10				588 c				619 c				573 c
7/11	176			560	224			438	128			620
7/12	129	251		534	164	198		610	94	304		496
7/13	312	243		664	254	226		473	370	261		760
7/14	455	201	c	524 c	703	261	c	339 c	206	141	c	617 c
7/15	409	261		422	601	261		392	218	261		452
7/16	382	273		429	468	267		538	296	278		321
7/17	390			431	380			386	400			477
7/18	317			426 c	283			704 c	350			149 c
7/19	210		c	414	171		c	502	248		c	237
7/20	321			384	245			453	397			315
7/21	290			403 c	198			481 c	383			325 c
7/22	382			307	277			393	488			220

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Appendix B.16. (continued)

Date	Both Shores				South Shore (Aniak)				North Shore			
	1992	1993	1994	1995	1992	1993	1994	1995	1992	1993	1994	1995
7/23	170		c	163	156		c	200	185		c	126
7/24	192			263	193			276	191			249
7/25	160		396	214	104		349	297	216		442	132
7/26	179		190 c		108		287 c		250		93 c	
7/27	193		261	234	185		251	336	200		271	132
7/28	152		228	211	93		206	255	210		250	168
7/29	148		86 c	217	92		97 c	198	205		76 c	236
7/30	121		152	140	268		197	166	397		107	114
7/31	123	c	109	217	104	c	135	202	142	c	83	231
8/01	134		113	136	118		124	129	149		102	143
8/02	71	49	102	150	78	67	97	138	65	31	106	162
8/03	72 c	70	102	172	85 c	90	134	148	58 c	49	86	196
8/04	59	74 c	60 c	c	69	142 c	51 c	c	48	6 c	80 c	c
8/05	14	29	50	120	22	44	41	82	6	14	55	159
8/06	42 c	32 c	43	67	39 c	38 c	46	73	46 c	19 c	39	61
8/07	17	39	39	108	10	72	42	101	24	22	36	115
8/08	11	21	27	95 c	15	36	23	72 c	7	6	32	119 c
8/09	10	16 c	16 c	46	15	17 c	18 c	54	4	13 c	15 c	39
8/10	6	10	19	36	7	5	10	32	5	14	27	39
8/11	14 c	4	19	49	12 c	2	15	31	16 c	7	24	66
8/12	5	2	12 c	39 c	5	0	12 c	26 c	5	7	12 c	51 c
8/13	5	10	10	21	2	8	8	15	9	14	12	27
8/14	7 c	3 c	17	19	7 c	1 c	14	12	6 c	5 c	21	27
8/15	1	1	12 c	27	2	0	14 c	18	0	3	11 c	35
8/16	4	3	5	27 c	3	0	6	17 c	5	5	5	38 c
8/17	2 c	0 c	11	11	2 c	0 c	11	7	2 c	0 c	12	15
8/18	2	0	10 c	13	0	0	13 c	6	4	0	7 c	20
8/19	2	2	5	c	2	3		c	2	2	6	c
8/20	1 c	0	6		1 c	0	7		2 c	0	5	
8/21	1	1 c	4	3	1	0 c	3	0	0	1 c	5	5
8/22	0	1	3 c	3 c	0	3	0 c	3 c	0	0	5 c	3 c
8/23	0	0	8	2	0	0	6	0	0	0	10	5
8/24	0 c	1	1	0	0 c	2	0	0	0 c	0	2	0
8/25	0	0 c	c		0	0 c	c		0	0 c	c	
8/26	1	2		c	0	0		c	2	3		c
8/27	1 c	0	0 c	2	0 c	0	0 c	3	1 c	0	0 c	2
8/28	1	0 c	1	1	0	0 c	1	0	2	0 c	0	1
8/29	1	0		0 c	0	0		0 c	2	0		3 c
8/30	0	1	c	0	0	1	c	0	0	0	c	0
8/31	0 c	0			0 c	0			0 c	0		
9/01	0	1 c		c	0	1 c		c	0	1 c		c
9/02	0	0	c		0	0	c		0	0	c	
9/03	0	0			0	0			0	0		
9/04	0				0	0			0			
9/05	0				0				0			
9/06	0				0				0			
9/07	0				0				0			
9/08	0				0				0			
9/09	0				0				0			
9/10	0				0				0			

c = indicates days when commercial fishing periods occured in District 1.

Appendix B.17. Lower Kuskokwim River, District 1, and the middle Kuskokwim River, District 2, combined commercial salmon harvest, 1960-1995.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1960	5,969	0	2,498	0	0	8,467
1961	18,918	0	5,044	0	0	23,962
1962	15,341	0	12,432	0	0	27,773
1963	12,016	0	15,660	0	0	27,676
1964	17,149	0	28,613	0	0	45,762
1965	21,989	0	12,191	0	0	34,180
1966	25,545	0	22,985	0	0	48,530
1967	29,986	0	56,313	0	148	86,447
1968	34,278	0	127,306	0	187	161,771
1969	43,997	322	83,765	0	7,165	135,249
1970	39,290	117	38,601	44	1,664	79,716
1971	40,274	2,606	5,253	0	68,914	117,047
1972	39,454	102	22,579	8	78,619	140,762
1973	32,838	369	130,876	33	148,746	312,862
1974	18,664	136	147,269	84	171,887	338,040
1975	21,720	23	81,945	10	181,840	285,538
1976	30,735	2,971	88,501	133	177,864	300,204
1977	35,830	9,379	241,364	203	248,721	535,497
1978	45,641	733	213,393	5,832	248,656	514,255
1979	38,966	1,054	219,060	78	261,874	521,032
1980	35,881	360	222,012	803	483,211	742,267
1981	47,663	48,375	211,251	292	418,677	726,258
1982	48,234	33,154	447,117	1,748	278,306	808,559
1983	33,174	68,855	196,287	211	267,698	566,225
1984	31,742	48,575	623,447	2,942	423,718	1,130,424
1985	37,889	106,647	335,606	75	199,478	679,695
1986	19,414	95,433	659,988	3,422	309,213	1,087,470
1987	36,179	136,602	399,467	43	574,336	1,146,627
1988	55,716	92,025	524,296	10,825	1,381,674	2,064,536
1989	43,217	42,747	479,856	464	749,182	1,315,466
1990	53,759	84,870	410,332	3,397	461,624	1,013,982
1991	37,778	108,946	500,935	378	431,802	1,079,839
1992	46,872	92,218	666,170	7,451	344,603	1,157,314
1993	8,735	27,008	610,739	64	43,337	689,883
1994	16,211	49,365	724,689	30,949	271,115	1,092,329
1995	30,846	92,500	471,461	93	605,918	1,200,818
Ten Year Average (1985-1994)	35,577	83,786	531,208	223[a]	476,637	1,132,715

a Odd years only.

Appendix B.18 Historic commercial chinook salmon catches by fishing period in District 1.

YEAR	DATE	CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1974	June 10-11	4384	422	12	5064	0.87
	June 13-14	5790	488	12	5957	0.97
	June 17-18	5857	506	12	6072	0.96
	Subtotal[a]	16031	1416	36	17093	0.94
	June 27	558	267	6	1602	0.35
	July 4-5	196	282	12	3384	0.06
	July 8-9	286	376	12	4512	0.06
	July 18	31	190	6	1140	0.03
	Subtotal[b]	1071	1115	36	10638	0.10
Total		17102		72		
1975	June 16	359	12	6	72	4.99
	June 19-20	1031	46	12	552	1.87
	June 23-24	17235	483	12	5796	2.97
	Subtotal[a]	18625	541	30	6420	2.90
	June 30	691	276	6	1674	0.41
	July 03	636	360	6	2160	0.29
	July 07	421	369	6	2214	0.19
	July 10	195	304	6	1824	0.11
	July 14	179	326	6	1956	0.09
	Subtotal[b]	2122	1635	30	9828	0.22
Total		20747		60		
1976	June 17	6962	459	6	2754	2.53
	June 21	13048	495	6	2970	4.39
	Subtotal[a]	20010	954	12	5724	3.50
	June 28	4143	348	6	2088	1.98
	July 01	1550	415	6	2490	0.62
	July 08	894	381	6	2286	0.39
	July 12	377	344	7	2262	0.17
	July 15	236	265	6	1590	0.15
	Subtotal[b]	7200	1753	31	10716	0.67
Total		27210		43		
1977	June 15	12458	467	6	2802	4.45
	June 20	16227	484	6	2904	5.59
	Subtotal[a]	28685	951	12	5706	5.03
	June 27	1337	378	6	2268	0.59
	June 30	504	409	6	2454	0.21
	July 04	266	331	6	1986	0.13
	July 14	153	385	6	2310	0.07
	Subtotal[b]	2667	1874	30	11226	0.24
Total		31352		42		

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YEAR	DATE	CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1978	June 09	7590	509	6	3054	2.49
	June 14	6142	266	6	1596	3.85
	June 16	12341	396	6	2376	5.19
	June 22	1724	72	4	288	5.99
	June 23	8342	429	4	1716	4.86
	Subtotal[a]	36139	1672	26	9030	4.00
	June 26	1964	4199	5	2694	0.73
	June 29	1759	422	6	2652	0.66
	July 03	894	476	6	2856	0.31
	July 06	1460	485	12	5820	0.25
	July 10	694	428	12	5136	0.14
	July 10	293	422	6	2532	0.12
	Subtotal[b]	7064	2732	48	21690	0.33
Total		43203		74		
1979	June 11	12270	523	6	3138	3.91
	June 15	12363	549	6	3294	3.75
	Subtotal[a]	24633	1072	12	6432	3.83
	June 22	5651	502	6	3012	1.88
	June 26	2277	531	6	3186	0.71
	June 29	1583	542	6	3252	0.49
	July 03	1233	542	6	3252	0.38
	July 10	470	520	6	3120	0.15
	Subtotal[b]	11214	2637	30	15822	0.71
Total		35847		42		
1980	June 12	9891	469	6	2814	3.51
	June 18	16921	468	6	2808	6.03
	Subtotal[a]	26812	937	12	5622	4.77
	June 23	4777	426	6	2616	1.83
	June 26	1460	408	6	2448	0.60
	July 02	498	383	6	2298	0.22
	July 09	445	431	6	2586	0.17
	Subtotal[b]	7180	1648	24	9948	0.72
Total		33992		36		
1981	June 10	11897	489	6	2934	4.05
	June 16	17985	541	6	3246	5.54
	Subtotal[a]	29882	1030	12	6180	4.84
	June 22	3830	511	6	3066	1.25
	June 25	2000	5008	6	3048	0.66
	June 30	2563	484	6	2904	0.88
	July 02	1707	459	6	2754	0.62
	July 06	1088	461	6	2766	0.39
	July 09	491	440	6	2640	0.19
	Subtotal[b]	11679	2863	36	17178	0.68
Total		41561		48		

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YEAR	DATE	CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1982	June 14	4912	464	6	2784	1.76
	June 17	11285	496	6	2892	3.90
	June 21	13343	499	6	2994	4.46
	June 24	8548	459	4	1836	4.66
	Subtotal[a]	38088	1918	22	10506	3.63
	June 28	1943	352	4	1408	1..38
	June 30	2064	483	4	1932	1.07
	July 02	1095	434	4	1736	0.63
	July 05	875	372	6	2232	0.39
	July 08	748	435	6	2610	0.29
	July 12	307	354	6	2124	0.14
	Subtotal[b]	7032	2430	30	12042	0.58
Total		45120		52		
1983	June 13	7445	489	6	2934	2.54
	June 16	5961	450	6	2700	2.21
	Subtotal[a]	13406	939	12	5634	2.38
	June 20	4776	474	6	2844	1.68
	June 23	3287	450	6	2700	1.22
	June 27	2566	446	6	2676	0.96
	June 30	2359	547	6	3282	0.72
	July 04	1213	443	6	2658	0.46
	July 07	1202	496	6	2976	0.40
	July 11	633	466	6	2796	0.23
	Subtotal[b]	16036	3322	42	19932	0.80
Total		29442		54		
1984	June 18	10845	484	6	2904	3.73
	June 21	6336	443	6	2658	2.38
	Subtotal[a]	17181	927	12	5562	3.09
	June 25	.3018	466	6	2796	1.08
	June 28	2625	470	6	2820	0.93
	July 02	1988	483	6	2898	0.69
	July 05	1218	426	6	2556	0.48
	July 09	1211	496	6	2976	0.41
	July 12	858	436	6	2616	0.33
	July 16	744	373	6	2238	0.33
	Subtotal[b]	11662	3150	42	18900	0.62
Total		28843		54		
1985	June 20	6519	423	6	2538	2.57
	June 24	10413	488	6	2928	3.56
	June 27	8791	492	6	2952	2.98
	July 01	6168	514	6	3084	2.00
	July 04	3744	460	6	2760	1.37
Total		35665	2377	30	14262	2.50

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YEAR	DATE	CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1986	June 26	7786	514	6	3084	2.52
	June 30	4200	576	6	3456	1.22
	July 03	3224	556	6	3336	0.97
	July 07	1805	586	6	3516	0.51
	July 10	1156	532	6	3192	0.36
Total		18171	2764	30	16584	1.10
1987	June 18	18336	526	8	4208	4.36
	June 24					
	June 30					
	July 03	5970	580	6	3480	1.72
	July 07	3636	578	6	3468	1.05
	July 11	1910	597	6	3582	0.53
	July 15	1415	569	6	3414	0.41
	July 20	1227	551	6	3306	0.37
Total		14158	2875	38	17250	0.82
1988	June 16	12640	602	8	4816	2.62
	June 20	11708	612	6	3672	3.19
	June 24	9710	644	6	3864	2.51
	June 28	5350	609	6	3654	1.46
	July 02	3531	580	6	3480	1.01
	July 05	2340	579	6	3474	0.67
	July 08	1891	604	6	3624	0.52
	July 11	1628	598	6	3588	0.45
	July 14	1751	597	6	3582	0.49
	July 18	1107	575	6	3450	0.32
Total		51656	6000	62	37204	1.39
1989	June 19	9204	374	8	2988	3.08
	June 23	6011	277	8	2218	2.71
	June 26	1862	126	8	1006	1.85
	June 30	9232	642	8	5129	1.80
	July 03	4600	629	6	3770	1.22
	July 05	3311	553	6	3311	1.00
	July 08	3136	621	6	3733	0.84
	July 11	1691	616	6	3676	0.46
	July 14	1216	590	6	3576	0.34
	July 18	868	437	6	2630	0.33
Total		41131	4865	68	32037	1.28
1990	June 20	16690	630	6	3780	4.42
	June 25	16031	611	6	3666	4.37
	June 29	9428	645	6	3870	2.44
	July 05	4071	591	6	3546	1.15
	July 09	2804	589	6	3534	0.79
	July 14	2127	625	8	5000	0.43
Total		1151	3691	38	23396	2.19

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YEAR	DATE	CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1991	June 20	13813	601	6	3606	3.83
	June 24	12612	616	6	3696	3.41
	July 01	5966	629	6	3774	1.58
	July 06	2102	589	6	3534	0.59
	July 13	904	571	6	3426	0.26
	July 18	452	568	6	3408	0.13
Total		35849	3574	36	21444	1.67
1992	June 18	9756	567	8	4536	2.15
	June 22	14578	619	8	4952	2.94
	June 25	8984	627	8	5016	1.79
	June 29	7323	602	6	3612	2.03
	July 06	3250	587	8	4696	0.69
Total		43891	3002	38	22812	1.92
1993	June 25	8184	622	8	4976	1.64
Total		85184	622	8	4976	1.64
1994	June 24	14221	576	8	4608	3.09
	July 14	578/	496	5	2312	0.25
	July 19	441	500	6	3000	0.15
Total		15240	1572	19	9920	1.54

a The catch totals exclude small numbers of chinook salmon taken after 20 July.
b Unrestricted mesh size.

Appendix B.19 Historic commercial chinook salmon catches by fishing period in District 2[a]

YEAR	DATE	CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1985	June 20	136	8	6	48	2.83
	June 24	263	11	6	66	3.98
	June 27	548	12	6	72	7.61
	July 01	779	15	6	90	8.66
	July 04	0	0	0	0	0.00
Total		1726	46	24	276	6.25
1986	June 26	186	3	6	18	10.33
	June 30	386	13	6	78	4.95
	July 03	168	8	6	48	3.50
	July 07	117	2	6	12	9.75
	July 10	45	6	6	36	1.25
Total		902	32	30	192	4.70
1987	July 03	1325	15	6	90	14.72
	July 07	935	22	6	132	7.08
Total		2260	37	12	222	10.18
1988	June 24	669	13	6	78	8.58
	June 28	746	17	6	102	7.31
	July 02	468	19	6	114	4.11
Total		1883	49	18	294	6.4
1989	June 30	610	15	8	120	5.08
	July 03	371	18	6	108	3.44
	July 05	264	14	6	84	3.14
	July 11	3	14	6	84	0.04
Total		1248	61	26	396	3.15
1990	June 29	641	14	6	84	7.63
	July 05	467	15	6	90	5.19
	July 09	255	17	6	102	2.50
	July 14	209	17	8	136	1.54
Total		1572	63	26	412	3.82
1991	July 01	483	17	6	102	4.74
	July 06	341	16	6	96	3.55
	July 13	112	18	6	108	1.04
	July 18	49	17	6	102	0.48
Total		985	68	24	408	2.41
1992	June 25	1021	16	8	128	7.98
	June 29	815	15	6	90	9.06
	July 06	310	9	8	72	4.31
Total		2146	40	22	290	7.40
1993	FISHERY DID NOT OPEN UNTIL 6 AUGUST					
1994	FISHERY DID NOT OPEN UNTIL 4 AUGUST					

a Excluding small numbers of chinook salmon caught after 20 July

Appendix B.20. Historic commercial sockeye catches by fishing period in District 1

YEAR	DATE		CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1981	June	10[b]	48	489	6	2,934	0.02
	June	16[b]	316	541	6	3,246	0.10
	June	22	3,852	511	6	3,066	1.26
	June	25	6,037	508	6	3,048	1.98
	June	30	12,262	484	0	2,904	4.22
	July	02	9,769	459	24	2,754	3.55
	July	06	5,510	461	6	2,766	1.99
Total			37,794	3,453	54	20,718	1.82
1982	June	14[b]	321	464	6	2,784	0.12
	June	17[b]	1,061	496	6	2,892	0.37
	June	21[b]	2,432	499	6	2,994	0.81
	June	24[b]	3,157	459	4	1,836	1.72
	June	28	9,938	352	4	1,408	3.01
	June	30	5,824	483	4	1,932	3.01
	July	02	3,110	434	4	1,736	1.79
	July	05	2,769	372	6	2,232	1.24
Total			28,612	3,559	40	17,814	1.61
1983	June	13[b]	114	489	6	2,934	0.04
	June	16[b]	156	450	6	2,700	0.06
	June	20	3,289	474	6	2,844	1.16
	June	23	4,807	450	6	2,700	1.78
	June	27	10,465	446	6	2,676	3.91
	June	30	12,490	547	6	3,282	3.81
	July	04	24,540	443	6	2,658	9.23
	July	07	7,286	496	6	2,976	2.45
Total			63,147	3,795	48	19,794	3.19
1984	June	18[b]	409	484	6	2,904	0.14
	June	21[b]	2,618	443	6	2,658	0.98
	June	25	10,743	466	6	2,796	3.84
	June	28	10,942	470	6	2,820	3.88
	July	02	8,145	483	6	2,898	2.81
	July	05	6,798	426	6	2,556	2.66
Total			39,655	2,772	36	16,632	2.38
1985	June	20	5,246	423	6	2,538	2.07
	June	24	25,536	488	6	2,928	8.72
	June	27	26,155	492	6	2,952	8.86
	July	01	31,082	514	6	3,084	10.08
	July	04	16,114	460	6	2,760	5.84
Total			104,133	2,377	30	14,262	7.30

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YEAR	DATE		CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1986	June	26	40,468	514	6	3,084	13.12
	June	30	22,633	576	6	3,456	6.55
	July	03	15,766	556	6	3,336	4.73
	July	07	8,347	586	6	3,516	2.37
	July	10	5,488	532	6	3,192	1.72
Total			92,702	2,764	30	16,584	5.59
1987	June	18	9,102	526	8	4,208	2.16
	June	24	24,355	607	8	4,856	5.02
	June	30	39,112	564	8	4,512	8.67
	July	03	44,030	580	6	3,480	12.65
	July	07	9,196	578	6	3,468	2.65
Total			125,795	2,855	36	20,524	6.13
1988	June	16	7,408	602	8	4,816	1.54
	June	20	14,502	612	6	3,672	3.95
	June	24	19,894	644	6	3,864	5.15
	June	28	17,628	609	6	3,654	4.82
	July	02	15,102	580	6	3,480	4.34
	July	05	7,284	579	6	3,474	2.10
Total			81,818	3,626	38	22,960	3.56
1989	June	19	5,495	374	8	2,988	1.84
	June	23	7,011	277	8	2,218	3.16
	June	26	3,746	126	8	1,006	3.72
	June	30	10,214	642	8	5,129	1.99
	July	03	5,808	629	6	3,770	1.54
	July	05	2,917	553	6	3,311	0.88
Total			35,191	2,601	44	18,422	1.91
1990	June	20	10,318	630	6	3,780	2.73
	June	25	27,024	611	6	3,666	7.37
	June	29	18,774	645	6	3,870	4.85
	July	05	10,759	591	6	3,546	3.03
Total			66,875	2,477	24	14,862	4.50
1991	June	20	19,732	601	6	3,606	5.47
	June	24	19,262	616	6	3,696	5.21
	July	01	24,428	629	6	3,774	6.47
	July	06	24,219	589	6	3,534	6.85
Total			87,641	2,435	24	14,610	6.00

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YEAR	DATE		CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1992	June	18	8,508	567	8	4,536	1.88
	June	22	25,017	619	8	4,952	5.05
	June	25	21,922	627	8	5,016	4.37
	June	29	26,082	602	6	3,612	7.22
	July	06	7,962	587	8	4,696	1.70
Total			89,491	3,002	38	22,812	3.92
1993	June	25	26,363	622	8	4,976	5.30
1994	June	24	38,958	576	8	4,608	8.45
1995	June	22	4,420	569	4	2,276	1.94
	June	26	19,449	568	4	2,272	8.56
	June	29	18,188	565	4	2,260	8.05
	July	03	17,078	475	4	1,900	8.99
	July	06	14,765	481	4	1,924	7.67
	July	10	7,100	494	4	1,976	3.59
	July	14	4,219	435	4	1,740	2.42
	July	18	2,482	336	6	2,016	1.23
	July	21	940	368	4	1,472	0.64
Total			88,641	4,291	38	17,836	4.97

[a] Excludes small numbers of sockeye salmon caught after 7 July.

[b] Unrestricted mesh size.

Appendix B.21. Historic commercial sockeye salmon catches by fishing period in District 2

YEAR	DATE		CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1985	June	20	115	8	6	48	2.40
	June	24	340	11	6	66	5.15
	June	27	739	12	6	72	10.26
	July	01	1,100	15	6	90	12.22
	July	04	0	0	0	0	0.00
Total			2,294	46	24	276	8.31
1986	June	26	616	3	6	18	34.22
	June	30	1,171	13	6	78	15.01
	July	03	265	8	6	48	5.52
	July	07	26	2	6	12	2.17
Total			2,078	26	24	156	13.32
1987	July	03	511	15	6	90	5.68
	July	07	1,459	22	6	132	11.05
Total			1,970	37	12	222	8.87
1988	June	24	1,041	13	6	78	13.35
	June	28	639	17	6	102	6.26
	July	02	579	19	6	114	5.08
Total			2,259	49	18	294	7.68
1989	June	30	587	15	8	120	4.89
	July	03	238	18	6	108	2.20
	July	05	176	14	6	84	2.10
Total			1001	47	20	312	3.21
1990	June	29	735	14	6	84	8.75
	July	05	561	15	6	90	6.23
Total			1,296	29	12	174	7.45
1991	July	01	1,200	17	6	102	11.76
	July	06	613	16	6	96	6.39
Total			1,813	33	12	198	9.16
1992	June	25	930	16	8	128	7.27
	June	29	525	15	6	90	5.83
	July	06	486	9	8	72	6.75
Total			1,941	40	22	290	6.69
1993	NO PERIODS DURING THE SOCKEYE RUN.						
1994	NO PERIODS DURING THE SOCKEYE RUN.						

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YEAR	DATE		CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1995	June	26	535	16	4	64	8.36
	June	29	620	13	4	52	11.92
	July	03	456	9	4	36	12.67
	July	06	331	8	4	32	10.34
	July	10	293	6	4	24	12.21
	July	14	51	2	4	8	6.38
	July	18	44	6	6	36	1.22
	July	21	132	5	4	20	6.60
Total			2,462	65	34	272	9.05

* Excludes small numbers of sockeye salmon caught after 7 July.

Appendix B.22 Historic commercial coho salmon catches by fishing period in District 1

YEAR	DATE	CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1974	August 01-02	9576	267	13	3444	2.78
	August 05-08	59090	444	72	31968	1.85
	August 12-15	58066	396	72	28512	2.04
	August 19-22	12301	263	72	18936	0.65
	August 26-29	5360	107	72	7704	0.70
	September 02-05	430	25	73	1815	0.24
Total		144823	1502	373	92379	1.57
1975	August 10	2357	142	6	852	2.77
	August 04-06	12500	292	48	14016	0.89
	August 11-13	18551	373	48	17904	1.04
	August 18-20	34435	388	48	18624	1.85
	August 25-27	16277	270	48	12960	1.26
Total		84120	1465	198	64356	1.31
1976	August 02-03	10534	286	24	6864	1.53
	August 09-11	29728	400	48	19200	1.55
	August 16-18	28664	387	48	18576	1.54
	August 18-20	14543	300	48	14400	1.01
	August 25-27	4420	174	42	7308	0.60
Total		87889	1547	210	66348	1.32
1977	August 01-02	23987	360	24	8640	2.78
	August 03-10	91474	487	48	23376	3.91
	August 15-16	60935	438	24	10512	5.80
	August 18	25589	378	12	4536	5.64
	August 22	16980	361	12	4332	3.92
	August 25	11874	264	12	3168	3.75
	August 29	6819	204	12	2448	2.79
Total		237658	2492	144	57012	4.17
1978	August 01	6311	297	12	3564	1.77
	August 04	9455	364	12	4368	2.16
	August 08	20501	433	12	5196	3.95
	August 11	42428	485	12	5820	7.29
	August 15	48950	476	12	5712	8.57
	August 18	29485	434	12	56208	5.66
	August 22	22287	396	12	4752	4.69
	August 25	11168	293	12	3516	3.18
	August 29	12215	250	12	3000	4.07
Total		202800	3428	108	41136	4.93

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YEAR	DATE	CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1979	August 02	52276	478	12	5736	9.11
	August 06	53797	480	6	2880	18.68
	August 09	26422	497	6	2982	8.86
	August 13	27915	463	6	2778	10.05
	August 16	21675	467	6	2802	7.74
	August 20	19445	390	6	2340	8.31
	August 23	5376	328	6	1968	2.73
	August 27	6342	310	12	3720	1.70
	August 30	21852	179	12	2148	1.02
Total		215430	3592	72	27354	7.88
1980	August 02	9889	375	6	2250	4.40
	August 07	36126	455	6	2730	13.23
	August 11	35178	482	6	2892	12.16
	August 14	28211	439	6	2634	10.71
	August 18	43748	441	6	2646	16.53
	August 21	33274	419	6	2514	13.24
	August 25	19264	370	6	2220	8.68
	August 28	13484	319	6	1914	7.04
Total		219174	3300	48	19800	11.07
1981	August 03	16184	430	6	2580	6.27
	August 06	13885	441	6	2646	5.25
	August 10	26942	445	6	2670	10.10
	August 13	46252	476	6	2838	16.30
	August 17	34739	458	6	2748	12.64
	August 20	24184	380	6	2280	10.61
	August 24	23771	372	6	2232	10.65
	August 27	13785	346	6	2076	6.64
	August 31	8096	278	6	1668	4.85
Total		207868	3623	54	21738	9.56
1982	July 29	19561	416	6	2496	0.18
	August 02	31944	388	6	2328	0.19
	August 05	35766	455	6	2670	0.18
	August 09	61231	442	6	2652	0.17
	August 12	80685	449	6	2694	0.14
	August 16	77785	420	6	2520	0.15
	August 19	49556	403	6	2418	0.14
	August 23	25218	349	5	2094	0.15
	August 26	26761	314	6	1884	14.77
	August 30	26815	302	78	1812	1.14
Total		435332	3938	131	23568	18.47

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YEAR	DATE	CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1983	August 01	9767	377	7	2262	4.32
	August 04	15389	430	5	2580	5.96
	August 08	34541	383	6	2298	15.03
	August 11	35268	485	7	2910	12.12
	August 15	24072	462	7	2772	8.68
	August 18	22822	408	5	2448	9.32
	August 22	34918	388	5	2328	15.00
	August 26	190.39	323	5	1938	9.82
Total		195816	3256	47	19536	10.02
1984	July 30	56609	459	6	2754	20.56
	August 02	79240	401	6	2406	32.93
	August 06	84406	542	9	4878	17.30
	August 09	80990	523	9	4707	17.21
	August 13	80268	504	9	4536	17.27
	August 16	78342	502	9	4518	14.13
	August 20	63829	491	9	4419	11.17
	August 23	49372	481	9	4329	3.81
	August 27	16472	350	9	3150	3.56
	August 30	11222	210	9	1890	0.85
	September 03	1603	69	5	360	5.21
	September 06	1877	39	6	234	8.02
Total		604230	4571	95	38181	15.83
1985	August 01	34052	487	6	2922	11.65
	August 05	54819	.527	6	3162	17.34
	August 08	78149	525	6	3150	24.81
	August 12	77809	530	6	3180	24.47
	August 15	28013	441	6	2646	10.59
	August 19	19316	406	6	2436	7.93
	August 22	17534	390	6	2340	7.49
	August 26	10688	297	6	1782	6.00
	August 29	9568	262	6	1572	6.09
Total		329948	3865	54	23190	14.23

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YEAR	DATE	CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1986	July 31	27553	352	6	2112	13.05
	August 04	96127	530	6	3180	30.23
	August 07	127024	600	9	5400	23.52
	August 11	82215	553	6	3318	24.78
	August 13	92918	526	6	3156	29.44
	August 15	55633	519	6	3114	17.87
	August 18	51328	477	6	2862	17.93
	August 21	50640	465	6	2790	18.15
	August 25	37365	458	6	2748	13.60
	August 28	16436	346	6	2076	7.92
	September 01	5949	234	6	1404	4.24
Total		643188	5060	69	32160	20.00
1987	August 06	46182	590	6	3540	13.05
	August 13	104968	604	6	3624	28.96
	August 17	73867	595	6	3570	20.69
	August 19	45277	585	6	3510	12.90
	August 21	33601	540	6	3240	10.37
	August 24	27607	500	6	3000	9.20
	August 27	21772	479	6	2874	7.58
	August 31	12873	364	6	2184	5.89
	September 03	11352	278	6	1668	6.81
	September 07	4311	132	6	792	5.44
Total		381810	4667	60	28002	13.64
1988	July 28	20970	552	6	3312	6.33
	August 01	33954	594	6	3564	9.53
	August 04	76576	639	6	3834	19.97
	August 08	76345	640	6	3840	19.88
	August 10	53874	596	6	3576	15.07
	August 12	84700	624	6	3744	22.62
	August 15	59724	613	6	3678	16.24
	August 18	37415	620	6	3720	10.06
	August 20	24046	577	6	3462	6.95
	August 27	22683	532	6	3192	7.11
	August 31	12264	412	6	2472	4.96
Total		502551	6399	66	38394	13.09

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YEAR	DATE	CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1989	July 27	5651	562	6	3364	1.68
	August 03	99022	679	8	5432	18.23
	August 07	73514	642	6	3853	19.08
	August 09	103158	644	6	3864	26.70
	August 12	81970	650	6	3900	21.02
	August 15	23071	616	6	3697	6.24
	August 18	5938	381	6	2284	2.60
	August 23	30940	528	6	3167	9.77
	August 26	20881	508	8	4063	5.14
	August 29	11080	423	8	3388	3.27
	September 01	3325	194	7	1421	2.27
Total		458450	5827	73	38433	11.93
1990	August 01	23549	611	6	3666	6.42
	August 06	61450	631	6	3786	16.23
	August 10	58251	653	6	3918	14.87
	August 13	115444	642	6	3852	29.97
	August 16	68605	650	9	5850	11.73
	August 20	51838	594	6	3564	14.54
	August 27	16030	534	6	3204	5.00
Total		395167	4315	45	27840	14.19
1991	July 29	37141	534	6	3204	11.59
	August 01	38284	602	6	3612	10.60
	August 05	56262	643	6	3858	14.58
	August 08	72037	634	6	3804	18.94
	August 12	114581	662	8	5296	21.64
	August 14	58393	601	8	4808	12.14
	August 19	57364	590	6	3540	16.20
	August 26	43664	512	8	4096	10.66
Total		477726	4778	54	32218	14.83
1992	August 03	78233	619	8	4952	15.80
	August 06	57506	590	6	3540	16.24
	August 11	181905	653	6	3918	46.43
	August 14	87959	632	6	3792	23.20
	August 17	79357	596	6	3576	22.19
	August 20	73363	578	6	3468	21.15
	August 24	28069	550	6	3300	8.51
	August 27	28238	481	6	2886	9.78
	August 31	16962	374	6	2284	7.43
Total		631592	5073	56	31716	19.91

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YEAR	DATE	CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1993	July 31	56107	625	6	3750	14.96
	August 04	137649	656	6	3936	34.97
	August 06	91400	632	8	5056	18.08
	August 09	54817	628	6	3768	14.55
	August 14	80226	640	6	3840	20.89
	August 17	82696	620	6	3720	22.23
	August 21	47097	592	6	3552	13.26
	August 25	10556	441	6	2646	3.99
	August 28	13592	387	6	2322	5.85
	September 01	12190	274	6	1644	7.41
Total		586330	5495	62	34234	17.13
1994	July 26	39901	552	6	3312	12.05
	July 29	52090	577	6	3462	15.05
	August 04	75514	606	6	3636	20.77
	August 09	129570	530	6	3180	40.75
	August 12	117753	606	8	4848	24.29
	August 15	47902	595	8	4760	10.06
	August 18	82750	598	8	4784	17.30
	August 22	44054	554	8	4432	9.94
	August 25	37595	447	8	3576	10.51
	August 27	20526	445	6	2670	7.69
	August 30	8192	263	6	1578	5.19
	September 02	2489	157	6	942	2.64
Total		658336	5930	82	41180	15.99
1995	August 04	48665	234	6	1404	34.66
	August 08	98548	611	6	3666	26.88
	augsut 12	102421	617	6	3702	27.67
	augsut 16	65713	593	6	3558	18.47
	August 19	41057	555	6	3330	12.33
	August 22	43978	497	6	2982	14.75
	augsut 26	29129	477	6	2862	10.18
	August 29	17790	355	6	2130	8.35
	September 01	5783	219	6	1314	4.40
Total		453084	4158	54	24948	18.16

Appendix B.23. Historic commercial coho salmon catches by fishing period in District 2

YEAR	DATE		CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1985	August	02	739	8	8	48	15.40
	August	12	2,914	14	6	84	34.69
	August	15	2,005	11	6	66	30.38
Total			5,658	31	20	198	28.58
1986	August	07	2,445	8	6	48	50.94
	August	10	2,677	10	6	60	44.62
	August	12	2,787	10	6	60	46.45
	August	15	5,761	27	6	162	35.56
	August	18	1,804	8	6	48	37.58
	August	21	1,325	6	6	36	36.81
Total			16,799	69	36	414	40.58
1987	August	13	2,273	14	6	84	27.06
	August	17	3,374	14	6	84	40.17
	August	19	3,928	13	6	78	50.36
	August	21	4,571	18	6	108	42.32
Total			14,146	59	24	354	39.96
1988	August	08	1,465	14	6	84	17.44
	August	10	3,823	16	6	96	39.82
	August	12	5,216	20	6	120	43.47
	August	15	2,317	21	6	126	18.39
	August	18	1,485	15	6	90	16.50
	August	20	1,573	17	6	102	15.42
Total			15,879	103	36	618	25.69
1989	August	07	6,607	22	6	132	50.05
	August	09	5,714	18	6	108	52.91
	August	15	1,867	15	6	90	20.74
	August	18	2,733	20	6	120	22.78
Total			16,921	75	24	450	37.60
1990	August	02	1,111	15	6	90	12.34
	August	02	1,946	15	6	90	21.62
	August	02	4,192	16	6	96	43.67
	August	02	2,239	17	9	153	14.63
	August	02	2,548	18	6	108	23.59
	August	02	1,780	17	6	102	17.45
Total			13,816	98	39	639	21.62
1991	July	29	177	16	8	128	1.38
	August	05	1,596	17	8	136	11.74
	August	08	2,381	17	8	136	17.51
	August	12	1,829	16	8	128	14.29
	August	14	2,461	15	8	120	20.51
	August	19	1,689	19	6	114	14.82
	August	26	4,425	16	8	128	34.57
Total			14,558	116	54	890	16.36

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YEAR	DATE		CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1992	August	03	5,106	17	8	136	37.54
	August	06	3,832	17	6	102	37.57
	August	11	3,837	19	6	114	33.66
	August	14	8,216	21	6	126	65.21
	August	17	5,685	16	6	96	59.22
	August	20	2,682	14	6	84	31.93
	August	24	2,827	24	4	84	33.65
	August	27	1,238	11	6	66	18.76
	August	31	1,153	11	6	66	17.47
Total			34,576	150	54	874	39.56
1993	August	06	6,828	15	8	120	56.90
	August	09	3,839	17	6	102	37.64
	August	14	2,681	17	6	102	26.28
	August	17	2,349	16	6	96	24.47
	August	21	3,115	17	6	102	30.54
	August	25	3,008	15	6	90	33.42
	August	28	1,798	14	6	84	21.40
	September	01	791	14	6	78	10.14
Total			24,409	125	50	774	31.54
1994	August	04	4,040	14	6	84	48.10
	August	09	5,790	17	6	102	56.76
	August	12	10,539	17	8	136	77.49
	August	15	7,190	16	8	128	56.17
	August	18	2,710	15	8	120	22.58
	August	22	1,855	12	8	96	19.32
	August	25	1,492	7	8	56	26.64
	August	27	677	6	6	36	18.81
	September	01	791	13	6	78	10.14
Total			35,084	117	64	836	41.97
1995	August	04	1,321	6	6	36	36.69
	August	08	2,816	9	6	54	52.15
	August	12	2,643	8	6	48	55.06
	August	16	4,398	12	6	72	61.08
	August	19	1,679	5	6	30	55.97
	August	22	1,750	8	6	48	36.46
	August	26	712	3	6	18	39.56
	August	29	660	3	6	18	36.67
	September	01	194	1	6	6	32.33
Total			16,173	55	54	330	49.01

Appendix B.24. Historic commercial chum salmon catches by fishing period in District 1

YEAR	DATE		CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1971	June	28-29	11,386	150	1	180	63.26
	July	01-02	8,949	111	12	1,332	6.72
	July	05-06	17,672	104	12	1,248	14.16
	July	08-09	12,603	93	12	1,116	11.29
	July	12-13	2,550	18	12	216	11.81
	July	15-16	8,000	69	12	828	9.66
	July	19-20	5,989	71	12	852	7.03
Total			67,149	616	73	5,772	11.63
1972	June	29-30	9,863	87	12	1,044	9.45
	July	03-04	19,084	115	12	1,380	13.83
	July	06-07	19,839	101	12	1,212	16.37
	July	10-11	13,972	113	12	1,356	10.30
	July	13-14	6,290	80	12	960	6.55
Total			69,048	496	60	5,952	11.60
1973	June	25-26	19,073	202	12	2,424	7.87
	June	28-29	47,258	250	24	6,000	7.88
	July	02-03	21,410	242	12	2,904	7.37
	July	05-06	31,056	212	12	2,544	12.21
	July	09-10	24,593	217	12	2,604	9.44
Total			143,390	1,123	72	16,476	8.70
1974	June	27	27,017	267	6	1,602	16.86
	July	01-02	55,356	380	12	4,560	12.14
	July	04-05	27,211	282	12	3,384	8.04
	July	08-09	50,672	376	12	4,512	11.23
	July	18	6,661	190	6	1,140	5.84
Total			166,917	1,495	48	15,198	10.98
1975	June	30	31,216	279	6	1,674	18.65
	July	03	35,525	360	6	2,160	16.45
	July	07	39,369	396	6	2,214	17.78
	July	10	39,910	304	6	1,824	21.88
	July	14	21,092	326	6	1,956	10.78
Total			167,112	1,665	30	9,828	17.00
1976	June	28	42,464	348	6	2,088	20.34
	July	01	44,024	415	6	2,490	17.68
	July	08	48,669	381	6	2,286	21.29
	July	12	21,153	377	6	2,262	9.35
	July	15	14,176	265	6	1,590	8.92
Total			170,486	1,786	30	10,716	15.91

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YEAR	DATE		CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1977	June	27	40,321	378	6	2,268	17.78
	June	30	58,884	409	6	2,454	24.00
	July	04	37,500	331	6	1,986	18.88
	July	07	56,943	368	6	2,208	25.79
	July	14	24,765	385	6	2,310	10.72
Total			218,413	1,871	30	11,226	19.46
1978	June	26	44,296	449	6	2,694	16.44
	June	29	36,793	442	6	2,652	13.87
	July	03	26,629	476	6	2,856	9.32
	July	06	48,031	485	12	5,820	8.25
	July	10	48,931	428	12	5,136	9.53
	July	13	14,935	422	6	2,532	5.90
Total			219,615	2,702	48	21,690	10.13
1979	June	2	32,295	502	6	3,012	10.72
	June	26	53,648	531	6	3,186	16.84
	June	29	48,643	542	6	3,252	14.96
	July	03	83,164	542	6	3,252	25.57
	July	10	32,434	520	6	3,120	10.40
Total			250,184	2,637	30	15,822	15.81
1980	June	23	105,825	436	6	2,616	40.45
	June	26	131,945	408	6	2,448	53.90
	July	02	122,613	383	6	2,298	53.36
	July	09	90,233	431	6	2,586	34.89
Total			450,616	1,658	24	9,948	45.30
1981	June	22	78,168	511	6	3,066	25.50
	June	25	81,431	508	6	3,048	26.72
	June	30	51,942	484	6	2,904	17.89
	July	02	58,594	459	6	2,754	21.28
	July	06	55,799	461	6	2,766	20.17
	July	09	66,138	440	6	2,640	25.05
Total			392,072	2,863	36	17,178	22.82
1982	June	28	58,528	352	4	1,408	41.57
	June	30	47,773	483	4	1,932	24.73
	July	02	38,918	434	4	1,736	22.42
	July	05	29,315	372	6	2,232	13.13
	July	08	28,942	435	6	2,610	11.09
	July	12	20,709	354	6	2,124	9.75
Total			224,185	2,430	30	12,042	18.62

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YEAR	DATE		CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1983	June	20	28,915	474	6	2,844	10.17
	June	23	24,625	450	6	2,700	9.12
	June	27	44,802	446	6	2,676	16.74
	June	30	55,209	547	6	3,282	16.82
	July	04	46,176	443	6	2,658	17.37
	July	07	36,965	496	6	2,976	12.42
	July	11	20,560	466	6	2,769	7.43
Total			257,252	3,322	42	19,905	12.92
1984	June	25	91,773	466	6	2,796	32.82
	June	28	67,120	470	6	2,820	23.80
	July	02	69,897	483	6	2,898	24.12
	July	05	54,981	426	6	2,556	21.51
	July	09	36,440	496	6	2,976	12.24
	July	12	24,269	436	6	2,616	9.28
	July	16	18,613	373	6	2,238	8.32
Total			363,093	3,150	42	18,900	19.21
1985	June	20	19,762	423	6	2,538	7.79
	June	24	42,778	488	6	2,928	14.61
	June	27	47,443	492	6	2,952	16.07
	July	01	47,471	514	6	3,084	15.39
	July	04	28,581	460	6	2,760	10.36
Total			186,035	2,377	30	14,262	13.04
1986	June	26	68,947	514	6	3,084	22.36
	June	30	60,780	576	6	3,456	17.59
	July	03	65,839	556	6	3,336	19.74
	July	07	55,983	586	6	3,516	15.92
	July	10	48,990	532	6	3,192	15.35
Total			300,539	2,764	30	16,584	18.12
1987	June	18	13,472	526	8	4,208	3.20
	June	24	54,454	607	8	4,856	11.21
	June	30	112,963	564	8	4,512	25.04
	July	03	66,783	580	6	3,480	19.19
	July	07	103,059	578	6	3,468	29.72
	July	11	72,118	597	6	3,582	20.13
	July	15	71,923	569	6	3,414	21.07
	July	20	62,044	551	6	3,306	18.77
Total			556,816	4,572	54	30,826	18.06

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YEAR	DATE		CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1988	June	16	72,219	602	8	4,816	15.00
	June	20	113,628	612	6	3,672	30.94
	June	24	119,808	644	6	3,864	31.01
	June	28	154,027	609	6	3,654	42.15
	July	02	187,916	580	6	3,480	54.00
	July	05	163,971	579	6	3,474	47.20
	July	08	138,772	604	6	3,624	38.29
	July	11	137,450	598	6	3,588	38.31
	July	14	116,930	597	6	3,582	32.64
	July	18	57,749	575	6	3,450	16.74
	July	21	39,643	539	6	3,234	12.26
	July	25	24,893	494	6	2,964	8.40
Total			1,327,006	7,033	74	43,402	30.57
1989	June	19	41,789	374	8	2,988	13.99
	June	23	65,650	277	8	2,218	29.60
	June	26	32,373	126	8	1,006	32.18
	June	30	131,629	642	8	5,129	25.66
	July	03	91,345	629	6	3,770	24.23
	July	05	85,727	553	6	3,311	25.89
	July	08	119,066	621	6	3,733	31.90
	July	11	78,053	616	6	3,676	21.23
	July	14	44,401	590	6	3,576	12.42
	July	18	26,407	437	6	2,630	10.04
Total			716,440	4,865	68	32,037	22.36
1990	June	20	30,306	630	6	3,780	8.02
	June	25	58,944	611	6	3,666	16.08
	June	29	74,911	645	6	3,870	19.36
	July	05	86,835	591	6	3,546	24.49
	July	09	91,411	589	6	3,534	25.87
	July	14	79,803	625	8	5,000	15.96
Total			422,210	3,691	38	23,396	18.05
1991	June	20	13,266	601	6	3,606	3.68
	June	24	30,632	616	6	3,696	8.29
	July	01	50,121	629	6	3,774	13.28
	July	06	40,060	589	6	3,534	11.34
	July	13	52,552	571	6	3,426	15.34
	July	18	78,797	568	6	3,408	23.12
	July	22	49,788	543	6	3,258	15.28
	July	25	30,083	533	6	3,198	9.41
Total			345,299	4,650	48	27,900	12.38
1992	June	18	32,695	567	8	4,536	7.21
	June	22	74,429	619	8	4,952	15.03
	June	25	55,114	627	8	5,016	10.99
	June	29	80,213	602	6	3,612	22.21
	July	06	84,196	587	8	4,696	17.93
Total			326,647	3,002	38	22,812	14.32

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YEAR	DATE		CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1993	June	25	34,123	622	8	4,976	6.86
1994	June	24	87,214	576	8	4,608	18.93
	July	14	43,585	496	4	1,984	21.97
	July	19	60,104	500	6	3,000	20.03
	July	23	38,149	506	6	3,036	12.57
	July	26	22,460	552	6	3,312	6.78
Total			251,512	2,630	30	15,940	15.78
1995	June	22	49,157	569	4	2,276	21.60
	June	26	93,152	568	4	2,272	41.00
	June	29	83,580	565	4	2,260	36.98
	July	03	89,427	475	4	1,900	47.07
	July	06	81,246	481	4	1,924	42.23
	July	10	86,368	494	4	1,976	43.71
	July	14	43,137	435	4	1,740	24.79
	July	18	37,294	336	6	2,016	18.50
	July	21	21,039	368	4	1,472	14.29
Total			584,400	4,291	38	17,836	32.77

Appendix B.25. Historic commercial chum salmon catches by fishing period in District 2

YEAR	DATE		CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1985	June	20	647	3	16	48	13.48
	June	24	2,411	13	5	66	36.53
	June	27	2,263	8	9	72	31.43
	July	01	2,854	2	45	90	31.71
	July	04	0	6	0	0	0.00
Total			8,175	32	75	276	29.62
1986	June	26	439	3	6	18	24.39
	June	30	1,619	13	6	78	20.76
	July	03	1,249	8	6	48	26.02
	July	07	387	2	6	12	32.25
	July	10	1,282	6	6	36	0.00
Total			4,976	32	30	192	25.92
1987	July	03	3,200	15	6	90	35.56
	July	07	4,152	22	6	132	31.45
Total			7,352	37	12	222	33.12
1988	June	24	4,232	13	6	78	54.26
	June	28	6,087	17	6	102	59.68
	July	02	8,155	19	6	114	71.54
Total			18,474	49	18	294	62.84
1989	June	30	7,353	14	9	120	61.28
	July	03	5,101	15	7	108	47.23
	July	05	3,542	17	5	84	42.17
	July	11	4,580	17	5	84	54.52
Total			20,576	63	26	396	51.96
1990	June	29	3,838	14	6	84	45.69
	July	05	4,397	15	6	90	48.86
	July	09	5,163	17	6	102	50.62
	July	14	6,999	17	8	136	51.46
Total			20,397	63	26	412	49.51
1991	July	01	3,043	17	6	102	29.83
	July	06	2,381	16	6	96	24.80
	July	13	4,384	18	6	108	40.59
	July	18	6,534	17	6	102	64.06
	July	22	7,154	19	6	114	62.75
	July	25	7,686	17	8	136	56.51
Total			31,182	104	38	658	47.39
1992	June	25	3,916	16	8	128	30.59
	June	29	2,439	15	8	120	20.33
	July	07	2,840	9	8	72	39.44
Total			9,195	40	24	320	28.73

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Appendix B.25. (page 2 of 2)

YEAR	DATE		CATCH	NUMBER OF PERMITS	HOURS FISHED	PERMIT HOURS	CATCH PER HOUR
1993	No commercial periods during the chum salmon run.						
1994	No commercial periods during the chum salmon run.						
1995	June	22	49,157	569	4	2,276	21.60
	June	26	93,152	568	4	2,272	41.00
	June	29	83,580	565	4	2,260	36.98
	July	03	89,427	475	4	1,900	47.07
	July	06	81,246	481	4	1,924	42.23
	July	10	86,368	494	4	1,976	43.71
	July	14	43,137	435	4	1,740	24.79
	July	18	37,294	336	6	2,016	18.50
	July	21	21,039	368	4	1,472	14.29
Total			584,400	4,291	38	17,836	32.77

Appendix B2.6 Historic commercial salmon catches by statistical area in District 1 of the Kuskokwim River.

Year	Statistical Area 335-11				Statistical Area 335-12				Statistical Area 335-13				Statistical Area 335-14			
	Chinook	Sockeye	Chum	Coho	Chinook	Sockeye	Chum	Coho	Chinook	Sockeye	Chum	Coho	Chinook	Sockeye	Chum	Coho
1984	20,229	45,276	385,178	332,879	9,717	1,295	10,853	272,419								
(Gillnet mesh size was unrestricted in both statistical areas 335-11 and -12 through 25 June, after that date mesh size was restricted to less than or equal to 6 inches and only statistical area 335-11 was open to commercial fishing in District 1; both statistical areas 335-11 and -12 were open for coho season.)																
1985	18,146	53,395	116,832	168,182	17,885	50,655	73,843	181,233								
1986	9,329	46,505	189,958	301,093	9,181	48,870	134,243	342,098								
1987	12,182	82,130	329,746	226,229	13,415	52,046	232,995	159,051								
(Through 1987 statistical area 335-11 was located downstream of Bethel and statistical area 335-12 was located upstream of Bethel to Mumewak Slough.)																
1988	40,355	60,168	861,433	290,872	12,540	27,127	453,012	199,036	915	2,469	47,537	18,509				
1989	29,702	28,319	498,490	233,182	10,856	11,499	203,120	192,796	1,187	1,570	25,782	35,056				
(The upriver boundry of District 1 was move upstream to Bogus Creek; the area from the old boundry to Bogus Creek was designated statistical area 335-13.)																
1990	6,195	8,992	54,434	64,169	29,195	38,113	224,148	196,827	12,017	20,959	103,220	94,842	4,731	14,349	57,737	40,878
1991	4,218	15,961	63,638	98,565	23,104	50,760	165,651	217,820	5,840	18,884	92,063	117,335	3,544	17,815	72,984	52,525
1992	7,754	18,253	70,215	124,583	23,177	36,938	178,693	271,900	9,084	22,829	43,979	159,189	4,882	11,938	34,249	75,922
1993	2,198	10,054	12,272	113,958	5,302	18,821	28,712	226,119	148	116	1,912	171,208	66	12	1,822	75,047
1994	1,589	8,071	27,823	87,428	13,078	34,512	183,687	283,129	634	4,863	55,284	226,100	300	1,918	23,232	93,739
Ave 90-94	4,381	12,266	46,878	97,740	19,091	35,428	151,658	239,159	5,541	13,730	59,292	153,735	2,605	9,206	38,005	67,682
1995	4,917	19,123	111,404	63,421	12,966	27,055	257,166	175,531	8,336	29,131	159,619	164,763	1,835	14,711	66,061	51,554
% of Ave.	112	156	238	65	68	76	170	73	150	212	2[illegible]	107	69	160	174	76

(From 1990 through present the upstream boundry of District 1 was moved down stream to Nelson Island and the district was split into four statistical areas of approximately equal length; the former statistical area 335-11 was split in to two statistical areas, 335-11 and -12, and the areas upstream of Bethel were renumbered as 335-13 and 335-14 to account for the change.)

(From 1987 to present statistical areas upstream of Bethel were typically closed to commercial fishing during the first 1 or 2 periods as a chinook salmon conservation measure.)

(From 1985 through present the entire length of District 1 was open to commercial fishing except as noted above; gillnet mesh was restricted throughout the season to sizes less than or equal to 6 inches.)

Appendix B.27. Lower Kuskokwim River, District 1, commercial effort, 1970-1995

Year	Unrestricted Mesh Season	Restricted Mesh Season	Coho Salmon Season	Total
1970	361	a	266	387
1971	418	216	83	422
1972	405	176	245	425
1973	456	341	411	530
1974	606	467	516	666
1975	472	540	533	737
1976	561	517	516	674
1977	563	522	572	653
1978	615	617	597	723
1979	591	617	613	685
1980	553	579	586	663
1981	589	613	586	679
1982	610	576	596	686
1983	544	619	577	679
1984	520	587	619	654
1985	b	598	627	654
1986	b	631	663	688
1987	b	680	694	703
1988	b	c	c	746

Number of Permits Landing Each Species

	Chinook	Sockeye	Coho	Pink	Chum	Roe	Total
1989	695	688	732	261	719	22	745
1990	724	722	714	526	736	1	744
1991	687	705	731	159	733	1	749
1992	711	706	706	520	722	0	741
1993	669	654	717	54	715	0	740
1994	651	666	682	664	700	0	706
1995	684	692	680	80	699	0	712
Ten Year Average (1985-1994)							722

a No commercial salmon season.
b No unrestricted mesh season.
c Fishery continued without interruption.

Appendix B.28. Middle Kuskokwim River, District 2, commercial effort 1970-1995.

Year	Unrestricted Mesh Season	Restricted Mesh Season	Coho Salmon Season	Total
1970	10	a	11	18
1971	22	a	a	22
1972	12	a	a	12
1973	28	a	a	28
1974	36	a	16	37
1975	38	a	a	38
1976	55	a	11	57
1977	83	54	24	105
1978	28	a	16	43
1979	41	a	20	43
1980	37	21	12	43
1981	153	11	16	153
1982	38	50	25	60
1983	14	42	9	43
1984	15	49	32	58
1985	b	17	16	23
1986	b	21	35	43
1987	b	24	20	29
1988	b	19	21	29

	Number of Permits Landing Each Species						
	Chinook	Sockeye	Coho	Pink	Chum	Roe	Total
1989	20	19	29	8	26	2	30
1990	19	19	21	13	20	0	22
1991	20	20	22	9	22	0	23
1992	18	18	22	3	21	0	22
1993	10	4	20	0	19	0	20
1994	5	3	20	7	20	0	20
1995	18	19	15	0	20	0	21
Ten Year Average (1985-1994)							26

a No commercial salmon season.
b No unrestricted mesh season.

Appendix B.29. Utilization of Kuskokwim River chinook salmon, 1960-1995.

Year	Commercial Harvest[a]	Estimated Subsistence Harvest[b]	Total Utilization	Running 10 Year Average
1960	5,969	20,361	26,330	
1961	18,918	30,910	49,828	
1962	15,341	14,642	29,983	
1963	12,016	37,246	49,262	
1964	17,149	29,017	46,166	
1965	21,989	27,143	49,132	
1966	25,545	49,606	75,151	
1967	29,986	57,875	87,861	
1968	34,278	30,230	64,508	
1969	43,997	40,138	84,135	56,236
1970	39,290	69,204	108,494	64,452
1971	40,274	42,926	83,200	67,789
1972	39,454	40,145	79,599	72,751
1973	32,838	38,526	71,364	74,961
1974	18,664	26,665	45,329	74,877
1975	21,720	47,784	69,504	76,915
1976	30,735	58,185	88,920	78,291
1977	35,830	55,577	91,407	78,646
1978	45,641	35,881	81,522	80,347
1979	38,966	55,524	94,490	81,383
1980	35,881	59,900	95,781	80,112
1981	47,663	59,669	107,332	82,525
1982	48,234	53,310	101,544	84,719
1983	33,174	52,000	85,174	86,100
1984	31,742	57,000	88,742	90,442
1985	37,889	42,277	80,166	91,508
1986	19,414	51,019	70,433	89,659
1987	36,179	67,352	103,504	90,869
1988	55,716	53,877	109,593	93,676
1989	43,217	73,035	116,252	95,852
1990	53,504	71,281	124,785	98,753
1991	37,778	80,865	118,643	99,884
1992	46,872	58,239	105,111	100,240
1993	8,735	72,119	80,854	99,808
1994	16,211	79,688	95,899	100,524
1995	30,846	72,728[c]	103,574	102,865
Ten Year Average (1985-1994)	35,552	64,975	100,524	

a District 1, 2 and 3.
b Estimated subsistence harvest expanded from villages surveyed.
c Previous 4 year average, subsistence catch not available at this time.

Appendix B.30. Utilization of Kuskokwim River chum salmon, 1960-1995.

Year	Commercial Harvest[a]	Estimated Subsistence Harvest[b]	Total Utilization	Running 10 Year Average
1960	0	301,753[c]	301,753	
1961	0	179,529[c]	179,529	
1962	0	161,849[c]	161,849	
1963	0	137,649[c]	137,649	
1964	0	190,191[c]	190.191	
1965	0	250,878[c]	250,878	
1966	0	175,735[c]	175,735	
1967	148	208,445[c]	208,593	
1968	187	275,008[c]	275,195	
1969	7,165	204,105[c]	211,270	209,264
1970	1,664	246,810[c]	248,474	203,936
1971	68,914	116,391[c]	185,305	204,514
1972	78,619	120,316[c]	198,935	208,223
1973	148,746	179,259[c]	328,005	227,258
1974	171,887	277,170[c]	449,057	253,145
1975	181,840	176,389[c]	358,229	263,880
1976	177,864	223,792[c]	401,656	286,472
1977	248,721	198,355[c]	447,076	310,320
1978	248,656	118,809[c]	367,465	319,547
1979	261,874	161,239[c]	423,113	340,732
1980	483,211	165,172[c]	648,383	380,722
1981	418,677	157,306[c]	575,983	419,790
1982	278,306	190,011[c]	468,317	446,728
1983	267,698	146,876[c]	414,574	455,385
1984	423,718	142,542[c]	566,260	467,106
1985	199,478	95,542	295,020	460,785
1986	309,213	141,931[c]	451,144	465,734
1987	574,336	69,047	643,383	485,364
1988	1,381,674	117,008	1,498,682	598,486
1989	749,182	122,086	871,268	643,301
1990	461,624	96,273	557,897	634,253
1991	431,802	81,652	513,454	628,000
1992	344,603	85,203	444,607	625,629
1993	43,337	46,295	89,632	593,135
1994	271,115	59,255	330,370	569,546
1995	605,918	80,596[d]	686,514	608,695
Ten Year Average (1985-1994)	476,636	91,429	545,472	

a District 1 and 2.
b Estimated subsistence harvest expanded from villages surveyed.
c Includes small numbers of small chinook, sockeye and coho salmon.
d The 1990 - 1994 average, with 1993 excluded due to emergency closures which made this year unlike any other.

Appendix B.31. Historic daily salmon escapement at the Tuluksak weir

Date	Chinook				Sockeye				Chum				Pink				Coho			
	1991	1992	1993	1994	1991	1992	1993	1994	1991	1992	1993	1994	1991	1992	1993	1994	1991	1992	1993	1994
6/11																				
6/12	0				0				0				0				0			
6/13	0				0				0				0				0			
6/14	0				0				0				0				0			
6/15	0				0				0				0				0			
6/16	0				0				0				0				0			
6/17	0		0		0				0				0				0			
6/18	0		0		0		0		0		1		0		0		0		0	
6/19	0		0		0		0		1		1		0		0		0		0	
6/20	0		0		0		0		0		0		0		0		0		0	
6/21	0		0		0		0		0		10		0		0		0		0	
6/22	0		1		0		0		0		2		0		0		0		0	
6/23	1		0		0		0		1		1		0		0		0		0	
6/24	3	0	0		0	0	0		0	1	7		0	0	0		0	0	0	
6/25	0	0	1		0	0	0		0	39	18		0	0	0		0	0	0	
6/26	3	1	0		0	0	0		3	80	17		0	0	0		0	0	0	
6/27	3	0	2		0	0	0		6	75	22		0	0	0		0	0	0	
6/28	4	2	1		0	0	0		2	71	42		0	0	0		0	0	0	
6/29	1	4	0	0	0	0	0	0	11	93	26	8	0	0	0	1	0	0	0	0
6/30	6	10	14	5	0	0	0	0	20	170	37	4	0	0	0	0	0	0	0	0
7/01	8	15	40	4	0	0	0	0	23	242	101	8	0	0	0	0	0	0	0	0
7/02	6	12	35	5	0	0	0	0	50	96	146	34	0	0	0	0	0	0	0	0
7/03	6	22	102	3	0	0	1	0	64	155	119	35	0	1	0	0	0	0	0	0
7/04	28	85	84	26	0	0	0	0	113	140	154	96	0	0	0	0	0	0	0	0
7/05	13	40	120	69	0	0	0	0	97	150	149	121	0	1	0	0	0	0	0	0
7/06	24	13	187	29	0	0	0	0	59	107	205	70	1	1	0	0	0	0	0	0
7/07	15	28	157	391	0	0	0	0	115	158	313	321	0	1	0	3	0	0	0	0
7/08	23	55	37	109	0	0	0	0	279	229	312	294	0	2	0	9	0	0	0	0
7/09	37	71	93	184	0	0	0	0	161	228	242	288	1	2	0	6	0	0	0	0
7/10	254	117	171	70	0	2	4	2	326	280	255	211	3	3	0	0	0	0	0	0
7/11	8	53	100	144	1	1	4	0	296	241	379	495	1	2	0	12	0	0	0	0
7/12	38	25	215	254	2	0	2	0	276	202	215	401	5	3	0	18	0	0	0	0
7/13	12	32	107	176	0	0	2	0	169	254	341	553	1	3	3	12	0	0	0	0
7/14	4	47	80	160	0	2	4	0	120	307	467	476	2	4	1	48	0	0	0	0
7/15	5	38	43	142	0	0	1	0	169	418	413	754	2	5	0	30	0	0	0	0
7/16	11	32	58	83	0	4	1	0	210	387	402	615	2	9	1	19	0	0	0	0
7/17	32	8	63	85	1	1	4	2	158	174	816	625	5	3	5	20	0	0	0	0
7/18	43	24	60	150	5	1	3	3	390	510	1010	587	54	33	3	28	0	0	0	0
7/19	27	27	64	191	1	2	5	0	298	318	745	942	65	21	2	50	0	0	0	0
7/20	15	12	61	165	3	2	7	1	234	265	534	808	59	10	3	54	0	0	0	0
7/21	14	16	47	96	2	2	8	1	219	260	563	690	28	19	4	80	0	0	0	0
7/22	10	40	54	77	1	5	0	1	232	483	377	1006	39	17	3	68	0	0	0	0
7/23	3	46	18	18	0	20	2	0	154	559	250	952	11	21	1	71	0	1	3	0
7/24	12	67	23	32	0	22	7	6	124	664	243	589	7	67	3	24	0	1	1	0
7/25	5	44	10	60	2	8	0	11	155	430	255	747	8	60	3	57	0	0	1	3
7/26	1	12	15	23	0	3	3	2	107	230	324	525	9	46	9	35	0	1	0	7
7/27	4	9	24	36	0	1	2	1	94	263	451	799	7	57	9	76	0	0	1	7
7/28	2	8	24	36	0	6	1	3	142	330	387	487	1	43	4	52	0	1	1	7
7/29	4	7	14	9	3	4	6	3	260	313	301	374	6	83	5	78	0	1	7	7
7/30	1	9	21	12	1	4	2	2	250	200	322	194	12	101	8	94	0	4	3	14
7/31	0	5	10	2	0	1	4	2	158	238	387	191	2	126	18	95	0	1	2	7
8/01	0	6	10	8	0	4	5	1	131	196	334	173	3	50	6	114	0	3	4	8
8/02	2	3	2	5	0	3	0	2	139	211	248	188	4	79	7	102	0	3	4	10
8/03	1	4	1	5	0	1	0	2	190	143	184	170	3	43	4	192	0	2	7	20
8/04	0	2	7	4	1	0	0	3	168	119	234	175	1	49	3	201	0	3	25	27

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Appendix B.31. (page 2 of 2)

Date	Chinook				Sockeye				Chum				Pink				Coho			
	1991	1992	1993	1994	1991	1992	1993	1994	1991	1992	1993	1994	1991	1992	1993	1994	1991	1992	1993	1994
8/05	0	7	4	6	3	1	2	3	159	137	213	202	5	94	1	186	1	20	22	33
8/06	1	4	9	8	0	2	1	3	208	135	194	130	7	104	7	206	2	28	21	30
8/07	0	3	13	2	0	2	1	1	153	70	193	89	1	82	10	193	4	21	66	14
8/08	0	2	3	5	1	0	1	1	92	117	148	54	6	100	4	181	0	11	50	34
8/09	0	1	5	2	0	0	0	2	107	103	83	53	5	145	4	92	3	16	111	2
8/10	0	0	1	1	0	2	1	2	118	80	63	63	3	98	1	115	4	17	83	32
8/11	0	2	5	2	0	1	1	6	99	97	54	37	3	92	3	108	4	42	129	44
8/12	1	0	1	0	1	0	0	0	73	82	48	7	3	201	5	27	16	81	42	12
8/13	3	0	0	2	1	0	0	1	78	32	53	23	0	65	6	150	19	44	42	42
8/14	1	1	0	1	1	0	0	0	61	33	50	22	1	86	4	105	20	121	149	29
8/15	1	1	0	2	0	0	0	2	38	28	31	33	0	46	4	84	2	186	117	70
8/16	0	0	0	1	0	1	1	5	53	16	23	22	1	28	2	80	25	43	46	102
8/17	0	0	0	0	0	2	0	0	55	30	15	19	2	39	4	51	26	80	67	429
8/18	0	1	1	1	0	1	0	0	31	22	30	18	3	47	5	16	55	93	105	122
8/19	0	0	0	0	0	1	0	3	29	20	27	7	0	64	5	12	66	154	137	122
8/20	0	0	0	1	1	6	0	0	27	22	55	9	0	16	3	11	70	64	166	101
8/21	1	2	0	1	0	1	0	0	16	25	26	2	1	36	8	8	89	367	358	124
8/22	0	1	0	0	0	2	0	1	9	13	9	3	0	15	2	9	42	529	342	225
8/23	0	0	0	0	0	0	0	1	17	18	16	6	0	7	8	12	59	318	199	601
8/24	0	0	0	0	0	0	0	1	11	4	9	5	0	6	1	11	52	101	143	363
8/25	0	1	0	0	1	1	0	0	13	9	22	1	1	8	4	0	380	420	211	807
8/26	0	0	0	0*	0	0	0	0*	7	8	24	0	0	3	3	1*	139	246	396	292*
8/27	0	0	0	0*	0	0	1	0*	6	15	19	0	0	21	2	0*	79	647	504	292*
8/28	0	1	0	0*	0	0	1	0*	2	9	8	0	0	26	2	0*	0	902	221	292*
8/29	0	0	0	0*	0	1	0	0*	7	6	6	0	0	10	1	0*	1	448	227	292*
8/30	0	2	0	0*	0	0	0	0*	11	1	3	0	0	10	2	0*	135	557	406	292*
8/31	0	0	0	0*	0	0	0	0*	6	1	2	0	0	4	1	0*	150	161	617	292*
9/01	0	2	0	0*	0	3	0	0*	0	2	6	3	2	4	0	6*	149	174	545	292*
9/02	0	1	0	0	0	0	0	0	6	8	2	3	0	14	2	9	165	922	620	107
9/03	0	0	0	0	0	1	0	0	1	2	2	1	0	8	1	8	193	199	1274	101
9/04	0	0	0	1	0	1	0	0	4	0	1	8	0	5	0	13	356	105	247	183
9/05	0	0	0	0	0	0	0	0	2	3	2	3	0	7	0	5	389	236	134	266
9/06	0	0	0	0	0	1	0	0	1	2	0	2	0	7	0	7	898	84	70	212
9/07	0	0	0	0	0	0	0	0	0	1	2	4	0	1	0	8	312	18	171	109
9/08	0	0	0	0	0	0	0	0	0	1	1	5	0	3	0	16	180	1	70	273
9/09	0	0	0	0*	0	0	0	0*	0	2	1	0	0	2	0	0*	157	8	90	188*
9/10	0	0	0	0*	1	0	0	0*	0	0	1	2	3	1	0	0*	98	16	71	188*

* = estimated passage

Appendix B.32. Historic percent passage of salmon escapement at the Tuluksak weir

Date	Chinook				Sockeye				Chum				Pink				Coho			
	1991	1992	1993	1994	1991	1992	1993	1994	1991	1992	1993	1994	1991	1992	1993	1994	1991	1992	1993	1994
6/11																				
6/12																				
6/13	0				0				0				0				0			
6/14	0				0				0				0				0			
6/15	0				0				0				0				0			
6/16	0				0				0				0				0			
6/17	0				0				0				0				0			
6/18	0		0		0		0		0		0		0		0		0		0	
6/19	0		0		0		0		0		0		0		0		0		0	
6/20	0		0		0		0		0		0		0		0		0		0	
6/21	0		0		0		0		0		0		0		0		0		0	
6/22	0		0		0		0		0		0		0		0		0		0	
6/23	0		0		0		0		0		0		0		0		0		0	
6/24	1	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
6/25	1	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
6/26	1	0	0		0	0	0		0	1	0		0	0	0		0	0	0	
6/27	1	0	0		0	0	0		0	2	1		0	0	0		0	0	0	
6/28	2	0	0		0	0	0		0	2	1		0	0	0		0	0	0	
6/29	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
6/30	1	1	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
7/01	2	3	2	0	0	0	0	0	1	5	1	0	0	0	0	0	0	0	0	0
7/02	3	4	4	0	0	0	0	0	1	6	2	0	0	0	0	0	0	0	0	0
7/03	4	6	9	1	0	0	1	0	2	7	3	1	0	0	0	0	0	0	0	0
7/04	8	14	12	1	0	0	1	0	4	8	4	1	0	0	0	0	0	0	0	0
7/05	10	17	18	4	0	0	1	0	5	10	5	2	0	0	0	0	0	0	0	0
7/06	13	19	26	5	0	0	1	0	6	11	7	2	0	0	0	0	0	0	0	0
7/07	16	21	33	18	0	0	1	0	7	12	9	4	0	0	0	0	0	0	0	0
7/08	19	26	35	22	0	0	1	0	11	14	11	6	0	0	0	0	0	0	0	0
7/09	24	33	39	28	0	0	1	0	13	16	13	8	1	0	0	1	0	0	0	0
7/10	62	44	47	31	0	2	6	3	17	19	15	9	1	0	0	1	0	0	0	0
7/11	63	49	52	36	3	2	10	3	21	21	18	13	2	1	0	1	0	0	0	0
7/12	68	51	61	45	9	2	13	3	25	23	19	15	3	1	0	1	0	0	0	0
7/13	70	54	66	51	9	2	15	3	27	25	22	19	3	1	1	2	0	0	0	0
7/14	71	58	70	56	9	4	19	3	28	28	25	22	4	1	2	3	0	0	0	0
7/15	71	62	72	61	9	4	20	3	31	32	28	26	4	1	2	4	0	0	0	0
7/16	73	65	74	63	9	7	22	3	33	35	31	30	5	1	2	5	0	0	0	0
7/17	78	65	77	67	12	8	26	5	35	37	37	34	6	2	5	5	0	0	0	0
7/18	84	68	80	72	27	9	30	9	41	42	45	38	20	3	6	6	0	0	0	0
7/19	88	70	83	79	30	10	35	9	44	45	50	44	37	4	7	8	0	0	0	0
7/20	90	71	85	84	39	12	43	10	47	47	54	49	52	4	9	9	0	0	0	0
7/21	92	73	88	88	45	13	52	11	50	49	58	53	59	5	10	12	0	0	0	0
7/22	94	76	90	90	48	17	52	13	53	54	61	60	69	6	12	14	0	0	0	0
7/23	94	81	91	91	48	33	55	13	55	59	63	66	72	7	12	16	0	0	0	0
7/24	96	87	92	92	48	50	63	20	57	65	64	69	74	9	14	16	0	0	0	0
7/25	97	91	92	94	55	56	63	34	59	69	66	74	76	12	15	18	0	0	0	0
7/26	97	92	93	95	55	58	66	36	60	71	69	77	78	14	20	19	0	0	0	0
7/27	97	93	94	96	55	59	68	38	62	73	72	82	80	16	24	21	0	0	0	0
7/28	98	94	95	97	55	64	69	41	64	76	75	85	80	18	26	23	0	0	0	0
7/29	98	94	96	98	64	67	76	45	67	79	77	88	81	21	28	25	0	0	0	0

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Appendix B.32. (Page 2 of 2)

Date	Chinook				Sockeye				Chum				Pink				Coho			
	1991	1992	1993	1994	1991	1992	1993	1994	1991	1992	1993	1994	1991	1992	1993	1994	1991	1992	1993	1994
7/30	98	95	97	98	67	70	78	48	70	81	79	89	85	25	32	28	0	0	0	1
7/31	98	96	97	98	67	71	83	50	72	83	82	90	85	30	40	31	0	0	0	1
8/01	98	96	98	98	67	74	89	51	74	85	85	91	86	32	43	34	0	0	0	1
8/02	99	96	98	98	67	76	89	54	76	87	86	93	87	35	47	37	0	0	0	1
8/03	99	97	98	99	67	77	89	56	78	88	88	94	88	37	49	43	0	0	0	1
8/04	99	97	98	99	70	77	89	60	80	89	89	95	88	39	50	49	0	0	1	2
8/05	99	98	98	99	79	78	91	64	82	91	91	96	89	43	50	54	0	1	1	2
8/06	99	98	99	99	79	79	92	68	85	92	92	97	91	47	54	60	0	1	1	3
8/07	99	98	99	99	79	81	93	69	87	93	94	97	91	50	59	66	0	1	2	3
8/08	99	99	99	99	82	81	94	70	88	94	95	98	93	54	60	71	0	1	3	3
8/09	99	99	100	100	82	81	94	73	90	95	96	98	94	60	62	74	0	2	4	3
8/10	99	99	100	100	82	82	95	75	91	95	96	98	95	64	63	78	0	2	5	4
8/11	99	99	100	100	82	83	97	83	93	96	96	99	96	68	64	81	0	2	6	4
8/12	99	99	100	100	85	83	97	83	94	97	97	99	96	76	67	82	1	3	7	4
8/13	100	99	100	100	88	83	97	84	95	97	97	99	96	79	70	86	1	4	8	5
8/14	100	99	100	100	91	83	97	84	95	98	97	99	97	82	71	89	2	6	9	5
8/15	100	99	100	100	91	83	97	86	96	98	98	99	97	84	73	92	2	8	11	6
8/16	100	99	100	100	91	84	98	93	97	98	98	99	97	85	74	94	2	9	11	8
8/17	100	99	100	100	91	85	98	93	97	98	98	99	97	87	76	96	3	10	12	14
8/18	100	99	100	100	91	86	98	93	98	98	98	100	98	89	79	96	4	11	13	16
8/19	100	99	100	100	91	87	98	96	98	99	98	100	98	91	81	96	6	13	15	17
8/20	100	99	100	100	94	91	98	96	98	99	99	100	98	92	82	97	7	14	17	19
8/21	100	99	100	100	94	92	98	96	99	99	99	100	98	93	86	97	9	19	21	20
8/22	100	99	100	100	94	94	98	98	99	99	99	100	98	94	87	97	10	26	25	24
8/23	100	99	100	100	94	94	98	99	99	99	99	100	98	94	91	98	12	30	28	32
8/24	100	99	100	100	94	94	98	100	99	99	99	100	98	95	91	98	13	31	29	37
8/25	100	99	100	100	97	95	98	100	99	99	99	100	99	95	93	98	22	37	32	48
8/26	100	99	100	100	97	95	98	100	99	100	100	100	99	95	95	98	25	40	37	53
8/27	100	99	100	100	97	95	99	100	99	100	100	100	99	96	96	98	27	49	43	57
8/28	100	100	100	100	97	95	100	100	100	100	100	100	99	97	97	98	27	61	45	61
8/29	100	100	100	100	97	95	100	100	100	100	100	100	99	97	97	98	27	67	48	65
8/30	100	100	100	100	97	95	100	100	100	100	100	100	99	98	98	98	30	74	53	69
8/31	100	100	100	100	97	95	100	100	100	100	100	100	99	98	99	98	33	76	60	73
9/01	100	100	100	100	97	98	100	100	100	100	100	100	99	98	99	98	37	79	67	77
9/02	100	100	100	100	97	98	100	100	100	100	100	100	99	99	100	98	40	91	74	79
9/03	100	100	100	100	97	98	100	100	100	100	100	100	99	99	100	99	45	94	90	80
9/04	100	100	100	100	97	99	100	100	100	100	100	100	99	99	100	99	53	95	93	83
9/05	100	100	100	100	97	99	100	100	100	100	100	100	99	99	100	99	62	98	94	86
9/06	100	100	100	100	97	100	100	100	100	100	100	100	99	100	100	99	83	99	95	89
9/07	100	100	100	100	97	100	100	100	100	100	100	100	99	100	100	100	90	100	97	91
9/08	100	100	100	100	97	100	100	100	100	100	100	100	99	100	100	100	94	100	98	95
9/09	100	100	100	100	97	100	100	100	100	100	100	100	99	100	100	100	98	100	99	97
9/10	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Appendix B.33. Historical cumulative estimated escapement of chinook salmon at the Kogrukluk weir for years with adequate data.

	Cumulative Counts														
Date	1976	1978	1979	1981	1982	1984	1985	1986	1988	1990	1991	1992	1993	1994	1995
15-Jun															
16-Jun															
17-Jun				0											
18-Jun		0		1	0									1	
19-Jun		1		3	1	1				1			1	3	2
20-Jun		3	0	8	3	1				1	1	1	2	7	4
21-Jun		6	1	18	8	1				3	2	2	4	16	6
22-Jun		11	3	38	23	1				6	5	4	8	35	12
23-Jun		19	7	78	53	3				13	11	9	17	73	29
24-Jun		29	15	158	98	4	0		0	25	20	17	31	144	52
25-Jun		49	30	318	163	6	1		3	47	37	31	57	290	95
26-Jun		99	60	418	253	7	3		8	72	56	47	87	381	146
27-Jun		179	105	738	373	11	6		18	121	93	79	146	672	243
28-Jun		279	130	1072	523	68	11		48	127	145	123	227	976	380
29-Jun	0	391	205	1605	708	155	21	0	98	150	223	190	349	1461	588
30-Jun	5	456	290	2167	938	200	41	3	178	269	303	259	474	1973	794
01-Jul	21	798	420	2784	1228	515	61	28	228	318	462	331	724	2535	1211
02-Jul	23	916	576	3688	1583	819	111	125	338	781	649	586	1017	2958	1727
03-Jul	41	1401	683	4567	2003	1073	231	192	553	1142	872	973	1623	3226	2040
04-Jul	56	2205	941	5307	2523	1212	276	283	828	1321	1102	1136	1985	3684	4064
05-Jul	126	2834	1312	6308	3173	1309	311	344	1177	1748	1252	1371	2642	4814	5526
06-Jul	169	3179	1694	7388	3953	1547	333	395	1642	2201	1420	1445	3350	5924	7305
07-Jul	235	3432	2003	8603	4793	1721	393	455	2338	2456	1606	1590	4226	6861	8611
08-Jul	392	4051	2393	9376	5668	1865	499	585	2921	3298	1810	1728	4941	7553	9744
09-Jul	704	4935	2736	10423	6628	2030	618	662	3492	3449	2432	2545	5821	8798	10423
10-Jul	1165	5606	3355	11406	7237	2053	1034	1144	4176	4677	2949	2870	6825	9573	12249
11-Jul	1512	6307	3817	12155	7702	2157	1200	1426	4880	5205	3230	3301	7508	10255	13046
12-Jul	1786	6939	4577	12681	8082	2442	1445	1535	5538	6206	3671	3786	8161	10734	14760
13-Jul	2502	7536	5509	13172	8431	2704	1750	1992	6030	6317	4359	3924	8849	11181	15524
14-Jul	2814	8149	6491	13630	8802	3028	2019	2273	6625	6704	4876	4229	9275	11598	15899
15-Jul	3065	8822	7039	14190	8961	3359	2165	2577	7075	7759	5196	4637	9642	12108	16145
16-Jul	3312	9549	7739	14642	9385	3635	2493	2712	7386	8406	5613	4802	10051	12520	16919
17-Jul	3599	10201	8409	15021	9719	3860	2668	2906	7536	8624	6128	5128	10385	12865	17608
18-Jul	4023	10689	8873	15343	9950	3965	2967	3205	7639	9032	6506	5408	10796	13463	17981
19-Jul	4306	11250	9228	15641	10115	4064	3226	3464	7763	9092	6834	5603	10958	13734	18456
20-Jul	4400	11725	9562	15884	10307	4201	3403	3661	7810	9189	7125	5747	11230	13955	18730
21-Jul	4792	11996	9907	16071	10409	4325	3554	3812	7917	9386	7283	5914	11430	14126	18996
22-Jul	4982	12298	10085	16254	10456	4436	3626	3904	8025	9487	7452	6079	11489	14292	19358
23-Jul	5153	12501	10216	16372	10537	4525	3730	4008	8109	9615	7498	6238	11590	14400	19509
24-Jul	5235	12800	10524	16450	10591	4594	3900	4223	8165	9672	7544	6341	11678	14471	19643
25-Jul	5322	12980	10640	16492	10652	4630	4016	4339	8211	9709	7589	6425	11730	14509	19863
26-Jul	5378	13094	10780	16533	10691	4674	4146	4479	8249	9764	7628	6458	11806	14546	20022
27-Jul	5428	13186	10846	16564	10743	4704	4212	4545	8276	9799	7658	6484	11883	14575	20157
28-Jul	5448	13258	10944	16600	10777	4741	4290	4643	8292	9843	7696	6511	12004	14622	20224
29-Jul	5476	13322	10999	16631	10797	4773	4345	4698	8319	9913	7730	6541	12080	14763	20291
30-Jul	5500	13381	11037	16655	10829	4799	4373	4736	8350	9960	7742	6561	12110	14871	20367
31-Jul	5518	13433	11070		10853	4821	4406	4769	8373	10016	7760	6582	12129	14957	20394
01-Aug	5533	13467	11112		10869	4837	4441	4811	8390	10061	7771	6599	12143	15015	20418
02-Aug	5545	13487	11147		10887	4859	4476	4846	8400	10103	7796	6624	12150	15042	20443
03-Aug	5554	13519	11173		10914	4877	4500	4872	8404	10132	7812	6634	12166	15067	20490
04-Aug	5560	13543	11180		10934	4889	4507	4879	8416	10143	7820	6643	12191	15089	20511
05-Aug	5563	13559	11195		10945	4893	4521	4894	8422	10157	7823	6653	12214	15110	20522
06-Aug	5566	13577	11209		10953	4896	4535	4908	8429	10168	7828	6661	12234	15128	20532
07-Aug	5567	13604	11212		10963	4900	4537	4911	8435	10174	7833	6674	12263	15144	20536
08-Aug	5568	13624	11230		10968	4908	4555	4929	8445	10183	7833	6687	12284	15163	20551
09-Aug	5570	13635	11239		10972	4911	4563	4938	8448	10190	7833	6702	12295	15165	20561
10-Aug	5575	13643	11258		10975	4912	4582	4957	8449	10192	7834	6709	12310	15171	20571
11-Aug	5577	13653	11272		10980	4915	4595	4971	8454	10202	7837	6716	12315	15177	20581
12-Aug	5578	13658	11284		10986	4916	4607	4983	8464	10206	7838	6723	12326	15183	20596
13-Aug	5579	13662	11290		10991	4921	4612	4989	8466	10208	7840	6731	12332	15188	20602
14-Aug	5579	13665	11296		10992	4922	4618	4995	8469	10209	7842	6732		15197	20606
15-Aug		13666	11298		10992	4923	4619	4997	8471	10212	7842	6737		15204	20608
16-Aug		13666	11298		10993	4924	4619	4997	8474	10214	7843	6746		15208	20609
17-Aug		13667	11304		10993	4925	4619	5003	8479	10214	7845	6748		15211	20612
18-Aug		13667	11307			4925	4619	5006	8483	10215	7845	6752		15211	20614
19-Aug			11316			4927	4619	5015	8486	10216	7846	6754		15216	20614
20-Aug			11323			4927	4619	5022	8489	10216	7847	6755		15217	20616
21-Aug			11327			4928	4619	5024	8492	10217	7847	6755		15220	20619
22-Aug			11332				4619	5031	8495	10217	7848			15221	20620
23-Aug			11335				4619	5035	8497	10218	7848			15221	20621
24-Aug			11337				4619	5036	8497	10218	7848			15221	20621
25-Aug			11338				4619	5036	8498	10218	7849			15221	20621
26-Aug			11338				4619	5036	8499	10218	7850			15221	20621
27-Aug							4619	5037	8500	10218	7850			15221	20624
28-Aug							4619	5038	8504	10218	7850			15221	20626
29-Aug							4619	5038	8505	10218	7850			15227	20630

Appendix B.34. Historical cumulative estimated escapement of sockeye salmon at the Kogrukluk Weir for years with adequate data.

	Cumulative Counts															
Date	1976	1978	1979	1981	1982	1984	1985	1986	1988	1989	1990	1991	1992	1993	1994	199
19-Jun						0										
20-Jun						0										
21-Jun				1		1								1		0
22-Jun				10		1					1	1		3	1	1
23-Jun				29		1				1	2	3	1	6	3	2
24-Jun				79		4				3	5	10	4	17	8	6
25-Jun				155		6			2	7	10	19	8	34	16	13
26-Jun				246	1	7			3	11	15	29	13	52	25	20
27-Jun				375	10	9			11	17	24	47	21	85	41	32
28-Jun		0		597	29	12			15	27	24	75	34	134	63	49
29-Jun	1	0		1137	79	22		2	25	52	24	145	66	260	119	92
30-Jun	1	1		1842	155	34		3	57	87	29	245	112	437	200	155
01-Jul	2	12	0	2816	246	41		11	74	135	35	381	145	679	305	236
02-Jul	6	48	1	4068	375	126	2	15	86	216	112	610	233	1089	312	383
03-Jul	13	103	9	5008	597	250	3	25	104	307	267	868	414	1209	320	414
04-Jul	15	175	28	5632	1137	307	11	57	150	406	374	1148	545	1707	330	650
05-Jul	32	233	42	6430	1842	358	15	74	225	515	645	1202	650	2231	354	1033
06-Jul	59	299	51	7271	2816	639	24	86	375	686	1105	1282	727	2879	406	1570
07-Jul	125	330	126	7866	4068	817	43	104	658	759	1406	1388	860	4005	526	2028
08-Jul	258	431	250	8502	5568	1031	93	150	1134	855	2040	1520	921	5376	666	2458
09-Jul	462	536	311	9204	7593	1190	169	223	1639	1006	2244	2277	1066	7533	871	2959
10-Jul	669	679	376	9639	9343	1214	260	403	2058	1408	3071	3036	1191	10050	997	3667
11-Jul	789	795	460	10286	10091	1276	389	767	2565	2106	3508	3408	1546	11949	1792	4473
12-Jul	927	850	644	10778	10921	1571	610	973	2930	2550	4125	3997	1812	13745	2576	4810
13-Jul	1157	922	959	11199	11742	1744	844	1373	3169	3077	4241	5033	2037	15563	3424	5205
14-Jul	1269	1048	1228	11583	12317	2083	989	1873	3442	3283	4763	6020	2431	17065	4272	5417
15-Jul	1370	1115	1448	12052	12619	2521	1167	2371	3718	3653	5500	6762	2847	18887	5136	5779
16-Jul	1513	1178	1687	12647	13305	2740	1375	2685	3897	3976	5963	7540	3253	20915	5906	6400
17-Jul	1615	1252	1861	13068	14086	2932	1560	3065	4006	4269	6372	8354	3492	22955	6591	7094
18-Jul	1762	1300	2007	13498	14457	3016	1733	3240	4089	4479	6801	9282	3958	24666	7714	7463
19-Jul	1841	1345	2089	13884	14900	3079	1992	3345	4135	4624	6891	10230	4376	25498	8146	7957
20-Jul	1893	1396	2179	14270	15530	3200	2168	3450	4172	4768	7048	11159	4648	26443	8568	8220
21-Jul	2059	1420	2262	14865	15845	3369	2375	3575	4212	4940	7231	11913	4893	27222	9026	8713
22-Jul	2154	1469	2310	15391	15985	3557	2502	3672	4241	5074	7424	12672	5031	27442	9378	9185
23-Jul	2197	1509	2357	15756	16134	3646	2617	3740	4274	5167	7561	13289	5349	27728	9664	94[illegible]
24-Jul	2230	1550	2432	16101	16321	3729	2844	3823	4302	5280	7634	13891	5610	27930	9970	96[illegible]
25-Jul	2264	1582	2464	16398	16506	3767	3086	3889	4311	5370	7691	14477	5852	28121	10226	989
26-Jul	2269	1597	2482	16655	16647	3827	3246	3933	4320	5431	7774	14972	6004	28335	10410	10028
27-Jul	2276	1605	2496	16942	16770	3877	3410	3974	4324	5487	7795	15394	6249	28565	10587	10286
28-Jul	2285	1620	2528	17184	16859	3934	3604	4023	4334	5554	7868	15650	6485	28747	11037	10378
29-Jul	2288	1631	2553	17373	16945	3966	3761	4060	4340	5604	7985	15831	6767	28909	11702	10481
30-Jul	2296	1639	2576	17514	17022	3984	3892	4091	4349	5647	8066	15959	6979	29051	12392	10632
31-Jul	2302	1646	2596	17624	17089	3998	3985	4115	4361	5680	8126	16095	7128	29138	12944	10688
01-Aug	2304	1648	2604	17704	17145	4030	4093	4137	4369	5710	8185	16199	7228	29189	13371	10730
02-Aug	2307	1651	2606	17771	17171	4055	4150	4151	4373	5729	8249	16282	7380	29218	13597	10800
03-Aug	2310	1654	2609	17836	17200	4078	4193	4163	4374	5745	8294	16330	7442	29237	13832	10854
04-Aug	2313	1657	2612	17877	17223	4098	4234	4174	4377	5760	8311	16366	7461	29253	13868	10892
05-Aug	2314	1658	2615	17895	17240	4106	4261	4180	4380	5768	8339	16390	7472	29269	13891	10911
06-Aug	2320	1664	2616	17922	17252	4108	4288	4188	4382	5778	8351	16404	7485	29289	13915	10920
07-Aug	2323	1667	2622	17935	17260	4111	4299	4196	4383	5785	8365	16414	7499	29313	13990	10928
08-Aug	2323	1667	2625	17950	17269	4114	4326	4198	4383	5791	8378	16417	7502	29330	14052	10945
09-Aug	2324	1668	2625	17973	17275	4117	4334	4201	4384	5795	8383	16420	7508	29344	14082	10955
10-Aug	2325	1669	2626	17993	17280	4118	4341	4204	4387	5798	8384	16424	7514	29346	14114	10962
11-Aug	2325	1669	2627	18001	17285	4124	4342	4207	4388	5800	8388	16430	7518	29348	14137	10966
12-Aug	2325	1669	2627	18013	17288	4127	4355	4210	4389	5803	8394	16439	7525	29354	14150	10972
13-Aug	2325	1669	2627	18023	17288	4127	4357	4212	4390	5804	8398	16443	7531	29358	14154	10975
14-Aug	2326	1670	2627	18033	17292	4128	4358	4212	4391	5806	8401	16443	7535		14163	10987
15-Aug	2326	1670	2628	18038	17296	4129	4359	4212	4391	5807	8403	16444	7535		14164	10987
16-Aug			2628	18044	17297	4129	4359	4212	4391	5807	8403	16445	7535		14171	10987
17-Aug				18051	17297	4129	4359	4212	4391	5807	8406	16446	7539		14175	10988
18-Aug				18052		4129	4359	4212	4393	5808	8406	16450	7539		14177	10989
19-Aug				18054		4130	4359	4212	4394	5808	8406	16450	7539		14178	10991
20-Aug				18056		4130	4359	4212	4394	5808	8406	16451	7539		14179	10992
21-Aug				18056		4131	4359	4213	4395	5808	8406	16451	7540		14180	10993
22-Aug				18058		4131	4359	4215	4396	5809	8406	16451			14181	10993
23-Aug				18058		4131	4359	4217	4396	5810	8406	16451			14182	10993
24-Aug				18061		4131	4359	4220	4396	5811	8406	16452			14183	10993
25-Aug				18061		4132	4359	4220	4396		8406	16452			14185	10993
26-Aug				18062		4133	4359	4221	4396		8406	16454			14186	10993
27-Aug				18063		4133	4359	4223	4397		8406	16454			14188	10993
28-Aug				18064		4133	4359	4224	4397		8406	16454			14188	109[illegible]
29-Aug				18066		4133	4359	4224	4397		8406	16455			14192	10[illegible]

Appendix B.35. Historical cumulative estimated escapement of coho salmon at the Kogrukluk weir for years with adequate data.

	Cumulative Counts									
Date	1981	1982	1983	1984	1985	1987	1988	1991	1994	1995
20-Jul	0	0		0	0		1	0		3
21-Jul	0	0		0	0		1	0		3
22-Jul	0	0		0	0		1	0		4
23-Jul	0	0		0	0		1	0		5
24-Jul	0	0		1	0		2	0		6
25-Jul	0	0		5	0		2	0		8
26-Jul	0	0		7	0		2	0		9
27-Jul	0	0		8	0		2	0		9
28-Jul	0	0		9	0		2	0	12	11
29-Jul	0	0		13	0		2	0	34	11
30-Jul	0	0		15	0		2	0	63	12
31-Jul	0	0		18	0		2	0	86	12
01-Aug	0	0		29	6		2	0	137	13
02-Aug	0	5		43	10		2	0	167	14
03-Aug	0	11		62	17	1	2	1	217	16
04-Aug	2	26		94	24	1	2	2	276	18
05-Aug	7	43		112	38	2	2	11	344	19
06-Aug	12	59		165	46	2	6	14	421	19
07-Aug	14	101	2	264	64	4	12	19	507	20
08-Aug	24	137	7	308	113	9	23	21	630	22
09-Aug	50	192	12	427	126	12	38	22	733	29
10-Aug	70	234	18	479	220	20	63	27	841	97
11-Aug	92	340	33	701	279	38	101	40	1003	171
12-Aug	154	431	50	816	397	67	181	74	1218	312
13-Aug	216	489	68	1040	465	102	267	99	1427	506
14-Aug	349	567	103	1187	547	141	313	114	1723	668
15-Aug	503	762	159	1366	631	202	338	122	2162	889
16-Aug	644	818	177	1510	855	288	443	174	2578	1130
17-Aug	753	1329	203	1596	1002	428	600	359	3159	1210
18-Aug	863	1794	249	2854	1181	671	858	560	3996	1537
19-Aug	1159	2165	273	3849	1325	870	1060	723	4757	2058
20-Aug	1473	2448	284	4386	1411	1168	1350	829	5586	2727
21-Aug	1660	2857	287	4707	1911	1580	1702	903	6183	3582
22-Aug	1845	2999	354	6119	2361	1866	2085	952	6652	4400
23-Aug	2042	3227	506	7849	2661	2184	2408	1063	7091	5331
24-Aug	2297	3874	606	9039	2982	2711	2797	1079	7932	6233
25-Aug	2713	4742	641	11070	3213	3369	3055	1514	10028	7235
26-Aug	3031	5546	647	13106	3413	4145	3953	1642	12971	8351
27-Aug	3400	6492	674	13837	3886	4907	4331	1760	15684	9549
28-Aug	3667	7312	944	14421	4776	5721	4949	1794	17571	11511
29-Aug	3811	7944	993	14791	5593	6872	5502	1818	18578	12774
30-Aug	4113	9432	1021	15479	6087	8013	6272	1823	18974	14559
31-Aug	4435	11112	1182	16386	6946	9837	6766	1834	19816	15725
01-Sep	4731	12649	1762	16999	8326	10845	7096	1838	21763	16829
02-Sep	5059	14554	1789	17820	9597	12618	7465	2097	23163	17931
03-Sep	5355	16534	2258	18533	10163	13778	7703	3044	24318	18680
04-Sep	5967	17819	2621	19386	10720	16728	7940	3507	24961	19583
05-Sep	6502	19600	2721	20173	11351	17781	8111	3819	25591	20213
06-Sep	7157	24613	3277	20915	11881	18743	8281	4178	26016	20799
07-Sep	7663	27832	3482	21258	12734	19299	8434	4648	26400	21694
08-Sep	8184	29997	3593	22365	13552	19504	8879	5120	26927	22598
09-Sep	8751	31457	3744	23446	14141	19615	9058	5593	27363	23575
10-Sep	9086	32683	4602	23493	14480	19766	9492	6137	27719	24274
11-Sep	9369	33604	4962	24323	14635	20624	10458	6379	28233	24525
12-Sep	9615	34326	4977	24686	14943	20984	10894	6516	28800	25308
13-Sep	9854	35074	5152	24910	15176	20999	11151	6583	29882	25834
14-Sep	10048	35582	6039	25267	15435	21174	11303	6808	30950	26198
15-Sep	10205	36006	6173	25304	15676	21195	11415	7034	31687	26359
16-Sep	10373	36411	6324	25479	15816	21256	11536	7149	32288	26555
17-Sep	10505	36680	6748	26366	15929	21379	11722	7357	32703	26796
18-Sep	10654	36869	7153	26500	16013	21454	12127	7972	33410	27070
19-Sep	10772	36994	7422	26651	16151	21605	12396	8120	33764	27170
20-Sep	10910	37251	7611	27075	16241	21858	12585	8283	34112	27384
21-Sep	11013	37355	7736	27213	16301	21968	12710	8593	34255	27640
22-Sep	11127	37500	7993	27303	16339	22021	12967	8899	34392	27676
23-Sep	11205	37547	8107	27363	16348	22196	13081	9111	34411	27748
24-Sep	11249	37592	8242	27401	16362	22309	13216	9283	34414	27771
25-Sep	11279	37635	8289	27410	16382	22393	13263	9402	34427	27800
26-Sep	11308	37664	8334	27424	16401	22531	13308	9604	34695	27802
27-Sep	11334	37690	8377	27444	16419	22621	13351	9705		27805
28-Sep	11347	37703	8406	27463	16434	22681	13380	9804		27811
29-Sep	11361	37717	8432	27481	16441	22719	13406	9845		27815
30-Sep	11381	37737	8445	27496		22728	13419	9884		27819
01-Oct	11400	37756	8459	27503		22742	13433	9889		27824
02-Oct	11418	37774	8479	27529		22762	13453	9890		27833
03-Oct	11433	37789	8498	27542		22781	13472	9894		27847
04-Oct	11440	37796	8516	27556		22799	13490	9964		27861
05-Oct	11450		8531	27576		22814	13505			
06-Oct	11455		8538	27595		22821	13512			

Appendix B.36. Historical cumulative estimated escapement of chum salmon at the Kogrukluk Weir for years with adequate data.

Date	Cumulative Counts															
	1976	1978	1979	1981	1982	1984	1985	1986	1988	1989	1990	1991	1992	1993	1994	1995
15-Jun				2												
16-Jun			2	2												
17-Jun		2	2	2	2				2	1			1	1	1	
18-Jun		2	2	11	2				2	2	1		2	1	2	
19-Jun		11	2	14	2	2			2	3	2		3	3	4	3
20-Jun		14	11	27	11	2			11	8	5		8	7	10	3
21-Jun		27	14	66	14	2			14	13	9		13	11	17	6
22-Jun		66	27	108	27	11			27	26	18		24	22	33	16
23-Jun	2	108	66	151	66	14	2	2	66	52	35	3	46	42	66	25
24-Jun	2	151	108	189	108	27	2	2	108	78	53	3	68	63	98	41
25-Jun	2	189	151	411	151	66	2	2	151	121	82	3	104	97	151	72
26-Jun	11	411	189	686	189	108	11	11	189	193	131	18	165	155	243	116
27-Jun	14	686	239	1103	411	151	14	14	411	310	210	23	265	249	440	178
28-Jun	27	994	304	2306	686	189	27	27	686	514	228	44	440	414	689	203
29-Jun	53	1612	384	4570	1103	411	66	57	1103	896	297	94	769	722	991	328
30-Jun	102	2241	484	6825	2306	686	108	126	2042	1425	428	174	1225	1149	1345	510
01-Jul	220	2889	579	9475	4570	1103	151	310	4042	2263	607	243	2279	1824	1751	838
02-Jul	301	3921	706	12991	6825	2042	189	462	6542	3289	1353	304	4695	2652	2210	1363
03-Jul	431	5616	823	16598	9475	3196	411	753	9042	4552	2390	662	7310	3496	2721	2276
04-Jul	620	7295	1136	18705	12991	4567	686	1225	11042	5873	3829	1105	9225	4562	3268	3859
05-Jul	802	9249	1434	20641	16598	5408	1103	1531	12887	7124	5612	1462	10920	5562	3861	5909
06-Jul	1141	11400	1644	23514	18705	7024	1364	1874	14267	8422	7204	1782	11931	6876	4996	7043
07-Jul	1664	12803	1903	25760	20641	8920	2049	2240	15961	9415	8005	2064	13138	8294	6626	9192
08-Jul	2277	14959	2118	27660	23514	10870	2430	2749	17920	10252	9746	2309	14052	9538	9065	10591
09-Jul	2956	17255	2355	30552	27983	12834	3048	3674	20671	11758	10835	3089	15221	10955	12382	11357
10-Jul	3466	20057	2922	34065	31379	13926	3590	5073	22822	13484	12822	3638	15940	12391	14803	12553
11-Jul	3831	23026	3787	36953	34378	15227	3972	6694	25460	16295	14236	4155	17201	13642	17437	13699
12-Jul	4252	25376	5014	38984	36959	17993	4471	7861	28095	19376	15229	5314	18451	14724	20911	15038
13-Jul	4588	27548	6310	40853	39920	20070	5010	8800	30055	21711	15957	6750	19395	16114	23505	16569
14-Jul	4910	30899	7475	43140	42362	22393	5717	9654	32133	23963	16829	7768	20738	17120	26255	17720
15-Jul	5233	33401	8285	45596	44307	24905	6274	10545	33905	25772	18382	8769	22204	18525	28601	18587
16-Jul	5574	35981	9252	47526	46728	27176	7110	11021	34902	27473	19605	9749	23458	20036	29920	19594
17-Jul	5839	37862	10201	48706	49746	29083	7834	11621	35629	28984	20269	10708	24365	22066	30882	21364
18-Jul	6172	39384	10854	50006	52309	30419	8480	11983	36039	30218	21386	11748	25627	23851	33666	22387
19-Jul	6454	40765	11448	50934	54228	31388	9108	12327	36498	31280	21589	12490	26698	24375	34274	23575
20-Jul	6694	42076	11999	51363	55938	32808	9619	12557	36833	32216	21992	12957	27510	25392	34717	24128
21-Jul	7285	42721	12572	52087	57352	34496	10091	12750	37177	33296	22599	13419	27994	26634	35173	25151
22-Jul	7538	43696	12986	52773	58256	36148	10564	12978	37407	34142	23040	14207	28512	27134	35477	26084
23-Jul	7704	44462	13441	53304	59172	37353	11013	13073	37600	34822	23356	15020	29422	27621	35732	27099
24-Jul	7877	45341	14538	53805	59919	38065	11538	13197	37828	35636	23432	15878	29975	27957	36753	27826
25-Jul	7951	46156	15039	54070	60557	38455	12113	13300	37923	36184	23531	16781	30655	28447	37230	28368
26-Jul	7983	46719	15304	54418	61104	38872	12572	13419	38047	36608	23626	17721	31053	28713	37436	28702
27-Jul	8016	47109	15652	54796	61580	39329	12888	13516	38150	36987	23721	18488	31520	29090	37649	29008
28-Jul	8028	47348	16030	55288	61973	39654	13229	13663	38269	37361	23883	19136	31894	29579	38330	29257
29-Jul	8052	47563	16522	55671	62357	39974	13471	13797	38366	37721	24245	19632	32193	30030	39748	29542
30-Jul	8066	47673	16905	56033	62797	40242	13688	13910	38513	38029	24569	20244	32470	30444	41102	29871
31-Jul	8073	47785	17267	56317	63070	40560	13947	14002	38647	38321	24850	21096	32724	30751	42374	30087
01-Aug	8085	47885	17551	56526	63300	40840	14096	14073	38760	38543	25198	21850	32888	30956	43167	30258
02-Aug	8097	47959	17760	56709	63487	41057	14245	14145	38852	38731	25621	22444	33128	31083	43809	30464
03-Aug	8102	47991	17943	56855	63659	41216	14336	14206	38923	38873	25919	22931	33311	31192	44464	30673
04-Aug	8111	48024	18089	56933	63750	41349	14423	14268	38995	38994	26154	23250	33415	31319	45001	30777
05-Aug	8112	48036	18167	56968	63854	41399	14481	14323	39056	39069	26311	23533	33480	31423	45421	30836
06-Aug	8112	48060	18202	57023	63886	41419	14533	14376	39118	39126	26389	23746	33529	31573	45724	30878
07-Aug	8112	48074	18257	57066	63923	41432	14585	14421	39173	39182	26464	23838	33625	31687	45909	30925
08-Aug	8113	48081	18300	57109	63945	41440	14662	14468	39226	39242	26505	23896	33684	31766	46092	30969
09-Aug	8113	48093	18343	57150	63983	41449	14707	14503	39271	39289	26554	23932	33714	31809	46210	31006
10-Aug	8114	48105	18384	57197	64002	41460	14789	14540	39318	39347	26600	23981	33774	31824	46310	31038
11-Aug	8116	48110	18431	57226	64018	41471	14843	14558	39353	39389	26642	23996	33843	31834	46385	31078
12-Aug	8117	48119	18460	57251	64034	41480	14873	14574	39390	39419	26681	24033	33913	31849	46436	31131
13-Aug		48120	18485	57278	64049	41480	14911	14581	39408	39443	26699	24061	33995	31875	46472	31178
14-Aug		48120	18512	57302	64055	41481	14930	14594	39424	39463	26722	24081	34020	31879	46511	31206
15-Aug		48120	18536	57325	64057	41482	14946	14614	39431	39482	26734	24089	34045	31879	46537	31222
16-Aug		48121	18559	57331	64059	41482	14961	14634	39444	39500	26740	24096	34062	31883	46557	31227
17-Aug		48121	18565	57336	64063	41483	14973	14649	39464	39512	26751	24130	34078	31887	46576	31229
18-Aug		48122	18570	57340	64066	41484	14985	14661	39484	39523	26752	24165	34087	31891	46591	31232
19-Aug		48124	18574	57342	64067	41484	14990	14673	39499	39531	26756	24177	34088	31895	46596	31239
20-Aug		48125	18576	57351	64072	41484	14999	14678	39511	39538	26759	24177	34092	31899	46603	31242
21-Aug			18585	57356	64073		15000	14687	39523	39545	26761	24182	34105		46606	31243
22-Aug			18590	57356	64077		15000	14688	39528	39547	26761	24182			46607	31246
23-Aug			18590	57357			15000	14688	39537	39548	26761	24182			46609	31246
24-Aug			18591	57360			15001	14688	39538		26762	24183			46613	31252
25-Aug			18594	57362			15001	14689	39538		26763	24186			46615	31252
26-Aug			18596	57363			15002	14689	39538		26763	24187			46620	31254
27-Aug			18597	57365			15004	14690	39539		26764	24187			46625	31255
28-Aug			18599	57365			15005	14692	39539		26764	24187			46630	31256
29-Aug			18599	57365				14693	39540		26765	24188			46635	31265

Appendix B 37 Factor table for historical escapement estimates, Kogrukluk River, 1976-1995

	Chinook				Sockeye				Coho[a]				Chum			
Year	T[b]	Count	Prop. Missed	Est'd Total	T[b]	Count	Prop. Missed	Est'd Total	T[b]	Count	Prop Missed	Est'd Total	T[b]	Count	Prop. Missed	Est'd Total
1976	L	5,500	0.0142	5,579	N	2,302	0.0103	2,326					N	8,046	0.0087	8,117
1977	(N)	763	0.6077	1,945	(N)	732	0.5527	1,637					(N)	7,404	0.6192	19,443
1978	N	13,102	0.0413	13,667	N	1,646	0.0144	1,670					N	47,099	0.0213	48,125
1979	N	10,104	0.1088	11,338	N	2,432	0.0746	2,628					L	13,959	0.2495	18,599
1980		676	c	6,572		403	c	3,200						5,638	c	41,777
1981	E	16,052	0.0362	16,655	E	17,69[illegible]	0.0208	18,066	N	11,450	0.0004	11,455	E	56,262	0.0192	57,365
1982	E	5,325	0.5156	10,993	E	11,729	0.3219	17,297	N	35,582	0.0586	37,796	N	40,549	0.3672	64,077
1983	(N)	1,032	0.6551	2,992	(N)	375	0.6812	1,176	L	8,327	0.0247	8,538	(N)	3,248	0.6547	9,407
1984	N	4,928	0.0000	4,928	N	4,133	0.0000	4,133	E	25,304	0.0830	27,595	N	41,484	0.0000	41,484
1985	L	4,304	0.0682	4,619	L	4,344	0.0034	4,359	E	14,318	0.1291	16,441	L	13,851	0.0769	[illegible]
1986	L	2,922	0.4200	5,038	N	3,252	0.2301	4,224	E	14,717	0.3461	22,506	N	11,980	0.1846	14,693
1987		d		4,063		d		973	N	19,756	0.1343	22,821		d		17,422
1988	N	7,677	0.0974	8,505	E	4,235	0.0368	4,397	N	11,722	0.1325	13,512	E	28,498	0.2793	39,540
1989	N	4,908	0.5889	11,940	N	3,599	0.5527	5,811				c	N	15,543	0.6070	39,548
1990	N	10,097	0.0118	10,218	N	8,382	0.0029	8,406	L	2,736	0.5538	6,132	N	26,555	0.0078	26,765
1991	N	6,132	0.2189	7,850	N	14,450	0.1218	16,455	L	7,059	0.2915	9,963	L	21,331	0.1181	24,188
1992	N	6,397	0.0530	6,755	L	7,382	0.0210	7,540	(N)	2,715	0.8958	26,057	N	32,051	0.0602	34,105
1993	N	10,516	0.1473	12,332	N	27,219	0.0729	29,358	(N)	4,437	0.7837	20,517	N	26,926	0.1559	31,899
1994	E	8,310	0.4543	15,227	L	5,676	0.6001	14,392	(E)	27,461	0.2085	34,695	N	23,756	0.4906	46,635
1995	L	18,876	0.0860	20,630	N	10,382	0.0347	10,996	(E)	18,924	0.3206	27,856	N	29,015	0.0923	31,265

a Coho migrations were not monitored prior to 1981

b The timing model used for estimating missed counts depends on the distribution of mean date of migration F (E=early, N=normal, L=late). The use of parentheses () indicates assumed timing.

c From Baxter (1980); insufficient data to estimate escapements using time series techniques

d Except for coho, escapements were estimated from a ratio of unknown 1987 escapement and known 1987 aerial assessment to known 1988 escapement and known 1988 aerial assessment. Coho escapements estimated using time series techniques.

e Heavy rain and high river levels allowed only two days of counts during the coho migration.

Appendix B.38. Chinook salmon sex ratios and proportion of females with gill net marks, Kogrukluk weir, 1979-1995.

Year	Actual Count	Number Females	Sex Ratio (% female)	% of females with gill net markes
1979	10,125	1,786	17.6	11.03
1980	676	136	20.1	a
1981	16,075	7,584	47.2	12.47
1982	5,325	2,431	45.7	12.99
1983	1,049	285	27.2	16.49
1984	4,928	1,146	23.3	11.08
1985	4,306	1,485	34.5	18.99
1986	2,968	705	23.8	19.43
1987[b]	770			
1988	7,677	2,631	34.3	13.34
1989	4,911	1,884	38.4	16.46
1990	10,093	2,271	22.5	14.35
1991	6,132	2,860	46.6	19.26
1992	6,397	2,138	33.4	30.03
1993	10,516	2,961	28.2	11.25
1994	8,310	2,042	24.6	9.53
1995	18,876	8,687	46.0	12.32
1979-84 Average			30.2	12.81
1985-94 Average			31.8	15.78

a Gill net mark data was not reported

b Sample size to small to assess sex ratio and percentage of gill net marks.

Appendix B.39 Selected historic District 1 commercial chum salmon catches (number of fish) by date.

Date Range[a]			Year											Average
			1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	(1985-1994)
June	21	23					65,650			74,429			49,157	70,040
	25	27	47,433	68,947		119,808	32,373	58,944		55,114			88,091	63,770
	28	30		60,780	112,963	154,027	131,629	74,911		80,213			88,641	102,421
July	2	4	28,581	65,839	66,783	187,916	91,345						89,427	88,093
	5	7		55,983	103,059	163,971	85,727	86,825	40,060	84,196			81,246	88,546
	9	11		48,990	72,118	137,450	78,053	91,411					86,368	85,604
	13	15			71,953	116,930	44,401	79,803	52,552			43,585	43,137	68,204
	17	19				57,749	26,407		78,797			60,104	37,294	55,764
	20	22			62,044	39,643			49,788				21,039	50,492

a Dates correspond to ± 1 day of commercial fishing periods which occurred in 1995.

Appendix B.40. Peak aerial survey estimates for chinook salmon escapements in select Kuskokwim River spawning tributaries, 1975-1995.[a]

Year	Aniak	Cheeneetnuk	Eek	Holitna	Holokuk	Kipchuk	Kisaralik	Kwethluk	Oskawalik	Salmon (Aniak)	Salmon (Pitka)	Tuluksak
1975				1,114	17	94	118		71			
1976		1,197		2,571	126	177			204		1,148	139
1977		1,399			60			2,290	276	562	1,978	291
1978		267	1,613	2,766			2,417	1,732		289	1,[illegible]27	403
1979					113			911			699	
1980			2,378		250				123	1,186	1,177	725
1981	9,074						672	1,783		894	1,474	
1982	2,845		230	521	42				120	185	419	
1983	1,909	243	188	1,069	33		731	471	52	231	586	129
1984	1,409	1,177		299			157	273			577	93
1985		1,002	1,118		135			629	61		625	135
1986	909	381		650	100					336		
1987		317	1,739	813	208	193		975	193	516		60
1988	945		2,255		57		840	766	80	244	501	188
1989	1,880		1,042			994	152	1,157		631	446	
1990	1,255		1,983		143	537	631	1,295	113	596		166
1991	1,564		1,312			885		1,002		583		342
1992	2,284	1,050		1,822	64	670			91	335	2,555	
1993	2,687	678		1,573	114	1,248			103	1,082	1,012	
1994	1,848	1,206				1,520	1,021	848		1,218	1,010	
1995	3,174	1,565		2,787	181	1,215	1,243		289	1,442	1,911	
Goal[b]	1,500	1,000	1,700	2,000	100	700	700	1,000	100	600	1,300	400

[a] All estimates are from "peak" aerial surveys conducted between 20 and 31 July under fair, good or excellent viewing conditions.

[b] Biological escapement goal or median historic escapement.

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Date	Chinook			Sockeye			Chum			
	1993	1994	1995	1993	1994	1995	1993	1994	1995	Objective [a]
7/20	83,997	120,968	208,282	281,500	338,050	161,631	373,412	744,290	530,937	505,949
7/21	84,081	120,968		281,684	338,140		384,007	748,525		511,872
7/22	84,152	120,968		281,838	338,254		392,887	753,861		520,400
7/23	84,235	121,399		282,021	338,637		403,417	761,211		525,050
7/24	87,072	122,227		282,021	339,372		407,322	774,281		528,078
7/25	89,782	122,922		282,021	339,988		411,051	785,313		532,440
7/26	93,019	122,922		282,021	339,988		415,506	790,159		533,770
7/27	93,205	122,922		282,186	339,988		417,280	794,335		537,063
7/28	93,355	122,922		282,319	339,988		418,702	799,155		539,481
7/29	93,515	122,922		282,461	339,988		420,229	800,915		542,874
7/30	93,515	122,922		282,461	339,988		421,005	802,798		544,383
7/31	93,515	122,922		282,461	339,988		421,679	804,416		546,197
8/01	93,515	123,079		282,461	339,988		422,378	807,073		547,235
8/02	93,515	123,302		282,461	339,988		422,583	810,682		548,432
8/03	93,515	123,561		282,461	339,988		422,843	814,844		549,546
8/04	93,515	123,561		282,461	339,988		423,093	815,689		550,803
8/05	93,515	123,561		282,461	339,988		423,288	816,350		551,112
8/06	93,515	123,561		282,461	339,988		423,512	817,155		552,196
8/07	93,515	123,561		282,461	339,988		423,688	817,408		552,950
8/08	93,515	123,561		282,461	339,988		423,688	817,832		553,310
8/09	93,515	123,561		282,461	339,988		423,688	818,147		553,766
8/10	93,515	123,561		282,461	340,006		423,688	818,147		555,554
8/11	93,515	123,561		282,461	340,022		423,832	818,147		555,913
8/12	93,515	123,561		282,461	340,032		423,986	818,147		556,262
8/13	93,515	123,561		282,461	340,032		424,097	818,147		556,337
8/14	93,515	123,561		282,461	340,032		424,097	818,147		556,364
8/15	93,515	123,561		282,461	340,032		424,097	818,147		556,565

[a] The Objective is the product of the average daily proportion of passage and 557,000. The 557,000 is the minimum number of chum salmon needed for escapement (506,000), plus the historic median subsistence harvest upstream of the sonar site (51,000).

Appendix B.41 Historic cumulative salmon passage estimates at the Kuskokwim River sonar site.

Date	Chinook			Sockeye			Chum			
	1993	1994	1995	1993	1994	1995	1993	1994	1995	Objective [3]
6/01	0	0	0	0	0	0	0	0	0	56
6/02	0	0	0	0	0	0	0	0	0	169
6/03	651	0	0	105	0	0	17	0	0	264
6/04	2,000	0	3,738	323	0	17	51	0	10	302
6/05	3,297	5,007	7,739	532	0	38	84	1,160	22	581
6/06	4,759	9,067	11,529	768	0	55	122	1,939	32	1,176
6/07	6,625	12,612	16,795	1,069	0	80	169	2,754	46	1,499
6/08	7,198	17,104	23,123	1,162	0	106	184	5,075	61	2,108
6/09	12,145	21,406	26,251	1,623	0	773	1,286	7,668	411	3,429
6/10	14,263	26,544	29,411	1,821	0	1,418	1,758	11,258	793	4,385
6/11	17,636	31,257	34,877	2,136	17	2,519	2,509	14,398	1,469	5,910
6/12	19,311	36,910	43,735	4,009	38	4,367	3,006	18,150	1,897	8,043
6/13	21,360	46,398	62,182	6,300	78	7,939	3,612	24,763	2,726	11,072
6/14	23,343	51,592	76,702	8,518	833	10,936	4,200	34,435	3,405	13,287
6/15	28,587	57,602	86,597	16,616	1,685	12,940	5,378	45,453	9,507	19,130
6/16	32,393	63,067	94,636	22,495	2,492	14,720	6,233	55,596	14,744	24,060
6/17	39,142	65,521	105,818	32,919	3,810	17,043	7,750	66,024	21,740	30,390
6/18	43,998	67,539	114,556	40,788	4,865	19,659	10,061	73,912	29,779	37,963
6/19	48,622	70,050	123,049	48,278	6,272	22,207	12,261	85,189	37,836	49,629
6/20	53,376	73,060	135,393	55,982	9,617	25,861	14,523	100,397	48,912	59,924
6/21	56,246	75,056	141,610	63,853	12,107	29,890	20,679	111,411	62,205	70,642
6/22	59,111	76,669	146,836	71,713	14,339	33,764	26,827	120,119	73,497	84,507
6/23	62,116	79,157	151,856	79,958	25,727	37,757	33,276	135,836	84,821	100,225
6/24	64,403	81,165	156,426	93,130	35,667	41,806	45,985	149,508	92,799	113,290
6/25	66,440	85,492	162,023	104,859	55,644	46,748	57,302	175,737	102,563	131,322
6/26	67,994	92,426	169,268	113,811	79,294	53,096	65,939	189,374	115,100	144,040
6/27	69,948	96,280	174,061	127,385	92,926	62,968	70,470	197,213	123,920	165,279
6/28	72,549	99,871	179,100	145,460	105,854	73,698	76,502	204,598	133,317	176,775
6/29	74,800	102,499	184,622	161,103	114,770	84,853	81,723	217,843	143,079	200,135
6/30	75,500	105,824	186,979	187,448	126,114	90,342	97,317	234,609	162,181	221,847
7/01	76,151	109,475	189,695	211,926	138,757	96,811	111,805	253,967	183,859	241,063
7/02	76,612	111,263	192,917	229,274	176,235	104,306	122,073	287,174	209,215	254,107
7/03	76,934	112,967	195,914	233,507	212,001	114,697	133,119	318,810	238,556	279,351
7/04	77,304	114,893	197,892	238,358	252,585	121,509	145,778	354,594	257,550	303,326
7/05	77,701	115,721	200,424	243,549	267,561	130,372	159,326	399,943	283,446	327,411
7/06	78,210	116,844	201,364	251,473	284,072	135,340	169,354	449,840	303,163	345,637
7/07	78,647	117,330	202,349	258,284	295,799	140,267	177,974	485,215	322,931	366,102
7/08	79,108	117,832	203,776	265,449	300,529	148,216	187,043	527,796	354,111	385,060
7/09	80,236	118,351	204,314	267,869	305,769	153,005	193,734	576,405	387,290	403,950
7/10	81,368	118,756	204,648	270,296	309,504	156,431	200,448	609,718	409,757	417,888
7/11	82,523	119,257	204,891	272,772	315,608	159,087	207,294	629,278	427,019	425,960
7/12	82,670	119,642	205,757	274,630	320,290	159,516	222,342	643,860	446,063	435,947
7/13	82,814	119,954	206,647	276,451	324,124	159,925	237,079	656,366	464,855	450,445
7/14	82,975	120,152	207,496	278,485	325,618	160,298	253,547	670,741	482,317	459,735
7/15	83,226	120,343	207,662	279,653	326,727	160,547	277,211	681,330	491,507	466,833
7/16	83,466	120,515	207,861	280,763	328,269	160,820	299,702	695,810	500,607	472,913
7/17	83,624	120,575	208,069	281,500	331,891	161,097	314,627	711,678	508,683	480,500
7/18	83,752	120,788	208,151	281,500	335,233	161,292	334,680	726,217	517,440	489,605
7/19	83,883	120,968	208,222	281,500	337,915	161,467	355,455	738,753	524,659	498,805

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APPENDIX C

Appendix C.1. Quinhagak District commercial salmon harvest, 1960-1995.

YEAR	CHINOOK	SOCKEYE	COHO	PINK	CHUM	TOTAL
1960	0	5,649	3,000	0	0	8,649
1961	4,328	2,308	46	90	18,864	25,636
1962	5,526	10,313	0	4,340	45,707	65,886
1963	6,555	0	0	0	0	6,555
1964	4,081	13,422	379	939	707	19,528
1965	2,976	1,886	0	0	4,242	9,104
1966	278	1,030	0	268	2,610	4,186
1967	0	652	1,926	0	8,087	10,665
1968	8,879	5,884	21,511	75,818	19,497	131,589
1969	16,802	3,784	15,077	953	38,206	74,822
1970	18,269	5,393	16,850	15,195	46,556	102,263
1971	4,185	3,118	2,982	13	30,208	40,506
1972	15,880	3,286	376	1,878	17,247	38,667
1973	14,993	2,783	16,515	277	19,680	54,248
1974	8,704	19,510	10,979	43,642	15,298	98,133
1975	3,928	8,584	10,742	486	35,233	58,973
1976	14,110	6,090	13,777	31,412	43,659	109,048
1977	19,090	5,519	9,028	202	43,707	77,546
1978	12,335	7,589	20,114	47,033	24,798	111,869
1979	11,144	18,828	47,525	295	25,995	103,787
1980	10,387	13,221	62,610	21,671	65,984	173,873
1981	24,524	17,292	47,557	160	53,334	142,867
1982	22,106	25,685	73,652	11,838	33,346	166,627
1983	46,385	10,263	32,442	168	23,090	112,348
1984	33,652	17,258	135,342	16,249	50,424	252,925
1985	30,401	7,876	29,992	28	20,418	88,715
1986	22,835	21,484	57,544	8,700	29,700	140,263
1987	26,022	6,489	50,070	66	8,557	91,204
1988	13,872	21,534	68,591	21,258	29,183	154,438
1989	20,820	20,582	44,607	273	39,395	125,677
1990	27,644	83,681	26,926	12,056	47,717	198,024
1991	9,480	53,657	42,571	115	54,493	160,316
1992	17,197	60,929	86,404	64,217	73,383	302,130
1993	15,784	80,934	55,817	7	40,943	193,485
1994	8,564	72,314	83,912	35,904	61,301	261,995
1995	38,584	68,194	66,203	186	81,462	254,629
Ten Year Average (1985-1994)	19,262	42,948	54,643	98*	40,509	171,625

* Odd years only.

Appendix C.2. Summary of historical commercial harvest by period, Quinhagak District, chinook salmon, 1981-95.

Date	No. Years w/ fishing period on this date	Minimum harvest	Maximum harvest	Median harvest	Cumulative proportion harvest
6/12	1	0	0	0	0.00000
6/13	4	33	7720	4668	0.03274
6/14	2	0	5080	2540	0.04499
6/15	4	1165	3914	3181	0.08818
6/16	4	0	7835	1179	0.10510
6/17	2	3527	8190	5859	0.12989
6/18	5	1942	11997	6694	0.21028
6/19	2	3525	5801	4663	0.23851
6/20	5	746	7341	3031	0.29668
6/21	4	4268	6194	4975	0.35736
6/22	2	4002	10586	7294	0.39536
6/23	3	2039	11652	6656	0.43696
6/24	6	1403	6698	4102	0.50937
6/25	4	2732	4539	3776	0.54585
6/26	3	1506	1741	1703	0.55900
6/27	3	1849	9711	5118	0.59428
6/28	4	1438	4089	2646	0.63224
6/29	3	0	2048	1696	0.64235
6/30	4	690	4496	1911	0.66641
7/01	4	657	3752	2208	0.70631
7/02	6	1105	3602	1926	0.74118
7/03	5	1096	2771	2018	0.76951
7/04	4	508	4068	1781	0.79243
7/05	7	611	2710	967	0.81746
7/06	4	273	1008	742	0.83138
7/07	7	620	1566	1228	0.85242
7/08	5	465	2407	756	0.87381
7/09	5	441	1259	798	0.88478
7/10	4	334	804	691	0.89168
7/11	7	393	1545	916	0.91051
7/12	4	306	687	483	0.91620
7/13	6	205	1011	494	0.92720
7/14	7	220	1351	438	0.93809
7/15	5	230	1306	681	0.94946
7/16	4	220	533	399	0.95384
7/17	5	130	290	222	0.95746
7/18	5	187	845	260	0.96282
7/19	5	97	792	140	0.96727
7/20	4	89	490	285	0.97100
7/21	6	90	248	162	0.97423
7/22	5	35	629	214	0.97722
7/20	4	89	490	285	0.97100
7/21	6	90	248	162	0.97423
7/22	5	35	629	214	0.97722

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Appendix C.2. (Page 2 of 2)

Date	No. Years w/ fishing period on this date	Minimum harvest	Maximum harvest	Median harvest	Cumulative proportion harvest
7/23	4	66	324	180	0.97898
7/24	5	33	187	83	0.98046
7/25	4	0	71	34	0.98343
7/27	8	0	194	94	0.98554
7/28	3	31	63	56	0.98594
7/29	6	21	116	77	0.98750
7/30	4	49	111	84	0.98843
7/31	6	0	54	38	0.98903
8/01	6	51	153	69	0.99041
8/02	5	14	53	30	0.99097
8/03	8	16	160	65	0.99231
8/04	4	0	37	28	0.99255
8/05	7	6	141	53	0.99351
8/06	6	19	78	38	0.99412
8/07	4	27	49	43	0.99452
8/08	7	0	71	20	0.99515
8/09	5	6	36	11	0.99540
8/10	7	0	125	50	0.99607
8/11	5	6	31	15	0.99628
8/12	6	12	74	41	0.99693
8/13	5	0	36	15	0.99710
8/14	6	6	29	16	0.99738
8/15	5	2	43	29	0.99771
8/16	7	1	12	7	0.99787
8/17	7	1	66	23	0.99824
8/18	6	7	12	10	0.99842
8/19	8	3	51	16	0.99880
8/20	5	6	16	9	0.99893
8/21	7	4	13	8	0.99909
8/22	5	3	33	13	0.99923
8/23	7	1	11	5	0.99932
8/24	6	1	14	6	0.99942
8/25	7	0	16	4	0.99951
8/26	7	1	17	7	0.99970
8/27	4	3	4	3	0.99973
8/28	7	2	8	4	0.99981
8/29	6	0	7	3	0.99986
8/30	3	0	9	1	0.99987
8/31	7	0	3	2	0.99991
9/01	6	0	10	2	0.99993
9/02	7	0	4	1	0.99995
9/03	4	0	2	1	0.99996
9/04	4	0	2	2	0.99998
9/05	7	0	2	1	1.00000
9/06	3	0	1	0	1.00000
9/07	7	0	0	0	1.00000
9/08	3	0	0	0	1.00000

Appendix C.3. Summary of historical commercial harvest by period, Quinhagak District, sockeye salmon, 1981-1995.

Date	No. Years w/ fishing period on this date	Minimum harvest	Maximum harvest	Median harvest	Cumulative proportion harvest
6/12	1	0	0	0	0.00000
6/13	4	4	151	34	0.00062
6/14	1	384	384	384	0.00092
6/15	4	62	440	134	0.00224
6/16	3	0	277	150	0.00407
6/17	2	356	1119	738	0.00732
6/18	5	355	574	462	0.01618
6/19	2	171	741	456	0.01911
6/20	5	111	485	367	0.02234
6/21	4	1039	2322	1738	0.03580
6/22	2	379	746	563	0.04492
6/23	3	343	1741	1371	0.05705
6/24	6	638	3271	1817	0.07670
6/25	4	732	1667	1466	0.10046
6/26	3	805	2300	1717	0.11396
6/27	3	461	4923	543	0.12751
6/28	4	1908	10941	2190	0.15653
6/29	3	0	4765	3940	0.16550
6/30	4	1360	7574	2348	0.20059
7/01	4	975	8625	5005	0.22863
7/02	6	1242	5654	2649	0.26362
7/03	5	2244	7045	3555	0.31899
7/04	4	627	5743	3378	0.34549
7/05	7	1157	15375	2934	0.39262
7/06	4	1126	8381	5350	0.41726
7/07	7	1211	8326	4118	0.46709
7/08	5	1289	9304	4001	0.50877
7/09	5	1532	9824	3048	0.54615
7/10	4	2229	9894	5184	0.58000
7/11	7	1901	7672	3369	0.65163
7/12	4	1468	6827	4148	0.67273
7/13	6	1842	13450	5554	0.72238
7/14	7	878	7490	3134	0.77159
7/15	5	1240	6687	4505	0.81101
7/16	4	564	8537	2251	0.82599
7/17	5	937	5166	3302	0.84756
7/18	5	657	5842	1321	0.87081
7/19	5	866	12850	2391	0.89090
7/20	4	477	4611	1487	0.90500
7/21	6	477	2523	989	0.91744
7/22	5	799	3537	1298	0.93368
7/23	4	328	4361	538	0.93998
7/24	5	215	2610	907	0.94870

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Appendix C.3. (Page 2 of 2)

Date	No. Years w/ fishing period on this date	Minimum harvest	Maximum harvest	Median harvest	Cumulative proportion harvest
7/25	5	0	2681	393	0.95471
7/26	4	0	1404	461	0.95706
7/27	8	0	2096	227	0.96354
7/28	3	102	879	363	0.96496
7/29	6	126	997	392	0.97003
7/30	4	19	1516	245	0.97192
7/31	5	97	730	210	0.97438
8/01	6	42	757	143	0.97730
8/02	5	38	583	94	0.97852
8/03	8	30	408	132	0.98230
8/04	4	3	387	81	0.98317
8/05	7	6	333	121	0.98612
8/06	6	16	254	91	0.98828
8/07	4	30	481	181	0.98990
8/08	7	0	198	30	0.99055
8/09	5	6	307	67	0.99116
8/10	7	10	77	29	0.99241
8/11	5	6	192	28	0.99285
8/12	6	1	116	56	0.99394
8/13	5	0	89	19	0.99434
8/14	6	1	194	39	0.99496
8/15	5	12	42	31	0.99550
8/16	7	0	133	18	0.99578
8/17	7	1	71	18	0.99664
8/18	6	6	146	19	0.99692
8/19	8	2	26	10	0.99722
8/20	5	3	42	27	0.99740
8/21	7	0	139	15	0.99776
8/22	5	1	32	6	0.99802
8/23	7	1	102	13	0.99822
8/24	6	0	18	4	0.99833
8/25	7	0	114	7	0.99867
8/26	7	0	27	9	0.99881
8/27	4	0	30	4	0.99886
8/28	7	0	68	7	0.99904
8/29	6	0	7	5	0.99913
8/30	3	0	58	29	0.99919
8/31	7	0	20	4	0.99945
9/01	6	0	32	8	0.99951
9/02	6	0	14	4	0.99968
9/03	5	0	8	4	0.99970
9/04	4	0	18	3	0.99991
9/05	7	0	16	8	0.99996
9/06	3	0	1	1	0.99997
9/07	7	0	5	1	0.99998
9/08	3	0	3	1	1.00000

Appendix C.4. Summary of historical commercial harvest by period, Quinhagak District, coho salmon, 1979-1995.

Date	No. Years w/ fishing period on this date	Minimum harvest	Maximum harvest	Median harvest	Cumulative proportion harvest
6/30	5	0	2	1	0.00000
7/1	4	0	0	0	0.00000
7/2	8	0	1	0	0.00000
7/3	5	0	0	0	0.00000
7/4	6	0	0	0	0.00000
7/5	7	0	0	0	0.00000
7/6	5	0	0	0	0.00000
7/7	8	0	0	0	0.00000
7/8	5	0	0	0	0.00000
7/9	7	0	39	6	0.00009
7/10	4	0	5	1	0.00009
7/11	9	0	9	1	0.00010
7/12	4	0	2	1	0.00010
7/13	7	0	17	3	0.00012
7/14	8	0	2	1	0.00012
7/15	5	0	24	11	0.00018
7/16	6	0	39	4	0.00021
7/17	5	0	14	6	0.00025
7/18	7	0	234	19	0.00045
7/19	5	2	88	11	0.00062
7/20	5	3	787	42	0.00107
7/21	7	0	366	19	0.00169
7/22	5	1	250	12	0.00199
7/23	6	0	1386	96	0.00303
7/24	5	21	400	63	0.00355
7/25	7	0	3482	193	0.00639
7/26	4	0	122	99	0.00674
7/27	9	0	5512	273	0.01112
7/28	4	294	1214	371	0.01308
7/29	6	152	1336	487	0.01626
7/30	6	0	3079	754	0.02281
7/31	6	146	1281	667	0.02673
8/1	8	0	5680	1112	0.03780
8/2	5	390	3706	1789	0.04703
8/3	9	592	5390	1294	0.06137
8/4	4	190	4293	1309	0.06851

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Appendix C.4. (Page 2 of 2)

Date	No. Years w: fishing period on this date	Minimum harvest	Maximum harvest	Median harvest	Cumulative proportion harvest
8/5	8	387	4517	2610	0.08779
8/6	8	2068	8436	4202	0.12028
8/7	4	693	8188	4928	0.13961
8/8	8	0	19215	4371	0.18037
8/9	5	1831	9133	5295	0.20630
8/10	8	1237	9428	5364	0.24569
8/11	6	3863	10076	6135	0.28384
8/12	6	2710	10458	3197	0.31244
8/13	7	1561	10961	5284	0.35456
8/14	6	1671	7883	3340	0.38083
8/15	7	1603	15733	8627	0.43086
8/16	7	1403	6926	3203	0.46750
8/17	8	2008	9897	4728	0.50640
8/18	7	1008	9776	6469	0.55571
8/19	8	2532	9959	4526	0.60018
8/20	7	3958	8728	5529	0.64320
8/21	7	2110	7631	3662	0.67487
8/22	7	1972	8437	4662	0.70362
8/23	7	2400	11957	3964	0.75303
8/24	7	1708	8673	3736	0.77966
8/25	8	115	6095	3294	0.80809
8/26	7	1419	6505	4717	0.83828
8/27	6	1431	5975	3555	0.85815
8/28	7	1514	4684	3737	0.88413
8/29	8	0	3623	2710	0.90372
8/30	3	1054	9431	2193	0.91527
8/31	8	1427	7145	2269	0.93575
9/1	6	1407	2565	2092	0.94984
9/2	7	535	4065	1160	0.96451
9/3	5	600	2777	2017	0.97242
9/4	4	1126	2058	1484	0.98015
9/5	9	0	3799	1012	0.98857
9/6	3	950	1769	1158	0.99360
9/7	7	0	1798	609	0.99771
9/8	2	0	1262	631	1.00000

Appendix C.5. Summary of historical commercial harvest by period, Quinhagak District, chum salmon, 1981-1995.

Date	No. Years w/ fishing period on this date	Minimum harvest	Maximum harvest	Median harvest	Cumulative proportion harvest
6/12	1	0	0	0	0.00000
6/13	4	14	1092	1333	0.00290
6/14	2	0	2125	1063	0.00587
6/15	4	252	2821	1065	0.01186
6/16	4	0	847	787	0.01607
6/17	2	1556	1916	1736	0.02075
6/18	5	1162	2611	1629	0.03920
6/19	2	1198	1913	1556	0.04512
6/20	5	287	2760	746	0.05324
6/21	4	868	4471	2214	0.06813
6/22	2	1051	2177	1614	0.07904
6/23	3	1103	3226	1774	0.09246
6/24	6	732	5990	2315	0.11847
6/25	4	1711	5417	2941	0.14665
6/26	3	1529	4329	2929	0.16129
6/27	3	1855	2722	1874	0.17609
6/28	4	2458	5449	3951	0.20486
6/29	3	0	8231	4666	0.21584
6/30	4	2066	4903	3180	0.25297
7/01	4	1836	13544	6426	0.28664
7/02	6	1972	6034	3918	0.32458
7/03	5	1788	8074	3743	0.36308
7/04	4	2333	3155	2612	0.38671
7/05	7	1820	7481	4168	0.43224
7/06	4	2192	8484	2953	0.45078
7/07	7	2939	7138	3708	0.49905
7/08	5	3050	8296	3451	0.53650
7/09	5	3518	7408	3846	0.57201
7/10	4	4022	5667	4997	0.59850
7/11	7	2313	9329	2966	0.64858
7/12	4	3211	9074	3803	0.67521
7/13	6	4270	9794	4882	0.71814
7/14	7	732	5381	2084	0.75360
7/15	5	2796	10756	5791	0.79632
7/16	4	1784	3369	2158	0.81123
7/17	5	2326	5988	3842	0.83472
7/18	5	1310	4343	3184	0.86026
7/19	5	1577	4960	3202	0.88185
7/20	4	2127	4684	3095	0.89678
7/21	6	1143	2086	1803	0.91404
7/22	5	990	2696	1812	0.92832
7/23	4	791	1690	1288	0.93605
7/24	5	499	2713	1406	0.94475

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Appendix C.5. (Page 2 of 2)

Date	No. Years w/ fishing period on this date	Minimum harvest	Maximum harvest	Median harvest	Cumulative proportion harvest
7/25	5	0	1397	1053	0.95113
7/26	4	0	1446	941	0.95492
7/27	8	0	1085	571	0.96165
7/28	3	333	975	428	0.96381
7/29	6	190	1412	636	0.96971
7/30	4	173	802	391	0.97242
7/31	6	5	715	329	0.97481
8/01	6	246	479	303	0.97881
8/02	5	153	459	246	0.98056
8/03	8	110	580	233	0.98495
8/04	4	4	262	125	0.98564
8/05	7	98	357	254	0.98853
8/06	6	52	285	146	0.99186
8/07	4	101	260	149	0.99256
8/08	7	0	234	119	0.99352
8/09	5	11	265	107	0.99423
8/10	7	9	108	53	0.99558
8/11	5	4	110	37	0.99590
8/12	6	15	109	49	0.99642
8/13	5	2	95	19	0.99679
8/14	6	13	166	37	0.99729
8/15	4	5	42	17	0.99758
8/16	7	2	96	23	0.99792
8/17	7	0	50	15	0.99836
8/18	6	7	49	16	0.99850
8/19	8	5	54	11	0.99879
8/20	5	3	27	11	0.99888
8/21	7	2	26	9	0.99904
8/22	5	1	18	7	0.99914
8/23	7	3	27	12	0.99928
8/24	6	0	8	4	0.99935
8/25	7	0	25	5	0.99941
8/26	7	0	10	6	0.99952
8/27	4	0	6	2	0.99954
8/28	7	1	17	4	0.99961
8/29	6	0	3	2	0.99962
8/30	3	0	18	1	0.99964
8/31	7	0	10	2	0.99973
9/01	6	0	8	1	0.99974
9/02	7	0	7	3	0.99981
9/03	4	0	43	22	0.99988
9/04	4	0	13	7	0.99998
9/05	7	0	5	3	1.00000
9/06	3	0	0	0	1.00000
9/07	7	0	2	1	1.00000
9/08	3	0	0	0	1.00000

Appendix C.6. Quinhagak District commercial permits 1970-1995.

YEAR	EFFORT[a]
1970	88
1971	61
1972	107
1973	109
1974	196
1975	127
1976	181
1977	258
1978	200
1979	206
1980	169
1981	186
1982	117
1983	226
1984	263
1985	300
1986	324
1987	310
1988	288
1989	227
1990	390
1991	346
1992	349
1993	409
1994	308
1995	382
TEN YEAR AVERAGE (1985-1994)	326

a Permits that made at least one delivery during that year.

Appendix C.7. Kanektok River peak aerial surveys by species, 1962-1995[a].

Year	SPECIES			
	Chinook	Sockeye	Coho	Chum
1962	935	43,108		
1963				
1964				
1965				
1966	3,718			28,800
1967				
1968	4,170	8,000		14,000
1969				
1970	4,112	3,028		80,100
1971				
1972				
1973	814			
1974				
1975		6,018		
1976		2,936		8,697
1977	5,787	6,304		32,157
1978[b]	19,180	44,215		229,290
1979				
1980	6,172	113,931	69,325	23,950
1981[c]	15,900	49,175		71,840
1982[d]	8,142	55,940		
1983	8,890	2,340		9,360
1984[e]	12,182	30,840	46,830	48,360
1985	13,465	16,270		14,385
1986	3,643	14,949		16,790
1987	4,223	51,753	20,056	9,420
1988	11,140	30,440		20,063
1989	7,914	14,735		6,270
1990	2,563	32,082		2,475
1991[d]	2,100	43,500	4,330	18,000
1992[f]	3,856	14,955		25,675
1993	4,670	23,128		1,285
1994[g]	7,386	30,090		10,000
1995[h]			2,250	
10 YR AVG:	6,575	27,265	23,738	16,272
OBJECTIVE:	5,000	15,000		30,500

[a] Peak aerial surveys are those rated fair or good surveys obtained between 20 July and 5 August for chinook and sockeye salmon, 20-31 July for chum salmon, and 20 August and 5 September for coho salmon. Some surveys which do not meet these criteria may be referenced in this table; text are footnoted.

[b] Chum salmon count excluded from escapement objective calculation due to exceptional magnitude.

[c] Poor survey for chinook, sockeye, chum salmon.

[d] Late survey for chinook, sockeye salmon (after 5 August).

[e] Poor coho survey.

[f] Some chum may have been sockeye.

[g] Chum count not at peak, estimate made during chinook survey.

[h] Partial survey rated poor.

APPENDIX D

Appendix D.1. Goodnews Bay District commercial salmon harvest, 1968-1995.

YEAR	CHINOOK	SOCKEYE	COHO	PINK	CHUM	TOTAL
1968			5,458			5,458
1969	3,978	6,256	11,631	298	5,006	27,169
1970	7,163	7,144	6,794	12,183	12,346	45,630
1971	477	330	1,771	0	301	2,879
1972	264	924	925	66	1,331	3,510
1973	3,543	2,072	5,017	324	15,781	26,737
1974	3,302	9,357	21,340	16,373	8,942	59,314
1975	2,156	9,098	17,889	419	5,904	35,466
1976	4,417	5,575	9,852	8,453	10,354	38,651
1977	3,336	3,723	13,335	29	6,531	26,954
1978	,218	5,412	13,764	9,103	8,590	42,087
1979	3,204	19,581	42,098	201	9,298	74,382
1980	2,331	28,632	43,256	7,832	11,748	93,799
1981	7,190	40,273	19,749	11	13,642	80,865
1982	9,476	38,877	46,683	4,673	13,829	113,538
1983	14,117	11,716	19,660	0	6,766	52,259
1984	8,612	15,474	71,176	4,711	14,340	114,313
1985	5,793	6,698	16,498	8	4,784	33,781
1986	2,723	25,112	19,378	4,447	10,355	62,015
1987	3,357	27,758	29,057	54	20,381	80,607
1988	4,964	36,368	30,832	5,509	33,059	110,732
1989	2,966	19,299	31,849	82	13,622	67,818
1990	3,303	35,823	7,804	629	13,194	60,753
1991	912	39,838	13,312	29	15.892	69,983
1992	3,528	39,194	19,875	14,310	18,520	95,427
1993	2,117	59,293	20,014	0	10,657	92,081
1994	2,570	69,490	47,499	18,017[a]	28,477	166,053
1995	2,922	37,351	17,875	39[a]	19,832	78,019
Ten Year Average (1985-1994)	3,224	35,888	23,612	35	16,894	83,925

[a] Odd years only

Appendix D.2. Summary of historical commercial harvest by period, Goodnews Bay District, chinook salmon, 1981-1995.

DATE	No. Years w/ fishing period on this date	Minimum Harvest	Maximum Harvest	Median Harvest	Cumulative Proportion Harvest
6/12	0	0	0	0	0.00000
6/13	1	1252	1252	1252	0.00591
6/14	0	0	0	0	0.00591
6/15	1	197	197	197	0.00774
6/16	2	251	1096	674	0.01629
6/17	1	362	362	362	0.01883
6/18	3	387	1706	1084	0.05046
6/19	2	296	390	343	0.06647
6/20	5	139	2642	838	0.10922
6/21	2	1298	1535	1417	0.13007
6/22	2	792	1591	1192	0.15979
6/23	3	583	1639	1003	0.21419
6/24	3	476	988	695	0.23938
6/25	4	340	1896	1136	0.28893
6/26	2	352	416	384	0.30690
6/27	4	173	3944	1533	0.36696
6/28	5	567	1307	911	0.43621
6/29	3	330	921	569	0.46452
6/30	5	242	1551	706	0.52085
7/1	2	77	1156	617	0.53978
7/2	6	166	710	389	0.57602
7/3	3	156	391	270	0.59331
7/4	2	637	2301	1469	0.62070
7/5	8	95	1809	467	0.67236
7/6	3	235	272	250	0.68563
7/7	8	132	1119	531	0.74999
7/8	6	93	495	211	0.77444
7/9	5	99	351	215	0.78814
7/10	4	156	203	221	0.80580
7/11	7	53	408	211	0.83101
7/12	3	145	737	403	0.84330
7/13	5	66	139	119	0.85799
7/14	7	54	514	203	0.87789
7/15	4	0	354	153	0.88518
7/16	6	54	294	123	0.89734
7/17	3	65	210	144	0.90759
7/18	4	54	217	100	0.91208
7/19	4	33	71	58	0.91872
7/20	6	38	192	107	0.92794
7/21	5	35	68	52	0.93360
7/22	3	19	228	109	0.93680
7/23	7	17	97	42	0.94199
7/24	4	20	77	44	0.94592
7/25	6	0	82	32	0.94877

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DATE	No. Years w/ fishing period on this date	Minimum Harvest	Maximum Harvest	Median Harvest	Cumulative Proportion Harvest
7/26	4	0	41	21	0.95145
7/27	7	19	122	53	0.95541
7/28	4	5	22	18	0.95716
7/29	5	15	157	52	0.96038
7/30	6	16	73	31	0.96336
7/31	4	7	34	20	0.96502
8/1	6	12	78	37	0.96711
8/2	6	6	27	19	0.96991
8/3	8	9	102	39	0.97304
8/4	4	6	23	15	0.97438
8/5	6	6	54	22	0.97617
8/6	6	6	79	21	0.97774
8/7	3	15	43	25	0.97887
8/8	7	0	60	17	0.98041
8/9	4	7	21	14	0.98206
8/10	8	5	78	24	0.98392
8/11	4	5	20	12	0.98497
8/12	5	7	47	25	0.98643
8/13	6	0	36	11	0.98736
8/14	6	4	41	15	0.98886
8/15	5	5	26	15	0.98976
8/16	7	0	17	8	0.99117
8/17	7	2	22	10	0.99203
8/18	5	0	10	6	0.99276
8/19	6	4	14	9	0.99372
8/20	5	1	12	6	0.99418
8/21	7	0	11	4	0.99487
8/22	5	3	17	9	0.99538
8/23	4	0	9	6	0.99589
8/24	6	2	17	6	0.99642
8/25	5	0	13	6	0.99685
8/26	6	0	8	4	0.99725
8/27	5	0	13	4	0.99750
8/28	8	0	11	4	0.99819
8/29	6	2	9	4	0.99866
8/30	4	1	4	2	0.99880
8/31	7	0	6	2	0.99897
9/1	6	0	7	2	0.99925
9/2	6	0	5	2	0.99962
9/3	5	0	3	1	0.99976
9/4	4	0	6	2	0.99983
9/5	6	0	5	2	0.99995
9/6	3	0	0	0	0.99995
9/7	7	0	1	0	0.99999
9/8	4	0	2	1	0.99999
9/9	0	0	0	0	1.00000

Appendix D.3. Summary of historical commercial harvest by period, Goodnews Bay District, sockeye salmon, 1981-1995.

DATE	No. Years w/ fishing period on this date	Minimum Harvest	Maximum Harvest	Median Harvest	Cumulative proportion Harvest
6/12	0	0	0	0	0.00000
6/13	1	27	27	27	0.00015
6/14	0	0	0	0	0.00015
6/15	1	70	70	70	0.00027
6/16	2	125	696	411	0.00226
6/17	1	744	744	744	0.00355
6/18	3	281	596	348	0.00695
6/19	2	478	551	515	0.01012
6/20	5	102	1989	535	0.01941
6/21	2	967	1280	1124	0.02580
6/22	2	569	1074	822	0.02857
6/23	3	1029	2701	1466	0.04132
6/24	3	596	2120	1892	0.05548
6/25	4	852	2087	1409	0.07073
6/26	2	1719	1909	1814	0.08188
6/27	4	685	3040	1868	0.10189
6/28	4	2097	4163	3141	0.12684
6/29	4	1412	3323	2065	0.14148
6/30	5	2037	8143	5094	0.18622
7/1	2	1143	3376	2260	0.20324
7/2	6	1818	8198	3748	0.24587
7/3	3	1427	5510	2589	0.27059
7/4	2	1598	7674	4636	0.28705
7/5	7	1254	5195	2380	0.32758
7/6	4	2346	7886	4919	0.35493
7/7	8	2057	6283	3681	0.42130
7/8	6	1231	6261	3916	0.46737
7/9	5	2167	4518	3751	0.50149
7/10	4	1759	8140	4403	0.53935
7/11	7	1397	16753	2851	0.60556
7/12	3	1444	5009	2318	0.62145
7/13	5	2046	5275	4291	0.65489
7/14	7	1039	8860	3036	0.69870
7/15	4	0	4818	2207	0.72558
7/16	6	902	4969	2620	0.75565
7/17	3	2978	3936	3642	0.77365
7/18	4	559	3049	1675	0.78960
7/19	4	1683	2830	2339	0.80189
7/20	6	395	3852	2050	0.82528
7/21	5	507	2559	1318	0.83789
7/22	3	614	2207	2056	0.84848
7/23	7	162	3966	874	0.86416
7/24	4	588	2458	1344	0.87425

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Appendix D.3. (Page 2 of 2)

DATE	No. Years w/ fishing period on this date	Minimum Harvest	Maximum Harvest	Median Harvest	Cumulative proportion Harvest
7/25	6	0	1534	633	0.88093
7/26	4	0	1804	905	0.88609
7/27	7	166	2903	479	0.89923
7/28	4	278	893	576	0.90322
7/29	5	605	1312	810	0.91298
7/30	6	84	1982	739	0.92042
7/31	4	300	803	529	0.92455
8/1	6	45	811	355	0.93170
8/2	6	204	969	545	0.93655
8/3	8	36	975	584	0.94614
8/4	4	188	739	331	0.94852
8/5	6	94	932	486	0.95448
8/6	6	34	498	275	0.95745
8/7	3	178	692	686	0.96044
8/8	7	0	926	260	0.96434
8/9	4	46	485	219	0.96579
8/10	8	18	659	329	0.97098
8/11	4	0	174	100	0.97198
8/12	5	17	564	238	0.97460
8/13	6	0	347	146	0.97621
8/14	6	4	382	224	0.97875
8/15	5	5	422	109	0.98040
8/16	7	0	322	109	0.98197
8/17	7	4	498	151	0.98421
8/18	5	0	318	96	0.98546
8/19	6	5	360	135	0.98699
8/20	5	0	139	98	0.98778
8/21	7	1	373	89	0.98994
8/22	5	7	353	104	0.99111
8/23	4	0	193	71	0.99167
8/24	6	1	244	66	0.99273
8/25	5	0	353	36	0.99390
8/26	7	0	204	71	0.99467
8/27	5	0	148	59	0.99522
8/28	8	1	186	62	0.99632
8/29	6	1	155	60	0.99695
8/30	4	0	171	61	0.99753
8/31	7	0	88	51	0.99814
9/1	6	0	158	46	0.99882
9/2	6	2	69	37	0.99924
9/3	5	0	72	28	0.99947
9/4	4	0	61	29	0.99971
9/5	6	0	61	16	0.99986
9/6	3	0	0	0	0.99986
9/7	7	0	63	12	1.00000
9/8	4	0	0	0	1.00000
9/9	1	0	0	0	1.00000

Appendix D.4. Summary of historical commercial harvest by period, Goodnews Bay, coho salmon, 1979-1995.

DATE	No. Years w/ fishing period on this date	Minimum Harvest	Maximum Harvest	Median Harvest	Cumulative proportion Harvest
7/14	5	0	2	1	0.00000
7/15	1	0	0	0	0.00000
7/16	5	0	18	4	0.00004
7/17	1	0	0	0	0.00004
7/18	2	0	5	3	0.00005
7/19	4	0	11	4	0.00007
7/20	5	1	111	24	0.00020
7/21	6	1	18	6	0.00026
7/22	1	1	1	1	0.00027
7/23	7	1	195	39	0.00062
7/24	4	5	33	14	0.00074
7/25	5	2	383	135	0.00159
7/26	4	4	40	15	0.00172
7/27	6	6	1059	218	0.00312
7/28	5	4	153	53	0.00359
7/29	6	5	343	85	0.00442
7/30	6	28	1306	329	0.00730
7/31	6	24	364	90	0.00841
8/01	7	56	2811	526	0.01348
8/02	7	96	1491	578	0.01980
8/03	8	66	3943	723	0.02658
8/04	6	92	949	521	0.03256
8/05	6	126	1146	490	0.03911
8/06	8	314	4275	1195	0.05461
8/07	3	231	812	521	0.05851
8/08	8	357	3090	1500	0.07914
8/09	4	516	2240	1453	0.09086
8/10	9	463	4198	1543	0.11625
8/11	5	663	6065	2352	0.13737
8/12	5	1255	2699	1884	0.15961
8/13	8	673	4852	2194	0.19277
8/14	6	1325	2455	2032	0.23027
8/15	7	1225	5999	3296	0.26445
8/16	7	462	5456	2371	0.30818
8/17	8	1390	6880	3505	0.35602

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Appendix D.4. (Page 2 of 2)

DATE	No. Years w/ fishing period on this date	Minimum Harvest	Maximum Harvest	Median Harvest	Cumulative proportion Harvest
8/18	6	1033	3864	2333	0.38737
8/19	6	1394	4522	3001	0.42907
8/20	7	68	9590	3165	0.47134
8/21	8	968	3459	2081	0.51437
8/22	5	1723	6731	3762	0.55626
8/23	8	1308	5306	3294	0.58845
8/24	7	1597	5520	3482	0.63107
8/25	6	1739	3709	2804	0.66647
8/26	7	15	3249	2142	0.69968
8/27	4	1101	6625	3101	0.74908
8/28	8	1016	3529	2019	0.79560
8/29	4	725	4972	2305	0.82994
8/30	7	1483	3926	2622	0.85628
8/31	3	1084	3479	2223	0.89077
9/1	0	604	2778	1729	0.91677
9/2	0	576	3233	1481	0.93679
9/3	17	377	3822	1725	0.95623
9/4	0	374	2685	1314	0.97053
9/5	17	0	2695	1212	0.98562
9/6	0	0	1715	717	0.98935
9/7	0	0	2310	726	0.99748
9/8	0	0	843	281	1.00000

Appendix D.5. Summary of historical commercial harvest by period Goodnews Bay District, chum salmon, 1981-1995.

DATE	No. Years w/ fishing period on this date	Minimum Harvest	Maximum Harvest	Median Harvest	Cumulative proportion Harvest
6/12	0	0	0	0	0.00000
6/13	1	10	10	10	0.00010
6/14	1	0	0	0	0.00010
6/15	1	102	102	102	0.00060
6/16	2	89	1091	590	0.00367
6/17	1	167	167	167	0.00448
6/18	3	194	501	316	0.00859
6/19	2	249	557	403	0.01292
6/20	5	137	3501	915	0.02839
6/21	2	591	698	645	0.03451
6/22	2	708	2124	1416	0.04561
6/23	3	886	7833	3202	0.07145
6/24	3	594	1188	868	0.08964
6/25	4	724	2351	1559	0.11743
6/26	2	866	1241	1054	0.12908
6/27	4	691	2364	1135	0.15459
6/28	4	649	8369	3713	0.18752
6/29	4	425	2983	1471	0.21075
6/30	5	1349	7613	3109	0.24605
7/01	2	710	850	780	0.25951
7/02	6	713	3952	2416	0.30199
7/03	3	1309	3074	2308	0.32699
7/04	2	1626	4075	2851	0.35254
7/05	7	976	6332	2363	0.39699
7/06	4	963	4076	2148	0.42471
7/07	8	1357	6743	2777	0.50642
7/08	6	949	2669	1795	0.55096
7/09	5	1191	6706	2625	0.58541
7/10	4	1346	4835	2467	0.62836
7/11	7	562	5830	2413	0.69062
7/12	3	1057	9887	4109	0.71176
7/13	5	896	2288	1505	0.74265
7/14	7	601	8502	2643	0.79280
7/15	4	0	2495	1302	0.82204
7/16	6	476	6565	1889	0.85217
7/17	3	1532	2115	1889	0.87524
7/18	4	488	1191	722	0.89184
7/19	4	506	2782	1556	0.90655
7/20	6	479	1265	851	0.92682
7/21	5	233	2020	745	0.93637
7/22	3	307	1177	615	0.94637
7/23	7	35	1330	441	0.95484
7/24	4	244	874	447	0.96243

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DATE	No. Years w/ fishing period on this date	Minimum Harvest	Maximum Harvest	Median Harvest	Cumulative proportion Harvest
7/25	6	0	281	173	0.96645
7/26	4	0	680	379	0.97042
7/27	7	58	177	115	0.97681
7/28	4	81	499	62	0.98007
7/29	5	32	223	44	0.98272
7/30	6	42	325	33	0.98398
7/31	4	8	121	21	0.98601
8/01	6	22	61	49	0.98601
8/02	6	47	527	21	0.98823
8/03	8	22	105	15	0.99010
8/04	4	23	370	13	0.99092
8/05	6	21	165	17	0.99256
8/06	6	18	125	24	0.99337
8/07	3	16	62	9	0.99376
8/08	7	0	60	12	0.99430
8/09	4	19	67	9	0.99494
8/10	8	2	44	5	0.99560
8/11	4	10	25	7	0.99589
8/12	5	0	31	5	0.99615
8/13	6	2	48	21	0.99642
8/14	6	3	62	4	0.99715
8/15	5	0	23	6	0.99730
8/16	7	0	36	3	0.99759
8/17	7	0	22	3	0.99784
8/18	5	0	9	11	0.99793
8/19	6	2	16	2	0.99810
8/20	5	0	11	3	0.99822
8/21	7	0	127	4	0.99891
8/22	5	2	6	1	0.99901
8/23	4	0	19	3	0.99906
8/24	6	0	8	4	0.99910
8/25	5	0	8	3	0.99919
8/26	7	0	42	1	0.99942
8/27	5	0	5	4	0.99947
8/28	8	0	11	2	0.99956
8/29	6	0	6	0	0.99965
8/30	4	0	2	1	0.99967
8/31	7	0	9	0	0.99972
9/01	6	0	17	0	0.99978
9/02	6	0	10	5	0.99987
9/03	5	0	4	2	0.99990
9/04	4	0	9	28	0.99996
9/05	6	0	4	2	0.99999
9/06	3	0	0	0	0.99999
9/07	7	0	2	0	1.00000

Appendix D.6. Goodnews Bay. District 5 commercial effort 1970-1995

YEAR	EFFORT[a]
1970	35
1971	16
1972	14
1973	21
1974	49
1975	50
1976	40
1977	34
1978	35
1979	30
1980	48
1981	48
1982	48
1983	79
1984	77
1985	69
1986	86
1987	69
1988	125
1989	88
1990	82
1991	72
1992	111
1993	114
1994	116
1995	118
TEN YEAR AVERAGE (1985-1994)	94

a Permits that made at least one delivery during that year.

Appendix D.7. Average cumulative estimated escapement and proportion by day for chinook, sockeye and chum salmon, Goodnews River Weir, 1981-1995[a]

	Chinook		Sockeye		Chum	
Date	Average Number	Cum Percent	Average Number	Cum Percent	Average Number	Cum Percent
6/11	0	0.0001	0	0.0000	0	0.0000
6/12	0	0.0001	0	0.0000	0	0.0000
6/13	0	0.0001	0	0.0000	0	0.0000
6/14	0	0.0000	0	0.0000	0	0.0000
6/15	0	0.0000	7	0.0002	0	0.0000
6/16	0	0.0000	8	0.0002	0	0.0000
6/17	1	0.0002	10	0.0003	0	0.0000
6/18	1	0.0002	16	0.0005	0	0.0000
6/19	3	0.0010	38	0.0012	0	0.0000
6/20	6	0.0019	58	0.0018	1	0.0000
6/21	12	0.0039	126	0.0040	1	0.0000
6/22	20	0.0063	266	0.0084	18	0.0002
6/23	37	0.0117	552	0.0173	34	0.0002
6/24	69	0.0220	1052	0.0330	54	0.0010
6/25	107	0.0341	1729	0.0542	130	0.0045
6/26	147	0.0469	2390	0.0750	196	0.0082
6/27	207	0.0661	3507	0.1100	330	0.0147
6/28	253	0.0808	4657	0.1461	416	0.0178
6/29	311	0.0995	5539	0.1738	507	0.0225
6/30	394	0.1260	6481	0.2034	657	0.0299
7/01	523	0.1670	7671	0.2407	926	0.0435
7/02	600	0.1915	8853	0.2778	1168	0.0543
7/03	683	0.2181	9883	0.3101	1416	0.0678
7/04	769	0.2455	11146	0.3498	1720	0.0849
7/05	885	0.2827	12852	0.4033	2068	0.1043
7/06	970	0.3098	14288	0.4483	2395	0.1208
7/07	1087	0.3473	15847	0.4973	2761	0.1385
7/08	1187	0.3793	17517	0.5497	3183	0.1573
7/09	1285	0.4104	19152	0.6010	3761	0.1895
7/10	1421	0.4538	20791	0.6524	4607	0.2276
7/11	1564	0.4997	22307	0.7000	5333	0.2655
7/12	1715	0.5478	23644	0.7419	6198	0.3086
7/13	1829	0.5843	24719	0.7757	6884	0.3449
7/14	1936	0.6184	25742	0.8078	7588	0.3813
7/15	2047	0.6538	26670	0.8369	8425	0.4251
7/16	2151	0.6870	27518	0.8635	9462	0.4770
7/17	2293	0.7323	28235	0.8860	10377	0.5235
7/18	2392	0.7640	28844	0.9051	11099	0.5600
7/19	2467	0.7879	29409	0.9228	11682	0.5878

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	Chinook		Sockeye		Chum	
Date	Average Number	Cum Percent	Average Number	Cum Percent	Average Number	Cum Percent
7/20	2557	0.8168	29907	0.9384	12367	0.6230
7/21	2629	0.8396	30306	0.9510	12966	0.6561
7/22	2703	0.8633	30628	0.9611	13717	0.6941
7/23	2777	0.8871	30852	0.9681	14421	0.7321
7/24	2851	0.9107	31056	0.9745	15023	0.7638
7/25	2898	0.9256	31190	0.9787	15540	0.8735
7/26	2944	0.9405	31321	0.9828	16144	0.8978
7/27	2973	0.9497	31415	0.9858	16536	0.9183
7/28	3011	0.9618	31512	0.9888	16977	0.9406
7/29	3039	0.9708	31579	0.9909	17268	0.9546
7/30	3063	0.9785	31638	0.9928	17519	0.9646
7/31	3078	0.9833	31676	0.9939	17708	0.9726
8/01	3096	0.9889	31702	0.9948	17819	0.9935
8/02	3102	0.9909	31723	0.9954	17913	0.9955
8/03	3108	0.9928	31741	0.9960	18005	0.9979
8/04	3113	0.9944	31756	0.9965	18083	0.9983
8/05	3116	0.9955	31770	0.9969	18131	0.9987
8/06	3120	0.9967	31780	0.9972	18180	0.9990
8/07	3124	0.9978	31795	0.9977	18218	0.9992
8/08	3126	0.9985	31806	0.9980	18243	0.9993
8/09	3128	0.9991	31820	0.9985	18271	0.9995
8/10	3128	1.0000	31828	0.9987	18301	0.9995
8/11	3129	1.0000	31834	0.9989	18314	0.9997
8/12	3129	1.0000	31839	0.9991	18335	0.9997
8/13	3129	1.0000	31842	0.9992	18343	0.9998
8/14	3129	1.0000	31845	0.9993	18348	0.9999
8/15	3129	1.0000	31848	0.9993	18357	1.0000
8/16	3130	1.0000	31853	0.9995	18364	1.0000
8/17	3130	1.0000	31854	0.9996	18372	1.0000
8/18	3130	1.0000	31857	0.9996	18377	1.0000
8/19	3130	1.0000	31858	0.9997	18380	1.0000
8/20	3130	1.0000	31860	0.9997	18384	1.0000
8/21	3130	1.0000	31861	0.9998	18386	1.0000
8/22	3130	1.0000	31863	0.9998	18390	1.0000
8/23	3130	1.0000	31863	0.9998	18392	1.0000
8/24	3130	1.0000	31865	0.9999	18394	1.0000
8/25	3131	1.0000	31868	1.0000	18394	1.0000

a Average for the years 1981-1995 excluding 1986 and 1992. Early termination date of the project in 1986 and high water during the peak in 1992 precluded assessment of the entire chinook, sockeye and chum salmon migration. In 1993, this project began to assess coho salmon strength. This project changed from a tower to a weir in 1991.

Appendix D.8. Estimated daily escapement of chinook salmon at the Middle Fork, Goodnews River, 1981-1995.

Date	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
6/11			5												
6/12			0												
6/13	0		0												
6/14	0		-5												
6/15	0		0	0											
6/16	0		0	0		0									
6/17	2		0	0		0									
6/18	0		0	0		0									
6/19	4		0	4		6									28
6/20	9		5	4		0				20					19
6/21	11		16	12		0				60		7			5
6/22	10		64	9		0	0			-10		1	12	50	17
6/23	16	0	186	6		0	0	50		16		0	27	5	39
6/24	21	22	118	26		0	0	22		30		1	158	20	71
6/25	41	28	106	46		26	0	109		43		1	66	30	85
6/26	30	4	55	15		0	4	155		178		0	95	15	69
6/27	82	2	21	11	4	79	0	200	142	64		34	26	73	28
6/28	92	0	171	51	0	45	8	56	70	135		31	10	18	33
6/29	166	0	341	11	11	50	16	49	24	128	1	36	36	101	64
6/30	54	0	520	8	10	55	36	176	67	27	12	46	68	211	132
7/01	86	0	273	57	8	129	56	251	110	30	60	63	32	683	126
7/02	186	3	263	105	38	41	67	102	57	32	4	47	5	54	284
7/03	90	2	113	57	32	90	59	93	57	138	78	49	9	3	407
7/04	134	23	172	58	60	65	51	89	56	201	53	55	4	18	275
7/05	252	44	231	59	87	40	91	84	55	263	80	73	15	131	291
7/06	237	11	61	105	132	53	130	68	-7	94	28	53	64	41	171
7/07	192	24	656	145	99	67	43	95	82	135	15	75	91	81	151
7/08	206	44	147	158	66	57	37	70	26	137	49	57	69	291	77
7/09	102	50	102	170	126	38	71	126	33	138	174	6	88	1	40
7/10	133	26	198	135	132	87	141	120	39	235	256	16	144	72	105
7/11	110	66	205	188	192	78	61	114	101	243	94	20	153	35	446
7/12	78	106	282	105	186	64	58	81	114	67	189	87	84	400	160
7/13	92	104	263	159	45	86	55	59	131	97	23	86	99	140.8	99
7/14	61	49	67	202	45	109	213	24	81	178	3	59	14	135.4	248
7/15	142	85	157	124	45	139	132	48	87	163	2	54	19	144.7	213
7/16	67	117	130	46	108	79	107	65	105	148	4	64	92	133.5	36
7/17	68	96	116	223	141	26	114	49	123	101	150	151	93	165.8	209
7/18	69	59	92	70	189	84	120	33	57	114	28	66	169	42	55
7/19	76	22	106	40	183	76	85	30	34	138	46	41	31	74	48

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Date	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
7/20	81	39	160	100	162	79	49	21	0	74	64	60	179	11	177
7/21	26	55	187	113	96	83	48	11	40	37	75	52	39	13	74
7/22	48	34	67	136	30	147	69	67	48	40	17	82	60	25	42
7/23	68	33	58	159	96	64	45	45	41	43	96	69	32	39	59
7/24	85	32	89	43	97	44	73	41	33	99	116	45	49	26	112
7/25	50	31	79	62	101		58	37	13	0	44	46	11	46	44
7/26	43	31	96	54	115		47	14	45	0	17	54	31	43	28
7/27	23	19	38	59	20		35	3	37	0	8	50	5	56	22
7/28	23	36	16	59	40		22	17	3	0	8	33	7	256	30
7/29	39	16		39	60		26	17	10	0	31	30	23	43	16
7/30	18	13		19	57		45	21	4	0	22	48	1	21	21
7/31	34	29		8	18				-3	0	15	17	21	21	16
8/01	33	17									20	16	5	19	6
8/02	46	5									5	10	0	5	31
8/03	28	18									14	1	0	23	11
8/04	36										17	5	17	13	3
8/05	36										5	2	6	3	10
8/06	20										14	1	20	3	12
8/07	13										1	1	24	4	8
8/08	12										1	1	8	12	7
8/09	7										0	1	4	5	16
8/10											0		2		6
8/11											2				6
8/12											3				3
8/13											0				13
8/14											0				5
8/15											0				1
8/16											0				1
8/17											0				4
8/18											0				6
8/19											0				3
8/20											1				0
8/21											0				3
8/22											2				1
8/23											2				2
8/24											2				3
8/25											1				3
8/26															
8/27															
8/28															
Total	3,688	1,395	6,027	3,260	2,831	2,092	2,272	2,712	1,915	3,636	1,952	1,899	2,317	3,856	4,836

Appendix D.9. Estimated daily escapement of sockeye salmon at the Middle Fork, Goodnews River, 1981-1995.

Date	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
6/11			3												
6/12			0												
6/13	0		0												
6/14	1		0												
6/15	0		0	92											
6/16	0		3	8		0									
6/17	32		0	11		0									
6/18	107		0	13		0									
6/19	259		0	143		0									0
6/20	104		3	100		0				48					75
6/21	291		0	452		292				11		123.2			146
6/22	571		0	289		276	222			48		6	202.0	703.2	236
6/23	669	1822	0	203		261	193	358		107		108	692	10	353
6/24	633	4201	799	379		59	121	269		233		278	1044	276	564
6/25	868	6010	527	554		697	427	695		359		5	692	673	509
6/26	690	5019	404	630		431	697	783		158		367	939	513	768
6/27	3108	2559	410	1005	125	1299	818	870	2811	443		799	935	1292	592
6/28	2039	98	262	1461	235	1657	794	703	1107	1227	7230.0	1354	221	767	1033
6/29	1877	268	462	1141	616	1505	771	746	480	1731	75	758.6	700	1906	868
6/30	1511	438	315	1236	825	1353	805	818	605	788	1539	799.6	1072	1922	902
7/1	1798	608	481	1546	1033	2514	840	983	730	1260	2347	1070.7	780	2203	1251
7/2	1861	675	1053	1855	883	2487	1104	556	524	1731	1754	1070.7	31	2525	1918
7/3	1438	966	647	1484	565	2442	1333	609	654	1053	2553	999.5	121	876	1583
7/4	1865	2328	1177	1733	1044	2587	1562	635	534	1822	1918	1240.5	230	934	1515
7/5	2970	3690	1708	1981	1523	2732	1595	661	414	2591	2622	1577.4	405	4376	1216
7/6	2487	2755	1150	1474	1016	3192	1627	959	722	1348	1797	1328.2	1272.8	1323	1256
7/7	1511	1578	1483	1931	1087	3651	1761	609	814	1700	1326	1289.8	1236.0	4631	1631
7/8	2176	2912	1131	2419	1158	3158	1436	698	837	1863	2858	1465.1	1404.0	3071	1854
7/9	2195	4382	1166	2907	1680	2700	1044	652	968	2026	1910	610	1467.0	794	1548
7/10	2169	2364	1179	1417	1212	3075	1292	586	1098	1615	2440	952	1239	5029	2339
7/11	2778	2194	1961	1018	1362	1896	873	519	1465	1803	1822	782	1459	1869	2058
7/12	1476	2023	1617	992	777	2098	1012	537	1161	1238	2292	1772	1445	3410	1040
7/13	1889	1319	1091	862	780	1953	1151	365	744	1468	810	753	1080	1862.7	1358
7/14	1223	1567	701	774	774	1809	1125	459	828	1018	1279	1307	1056	1739.7	1562
7/15	1450	1097	992	549	768	1553	1412	246	429	1009	1698	890	736	1655.8	1200
7/16	1439	1513	1002	323	753	1243	762	269	482	1000	1370	582	1124	1487.9	611
7/17	946	785	763	260	963	799	438	210	534	436	1735	640	752	1202.7	1329
7/18	476	534	866	121	1077	1104	447	151	621	465	685	661	561	1280	663

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Date	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
7/19	758	282	549	117	1038	660	449	157	505	352	784	371	427	1937	749
7/20	753	385	439	124	1074	486	450	111	502	245	702	367	208	787	1191
7/21	351	238	607	124	771	311	284	101	278	212	818	382	650	438	490
7/22	447	202	336	97	468	331	478	137	225	123	447	484	358	836	360
7/23	386	187	87	70	121	307	391	123	216	34	535	414	163	257	620
7/24	212	172	129	22	221	151	239	80	207	114	411	284	257	295	538
7/25	183	157	91	19	102		382	36	198		271	227	84	179	280
7/26	144	142	65	37	37		235	31	87		105	182	300	481	403
7/27	116	120	91	34	18		87	24	168		158	275	64	363	259
7/28	197	90	66	26	11		107	17	62		121	94	105	893	124
7/29	228	73		17	4		48	13	55		142	133	191	256	115
7/30	127	83		7	0		59	23	59		136	127	135	129	186
7/31	44	92		-4	10				62		77	129	65	144	163
8/1	57	109									110	49	50	115	92
8/2	47	126									69	95	-18	86	140
8/3	39	92									48	4	23	33	114
8/4	53										59	36	60	33	50
8/5	39										36	6	42	22	103
8/6	7										34	2.7	17	27	92
8/7	1										37	0	62	18	124
8/8	7										27	5.5	48	68	42
8/9	2										21	0	20	0	198
8/10	0										34	2.7	37	5.5	49
8/11	11										23	0		0	72
8/12	-6										10	0		0	76
8/13	0										2	0		0	51
8/14	-2										9	0		0	49
8/15	0										6	0		5.5	40
8/16											12	2.7		11.1	67
8/17											13	5.5			20
8/18											8				29
8/19											8				22
8/20											7				22
8/21											4				22
8/22											12				11
8/23											8				7
8/24											16				24
8/25											17				37
Total	51,089	58,237	27,799	34,037	26,116	53,055	30,858	17,787	23,175	33,669	49,388	29,259	28,237	57,745	41,004

Appendix D.10. Estimated cumulative passage of coho salmon at Goodnews River Project 1981-95.

DATE	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
17-Jul	0	2	0	0		3	0			0	0	0			
18-Jul	0	3	0	0		3	0			0	0	0			
19-Jul	2	4	0	0		3	0			0	0	0			
20-Jul	6	5	0	0		5	0		108	0	0	0			
21-Jul	12	5	0	3		9	0	0	204	0	0	0			
22-Jul	15	5	0	7		143	0	0	330	0	0	0			
23-Jul	16	5	0	11		160	0	0	483	0	0	0			
24-Jul	18	5	0	36	0	163	0	0	663	0	0	0			
25-Jul	20	6	0	43	7		0	0	762		0	1			
26-Jul	21	9	0	78	85		0	0	960		0	1		2	
27-Jul	22	14	0	99	136		0	3	1164		0	1	2	2	
28-Jul	23	23	0	138	181		0	3	1179		0	26	2	4	
29-Jul	32	33	0	168	219		0	6	1182		0	46	2	4	
30-Jul	36	39	0	189	248		62	6	1212		0	92	2	6	
31-Jul	40	43	0	249	282						0	107	2	25	
1-Aug	64	48	0								0	112	2	54	1
2-Aug	78	54	0								0	141	2	78	16
3-Aug	100	91	0								0	145	2	142	27
4-Aug	115										11	150	12	168	30
5-Aug	165										12		18	202	39
6-Aug	187										23		27	222	59
7-Aug	200										33		39	239	87
8-Aug	222										40		41	309	93
9-Aug	255										43		64	309	138
10-Aug	271										53		102	309	168
11-Aug	300										76		132	309	199
12-Aug	325										113		180	309	323
13-Aug	353										116		196	309	487
14-Aug	356										127		280	309	598
15-Aug	356										137		353	309	698
16-Aug											140		364	309	938
17-Aug											168		1374		1140
18-Aug											173				1516
19-Aug											180				1744
20-Aug											217				1963
21-Aug											253				2488
22-Aug											344				2955
23-Aug											372				3160
24-Aug											1184				3469
25-Aug											1978				4206
26-Aug															4550
27-Aug															4918
28-Aug															5415

Appendix D.11. Estimated daily escapement of chum salmon at the Middle Fork, Goodnews River, 1981-1995.

Date	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
6/11			0												
6/12			0												
6/13	0		0												
6/14	0		0												
6/15	0		0	0											
6/16	1		0	0		0									
6/17	0		0	0		0									
6/18	0		0	0		0									
6/19	0		0	0		0				0					1
6/20	4		0	0		0				0					5
6/21	5		0	0		0				0		0			16
6/22	35		0	0		0	0			0		0	130.2	37.7	34
6/23	16	0	0	0		0	0	0		0		0	142	0	56
6/24	16	42	3	23		0	0	18		0		2	59	3	50
6/25	217	141	0	45		0	0	178		0		0	190	31	77
6/26	147	163	30	15		0	7	225		0		28	7	17	159
6/27	411	82	17	37	0	0	0	271	322	0		66	290	98	40
6/28	372	0	0	107	0	0	9	223	39	0	539	173	24	77	148
6/29	293	4	148	55	0	15	17	317	31	57	1	110.4	20	293	110
6/30	166	8	82	55	0	30	61	961	71	71	75	178.8	58	326	384
7/1	339	12	560	145	0	125	105	1281	111	64	149	329.0	56	288	1004
7/2	556	6	613	234	11	68	58	291	171	57	87	260.5	11	207	1607
7/3	189	30	445	491	4	326	89	246	249	171	108	324.5	7	54	845
7/4	387	65	545	404	78	404	121	224	154	301	192	410.7	5	80	804
7/5	353	100	646	316	152	482	141	201	58	431	168	468.1	15	369	691
7/6	552	47	409	264	88	447	162	654	270	75	211	397.8	258	323	811
7/7	443	27	682	232	55	411	168	1149	139	88	183	423.9	275.4	1326	333
7/8	653	126	459	433	21	268	91	935	161	111	595	454.8	295.5	1627	950
7/9	659	326	892	633	81	422	183	1785	306	133	938	395	504.9	69	567
7/10	960	224	572	680	228	1478	343	1353	450	184	755	409	1062	1410	2492
7/11	803	308	642	1507	570	699	281	921	435	198	447	677	273	484	2192
7/12	1058	391	1079	906	708	412	330	1536	503	187	751	920	216	3071	1290
7/13	658	339	588	1108	288	570	379	634	765	367	257	342	354	1438	715
7/14	439	490	157	1295	450	729	408	912	592	289	117	1071	277	1512.5	1214
7/15	643	371	433	1310	612	1457	289	984	388	531	56	1177	429	1716.1	1134
7/16	727	380	407	1325	972	934	1216	805	404	772	368	685	1054	1909.5	1284
7/17	664	212	372	2286	777	709	990	573	420	442	957	1777	887	1768.7	914
7/18	455	167	398	396	690	755	1011	341	435	602	484	672	716	1098	1043

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Date	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
7/19	790	122	401	159	873	433	695	384	221	156	749	880	535	1316	1212
7/20	1186	193	784	466	630	512	378	282	429	344	1068	356	367	707	1815
7/21	711	175	1034	964	358	592	722	300	224	197	1053	410	175	808	802
7/22	1179	197	671	630	85	1181	1071	834	318	220	1132	974	838	1693	335
7/23	1168	219	215	284	444	981	1479	267	429	242	1496	1019	281	1006	1109
7/24	628	242	447	201	440	324	1130	236	540	120	1774	1114	472	580	985
7/25	605	264	433	256	323		1717	205	361		924	1191	549	860	532
7/26	545	286	409	441	404		1069	154	363		890	607	1141	1977	1107
7/27	326	204	381	514	261		422	232	378		1411	681	263	539	660.0
7/28	717	116	594	300	230		1552	328	163		586	599	155	1827	162
7/29	406	132		211	198		508	343	170		1014	821	328	890	213
7/30	270	83		121	113		315	216	160		915	606	641	494	450
7/31	177	74		154	223				150		903	161	171	732	516
8/1	135	104									1124	230	74	278	313
8/2	104	134									754	312	59	219	313
8/3	103	161									526	163	16	365	346
8/4	107										656	104	164	437	238
8/5	119										303	11.0	77	309	210
8/6	75										540	6.9	74	63	235
8/7	34										159	4.4	208	84	155
8/8	37										172	2.2	98	7	147
8/9	43										237	4.4	63	3.5	218
8/10	0										293	2.2	107	3.5	118
8/11	30										178	2.2		7	72
8/12	25										290	2.2		3.5	131
8/13	18										113	1.3		0	41
8/14	10										42	1.1		7	65
8/15	38										97	4.2			33
8/16											124	0.0			32
8/17											152				29
8/18											62				45
8/19											60				15
8/20											59				25
8/21											30				10
8/22											76				13
8/24											23				7
8/25											48				7
8/26											54				13
Total	21,827	6,767	15,548	19,003	10,367	14,764	17,517	20,799	10,380	6,410	27,525	22,023	14,472	34,849	33,699

Appendix D.12. Peak aerial survey results, Goodnews River 1980-1995

	Goodnews River and Lake			Middle Fork Goodnews River and Lakes			Total		
Year	Chinook	Sockeye	Chum	Chinook	Sockeye	Chum	Chinook	Sockeye	Chum
1980	1,228	41,576	1,975	1,164	18,596	3,782	2,392	60,172	5,757
1981	a	a	a	a	a	a	a	a	a
1982	1,990	19,160	9,700	1,546	2,327	6,300	3,536	21,487	16,000
1983	2,600	9,650		2,500	5,900	a	5,241	15,600	a
1984	3,235	9,240	17,250	2,020	12,897	9,172	5,261	22,137	27,347
1985	3,535	2,843	4,415	2,050	2,710	3,593	5,585	5,553	8,008
1986	1,068	8,960	11,850	1,249	16,990	4,400	2,317	25,950	16,250
1987	2,234	19,786	12,103	1,598	9,033	2,805	3,870	28,819	15,588
1988	637	5,880	3,846	1,024	5,831	5,814	1,661	11,711	9,660
1989	8	30,764	a	1,277	1,145	2,922	1,285	31,909	2,922
1990	0	22,100	a	38	1,092	311	38	23,192	311
1991	127	1,285	365	a	a	a	127	1,285	365
1992	875	10,397	1,950	1,012	7,200	3,270	1,887	17,597	5,220
1993	a	a	a	a	a	a			
1994	a	a	a	a	a	a			
1995	3,314	a	a	a	a	a	3,314		
Escapement Objective	1,600	15,000	17,000	800	5,000	4,000	2,400	20,000	21,000

a/ Information not available

b/ Escapement objectives are preliminary and are subject to change as additional data becomes available. Escapement objectives are based on aerial index counts which do not represent total escapement, but do reflect annual spawner abundance trends when made using standard survey methods under acceptable survey conditions.

Appendix D.13. Historical estimated salmon run size and commercial exploitation rate, Goodnews River, 1981-1995.

Year	Species	Middle Fork Tower Estimate	Middle Fork Aerial Survey Count as a Percentage of Tower Est.	Goodnews River Escapement Estimate	Goodnews Bay Subsistence Harvest Estimate	Goodnews Bay Commercial Harvest	Total Run Size Estimate	Exploitation[a] Rate (% of Run)
1981	Chinook	3,688	-b	7,766[c]	1,409	7,190	16,365	53%
	Sockeye	49,108	-b	100,029[c]	3,511[d]	40,273	143,813	30%
	Chum	21,827	-b	53,799[c]	-	13,642	67,441	20%
1982	Chinook	1,395	-b	2,937[c]	1,236	9,476	3,649	78%
	Sockeye	56,255	-b	114,587[c]	2,754[d]	38,877	156,218	27%
	Chum	6,767	-b	16,679[c]	-	13,829	30,508	45%
1983	Chinook	6,027	36%	14,398	1,066	14,117	29,581	51%
	Sockeye	25,816	22%	69,995	1,518[d]	11,716	83,189	16%
	Chum	15,548	-b	38,323[c]	-	6,766	45,089	15%
1984	Chinook	3,260	35%	8,743	529	8,612	17,984	51%
	Sockeye	32,053	27%	67,213	964	15,474	83,651	20%
	Chum	19,003	35%	117,739	189	14,340	132,268	11%
1985	Chinook	2,831	70%	7,979	426	5,793	14,198	44%
	Sockeye	24,131	11%	50,481	704	6,698	57,883	13%
	Chum	10,367	32%	25,025	348	4,784	30,157	17%
1986	Chinook	2,083	57%	4,094	555	2,723	7,372	44%
	Sockeye	51,069	28%	93,228	942	22,608	116,778	20%
	Chum	14,765	38%	51,910	191	10,355	62,456	17%
1987	Chinook	2,274	100%	4,490	816	3,357	8,663	48%
	Sockeye	28,871	85%	51,989	955	27,758	80,702	36%
	Chum	17,519	58%	37,802	578	20,381	58,761	36%
1988	Chinook	2,712	39%	5,419	310	4,964	10,693	49%
	Sockeye	15,799	30%	38,319	1065	36,368	75,752	49%
	Chum	20,799	21%	39,501	448	33,059	73,008	46%
1989	Chinook	1,915	67%	2,891	467	2,966	6,324	54%
	Sockeye	21,186	60%	35,476	869	19,299	55,644	36%
	Chum	10,380	28%	15,495	760	13,622	29,877	48%
1990	Chinook	3,636	-b	7,656[c]	682	3,303	11,641	34%
	Sockeye	31,679	-b	64,528[c]	905	35,823	101,256	36%
	Chum	6,410	-b	15,799[c]	342	13,194	29,335	46%
1991[e]	Chinook	2,147	-b	4,521[c]	682	912	6,115	26%
	Sockeye	47,397	-b	96,544[c]	900	39,838	137,228	30%
	Chum	27,525	-b	67,844[c]	106	15,892	83,842	19%
1992	Chinook	1,899	53%	3,560[c]	252	3,528	7,340	51%
	Sockeye	27,267	26%	67,681[c]	905	25,696	94,282	37%
	Chum	22,023	35%	62,922[c]	662	18,520	81,442	24%
1993	Chinook	2,491	-b	4,700[c]	488	2,117	7,295	36%
	Sockeye	26,044	-b	100,169[c]	572	59,293	160,390	28%
	Chum	14,287	-b	40,820[c]	133	10,657	51,941	21%
1994	Chinook	3,856	-b	7,275[c]	657	2,570	10,323	29%
	Sockeye	55,751	-b	214,426[c]	652	69,490	284,844	25%
	Chum	34,849	-b	130,335[c]	402	28,477	159,276	18%
1995	Chinook	4,836	-b	9,091[c]	552	2,922	12,565	28%
	Sockeye	39,009	-b	149,794[c]	787	37,351	187,932	20%
	Chum	33,699	-b	124,686[c]	329	19,832	144,847	14%

a Commercial and subsistence exploitation
b Incomplete aerial survey results
c Average Middle Fork/Goodnews River escapement estimate ratio for 1983-1989 used to estimate Goodnews River escapement in years with no aerial survey data.
d Subsistence caught chum salmon is included in subsistence sockeye salmon harvest
e Goodnews Tower Project changed to weir project in 1991.
f Estimate based on recent 5 year average.

APPENDIX F

Appendix F.1. Commercial freshwater fin fishery catch data, Kuskokwim Area, 1977-1995.

Year	Number of Fishermen[b]	Number Caught[a]		Total Weight (lbs)		Total Value ($)		
		Whitefish[c]	Burbot	Whitefish	Burbot	Whitefish	Burbot	Total
1977	3	718	0	d	0	952	0	952
1978	b	1,735	0	6,017	0	d	0	d
1979	b	3,219	0	11,211	0	d	0	d
1980	4	603	0	2,173	0	830	0	830
1981	4	1,197	0	4,620	0	2,310	0	2,310
1982	5	1,512	0	6,219	0	2,856	0	2,856
1983	0	0	0	0	0	0	0	0
1984	2	0	651	0	d	0	d	d
1985	5	555	1,829	2,275	2,016	1,137	455	1,593
1986	3	0	0	0	3,428	0	857	857
1987	4	417	0	1,260	0	1,008	0	1,008
1988	3	d	d	2,588	7	1,991	3	1,994
1989	7	178	282	583	270	501	597	1,098
1990	11	1,664	d	5,502	10	5,166	5	5,171
1991	5	1,413	41	2,442	256	2,412	197	2,609
1992	6	2,124	18	6,309	86	6,285	43	6,328
1993	5	2,509	0	5,208	0	4,898	0	4,898
1994	3	2,393	0	4,905	0	4,345	0	4,345
1995	1	d	0	2,363	0	2,507	0	

a Does not include catches incidental to the commercial salmon fishery.
b Does not include fisherman who delivered catches incidental to the commercial salmon fishery.
c Includes cisco and pike.
d Data not available.

APPENDIX G

Appendix G.1. Commercial miscellaneous saltwater finfish fishery catch data, Kuskokwim Area, 1988-1995.

Year	Number of Fishermen	Species	Number Caught	Total weight (lbs)	Total value ($)
1988	4	Tom Cod[a]	b	439	878
1989	2	Tom Cod	b	591	1,180
1990	1	Tom Cod	300	221	442
1991	2	Tom Cod	b	1,356	2,690
1992	1	Tom Cod	b	303	303
1993	0	-- --	-	--	--
1994	1	Tom Cod	b	100	160
1995	0	-- --	-	--	--

a Tom Cod is the local name for Saffron Cod (*Eleginus gracilis*).
b Data not available

APPENDIX H

Appendix H.1. Estimated biomass and commercial harvest of Pacific herring in Kuskokwim Area fishing districts, Alaska, 1981-1995.

District	Estimated Biomass (tons)	Harvest Sac-roe	Bait	Waste	Total	Roe%*	Estimated Value ($ X 1000)	Exploitation Rate (%)
1995								
Security Cove	6702	1292	0	0	1292	12.3	956	19.3
Goodnews Bay	4224	1051	0	3	1054	13.5	848	25.0
Cape Avinof	3627	485	0	0	485	12.5	363	13.4
Nelson Is.	7754	1113	0	0	1113	10.6	710	14.3
Nunivak Is.	4579	33	7	0	41	11.0	22	0.9
Total	26886	3974	7	3	3985	12.2	2899	14.8
1994								
Security Cove	7638	-	-	-	-	-	-	-
Goodnews Bay	5679	1061	0	1	1062	12.3	391	18.7
Cape Avinof	2827	427	0	0	427	12.2	156	15.1
Nelson Is.	5564	713	4	0	717	11.0	235	12.9
Nunivak Is.	4921	14	0	0	14	8.6	4	0.3
Total	26629	2215	4	1	2220	11.8	787	8.3
1993								
Security Cove	6995	5	0	0	5	12.8	2	0.1
Goodnews Bay	6221	945	9	0	954	10.3	293	15.4
Cape Avinof	2837	206	9	0	215	12.0	75	7.6
Nelson Is.	4944	613	52	74	739	10.6	198	14.9
Nunivak Is.	5176	-	-	-	-	-	-	-
Total	26163	1769	70	74	1913	10.6	568	7.3
1992								
Security Cove	7773	697	127	10	834	9.2	285	10.7
Goodnews Bay	5572	711	29	0	740	9.5	286	13.3
Cape Avinof	3446	443	9	0	452	9.9	178	13.1
Nelson Is.	5275	188	52	6	246	8.3	78	4.7
Nunivak Is.	5703	7	20	0	27	8.5	4	0.5
Total	27769	2046	237	16	2299	9.4	830	8.3
1991								
Security Cove	4434	561	9	0	570	9.3	208	12.9
Goodnews Bay	4387	259	4	0	263	8.9	93	6.0
Cape Avinof	2083	240	27	0	267	9.5	94	12.8
Nelson Is.	2385	-	-	-	-	-	-	-
Nunivak Is.	3903	17	42	0	59	7.5	9	-
Total	17192	1077	82	0	1159	9.2	404	6.7
1990								
Security Cove	2650	174	60	0	234	8.7	94	8.8
Goodnews Bay	2577	427	28	0	455	12.2	314	17.7
Cape Avinof	2020	49	1	0	50	12.0	35	2.5
Nelson Is.	2705	-	-	-	-	-	-	-
Nunivak Is.	422	-	-	-	-	-	-	-
Total	10374	650	89	0	739	11.2	443	7.1
1989								
Security Cove	2830	544	10	0	554	9.4	256	19.6
Goodnews Bay	4044	453	162	0	616	8.4	335	15.2
Cape Avinof	2780	90	39	0	129	8.0	54	4.6
Nelson Is.	3316	122	100	11	233	8.5	57	7.0
Nunivak Is.	617	79	37	0	116	9.4	42	18.8
Total	13587	1289	347	11	1647	8.9	744	12.1

-Continued-

Appendix H.1. (Page 2 of 2)

District	Estimated Biomass (tons)	Harvest Sac-roe	Harvest Bait	Harvest Waste	Harvest Total	Roe%[1]	Estimated Value ($ X 1000)	Exploitation Rate (%)
1988								
Security Cove	4906	324	0	0	324	9.3	362	6.6
Goodnews Bay	4479	473	10	0	483	8.0	463	10.8
Cape Avinof	4108	348	0	0	348	8.6	264	8.5
Nelson Is.	7152	760	15	0	775	9.2	713	10.8
Nunivak Is.	2800	-	-	-	-	-	-	
Total	23445	1905	25	0	1930	8.8	1802	8.2
1987								
Security Cove	2300	312	1	0	313	9.7	242	13.6
Goodnews Bay	2000	179	142	0	321	7.3	133	16.1
Nelson Is.	8100	915	8	0	923	9.2	661	11.4
Nunivak Is.	4400	254	160	0	414	7.8	231	9.4
Total	16800	1660	311	0	1971	8.9	1267	11.7
1986								
Security Cove	3700	747	4	0	751	11.2	535	20.3
Goodnews Bay	3000	554	3	0	557	10.4	325	18.6
Nelson Is.	7300	852	34	0	886	10.3	428	12.1
Nunivak Is.	6000	469	42	0	511	10.1	213	8.5
Total	20000	2622	83	0	2705	10.5	1501	13.5
1985								
Security Cove	4900	703	0	30	733	10.1	355	15.0
Goodnews Bay	4300	711	0	13	724	8.7	309	16.8
Nelson Is.	9500	967	10	0	977	10.6	527	10.3
Nunivak Is.	5700	349	9	0	358	8.9	146	6.3
Total	24400	2730	19	43	2792	9.8	1337	11.4
1984								
Security Cove	5100	325	0	10	335	11.8	110	6.6
Goodnews Bay	4100	667	0	50	717	10.1	168	17.5
Total	9200	992	0	60	1052	10.7	278	11.4
1983								
Security Cove	6400	966	107	0	1073	9.4	443	16.8
Goodnews Bay	3200	426	9	0	435	9.4	185	13.6
Total	9600	1392	116	0	1508	9.4	628	15.7
1982								
Security Cove	5100	707	106	0	813	9.3	271	15.9
Goodnews Bay	2600	437	49	0	486	9.5	188	18.7
Total	7700	1144	155	0	1299	9.4	459	16.9
1981								
Security Cove	8300	1150	23	0	1173	8.1	347	14.1
Goodnews Bay	4300	558	99	0	657	7.7	196	15.3
Total	12600	1708	122	0	1830	8.0	543	14.5

Appendix H.2 Number of buyers and fishermen participating in Kuskokwim Area Pacific herring fisheries, Alaska, 1981-1995.

Year	District	Number of Buyers	Number of Fishermen	Number of Deliveries
1995	Security Cove	12	106	257
	Goodnews Bay	4	127	878
	Cape Avinof	2	93	537
	Nelson Island	4	100	575
	Nunivak Island	2	13	46
1994	Security Cove	No commercial opening		
	Goodnews Bay	2	103	683
	Cape Avinof	1	85	502
	Nelson Island	3	104	409
	Nunivak Island	1	12	14
1993	Security Cove	1	9	9
	Goodnews Bay	3	63	705
	Cape Avinof	1	97	478
	Nelson Island	1	73	487
	Nunivak Island	No commercial opening		
1992	Security Cove	6	58	178
	Goodnews Bay	3	78	375
	Cape Avinof	2	121	335
	Nelson Island	3	85	222
	Nunivak Island	1	14	23
1991	Security Cove	6	52	100
	Goodnews Bay	2	103	137
	Cape Avinof	1	137	463
	Nelson Island	No commercial opening		
	Nunivak Island	2	17	31
1990	Security Cove	9	52	77
	Goodnews Bay	3	126	530
	Cape Avinof	1	101	109
	Nelson Island	No commercial opening		
	Nunivak Island	No commercial opening		
1989	Security Cove	8	104	108
	Goodnews Bay	6	138	533
	Cape Avinof	3	147	335
	Nelson Island	4	162	438
	Nunivak Island	3	45	210

-Continued-

Appendix H.2 (Page 2 of 2)

Year	District	Number of Buyers	Number of Fishermen	Number of Deliveries
1988	Security Cove	4	31	51
	Goodnews Bay	6	60	309
	Cape Avinof	1	98	485
	Nelson Island	7	174	547
	Nunivak Island	No commercial opening		
1987	Security Cove	8	65	67
	Goodnews Bay	4	117	191
	Nelson Island	9	235	633
	Nunivak Island	4	61	341
1986	Security Cove	11	88	199
	Goodnews Bay	5	104	319
	Nelson Island	4	163	1,099
	Nunivak Island	5	36	284
1985	Security Cove	6	107	268
	Goodnews Bay	5	83	420
	Nelson Island	6	143	776
	Nunivak Island	5	37	273
1984	Security Cove	4	38	86
	Goodnews Bay	4	130	390
1983	Security Cove	6	94	312
	Goodnews Bay	4	84	225
1982	Security Cove	3	107	250
	Goodnews Bay	3	84	297
1981	Security Cove	7	113	311
	Goodnews Bay	5	175	479

Appendix H.3. Pacific herring subsistence harvest (st) and effort data from selected Kuskokwim Area villages, Alaska, 1975-1995[a].

Village	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
	Year																				
Nelson Island																					
Tununak	22	15	57	38	34	65	40	48	94	e	43	63	48	49	47	54	21	32	45	42	30
Umkumiut	33	9	3	11	8	3	10	0	e	e	e	e	d	d	d	d	d	d	d	d	d
Toksook Bay	34	35	21	37	51	29	14	35	-	-	46	70	51	59	52	46	40	43	23	53	46
Nightmute	-	-	-	-	-	-	-	-	-	-	3[b]	21	15	16	15	18	8	10	9	13	13
Newtok	-	-	-	-	-	-	-	-	-	-	7[b]	13	10	12	10	8	1	7	6	9	9
Total	89	59	81	86	93	97	64	83	94	-	99	167	124	136	124	126	70	92	82	117	98
No. of Fishing Families	109	42	90	83	54	70	93	65	43	-	65[b]	72[b]	96	104	-[b]	100	85	97	89	-	91
Nunivak Island																					
Mekoryuk	-	-	-	-	-	-	-	-	-	-	< 1	< 1	-	e	e	5	4	4	2	e	e
No. of Fishing Families	-	-	-	-	-	-	-	-	-	-	11	6[b]	-	e	e	19	20	17	16	e	e
Other Kuskokwim Delta																					
Chefornak	-	-	-	-	-	-	-	-	-	-	13[b]	c	14	e	e	e	e	e	e	e	e
Kipnuk	-	-	-	-	-	-	-	-	-	-	9	c	14	c	e	e	e	e	e	e	e
Kongiganak	-	-	-	-	-	-	-	-	-	-	3	2	c	e	e	e	e	e	e	e	e
Kwigillingok	-	11	1	-	8	13	-	13	-	-	5	c	c	e	e	e	e	e	e	e	e
Total	-	11	1	-	8	13	-	13	-	-	30	2	28	e	e	e	e	e	e	e	e
No. of Fishing Families	-	8	9	-	22	19	-	21	-	-	55[b]	12[b]	49	e	e	e	e	e	e	e	e
All Areas Combined																					
Total Catch	92	75	85	91	112	121	78	107	103	11	138	177	155	136	124	145	74	95	84	117	98
No. of Fishing Families	143	91	129	112	160	150	139	89	80	47	175[b]	131	184	104	-[b]	119	95	114	105	-	91

a Subsistence survey results are believed to accurately reflect harvest trends, however, reported catches reflect minimum figures since all fishermen cannot be contacted.
b Fishing families were not interviewed or only a portion of fishing families were interviewed as catch was enumerated while on drying racks.
c Survey not allowed by village council.
d Umkumiut effort included with Toksook Bay and Nightmute.
e Not surveyed.

Appendix H.4. Commercial harvest, effort and value of Pacific herring in Kuskokwim Area fishing districts, Alaska, 1981-1995.

Year	District	Estimated Harvest (tons)	Number of permits	Hours fished	CPUE[a]	Estimated Value	Income per permit
1995	Security Cove	1292	106	12.0	1.02	$956,000	$9,019
	Goodnews Bay	1054	127	56.0	0.15	$848,000	$6,677
	Cape Avinof	485	93	48.0	0.11	$363,000	$3,903
	Nelson Is.	1113	100	28.0	0.40	$710,000	$7,100
	Nunivak Is.	41	13	387.0	0.01	$22,000	$1,692
1994	Security Cove	--	--	--	--	--	--
	Goodnews Bay	1062	103	38.0	0.27	$391,000	$3,796
	Cape Avinof	427	85	62.0	0.08	$156,000	$1,835
	Nelson Is.	717	104	26.0	0.27	$235,000	$2,260
	Nunivak Is.	14	12	6.0	0.19	$4,000	$333
1993	Security Cove	5	9	24.5	0.02	$2,000	$222
	Goodnews Bay	954	63	123.0	0.12	$293,000	$4,651
	Cape Avinof	215	97	106.0	0.02	$75,000	$773
	Nelson Is.	739	73	63.5	0.16	$198,000	$2,712
	Nunivak Is.	--	--	--	--	--	--
1992	Security Cove	834	58	34.0	0.42	$285,000	$4,914
	Goodnews Bay	740	78	29.0	0.33	$286,000	$3,667
	Cape Avinof	452	121	12.0	0.31	$178,000	$1,471
	Nelson Is.	246	85	10.0	0.29	$78,000	$918
	Nunivak Is.	27	14	6.0	0.32	$4,000	$286
1991	Security Cove	570	52	12.0	0.91	$208,000	$4,000
	Goodnews Bay	263	103	4.0	0.64	$93,000	$903
	Cape Avinof	267	137	28.0	0.07	$94,000	$686
	Nelson Is.	--	--	--	--	--	--
	Nunivak Is.	59	17	12.0	0.29	$9,000	$529
1990	Security Cove	234	52	7.0	0.64	$94,000	$1,808
	Goodnews Bay	455	126	32.0	0.11	$314,000	$2,492
	Cape Avinof	50	101	3.0	0.17	$35,000	$347
	Nelson Is.	--	--	--	--	--	--
	Nunivak Is.	--	--	--	--	--	--
1989	Security Cove	554	104	4.0	1.33	$256,000	$2,462
	Goodnews Bay	616	138	50.0	0.09	$335,000	$2,428
	Cape Avinof	129	147	194.0	0.00	$54,000	$367
	Nelson Is.	233	162	15.0	0.10	$57,000	$352
	Nunivak Is.	116	45	186.0	0.01	$42,000	$933

-Continued-

Appendix H.4. (Page 2 of 2)

Year	District	Estimated Harvest (tons)	Number of permits	Hours fished	CPUE[a]	Estimated Value	Income per permit
1988	Security Cove	324	31	23.5	0.44	$362,000	$11,677
	Goodnews Bay	483	60	40.0	0.20	$463,000	$7,717
	Cape Avinof	348	98	88.5	0.04	$264,000	$2,694
	Nelson Is.	775	174	7.5	0.59	$713,000	$4,098
	Nunivak Is.	--	--	--	--	--	--
1987	Security Cove	313	65	13.0	0.37	$242,000	$3,723
	Goodnews Bay	321	117	11.0	0.25	$133,000	$1,137
	Nelson Is.	923	235	6.0	0.65	$661,000	$2,813
	Nunivak Is.	414	61	39.0	0.17	$231,000	$3,787
1986	Security Cove	751	88	73.0	0.12	$535,000	$6,080
	Goodnews Bay	557	104	53.0	0.10	$325,000	$3,125
	Nelson Is.	886	163	40.0	0.14	$428,000	$2,626
	Nunivak Is.	511	36	156.0	0.09	$213,000	$5,917
1985	Security Cove	733	107	125.0	0.05	$335,000	$3,131
	Goodnews Bay	724	83	130.0	0.07	$309,000	$3,723
	Nelson Is.	977	143	44.0	0.16	$527,000	$3,685
	Nunivak Is.	358	37	228.0	0.04	$146,000	$3,946
1984	Security Cove	335	38	345.0	0.03	$110,000	$2,895
	Goodnews Bay	717	130	139.0	0.04	$168,000	$1,292
1983	Security Cove	1073	94	87.0	0.13	$443,000	$4,713
	Goodnews Bay	435	84	278.0	0.02	$185,000	$2,202
1982	Security Cove	813	107	302.0	0.03	$271,000	$2,533
	Goodnews Bay	486	84	314.0	0.02	$188,000	$2,238
1981	Security Cove	1173	113	90.0	0.12	$347,000	$3,071
	Goodnews Bay	657	175	133.0	0.03	$196,000	$1,120

a CPUE = catch (tons) per permit per hour fished

APPENDIX S

Appendix S.1

Division of Subsistence
Alaska Department of Fish and Game
Box 1748
Bethel, Alaska 99559

PLEASE WRITE THE NUMBER OF ALL SALMON CAUGHT EACH DAY BY PEOPLE LIVING IN YOUR HOUSE. PLEASE INCLUDE SALMON THAT WERE GIVEN TO PEOPLE WHO LIVE IN OTHER HOUSES AND SALMON THAT WERE CAUGHT FOR DOGFOOD. DO NOT INCLUDE SALMON THAT WERE SOLD WHEN COMMERCIAL FISHING.

WHEN DONE SALMON FISHING FOR THE YEAR, FOLD THIS CALENDAR SO THAT THE ADDRESS ON THE BACK IS VISIBLE AND DROP IN THE MAIL. WE HAVE PAID THE POSTAGE.

This calendar is sent to you by the Subsistence Division of the Alaska Department of Fish and Game in Bethel.

Bulk Rate
U. S. Postage
Paid
Fairbanks, AK
Permit No. 99

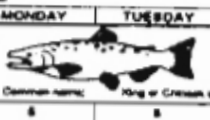
MAY 1995 — SUBSISTENCE SALMON CALENDAR

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Taryaqnak = King / Chum / Red
Igallik = King / Chum / Red
Bayak = King / Chum / Red
Chinook = King / Chum / Red
Sockeye = King / Chum / Red

JUNE 1995 — SUBSISTENCE SALMON CALENDAR

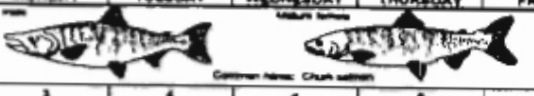
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	



Taryaqnak = King / Chum / Red
Igallik = King / Chum / Red
Bayak = King / Chum / Red
Chinook = King / Chum / Red
Sockeye = King / Chum / Red

JULY 1995 — SUBSISTENCE SALMON CALENDAR

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					



Taryaqnak = King / Chum / Red
Igallik = King / Chum / Red
Bayak = King / Chum / Red
Chinook = King / Chum / Red
Sockeye = King / Chum / Red
Qasiyak = King / Chum / Red / Coho
Silver = King / Chum / Red / Coho

Appendix S.1 continued

Division of Subsistence
Alaska Department of Fish and Game
Box 1768
Bethel, Alaska 99559

PLEASE WRITE THE NUMBER OF ALL SALMON CAUGHT EACH DAY BY PEOPLE LIVING IN YOUR HOUSE. PLEASE INCLUDE SALMON THAT WERE GIVEN TO PEOPLE WHO LIVE IN OTHER HOUSES AND SALMON THAT WERE CAUGHT FOR DOGFOOD. DO NOT INCLUDE SALMON THAT WERE SOLD WHEN COMMERCIAL FISHING.

WHEN DONE SALMON FISHING FOR THE YEAR, FOLD THIS CALENDAR SO THAT THE ADDRESS ON THE BACK IS VISIBLE AND DROP IN THE MAIL. WE HAVE PAID THE POSTAGE.

This calendar is sent to you by the Subsistence Division of the Alaska Department of Fish and Game in Bethel.

AUGUST 1995 — SUBSISTENCE SALMON CALENDAR

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1 King ____ Chum ____ Red ____ Coho ____	2 King ____ Chum ____ Red ____ Coho ____	3 King ____ Chum ____ Red ____ Coho ____	4 King ____ Chum ____ Red ____ Coho ____	5 King ____ Chum ____ Red ____ Coho ____
TAKYAGIYAK =	6 King ____	7 King ____	8 King ____	9 King ____	10 King ____	11 King ____	12 King ____
IQALLUK =	Chum ____	Chum ____	Chum ____	Chum ____	Chum ____	Chum ____	Chum ____
SAYAK =	Red ____	Red ____	Red ____	Red ____	Red ____	Red ____	Red ____
QAMGIYAK =	Coho ____	Coho ____	Coho ____	Coho ____	Coho ____	Coho ____	Coho ____
	13	14	15	16	17	18	19
CHINOOK =	King ____	King ____	King ____	King ____	King ____	King ____	King ____
	Chum ____	Chum ____	Chum ____	Chum ____	Chum ____	Chum ____	Chum ____
SOCKEYE =	Red ____	Red ____	Red ____	Red ____	Red ____	Red ____	Red ____
SILVER =	Coho ____	Coho ____	Coho ____	Coho ____	Coho ____	Coho ____	Coho ____
	20 Chum ____ Red ____ Coho ____	21 Chum ____ Red ____ Coho ____	22 Chum ____ Red ____ Coho ____	23 Chum ____ Red ____ Coho ____	24 Chum ____ Red ____ Coho ____	25 Chum ____ Red ____ Coho ____	26 Chum ____ Red ____ Coho ____
	27 Chum ____ Red ____ Coho ____	28 Chum ____ Red ____ Coho ____	29 Chum ____ Red ____ Coho ____	30 Chum ____ Red ____ Coho ____	31 Chum ____ Red ____ Coho ____		

SEPTEMBER 1995 — SUBSISTENCE SALMON CALENDAR

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						1 Chum ____ Red ____ Coho ____	2 Chum ____ Red ____ Coho ____
	3	4	5	6	7	8	9
IQALLUK =	Chum ____	Chum ____	Chum ____	Chum ____	Chum ____	Chum ____	Chum ____
SAYAK =	Red ____	Red ____	Red ____	Red ____	Red ____	Red ____	Red ____
QAMGIYAK =	Coho ____	Coho ____	Coho ____	Coho ____	Coho ____	Coho ____	Coho ____
	10	11	12	13	14	15	16
	Chum ____	Chum ____	Chum ____	Chum ____	Chum ____	Chum ____	Chum ____
SOCKEYE =	Red ____	Red ____	Red ____	Red ____	Red ____	Red ____	Red ____
SILVER =	Coho ____	Coho ____	Coho ____	Coho ____	Coho ____	Coho ____	Coho ____
	17	18	19	20	21	22	23
	Chum ____	Chum ____	Chum ____	Chum ____	Chum ____	Chum ____	Chum ____
	Red ____	Red ____	Red ____	Red ____	Red ____	Red ____	Red ____
	Coho ____	Coho ____	Coho ____	Coho ____	Coho ____	Coho ____	Coho ____
	24	25	26	27	28	29	30
	Chum ____	Chum ____	Chum ____	Chum ____	Chum ____	Chum ____	Chum ____
	Red ____	Red ____	Red ____	Red ____	Red ____	Red ____	Red ____
	Coho ____	Coho ____	Coho ____	Coho ____	Coho ____	Coho ____	Coho ____

Were your household's subsistence salmon needs met this year? ____Yes ____No

If not, why? _____

_____

Appendix 5.

Division of Subsistence, Bethel

COMM. ID# _____

Chinook= "taryaqyuk," Chum= "tapilak," Sockeye= "tayek," Coho= "qaiyyaq"

HHID# _____

KUSKOKWIM AREA 1995
POST-SEASON SUBSISTENCE SALMON HOUSEHOLD HARVEST SURVEY

* (Questions marked with an asterisk are asked of all households interviewed) ik

Community: _____ Household Head Name: _____

Survey Date: _____, 1995 Name of Person Interviewed: HH _____

Interviewer: LO SM _____ Household P.O. Box: _____

Was this household in community last year?: No __ Yes __

If not, where did you move from? _____ Date ____

*1. **Did this household catch salmon for subsistence use this year?** No__ (go to # 3) Yes__

2. **May I have your salmon calendar?** (If household fished and we don't already have or don't collect the calendar, go to # 7)
Picked up by interviewer ____ (go to # 10) Mailed it to ADFG____ Didn't get one____
Didn't use ____ Lost or unavailable____

*3. **Does this household usually subsistence fish for salmon?** No__ Yes__

HOUSEHOLD DIDN'T FISH (Household did not help harvest/catch salmon)

4. **Did this household help another household process ("put up") salmon?**
No ____ (go to # 16) Yes ____ (Names, HHIDs) _____

5. **Please estimate how many salmon all of you processed ("put up").**
CHINOOK_____ ("kings") CHUM_____ ("dogs") SOCKEYE_____ ("reds") COHO_____ ("silvers") Could not estimate____

6. **Please estimate how many salmon were for your household only.**
CHINOOK_____ ("kings") CHUM_____ ("dogs") SOCKEYE_____ ("reds") COHO_____ ("silvers") Could not estimate____

(Go to Question 16) _____

HOUSEHOLD FISHED, ADF&G DOES NOT HAVE CALENDAR

7. **Did other households fish with you?** No ____ Yes ____: (Names, HHIDs, and Community ID if different)

8. **Please estimate how many salmon your household (or all households together) caught.** (Ask about salmon already eaten, frozen, lost to spoilage, given to other households, and dog food.)
CHINOOK_____ ("kings") CHUM_____ ("dogs") SOCKEYE_____ ("reds") COHO_____ ("silvers") Could not estimate____
Salmon are included with Household _____ (HHID)

9. **Please estimate how many salmon were for your household only.**
CHINOOK_____ ("kings") CHUM_____ ("dogs") SOCKEYE_____ ("reds") COHO_____ ("silvers") All____ Could not estimate____

(Go to Question 15) _____

HOUSEHOLD FISHED, ADF&G DOES HAVE CALENDAR

10. **Are all of the salmon this household caught written on the calendar?** (Ask about and include salmon already eaten, frozen, lost to spoilage, given to other households, and dog food)
No ____ Yes ____ (go to # 12)

11. **How many additional salmon, not written on the calendar, were caught?**
CHINOOK_____ ("kings") CHUM_____ ("dogs") SOCKEYE_____ ("reds") COHO_____ ("silvers") Could not estimate____

12. **Did other households fish with you?** No ____ (go to # 15) Yes ____: (Names, HHIDs)

(This file's is continued on back, today)

LK

13. **Are the salmon they caught written on your calendar?** No ____ Yes ____

14. **Please estimate how many salmon were for your household only.** All_____
CHINOOK_____ CHUM_____ SOCKEYE_____ COHO_____ Could not estimate_____
(Go to Question 15) _____

FISHING GEAR (For subsistence fishing households only)

15. **What type(s) of fishing gear was used for catching subsistence salmon this year?**
Drift net ____, Fish wheel ____, Seine ____, Spear ____, Set net ____, Rod-and-reel ____,
Other (Identify) _____

COMMERCIAL FISHING

*16. **Does this household commercial fish?** No ____ (go to # 20), Yes ____
If yes, where? ____ Kuskokwim River or Bay ____ Yukon Area ____ Bristol Bay

17. **Were all of the salmon caught when commercial fishing sold or were some brought home to eat or processed for subsistence?** All were sold ____ Some were used for subsistence ____

18. **How many commercially caught salmon were used for subsistence?**
CHINOOK_____ CHUM_____ SOCKEYE_____ COHO_____

19. **Are those salmon listed on the calendar or included in the catch numbers you gave me?**
Yes ____, No ____

HOUSEHOLD SIZE

*20. **How many people live in this household?** _____

DOG FOOD (For subsistence fishing households only)

21. **Did this household catch salmon for dog food?**
No ____ (go to # 25) Only backbones/heads/guts/scraps _____ (go to # 25)
Yes ____ (Include fish lost to spoilage)

22. **How many salmon?** (do not include spoilage)
CHUM_____ ("dogs") SOCKEYE_____ ("reds") COHO_____ ("silvers")

23. **Are the salmon caught for the dogs included on your calendar or in the estimates you gave me?**
Yes ____, No ____

24. **How many dogs does this household have?** _____

25. (For subsistence fishing households only)
Were your household's subsistence salmon needs met this year? Yes____ No____
If no, why not, _____
How do you plan to meet those needs? (other fish, game, food stamps, etc) _____

*26. **Do you have any suggestions or comments?** _____

A summary of the subsistence fishing survey will be sent out next spring (April).

Each year the Subsistence Division of the Department of Fish and Game gathers information from Kuskokwim Area households about subsistence salmon fishing. This information is used to help ensure that there can be enough salmon for subsistence use. We would appreciate your help.

Please take a moment to answer the questions on the back side and drop it in the mail to us. The postage is already paid. We will mail you a subsistence salmon harvest summary after the survey data is compiled.

Did we miss somebody that should be counted? Please help us keep our mailing list current by letting us know of fishing households not on our list.

☎ Subsistence Division/ Room 214/ BNC Complex/Bethel/543-3100

Division of Subsistence
Alaska Dept. of Fish and Game
P.O. Box 1788
Bethel, AK 99559

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Alaska Dept. of Fish and Game
P. O. Box 1788
Bethel, AK 99559

ADDRESS CORRECTION REQUESTED
DO NOT FORWARD

Fold Here

(correct your address or head of household if needed)
NAME:_____
P.O. BOX:_____
CITY, STATE:_____
ZIPCODE:_____

1. **Did your household harvest salmon for subsistence use this year?**
   (include any salmon kept for subsistence when commercial fishing) Yes___ No
2. **How many subsistence salmon did your household harvest?**
   (include salmon eaten, given away, frozen, dried, smoked, canned, or for dogfood)
   Chinook____ (King salmon) Chum____ (Dog salmon) Sockeye____ (Red salmon) Coho____ (Silver salmon)
3. **What type(s) of gear did your household use to catch subsistence salmon ?**
   Set net___ Drift net___ Fishwheel___ Rod and reel___
4. **Were your household's subsistence salmon needs met this year?** Yes___ No___
   If No, Why?_____
5. **Do other households share this PO Box?** If so, please list the family name and head of the household_____