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AGE, SEX, AND SIZE OF YUKON RIVER SALMON
CATCHES AND ESCAPEMENTS, 1992

By

Daniel J. Schneiderhan

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AUTHOR

Daniel J. Schneiderhan is the Yukon River Salmon Stock Biologist for the Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, 333 Raspberry Road, Anchorage, AK 99518-1599.

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ABSTRACT

Catch statistics, escapement estimates, and age, sex, and length data for chinook *Oncorhynchus tshawytscha* (Walbaum), summer and fall chum *O. keta* (Walbaum), and coho salmon *O. kisutch* (Walbaum) commercial and subsistence catches and tributary escapements for the Yukon River in 1992 were summarized. The total commercial and subsistence catch including documented illegal catches was 1,059,025 salmon. Approximately 68% of the catch was taken commercially with gillnets and fish wheels. Subsistence gillnet and fish wheel catches comprised about 32% of the total salmon catch. Commercial catches of summer chum salmon comprised 51% of the combined commercial and subsistence salmon catch. The age composition of the chinook salmon catch was 68% age 1.4. Summer chum salmon were composed of 65% age 0.4. Fall chum salmon were 52% age 0.4 and 46% age 0.3, while escapement samples ranged from 18% to 44% age 0.3, and from 51% to 81% age 0.4. Age 2.1 dominated coho catch (74%) and escapement (61%) samples. Additionally, 5,965 salmon were caught in ADF&G test fishing gear, and an estimated 3,705 salmon were caught by sport fishers.

KEY WORDS: Yukon, chinook, chum, coho, age, catch, escapement, *Oncorhynchus*, *tshawytscha*, *keta*, *kisutch*

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INTRODUCTION

The Yukon Area includes all waters of the Yukon River and its tributary streams in Alaska (Figure 1) and the Yukon Territory, Canada (Figure 2), and all coastal waters from Canal Point light near Cape Stephens southward to the Naskonat Peninsula (Bergstrom et al. 1992). The Alaska portion of the river is divided through the regulatory process into six fishing districts, e.g., Districts 1 - 6. There are also fisheries in the Canadian portion of the Yukon River drainage.

Commonly used terminology concerning geographic subdivision of fisheries and stocks of spawning salmon in the Yukon River drainage has developed a dichotomy that depends on whether discussion relates to fishery harvests or to spawning stocks. When referring to harvests, Districts 1, 2, and 3 are termed Lower Yukon while Districts 4, 5, and 6 are termed Upper Yukon. Fisheries in Canada are referred to in context. However, references to spawning escapements usually follow conventions established through Yukon River chinook salmon stock identification studies. Scale pattern analysis of Yukon River chinook salmon has provided a basis for use of the terms Lower, Middle, and Upper Yukon Run-of-Origin, e.g., Lower, Middle, and Upper Run, to refer respectively to stocks originating in tributaries downriver from the Village of Koyukuk (including lower Koyukuk River tributaries), between Koyukuk and the U.S.-Canada border (including upper Koyukuk River tributaries), and upriver from the border (Schneiderhan 1994b).

The Yukon River drainage supports major stocks of chinook salmon *Oncorhynchus tshawytscha* (Walbaum), summer- and fall-run chum salmon *O. keta* (Walbaum), and coho salmon *O. kisutch* (Walbaum). These species contribute to commercial and subsistence fisheries throughout the Yukon River drainage. Pink salmon *O. gorbuscha* (Walbaum) and sockeye salmon *O. nerka* (Walbaum) are also indigenous to the drainage. Pink salmon return to lower drainage tributaries and are stronger in even-numbered years, while sockeye salmon are infrequently documented in the Andreafsky River and elsewhere in the drainage. Neither species is harvested by commercial or subsistence fishermen to any extent. Summer chum salmon are distinguished from fall chum salmon by their earlier entry timing into the Yukon River (early June to mid-July), smaller size, lower oil content, and a spawning distribution in the lower to middle portion of the Yukon River drainage. Fall chum salmon enter the Yukon River from mid-July to early September and spawn primarily in the middle to upper portion of the drainage.

Commercial fishing occurs throughout the mainstem Yukon River and in the lower 360 km (225 mi) of the Tanana River. Most of the commercial harvest is taken in Districts 1 and 2. Set and drift gillnets are the legal gear in the Lower Yukon, while only set gillnets and fish wheels are allowed in the Upper Yukon. Chinook and fall chum salmon are also commercially harvested in a predominantly gillnet fishery near Dawson, Yukon Territory (Figure 2), though some fish wheels are also used.

Subsistence fishing is allowed throughout the drainage with most of the effort concentrated in the mainstem Yukon River. In Canada the Aboriginal [sic] (Wilson 1993) fishery and the

domestic fishery are subsistence-type fisheries. The Aboriginal [sic] fishery in Canada is analogous to the Alaska subsistence fishery, although only native fishers are allowed to participate, while the Canadian domestic fishery is similar to Alaska personal use fisheries. The *Annual Management Report for Subsistence, Personal Use, and Commercial Fisheries of the Yukon Area, 1992* (Schultz *et al.* 1993) includes a complete description of the Yukon Area and its fisheries.

Most of the commercial harvest occurs in the lower 320 km (200 mi) of the river, where mixed species and stocks of salmon pass on the way to spawning areas throughout the Yukon River drainage. The Alaska Department of Fish and Game (ADF&G) and the Department of Fisheries and Oceans, Canada (DFO) conduct a variety of programs that supply information used to manage and document Yukon River fisheries resources. These programs include: (1) documentation of the catch in each fishery; (2) catch sampling for age, sex, and size data; (3) assessing the magnitude of spawning escapements by aerial and ground surveys, hydroacoustic equipment, weirs, towers, tagging studies, and the Whitehorse fishpass; and (4) sampling major spawning escapements for age, sex, and size data. ADF&G uses hydroacoustic equipment to estimate salmon passage in the mainstem Yukon River near Pilot Station. DFO uses tag and recapture methods near the US-Canada border to estimate border passage of chinook and fall chum salmon. ADF&G also estimates chinook salmon escapements to the Chena and Salcha Rivers in District 6 using tag and recovery methods (Evenson 1993, Skaugstad 1993).

Between 1969 and 1981 Yukon River salmon age, sex, and size sample data summaries were annually reported in the ADF&G Arctic-Yukon-Kuskokwim Region Age, Sex, and Size Composition of Salmon report series. Since 1982 the composition of Yukon River salmon catches and escapements by age, sex, and size have been reported by McBride, *et al.* (1983), Buklis and Wilcock (1984, 1985, 1986), Buklis (1987), Wilcock (1989), Wilcock and Schneiderhan (1990), and Schneiderhan (1994b).

The purpose of this report is to present the available 1992 Yukon River drainage salmon catch and escapement estimates and to relate them to age, sex, and length (ASL) data wherever appropriate. This report summarizes Yukon River salmon commercial and subsistence catches in numbers of fish by age and sex for each fishing district. Percent age composition is presented for sampled escapements as well as for commercial and subsistence catches. Mean length by age and sex is presented for catches and escapements.

As previously mentioned, a multifaceted stock analysis of Yukon chinook salmon is performed annually to assign chinook salmon catches to three runs of origin, e.g., Lower, Middle, and Upper Yukon Runs. The stock analysis is partially based on the traditional treatment of chinook data which is presented in this report; however, in the stock identification analytic process, somewhat different age compositions are obtained through a thorough treatment of district and drainage-wide stock composition data which includes scale pattern, age composition ratio, and geographic analyses. For a multi-year age composition analysis of recent, e.g. since 1982, Yukon chinook salmon data, the scale pattern analysis series of reports, i.e. Schneiderhan (1994a), would provide the most detailed information to work with.

METHODS

Quantifying Catch and Escapement

Catch and escapement data presented in this report were taken from the 1992 Yukon Area annual management report (AMR; Schultz *et al.* 1993). Dan Bergstrom (Alaska Department of Fish and Game, Anchorage) provided recent historical data which included some postpublication changes in 1992 catch estimates.

Subsistence

Drainage-wide subsistence catches were primarily estimated through mail-out catch calendars and household interviews. The primary gear used to catch subsistence fish in Districts 1, 2, and 3 was gillnets. Subsistence catches by other gear types were negligible. Therefore, age and sex composition was assumed to be the same as the age and sex composition from the earliest commercial period for chinook salmon and from the combined season sample for chum salmon. Usage patterns and differential catch ratios of subsistence gear types used to catch salmon were not fully documented for the Upper Yukon Area, e.g. Districts 4-6. Gillnets and fish wheels were used, but because of inadequate gear survey information, subsistence catches by gear type were estimated using the proportion of commercial catch by gear type for each district.

Estimates of sport fishing catches in 1992 for the Alaska portion of the Yukon River drainage (Mills 1993) were footnoted in tables of catch data derived from Shultz, *et al* (1993). Estimates of sport fishing harvests in Canada were footnoted in tables of catch data derived from Canadian sources, e.g. JTC (1993).

All Yukon Territory catch data were obtained from DFO as reported in the 1992 AMR (Schultz *et al* 1993) and the February 1993 United States/Canada Yukon River Joint Technical Committee (JTC) report (JTC 1993). Canadian catches were attributed to gillnets. No published information was available concerning 1992 Canadian catch proportions by gear type; however, a subjective estimate in 1991 assigns a small portion of the 1991 chinook salmon catch and half or more of the fall-run chum catch to fish wheel gear (JTC 1991).

Commercial

Alaskan commercial catch data were compiled by the Division of Commercial Fisheries for each management district and were based on computer tabulations of harvest receipts (fish tickets)

which documented the volume of sales from fishermen to processors. Commercial catches in districts where ADF&G operated test fish projects include district test fish catches which were sold to processors by project personnel on behalf of the Department (Schultz *et al* 1993). The District 4 summer chum salmon commercial catch was an estimate of females plus males where females were calculated from the estimated mean roe weight per female and the total reported roe weight while total catch was calculated using the estimated ratio of females to males. The District 5 and 6 summer chum commercial catch included an estimate of the number of females caught to produce the roe sold plus the number of fish sold in the round, which were assumed to be males incidentally caught during the roe harvest. All salmon caught for roe in Districts 4, 5, and 6 were treated the same as summer chum in Districts 5 and 6 (D.J. Bergstrom, Alaska Department of Fish and Game, Anchorage, personal communication).

District 1 commercial catch samples were obtained from fish at the time of delivery to local fish processors or shortly thereafter. District 1 sample age and sex compositions were used to apportion the commercial catch separately by period and by gear type. A summation of fish by age and sex from each period also provided a combined season age and sex composition which was weighted by each period catch.

District 2 commercial catch samples were obtained in commercial periods from fish delivered to processors in the district. Some District 2 samples were obtained in District 1 from processor fish tenders which bought fish exclusively in District 2 and delivered them for processing in District 1. District 3 catches were not sampled except inadvertently in District 2 where District 3 fish were sometimes delivered for sale. District 3 catches for each commercial fishing period were assumed to have the same age and sex composition as that used for the concurrent District 2 period.

District 4 and 5 commercial catch samples were obtained from fish wheel and gillnet catches. The estimated subsistence catch in each district combined with the corresponding district commercial catch was apportioned by gear type in proportions calculated from commercial catch samples. District 6 commercial catches were obtained from fish caught by fish wheels. Combined catches from fish wheels and gillnets were apportioned using the resulting sample age and sex composition. Canadian commercial catches were attributed to gillnets as noted above for subsistence catches.

Escapement

Most escapement data were peak aerial survey estimates for selected spawning streams. An effort was made to survey the major spawning populations and these indices of relative abundance were assumed to represent overall trends in escapement. Additional escapement estimates were obtained by other methods as follows:

1. Summer chum salmon escapement to the Anvik River (Sandone 1994) and fall chum salmon escapement to the Sheenjek River (Schultz *et al.* 1993) were estimated by ADF&G using side scan sonar counters.
2. Fall chum salmon escapement to the Fishing Branch River in Canada was enumerated by DFO using a weir (JTC 1993).
3. Students hired by DFO and working for the private Yukon Fish and Game Association counted chinook salmon which were observed ascending the fishway at Whitehorse Dam in Yukon Territory, Canada (JTC 1993).
4. Fall chum salmon escapement to the Toklat and Delta Rivers was estimated by ADF&G from ground surveys and stream residency time expansion factors (Schultz *et al.* 1993).
5. A hydroacoustic site was operated by ADF&G on the mainstem Yukon River at river mile 123 to obtain salmon passage estimates by species (Fleischman and Mesiar 1993).
6. Chinook salmon tag and recapture studies were conducted by ADF&G in the Chena and Salcha Rivers to obtain spawning escapement estimates (Evenson 1993, Skaugstad 1993).
7. A chinook and fall chum salmon tag and recapture study was conducted by DFO immediately upstream from the US-Canada border to obtain population estimates for the Canadian portion of the drainage, excluding the Porcupine River (JTC 1993).

Indices of relative abundance are presented herein for selected tributaries with accompanying age and sex summaries where available. Other major spawning escapements without estimates of relative abundance were treated similarly. Mean length by age and sex for each sampled fishery and escapement were also tabulated. These data constitute the primary biological information necessary to manage Yukon River salmon fisheries and monitor the status of spawning stocks.

Age, Sex, and Length Estimation

A stratified systematic sampling design (Cochran 1977) was used to obtain samples for the estimation of age and sex composition. Strata were defined as individual fishing periods for District 1 and 2. For the other districts and fisheries, time strata were of variable length depending on the number of samples collected. An attempt was made to sample sufficient numbers of fish within each strata to estimate the proportion of each major age class in the catch with $\alpha = 0.05$ and $d = 0.1$ (Bromaghin 1993).

Age compositions and associated variances were estimated with procedures outlined by Cochran (1977) for stratified sampling designs:

$$C_{tj} = C_t P_{tj},$$

$$V[C_{tj}] = \frac{(C_t)^2 P_{tj} (1 - P_{tj})}{N_t - 1}; \text{ and}$$

$$C_{.j} = \sum_{t=1}^T C_{tj},$$

$$V[C_{.j}] = \sum_{t=1}^T V[C_{tj}]$$

where

C_t = number of fish caught in stratum t ,

P_{tj} = proportion of sample in stratum t of age j ,

N_t = number of samples during stratum t ,

C_{tj} = estimated number of fish of age j in stratum t ,

T = total number of strata, and

$C_{.j}$ = estimated number of fish of age j for all strata, e.g., season, T .

If strata sample sizes were insufficient to attain the desired levels of precision and accuracy, the samples were pooled into a single strata for a fishery or escapement to estimate age and sex composition. While commercial and subsistence catch estimates were categorized by age and sex, escapement sample data was simply presented along with escapement estimates where available. An exception was the Anvik River summer chum salmon escapement where age and sex compositions were available for stratified samples and were used to estimate numbers of fish in the escapement by age and sex for each strata. Summation of the resulting stratified numbers of fish by age and sex provided estimates of the age by sex proportions which were weighted by escapement magnitude in each sample strata (Sandone 1994).

Lengths were measured from mid-orbit to fork-of-tail to the nearest 5 millimeters. Some samples collected in Yukon, Canada by DFO were measured from tip-of-snout to fork-of-tail. Average lengths, by age and sex, were reported for each sampled fishery and escapement. Length data were not stratified.

Subsistence

ASL data were not taken from subsistence catches. Estimates of ASL statistics for subsistence catches were derived from commercial sample data from the same gear type in the same or a neighboring district.

Commercial

Examination, measurement, and scale specimen analysis for ASL determination was completed on each fish in samples selected from each strata of interest, e.g., period, district, or season. Examination of scale annuli patterns as described in Gilbert (1922) provided age information for salmon in the catch and escapement. Scales were taken from the left side of the fish approximately two rows above the lateral line along the diagonal from the posterior insertion of the dorsal fin to the anterior insertion of the anal fin according to methods outlined by INPFC (1963). Scales were mounted on gum cards and permanent impressions made in cellulose acetate (Clutter and Whitesel 1956).

Resorption of the margins of scales from fall chum salmon made correct age determination problematic. Therefore, vertebrae specimens were used as an alternate source of age information for those stocks. Ages were determined from vertebrae through examination of annuli patterns visible on transverse sections. Ages from scales and vertebrae were recorded in European notation.

Sex determination was made for every sampled fish. Assignment of sex was principally determined through examination of external secondary sexual characteristics. Fish from District 1 catches often did not exhibit well developed external sexual dimorphism. Occasional examination of the gonads of fish of uncertain sex were made to check the accuracy of sex determination. Gonads were examined in all fish which were opened for Genetic Stock Identification (GSI) tissue extraction.

An attempt was made to sample fish from the commercial catch for each gear type in each district. However, because of the logistics involved in sampling such widely dispersed fisheries, many of the smaller catches were not sampled. The majority of the commercial catch samples were collected in Districts 1, 2, and 4.

Escapement

An attempt was made to sample the major chinook and chum salmon spawning populations. Most escapement data were collected from carcasses. Fish spears were often used to capture live, but spawned out, chinook salmon. In addition, live fish were captured with beach seines at the Anvik and Sheenjek Rivers.

RESULTS

Catches and Escapements

Subsistence

The Yukon River subsistence catch for Alaska and Canada totalled 52,352 chinook, 125,497 summer chum, 107,557 fall chum, and 52,416 coho salmon in 1992 (Table 1). The subsistence catch of chinook was 7% below that of 1991 while summer chum was 6% above, fall chum was 23% below, and coho was 39% above the 1991 level. The large decrease in the fall chum subsistence catch is primarily due to smaller catches in Districts 4, 5, and 6, while the large increase in the coho catch was due to larger catches throughout the Alaska portion of the drainage.

During 1992, the largest chinook and fall chum subsistence catches occurred in District 5, the largest subsistence summer chum catch occurred in District 4, and the largest subsistence coho catch occurred in District 6. Fish wheels accounted for the majority of the fall chum and coho subsistence catch, while the majority of the chinook and summer chum subsistence salmon catches was taken by gillnet.

Commercial

Including illegal commercial sales in Districts 1 and 2 but excluding ADF&G test fishing catches, the combined Alaska and Canada commercial catch totaled 132,049 chinook, 543,577 summer chum, 37,598 fall chum, and 7,979 coho salmon in 1992 (Table 1).

The chinook commercial catch was 13% above that of 1991, and 10% above the recent 5-year, 1987-91, average. The summer chum catch was 5% below the 1991 level, and 49% below the recent 5-year average. The fall chum catch was 87% below that of 1991 and 81% below the recent 5-year average. The coho catch was 94% below 1991 and 90% below the recent 5-year average. The large decrease of the fall chum and coho salmon catch in 1992 over 1991 and the recent 5-year average reflected the fall season commercial closure in all but District 6. A similar situation occurred in 1987, the earliest year of the recent 5-year average.

Fishermen in the Alaska portion of the drainage received an estimated 10.6 million dollars for their catch in 1992, 28% above the 1987-91 average. The largest commercial catch of chinook salmon occurred in District 1, while the largest summer chum catch was in District 4. The largest fall chum and coho catch occurred in District 6, the only Alaska district opened to fall season commercial fishing in 1992. Commercial catch by species by period and fishing effort by period is presented in Appendix A for each district and Canada. Gillnets accounted for the majority of the commercial catch for chinook and summer chum salmon. In District 6, fish wheels were the principal gear type for the fall chum and coho salmon catch (Appendix B).

Escapements

Yukon River salmon interim escapement objectives have been established by ADF&G for the major spawning populations of chinook, summer chum, and fall chum salmon for which a sufficient data base exists (Schultz *et al* 1993). Most escapement objectives are based on historical aerial survey indices of abundance, and are subject to reevaluation as more data becomes available. Yukon River salmon spawning escapement index counts and population estimates for all areas monitored in 1992 are presented in Table 2. Daily sonar, weir, and fishpass salmon escapement counts are tabulated in Appendix C. In general, observation conditions were good in 1992 for aerial surveys conducted throughout the Yukon River drainage.

Chinook. Spawning by chinook salmon takes place in tributary streams throughout the Yukon River drainage (Figure 3). Chinook salmon minimum escapement objectives have been established for the East Fork Andreafsky (1,500), West Fork Andreafsky (1,400), Anvik index area (500), North Fork Nulato (800), South Fork Nulato (500), Gisasa (600), Chena (1,700), and Salcha (2,500) Rivers (Schultz *et al* 1993). Except for the East Fork Andreafsky River (1,030) and the Nulato River (579 total), escapement objectives were achieved for all applicable streams in the lower portion of the drainage. The combined count for the Andreafsky River (3,032) exceeded the combined escapement objective of 2,900. Aerial survey counts for the Chena (799) and Salcha (1,436) Rivers were both well below established index objectives. In addition to aerial counts, total 1992 spawning populations in the Chena (5,395) and Salcha (7,862) Rivers were estimated from mark and recapture studies. As of 1992 optimum total spawning population levels had not yet been established for these rivers as spawning populations had been estimated only since 1986 for the Chena River and 1987 for the Salcha River.

Chinook salmon escapements in the Canadian portion of the drainage in 1992 have maintained the generally higher levels seen since 1988. Aerial counts were thought to have been performed about a week and a half after the peak of spawning. Most counts in other years occurred at the peak of spawning and were presumably relatively larger as a result; however, the Whitehorse fishway count of 758 was also down considerably from 1990 and 1991. Late timing of escapement surveys may have accounted for the apparent typical to low counts in many tributaries when compared to the estimated escapement derived from the mainstem tagging project, e.g. 25,497 chinook, which was similar to the recent 5-year average of 24,004 (Schultz *et al*. 1993).

Summer chum. Spawning primarily in tributaries of the lower Yukon, the Koyukuk, and the Tanana Rivers (Figure 4), summer chum minimum aerial index objectives have been established for the East Fork Andreafsky (109,000), West Fork Andreafsky (116,000), Anvik (356,000), North Fork Nulato (53,000), Hogatza (17,000), and Salcha (3,500) Rivers. A sonar-based minimum escapement objective of 500,000 salmon has also been established for the Anvik River (Schultz *et al* 1993). On the Lower Yukon drainage, aerial survey counts for the Andreafsky River were 11,308 summer chum salmon on the east fork and 37,808 on the west fork; however, the surveys were conducted under poor conditions. The Anvik River sonar escapement count of 775,626 summer chum salmon was 55% above the minimum escapement objective of 500,000 but was 9% below the estimated 1991 escapement of 847,772.

Fall chum. Spring fed upwelling areas in streams and sloughs in the upper portion of the Yukon River drainage are preferred spawning areas for fall chum salmon (Figure 5). Minimum total season escapement objectives have been established for the Sheenjek (64,000), Toklat (33,000), and Delta (11,000) Rivers (Schultz *et al* 1993). A minimum interim spawning escapement objective of 80,000 fish for mainstem Yukon River in Canada (JTC 1990) was in effect in 1992. In addition an interim escapement objective range of 50,000-120,000 fish had been recommended for the Fishing Branch River, a tributary of the Porcupine River (JTC 1987).

Escapement population estimates of 10,813 fall chum salmon for the Toklat River, 8,893 for the Delta River, and 79,315 for the Sheenjek River in 1992 were 67% below, 19% below, and 24% above the minimum escapement objectives for each of these streams. The escapement population estimate of 22,517 for the Fishing Branch River was 55% below the recently established minimum objective.

The DFO spawning escapement estimate for 1992 was 49,217 fall chum salmon for the mainstem Yukon River drainage in Canada, excluding the Porcupine River drainage. This was below the 1991 estimate of 78,461 fish and far below the interim minimum escapement objective of 80,000 fish established by the JTC (1990).

Coho. Major concentrations of spawning coho salmon have been documented in the Tanana River drainage (Figure 6); however, spawning also occurs widely throughout the Yukon River drainage. Coho escapement counts are generally obtained in conjunction with fall chum escapement surveys, and because there are differences in timing and distribution, a comprehensive data base does not exist. Coho escapements in 1992 appeared to be low to average for most spawning areas in the Yukon River drainage. However, the Delta Clearwater estimate (3,983) was the lowest since 1976 (1,920) and far below the recent 1988-1991 average of 17,425. Also, the Clearwater Lake and outlet index was the lowest since 1972 (D.J. Bergstrom, Alaska Department of Fish and Game, Anchorage, personal communication).

Age, Sex, and Length Composition

Chinook

Age composition of the Alaska Yukon River catch of chinook salmon in 1992 was estimated to be 65% age-1.4, 22% age-1.3, 9% age-1.2, and 3% age-1.5, with several other age classes present in smaller proportions (Table 3, Appendix D). Females accounted for an estimated 48% of total river catch. The large catch of females was the result of catching a large number of age-1.4 fish.

District 1 and 2 combined commercial and subsistence gillnet catches comprised 66% of the total river catch. Age and sex composition differed between periods where unrestricted mesh size was allowed and periods where mesh size was restricted to a 6-in (15.2 cm) maximum in Districts 1 and 2 (Appendix D). The percentage of females caught during unrestricted mesh periods ranged from 44.1 to 59.7 with an average of 54.7 for combined unrestricted gear in the two districts. The percentage of females landed during restricted mesh fishing ranged from 22.9% to 50.0% with an average of 40.9%. Age-1.4 fish, which have comprised 40% to 75% of District 1 and 2 catches in recent years, were the most abundant age group in 1992, and comprised 72.6% of the season total catch for both districts. Age-1.4 fish taken in restricted gear ranged from 46.3% to 68.4% in District 1 and 2 periods where mesh size was restricted to 6 inches or less and from 74.6% to 84.0% in unrestricted periods. Age-1.4 fish dominated all of the sampled restricted and unrestricted mesh periods for the two districts. Age-1.3 chinook salmon were weakly represented in 1992 Lower Yukon catches relative to most other years; however, the age class outnumbered all age classes, except age 1.4, in all commercial periods in Districts 1 and 2. Age-1.5 was weak in 1992.

Subsistence catches in Districts 1, 2, and 3, and in Canada were not sampled. Because subsistence fisheries in those districts utilize the same gear types and occur more or less concurrently with the commercial fisheries, age and sex frequencies of commercial samples were applied to the subsistence catches (Appendix D). Because of the intermixing of commercial and subsistence gillnet and fish wheel catches by fishermen in Districts 4, 5, and 6, estimates by gear type were made only when segregated samples were available.

In Districts 4 and 5, it was again apparent that a greater proportion of younger, e.g., age 1.2 and 1.3, male chinook were captured in fish wheels than in gillnets. District 4 fish wheel samples were 37.2% age-1.2 males and 37.2% age-1.3 males while gillnet samples were composed of only 10.7 age-1.2 males and 19.6 age-1.3 males. Overall, the District 4 fish wheel catch sample was 82.2% male while the gillnet catch sample was 48.2% male. The domination of age 1.4 by females in both gear types was indicative of the importance of the age class to overall fecundity. Similar trends were observed in District 5.

Mean size of male chinook salmon in the District 1 commercial gillnet catch ranged from 567 mm for age-1.2 fish to 949 mm for age-1.5 fish. Female chinook salmon ranged from 638 mm for age-1.2 fish to 918 mm for age-1.5 fish (Table 4). Similarly, the mean size of male chinook

salmon in the combined District 4 commercial and subsistence fish wheel catch ranged from 385 mm for age-1.1 fish to 888 mm for age-1.4 fish; females ranged from 610 mm for age-1.2 fish to 950 mm for an age-1.5 fish. Other catch samples exhibited size frequency ranges similar to those from Districts 1 and 4.

Age, sex, and size composition of chinook test fishing samples collected in 1992 is presented in Appendix D.12.

Age and sex composition of chinook escapements in 1992 (Table 5) indicated similar patterns of abundance (nonstatistical comparison, NSC) as previous years. With the exception of the Andreafsky and Chena Rivers, age-1.4 fish were the most abundant age group in Yukon River escapements, ranging from 35.5% for the Goodpaster River to 50.8% for the Andreafsky River. Small sample size and suboptimal timing of sampling on the Andreafsky River may account for the differences in age and sex composition which were seen there. Age 1.2 was more abundant than age 1.4 on the Chena River and was very abundant throughout the Tanana River drainage which includes the Chena (40.7%), Salcha (30.8%), and Goodpaster (32.3%) Rivers. Canadian escapements were not sampled in 1992.

The abundance of female chinook salmon in Yukon River escapement samples varied greatly in 1992, ranging from 21.2% in the Andreafsky River to 41.3% in the Anvik River. However, the sample composition from the Andreafsky River may have been biased by a combination of early timing of sampling effort and small sample sizes: the timing of mortality from spawning activity is generally later for females than males and the small sample size was due to the difficulty of locating and recovering king salmon carcasses which were masked by the presence of extremely large numbers of pink salmon spawners and carcasses.

The average size of male chinook salmon in Yukon River escapements ranged from 378 mm for nine age-1.1 fish from the Chena River to 932 mm for age-1.4 fish from the Goodpaster River (Table 6). Average size of females ranged from 764 mm for age-1.3 fish from the Anvik River to 995 mm for age-1.5 fish from the Chena River.

Summer Chum

Sample sizes of summer chum salmon from each District 1 and 2 commercial period, Districts 4, 5, and 6 combined commercial and subsistence fish wheel fisheries, and the District 4 combined commercial and subsistence gillnet fishery were sufficient ($\alpha = 0.05$ and $d = 0.1$) to permit estimates of catch by age and sex. Catch estimates for District 3, by age and sex, were based on the composition of the District 2 samples from periods 4 and 7. Age and sex composition estimates for commercial and subsistence gillnet catches in Districts 5 and 6 could not be estimated because of small sample sizes. Subsistence catch age and sex composition for Districts 1 and 2 were estimated using the District 1 and 2 commercial gillnet catch samples. Age and sex composition of the District 3 subsistence catch was estimated using District 2 commercial gillnet catch samples. The number of summer chum salmon caught by age, sex, and

fishery for the entire drainage is presented in Table 7, while age and sex composition for each fishery is presented by sample strata in Appendix E. Age, sex, and size composition of test fishing samples is in Appendix E.11.

Age and sex composition for 99% of the total drainage summer chum catch was estimated (Table 7). Uncharacteristically, age-0.4 accounted for the majority of total utilization, e.g., 65% of the total catch, followed by ages 0.3 (31%), 0.5 (4.0%), and 0.2 (0.2%). The total catch was composed of 53% females.

Samples from the commercial gillnet fishery in District 1 (Appendix E) were comprised of more age-0.4 fish (73.5%) and fewer females (49.8%) than were commercial and subsistence fish wheel samples pooled from the District 4 fishery (41.3% age-0.4 and 63.6% females). The District 5 commercial fish wheel sample was composed of 74.0% age 0.4 and 40.2% female. The District 6 commercial fishery sample was composed of 59.5% age 0.4 and 20.2% female (Table 7). Samples from the District 4 gillnet commercial and subsistence fisheries were fairly similar to District 4 fish wheel catches with each exhibiting about 55% age-0.4 fish; however, sex compositions were slightly different with gill net samples composed of 71.8% female and fish wheel samples 63.6%. District 5 fish wheel samples were 74.0% age 0.4 and 40.2% female. A major difference occurred in District 6 fish wheel samples with an age composition of 61.1% age 0.3 and a sex composition of 44.7% female.

Summer chum salmon exhibit only small differences in average length for the two major age classes, 0.3 and 0.4. In each Yukon district sample a minimum of 10 mm and a maximum of 55 mm separated the two age classes for either sex. Other age classes showed similar small length differences (Table 8).

A temporal trend in age composition (NSC) has been historically apparent for the District 1 commercial gillnet fishery. As the season progressed age 0.4 declined in relative abundance, while age 0.3 increased.

Age, sex, and length data for summer chum salmon were collected for a number of spawning locations in 1992 (Tables 9, 10). Age-0.4 fish comprised 40.0% of the Salcha River to 69.7% of the Chena River spawning stocks. Salcha River age composition was dominated by age 0.3, e.g., 50.0%. Sex composition ranged from 53.2% female for the Chena River to 60.9% for the West Fork Andreafsky River, a relatively narrow range. Some differences in sampling existed. Samples from the Anvik River were collected by beach seine gear throughout the spawning migration. Samples from the Andreafsky River were collected in a one week time frame while sampling for chinook salmon in early August. Large concentrations of pink salmon on the West Fork Andreafsky River may have caused a bias to that sample. Chena and Salcha River samples were taken from fish which were captured using electroshocking techniques in the month of August.

Fall Chum

The number of fall chum salmon caught by age, sex, and fishery for 1992 is presented in Table 11. Age and sex composition for each district fishery and test fishing sample is in Appendix F. Age and sex composition for 74% of the total drainage fall chum catch was estimated. The sex composition was 55% female. Age-0.4 fall chum salmon contributed 50.0% to the total drainage catch in 1992. The District 1 subsistence gillnet catch was composed of 59.0% age-0.4 and 67.0% female. Contribution of age-0.4 fish was close to 50% in Districts 4, 5, and 6. Age composition for Yukon Territory commercial fish wheel catches was considerably different with 69.8% age 0.3.

Mean length of males was larger than for females (NSC) for all ages from sampled catches (Table 12).

Age and sex data was collected from spawning escapements by ADF&G in the Toklat, Delta, and Sheenjek, Bluff Cabin Slough, and Tanana Rivers (Table 13). Age compositions ranged from 51.3% age-0.4 for the Toklat River to 80.6% age-0.4 for the Sheenjek River, and from 17.9% age 0.3 for the Sheenjek River to 44.4% age-0.3 for the Toklat River.

Sex composition was variable, ranging from 24.2% female for the Tanana River to 53.0% female for the Sheenjek River.

Among Alaskan escapement samples, mean length of males was larger (NSC) than for females of all ages, except Toklat River age 0.2 (Table 14). A similar observation was made in 1989 (Schneiderhan 1994b).

Coho

Catch by age and sex was estimated for 63% of the total coho catch for 1992 (Table 15). Approximately 74% were age-2.1 with about 40% females. The contribution of age-2.1 coho salmon in all district samples was similar (Appendix G). Males were dominant in all district samples, ranging from about 55% in District 1, to 62% in District 6.

Mean length of coho salmon was similar (NSC) for all ages and both sexes from each of the catch and escapement samples (Table 16).

Samples observed from the Delta Clearwater River were similar to previous years with age-2.1 accounting for 61.2% of the escapement (Table 17). This was similar to the age composition for commercial and subsistence samples taken in the Yukon River drainage.

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TABLES

Table 1. Yukon River commercial and subsistence salmon harvest by district and species, 1992.

District	Chinook ^a			Summer Chum ^b			Fall Chum ^c			Coho ^d		
	Comm.	Subs.	Total	Comm.	Subs.	Total	Comm.	Subs.	Total	Comm.	Subs.	Total
1	74,212	5,141	79,353	177,329	33,239	210,568		5,216	5,216		5,426	5,426
2	38,139	7,074	45,213	147,129	24,731	171,860		7,382	7,382		6,587	6,587
3	1,819	4,773	6,592	65	4,332	4,397		1,493	1,493		1,253	1,253
Lower Yukon	114,170	16,988	131,158	324,523	62,302	386,825		14,091	14,091		13,266	13,266
4	2,394	8,509	10,903	211,396	41,079	252,475		22,097	22,097		8,725	8,725
5	3,855	17,691	21,546	430	12,612	13,042		43,417	43,417		12,376	12,376
6	753	2,438	3,191	7,228	9,504	16,732	19,022	25,713	44,735	7,979	17,554	25,533
Upper Yukon	7,002	28,638	35,640	219,054	63,195	282,249	19,022	91,227	110,249	7,979	38,655	46,634
U.S. Total	121,172	45,626	166,798	543,577	125,497	669,074	19,022	105,318	124,340	7,979	51,921	59,900
Porcupine		100	100					1,935	1,935		495	495
Mainstem Yukon	10,877	6,626	17,503				18,576	304	18,880			
Canada Total	10,877	6,726	17,603				18,576	2,239	20,815		495	495
Yukon Drainage Total	132,049	52,352	184,401	543,577	125,497	669,074	37,598	107,557	145,155	7,979	52,416	60,395

^a Includes District 1 (1,218) and District 2 (207) illegal purchase. Does not include ADF&G test fish catch in District 1 (930) or District 2 (32). See Appendix A and Appendix B.1.

^b Includes District 1 (31) and District 2 (91) illegal purchase. Does not include ADF&G test fish catch in District 1 (1,918). See Appendix A.1 – A.6 and Appendix B.2.

^c See Appendix B.3.

^d See Appendix B.4.

Table 2. Yukon River salmon spawning escapement indices and population estimates by species, 1992.

Stream (drainage) ^a	Date	Survey Rating	Chinook	Summer Chum	Fall Chum	Coho
Andreafsky River						
East Fork	7/17	Poor	1,030	11,308	(Numerous Pink Salmon)	
West Fork	7/17	Poor	2,002	37,808	(Numerous Pink Salmon)	
	Subtotal		3,032	49,116	--	--
Atchuelinguk River (Chulinak R)	7/29	Good	898	--	--	--
Nageethluk River	7/30	Poor	62	573	(1,250 Pink Salmon)	
	Subtotal		960	573		
Innoko River						
Iditarod River	7/30	Poor	0	0	--	--
Yukon River (Pilot Station)						
Main River (Biosonics Sonar)			--	(Did Not Operate)		--
Anvik River						
Aerial Counts						
Mainstem River (excluding tribs)	7/24	Good	1,354	--	--	--
Yellow Ri-McDonald Cr	7/24	Good	(931)	--	--	--
Beaver Creek	7/24	Good	130	--	--	--
Canyon Creek	7/24	Good	4	--	--	--
Otter Creek	7/24	Good	38	--	--	--
Swift River	7/24	Good	7	--	--	--
McDonald Creek	7/24	Good	3	--	--	--
Bendix Sonar Estimate	6/29-7/25		--	775,626	--	--
	Subtotal		1,536	775,626	--	--
Blackburn Creek ^b	7/23	Good	1	1,496	(36 Pink Salmon)	
Rodo River	7/22	Fair	187	4,465	--	--
Kaltag River			--	--		
Tower (4-H & Youth Development)	7/18-26	Partial Cts	17 ^c	736 ^e	--	--
Nulato River						
South Fork	7/22	Fair	231	5,322	--	--
North Fork (from confl w/ Yukon)	7/22	Fair	348	12,358	--	--
	Subtotal		579	17,680	--	--
Koyukuk River Drainage						
Gisasa River	7/22	Fair	910	9,300	--	--
Dakli River	7/22	Good	1	4,012	--	--
Wheeler Creek	7/22	Good	0	7,147	--	--
	Subtotal		1	11,159	--	--
Hogatza River						
Clear Creek	7/22	Fair	--	1,073	--	--
Caribou Creek (aerial)	7/22	Fair	--	1,913	--	--
Ground Survey upper portion ^b	7/28	Good	--	(940)	--	--
	Subtotal		--	2,986	--	--
Indian River	7/22	Fair	0	1,597	--	--
Alatna River						
Helpmejack Creek	7/30	Good	1	211	--	--
Rockybottom Creek	7/30	Good	0	141	--	--
Malamute Fork	7/30	Good	56	666	--	--
Iniakuk River	7/30	Good	6	642	--	--
Mettenpherg Creek	7/30	Good	1	167	--	--
	Subtotal		64	1,827	--	--

-Continued-

Table 2. (page 2 of 4)

Stream (drainage) *	Date	Survey Rating	Chinook	Summer Chum	Fall Chum	Coho
South Fork Koyukuk River	7/30	Good	412	169	--	--
Jim River	7/29	Good	179	180	--	--
	Subtotal		591	349	--	--
John River	7/30	Good	6	0	--	--
Malamute Fork	7/29	Fair-Good	0	0	--	--
North Fork Koyukuk River	7/29	Good	38	5	--	--
Middle Fork Koyukuk River	7/29	Good	168	10	--	--
Total Koyukuk River			1,778	27,233	0	0
Melozzi Hot Springs Creek	7/23	Fair	4	1,852	--	--
Tozitna River	7/23	Fair	69	794	--	--
Total Lower Yukon River			8,163	879,571	--	--
Lower Tanana River Drainage						
Kantishna River Drainage						
Toklat River	10/19	Fair	--	--	155	0
Barton Creek	10/20	Partial	--	--	0	55
Floodplain vic Roadhouse ^d	10/15-19	Good	--	--	(6,489)	151
Geiger Creek ^b	10/17	Good	--	--	(1,648)	77
Sushana River ^d	10/16, 10/19	Good	--	--	(1,433)	2
Population Estimate ^a			--	--	10,813	--
	Subtotal		--	--	10,968	285
Bearpaw River	10/19	Poor	--	--	130	0
Nenana River Drainage						
Eastern spring area off Tekanika River vicinity Comma Lake	10/19	Fair	--	--	--	164
Seventeen Mile Slough	7/25, 10/19	Early, Fair	35	115	190	490
Lost Slough	10/19	Fair	--	--	0	372
	Subtotal		35	115	190	1,026
Chatanika River	7/27	Fair	79	8	--	--
Chena River						
Mainstem River (aerial)	8/11	Fair-Poor	825	848	--	--
MCD to Middle Fk (index area)	8/11	Fair-Poor	(799)	(838)	--	--
Slough #1 (Foot Survey)	8/14	Good	0	(331)	--	--
Slough #2 (Foot Survey)	8/14	Good	(1)	(26)	--	--
Slough #3 (Foot Survey)	8/14	Good	0	(324)	--	--
Slough #4 (Foot Survey)	8/14	Good	0	(236)	--	--
Population Estimate ^{f,g}			(5,230)	(6,083)	--	--
	Subtotal		825	848	--	--
Salcha River						
Mainstem River (aerial)	8/3, 8/11	Fr-Pr, Good	1,484	3,222	--	--
TAPS to Caribou Cr. (index area)	7/20	Poor	(1,436)	--	--	--
Slough #1 (Foot Survey)	8/12	Good	0	(155)	--	--
Slough #2 (Foot Survey)	8/12	Good	(2)	(735)	--	--
Slough #3 (Foot Survey)	8/12	Good	0	(740)	--	--
Slough #4 (Foot Survey)	8/12	Good	(4)	(1,309)	--	--
Population Estimate ^{f,g}			(7,862)	(14,057)	--	--
	Subtotal		1,484	3,222	--	--
Total Lower Tanana River			2,423	4,193	11,288	1,311

-Continued-

Table 2. (page 3 of 4)

Stream (drainage) ^a	Date	Survey Rating	Chinook	Summer Chum	Fall Chum	Coho
Upper Tanana River Drainage						
Open water vic of Little Delta R mo	10/30	Incomplete	---	---	20	0
Richardson Clearwater River ^g	10/16	Fair	---	---	0	500
Mainstem Tanana sloughs						
Shaw Cr. to Timber Cr. (aerial)	10/30	Partial	---	---	854	0
Sloughs across from Timber ^b	10/30	Partial	---	---	(934)	0
Delta River						
Foot Survey (peak count)	11/4	Good	---	---	(8,084)	16
Population estimate ^h			---	---	8,893	---
Goodpaster River	7/27	Poor	148	---	---	---
Bluff Cabin Slough	10/30	Fair	---	---	3,615	20
Clearwater Lake Outlet Slough	10/30	Fair	---	---	1,182	70
Clearwater Lake and Outlet ^{g,i}	10/26	Good	---	---	200	229
Delta Clearwater River ^{g,i}	10/26	Good	---	---	200	3,963
Total Upper Tanana River			148	---	14,964	4,798
Total Tanana River			2,571	4,193	26,252	6,109
Minook Creek	7/29	Fair	0	3	---	---
Porcupine River Drainage						
Sheenjek River (Aerial)	9/5	Poor-Partia	---	---	Few Hundred	---
Bendix Sonar Estimate	8/9-9/19		---	---	78,808	---
Fishing Branch River (Aerial) ^j	9/30	Fair-Good	---	---	(3,570)	---
Weir Passage ⁱ	9/1-10/17		---	---	22,517	---
Total Porcupine River			---	---	101,325	---
Yukon River (Eagle)						
Main River HTI Sonar (split beam)			(1st Year - Experimental)			
Total Alaskan Portion of Drainage			10,734	883,767	105,060 ^k	6,109
Yukon Territory Streams ⁱ						
White River	10/14	Fair	---	---	2	---
Donjek River	10/14	Fair	---	---	125	---
Kluane River	10/14	Good	---	---	3,339	---
Tincup Cr	8/28	Good	73	---	---	---
Koidern River	10/14	Good	---	---	4	---
Subtotal			73	---	3,470	---
Pelly River Drainage						
Ross River	8/29	Good	423	---	---	---
Tatchum Creek ^b	9/4	Good	106	---	---	---
Little Salmon River	8/27	Fair-Good	494	---	---	---
Big Salmon River						
Big Salmon Lake to old weir site	10/16	Good	---	---	0	---
Big Salmon Lake to Souch Cr	8/27	Good	617	---	---	---
Teslin River Drainage						
Mainstem vicinity Boswell Cr	10/22	?	---	---	450	---
Nisutliin River						
Mainstem (Sidney Cr - 100 mile Cr)	8/27	Good	241	---	---	---
Wolf River (Wolf Lk - Fish Cr)	8/27	Good	110	---	---	---
Subtotal			351	---	450	---
Whitehorse Fishway Counts	8/6-9/4		758 ^l	---	---	---

-Continued-

Table 2. (page 4 of 4)

Stream (drainage) ^a	Date	Survey Rating	Chinook	Summer Chum	Fall Chum	Coho
Mainstem Yukon River Tatchum Creek to Ft. Selkirk Border Passage Estimate ^{f, m}	10/16	Fair	-- (43,300)	-- --	4,438 (69,897)	-- --
	Subtotal		--	--	4,438	--
	Total Yukon Territory (observed)		2,822	--	30,875 ^k	--
	Total Yukon Territory (estimated) ⁿ		(25,497)	--	(49,217)	--
Yukon River Drainage Totals			13,556	883,767	135,935	6,109

^a Estimates are from aerial surveys (peak count) unless otherwise indicated; carcass counts included. Data in parentheses are not included in totals or subtotals. Latest table revision December 20, 1993.

^b Foot Survey.

^c Unexpanded (partial) tower counts. Numbers represent net upstream movement, i.e., upstream minus downstream passage.

^d Combination foot and aerial survey.

^e Population estimate based upon survey timing and salmon streamlife data.

^f Population estimate based upon survey mark and recapture study.

^g Sport Fish Division estimate.

^h Population estimate based upon replicate foot surveys and salmon streamlife data.

ⁱ Boat survey.

^j Canada Department of Fisheries and Oceans estimate.

^k Total for Yukon Territory includes Fishing Branch River.

^l Only 642 of the chinook salmon which returned to the fishway were passed, including 43 males which were spawned once and released. Fish captured for egg-take consisted of 86 females and 73 males. The number of clipped chinook salmon returned to the fishway totalled 248.

^m Canadian estimate of spawning escapement for Yukon Territory streams excluding the Fishing Branch River. Canadian harvest was not removed, e.g., US-Canada border escapement estimates.

ⁿ Canadian estimated spawning escapement for Yukon Territory streams excluding the Fishing Branch River; from DFO tagging study, e.g., border passage estimate minus harvest.

Table 3. Harvest of Yukon River chinook salmon by age, sex, and fishery, 1992.

District	Fishery	n	Sex	Brood Year and Age Group ^a										Total ^a		
				1989		1988		1987		1986		1985			1984	
				1.1	1.2	1.3	2.2	1.4	2.3	1.5	2.4	1.6	2.5			
1	Commercial Gillnet	1,985	Female	0	145	3,662	0	32,975	63	1,534	162	0	0	38,541		
			Male	0	2,718	7,717	0	22,963	32	961	63	0	0	34,453		
			Total ^a	0	2,863	11,378	0	55,937	95	2,495	225	0	0	72,994		
1	Subsistence Gillnet		Female	0	10	258	0	2,322	4	108	11	0	0	2,714		
			Male	0	191	543	0	1,617	2	68	4	0	0	2,427		
			Total	0	202	801	0	3,940	7	176	16	0	0	5,141		
2	Commercial Gillnet	1,211	Female	0	105	1,744	0	16,219	0	726	130	0	0	18,923		
			Male	0	1,267	4,577	8	12,535	46	471	75	0	29	19,009		
			Total	0	1,372	6,322	8	28,754	46	1,196	205	0	29	37,932		
2	Subsistence Gillnet		Female	0	20	325	0	3,025	0	135	24	0	0	3,529		
			Male	0	236	854	1	2,338	9	88	14	0	5	3,545		
			Total	0	256	1,179	1	5,362	9	223	38	0	5	7,074		
3	Commercial Gillnet		Female	0	3	77	0	931	0	40	8	0	0	1,058		
			Male	0	37	197	3	497	3	21	3	0	0	761		
			Total	0	40	274	3	1,428	3	61	11	0	0	1,819		
3	Subsistence Gillnet		Female	0	13	219	0	2,041	0	91	16	0	0	2,381		
			Male	0	159	576	1	1,577	6	59	9	0	4	2,392		
			Total	0	173	795	1	3,618	6	151	26	0	4	4,773		
4	Comm & Subs Gillnet	56	Female	0	49	195	0	976	0	195	0	0	0	1,415		
			Male	0	293	537	0	488	0	0	0	0	0	1,318		
			Total	0	342	732	0	1,464	0	195	0	0	0	2,733		

-Continued-

Table 3. (page 2 of 2)

District	Fishery	n	Sex	Brood Year and Age Group ^a										Total		
				1989		1988		1987		1986		1985			1984	
				1.1	1.2	1.3	2.2	1.4	2.3	1.5	2.4	1.6	2.5			
4	Comm & Subs Fish Wheel	129	Female	0	127	507	0	760	0	63	0	0	0	1,457		
			Male	127	3,040	3,040	0	507	0	0	0	0	0	6,713		
			Total	127	3,167	3,547	0	1,267	0	63	0	0	0	8,170		
5	Comm & Subs Gillnet	135	Female	0	0	512	0	3,654	0	73	0	0	0	4,239		
			Male	0	439	1,827	0	3,362	0	0	0	0	0	5,628		
			Total	0	439	2,339	0	7,017	0	73	0	0	0	9,867		
5	Comm & Subs Fish Wheel	79	Female	0	591	1,922	0	3,400	148	0	0	0	0	6,061		
			Male	0	2,218	3,105	0	296	0	0	0	0	0	5,618		
			Total	0	2,809	5,026	0	3,696	148	0	0	0	0	11,679		
6	Comm & Subs Fish Wheel	177	Female	0	0	36	0	433	0	0	0	0	0	469		
			Male	72	1,658	793	18	180	0	0	0	0	0	2,721		
			Total	72	1,658	829	18	613	0	0	0	0	0	3,190		
Alaska Harvest ^{a, b}			Female	0	1,062	9,457	0	66,736	215	2,966	352	0	0	80,788		
			Male	199	12,256	23,766	31	46,359	98	1,668	169	0	38	84,584		
			Total	199	13,319	33,223	31	113,095	313	4,634	521	0	38	165,372		

^a Total **does not include** ADF&G test fish sales in Districts 1 (930) and 6 (145) or illegal purchases in Districts 1 (1,218) and 2 (207) by Schenk's Seafood Sales, Inc.

^b Canadian harvest of 17,893 chinook salmon was not included due to insufficient age composition data.

Table 4. Length (mm measured from mid-orbit to fork-of-tail) by age and sex of Yukon River chinook salmon commercial and subsistence catch samples, 1992.

Fishery	Sex		Brood Year and Age Group								
			1989	1988	1987		1986		1985		1984
			1.1	1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5
District 1 Commercial 6 in (15.2 cm) Maximum Mesh Size Gillnet	Female	Mean Length		638	741			863		911	
		Standard Error		47.9	9.3			4.0		16.8	
		Sample Size		4	58			186		10	
	Male	Mean Length		567	684			857		949	
		Standard Error		5.2	6.9			5.5		22.5	
		Sample Size		69	130			167		7	
District 1 Commercial Unrestricted Mesh Size Gillnet	Female	Mean Length		820	786		872	768	918	866	
		Standard Error		0.0	8.7		1.7	32.5	9.3	16.8	
		Sample Size		1	49		655	2	30	4	
	Male	Mean Length		580	724		872	630	936	873	
		Standard Error		15.9	5.8		3.1	0.0	10.9	42.5	
		Sample Size		30	111		444	1	25	2	
District 2 Commercial Unrestricted Mesh Size Gillnet	Female	Mean Length		650	776		870		909	849	
		Standard Error		140	8.2		1.8		10.4	34.1	
		Sample Size		2	47		581		25	6	
	Male	Mean Length		567	736	625	869	760	961	793	830
		Standard Error		9.7	5.4	0.0	3.4	20.0	12.3	57.3	0.0
		Sample Size		22	123	1	383	2	15	3	1
District 4 Comm & Subs Gillnet	Female	Mean Length		500	680		888		881		
		Standard Error		0.0	34.3		9.6		17.5		
		Sample Size		1	4		20		4		
	Male	Mean Length		548	702		841				
		Standard Error		13.5	30.6		24.6				
		Sample Size		6	11		10				
District 4 Comm & Subs Fish Wheel	Female	Mean Length		610	691		804		950		
		Standard Error		30.0	23.0		23.0		0.0		
		Sample Size		2	8		12		1		
	Male	Mean Length	385	585	665		888				
		Standard Error	5.0	7.0	7.8		36.0				
		Sample Size	2	48	48		8				
District 5 Commercial Gillnet	Female	Mean Length			830		882		925		
		Standard Error			25.5		5.5		0.0		
		Sample Size			7		50		1		
	Male	Mean Length		641	751		878				
		Standard Error		47.7	17.8		12.6				
		Sample Size		6	25		46				

-Continued-

Table 4. (page 2 of 2)

Fishery	Sex		Brood Year and Age Group										
			1989		1988		1987		1986		1985		1984
			1.1	1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5		
District 5 Commercial Fish Wheel	Female	Mean Length		558	743			857		740			
		Standard Error		10.1	23.9			9.3		0.0			
		Sample Size		4	13			23		1			
	Male	Mean Length		563	691			898					
		Standard Error		12.2	15.9			27.5					
		Sample Size		15	21			2					
District 6 Comm & Subs Fish Wheel	Female	Mean Length			763			883					
		Standard Error			7.5			7.9					
		Sample Size			2			23					
	Male	Mean Length	383	535	698	505	903						
		Standard Error	7.8	5.7	7.6	0.0	22.8						
		Sample Size	4	85	43	1	10						

Table 5. Age and sex composition of Yukon River chinook salmon escapement samples, 1992.

		Brood Year and Age Group										
		1989		1988		1987		1986		1985		Total
		1.1	1.2	2.1	1.3	2.2	1.4	2.3	1.5	2.4		
Location:		Andreafsky River										
Sample Dates:		8/2-8/9										
Escapement: ^{a, b}		3,032										
Sample Size:		52										
Female	Sample Size	0	0	0	1	0	8	0	2	0	11	
	Percent of Sample	0.0	0.0	0.0	1.9	0.0	15.4	0.0	3.8	0.0	21.2	
Male	Sample Size	0	12	0	24	0	5	0	0	0	41	
	Percent of Sample	0.0	23.1	0.0	46.2	0.0	9.6	0.0	0.0	0.0	78.8	
Total	Sample Size	0	12	0	25	0	13	0	2	0	52	
	Percent of Sample	0.0	23.1	0.0	48.1	0.0	25.0	0.0	3.8	0.0	100.0	
	Standard Error	0.0	5.9	0.0	7.0	0.0	6.1	0.0	2.7	0.0		
Location:		Anvik River										
Sample Dates:		7/31-8/11										
Escapement: ^a		1,536										
Sample Size:		315										
Female	Sample Size	0	0	0	7	0	120	0	3	0	130	
	Percent of Sample	0.0	0.0	0.0	2.2	0.0	38.1	0.0	1.0	0.0	41.3	
Male	Sample Size	0	30	0	112	1	40	0	2	0	185	
	Percent of Sample	0.0	9.5	0.0	35.6	0.3	12.7	0.0	0.6	0.0	58.7	
Total	Sample Size	0	30	0	119	1	160	0	5	0	315	
	Percent of Sample	0.0	9.5	0.0	37.8	0.3	50.8	0.0	1.6	0.0	100.0	
	Standard Error	0.0	1.7	0.0	2.7	0.3	2.8	0.0	0.7	0.0		
Location:		Chena River										
Sample Dates:		8/5-8/20										
Escapement: ^c		5,230										
Sample Size:		464										
Female	Sample Size	0	0	0	15	0	158	0	1	1	175	
	Percent of Sample	0.0	0.0	0.0	3.2	0.0	34.1	0.0	0.2	0.2	37.7	
Male	Sample Size	9	189	1	60	0	29	1	0	0	289	
	Percent of Sample	1.9	40.7	0.2	12.9	0.0	6.3	0.2	0.0	0.0	62.3	
Total	Sample Size	9	189	1	75	0	187	1	1	1	464	
	Percent of Sample	1.9	40.7	0.2	16.2	0.0	40.3	0.2	0.2	0.2	100.0	
	Standard Error	0.6	2.3	0.2	1.7	0.0	2.3	0.2	0.2	0.2		

-Continued-

Table 5. (page 2 of 2)

		Brood Year and Age Group												
		1989			1988			1987		1986		1985		Total
		1.1	1.2	2.1	1.3	2.2	1.4	2.3	1.5	2.4				
Location:	Goodpaster River													
Sample Dates:	8/7													
Escapement: ^c	148													
Sample Size:	93													
Female	Sample Size	0	1	0	3	0	22	0	1	0	27			
	Percent of Sample	0.0	1.1	0.0	3.2	0.0	23.7	0.0	1.1	0.0	29.0			
Male	Sample Size	0	29	0	26	0	11	0	0	0	66			
	Percent of Sample	0.0	31.2	0.0	28.0	0.0	11.8	0.0	0.0	0.0	71.0			
Total	Sample Size	0	30	0	29	0	33	0	1	0	93			
	Percent of Sample	0.0	32.3	0.0	31.2	0.0	35.5	0.0	1.1	0.0	100.0			
	Standard Error	0.0	4.9	0.0	4.8	0.0	5.0	0.0	1.1	0.0				
<hr/>														
Location:	Salcha River													
Sample Dates:	8/10-8/12													
Escapement: ^c	8,410													
Sample Size:	646													
Female	Sample Size	0	0	0	19	0	198	0	4	1	222			
	Percent of Sample	0.0	0.0	0.0	2.9	0.0	30.7	0.0	0.6	0.2	34.4			
Male	Sample Size	8	199	0	165	1	47	2	2	0	424			
	Percent of Sample	1.2	30.8	0.0	25.5	0.2	7.3	0.3	0.3	0.0	65.6			
Total	Sample Size	8	199	0	184	1	245	2	6	1	646			
	Percent of Sample	1.2	30.8	0.0	28.5	0.2	37.9	0.3	0.9	0.2	100.0			
	Standard Error	0.4	1.8	0.0	1.8	0.2	1.9	0.2	0.4	0.2				

^a Aerial survey.

^b Incomplete and/or poor survey conditions resulting in minimal or inaccurate counts.

^c Population Estimate

Table 6. Length (mm measured from mid-orbit to fork-of-tail) by age and sex of Yukon River chinook salmon escapements, 1992.

River ^a	Sex		Brood Year and Age Group									
			1989		1988		1987		1986		1985	
			1.1	1.2	2.1	1.3	2.2	1.4	2.3	1.5	2.4	
Andreafsky	Female	Mean Length				840		844		923		
		Standard Error				0.0		14.8		47.5		
		Sample Size				1		8		2		
	Male	Mean Length		572		667		835				
		Standard Error		19.7		12.0		19.3				
		Sample Size		11		24		4				
Anvik	Female	Mean Length				764		854		887		
		Standard Error				15.8		4.1		13.3		
		Sample Size				7		120		3		
	Male	Mean Length		562		680	534	820		894		
		Standard Error		7.3		5.3	0.0	9.2		39.0		
		Sample Size		30		112	1	40		2		
Chena	Female	Mean Length				810		866		995	820	
		Standard Error				14.9		3.2		0.0	0.0	
		Sample Size				15		158		1	1	
	Male	Mean Length	378	530	445	690		867	660			
		Standard Error	9.8	4.2	0.0	5.8		11.2	0.0			
		Sample Size	9	188	1	60		29	1			
Goodpaster	Female	Mean Length		495		852		885		940		
		Standard Error		0.0		18.6		10.1		0.0		
		Sample Size		1		3		22		1		
	Male	Mean Length		561		694		932				
		Standard Error		10.1		10.0		22.2				
		Sample Size		29		26		11				
Salcha	Female	Mean Length				818		876		903	810	
		Standard Error				15.1		2.9		13.3	0.0	
		Sample Size				19		192		3	1	
	Male	Mean Length	386	547		698	585	906	743	993		
		Standard Error	8.6	3.5		4.9	0.0	9.3	57.5	37.5		
		Sample Size	8	193		158	1	47	2	2		

^a All samples were taken from carcasses.

Table 7. Harvest of Yukon River summer chum salmon by age, sex, and fishery, 1992.

District	Fishery	Sample Size	Sex	Brood Year and Age Group ^a				Total
				1989	1988	1987	1986	
				0.2	0.3	0.4	0.5	
1	Commercial Gillnet	1,156	Female	0	17,143	58,728	2,850	78,721
			Male	0	23,671	70,836	4,070	98,577
			Total	0	40,814	129,564	6,920	177,298
1	Subsistence Gillnet		Female	0	3,220	12,623	719	16,562
			Male	0	4,025	11,818	834	16,677
			Total	0	7,246	24,440	1,553	33,239
2	Commercial Gillnet	178	Female	0	13,410	47,993	1,882	63,285
			Male	0	22,115	57,404	4,235	83,753
			Total	0	35,524	105,397	6,117	147,038
2	Subsistence Gillnet		Female	0	2,255	8,072	317	10,644
			Male	0	3,720	9,655	712	14,087
			Total	0	5,975	17,727	1,029	24,731
3	Commercial Gillnet		Female	0	8	28	2	38
			Male	0	4	18	4	27
			Total	0	13	47	6	65
3	Subsistence Gillnet		Female	0	395	1,414	55	1,864
			Male	0	652	1,691	125	2,468
			Total	0	1,047	3,105	180	4,332
4	Comm & Sub Gillnet	574	Female	74	13,665	15,968	891	30,599
			Male	74	3,119	8,170	668	12,031
			Total	149	16,785	24,137	1,560	42,630
4	Comm & Sub Fish Wheel	1,734	Female	484	60,388	68,859	3,752	133,483
			Male	726	26,382	45,382	3,873	76,362
			Total	1,210	86,770	114,241	7,624	209,845
5	Comm & Sub Fish Wheel	331	Female	0	1,678	3,173	0	4,850
			Male	0	1,167	5,762	292	7,221
			Total	0	2,845	8,935	292	12,071
6	Comm & Sub Fish Wheel	330	Female	42	5,254	2,142	0	7,438
			Male	95	4,308	3,513	249	8,165
			Total	136	9,563	5,655	249	15,603
Alaska Harvest ^a			Female	600	117,417	219,000	10,467	347,484
			Male	895	89,163	214,248	15,061	319,368
			Total	1,495	206,580	433,248	25,529	666,852

^a Total drainage harvest by age and sex **does not include** the following fisheries and catches due to insupportable assumptions or lack of appropriate sample data:

District 1 ADF&G test fish sales	1,918
District 1 illegal purchases	31
District 2 illegal purchases	91
District 5 commercial gillnet catch	971
District 6 commercial gillnet catch	1,178
Total	4,189

Table 8. Length (mm measured from mid-orbit to fork-of-tail) by age and sex of Yukon River summer chum salmon commercial and subsistence catch samples, 1992.

Fishery	Sex		Brood Year and Age Group			
			1989	1988	1987	1986
			0.2	0.3	0.4	0.5
District 1 Commercial 6 in (15.2 cm) Maximum Mesh Size Gillnet	Female	Mean Length		552	575	581
		Standard Error		3.1	2.0	7.3
		Sample Size		79	200	10
	Male	Mean Length		561	586	601
		Standard Error		2.3	2.2	13.5
		Sample Size		107	189	8
District 1 Commercial Unrestricted Mesh Size Gillnet	Female	Mean Length		548	572	604
		Standard Error		5.2	2.2	10.6
		Sample Size		33	239	15
	Male	Mean Length		567	605	620
		Standard Error		5.4	2.8	6.8
		Sample Size		33	222	21
District 2 Commercial Unrestricted Mesh Size Gillnet	Female	Mean Length		553	572	590
		Standard Error		6.7	3.1	12.6
		Sample Size		14	71	3
	Male	Mean Length		560	615	610
		Standard Error		11.8	3.8	11.4
		Sample Size		8	72	10
District 4 Commercial Fish Wheel	Female	Mean Length	530	545	554	570
		Standard Error	17.4	1.4	1.4	5.0
		Sample Size	4	499	569	31
	Male	Mean Length	573	577	588	599
		Standard Error	16.3	2.6	1.6	5.9
		Sample Size	6	218	375	32
District 4 Comm. & Subs. Gillnet	Female	Mean Length	485	534	544	552
		Standard Error	0.0	1.6	1.4	8.0
		Sample Size	1	184	215	12
	Male	Mean Length	545	554	571	607
		Standard Error	0.0	4.7	2.8	14.1
		Sample Size	1	42	110	9

-Continued-

Table 8. (page 2 of 2)

Fishery	Sex		Brood Year and Age Group			
			1989	1988	1987	1986
			0.2	0.3	0.4	0.5
District 5 Comm. & Subs. Fish Wheel	Female	Mean Length		571	588	
		Standard Error		6.4	4.3	
		Sample Size		46	86	
	Male	Mean Length		604	620	640
		Standard Error		6.6	2.7	11.7
		Sample Size		32	158	8
District 6 Comm. & Subs. Fish Wheel	Female	Mean Length	540	559	569	
		Standard Error	0.0	3.2	4.4	
		Sample Size	1	104	42	
	Male	Mean Length	600	586	601	624
		Standard Error	10.0	4.0	4.8	12.1
		Sample Size	2	98	77	6

Table 9. Age and sex composition of Yukon River summer chum salmon escapement samples, 1992.

		Brood Year and Age Group				
		1989	1988	1987	1986	Total
		0.2	0.3	0.4	0.5	
Location: West Fork Andreafsky River						
Sample Dates:		8/2–8/5				
Escapement: ^a		37,808				
Sample Size:		69				
Female	Sample Size	0	10	30	2	42
	Percent of Sample	0.0	14.5	43.5	2.9	60.9
Male	Sample Size	0	7	16	4	27
	Percent of Sample	0.0	10.1	23.2	5.8	39.1
Total	Sample Size	0	17	46	6	69
	Percent of Sample	0.0	24.6	66.7	8.7	100.0
	Standard Error	0.0	5.2	5.7	3.4	
Location: Anvik River						
Sample Dates:		7/5–7/21				
Escapement: ^b		775,626				
Sample Size: ^c		424				
Female	Sample Size	1	77	154	8	240
	Percent of Sample	0.3	18.1	36.3	1.8	56.6
Male	Sample Size	0	36	138	10	184
	Percent of Sample	0.0	8.4	32.6	2.4	43.4
Total	Sample Size	1	112	292	18	424
	Percent of Sample	0.3	26.5	69.0	4.2	100.0
	Standard Error	0.3	2.1	2.2	1.0	
Location: Chena River						
Sample Dates:		8/5, 8/11–8/14, 8/17–8/20				
Escapement: ^d		6,100				
Sample Size:		511				
Female	Sample Size	0	35	198	39	272
	Percent of Sample	0.0	6.8	38.7	7.6	53.2
Male	Sample Size	0	38	158	43	239
	Percent of Sample	0.0	7.4	30.9	8.4	46.8
Total	Sample Size	0	73	356	82	511
	Percent of Sample	0.0	14.3	69.7	16.0	100.0
	Standard Error	0.0	1.5	2.0	1.6	

–Continued–

Table 9. (page 2 of 2).

		Brood Year and Age Group ^a				
		1989	1986	1987	1986	
		0.2	0.3	0.4	0.5	Total
Location:	Salcha River					
Sample Dates:	8/18					
Escapement: ^d	14,000					
Sample Size:	40					
Female	Sample Size	1	11	11	1	24
	Percent of Sample	2.5	27.5	27.5	2.5	60.0
Male	Sample Size	1	9	5	1	16
	Percent of Sample	2.5	22.5	12.5	2.5	40.0
Total	Sample Size	2	20	16	2	40
	Percent of Sample	5.0	50.0	40.0	5.0	100.0
	Standard Error	3.5	8.0	7.8	3.5	

^a Incomplete survey and/or poor survey timing or conditions resulted in minimal or inaccurate count.

^b Sonar Estimate

^c Age and sex composition for sample size was weighted by strata (see 1992 Anvik River Sonar Report).

^d Sport Fish Division estimate. Population estimate based upon mark and recapture study.

Table 10. Length (mm measured from mid-orbit to fork-of-tail) by age and sex of Yukon River summer chum salmon escapements, 1992.

River ^a	Sex		Brood Year and Age Group			
			1989	1988	1987	1986
			0.2	0.3	0.4	0.5
Andreafsky	Female	Mean Length		508	515	585
		Standard Error		9.8	6.9	0.0
		Sample Size		8	24	1
	Male	Mean Length		544	561	595
		Standard Error		13.2	10.9	0.0
		Sample Size		7	11	1
Anvik	Female	Mean Length	492	544	557	560
		Standard Error	1.7	2.8	2.3	9.3
		Sample Size	3	98	154	7
	Male	Mean Length		581	607	610
		Standard Error		6.1	3.0	9.9
		Sample Size		39	115	8
Chena	Female	Mean Length		529	549	558
		Standard Error		4.9	1.9	4.3
		Sample Size		35	197	38
	Male	Mean Length		569	581	609
		Standard Error		5.1	2.6	4.0
		Sample Size		38	158	43
Salcha	Female	Mean Length	565	549	567	535
		Standard Error	0.0	10.2	7.9	0.0
		Sample Size	1	10	11	1
	Male	Mean Length	540	588	597	555
		Standard Error	0.0	9.1	12.9	0.0
		Sample Size	1	9	5	1

^a All samples were from carcasses except from Anvik River which were from live fish captured in beach seine.

Table 11. Harvest of Yukon River fall chum salmon by age, sex, and fishery, 1992.

District	Fishery	n	Sex	Brood Year and Age Group ^a				Total
				1989	1988	1987	1986	
				0.2	0.3	0.4	0.5	
1	Subsistence Gillnet ^a	1,288	Female	8	1,361	2,098	28	3,495
			Male	24	697	980	20	1,721
			Total	32	2,057	3,078	49	5,216
2	Subsistence Gillnet ^a	1,288	Female	11	1,926	2,969	40	4,946
			Male	34	986	1,387	29	2,436
			Total	46	2,912	4,356	69	7,382
3	Subsistence Gillnet ^a	1,288	Female	2	389	600	8	1,000
			Male	7	199	281	6	493
			Total	9	589	881	14	1,493
5	Subsistence Fish Wheel	1,181	Female	358	11,103	9,456	143	21,060
			Male	322	8,632	11,891	394	21,240
			Total	681	19,735	21,347	537	42,300
6	Comm & Subs Fish Wheel	600	Female	215	12,446	10,801	215	23,676
			Male	286	9,442	9,299	215	19,241
			Total	501	21,888	20,099	429	42,917
Alaska Harvest			Female	595	27,225	25,924	434	54,178
			Male	674	19,955	23,837	663	45,130
			Total	1,269	47,181	49,761	1,098	99,308
Canada	Commercial Fish Wheel		Total	0	2,667	6,479	142	9,288
Total Harvest ^b				1,269	49,847	56,240	1,240	108,596

^a Age and sex composition is based on Big Eddy and Middle Mouth fall chum salmon test fishing catches combined.

^b Total drainage harvest by age and sex **does not include** the following fisheries and catches due to lack of appropriate sample data (see Appendix B.3):

District 4 Subsistence Gillnet and Fish Wheel	22,097
District 5 Subsistence Gillnet	3,401
District 6 ADF&G Test Fish	1,407
District 6 Subsistence Gillnet	1,818
Canada Subsistence Gillnet and Fish Wheel	2,239
Canada Commercial Gillnet	9,288
Total	40,250

Table 12. Length (mm measured from mid-orbit to fork-of-tail) by age and sex of Yukon River fall chum salmon commercial and subsistence catch samples, 1992.

Fishery	Sex		Brood Year and Age Group			
			1989	1988	1987	1986
			0.2	0.3	0.4	0.5
District 5 Subsistence Fish Wheel	Female	Mean Length	553	562	587	587
		Standard Error	10.6	1.8	1.9	9.8
		Sample Size	10	310	264	4
	Male	Mean Length	559	580	618	636
		Standard Error	6.7	2.4	2.0	10.9
		Sample Size	9	241	332	11
District 6 Comm. & Subs. Fish Wheel	Female	Mean Length	532	561	597	602
		Standard Error	14.2	2.6	2.8	18.6
		Sample Size	3	174	151	3
	Male	Mean Length	544	593	619	617
		Standard Error	25.6	3.2	3.0	23.2
		Sample Size	4	132	130	3

Table 13. Age and sex composition of Yukon River fall chum salmon escapement samples, 1992.

		Brood Year and Age Group				
		1989	1988	1987	1986	Total
		0.2	0.3	0.4	0.5	
Location:	Toklat River					
Sample Dates:	10/15, 10/16, 10/18					
Escapemnt: ^a	10,813					
Sample Size:	187					
Female	Sample Size	3	26	38	1	68
	Percent of Sample	1.6	13.9	20.3	0.5	36.4
Male	Sample Size	3	57	58	1	119
	Percent of Sample	1.6	30.5	31.0	0.5	63.6
Total	Sample Size	6	83	96	2	187
	Percent of Sample	3.2	44.4	51.3	1.1	100.0
	Standard Error	1.3	3.6	3.7	0.8	
Location:	Delta River					
Sample Dates:	11/4, 11/12					
Escapement: ^b	8,893					
Sample Size:	145					
Female	Sample Size	0	20	34	2	56
	Percent of Sample	0.0	13.8	23.4	1.4	38.6
Male	Sample Size	0	30	56	3	89
	Percent of Sample	0	20.7	38.6	2.1	61.4
Total	Sample Size	0	50	90	5	145
	Percent of Sample	0.0	34.5	62.1	3.4	100.0
	Standard Error	0.0	4.0	4.0	1.5	
Location:	Sheenjek River					
Sample Dates:	9/6, 9/8, 9/9, 9/14					
Escapement: ^c	78,808					
Sample Size:	134					
Female	Sample Size	0	10	59	2	71
	Percent of Sample	0.0	7.5	44.0	1.5	53.0
Male	Sample Size	0	14	49	0	63
	Percent of Sample	0.0	10.4	36.6	0.0	47.0
Total	Sample Size	0	24	108	2	134
	Percent of Sample	0.0	17.9	80.6	1.5	100.0
	Standard Error	0.0	3.3	3.4	1.1	

- Continued -

Table 13. (page 2 of 2)

		Brood Year and Age Group ^a				
		1989	1988	1987	1986	Total
		0.2	0.3	0.4	0.5	
Location:	Bluff Cabin Slough					
Sample Dates:	10/30					
Escapement: ^d	3,615					
Sample Size:	145					
Female	Sample Size	0	6	38	0	44
	Percent of Sample	0.0	4.1	26.2	0.0	30.3
Male	Sample Size	1	28	66	6	101
	Percent of Sample	0.7	19.3	45.5	4.1	69.7
Total	Sample Size	1	34	104	6	145
	Percent of Sample	0.7	23.4	71.7	4.1	100.0
	Standard Error	0.7	3.5	3.8	1.7	
Location:	Tanana River					
Sample Dates:	10/30					
Escapement: ^{d,e}	854					
Sample Size:	95					
Female	Sample Size	0	6	15	2	23
	Percent of Sample	0.0	6.3	15.8	2.1	24.2
Male	Sample Size	0	18	52	2	72
	Percent of Sample	0.0	18.9	54.7	2.1	75.8
Total	Sample Size	0	24	67	4	95
	Percent of Sample	0.0	25.3	70.5	4.2	100.0
	Standard Error	0.0	4.5	4.7	2.1	

^a Total escapement estimate using Delta River migratory time density curve and percentage of live salmon present by survey date in upper Toklat River area.

^b Population estimate from replicate foot surveys and stream life data.

^c Sonar estimate.

^d Aerial survey.

^e Escapement and samples for sloughs between Shaw Creek and Timber.

Table 14. Length (mm measured from mid-orbit to fork-of--tail) by age and sex of Yukon River fall chum salmon escapement samples, 1992.

River ^a	Sex		Brood Year and Age Group			
			1989	1988	1987	1986
			0.2	0.3	0.4	0.5
Toklat River	Female	Mean Length	575	570	596	590
		Standard Error	5.0	5.0	5.4	0.0
		Sample Size	3	26	38	1
	Male	Mean Length	527	578	608	675
		Standard Error	26.2	4.2	4.4	0.0
		Sample Size	3	57	58	1
Delta River	Female	Mean Length		572	595	615
		Standard Error		5.0	4.0	25.0
		Sample Size		20	34	2
	Male	Mean Length		599	624	617
		Standard Error		6.2	4.0	19.2
		Sample Size		30	56	3
Bluff Cabin Slough	Female	Mean Length		582	591	
		Standard Error		11.7	3.8	
		Sample Size		6	38	
	Male	Mean Length	570	582	604	602
		Standard Error	0.0	5.0	3.3	10.6
		Sample Size	1	28	66	6
Sheenjek River	Female	Mean Length		589	606	613
		Standard Error		9.5	3.8	7.5
		Sample Size		10	59	2
	Male	Mean Length		626	640	
		Standard Error		10.0	4.8	
		Sample Size		14	49	
Tanana River	Female	Mean Length		561	591	593
		Standard Error		11.4	8.3	17.5
		Sample Size		6	15	2
	Male	Mean Length		582	614	600
		Standard Error		7.8	4.9	30.0
		Sample Size		18	52	2

^a All samples were from carcasses except from Sheenjek River which were from live fish captured in beach seine.

Table 15. Harvest of Yukon River coho salmon by age, sex, and fishery, 1992.

District	Fishery	n	Sex	Brood Year and Age Group ^a			Total ^a
				1989	1988	1987	
				1.1	2.1	3.1	
1	Subsistence Gillnet ^a	689	Female	614	1,772	79	2,465
			Male	583	2,300	79	2,961
			Total	1,197	4,071	158	5,426
2	Subsistence Gillnet ^a	689	Female	746	2,151	96	2,992
			Male	707	2,792	96	3,595
			Total	1,453	4,943	191	6,587
3	Subsistence Gillnet ^a	689	Female	142	409	18	569
			Male	135	531	18	684
			Total	276	940	36	1,253
6	Comm & Subs Fish Wheel	231	Female	2,432	7,074	111	9,616
			Male	3,979	11,827	111	15,917
			Total	6,411	18,901	221	25,533
Alaska Harvest ^b			Female	3,934	11,406	303	15,643
			Male	5,404	17,449	303	23,156
			Total	9,337	28,855	606	38,799

^a Age and sex composition is based on Big Eddy and Middle Mouth coho salmon test fishing catches combined.

^b Total harvest by age and sex **does not include** the following fisheries and catches due to lack of appropriate sample data:

District 4 Subsistence Gillnet and Fish Wheel	8,725
District 5 Subsistence Gillnet and Fish Wheel	12,376
District 6 ADF&G Test Fish	1,629
District 6 Subsistence Gillnet	1,236
Canada Subsistence Gillnet	495
Total	24,461

Table 16. Length (mm measured from mid-orbit to fork-of-tail) by age and sex of Yukon River coho salmon catch and escapement samples, 1992.

Fishery	Sex		Brood Year and Age Group		
			1989	1988	1987
			1.1	2.1	3.1
District 6 Comm & Subs Fish Wheel	Female	Mean Length	585	576	580
		Standard Error	7.7	5.7	0.0
		Sample Size	12	42	1
	Male	Mean Length	556	561	560
		Standard Error	8.1	4.9	0.0
		Sample Size	18	72	1
Delta Clearwater River Escapement	Female	Mean Length	566	574	
		Standard Error	4.9	3.9	
		Sample Size	24	33	
	Male	Mean Length	567	566	593
		Standard Error	5.2	3.9	2.5
		Sample Size	56	93	2

Table 17. Age and sex composition of Yukon River coho salmon escapements, 1992.

		Brood Year and Age Group			
		1989	1988	1987	Total
		1.1	2.1	3.1	
Location: Delta Clearwater River					
Sample Dates:		11/17			
Escapement: ^a		3,963			
Sample Size:		214			
Female	Sample Size	25	36	0	61
	Percent of Sample	11.7	16.8	0.0	28.5
Male	Sample Size	56	95	2	153
	Percent of Sample	26.2	44.4	0.9	71.5
Total	Sample Size	81	131	2	214
	Percent of Sample	37.9	61.2	0.9	100.0
	Standard Error	3.3	3.3	0.7	

^a Sport Fish Division estimate by boat survey.

FIGURES

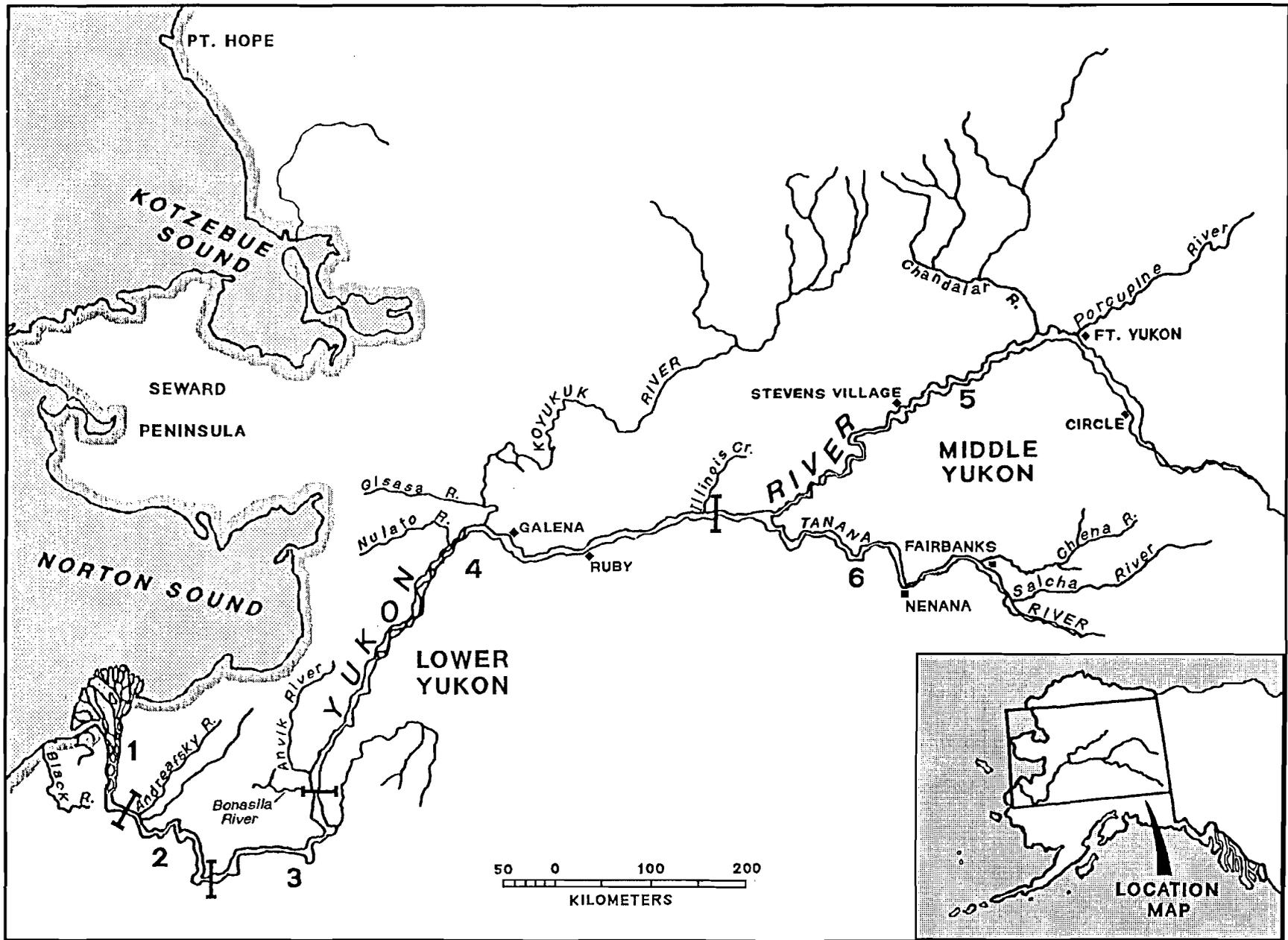


Figure 1. Alaskan portion of the Yukon River with fishing district boundaries.

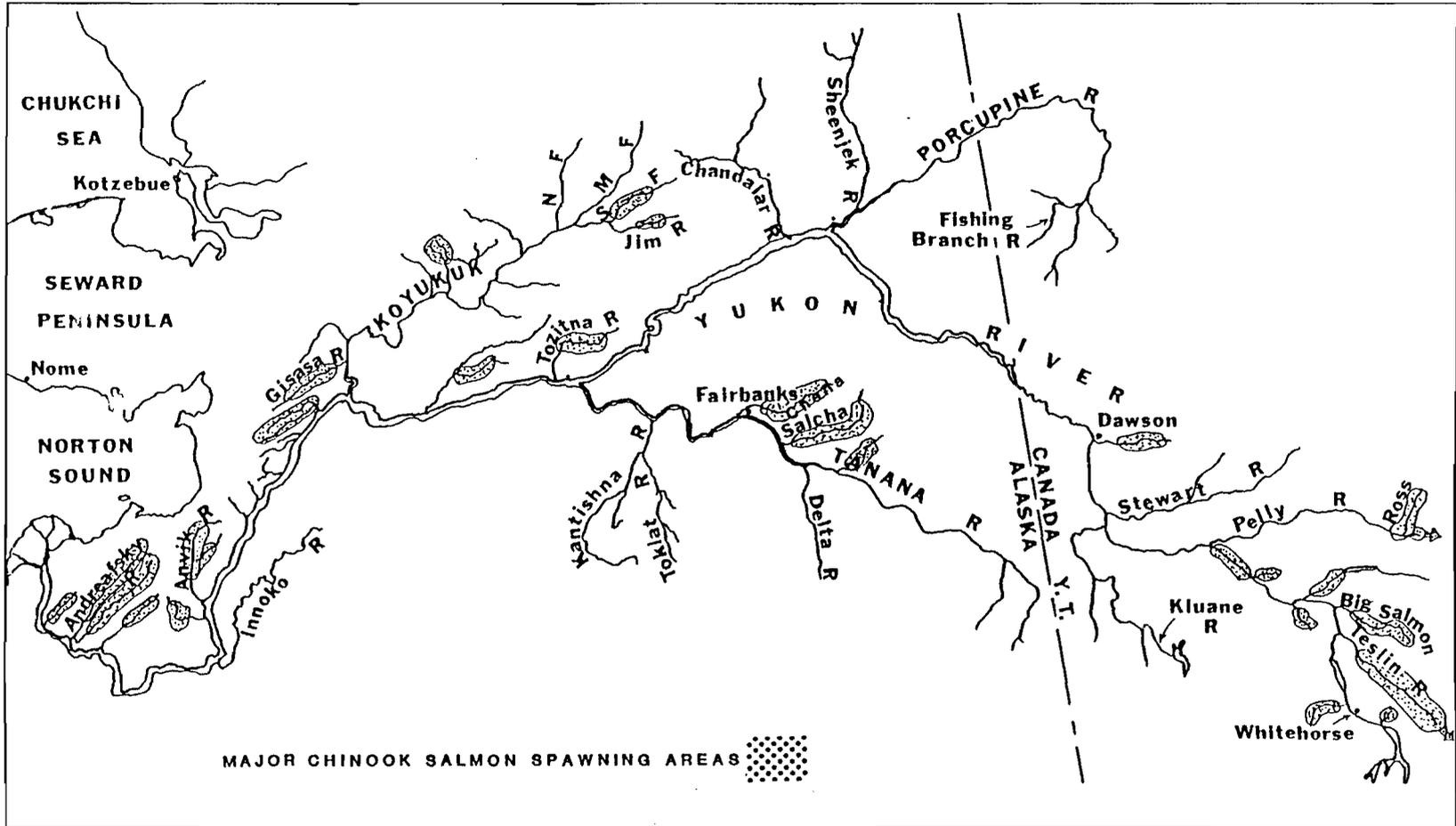


Figure 3. Chinook salmon spawning areas in the Yukon River drainage.

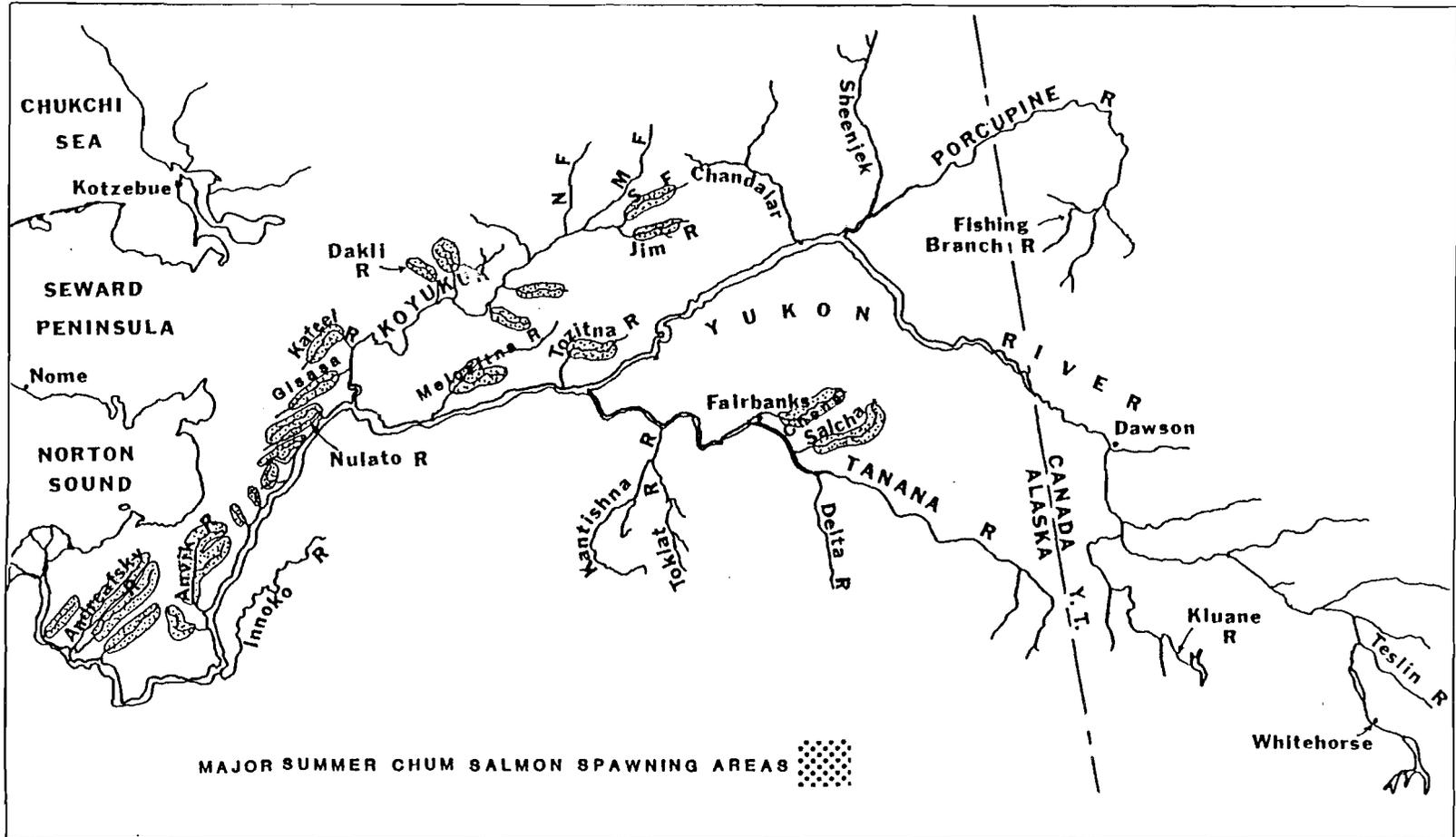


Figure 4. Summer chum salmon spawning areas in the Yukon River drainage.

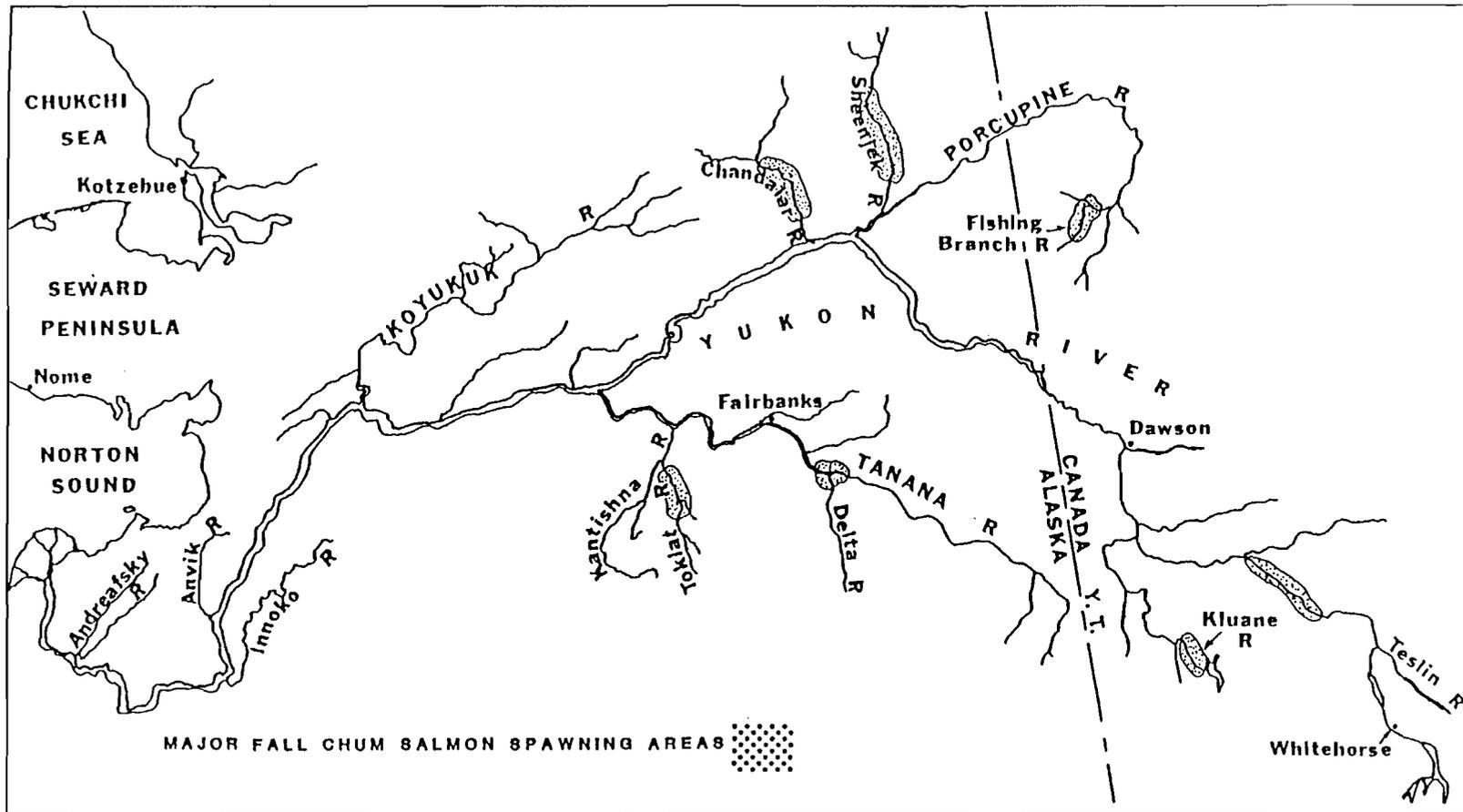


Figure 5. Fall chum salmon spawning areas in the Yukon River drainage.

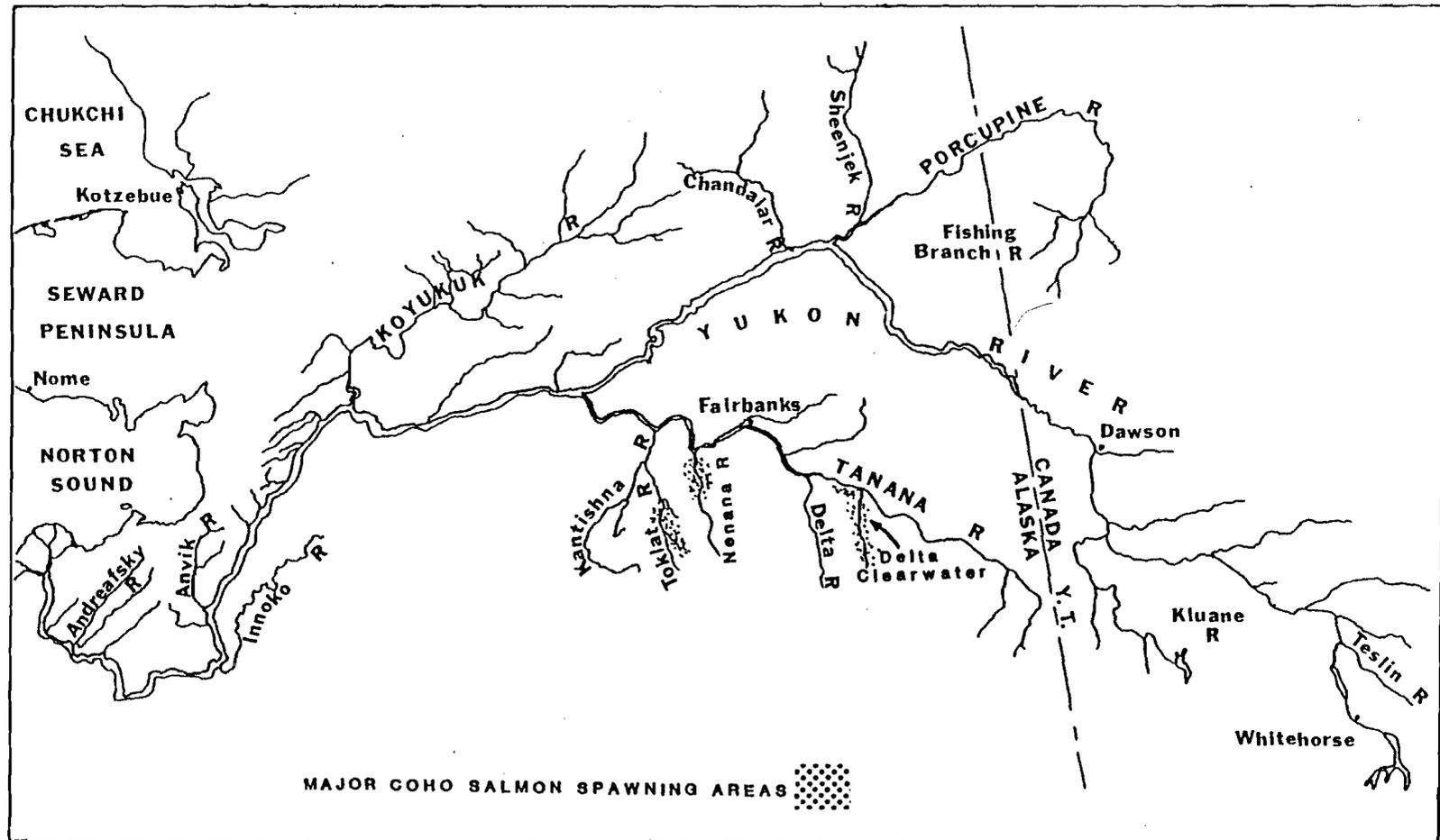


Figure 6. Coho salmon spawning areas in the Yukon River drainage.

APPENDIX

Appendix A.1. Yukon River District 1 commercial salmon catch by period, 1992.

Period No.	Dates	Hours Fished	No. of Fishermen	Period Catch and Catch Per Unit Effort						Cumulative Catch and Catch Per Unit Effort						
				Chinook	CPUE	Coho	CPUE	Chum	CPUE	Chinook	CPUE	Coho	CPUE	Chum	CPUE	
1	6/20	6	394	11,500	4.86	0	0.00	10,001	4.23	11,500	4.86	0	0.00	10,001	4.23	
2	6/22–6/23	12	396	22,076	4.65	0	0.00	24,674	5.19	33,576	4.72	0	0.00	34,675	4.87	
3	6/26	6	388	9,975	4.28	0	0.00	7,368	3.16	43,551	4.61	0	0.00	42,043	4.45	
6	7/02–7/03	12	398	11,018	2.31	0	0.00	6,916	1.45	54,569	3.84	0	0.00	48,959	3.44	
Subtotal ^{a, b}		36	433	54,569	3.84	0	0.00	48,959	3.44							
4	6/27	9	386	7,137	2.05	0	0.00	54,642	15.73	7,137	2.05	0	0.00	54,642	15.73	
5	6/29–6/30	12	413	9,423	1.90	0	0.00	54,518	11.00	16,560	1.96	0	0.00	109,160	12.95	
7	7/06	6	280	1,098	0.65	0	0.00	10,518	6.26	17,658	1.75	0	0.00	119,678	11.84	
8	7/09	6	263	767	0.49	0	0.00	8,661	5.49	18,425	1.58	0	0.00	128,339	10.98	
Subtotal ^{a, c}		33	428	18,425	1.58	0	0.00	128,339	10.98							
Total		69	438	72,994	2.82	0	0.00	177,298	6.84							
Illegal Purchases ^d				1,218					31							
ADF&G Test Fish				930					1,918							
Season Total		69	433	75,142	0		179,247									

^a Catches reported in numbers of fish sold in the round. Cumulative CPUE is by gear restriction.

^b No mesh size restrictions.

^c Mesh size restricted to 6 in (15.2 cm) or less during periods 4–5 and 7–8.

^d Illegal purchases by Schenk Seafood Sales, Inc. which were not reported on fish tickets. The majority of the catch occurred prior to the opening of the commercial season.

Appendix A.2. Yukon River District 2 commercial salmon catch by period, 1992.

Period No.	Dates	Hours Fished	No. of Fishermen	Period Catch and Catch Per Unit Effort						Cumulative Catch and Catch Per Unit Effort					
				Chinook	CPUE	Coho	CPUE	Chum	CPUE	Chinook	CPUE	Coho	CPUE	Chum	CPUE
1	6/22	6	211	5,500	4.34	0	0.00	5,135	4.06	5,500	4.34	0	0.00	5,135	4.06
2	6/24–6/25	12	242	12,980	4.47	0	0.00	17,554	6.04	18,480	4.43	0	0.00	22,689	5.44
4	6/28	6	228	7,446	5.44	0	0.00	8,601	6.29	25,926	4.68	0	0.00	31,290	5.65
7	7/08	6	203	2,753	2.26	0	0.00	1,209	0.99	28,679	4.24	0	0.00	32,499	4.81
Subtotal ^{a, b}		30	262	28,679	4.24	0	0.00	32,499	4.81						
3	6/26	6	202	3,193	2.63	0	0.00	59,936	49.45	3,193	2.63	0	0.00	59,936	49.45
5	7/01–7/02	12	215	3,898	1.51	0	0.00	37,765	14.64	7,091	1.87	0	0.00	97,701	25.77
6	7/06	6	191	2,162	1.89	0	0.00	16,838	14.69	9,253	1.87	0	0.00	114,539	23.20
Subtotal ^{a, c}		24	233	9,253	1.87	0	0.00	114,539	23.20						
Total		54	263	37,932	3.24	0	0.00	147,038	12.57						
Illegal Purchases ^d				207			91								
Season Total		54	263	38,139		0		147,129							

^a Catches reported in numbers of fish sold in the round. Cumulative CPUE is by gear restriction.

^b No mesh size restrictions.

^c Mesh size restricted to 6 in (15.2 cm) during periods 3 and 5–6.

^d Illegal purchases by Schenk Seafood Sales, Inc. not reported on fish tickets. The majority of the catch occurred on 24–25 June.

Appendix A.3. Yukon River District 3 commercial salmon catch by period, 1992.

Period No.	Period Dates	Hours Fished	No. of Fishermen	Period Catch and Catch Per Unit Effort						Cumulative Catch and Catch Per Unit Effort					
				Chinook	CPUE	Coho	CPUE	Chum	CPUE	Chinook	CPUE	Coho	CPUE	Chum	CPUE
1	7/01–7/02	12	13	667	4.28	0	0.00	7	0.04	667	4.28	0	0.00	7	0.04
2	7/05–7/06	9	15	846	6.27	0	0.00	33	0.24	1,513	5.20	0	0.00	40	0.14
3	7/08	6	10	306	5.10	0	0.00	25	0.42	1,819	5.18	0	0.00	65	0.19
Total ^{a, b}		27	19	1,819	5.18	0	0.00	65	0.19						

^a Catches reported in numbers of fish sold in the round.

^b No mesh size restrictions.

Appendix A.4. Yukon River District 4 commercial salmon catch by period, 1992.

Period	Period Dates	Hours Fished	Number of Fishermen	Chinook		Chinook Expansion		Summer Chum		Chum Expansion		
				Sold in Round	Pounds of Roe	Roe Weight ^a	Estimated Harvest ^b	Sold in Round	Pounds of Roe	Roe Weight ^c	Estimated Harvest ^b	
Subdistrict 4A												
1	7/05–7/06	24	63	0	57	1.74	33	0	26,963	0.90	53,723	
2	7/08–7/09	24	69	0	14	1.74	8	0	31,512	0.91	61,522	
3	7/12–7/13	24	65	0	15	1.74	9	0	22,937	0.93	38,835	
4	7/15–7/16	24	64	0	0		0	0	18,289	0.91	30,091	
Subtotal		96	71	0	86		50	0	99,701		184,171	
Subdistricts 4B & 4C												
1	7/05–7/07	48	14	486	288	2.81	601	620	1,076	0.87	2,233	
2	7/08–7/10	48	20	455	563	2.94	622	415	2,820	0.84	6,770	
3	7/12–7/14	48	18	310	441	2.12	444	514	2,859	0.80	7,009	
4	7/15–7/17	48	18	301	646	2.94	508	505	1,885	0.83	5,241	
5	7/19–7/21	48	16	85	249	3.56	155	306	1,633	0.87	3,431	
6	7/22–7/24	48	15	14	0	2.20	14	299	835	0.76	2,541	
Subtotal		288	22	1,651	2,187		2,344	2,659	11,108		27,225	
Season Total				1,651	2,273		2,394	2,659	110,809		211,396	

^a Average roe weight is from 14 chinook salmon skeins sampled from gillnets on 7/01–7/04.

^b Estimated harvest is the number of fish sold in the round plus the estimated number of males and females harvested to produce roe sold.

^c Average roe weight is period average from commercial catch sampling program by gear type.

Appendix A.5. Yukon River District 5 commercial salmon catch by period, 1992.

Period	Period Dates	Hours Fished	Number of Fishermen	Chinook		Chinook Expansion		Summer Chum		Chum Expansion	
				Sold in Round	Pounds of Roe	Roe Weight ^a	Estimated Harvest ^b	Sold in Round	Pounds of Roe	Roe Weight ^c	Estimated Harvest ^b
Subdistricts 5A, 5B, and 5C											
1	7/10–7/12	48	22	1,989	7	2.50	1,992	3	117	0.9	133
2	7/14–7/15	24	22	1,406	0	2.58	1,406	99	178	0.9	297
Subtotal		72	25	3,395	7		3,398	102	295		430
Subdistrict 5D											
1	7/16–7/18	42	3	457	0		457	0	0		0
Subtotal		42	3	457	0		457	0	0		0
Season Total		114	28	3,852	7		3,855	102	295		430

^a Estimated average roe weight in pounds per female used in expansion calculation. A total of 278 chinook salmon skeins were sampled during the two periods.

^b Estimated harvest is the number of fish sold in the round plus the estimated number of females harvested to produce roe sold.

^c Estimated average roe weight in pounds per female used in expansion calculation.

Appendix A.6. Yukon River District 6 commercial salmon catch by period, 1992.

Period	Period Dates	Hours Fished	Number of Fisherr Chinook ^a	Summer Chum			Fall Chum			Coho ^a
				Sold in Round	Pounds of Roe	Estimated Harvest ^{a,b}	Sold in Round	Pounds of Roe	Estimated Harvest ^a	
Early Season										
1	7/20–7/22	42	18	718	3,408	979	4,521			
2 ^c	8/03–8/05	42	13	34	1,621	913	2,708			
Subtotal		84	19	752	5,029	1,892	7,228			
Late Season										
3	9/07–9/09	42	22	1				10,095	1,421	11,747
4	9/18–9/19	24	20	0				5,626	1,385	7,275
Subtotal ^d		66	22	1				15,721	2,806	19,022
Season Total ^e		150		753	5,029	1,892	7,228	15,721	2,806	19,022

^a Harvest was estimated by the number of fish sold in the round plus estimated number of females harvested to produce roe sold.

^b Discrepancy in column addition due to rounding error and may be ignored.

^c Subdistrict 6A and 6B only for period 2.

^d Subdistrict 6B and 6C only.

^e Does not include ADF&G test fish sales (32 chinook, 49 summer chum, 1,407 fall chum, and 1,629 coho salmon).

Appendix A.7. Canadian Yukon River commercial salmon catch by week, 1992.

Week	Number of Fishermen	Days Fished	Chinook		Fall Chum	
			Weekly	Cum.	Weekly	Cum.
7/20-7/26	13	2	1,116	1,116	0	0
7/27-8/02	17	4	4,293	5,409	4	4
8/03-8/09	15	4	3,751	9,160	79	83
8/10-8/16	8	3	1,093	10,253	41	124
8/17-8/23	0	1	0	10,253	0	124
8/24-8/30	3	1	15	10,268	243	367
8/31-9/06	12	3	30	10,298	3,146	3,513
9/07-9/13	12	3	4	10,302	5,750	9,263
9/14-9/20	10	2	4	10,306	5,392	14,655
9/21-9/27	11	2	0	10,306	3,234	17,889
9/28-10/4	3	2	0	10,306	410	18,299
Dawson Subtotal		27	10,306		18,299	
Upriver Subtotal			571		277	
Total Canada Catch			10,877		18,576	

Appendix B.1. Yukon River chinook salmon commercial and subsistence gillnet (GN) and fish wheel (FW) catch by district, 1992.

District	Commercial Catch			Subsistence Catch			Total Catch ^a		
	GN	FW	Total	GN	FW	Total	GN	FW	Total
1 ^b	74,212		74,212	5,141		5,141	79,353		79,353
2 ^c	38,139		38,139	7,074		7,074	45,213		45,213
3	1,819		1,819	4,773		4,773	6,592		6,592
4A		50	50	1,539	4,602	6,141	1,539	4,652	6,191
4B, 4C	600	1,744	2,344	594	1,774	2,368	1,194	3,518	4,712
4 Total ^{d,e}	600	1,794	2,394	2,133	6,376	8,509	2,733	8,170	10,903
5A, 5B, 5C	1,704	1,694	3,398	3,056	3,617	6,673	4,760	5,311	10,071
5D	61	396	457	5,046	5,972	11,018	5,107	6,368	11,475
5 Total ^{d,f}	1,765	2,090	3,855	8,102	9,589	17,691	9,867	11,679	21,546
6	8	745	753	26	2,412	2,438	34	3,157	3,191
Alaska Total	116,543	4,629	121,172	27,249	18,377	45,626	143,792	23,006	166,798
Porcupine Mainstem Yukon	10,877		10,877	6,626		6,626	17,503		17,503
Canada Total ^g	10,877		10,877	6,726		6,726	17,603		17,603
Yukon R. Total	127,420	4,629	132,049	33,975		52,352	161,395	23,006	184,401

^a ADF&G test fishing catches are not included. Sport fishing catches are not included.

^b Total does not include Hooper Bay and Scammon Bay subsistence catch (1,451). Commercial catch **includes illegal purchase (1,218)**.

^c Includes illegal purchase (207)

^d Catch by gear type for subsistence fisheries is estimated for District 4, 5, and 6 using the proportion caught by gear type in the commercial fisheries.

^e Includes Innoko River (218) and Koyukuk River (1,270) subsistence catches.

^f Includes Black River (3) and Chandalar River (35) subsistence catches.

^g Catch by gear type in Yukon Territory is not known; it is believed most fish are taken in gillnets. Canada subsistence catch includes domestic food and aboriginal fisheries only. Catch data from JTC Report, November, 1993.

Appendix B.2. Yukon River summer chum salmon commercial and subsistence gillnet (GN) and fish wheel (FW) catch by district, 1992.

District	Commercial Related Harvest									Reported Subsistence Catch			Total ^a		
	Fish Sold in the Round			Unprocessed Roe (lb)			Total Removal			GN	FW	Total	GN	FW	Total
	GN	FW	Total	GN	FW	Total	GN	FW	Total						
1 ^b	177,329		177,329				177,329	177,329		33,239	33,239		210,568		210,568
2 ^c	147,129		147,129				147,129	147,129		24,731	24,731		171,860		171,860
3	65		65				65	65		4,332	4,332		4,397		4,397
4A				20,104	79,597	99,701	34,300	149,871	184,171	6,208	29,219	35,427	40,508	179,090	219,598
4B, 4C	430	2,229	2,659	175	10,933	11,108	1,132	26,093	27,225	990	4,662	5,652	2,122	30,755	32,877
4 Total ^{d, e, f}	430	2,229	2,659	20,279	90,530	110,809	35,432	175,964	211,396	7,198	33,881	41,079	42,630	209,845	252,475
5A, 5B, 5C	14	88	102	16	279	295	32	398	430	726	9,027	9,753	758	9,425	10,183
5D										213	2,646	2,859	213	2,646	2,859
5 Total ^{g, h, b}	14	88	102	16	279	295	32	398	430	939	11,673	12,612	971	12,071	13,042
6 ^{e, r}	509	4,520	5,029		1,892	1,892	509	6,719	7,228	669	8,835	9,504	1,178	15,554	16,732
Alaska Total	325,476	6,837	332,313	20,295	92,701	112,996	360,496	183,081	543,577	70,485	54,389	125,497	431,604	237,470	669,074

^a ADF&G test fishing catches in District 1 (1,918) and District 6 (49) are not included. Sport fishing catches are not included.

^b Includes illegal purchase (31). Does not include Hooper Bay and Scammon Bay subsistence catch (16,695).

^c Includes illegal purchase (91).

^d Total removal in commercial related harvest is the number of fish sold in the round plus the estimated number of males and females harvested to produce roe sold.

^e Catch by gear type for subsistence fisheries is estimated for District 4, 5, and 6 using the proportion caught by gear type in the commercial fisheries.

^f Includes Innoko River (5,267) and Koyukuk River (22,190) subsistence catches.

^g Total removal in commercial related harvest is the number of fish sold in the round plus the estimated number of females harvested to produce roe sold.

^h Includes Chandalar River subsistence catch (17).

Appendix B.3. Yukon River fall chum salmon commercial and subsistence gillnet (GN) and fish wheel (FW) catch by district, 1992.

District	Commercial Related Harvest ^a									Reported Subsistence Catch			Total		
	Fish Sold in the Round			Unprocessed Roe (lb)			Total Removal								
	GN	FW	Total	GN	FW	Total	GN	FW	Total	GN	FW	Total	GN	FW	Total
1 ^b										5,216		5,216	5,216		5,216
2										7,382		7,382	7,382		7,382
3										1,493		1,493	1,493		1,493
4 ^{c,d}										3,872	18,225	22,097	3,872	18,225	22,097
5 ^{c,e}										3,401	40,016	43,417	3,401	40,016	43,417
6 ^{c,f}		15,721	15,721		2,806	2,806		19,022	19,022	1,818	23,895	25,713	1,818	42,917	44,735
Alaska Total		15,721	15,721		2,806	2,806		19,022	19,022	23,182	82,136	105,318	23,182	101,158	124,340
Porcupine Mainstem Yukon	9,288	9,288	18,576				9,288	9,288	18,576	1,935	152	1,935	1,935	9,440	18,880
Canada Total ^g	9,288	9,288	18,576				9,288	9,288	18,576	2,087	152	2,239	11,375	9,440	20,815
Yukon R. Total	9,288	25,009	34,297		2,806	2,806	9,288	28,310	37,598	25,269	82,288	107,557	34,557	110,598	145,155

^a No commercial fall season in Districts 1–5. ADF&G test fish catches not included (1,407 in District 6). Sport fish catches not included.

^b Total does not include Hooper Bay and Scammon Bay subsistence catch (206).

^c Catch by gear type for subsistence fisheries is estimated for District 4, 5, and 6 using the proportion caught by gear type in the summer chum salmon commercial fisheries.

^d Includes Innoko River (865) and Koyukuk River (3,204) subsistence catches.

^e Includes Black River (274) and Chandalar River (3,066) subsistence catches.

^f Total removal in the commercial related harvest is the number of fish sold in the round plus estimated number of females harvested to produce roe sold.

^g Catch by gear type in Yukon Territory is not known; it is believed the commercial catch is approximately equal between gillnets and fish wheels in the fishery. Canada subsistence catch includes domestic food fisheries, aboriginal fisheries, and sport fisheries. Catch numbers from JTC Report, November 1993.

Appendix B.4. Yukon River coho salmon commercial and subsistence gillnet (GN) and fish wheel (FW) catch by district, 1992.

District	Commercial Catch ^a			Subsistence Catch			Total Catch		
	GN	FW	Total	GN	FW	Total	GN	FW	Total
1 ^b				5,426		5,426	5,426		5,426
2				6,587		6,587	6,587		6,587
3				1,253		1,253	1,253		1,253
4 ^{c,d}				1,529	7,196	8,725	1,529	7,196	8,725
5 ^{c,e}				921	11,455	12,376	921	11,455	12,376
6 ^c		7,979	7,979	1,236	16,318	17,554	1,236	24,297	25,533
Alaska Total		7,979	7,979	16,952	34,969	51,921	16,952	42,948	59,900
Porcupine River ^f				495		495	495		495
Yukon R. Total		7,979	7,979	17,447	34,969	52,416	17,447	42,948	60,395

^a No commercial fall season in Districts 1–5. ADF&G test fish catches not included. Sport fish catches not included

^b Total does not include Hooper Bay and Scammon Bay subsistence catch (59).

^c Catch by gear type for subsistence fisheries is estimated for District 4, 5, and 6 using the proportion caught by gear type in the summer chum salmon commercial fisheries.

^d Includes Innoko River (296) and Koyukuk River (254) subsistence catches.

^e Includes Chandalar River (45) subsistence catch.

^f Coho salmon are usually caught by fishing late in October and November under the ice.

Appendix C.1. Whitehorse fishway daily chinook salmon counts, 1992.

Date	Male	Female	Daily		Cumulative	
			Count	Prop.	Count	Prop.
06-Aug	1	0	1	0.0013	1	0.0013
07-Aug	3	1	4	0.0053	5	0.0066
08-Aug	3	2	5	0.0066	10	0.0132
09-Aug	4	5	9	0.0119	19	0.0251
10-Aug	5	7	12	0.0158	31	0.0409
11-Aug	6	4	10	0.0132	41	0.0541
12-Aug	26	8	34	0.0449	75	0.0989
13-Aug	18	5	23	0.0303	98	0.1293
14-Aug	40	18	58	0.0765	156	0.2058
15-Aug	61	42	103	0.1359	259	0.3417
16-Aug	45	33	78	0.1029	337	0.4446
17-Aug	32	13	45	0.0594	382	0.5040
18-Aug	29	21	50	0.0660	432	0.5699
19-Aug	22	14	36	0.0475	468	0.6174
20-Aug	15	14	29	0.0383	497	0.6557
21-Aug	37	16	53	0.0699	550	0.7256
22-Aug	8	21	29	0.0383	579	0.7639
23-Aug	17	10	27	0.0356	606	0.7995
24-Aug	15	14	29	0.0383	635	0.8377
25-Aug	7	3	10	0.0132	645	0.8509
26-Aug	4	5	9	0.0119	654	0.8628
27-Aug	10	12	22	0.0290	676	0.8918
28-Aug	11	7	18	0.0237	694	0.9156
29-Aug	11	7	18	0.0237	712	0.9393
30-Aug	8	4	12	0.0158	724	0.9551
31-Aug	5	6	11	0.0145	735	0.9697
01-Sep	6	3	9	0.0119	744	0.9815
02-Sep	3	2	5	0.0066	749	0.9881
03-Sep	0	1	1	0.0013	750	0.9894
04-Sep	3	5	8	0.0106	758	1.0000
Total	455	303	758			

Appendix C.2. Anvik River sonar project daily adjusted summer chum salmon counts, 1992.

Date	West Bank	East Bank	Daily		Cumulative	
			Count	Prop.	Count	Prop.
29-Jun	97	24	121	0.0002	121	0.0002
30-Jun	2,607	2,200	4,807	0.0062	4,928	0.0064
01-Jul	13,133	6,926	20,059	0.0259	24,987	0.0322
02-Jul	10,179	31,761	41,940	0.0541	66,927	0.0863
03-Jul	14,718	42,254	56,972	0.0735	123,899	0.1597
04-Jul	11,060	49,841	60,901	0.0785	184,800	0.2383
05-Jul	18,258	62,867	81,125	0.1046	265,925	0.3429
06-Jul	25,181	35,778	60,959	0.0786	326,884	0.4214
07-Jul	25,905	26,409	52,314	0.0674	379,198	0.4889
08-Jul	25,881	31,257	57,138	0.0737	436,336	0.5626
09-Jul	22,276	37,468	59,744	0.0770	496,080	0.6396
10-Jul	19,187	22,406	41,593	0.0536	537,673	0.6932
11-Jul	15,410	15,482	30,892	0.0398	568,565	0.7330
12-Jul	19,902	8,163	28,065	0.0362	596,630	0.7692
13-Jul	16,464	9,894	26,358	0.0340	622,988	0.8032
14-Jul	8,728	10,730	19,458	0.0251	642,446	0.8283
15-Jul	9,614	8,141	17,755	0.0229	660,201	0.8512
16-Jul	9,108	6,765	15,873	0.0205	676,074	0.8716
17-Jul	10,102	10,663	20,765	0.0268	696,839	0.8984
18-Jul	7,321	4,704	12,025	0.0155	708,864	0.9139
19-Jul	7,758	2,096	9,854	0.0127	718,718	0.9266
20-Jul	5,544	1,738	7,282	0.0094	726,000	0.9360
21-Jul	7,435	4,128	11,563	0.0149	737,563	0.9509
22-Jul	8,756	1,172	9,928	0.0128	747,491	0.9637
23-Jul	7,315	3,999	11,314	0.0146	758,805	0.9783
24-Jul	6,551	2,451	9,002	0.0116	767,807	0.9899
25-Jul	5,067	2,752	7,819	0.0101	775,626	1.0000
Total ^a	333,557	442,069	775,626			

^a Sonar enumeration was initiated on June 18; no fish were counted until June 29.

Appendix C.3. Sheenjek River sonar project daily adjusted fall chum salmon counts, 1992.

Date	Daily		Cumulative	
	Count	Prop.	Count	Prop.
09-Aug	136	0.0017	136	0.0017
10-Aug	172	0.0022	308	0.0039
11-Aug	102	0.0013	410	0.0052
12-Aug	272	0.0035	682	0.0087
13-Aug	216	0.0027	898	0.0114
14-Aug	337	0.0043	1,235	0.0157
15-Aug	670	0.0085	1,905	0.0242
16-Aug	571	0.0072	2,476	0.0314
17-Aug	1,100	0.0140	3,576	0.0454
18-Aug	1,570	0.0199	5,146	0.0653
19-Aug	1,003	0.0127	6,149	0.0780
20-Aug	2,347	0.0298	8,496	0.1078
21-Aug	1,767	0.0224	10,263	0.1302
22-Aug	1,353	0.0172	11,616	0.1474
23-Aug	1,189	0.0151	12,805	0.1625
24-Aug	1,390	0.0176	14,195	0.1801
25-Aug	1,147	0.0146	15,342	0.1947
26-Aug	893	0.0113	16,235	0.2060
27-Aug	1,032	0.0131	17,267	0.2191
28-Aug	778	0.0099	18,045	0.2290
29-Aug	463	0.0059	18,508	0.2348
30-Aug	943	0.0120	19,451	0.2468
31-Aug	840	0.0107	20,291	0.2575
01-Sep	835	0.0106	21,126	0.2681
02-Sep	830	0.0105	21,956	0.2786
03-Sep	1,217	0.0154	23,173	0.2940
04-Sep	2,023	0.0257	25,196	0.3197
05-Sep	2,093	0.0266	27,289	0.3463
06-Sep	3,154	0.0400	30,443	0.3863
07-Sep	4,200	0.0533	34,643	0.4396
08-Sep	3,092	0.0392	37,735	0.4788
09-Sep	4,274	0.0542	42,009	0.5331
10-Sep	3,209	0.0407	45,218	0.5738
11-Sep	3,815	0.0484	49,033	0.6222
12-Sep	3,816	0.0484	52,849	0.6706
13-Sep	4,047	0.0514	56,896	0.7220
14-Sep	6,347	0.0805	63,243	0.8025
15-Sep	4,289	0.0544	67,532	0.8569
16-Sep	3,232	0.0410	70,764	0.8979
17-Sep	2,473	0.0314	73,237	0.9293
18-Sep	2,158	0.0274	75,395	0.9567
19-Sep	2,406	0.0305	77,801	0.9872
20-Sep	1,007	0.0128	78,808	1.0000
Total ^a	78,808			

^a Counts are adjusted using oscilloscope calibration data and expanded with estimates for the unsonified river zone.

Appendix C.4. Fishing Branch River weir fall chum salmon counts, 1992.

Date	Male	Female	Unknown	Daily		Cumulative	
				Count	Prop.	Total	Prop.
29-Aug ^a	0	0	16	16	0.0007	16	0.0007
30-Aug ^b	41	30	0	71	0.0032	87	0.0039
31-Aug	72	63	0	135	0.0060	222	0.0099
01-Sep	204	170	0	374	0.0166	596	0.0265
02-Sep	173	134	1	308	0.0137	904	0.0401
03-Sep	383	333	3	719	0.0319	1,623	0.0721
04-Sep	518	425	1	944	0.0419	2,567	0.1140
05-Sep	278	250	0	528	0.0234	3,095	0.1375
06-Sep	492	518	4	1,014	0.0450	4,109	0.1825
07-Sep	365	334	2	701	0.0311	4,810	0.2136
08-Sep	399	409	3	811	0.0360	5,621	0.2496
09-Sep	375	466	4	845	0.0375	6,466	0.2872
10-Sep	227	222	1	450	0.0200	6,916	0.3071
11-Sep	248	224	0	472	0.0210	7,388	0.3281
12-Sep	350	348	5	703	0.0312	8,091	0.3593
13-Sep	250	327	8	585	0.0260	8,676	0.3853
14-Sep	151	132	1	284	0.0126	8,960	0.3979
15-Sep	196	206	7	409	0.0182	9,369	0.4161
16-Sep	129	143	3	275	0.0122	9,644	0.4283
17-Sep	103	135	0	238	0.0106	9,882	0.4389
18-Sep	124	122	0	246	0.0109	10,128	0.4498
19-Sep	237	311	0	548	0.0243	10,676	0.4741
20-Sep	113	138	1	252	0.0112	10,928	0.4853
21-Sep	164	203	1	368	0.0163	11,296	0.5017
22-Sep	157	210	0	367	0.0163	11,663	0.5180
23-Sep	146	214	0	360	0.0160	12,023	0.5340
24-Sep	120	171	0	291	0.0129	12,314	0.5469
25-Sep	109	129	0	238	0.0106	12,552	0.5574
26-Sep	147	203	0	350	0.0155	12,902	0.5730
27-Sep	131	153	0	284	0.0126	13,186	0.5856
28-Sep	161	210	0	371	0.0165	13,557	0.6021
29-Sep	174	224	0	398	0.0177	13,955	0.6198
30-Sep	104	153	0	257	0.0114	14,212	0.6312
01-Oct	104	96	0	200	0.0089	14,412	0.6400
02-Oct	80	82	0	162	0.0072	14,574	0.6472
03-Oct	210	216	0	426	0.0189	15,000	0.6662
04-Oct	397	439	0	836	0.0371	15,836	0.7033
05-Oct	405	416	0	821	0.0365	16,657	0.7398
06-Oct	445	526	0	971	0.0431	17,628	0.7829
07-Oct	338	472	0	810	0.0360	18,438	0.8188
08-Oct	327	478	0	805	0.0358	19,243	0.8546
09-Oct	324	489	0	813	0.0361	20,056	0.8907
10-Oct	272	426	0	698	0.0310	20,754	0.9217
11-Oct	228	503	0	731	0.0325	21,485	0.9542
12-Oct	175	218	0	393	0.0175	21,878	0.9716
13-Oct	155	198	0	353	0.0157	22,231	0.9873
14-Oct	73	93	0	166	0.0074	22,397	0.9947
15-Oct	23	47	0	70	0.0031	22,467	0.9978
16-Oct	23	17	0	40	0.0018	22,507	0.9996
17-Oct	6	4	0	10	0.0004	22,517	1.0000
Total	10,426	12,030	61	22,517			

^a Visual counts during weir construction.

^b Weir fish tight as of 1000 hours.

Appendix C.5. White Rock and Sheep Rock Canada mainstem Yukon River chinook salmon fish wheel catches, 1992.

Date	White Rock		Sheep Rock ^a		Total			
	Count	Cum.	Count	Cum.	Count	Prop.	Cum.	Prop.
14-Jul	2	2			2	0.0011	2	0.0011
15-Jul	4	6			4	0.0021	6	0.0032
16-Jul	18	24			18	0.0095	24	0.0127
17-Jul	30	54			30	0.0158	54	0.0285
18-Jul	40	94			40	0.0211	94	0.0496
19-Jul	47	141			47	0.0248	141	0.0744
20-Jul	92	233			92	0.0486	233	0.1230
21-Jul	111	344			111	0.0586	344	0.1816
22-Jul	168	512			168	0.0887	512	0.2703
23-Jul	127	639			127	0.0671	639	0.3374
24-Jul	126	765			126	0.0665	765	0.4039
25-Jul	83	848			83	0.0438	848	0.4477
26-Jul	91	939			91	0.0480	939	0.4958
27-Jul	112	1051			112	0.0591	1051	0.5549
28-Jul	101	1152			101	0.0533	1152	0.6082
29-Jul	86	1238			86	0.0454	1238	0.6536
30-Jul	70	1308			70	0.0370	1308	0.6906
31-Jul	63	1371			63	0.0333	1371	0.7239
01-Aug	66	1437			66	0.0348	1437	0.7587
02-Aug	58	1495			58	0.0306	1495	0.7893
03-Aug	39	1534			39	0.0206	1534	0.8099
04-Aug	11	1545			11	0.0058	1545	0.8157
05-Aug	15	1560			15	0.0079	1560	0.8237
06-Aug	28	1588			28	0.0148	1588	0.8384
07-Aug	12	1600			12	0.0063	1600	0.8448
08-Aug	15	1615	29	29	44	0.0232	1644	0.8680
09-Aug	9	1624	24	53	33	0.0174	1677	0.8854
10-Aug	20	1644	22	75	42	0.0222	1719	0.9076
11-Aug	15	1659	11	86	26	0.0137	1745	0.9213
12-Aug	8	1667	11	97	19	0.0100	1764	0.9314
13-Aug	10	1677	11	108	21	0.0111	1785	0.9424
14-Aug	9	1686	7	115	16	0.0084	1801	0.9509
15-Aug	12	1698	5	120	17	0.0090	1818	0.9599
16-Aug	5	1703	4	124	9	0.0048	1827	0.9646
17-Aug	10	1713	9	133	19	0.0100	1846	0.9747
18-Aug	2	1715	0	133	2	0.0011	1848	0.9757
19-Aug	7	1722	3	136	10	0.0053	1858	0.9810
20-Aug	6	1728	4	140	10	0.0053	1868	0.9863
21-Aug	1	1729	2	142	3	0.0016	1871	0.9879
22-Aug	2	1731	4	146	6	0.0032	1877	0.9910
23-Aug	1	1732	0	146	1	0.0005	1878	0.9916
24-Aug	3	1735	0	146	3	0.0016	1881	0.9931
25-Aug	0	1735	3	149	3	0.0016	1884	0.9947
26-Aug	2	1737	1	150	3	0.0016	1887	0.9963
27-Aug	0	1737	0	150	0	0.0000	1887	0.9963
28-Aug	0	1737	0	150	0	0.0000	1887	0.9963
29-Aug	0	1737	0	150	0	0.0000	1887	0.9963
30-Aug	0	1737	2	152	2	0.0011	1889	0.9974
31-Aug	0	1737	0	152	0	0.0000	1889	0.9974
01-Sept	0	1737	2	154	2	0.0011	1891	0.9984
02-Sept	0	1737	0	154	0	0.0000	1891	0.9984
03-Sept	0	1737	1	155	1	0.0005	1892	0.9989
04-Sept	0	1737	0	155	0	0.0000	1892	0.9989
05-Sept	0	1737	0	155	0	0.0000	1892	0.9989
06-Sept	1	1738	0	155	1	0.0005	1893	0.9995
07-Sept	0	1738	0	155	0	0.0000	1893	0.9995
08-Sept	0	1738	0	155	0	0.0000	1893	0.9995
09-Sept	1	1739	0	155	1	0.0005	1894	1.0000

^a Due to high water Sheep Rock fish wheel was not deployed until August 8.

Appendix C.6. White Rock and Sheep Rock Canada mainstem Yukon River fall chum fish wheel catches, 1992.

Date	White Rock		Sheep Rock ^a		Total			
	Count	Cum.	Count	Cum.	Count	Prop.	Cum.	Prop.
28-Jul	1	1			1	0.0006	1	0.0006
29-Jul	0	1			0	0.0000	1	0.0006
30-Jul	1	2			1	0.0006	2	0.0011
31-Jul	5	7			5	0.0028	7	0.0040
01-Aug	4	11			4	0.0023	11	0.0062
02-Aug	4	15			4	0.0023	15	0.0085
03-Aug	5	20			5	0.0028	20	0.0113
04-Aug	10	30			10	0.0057	30	0.0170
05-Aug	4	34			4	0.0023	34	0.0193
06-Aug	7	41			7	0.0040	41	0.0232
07-Aug	3	44			3	0.0017	44	0.0249
08-Aug	9	53	4	4	13	0.0074	57	0.0323
09-Aug	5	58	3	7	8	0.0045	65	0.0368
10-Aug	2	60	1	8	3	0.0017	68	0.0385
11-Aug	3	63	3	11	6	0.0034	74	0.0419
12-Aug	4	67	0	11	4	0.0023	78	0.0442
13-Aug	7	74	0	11	7	0.0040	85	0.0482
14-Aug	4	78	1	12	5	0.0028	90	0.0510
15-Aug	2	80	3	15	5	0.0028	95	0.0538
16-Aug	10	90	3	18	13	0.0074	108	0.0612
17-Aug	2	92	3	21	5	0.0028	113	0.0640
18-Aug	4	96	1	22	5	0.0028	118	0.0669
19-Aug	2	98	8	30	10	0.0057	128	0.0725
20-Aug	1	99	3	33	4	0.0023	132	0.0748
21-Aug	5	104	2	35	7	0.0040	139	0.0788
22-Aug	3	107	2	37	5	0.0028	144	0.0816
23-Aug	5	112	11	48	16	0.0091	160	0.0907
24-Aug	14	126	11	59	25	0.0142	185	0.1048
25-Aug	21	147	22	81	43	0.0244	228	0.1292
26-Aug	12	159	13	94	25	0.0142	253	0.1433
27-Aug	33	192	35	129	68	0.0385	321	0.1819
28-Aug	28	220	34	163	62	0.0351	383	0.2170
29-Aug	27	247	32	195	59	0.0334	442	0.2504
30-Aug	22	269	28	223	50	0.0283	492	0.2788
31-Aug	10	279	17	240	27	0.0153	519	0.2941
01-Sep	15	294	22	262	37	0.0210	556	0.3150
02-Sep	14	308	19	281	33	0.0187	589	0.3337
03-Sep	16	324	15	296	31	0.0176	620	0.3513

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Appendix C.6. (page 2 of 2)

Date	White Rock		Sheep Rock ^a		Total			
	Count	Cum.	Count	Cum.	Count	Prop.	Cum.	Prop.
04-Sep	19	343	13	309	32	0.0181	652	0.3694
05-Sep	14	357	16	325	30	0.0170	682	0.3864
06-Sep	13	370	39	364	52	0.0295	734	0.4159
07-Sep	16	386	42	406	58	0.0329	792	0.4487
08-Sep	22	408	49	455	71	0.0402	863	0.4890
09-Sep	30	438	71	526	101	0.0572	964	0.5462
10-Sep	29	467	56	582	85	0.0482	1049	0.5943
11-Sep	40	507	66	648	106	0.0601	1155	0.6544
12-Sep	65	572	36	684	101	0.0572	1256	0.7116
13-Sep	29	601	35	719	64	0.0363	1320	0.7479
14-Sep	34	635	19	738	53	0.0300	1373	0.7779
15-Sep	30	665	22	760	52	0.0295	1425	0.8074
16-Sep	51	716	33	793	84	0.0476	1509	0.8550
17-Sep	23	739	38	831	61	0.0346	1570	0.8895
18-Sep	25	764	34	865	59	0.0334	1629	0.9229
19-Sep	9	773	14	879	23	0.0130	1652	0.9360
20-Sep	11	784	26	905	37	0.0210	1689	0.9569
21-Sep	8	792	19	924	27	0.0153	1716	0.9722
22-Sep	0	792	11	935	11	0.0062	1727	0.9785
23-Sep	4	796	14	949	18	0.0102	1745	0.9887
24-Sep	4	800	6	955	10	0.0057	1755	0.9943
25-Sep	4	804	2	957	6	0.0034	1761	0.9977
26-Sep	0	804	3	960	3	0.0017	1764	0.9994
27-Sep	0	804	0	960	0	0.0000	1764	0.9994
28-Sep	0	804	0	960	0	0.0000	1764	0.9994
29-Sep	0	804	0	960	0	0.0000	1764	0.9994
30-Sep	0	804	0	960	0	0.0000	1764	0.9994
01-Oct	0	804	1	961	1	0.0006	1765	1.0000

^a Due to high water Sheep Rock fish wheel was not deployed until August 8.

Appendix D.1. Yukon River District 1 chinook salmon commercial catch composition by age, sex, and fishing period, 1992.

		Brood Year and Age Group ^a						Total
		1988	1987	1986		1985		
		1.2	1.3	1.4	2.3	1.5	2.4	
Stratum Dates:	6/20	Period 1 ^b						
Sampling Dates:	6/21							
Sample Size:	352							
Female	Percent of Sample	0.0	3.4	48.0	0.0	1.4	0.6	53.4
	Number in Catch	0	392	5,521	0	163	65	6,142
Male	Percent of Sample	1.7	7.7	35.5	0.0	1.7	0.0	46.6
	Number in Catch	196	882	4,084	0	196	0	5,358
Total	Percent of Sample	1.7	11.1	83.5	0.0	3.1	0.6	100.0
	Number in Catch	196	1,274	9,605	0	359	65	11,500
	Standard Error	79	193	228	0	107	46	
Stratum Dates:	6/22–23	Period 2 ^b						
Sampling Dates:	6/23							
Sample Size:	336							
Female	Percent of Sample	0.0	4.5	51.2	0.0	2.7	0.3	58.6
	Number in Catch	0	986	11,301	0	591	66	12,943
Male	Percent of Sample	2.4	8.0	30.4	0.0	0.6	0.0	41.4
	Number in Catch	526	1,774	6,702	0	131	0	9,133
Total	Percent of Sample	2.4	12.5	81.5	0.0	3.3	0.3	100.0
	Number in Catch	526	2,760	18,002	0	723	66	22,076
	Standard Error	184	399	468	0	215	66	
Stratum Dates:	6/26	Period 3 ^b						
Sampling Dates:	6/27							
Sample Size:	310							
Female	Percent of Sample	0.0	2.9	47.1	0.3	1.3	0.0	51.6
	Number in Catch	0	290	4,698	32	129	0	5,148
Male	Percent of Sample	1.0	8.7	36.1	0.3	1.9	0.3	48.4
	Number in Catch	97	869	3,604	32	193	32	4,827
Total	Percent of Sample	1.0	11.6	83.2	0.6	3.2	0.3	100.0
	Number in Catch	97	1,158	8,302	64	322	32	9,975
	Standard Error	56	182	212	45	100	32	
Stratum Dates:	6/27	Period 4 ^c						
Sampling Dates:	6/27							
Sample Size:	160							
Female	Percent of Sample	0.6	10.0	28.1	0.0	1.9	0.0	40.6
	Number in Catch	45	714	2,007	0	134	0	2,899
Male	Percent of Sample	3.8	24.4	31.3	0.0	0.0	0.0	59.4
	Number in Catch	268	1,740	2,230	0	0	0	4,238
Total	Percent of Sample	4.4	34.4	59.4	0.0	1.9	0.0	100.0
	Number in Catch	312	2,453	4,238	0	134	0	7,137
	Standard Error	116	269	278	0	77	0	

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		Brood Year and Age Group ^a						
		1988	1987	1986		1985		
		1.2	1.3	1.4	2.3	1.5	2.4	Total
Stratum Dates:	6/29–30	Period 5 ^c						
Sampling Dates:	6/30							
Sample Size:	158							
Female	Percent of Sample	0.6	7.6	40.5	0.0	1.3	0.0	50.0
	Number in Catch	60	716	3,817	0	119	0	4,712
Male	Percent of Sample	10.1	11.4	27.8	0.0	0.6	0.0	50.0
	Number in Catch	954	1,074	2,624	0	60	0	4,712
Total	Percent of Sample	10.8	19.0	68.4	0.0	1.9	0.0	100.0
	Number in Catch	1,014	1,789	6,441	0	179	0	9,423
	Standard Error	233	295	350	0	103	0	
Stratum Dates:	7/2–3	Period 6 ^b						
Sampling Dates:	7/3							
Sample Size:	356							
Female	Percent of Sample	0.3	3.7	47.2	0.3	3.4	0.3	55.1
	Number in Catch	31	402	5,200	31	371	31	6,066
Male	Percent of Sample	3.7	8.4	29.5	0.0	3.1	0.3	44.9
	Number in Catch	402	928	3,250	0	340	31	4,952
Total	Percent of Sample	3.9	12.1	76.7	0.3	6.5	0.6	100.0
	Number in Catch	433	1,331	8,449	31	712	62	11,018
	Standard Error	114	191	247	31	144	44	
Stratum Dates:	7/6	Period 7 ^c						
Sampling Dates:	7/6							
Sample Size:	153							
Female	Percent of Sample	0.0	5.2	17.0	0.0	0.7	0.0	22.9
	Number in Catch	0	57	187	0	7	0	251
Male	Percent of Sample	13.7	27.5	32.7	0.0	3.3	0.0	77.1
	Number in Catch	151	301	359	0	36	0	847
Total	Percent of Sample	13.7	32.7	49.7	0.0	3.9	0.0	100.0
	Number in Catch	151	359	545	0	43	0	1,098
	Standard Error	31	42	45	0	17	0	
Stratum Dates:	7/9	Period 8 ^c						
Sampling Dates:	7/10							
Sample Size:	160							
Female	Percent of Sample	1.3	13.8	31.9	0.0	2.5	0.0	49.4
	Number in Catch	10	105	244	0	19	0	379
Male	Percent of Sample	16.3	19.4	14.4	0.0	0.6	0.0	50.6
	Number in Catch	125	149	110	0	5	0	388
Total	Percent of Sample	17.5	33.1	46.3	0.0	3.1	0.0	100.0
	Number in Catch	134	254	355	0	24	0	767
	Standard Error	23	29	30	0	11	0	

^a Total catch for each period is from Appendix A.1. Catches allocated to age and sex categories are calculated from total catch.

^b No mesh size restriction; most fish taken with 8.5 in (21.6 cm) mesh gillnet.

^c Mesh size restricted to 6 in (15.2 cm) maximum.

Appendix D.2. Yukon River District 1 chinook salmon commercial catch composition by age, sex, and gear restrictions, 1992.

		Brood Year and Age Group ^a						
		1988	1987	1986		1985		
		1.2	1.3	1.4	2.3	1.5	2.4	Total
Stratum Dates: 6/20–7/3		Period 1–3 & 6 Unrestricted Mesh Gillnet						
Sampling Dates: 6/21–7/3								
Sample Size: 1,354								
Female	Percent of Sample	0.1	3.8	49.0	0.1	2.3	0.3	55.5
	Number in Catch	31	2,070	26,720	63	1,255	162	30,300
Male	Percent of Sample	2.2	8.2	32.3	0.1	1.6	0.1	44.5
	Number in Catch	1,221	4,453	17,639	32	861	63	24,269
Total	Percent of Sample	2.3	12.0	81.3	0.2	3.9	0.4	100.0
	Number in Catch	1,251	6,523	44,359	95	2,116	225	54,569
	Standard Error	222	481	579	62	286	95	
Stratum Dates: 6/27–7/9		Period 4–5 & 7–8 Restricted Mesh Gillnet						
Sampling Dates: 6/27–7/10								
Sample Size: 631								
Female	Percent of Sample	0.6	8.6	33.9	0.0	1.5	0.0	44.7
	Number in Catch	114	1,592	6,255	0	279	0	8,241
Male	Percent of Sample	8.1	17.7	28.9	0.0	0.5	0.0	55.3
	Number in Catch	1,497	3,263	5,324	0	100	0	10,184
Total	Percent of Sample	8.7	26.4	62.8	0.0	2.1	0.0	100.0
	Number in Catch	1,611	4,855	11,579	0	380	0	18,425
	Standard Error	207	323	355	0	104	0	
Stratum Dates: 6/20–7/9		Season Total						
Sampling Dates: 6/21–7/10								
Sample Size: 1,985								
Female	Percent of Sample	0.2	5.0	45.2	0.1	2.1	0.2	52.8
	Number in Catch	145	3,662	32,975	63	1,534	162	38,541
Male	Percent of Sample	3.7	10.6	31.5	0.0	1.3	0.1	47.2
	Number in Catch	2,718	7,717	22,963	32	961	63	34,453
Total ^{b, c}	Percent of Sample	3.9	15.6	76.6	0.1	3.4	0.3	100.0
	Number in Catch	2,863	11,378	55,937	95	2,495	225	72,994
	Standard Error	318	594	693	59	298	91	

^a Total catch is from Appendix A.1.

^b Total does not include ADF&G test fish sales of 930 chinook salmon.

^c Total does not include illegal purchases of 1,218 chinook salmon by Schenk's Seafood Sales, Inc.

Appendix D.3. Yukon River District 1 chinook salmon subsistence catch by age and sex, 1992.

		Brood Year and Age Group						Total
		1988	1987	1986		1985		
		1.2	1.3	1.4	2.3	1.5	2.4	
Stratum Dates:	6/20							
Sampling Dates:								
Sample Size ^a :	352							
Female	Percent of Sample	0.0	3.4	48.0	0.0	1.4	0.6	53.4
	Number in Catch	0	175	2,468	0	73	29	2,746
Male	Percent of Sample	1.7	7.7	35.5	0.0	1.7	0.0	46.6
	Number in Catch	88	394	1,826	0	88	0	2,395
Total ^b	Percent of Sample	1.7	11.1	83.5	0.0	3.1	0.6	100.0
	Number in Catch	88	570	4,294	0	161	29	5,141
	Standard Error	36	86	102	0	48	21	

^a Age and sex composition is based on Yukon River commercial catch sample from District 1, Period 1 (earliest unrestricted period) because subsistence fishing is assumed to take place early in the season.

^b Total catch is from Appendix B.1.

Appendix D.4. Yukon River District 2 chinook salmon commercial catch composition by age, sex, and fishing period, 1992.

		Brood Year and Age Group ^a								Total	
		1988		1987		1986		1985			1984
		1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5		
Stratum Dates: 6/22		Period 1 ^b									
Sampling Dates: 6/22											
Sample Size: 188											
Female	Percent of Sample	0.0	2.7	0.0	39.4	0.0	1.6	0.5	0.0	44.1	
	Number in Catch	0	146	0	2,165	0	88	29	0	2,428	
Male	Percent of Sample	1.1	7.4	0.0	44.7	0.0	1.6	0.5	0.5	55.9	
	Number in Catch	59	410	0	2,457	0	88	29	29	3,072	
Total	Percent of Sample	1.1	10.1	0.0	84.0	0.0	3.2	1.1	0.5	100.0	
	Number in Catch	59	556	0	4,622	0	176	59	29	5,500	
	Standard Error	41	121	0	147	0	71	41	29		
Stratum Dates: 6/24–25		Period 2 ^b									
Sampling Dates: 6/25											
Sample Size: 339											
Female	Percent of Sample	0.3	3.8	0.0	46.3	0.0	2.1	0.6	0.0	53.1	
	Number in Catch	38	498	0	6,011	0	268	77	0	6,892	
Male	Percent of Sample	1.8	10.3	0.0	33.0	0.3	1.2	0.3	0.0	46.9	
	Number in Catch	230	1,340	0	4,288	38	153	38	0	6,088	
Total	Percent of Sample	2.1	14.2	0.0	79.4	0.3	3.2	0.9	0.0	100.0	
	Number in Catch	268	1,838	0	10,300	38	421	115	0	12,980	
	Standard Error	100	246	0	286	38	125	66	0		
Stratum Dates: 6/26		Period 3 ^c									
Sampling Dates:											
Sample Size: 160											
Female	Percent of Sample	0.6	10.0	0.0	28.1	0.0	1.9	0.0	0.0	40.6	
	Number in Catch	20	319	0	898	0	60	0	0	1,297	
Male	Percent of Sample	3.8	24.4	0.0	31.3	0.0	0.0	0.0	0.0	59.4	
	Number in Catch	120	778	0	998	0	0	0	0	1,896	
Total	Percent of Sample	4.4	34.4	0.0	59.4	0.0	1.9	0.0	0.0	100.0	
	Number in Catch	140	1,098	0	1,896	0	60	0	0	3,193	
	Standard Error	52	120	0	124	0	34	0	0		
Stratum Dates: 6/28		Period 4 ^b									
Sampling Dates: 6/29											
Sample Size: 337											
Female	Percent of Sample	0.3	3.0	0.0	50.7	0.0	2.7	0.0	0.0	56.7	
	Number in Catch	22	221	0	3,778	0	199	0	0	4,220	
Male	Percent of Sample	1.2	8.9	0.0	31.8	0.0	1.5	0.0	0.0	43.3	
	Number in Catch	88	663	0	2,364	0	110	0	0	3,226	
Total	Percent of Sample	1.5	11.9	0.0	82.5	0.0	4.2	0.0	0.0	100.0	
	Number in Catch	110	884	0	6,142	0	309	0	0	7,446	
	Standard Error	49	131	0	154	0	81	0	0		

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		Brood Year and Age Group ^a									
		1988		1987		1986		1985		1984	
		1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5	Total	
Stratum Dates:	7/1 – 7/2	Period 5 ^c									
Sampling Dates:											
Sample Size:	158										
Female	Percent of Sample	0.6	7.6	0.0	40.5	0.0	1.3	0.0	0.0	50.0	
	Number in Catch	25	296	0	1,579	0	49	0	0	1,949	
Male	Percent of Sample	10.1	11.4	0.0	27.8	0.0	0.6	0.0	0.0	50.0	
	Number in Catch	395	444	0	1,086	0	25	0	0	1,949	
Total	Percent of Sample	10.8	19.0	0.0	68.4	0.0	1.9	0.0	0.0	100.0	
	Number in Catch	419	740	0	2,664	0	74	0	0	3,898	
	Standard Error	96	122	0	145	0	42	0	0		
Stratum Dates:	7/6	Period 6 ^c									
Sampling Dates:											
Sample Size:	153										
Female	Percent of Sample	0.0	5.2	0.0	17.0	0.0	0.7	0.0	0.0	22.9	
	Number in Catch	0	113	0	367	0	14	0	0	495	
Male	Percent of Sample	13.7	27.5	0.0	32.7	0.0	3.3	0.0	0.0	77.1	
	Number in Catch	297	593	0	707	0	71	0	0	1,667	
Total	Percent of Sample	13.7	32.7	0.0	49.7	0.0	3.9	0.0	0.0	100.0	
	Number in Catch	297	707	0	1,074	0	85	0	0	2,162	
	Standard Error	60	82	0	88	0	34	0	0		
Stratum Dates:	7/8	Period 7 ^b									
Sampling Dates:	7/9										
Sample Size:	347										
Female	Percent of Sample	0.0	5.5	0.0	51.6	0.0	1.7	0.9	0.0	59.7	
	Number in Catch	0	151	0	1,420	0	48	24	0	1,642	
Male	Percent of Sample	2.9	12.7	0.3	23.1	0.3	0.9	0.3	0.0	40.3	
	Number in Catch	79	349	8	635	8	24	8	0	1,111	
Total	Percent of Sample	2.9	18.2	0.3	74.6	0.3	2.6	1.2	0.0	100.0	
	Number in Catch	79	500	8	2,055	8	71	32	0	2,753	
	Standard Error	25	57	8	64	8	24	16	0		

^a Total catch for each period is from Appendix A.2. Catches allocated to age and sex categories are calculated from total catch.

^b No mesh size restriction; most fish taken with 8.5 in (21.6 cm) mesh gillnet.

^c Mesh size restricted to 6 in (15.2 cm) maximum. Age and sex composition are based on District 1 commercial 6 in (15.2 cm) mesh gillnet samples.

Appendix D.5. Yukon River District 2 chinook salmon commercial catch composition by age, sex, and gear restrictions, 1992

		Brood Year and Age Group									
		1988		1987		1986		1985		1984	Total
		1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5		
Stratum Dates: 6/22-7/8		Period 1-2, 4 & 7 Unrestricted Mesh Gillnet									
Sampling Dates: 6/22-7/9											
Sample Size: 1,211											
Female	Percent of Sample	0.2	3.5	0.0	46.6	0.0	2.1	0.5	0.0	52.9	
	Number in Catch	60	1,016	0	13,375	0	602	130	0	15,183	
Male	Percent of Sample	1.6	9.6	0.0	34.0	0.2	1.3	0.3	0.1	47.1	
	Number in Catch	456	2,762	8	9,745	46	375	75	29	13,496	
Total	Percent of Sample	1.8	13.2	0.0	80.6	0.2	3.4	0.7	0.1	100.0	
	Number in Catch	516	3,777	8	23,119	46	977	205	29	28,679	
	Standard Error	110	279	14	326	33	150	69	26		
Stratum Dates: 6/26-7/6		Period 3 & 5-6 Restricted Mesh Gillnet									
Sampling Dates:											
Sample Size: 631											
Female	Percent of Sample	0.6	9.2	0.0	29.5	0.0	1.6	0.0	0.0	40.9	
	Number in Catch	45	728	0	2,844	0	123	0	0	3,741	
Male	Percent of Sample	10.9	20.6	0.0	26.5	0.0	1.1	0.0	0.0	59.1	
	Number in Catch	811	1,816	0	2,790	0	95	0	0	5,512	
Total ^a	Percent of Sample	11.6	29.8	0.0	55.9	0.0	2.7	0.0	0.0	100.0	
	Number in Catch	856	2,544	0	5,634	0	219	0	0	9,253	
	Standard Error										
Stratum Dates: 6/22-7/8		Season Total									
Sampling Dates: 6/22-7/9											
Sample Size: 1,842											
Female	Percent of Sample	0.3	4.6	0.0	42.8	0.0	1.9	0.3	0.0	49.9	
	Number in Catch	105	1,744	0	16,219	0	726	130	0	18,923	
Male	Percent of Sample	3.3	12.1	0.0	33.0	0.1	1.2	0.2	0.1	50.1	
	Number in Catch	1,267	4,577	8	12,535	46	471	75	29	19,009	
Total ^b	Percent of Sample	3.6	16.7	0.0	75.8	0.1	3.2	0.5	0.1	100.0	
	Number in Catch	1,372	6,322	8	28,754	46	1,196	205	29	37,932	
	Standard Error	165	329	13	379	31	154	65	25		

^a Age and sex composition is based on District 1 commercial 6 in (15.2 cm) mesh gillnet samples.

^b Total does not include illegal purchases of 207 chinook salmon by Schenk's Seafood Sales, Inc.

Appendix D.6. Yukon River District 2 chinook salmon subsistence catch composition by age and sex, 1992.

		Brood Year and Age Group ^a								Total	
		1988		1987		1986		1985			1984
		1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5		
Stratum Dates:		6/20–7/9									
Sampling Dates:											
Sample Size ^a :		1,842									
Female	Percent of Sample	0.3	4.6	0.0	42.8	0.0	1.9	0.3	0.0	49.9	
	Number in Catch	20	325	0	3,025	0	135	24	0	3,529	
Male	Percent of Sample	3.3	12.1	0.0	33.0	0.1	1.2	0.2	0.1	50.1	
	Number in Catch	236	854	1	2,338	9	88	14	5	3,545	
Total	Percent of Sample	3.6	16.7	0.0	75.8	0.1	3.2	0.5	0.1	100.0	
	Number in Catch	256	1,179	1	5,362	9	223	38	5	7,074	
	Standard Error	31	61	2	71	6	29	12	5		

^aTotal catch is from Appendix B.1. Age and sex composition is based on a combination of Yukon River District 1 and 2 commercial catch samples (Appendix D.5.).

Appendix D.7. Yukon River District 3 chinook salmon commercial catch composition by age and sex, 1992.

		Brood Year and Age Group ^a							
		1988	1987		1986		1985		
		1.2	1.3	2.2	1.4	2.3	1.5	2.4	Total
Stratum Dates:	7/1–7/8								
Sampling Dates:									
Sample Size ^a :	684								
Female	Percent of Sample	0.1	4.2	0.0	51.2	0.0	2.2	0.4	58.2
	Number in Catch	3	77	0	931	0	40	8	1,058
Male	Percent of Sample	2.0	10.8	0.1	27.3	0.1	1.2	0.1	41.8
	Number in Catch	37	197	3	497	3	21	3	761
Total	Percent of Sample	2.2	15.1	0.1	78.5	0.1	3.4	0.6	100.0
	Number in Catch	40	274	3	1,428	3	61	11	1,819
	Standard Error	44	115	11	257	11	54	23	

^a Total catch is from Appendix B.1. Age and sex composition are based on District 2 periods 4 & 7 catch samples.

Appendix D.8. Yukon River District 3 chinook salmon subsistence catch composition by age and sex, 1992.

		Brood Year and Age Group ^a									
		1988		1987		1986		1985		1984	
		1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5	Total	
Stratum Dates:		7/1–7/8									
Sampling Dates:											
Sample Size ^a :		1,842									
Female	Percent of Sample	0.3	4.6	0.0	42.8	0.0	1.9	0.3	0.0	49.9	
	Number in Catch	13	219	0	2,041	0	91	16	0	2,381	
Male	Percent of Sample	3.3	12.1	0.0	33.0	0.1	1.2	0.2	0.1	50.1	
	Number in Catch	159	576	1	1,577	6	59	9	4	2,392	
Total	Percent of Sample	3.6	16.7	0.0	75.8	0.1	3.2	0.5	0.1	100.0	
	Number in Catch	173	795	1	3,618	6	151	26	4	4,773	
	Standard Error	21	41	2	48	4	19	8	3		

^a Total catch is from Appendix B.1. Age and sex composition is based on a combination of Yukon River District 1 and 2 commercial catch samples (Appendix D.5.).

Appendix D.9. Yukon River District 4 chinook salmon commercial and subsistence catch composition by age, sex, and gear type, 1992.

		Brood Year and Age Group					
		1989	1988	1987	1986	1985	Total
		1.1	1.2	1.3	1.4	1.5	
Stratum Dates: 6/28-7/21		Fish Wheel					
Sampling Dates: 6/28-7/21							
Sample Size: 129							
Female	Percent of Sample	0.0	1.6	6.2	9.3	0.8	17.8
	Number in Catch	0	127	507	760	63	1,457
Male	Percent of Sample	1.6	37.2	37.2	6.2	0.0	82.2
	Number in Catch	127	3,040	3,040	507	0	6,713
Total	Percent of Sample	1.6	38.8	43.4	15.5	0.8	100.0
	Number in Catch	127	3,167	3,547	1,267	63	8,170
	Standard Error	89	352	358	261	63	
Stratum Dates: 6/30-7/21		Gillnet					
Sampling Dates: 6/30-7/21							
Sample Size: 56							
Female	Percent of Sample	0.0	1.8	7.1	35.7	7.1	51.8
	Number in Catch	0	49	195	976	195	1,415
Male	Percent of Sample	0.0	10.7	19.6	17.9	0.0	48.2
	Number in Catch	0	293	537	488	0	1,318
Total	Percent of Sample	0.0	12.5	26.8	53.6	7.1	100.0
	Number in Catch	0	342	732	1,464	195	2,733
	Standard Error	0	122	163	184	95	

Appendix D.10. Yukon River District 5 chinook salmon commercial and subsistence catch composition by age, sex, and gear type, 1992.

		Brood Year and Age Group ^a					Total
		1988	1987	1986		1985	
		1.2	1.3	1.4	2.3	1.5	
Stratum Dates: 7/11–7/15		Fish Wheel					
Sampling Dates: 7/11–7/15							
Sample Size: 79							
Female	Percent of Sample	5.1	16.5	29.1	1.3	0.0	51.9
	Number in Catch	591	1,922	3,400	148	0	6,061
Male	Percent of Sample	19.0	26.6	2.5	0.0	0.0	48.1
	Number in Catch	2,218	3,105	296	0	0	5,618
Total	Percent of Sample	24.1	43.0	31.6	1.3	0.0	100.0
	Number in Catch	2,809	5,026	3,696	148	0	11,679
	Standard Error	565	655	615	148	0	
Stratum Dates: 7/11–7/15		Gillnet					
Sampling Dates: 7/11–7/15							
Sample Size: 135							
Female	Percent of Sample	0.0	5.2	37.0	0.0	0.7	43.0
	Number in Catch	0	512	3,654	0	73	4,239
Male	Percent of Sample	4.4	18.5	34.1	0.0	0.0	57.0
	Number in Catch	439	1,827	3,362	0	0	5,628
Total	Percent of Sample	4.4	23.7	71.1	0.0	0.7	100.0
	Number in Catch	439	2,339	7,017	0	73	9,867
	Standard Error	175	362	386	0	7	

Appendix D.11. Yukon River District 6 chinook salmon commercial and subsistence catch composition by age and sex for combined gillnet and fish wheel harvests, 1992.

		Brood Year and Age Group					Total
		1989	1988	1987		1986	
		1.1	1.2	1.3	2.2	1.4	
Stratum Dates:	7/15–8/8						
Sampling Dates:	7/15–8/8						
Sample Size: ^a		177					
Female	Percent of Sample	0.0	0.0	1.1	0.0	13.6	14.7
	Number in Catch	0	0	36	0	437	473
Male	Percent of Sample	2.3	52.0	24.9	0.6	5.6	85.8
	Number in Catch	73	1,675	801	18	182	2,750
Total	Percent of Sample	2.3	52.0	26.0	0.6	19.2	100.0
	Number in Catch	73	1,675	838	18	619	3,223
	Standard Error	36	121	107	18	96	

^a Sample size includes 145 chinook salmon from ADF&G test fish wheel.

Appendix D.12. Length (mm measured from mid-orbit to fork-of-tail) by age and sex of Yukon River chinook salmon test fishing catches, 1992.

Location	Sex		Brood Year and Age Group						
			1988	1987	1986		1985		1984
			1.2	1.3	1.4	2.3	1.5	2.4	2.5
Big Eddy 8.25 in (21.0 cm) Drift Gillnet	Female	Mean Length		774	866			785	
		Standard Error		33.6	15.0			0.0	
		Sample Size		4	10			1	
	Male	Mean Length		769	856			830	
		Standard Error		34.5	16.2			40.0	
		Sample Size		4	11			2	
Big Eddy 8.5 in (21.6 cm) Set Gillnet	Female	Mean Length		795	879		920	864	890
		Standard Error		22.1	3.5		17.5	9.0	0.0
		Sample Size		10	149		5	4	1
	Male	Mean Length	552	784	887	730	876		915
		Standard Error	6.7	19.0	5.7	0.0	14.6		0.0
		Sample Size	3	16	105	1	6		1
Middle Mouth 8.5 in (21.6 cm) Set Gillnet	Female	Mean Length		815	866				
		Standard Error		74.2	12.4				
		Sample Size		3	16				
	Male	Mean Length	630	825	828				
		Standard Error	0.0	0.0	74.2				
		Sample Size	1	1	5				

Appendix E.1. Yukon River District 1 summer chum salmon commercial catch composition by age, sex, and fishing period, 1992.

		Brood Year and Age Group ^a			
		1988	1987	1986	Total
		0.3	0.4	0.5	
Stratum Dates:	6/20	Period 1 ^b			
Sampling Dates:	6/21				
Sample Size:	146				
Female	Percent of Sample	1.4	39.7	0.7	41.8
	Number in Catch	137	3,973	69	4,179
Male	Percent of Sample	2.1	52.1	4.1	58.2
	Number in Catch	206	5,206	411	5,823
Total	Percent of Sample	3.4	91.8	4.8	100.0
	Number in Catch	343	9,179	480	10,001
	Standard Error	151	228	177	
Stratum Dates:	6/22–6/23	Period 2 ^b			
Sampling Dates:	6/23				
Sample Size:	135				
Female	Percent of Sample	3.0	47.4	3.0	53.3
	Number in Catch	731	11,697	731	13,159
Male	Percent of Sample	0.7	43.0	3.0	46.7
	Number in Catch	183	10,601	731	11,515
Total	Percent of Sample	3.7	90.4	5.9	100.0
	Number in Catch	914	22,298	1,462	24,674
	Standard Error	403	629	503	
Stratum Dates:	6/26	Period 3 ^b			
Sampling Dates:	6/27				
Sample Size:	133				
Female	Percent of Sample	4.5	45.1	3.8	53.4
	Number in Catch	332	3,324	277	3,933
Male	Percent of Sample	6.0	34.6	6.0	46.6
	Number in Catch	443	2,548	443	3,435
Total	Percent of Sample	10.5	79.7	9.8	100.0
	Number in Catch	776	5,872	720	7,368
	Standard Error	197	258	190	
Stratum Dates:	6/27	Period 4 ^c			
Sampling Dates:	6/27				
Sample Size:	148				
Female	Percent of Sample	11.5	25.7	1.4	38.5
	Number in Catch	6,276	14,030	738	21,045
Male	Percent of Sample	19.6	39.9	2.0	61.5
	Number in Catch	10,707	21,783	1,108	33,597
Total	Percent of Sample	31.1	65.5	3.4	100.0
	Number in Catch	16,983	35,813	1,846	54,642
	Standard Error	2,086	2,142	814	

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		Brood Year and Age Group ^a			Total
		1988	1987	1986	
		0.3	0.4	0.5	
Stratum Dates: 6/29–6/30		Period 5 ^c			
Sampling Dates: 6/30					
Sample Size: 149					
Female	Percent of Sample	10.7	28.2	0.7	39.6
	Number in Catch	5,854	15,367	366	21,588
Male	Percent of Sample	13.4	45.0	2.0	60.4
	Number in Catch	7,318	24,515	1,098	32,930
Total	Percent of Sample	24.2	73.2	2.7	100.0
	Number in Catch	13,172	39,882	1,464	54,518
	Standard Error	1,918	1,986	724	
Stratum Dates: 7/2–7/3		Period 6 ^b			
Sampling Dates: 7/3					
Sample Size: 149					
Female	Percent of Sample	14.1	38.3	3.4	55.7
	Number in Catch	975	2,646	232	3,853
Male	Percent of Sample	14.1	28.2	2.0	44.3
	Number in Catch	975	1,949	139	3,063
Total	Percent of Sample	28.2	66.4	5.4	100.0
	Number in Catch	1,949	4,595	371	6,916
	Standard Error	256	268	128	
Stratum Dates: 7/6		Period 7 ^c			
Sampling Dates: 7/7					
Sample Size: 150					
Female	Percent of Sample	6.7	35.3	1.3	43.3
	Number in Catch	701	3,716	140	4,558
Male	Percent of Sample	24.7	30.7	1.3	56.7
	Number in Catch	2,594	3,226	140	5,960
Total	Percent of Sample	31.3	66.0	2.7	100.0
	Number in Catch	3,296	6,942	280	10,518
	Standard Error	400	408	139	
Stratum Dates: 7/9		Period 8 ^c			
Sampling Dates: 7/10					
Sample Size: 146					
Female	Percent of Sample	24.7	45.9	3.4	74.0
	Number in Catch	2,136	3,975	297	6,407
Male	Percent of Sample	14.4	11.6	0.0	26.0
	Number in Catch	1,246	1,008	0	2,254
Total	Percent of Sample	39.0	57.5	3.4	100.0
	Number in Catch	3,381	4,983	297	8,661
	Standard Error	351	356	131	

^a Discrepancies in row and column addition by category are due to rounding error and may be ignored.

^b No mesh size restrictions; most fish taken with 8.5 in (21.6 cm) gillnet.

^c Mesh size restricted to 6 in (15.2 cm) or less.

Appendix E.2. Yukon River District 1 summer chum salmon commercial catch composition by age, sex, and gear restrictions, 1992.

		Brood Year and Age Group ^a			Total
		1988	1987	1986	
		0.3	0.4	0.5	
Stratum Dates:	6/20–7/3	Periods 1–3 & 6 Unrestricted Mesh Gillnet			
Sampling Dates:	6/21–7/3				
Sample Size:		563			
Female	Percent of Sample	4.4	44.2	2.7	51.3
	Number in Catch	2,175	21,640	1,309	25,124
Male	Percent of Sample	3.7	41.5	3.5	48.7
	Number in Catch	1,806	20,304	1,725	23,835
Total	Percent of Sample	8.1	85.7	6.2	100.0
	Number in Catch	3,981	41,944	3,033	48,959
	Standard Error	564	724	498	
Stratum Dates:	6/27–7/9	Periods 4–5 & 7–8 Restricted Mesh Gillnet			
Sampling Dates:	6/27–7/10				
Sample Size:		593			
Female	Percent of Sample	11.7	28.9	1.2	41.8
	Number in Catch	14,968	37,088	1,541	53,597
Male	Percent of Sample	17.0	39.4	1.8	58.2
	Number in Catch	21,865	50,532	2,346	74,742
Total	Percent of Sample	28.7	68.3	3.0	100.0
	Number in Catch	36,832	87,620	3,887	128,339
	Standard Error	2,386	2,455	904	
Stratum Dates:	6/20–7/9	Season Total			
Sampling Dates:	6/21–7/10				
Sample Size:		1,156			
Female	Percent of Sample	9.7	33.1	1.6	44.4
	Number in Catch	17,143	58,728	2,850	78,721
Male	Percent of Sample	13.4	40.0	2.3	55.6
	Number in Catch	23,671	70,836	4,070	98,577
Total ^b	Percent of Sample	23.0	73.1	3.9	100.0
	Number in Catch	40,814	129,564	6,920	177,298
	Standard Error	2,196	2,314	1,010	

^a Total catch is from Appendix A.1. See Appendix E.1 for composition by period.

^b Does not include ADF&G test fish sales (1,918). Does not include illegal purchase (31).

Appendix E.3. Yukon River District 1 summer chum salmon subsistence catch composition by age and sex, 1992.

		Brood Year and Age Group ^a			
		1988	1987	1986	Total
		0.3	0.4	0.5	
Stratum Dates:	6/20–7/09				
Sampling Dates:					
Sample Size ^a :	1,156				
Female	Percent of Sample	9.7	33.1	1.6	44.4
	Number in Catch	3,214	11,010	534	14,758
Male	Percent of Sample	13.4	40.0	2.3	55.6
	Number in Catch	4,438	13,280	763	18,481
Total	Percent of Sample	23.0	73.1	3.9	100.0
	Number in Catch	7,652	24,290	1,297	33,239
	Standard Error	412	434	189	

^a Total catch is from Appendix B.2. Age and sex composition is based on the composition of District 1 commercial catch samples weighted for catch by period.

Appendix E.4. Yukon River District 2 summer chum salmon commercial catch composition by age, sex, and gear restrictions, 1992.

		Brood Year and Age Group ^a			
		1988	1987	1986	Total
		0.3	0.4	0.5	
Stratum Dates: 6/22-7/8		Periods 1-2, 4 & 7 Unrestricted Mesh Gillnet			
Sampling Dates: 6/22-7/9					
Sample Size: 178					
Female	Percent of Sample	7.9	39.9	1.7	49.4
	Number in Catch	2,556	12,963	548	16,067
Male	Percent of Sample	4.5	40.4	5.6	50.6
	Number in Catch	1,461	13,146	1,826	16,432
Total	Percent of Sample	12.4	80.3	7.3	100.0
	Number in Catch	4,017	26,109	2,374	32,499
	Standard Error	804	971	636	
Stratum Dates: 6/26-7/6		Periods 3 & 5-6 Restricted Mesh Gillnet			
Sampling Dates:					
Sample Size: 447					
Female	Percent of Sample	9.6	29.8	1.1	40.5
	Number in Catch	11,018	34,080	1,281	46,379
Male	Percent of Sample	19.2	38.5	1.8	59.5
	Number in Catch	22,037	44,073	2,050	68,160
Total ^b	Percent of Sample	28.9	68.2	2.9	100.0
	Number in Catch	33,055	78,153	3,331	114,539
	Standard Error	2,457	2,525	911	
Stratum Dates: 6/22-7/8		Season Total			
Sampling Dates: 6/22-7/9					
Sample Size: 625					
Female	Percent of Sample	9.2	32.0	1.2	42.5
	Number in Catch	13,574	47,043	1,829	62,446
Male	Percent of Sample	16.0	38.9	2.6	57.5
	Number in Catch	23,497	57,219	3,876	84,592
Total ^c	Percent of Sample	25.2	70.9	3.9	100.0
	Number in Catch	37,072	104,262	5,705	147,038
	Standard Error	2,556	2,673	1,137	

^a Total catch is from Appendix A.2.

^b Age and sex compositions for restricted mesh gillnet is based on District 1 periods 4-5 & 7 samples.

^c Total does not include illegal purchase of 91 summer chum salmon by Schenk's Seafood Sales, Inc.

Appendix E.5. Yukon River District 2 summer chum salmon subsistence catch composition by age and sex, 1992.

		Brood Year and Age Group ^a			
		1988	1987	1986	Total
		0.3	0.4	0.5	
Stratum Dates:	6/22–7/9				
Sampling Dates:					
Sample Size ^a :	625				
Female	Percent of Sample	9.2	32.0	1.2	42.5
	Number in Catch	2,283	7,912	308	10,503
Male	Percent of Sample	16.0	38.9	2.6	57.5
	Number in Catch	3,952	9,624	652	14,228
Total ^b	Percent of Sample	25.2	70.9	3.9	100.0
	Number in Catch	6,235	17,536	959	24,731
	Standard Error	430	450	191	

^a Age and sex composition is based on District 2 season total summary (Appendix E.4.).

Appendix E.6. Yukon River District 3 summer chum salmon commercial catch composition by age and sex, 1992.

		Brood Year and Age Group ^a			Total
		1988	1987	1986	
		0.3	0.4	0.5	
Stratum Dates:	7/1–7/8				
Sampling Dates:					
Sample Size ^a :	103				
Female	Percent of Sample	12.6	43.7	2.9	59.2
	Number in Catch	8	28	2	38
Male	Percent of Sample	6.8	28.2	5.8	40.8
	Number in Catch	4	18	4	27
Total	Percent of Sample	19.4	71.8	8.7	100.0
	Number in Catch	13	47	6	65
	Standard Error	3	3	2	

^aAge and sex composition is based on District 2 periods 4 & 7 samples.

Appendix E.7. Yukon River District 3 summer chum salmon subsistence catch composition by age and sex, 1992.

		Brood Year and Age Group ^a			
		1988	1987	1986	
		0.3	0.4	0.5	Total
Stratum Dates:	7/1–7/8				
Sampling Dates:					
Sample Size ^a :	625				
Female	Percent of Sample	9.2	32.0	1.2	42.5
	Number in Catch	400	1,386	54	1,840
Male	Percent of Sample	16.0	38.9	2.6	57.5
	Number in Catch	692	1,686	114	2,492
Total	Percent of Sample	25.2	70.9	3.9	100.0
	Number in Catch	1,092	3,072	168	4,332
	Standard Error	75	79	33	

^a Total catch is from Appendix B.2. Age and sex composition is based on District 2 season total summary (Appendix E.4.).

Appendix E.8. Yukon River District 4 summer chum salmon commercial and subsistence catch composition by age, sex, and gear type, 1992.

		Brood Year and Age Group ^a				Total
		1989	1988	1987	1986	
		0.2	0.3	0.4	0.5	
Stratum Dates: 6/30–7/16		Gillnet				
Sampling Dates: 6/30–7/16						
Sample Size: 574						
Female	Percent of Sample	0.2	32.1	37.5	2.1	71.8
	Number in Catch	74	13,665	15,968	891	30,599
Male	Percent of Sample	0.2	7.3	19.2	1.6	28.2
	Number in Catch	74	3,119	8,170	668	12,031
Total	Percent of Sample	0.3	39.4	56.6	3.7	100.0
	Number in Catch	149	16,785	24,137	1,560	42,630
	Standard Error	105	870	883	334	
Stratum Dates: 7/5–7/21		Fish Wheel				
Sampling Dates: 7/5–7/21						
Sample Size: 1,734						
Female	Percent of Sample	0.2	28.8	32.8	1.8	63.6
	Number in Catch	484	60,388	68,859	3,752	133,483
Male	Percent of Sample	0.3	12.6	21.6	1.8	36.4
	Number in Catch	726	26,382	45,382	3,873	76,362
Total	Percent of Sample	0.6	41.3	54.4	3.6	100.0
	Number in Catch	1,210	86,770	114,241	7,624	209,845
	Standard Error	382	2,482	2,510	943	

Appendix E.9. Yukon River District 5 summer chum salmon commercial and subsistence fish wheel catch composition by age and sex, 1992.

		Brood Year and Age Group			
		1988	1987	1986	
		0.3	0.4	0.5	Total
Stratum Dates:	7/11–8/15				Fish Wheel
Sampling Dates:	7/11–8/15				
Sample Size:	331				
Female	Percent of Sample	13.9	26.3	0.0	40.2
	Number in Catch	1,678	3,173	0	4,850
Male	Percent of Sample	9.7	47.7	2.4	59.8
	Number in Catch	1,167	5,762	292	7,221
Total ^a	Percent of Sample	23.6	74.0	2.4	100.0
	Number in Catch	2,845	8,935	292	12,071
	Standard Error	282	291	102	

^a Total does not include gillnet catch (971) due to insufficient samples.

Appendix E.10. Yukon River District 6 summer chum salmon commercial and subsistence fish wheel catch composition by age and sex, 1992.

		Brood Year and Age Group				
		1989	1988	1987	1986	Total
		0.2	0.3	0.4	0.5	
Stratum Dates:	7/15–8/4	Commercial				
Sampling Dates:	7/15, 7/21, 7/29, 8/4					
Sample Size:	163					
Female	Percent of Sample	0.6	14.7	4.9	0.0	20.2
	Number in Catch	42	997	332	0	1,370
Male	Percent of Sample	0.6	44.8	30.7	3.7	79.8
	Number in Catch	42	3,031	2,076	249	5,398
Total ^a	Percent of Sample	1.2	59.5	35.6	3.7	100.0
	Number in Catch	83	4,028	2,408	249	6,768
	Standard Error	59	261	255	100	
Stratum Dates:	7/18–8/11	Subsistence				
Sampling Dates:	7/18, 8/8, 8/11					
Sample Size:	166					
Female	Percent of Sample	0.0	48.2	20.5	0.0	68.7
	Number in Catch	0	4,258	1,810	0	6,067
Male	Percent of Sample	0.6	14.5	16.3	0.0	31.3
	Number in Catch	53	1,277	1,437	0	2,768
Total ^b	Percent of Sample	0.6	62.7	36.7	0.0	100.0
	Number in Catch	53	5,535	3,247	0	8,835
	Standard Error	53	333	332	0	
Stratum Dates:	7/15–8/11	Total				
Sampling Dates:						
Sample Size:	329					
Female	Percent of Sample	0.3	33.7	13.7	0.0	47.7
	Number in Catch	42	5,254	2,142	0	7,438
Male	Percent of Sample	0.6	27.6	22.5	1.6	52.3
	Number in Catch	95	4,308	3,513	249	8,165
Total ^c	Percent of Sample	0.9	61.3	36.2	1.6	100.0
	Number in Catch	136	9,563	5,655	249	15,603
	Standard Error	80	420	414	108	

^a Total includes 49 summer chum salmon from ADF&G test fish wheel.

^b Total includes 112 summer chum salmon from ADF&G test fish wheel.

^c Gillnet catch (1,178) was not apportioned due to insufficient samples.

Appendix E.11. Length (mm measured from mid-orbit to fork-of-tail) by age and sex of Yukon River summer chum salmon test fishing catches, 1992.

Location	Sex		Brood Year and Age Group		
			1988	1987	1986
			0.3	0.4	0.5
Big Eddy 5.5 in (14.0 cm) Drift Gillnet	Female	Mean Length	543	566	575
		Standard Error	7.5	2.2	13.2
		Sample Size	2	79	3
	Male	Mean Length	563	581	595
		Standard Error	13.0	3.6	10.6
		Sample Size	3	57	4
Big Eddy 5.5 in (14.0 cm) Set Gillnet	Female	Mean Length	553	569	568
		Standard Error	2.7	1.8	5.8
		Sample Size	65	241	25
	Male	Mean Length	569	588	589
		Standard Error	5.0	2.5	9.1
		Sample Size	42	161	14
Middle Mouth 5.5 in (14.0 cm) Set Gillnet	Female	Mean Length	554	571	584
		Standard Error	2.4	1.7	7.0
		Sample Size	77	244	17
	Male	Mean Length	564	583	587
		Standard Error	3.6	2.5	6.1
		Sample Size	56	135	11

Appendix F.1. Yukon River District 1 fall chum salmon subsistence catch composition by age and sex, 1992.

		Brood Year and Age Group ^a				
		1989	1988	1987	1986	Total
		0.2	0.3	0.4	0.5	
Stratum Dates:	7/16–8/24					
Sampling Dates:	7/16–8/24					
Sample Size:	1,288					
Female	Percent of Sample	0.2	26.1	40.2	0.5	67.0
	Number in Catch	8	1,361	2,098	28	3,495
Male	Percent of Sample	0.5	13.4	18.8	0.4	33.0
	Number in Catch	24	697	980	20	1,721
Total ^b	Percent of Sample	0.6	39.4	59.0	0.9	100.0
	Number in Catch	32	2,057	3,078	49	5,216
	Standard Error	11	71	72	14	

^a Age and sex composition is based on Big Eddy and Middle Mouth fall chum salmon test fishing catches combined.

^b Total includes 2,462 fall chum salmon from ADF&G test fish catches.

Appendix F.2. Yukon River District 2 fall chum salmon subsistence catch composition by age and sex, 1992.

		Brood Year and Age Group ^a				
		1989	1988	1987	1986	
		0.2	0.3	0.4	0.5	Total
Stratum Dates:						
Sampling Dates:	7/16–8/24					
Sample Size:		1,288				
Female	Percent of Sample	0.2	26.1	40.2	0.5	67.0
	Number in Catch	11	1,926	2,969	40	4,946
Male	Percent of Sample	0.5	13.4	18.8	0.4	33.0
	Number in Catch	34	986	1,387	29	2,436
Total	Percent of Sample	0.6	39.4	59.0	0.9	100.0
	Number in Catch	46	2,912	4,356	69	7,382
	Standard Error	16	101	101	20	

^a Age and sex composition is based on Big Eddy and Middle Mouth fall chum salmon test fishing catches combined.

Appendix F.3. Yukon River District 3 fall chum salmon subsistence catch composition by age and sex, 1992.

		Brood Year and Age Group ^a				
		1989	1988	1987	1986	Total
		0.2	0.3	0.4	0.5	
Stratum Dates:						
Sampling Dates:	7/16–8/24					
Sample Size:		1,288				
Female	Percent of Sample	0.2	26.1	40.2	0.5	67.0
	Number in Catch	2	389	600	8	1,000
Male	Percent of Sample	0.5	13.4	18.8	0.4	33.0
	Number in Catch	7	199	281	6	493
Total	Percent of Sample	0.6	39.4	59.0	0.9	100.0
	Number in Catch	9	589	881	14	1,493
	Standard Error	3	20	20	4	

^aAge and sex composition is based on Big Eddy and Middle Mouth fall chum salmon test fishing catches combined.

Appendix F.4. Yukon River District 5 fall chum salmon subsistence fish wheel catch composition by age and sex, 1992.

		Brood Year and Age Group				
		1989	1988	1987	1986	Total
		0.2	0.3	0.4	0.5	
Stratum Dates:	8/16–9/23	Fish Wheel				
Sampling Dates:	8/16–9/23					
Sample Size:	1,181					
Female	Percent of Sample	0.8	26.2	22.4	0.3	49.8
	Number in Catch	358	11,103	9,456	143	21,060
Male	Percent of Sample	0.8	20.4	28.1	0.9	50.2
	Number in Catch	322	8,632	11,891	394	21,240
Total ^a	Percent of Sample	1.6	46.7	50.5	1.3	100.0
	Number in Catch	681	19,735	21,347	537	42,300
	Standard Error	155	614	616	138	

^a Gillnet catch (3,401) was not apportioned due to insufficient samples.

Appendix F.5. Yukon River District 6 fall chum salmon commercial and subsistence fish wheel catch composition by age and sex, 1992.

		Brood Year and Age Group				Total
		1989	1988	1987	1986	
		0.2	0.3	0.4	0.5	
Stratum Dates:	8/22–9/20	Fish Wheel ^a				
Sampling Dates:	8/22–9/20					
Sample Size:	600					
Female	Percent of Sample	0.5	29.0	25.2	0.5	55.2
	Number in Catch	215	12,446	10,801	215	23,676
Male	Percent of Sample	0.7	22.0	21.7	0.5	44.8
	Number in Catch	286	9,442	9,299	215	19,241
Total ^b	Percent of Sample	1.2	51.0	46.8	1.0	100.0
	Number in Catch	501	21,888	20,099	429	42,917
	Standard Error	188	877	875	174	

^a Gillnet catch (1,818) was not apportioned due to insufficient samples.

^b Total **does not include** ADF&G test fish catch (1,407).

Appendix F.6. Canadian Yukon River fall chum salmon commercial and subsistence fish wheel catch composition by age, 1992.

		Brood Year and Age Group				
		1989	1988	1987	1986	Total
		0.2	0.3	0.4	0.5	
Stratum Dates:		Fish Wheel				
Sampling Dates:	8/1 – 10/1					
Sample Size:	1,306					
Total	Percent of Sample	0.0	28.7	69.8	1.5	100.0
	Number in Catch	0	2,667	6,479	142	9,288
	Standard Error	0	116	118	32	

^a Age composition is from Canada DFO test fish wheels. Canadian commercial catch is not separated by gear type; therefore, this table assumes the catch is evenly split, e.g., 9,288 each, between the gear types and the above age and sex composition approximates the fish wheel catch. The gillnet catch, also approximately 9,288, is not apportioned due to lack of samples. See Appendix B.3.

Appendix F.7. Length (mm measured from mid-orbit to fork-of-tail) by age and sex of Yukon River fall chum salmon test fishing catches, 1992.

Location	Sex		Brood Year and Age Group			
			1989	1988	1987	1986
			0.2	0.3	0.4	0.5
Big Eddy 6 in (15.2 cm) Set Gillnet	Female	Mean Length	595	586	602	595
		Standard Error	0.0	1.9	1.6	2.9
		Sample Size	1	133	318	3
	Male	Mean Length	567	585	609	583
		Standard Error	20.3	2.9	2.4	18.8
		Sample Size	5	114	192	4
Middle Mouth 6 in (15.2 cm) Set Gillnet	Female	Mean Length	560	581	597	616
		Standard Error	0.0	1.7	2.1	9.7
		Sample Size	1	203	200	4
	Male	Mean Length	575	586	605	605
		Standard Error	0.0	3.7	4.9	0.0
		Sample Size	1	58	50	1

Appendix G.1. Yukon River District 1 coho salmon subsistence catch composition by age and sex, 1992.

		Brood Year and Age Group ^a			Total
		1989	1988	1987	
		1.1	2.1	3.1	
Stratum Dates:	7/19–8/24				
Sampling Dates:	7/19–8/24				
Sample Size:		689			
Female	Percent of Sample	11.3	32.7	1.5	45.4
	Number in Catch	614	1,772	79	2,465
Male	Percent of Sample	10.7	42.4	1.5	54.6
	Number in Catch	583	2,300	79	2,961
Total ^b	Percent of Sample	22.1	75.0	2.9	100.0
	Number in Catch	1,197	4,071	158	5,426
	Standard Error	86	90	35	

^a Age and sex composition is based on Big Eddy and Middle Mouth coho salmon test fishing catches combined.

^b Total includes 2,557 coho salmon from ADF&G test fish catches.

Appendix G.2. Yukon River District 2 coho salmon subsistence catch composition by age and sex, 1992.

		Brood Year and Age Group ^a			
		1989	1988	1987	Total
		1.1	2.1	3.1	
Stratum Dates:					
Sampling Dates:	7/19–8/24				
Sample Size:		689			
Female	Percent of Sample	11.3	32.7	1.5	45.4
	Number in Catch	746	2,151	96	2,992
Male	Percent of Sample	10.7	42.4	1.5	54.6
	Number in Catch	707	2,792	96	3,595
Total	Percent of Sample	22.1	75.0	2.9	100.0
	Number in Catch	1,453	4,943	191	6,587
	Standard Error	104	109	42	

^a Age and sex composition is based on Big Eddy and Middle Mouth coho salmon test fishing catches combined.

Appendix G.3. Yukon River District 3 coho salmon subsistence catch composition by age and sex, 1992.

		Brood Year and Age Group ^a			
		1989	1988	1987	Total
		1.1	2.1	3.1	
Stratum Dates:					
Sampling Dates:	7/19–8/24				
Sample Size:		689			
Female	Percent of Sample	11.3	32.7	1.5	45.4
	Number in Catch	142	409	18	569
Male	Percent of Sample	10.7	42.4	1.5	54.6
	Number in Catch	135	531	18	684
Total	Percent of Sample	22.1	75.0	2.9	100.0
	Number in Catch	276	940	36	1,253
	Standard Error	20	21	8	

^a Age and sex composition is based on Big Eddy and Middle Mouth coho salmon test fishing catches combined.

Appendix G.4. Yukon River District 6 coho salmon commercial and subsistence combined fish wheel catch composition by age and sex, 1992.

		Brood Year and Age Group			
		1989	1988	1987	
		1.1	2.1	3.1	Total
Stratum Dates:	8/29–9/20				
Sampling Dates:	8/29–9/20				
Sample Size:		231			
Female	Percent of Sample	9.5	27.7	0.4	37.7
	Number in Catch	2,432	7,074	111	9,616
Male	Percent of Sample	15.6	46.3	0.4	62.3
	Number in Catch	3,979	11,827	111	15,917
Total ^{a, b}	Percent of Sample	25.1	74.0	0.9	100.0
	Number in Catch	6,411	18,901	221	25,533
	Standard Error	730	738	156	

^a Total includes 1,629 coho salmon from ADF&G test fish wheel.

^b Gillnet catch (1,236) was not apportioned due to insufficient samples.

Appendix G.5. Length (mm measured from mid-orbit to fork-of-tail) by age and sex of Yukon River coho salmon test fishing catches, 1992.

Location	Sex		Brood Year and Age Group		
			1989	1988	1987
			1.1	2.1	3.1
Big Eddy 6 in (15.2 cm) Set Gillnet	Female	Mean Length	578	583	584
		Standard Error	5.6	2.3	9.9
		Sample Size	29	101	6
	Male	Mean Length	559	581	562
		Standard Error	6.5	2.7	21.5
		Sample Size	62	226	11
Middle Mouth 6 in (15.2 cm) Set Gillnet	Female	Mean Length	582	586	558
		Standard Error	3.1	2.2	19.6
		Sample Size	49	124	4
	Male	Mean Length	579	581	593
		Standard Error	5.1	2.4	22.6
		Sample Size	41	167	5
Manley Fish Wheel	Female	Mean Length	576	562	
		Standard Error	10.0	5.8	
		Sample Size	10	22	
	Male	Mean Length	568	556	
		Standard Error	10.4	9.2	
		Sample Size	18	35	