

**AGE, SEX, AND LENGTH OF YUKON RIVER SALMON  
CATCHES AND ESCAPEMENTS, 1994**

By

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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 *O. kisutch* (Walbaum) salmon catches and escapements for the Yukon River in 1994 were summarized. The total harvest (Alaska and Canada combined) was 808,843 salmon. Approximately 53% of the catch was taken commercially with gillnets, fish wheels, and seines. Subsistence gillnet and fish wheel catches comprised 46% of the salmon harvest, and approximately 1% of the catch was taken in the sport fish harvest. Catches of summer chum salmon comprised 49% of the salmon harvest. Chinook salmon age composition had a strong age-1.3 class contributing 47% of the catch. Summer chum salmon harvest had runs primarily composed of age 0.3 (51%). Subsistence fall chum and coho salmon catch comprised 78% and 88% of their respective total harvests.

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



## INTRODUCTION

The Yukon management area in Alaska includes all waters of the Yukon River drainage in Alaska (Figure 1) and coastal waters from Canal Point light, near Cape Stephens, southward to Naskonat Peninsula (Bergstrom et. al. 1996). The Alaska portion of the river is divided for regulatory purposes into six fishing districts, i.e., Districts 1 - 6. There are also fisheries in the Canadian portion of the Yukon River drainage (Figure 2).

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, particularly for chinook salmon, 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 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 1996).

The Yukon River drainage supports major stocks of chinook salmon *Oncorhynchus tshawytscha* (Walbaum), summer and fall 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, however, neither species is harvested by commercial or subsistence fishers to any significant extent. Pink salmon return to lower drainage tributaries and are stronger in even-numbered years, while sockeye salmon are uncommon. 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 and 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 upper portion of the drainage. Coho salmon enter the Yukon River from late July through September, and spawn in numerous tributaries, but distribution and abundance is not well monitored.

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, 2 and 4. 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. A special harvest for summer chum salmon allowed the use of seines on the Anvik River. Chinook and fall chum salmon are also commercially harvested in a predominantly gillnet fishery near Dawson, Yukon Territory (Figure 2), although 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 fishery (Wilson 1994) and the domestic fishery are

subsistence type fisheries. The Yukon Area annual management report for 1994 (Bergstrom et. al. 1996) includes a complete description of the Yukon Area and its fisheries.

Most commercial fishing occurs in the lower 320 km (200 mi.) of the river, where the harvest consists of mixed species and stocks of salmon bound for spawning areas throughout the Yukon River drainage. The Alaska Department of Fish and Game (ADF&G), Department of Fisheries and Oceans, Canada (DFO), and other government agencies and regional organizations 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 length data; (3) assessing the magnitude of spawning escapements by aerial and ground surveys, hydroacoustic counters, weirs, towers, tagging studies, and the Whitehorse Dam fishpass; and (4) sampling major spawning escapements for age, sex, and length data.

Between 1969 and 1981 Yukon River salmon age, sex, and length 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 length have been reported by McBride, Hamner, and Buklis (1983), by Buklis and Wilcock (1984, 1985, and 1986), by Buklis (1987), by Wilcock (1989), by Wilcock and Schneiderhan (1990), by Schneiderhan (1994a and 1994b), and by Menard (1995).

The purpose of this report is to present all 1994 Yukon River drainage salmon catches and escapements and to relate them to age, sex, and length (ASL) data wherever appropriate. This report summarizes Yukon River salmon commercial and subsistence harvests in numbers of fish by age and sex for each fishing district, where possible. Percent age composition is presented for sampled escapements as well as for commercial and subsistence harvests.

As previously mentioned, a multifaceted stock analysis of Yukon River chinook salmon is performed annually to assign chinook harvests to three runs of origin, e.g., Lower Yukon Run, Middle Yukon Run, and Upper Yukon Run. The stock analysis is partially based on chinook data also 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 analysis, age composition ratio analysis, and geographic analysis. A complete treatment of the chinook stock analysis for 1994 may be found in Schneiderhan (1996).

## METHODS

### *Quantifying Catch and Escapement*

Harvest and escapement data presented in this report unless noted otherwise were obtained from the Yukon Area annual management report for 1994 (Bergstrom et. al. 1996). Salmon sport fishing harvests are very small in the Yukon River drainage relative to commercial and subsistence harvests. Estimates of sport fishing harvests in 1994 for the Alaska portion of the Yukon River drainage were obtained from Howe et. al. (1995). Sport fish harvest estimates for 1994 in Alaska and Canada are listed separately.

All Yukon Territory catch data were obtained from DFO as reported in the December 1994, United States/Canada Yukon River Joint Technical Committee report (JTC 1994), and from updated verbal reports (I. Boyce, Department of Fisheries and Oceans, Canada, Whitehorse, personal communication). No data was available concerning 1994 Canadian harvest proportions by gillnet and fish wheel gear types; however, a subjective estimate assigns a small portion of the 1994 chinook harvest and more than 25% of the mainstem Yukon River fall chum commercial harvest to fish wheel gear (JTC 1994). For purposes of this report, the Canadian chinook harvest is attributed to gillnets while the mainstem Yukon River fall chum harvest is assigned 75% to gillnets and 25% to fish wheels.

### **Subsistence**

Drainage-wide subsistence harvests were primarily estimated through mail-out catch calendars and household interviews. For the purposes of this report, personal use harvests were included in the subsistence harvest summaries. The primary gear used to harvest subsistence fish in Districts 1, 2, and 3 was gillnets. Subsistence harvests by other gear types were negligible. Therefore, the subsistence age and sex composition was assumed to be the same as the age and sex composition from the appropriate commercial fishery. Since there were no commercial fisheries during the fall season on the Lower Yukon River, and the subsistence fisheries were not sampled, test fishery samples were used to estimate age and sex composition of subsistence fishery harvests. Usage patterns and differential catch ratios of subsistence gear types used to harvest salmon were not fully documented for the Upper Yukon Area, i.e., 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 harvest by gear type for each district where appropriate. In the chinook and summer chum salmon fisheries commercial catch samples were used to apportion the catch. Subsistence catch samples were used if available. In District 5 summer chum salmon were apportioned from catch

samples in District 4 taken above the confluence of the Anvik River. Since no commercial fall fishery occurred in District 4, and subsistence samples were not collected, pooled samples from the Districts 5 and 6 subsistence fisheries were used to apportion the subsistence fall chum salmon catch in District 4. In District 6 insufficient samples of the fall chum salmon catch were collected. In Districts 4, 5, and 6 there were no coho salmon catch samples collected, and the age and sex composition was not estimated for coho harvests. In District 6 escapement samples were combined with subsistence catch samples to apportion the fall chum fish wheel harvest, while only coho escapement samples were available to apportion coho salmon fish wheel harvests.

## **Commercial**

Alaskan commercial catch data were compiled by the Commercial Fisheries Management and Development Division for each management district and were based on computer tabulations of harvest receipts (fish tickets) which documented the volume of sales from fishers to processors. Commercial harvests in districts where ADF&G operated test fishing projects include district test fishing harvests which were sold to processors by project personnel on behalf of the Department (Bergstrom et. al. 1996). The District 4 summer chum salmon commercial catch included an estimate of unsold males that were a byproduct of the commercial summer chum salmon roe fishery in the district. It was assumed that most of these fish were used for subsistence purposes.

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 harvest separately by period. A summation of fish by age and sex from each period also provided a combined season age and sex composition which is weighted by period harvest.

District 2 commercial catch samples were obtained in commercial periods from fish delivered to processors in the district. District 3 harvests were not sampled except inadvertently in District 2 where District 3 fish were sometimes delivered for sale. The District 3 season harvest was assumed to have the same age and sex composition as the District 2 harvest which occurred over the same time period.

Districts 4 and 5 commercial catch samples were obtained from fish wheel and gillnet catches. Estimated subsistence harvests in those districts combined with the commercial harvests were apportioned by gear type based upon commercial samples. In District 6 commercial and subsistence catch samples were obtained from fish caught in fish wheels. Catches from fish wheels were apportioned using the resulting sample age and sex composition.

The estimated number of male and female summer chum salmon harvested in the Districts 4, 5, and 6 roe fisheries has been termed "commercially related". The estimated District 4 commercially related harvest was calculated by dividing the harvested roe weight by estimated pounds of roe per female to

yield the number of females. The number of females was then divided by the estimated percentage of females in the catch to yield the estimated total commercially related harvest. There were ten pounds of chinook salmon roe sold in District 5, which was added to the district harvest as five fish. In District 6 the estimated harvest was the number of fish sold in the round plus the estimated number of females harvested to produce the roe sold. To estimate harvests from roe sold, in Districts 4 and 6, the average number of pounds of roe per female and the percentage of females were obtained from catch samples during each fishing period (Bergstrom et. al. 1996).

No Canadian commercial catch samples were taken, and no apportionment was possible.

### **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. Chinook and summer chum salmon escapement to the East Fork Andreafsky River (Tobin and Harper 1995), and to the Gisasa River (Melegari and Wiswar 1995), were enumerated using resistance board weirs.
2. Summer chum salmon escapement to the Anvik River (Sandone 1995a) and fall chum salmon escapement to the Sheenjok River (Bergstrom et. al. 1996) were estimated by ADF&G using shore-based sonar equipment.
3. Fall chum salmon escapement to the Fishing Branch River in Canada was enumerated by DFO using a weir (JTC 1994).
4. 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 1994).
5. Fall chum salmon escapement to the Toklat and Delta Rivers was estimated by ADF&G from ground surveys and stream residency time expansion factors (Bergstrom et. al. 1996).
6. A hydroacoustic counting site was operated by ADF&G on the mainstem Yukon River at river mile 123 near Pilot Station to obtain salmon run estimates by species. A sonar project was initiated on the Toklat River for the fall season and provided preliminary information (Bergstrom et. al. 1996).

7. A Kaltag River counting-tower project was funded by Alaska Cooperative Extension 4-H Program, and partially funded by Bering Sea Fishermen's Association (Sandone 1995b).
8. A counting tower was operated on the Nulato River (Sandone 1995b) by ADF&G, Bering Sea Fishermen's Association (BSFA), and Tanana Chiefs Conference, Inc. (TCC).
9. Counting towers were used by ADF&G on the Chena and Salcha Rivers to obtain spawning escapement estimates of chinook and summer chum salmon (Evenson 1995).
10. A chinook and fall chum salmon tag and recapture study was conducted by DFO immediately upstream from the U.S.-Canada border to obtain population estimates for the Canadian portion of the drainage, excluding the Porcupine River (JTC 1994).

Indices of relative abundance are presented 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 fish sampled from each fishery and escapement were also tabulated. These data constitute the primary biological information necessary to manage Yukon River salmon fishery harvests and monitor the status of spawning stocks.

#### *Age, Sex, and Length Determination*

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 Districts 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:

$$C_{ij} = C_i P_{ij},$$

$$V[C_{ij}] = \frac{(C_i)^2 P_{ij} (1 - P_{ij})}{N_i - 1}; \text{ and}$$

$$C_j = \sum_{i=1}^r C_{ij},$$

$$V[C_j] = \sum_{t=1}^T V[C_{jt}]$$

where

- $C_{jt}$  = estimated number of fish of age  $j$  in stratum  $t$ ,
- $C_t$  = number of fish caught in stratum,  $t$ ,
- $P_{jt}$  = proportion of sample in stratum  $t$  of age  $j$ ,
- $N_t$  = number of samples during 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 harvest estimates were categorized by age and sex, escapement sample data was simply presented along with escapement estimates where available.

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).

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 harvests 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.

Lengths were measured from mid-orbit to fork-of-tail to the nearest 5 millimeters. 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 harvests on the lower Yukon River. Estimates of ASL statistics were derived from the commercial catch samples in that district or in neighboring districts. A number of catch samples were taken from subsistence harvests on the upper Yukon River. Estimates

of ASL statistics where no samples were taken were derived from commercial sample data from the same gear type in the same or neighboring districts where appropriate.

## **Commercial**

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 harvests were not sampled. The majority of the commercial catch samples were collected in Districts 1, 2, 4, and 6.

## **Escapement**

An attempt was made to sample the major chinook and chum salmon spawning populations. Most escapement data were collected from carcasses, although live chum salmon were captured with beach seines at the Anvik, Nulato, and Sheenjok Rivers, and by weir trap on the East Fork Andreafsky and Gisasa Rivers. Fish spears were also used to capture live, but spawned out, chinook salmon on Anvik, Chena, and Salcha Rivers. In Canada chinook salmon were sampled at test fish wheels located near the U.S.-Canada border.

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

## RESULTS

### *Catches and Escapements*

#### **Subsistence**

The Yukon River subsistence harvest for Alaska and Canada totaled 63,453 chinook, 132,510 summer chum, 131,191 fall chum, and 44,926 coho salmon in 1994 (Table 1). The chinook harvest was 5% above the recent 5-year, 1989-1993, average of 60,332 fish. The summer chum harvest was 4% above the 1989-1993 average of 127,314 fish. The fall chum subsistence harvest was 12% below the 1989-1993 average of 148,698 fish. The coho subsistence harvest was 15% above the 1989-1993 average of 39,060 fish.

During 1994, the largest chinook and fall chum salmon subsistence harvests occurred in District 5, the largest summer chum salmon subsistence harvest occurred in District 1, and the largest coho salmon subsistence harvest occurred in District 4. Gillnets accounted for the majority of the chinook and summer chum subsistence harvests. The fall chum and coho salmon subsistence harvests were not segregated by gear type in Districts 4-6, but the majority were believed to be harvested in fish wheels, while all fall chum and coho subsistence harvests in Districts 1-3 were assigned to gillnets.

#### **Sport**

Sport fish harvest for the Alaska portion of the Yukon River drainage was 2,281 chinook, 350 chum, and 1,893 coho salmon (Howe et. al. 1995). The sport fish harvest was not segregated by summer and fall chum and for this report the sport fish chum harvest was designated as summer chum salmon. Canada sport fish harvest was estimated at 300 chinook salmon (JTC 1994).

#### **Commercial**

Combined Alaska and Canada commercial harvests, including sales of ADF&G test fishing catches, totaled 127,499 chinook, 261,953 summer chum, 38,034 fall chum, and 4,453 coho salmon in 1994 (Table 1). The largest commercial harvest of chinook occurred in District 1, and the largest commercial harvest of summer chum salmon occurred in District 4. The fall chum salmon commercial harvest occurred in Districts 5 and 6, and in Canada. The coho salmon commercial harvest, with the exception of two fish harvested in Canada, took place entirely in District 6.

The total chinook salmon commercial harvest was 9% above the recent 5-year, 1989-93, average of 116,446 fish. Compared to 1993, the chinook commercial harvest increased in all districts, except District 3. The summer chum harvest was 61% below the recent 5-year average of 667,671 fish. Limited fishing time and only one restricted mesh (6 inch or less) opening, resulted in a reduced summer chum harvest, compared to 1993, of approximately 38,000 fish in the lower Yukon River. The greater summer chum salmon harvest overall, when compared to 1993 harvest levels, was due to the increased harvest in the upper Yukon River, which had increased harvests of 128,650 (299%) and 27,729 (748%) fish in Districts 4 and 6 respectively. The fall fishery was closed again in Districts 1 - 4 in 1994, but there were openings in Districts 5 and 6, and in Canada. The 1994 fall chum harvest was 77% below the recent 5-year average of 165,348 fish. However, the Canadian harvest of 30,035 fall chum salmon was 46% above the recent 5-year average of 20,566 fish. There was no commercial harvest of coho salmon in 1993 in the Yukon River drainage, and the 1994 coho harvest was 91% below the 1989-93 average of 50,339 fish. Likewise, a comparison of the 1994 District 6 coho harvest, where the only appreciable harvest of coho salmon occurred, shows the harvest 59% below the recent 5-year average of 10,925 fish. The low coho harvest was the result of the reduced fishing time in 1994 compared to the recent 5-year average.

Fishers in the Alaska portion of the drainage received an estimated 4.8 million dollars for their catch in 1994, approximately 44% below the 1989-93 average (Bergstrom et. al. 1996). Commercial harvest 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 harvest (Appendix B).

## **Escapements**

Interim escapement goals have been established by ADF&G for several Yukon River salmon spawning streams or areas (Bergstrom et. al. 1996). Most escapement objectives for chinook and summer chum salmon are based on historical aerial survey indices of abundance, and are subject to reevaluation as more data becomes available. Escapement goals have also been established by the U.S./Canada Yukon River JTC for chinook and fall chum salmon in Canada. Yukon River salmon spawning escapement index counts and population estimates for all areas monitored in 1994 are presented in Table 2.

Due to both fiscal and personnel assistance from several agencies and organizations, escapement studies were expanded in 1994. Escapement projects on the East Fork Andreafsky, Gisasa, and Nulato Rivers had delayed starting dates resulting in conservative escapement estimates. On the East Fork Andreafsky River high water delayed weir installation for two weeks (Tobin and Harper 1995), and construction and logistics delayed installation of the Gisasa River weir by approximately three weeks (Melegari and Wiswar 1995). On the Nulato River poor visibility, resulting from high, turbid river water, prohibited the counting of salmon for the first nine days of tower operation and interfered with counting on six separate days during the operational period (Sandone 1995b). Daily sonar, weir, tower, and fishpass salmon escapement counts were tabulated in Appendix C.

In general, aerial survey conditions were poor throughout most of the western portions of Interior Alaska from mid-July through early August, but conditions were fair throughout the Tanana River valley during that time period. During the fall season conditions worsened in western Interior Alaska and aerial surveys were confined to the Tanana River drainage (Bergstrom et. al. 1996). Aerial survey conditions in Canada ranged from poor to excellent.

### ***Chinook.***

Chinook salmon spawn in tributary streams throughout the Yukon River drainage. Chinook salmon escapement objectives have been established for the East Fork Andreafsky (>1,500), West Fork Andreafsky (>1,400), Anvik (>1,300 entire drainage or >500 Yellow River to McDonald Creek), North Fork Nulato (>800), South Fork Nulato (>500), Gisasa (>600), Chena (>1,700), and Salcha (>2,500) Rivers (Bergstrom et. al. 1996). These escapement goals are based upon aerial survey index counts which do not represent total escapement. Escapement goals were believed to have been achieved for all eight streams (Bergstrom et. al. 1996). In addition to aerial counts, escapement counts to lower Yukon River tributaries were obtained on the East Fork Andreafsky (7,801), Gisasa (2,888), and Nulato (1,795) Rivers. Also, 1994 spawning populations to the Chena (11,877) and Salcha (18,399) Rivers were estimated by visual counting projects at the Moose Creek Dam on the Chena River and at the Richardson Highway Bridge on the Salcha River.

Chinook salmon escapement in Canada, which is the estimated border passage minus the Canadian catch, was 25,890 fish, and was the fifth highest since inception of the tagging program in 1982. Numerous index tributary escapements were above 1993 escapements, and the recent 5-year, 1989-93, average.

### ***Summer Chum.***

Summer chum salmon spawn primarily in tributaries of the lower Yukon, the Koyukuk, and the Tanana Rivers. Escapement objectives have been established for the East Fork Andreafsky (>109,000), West Fork Andreafsky (>116,000), Anvik (>500,000), North Fork Nulato (>53,000), Hogatza (Clear Creek at >8,000 and Caribou Creek at >9,000), and Salcha (>3,500) Rivers (Bergstrom et. al. 1996). Escapements throughout the drainage were judged to be good. The East Fork Andreafsky River had a passage of 201,981 through the weir. The Anvik River escapement of 1,124,689 summer chum salmon was 56% of the total passage estimate of summer chum salmon at Pilot Station on the mainstem Yukon River (Bergstrom et. al. 1996). The weir count for the Gisasa River was 51,116 summer chum salmon. Escapement of summer chum salmon past the towers on the Kaltag and Nulato Rivers were 47,295 and 148,762, respectively. Abundance estimates from tower counts were 39,450 summer chum salmon for the Salcha River and 9,984 for the Chena River. The estimates for the Salcha and Chena Rivers were above 1993 tower count estimates by 579% and 85% respectively.

### ***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. Minimum escapement population objectives have been established for the Sheenjek (>64,000), Toklat (>33,000), and Delta (>11,000) Rivers in Alaska, and for the Fishing Branch River (50,000-120,000) and mainstem Yukon River (>80,000) in Canada (Bergstrom et. al. 1996).

Escapement to all five of these spawning areas were well above minimum objectives. The escapement of 153,013 fish to the Sheenjek was 139% above the minimum goal. Toklat River (76,057) and Delta River (23,777) escapements were above the minimum goals by 130% and 116%, respectively. The interim minimum escapement goal for the Fishing Branch River was achieved for the first time since 1985 and the second time since 1981 (Bergstrom et. al. 1996). The weir passage of 65,247 was 30% above the minimum goal. The DFO spawning escapement estimate was 98,358 fall chum salmon for the mainstem Yukon River drainage in Canada, excluding the Porcupine River drainage. The DFO estimate is the highest on record since the inception of the mark and recapture program in 1982, and as part of the twelve year rebuilding plan for the 1990 brood year, was 49% above the minimum 1994 targeted level of 65,900 fall chum spawners (Bergstrom et. al. 1996).

### ***Coho.***

Coho salmon spawning occurs widely throughout the Yukon River drainage, however most information is available for the Tanana River drainage. Coho escapement counts are generally obtained in conjunction with fall chum escapement surveys; therefore, a comprehensive data base does not exist. The only minimum escapement objective established for coho salmon thus far is 9,000 fish for the Delta Clearwater River.

Coho escapements in 1994 were very good. Escapement to the Delta Clearwater River was 62,675 fish, the highest on record, 476% above the 1993 escapement estimate of 10,875 fish, and 440% above the recent 5-year, 1989-1993, average of 11,613 fish. The estimate of 3,425 coho salmon observed in the outlet to Clearwater Lake was the third highest estimate on record for that area. Surveys in other portions of the Tanana River drainage were well above the recent 5-year average (Bergstrom et. al. 1996).

## ***Age, Sex, and Length Composition***

### **Chinook**

Age composition of the Yukon River harvest of chinook salmon in 1994 was estimated to be approximately 47% age 1.3, 44% age 1.4, 4% age 1.2, and 4% age 1.5, with several other age classes

present in smaller proportions. Age and sex composition for 87% of the total drainage chinook harvest was estimated (Table 3, Appendix D). Females accounted for an estimated 43% of the total river harvest. The 1994 age class distribution mimics what was estimated to have occurred in 1991, with a strong age-1.3 class (nonstatistical comparison, NSC). In 1992 this resulted in a strong contribution of age-1.4 fish (68%) in the harvest. Likewise, a strong contribution of age-1.4 fish would be expected for 1995.

Districts 1 and 2 combined commercial and subsistence gillnet catches comprised 63% of the total river harvest. Age and sex composition differed little between periods where unrestricted mesh size was allowed and the one period where mesh size was restricted to 6-in (15.2 cm) maximum in District 1 (Appendix D). The percentage of females caught during unrestricted mesh periods in both districts ranged from 38% to 56% with an average of 52% for combined unrestricted gear. The percentage of females landed during one period of restricted mesh fishing in District 1 was 50%. There were no mesh size restricted periods in District 2. Age-1.4 fish, which have comprised 48% to 73% of District 1 and 2 harvests in recent years, were the most abundant age group, and comprised 49% and 53% of the season harvest for each district, respectively. The percentage of age-1.4 fish taken in restricted mesh size gear was 40% in District 1, and ranging from 43% to 58% in unrestricted periods. In District 2 periods, the percentage of age-1.4 fish ranged from 51% to 56% by period.

Ten adipose fin-clipped fish were collected from commercial catch sampling of 3,320 chinook salmon in Districts 1 and 2, with eight coded wire tags verified, all from the Whitehorse Hatchery. Three adipose fin-clipped chinook salmon were collected from District 1 (Big Eddy) test nets, with one verified tag from the Whitehorse Hatchery. In District 4, five fin-clipped chinook salmon were collected during commercial catch sampling with two verified tags from the Whitehorse Hatchery. One possible problem with the District 4 samples was that the sample fish heads taken were cut too close to the nares, resulting in possible tag loss (D. Petree, Alaska Department of Fish and Game, Juneau, personal communication). All scale samples from coded wire tagged fish did not have a fresh water annulus.

Subsistence harvests in Districts 1, 2, and 3 were not sampled. Subsistence fisheries in those locations utilize the same gear types, but occur mostly before the commercial fisheries, therefore, age and sex frequencies of samples from the first commercial periods in Districts 1 and 2 were applied to the subsistence harvests (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 different age and sex compositions were obtained from gillnet and fish wheel catch samples. A chi-squared test for independence showed that relative proportions of age-1.2, -1.3, and -1.4 fish changed with gear type in a statistically significant manner ( $\chi^2$ ,  $P < 0.0001$ ). District 4 fish wheel samples were 8% age 1.2, 65% age 1.3, and 25% age 1.4, while gillnet samples were composed of 1% age 1.2, 46% age 1.3, and 50% age 1.4. Likewise, District 5 fish wheel samples were 18% age 1.2, 61% age 1.3, and 20% age 1.4, while gillnet samples were 2% age 1.2, 49% age 1.3, and 40%

age 1.4. The District 4 fish wheel catch sample was 82% male while the gillnet catch sample was 50% male, and the District 5 fish wheel catch sample was 85% male while the gillnet catch sample was 67% male. Similar trends were seen in the District 6 fish wheel catch samples with 14% age 1.2, 43% age 1.3, and 35% age 1.4, and an overall catch sample of 74% male. No commercial or subsistence harvests were sampled in Canada.

Mean size of male chinook salmon in the District 1 and 2 commercial gillnet catch ranged from 563 mm for age-1.2 fish to 955 mm for age-1.5 fish. Female chinook salmon ranged from 555 mm for a single age-1.2 fish to 900 mm for age-1.5 fish (Table 4). The size of male chinook salmon in the combined District 6 commercial and subsistence fish wheel catch ranged from 379 mm for age-1.1 fish to 839 mm for age-1.4 fish; females ranged from 799 mm for age-1.3 fish to 896 mm for age-1.5 fish. Other catch samples exhibited size frequencies within the range of the above samples, except for a single age-1.5 male chinook salmon (980 mm) from the District 5 gillnet catch.

Age, sex, and length composition of chinook salmon test fishing catch samples collected in 1994 is presented in Appendix D.13. The test fishing catch samples exhibited length frequencies within the range of the commercial and subsistence samples.

Samples were collected from chinook salmon in tributaries of the Lower and Middle Yukon River. Age and sex composition of the chinook escapements (Table 5) indicate that age-1.3 fish were more abundant in lower Yukon River spawning locations than in middle Yukon River spawning locations. Age-1.4 fish were more abundant in middle Yukon River spawning locations. This age composition is reversed from 1993, when age-1.4 fish were more abundant in the sampled lower Yukon River tributaries and age-1.3 fish were more abundant in sampled middle Yukon River tributaries. Also, for all tributaries sampled, age-1.2 fish were a smaller proportion of the sample compared to 1993 sample data (NSC). In 1993 all tributaries sampled had greater than 13% age-1.2 fish while in 1994 all tributaries had 8% or less age-1.2 fish sampled. In 1994 age -1.3 fish comprised 53% of the samples for the East Fork Andreafsky River and 52% for the Anvik River. Age 1.4 was next most abundant with from 35% for the East Fork Andreafsky River and 39% for the Anvik River. Age-1.2 fish accounted for 3% for the Anvik River and 8% for the East Fork Andreafsky River. Age-1.5 fish contribution was 4% for the East Fork Andreafsky River and 5% for the Anvik River. Other age classes contributed less than 1% for each sample. For the middle Yukon River tributaries sampled (Chena and Salcha Rivers) the abundance of age-1.2, -1.4, and -1.5 fish were approximately equal on both rivers. For middle Yukon River escapements age-1.4 fish were 51% for the Chena River and 52% for the Salcha River. For the Chena River age 1.2 was 3%, age 1.3 was 44%, and age 1.5 was 3%, while for the Salcha River age 1.2 was 3%, age 1.3 was 39% and age 1.5 was 5%. Other age classes contributed less than 1% for each river.

Escapement samples were not taken in the Canadian portion of the drainage. DFO fish wheel catch age composition was similar to Alaska fish wheel harvests (NSC). Age composition for Sheep Rock and White Rock fish wheels combined was 11% age 1.2, 57% age 1.3, and 25% age 1.4. Other age classes contributed less than 4% to the age composition.

The contribution of female chinook salmon in Yukon River escapement samples varied from 36% in the East Fork Andreafsky River to 45% in the Chena River.

The average size of male chinook salmon in Yukon River escapements ranged from 397 mm for age-1.1 fish from the Salcha River to 1,045 mm for age-1.5 fish from the Chena River (Table 6). Females ranged from 609 mm for age-1.2 fish from the Salcha River to 930 mm for age-1.5 fish from the East Fork Andreafsky River.

### **Summer Chum**

Age and sex composition of summer chum salmon was estimated for approximately 99% of the Yukon River harvest (Table 7). Samples from the District 1 commercial gillnet fishery were used to estimate the District 2 subsistence and District 3 harvests since District 1 was the only district to have both unrestricted and restricted (6 inch or smaller) mesh opening of the lower districts, and most subsistence chum catches were thought to be in smaller mesh nets (D. Bergstrom., Alaska Department of Fish and Game, Anchorage, personal communication). Since the commercial harvest was only 35 fish in District 3, age and sex composition was estimated with the subsistence harvest. Age and sex composition estimates for commercial and subsistence gillnet and fish wheel harvests in Districts 4 and 6 were from pooled samples specific to each gear type and district. In addition, sufficient samples for apportionment were available from the seine catches in the Anvik River special harvest area. The harvest estimate for District 5 gillnet and fish wheel harvests were based on District 4 samples taken above the confluence of the Anvik River. The number of summer chum salmon harvested by age, sex, and fishery is presented in Table 7, and length data is presented in Table 8, while age and sex composition for each fishery are presented by sample period in Appendix E. Age, sex, and length composition of test fishing samples is shown in Appendix E.10.

Estimated age and sex composition of the total drainage harvest had a majority of age-0.3 fish. The percentage of age-0.3 fish was 51%, followed by ages 0.4 (47%), 0.5 (2%), 0.2 (>1%), and 0.6 (>1%). The total harvest was estimated to be composed of 68% females.

The apportionment of samples from the commercial gillnet fishery in Districts 1 and 2 (Appendix E) was comprised of more age-0.4 fish (59% each) while all upriver fisheries sampled, whether gillnet or fish wheel, had a majority of age-0.3 fish. In all districts sampled females were in the majority. The samples from the Districts 1 and 2 commercial gillnet fisheries were 53% and 51% female, respectively. District 4 had the highest percentage of females for both gillnet harvest (72%) and fish wheel harvest (77%).

A temporal trend in age composition (NSC) has been apparent for the District 1 commercial gillnet fishery. As the season progresses, age-0.4 fish decline in relative abundance, while age-0.3 fish

increase. This trend was apparent during the 1980s when age-0.3 fish often were the majority of the harvest throughout the season. However, this trend has not been as pronounced in the 1990s.

Escapement age, sex, and length data for summer chum salmon were collected from several spawning locations in 1994 (Tables 9, 10). Samples from the Anvik and Nulato Rivers were collected by beach seine gear throughout the majority of the spawning migration, and the age composition was approximately the same for each river (NSC). Samples at the East Fork Andreafsky River were captured in a weir trap throughout the majority of the spawning migration. Age 0.4 comprised the majority of fish sampled at the Anvik (62%) and Nulato (64%) Rivers, but comprised only 30% for the East Fork Andreafsky River. The largest age class on the East Fork Andreafsky River was age 0.3, which was 69% of the sample. Age 0.3 was the second largest age class on the Anvik (37%) and Nulato (35%) Rivers. Sex composition ranged from 48% female for the Nulato River to 65% female for the East Fork Andreafsky River.

For a number of years fish from the Andreafsky River (East Fork and West Fork) have been slightly smaller in size than for other escapements, e.g., Anvik, Nulato, Chena, and Salcha Rivers. This pattern was again seen in 1994, with the mean length of fish, by age and sex, from the East Fork Andreafsky River averaging approximately 20 mm less than Anvik River and Nulato River fish. For the East Fork Andreafsky River the mean length of age-0.3 females was 512 mm while the mean length was 536 mm and 535 mm for the Anvik and Nulato Rivers, respectively. Age-0.4 females averaged 528 mm from the East Fork Andreafsky River, but were noticeably larger on the Anvik (551 mm) and Nulato (554 mm) Rivers. The mean length for age-0.3 males was 548 mm on the East Fork Andreafsky River, and age-0.4 males averaged 568 mm. On the Anvik and Nulato Rivers age-0.3 males averaged 566 mm and 568 mm, respectively, and age-0.4 males averaged 585 mm for both rivers. Similar length differences were seen for the other age classes. No samples were taken from the Chena or Salcha Rivers in 1994.

## **Fall Chum**

The number of fall chum salmon harvested by age, sex, and fishery is presented in Table 11. Age and sex composition for each district fishery and test fishing sample is presented in Appendix F. Age and sex composition for 49% of the total drainage fall chum harvest was estimated. The harvest on the Lower Yukon River was apportioned from catches sampled from ADF&G test nets near the river mouth (Appendix F.6). The District 4 subsistence fish wheel catch was apportioned using subsistence fish wheel catch sample data from District 5 and 6. The District 5 commercial and subsistence fish wheel catch was apportioned with samples from the subsistence fish wheels in District 5. Insufficient samples were collected from District 6, and no catch samples were available from Canada.

Age and sex composition from lower Yukon River test fishing catches was comprised of 59% age 0.3, and 40% age 0.4, with females being the majority of each age group. Overall, females comprised 57% of test net catches. Although the age composition is similar to 1993 it is difficult to compare the data

since in 1994 the test fishing was discontinued prior to the normal termination date, therefore the later component of the run was not sampled for age composition (Bergstrom et. al. 1996). Age and sex composition from the District 5 subsistence fish wheel samples was 68% age 0.3 and 30% age 0.4, with females being 52% of the samples overall. Mean size of male fall chum salmon in the District 1 test fishing catch sample ranged from 548 mm for age-0.2 fish to 620 mm for age-0.5 fish. Female fall chum salmon ranged from 579 mm for age-0.3 fish to 589 mm for age-0.4 fish. The size of male fall chum salmon in the District 5 subsistence fish wheel catch ranged from 578 mm for age-0.2 fish to 612 mm for age-0.4 fish; females ranged from 535 mm age-0.2 fish to 578 mm for age-0.4 fish (Table 12). Other catch samples exhibited size frequencies within the range of the above samples.

Age, sex, and length data were collected from fall chum escapements in the Toklat, Delta, and Sheenjek Rivers, and Bluff Cabin Slough of the Tanana River (Tables 13, 14). The Toklat River had the highest percentage (71%) of age 0.3, but only females were sampled. Age compositions for the other rivers ranged from 37% age 0.3 for the Delta River to 56% age 0.3 for the Sheenjek River, while age 0.4 was 41% for the Sheenjek River, 48% for Bluff Cabin Slough, and 60% for the Delta River. Sex composition ranged from 44% female for the Delta River to 53% female for Bluff Cabin Slough.

For all samples, mean length of males was larger than females of all ages, except for age-0.2 fish from Bluff Cabin Slough. Mean length of male fall chum salmon ranged from 530 mm for age-0.2 fish on the Delta River to 650 mm for age-0.5 fish on the Sheenjek River. Female fall chum salmon ranged from 522 mm for age-0.2 fish on the Toklat River to 585 mm for age-0.4 fish on the Sheenjek River. Other samples exhibited size frequencies within the range of the above samples.

## **Coho**

Catch by age and sex was estimated for 14% of the total coho harvest in 1994 (Table 15). Since there were no commercial coho harvests in Districts 1-5, and the subsistence fisheries were not sampled, test fishery samples were used to estimate age and sex composition of subsistence fishery harvests, where feasible. The harvest in the Lower Yukon River was apportioned from Lower Yukon River test fishery samples near the river mouth (Appendix G.4). Escapement samples were collected from the Delta Clearwater River in the Tanana River drainage.

Age-2.1 fish accounted for 76% of the test fishing catches, and the sex composition overall was nearly even with females comprising 48%. Mean length of coho salmon from the test fishing catch samples was similar for all ages and sexes, except for age-3.1 fish. Age composition from the Delta Clearwater River escapement sample also had a majority of age-2.1 fish (67%), and the overall sex composition was 34% female (Table 16). Age composition differed from 1993, when age-1.1 fish comprised 63% of the escapement sample, but was similar to the 1992 escapement sample of 61% age-2.1 fish. The mean length of coho salmon escapement samples was similar for all ages and sexes, but approximately 20 mm less than the test fishing samples (Table 17).

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Table 1. Yukon River commercial and subsistence salmon harvest by district and species, 1994.

District	Chinook			Summer Chum			Fall Chum			Coho		
	Comm.	Subs. <sup>a</sup>	Total	Comm.	Subs. <sup>a</sup>	Total	Comm.	Subs. <sup>a</sup>	Total	Comm.	Subs. <sup>a</sup>	Total
1	63,802	6,654	70,456	45,101	44,753	89,854	--	4,887	4,887	--	3,272	3,272
2	41,762	9,034	50,796	13,312	28,652	41,964	--	4,151	4,151	--	3,881	3,881
3	1,114	5,858	6,972	35	2,339	2,374	--	676	676	--	226	226
Lower Yukon	106,678	21,546	128,224	58,448	75,744	134,192	--	9,714	9,714	--	7,379	7,379
4 <sup>b,c,d</sup>	2,443	10,821	13,264	171,607	33,716	205,323	--	13,511	13,511	--	3,652	3,652
5 <sup>b,e</sup>	3,744	19,628	23,372	464	12,506	12,970	3,630	66,396	70,026	0	4,174	4,174
6 <sup>b</sup>	2,606	2,568	5,174	31,434	10,544	41,978	4,369	33,597	37,966	4,451	29,389	33,840
Upper Yukon	8,793	33,017	41,810	203,505	56,766	260,271	7,999	113,504	121,503	4,451	37,215	41,666
Sport Fish (Alaska)			2,281			350						1,893
U.S. Total <sup>f</sup>	115,471	54,563	172,315	261,953	132,510	394,813	7,999	123,218	131,217	4,451	44,594	50,938
Porcupine	0	428	428	--	--	--	--	2,654	2,654	0	332	332
Mainstem Yukon	12,028	8,462	20,490	--	--	--	30,035	5,319	35,354	2	0	2
Sport Fish (Canada)			300						0			
Canada Total <sup>g</sup>	12,028	8,890	21,218	--	--	--	30,035	7,973	38,008	2	332	334
Yukon Drainage Total	127,499	63,453	193,533	261,953	132,510	394,813	38,034	131,191	169,225	4,453	44,926	51,272

<sup>a</sup> Included in the subsistence harvest column are harvest estimates for the subsistence fisheries in Alaska, and domestic and Aboriginal fisheries in Canada. Total does not include Hooper Bay and Scammon Bay harvest of 825 chinook, 14,903 summer chum, 347 fall chum, and 81 coho salmon.

<sup>b</sup> Roe sales from Districts 4, 5, and 6 have been converted into total fish.

<sup>c</sup> Total includes Innoko River and Koyukuk River subsistence harvests.

<sup>d</sup> Summer chum subsistence catch does not include fish taken during commercial roe fishery used for subsistence.

<sup>e</sup> Total includes Black River and Chandalar River subsistence harvests.

<sup>f</sup> Total harvest includes commercial, subsistence, and sport fisheries, and ADF&G test fish sales.

<sup>g</sup> Total harvest includes commercial, subsistence, and sport fisheries.

Table 2. Yukon River salmon spawning escapement indices and population estimates by species, 1994.

Stream (drainage) *	Date	Survey Rating	Chinook	Summer Chum	Fall Chum	Coho
Andreafsky River						
East Fork	7/24	Incomplete	(300)	--	--	--
Weir count <sup>b</sup>	6/29-8/1	Late start up	7,801	200,981	(Est. 300,000-600,000 Pinks)	
West Fork	7/24	Incomplete	(213)	--	--	--
	Subtotal		7,801	200,981	--	--
Mountain Village Stream	7/24	Poor	57	--	(Many Pink Salmon)	
Yukon River (Pilot Station)						
Main River (Sonar)*	6/4-9/8		(141,000)	(1,997,000)	(407,000)	(191,000)
Anvik River						
Aerial Counts						
Mainstem Yellow Ri-McDonald Cr	7/23	Poor	913	--	--	--
Sonar Estimate	6/19-7/23		--	1,124,689	--	--
	Subtotal		913	1,124,689	--	--
Blackburn Creek <sup>c</sup>	7/20	Good	0	741	(512 Live Pink Salmon)	
Kaltag River						
Tower (4-H & Youth Development)	8/20-7/28		241 <sup>d</sup>	47,295 <sup>d</sup>	--	--
Nulato River						
Tower	6/29-7/23		1,795 <sup>d</sup>	148,762 <sup>d</sup>	--	--
Total Yukon River (downstream of Koyukuk River)			10,807	1,522,488	0	0
Koyukuk River Drainage						
Gisasa River	7/26	Fair	(2,775)	(6,827)	--	--
Weir count <sup>b</sup>	7/11-8/10	Late start up	2,888	51,116	(200 Pink Salmon)	
	Subtotal		2,888	51,116		
Dakli River	7/26	Good	0	19	--	--
Wheeler Creek	7/26	Good	36	25,422	--	--
	Subtotal		36	25,441	--	--
Hogatza River						
Caribou Creek-upper portion (ADF&G)	7/21	Good	0	(271)	--	--
Caribou Creek (aerial) <sup>c</sup>	7/13	Poor	1	2,812	--	--
Bear Creek <sup>b,c</sup>	7/4	Poor	0	8	--	--
Clear Creek <sup>c</sup>	7/13	Good	0	5,228	--	--
Aloha Creek <sup>c</sup>	7/13	Fair	0	207	--	--
	Subtotal		1	8,255	--	--
Henshaw Creek	7/26	Fair	526	2,165	--	--
South Fork Koyukuk River	7/25	Fair	168	10	--	--
Jim River	7/25	Fair	360	314	--	--
	Subtotal		528	324	--	--
Total Koyukuk River			3,979	87,301	0	0
Melozi Hot Springs Creek	7/27	Good	43	3,212	--	--
Total Yukon River (downstream of Tanana River)			14,829	1,612,981	0	0

-Continued-

Table 2. (page 2 of 4)

Stream (drainage) <sup>a</sup>	Date	Survey Rating	Chinook	Summer Chum	Fall Chum	Coho
<b>Lower Tanana River Drainage</b>						
<b>Kantishna River Drainage</b>						
Toklat River (aerial – upstream sonar)	9/27	Poor/Incomplete	--	--	(9,419)	(3)
Toklat River Sonar	8/13–10/4				(64,433 * salmon counts)	
Barton Creek Weir <sup>f</sup>	8/19–10/5		3	1	37	298
Barton Creek (aerial – below weir)	7/28; 9/27	Flyover, Good	417	--	(7)	(699)
Floodplain vic Roadhouse <sup>g</sup>	10/13–18	Fair–Good	--	--	(43,581)	121
Geiger Creek <sup>c</sup>	10/17	Good	--	--	(6,453)	410
Sushana River <sup>c</sup>	10/18	Good	--	--	(21,470)	86
Population Estimate <sup>h</sup>			--	--	76,057	--
	Subtotal		420	1	76,094	915
Bearpaw River	7/28	Good	390	79	--	--
Birch River						
Hult Creek <sup>i</sup>	8/18; 9/23		7	--	200	--
<b>Nenana River Drainage</b>						
(Aerial – immed upstream of Teklanika R)	9/27	Good	--	--	2	1,648
Seventeen Mile Slough	7/28, 10/30	Good, Good	90	226	21	2,909
Lost Slough (east floodplain)	10/30	Good	--	--	5	944
Wood Creek Weir <sup>j</sup>	9/16–27		--	--	--	1,317
June Creek <sup>c</sup>	10/6	Good	--	--	41	432
Panguingue Creek <sup>c</sup>	10/6	Good	--	--	--	50
Lignite Spring <sup>c</sup>	10/6	Good	--	--	1	252
	Subtotal		90	226	70	7,552
Chatanika River	7/31	Fair	372	436	--	--
<b>Chena River</b>						
Mainstem River (aerial)			--	--	--	--
MCD to Middle Fk (aerial/index area)	8/4	Fair – Poor	(1,570)	(1,137)	--	--
Slough #1 (Foot Survey)	8/11	Good	(3)	(427)	--	--
Slough #2 (Foot Survey)	8/11	Good	(11)	(118)	--	--
Slough #3 (Foot Survey)	8/11	Good	0	(120)	--	--
Slough #4 (Foot Survey)	8/11	Good	(3)	(317)	--	--
Population Estimate <sup>k, l</sup>	7/1–8/12		11,877	9,984	--	--
	Subtotal		11,877	9,984	--	--
<b>Salcha River</b>						
Mainstem River (aerial)	7/29; 7/31	Good, Good	(11,823)	(4,916)	--	--
TAPS to Caribou Cr. (index area)	7/29	Good	(11,189)	(4,575)	--	--
Slough #1 (Foot Survey)	8/9	Good	0	(41)	--	--
Slough #2 (Foot Survey)	8/9	Good	(8)	(672)	--	--
Slough #3 (Foot Survey)	8/9	Good	(23)	(1,261)	--	--
Slough #4 (Foot Survey)	8/9	Good	(16)	(2,845)	--	--
Population Estimate <sup>k, l</sup>	7/1–8/12		18,399	39,450	--	--
	Subtotal		18,399	39,450	--	--
<b>Total Lower Tanana River</b>			<b>31,555</b>	<b>50,176</b>	<b>76,364</b>	<b>8,467</b>

--Continued--

Table 2. (page 3 of 4)

Stream (drainage) <sup>a</sup>	Date	Survey Rating	Chinook	Summer Chum	Fall Chum	Coho
<b>Upper Tanana River Drainage</b>						
Richardson Clearwater River <sup>k</sup>	10/26	Good	--	--	(50)	(5,800)
Richardson Clearwater River	11/7	Incomplete	--	--	69	1,913
Mainstem Tanana sloughs						
Slough vic of Silver Fox Lodge	11/7	Fair	--	--	46	28
Open water vic of Little Delta R mo	11/7	Fair	--	--	200	0
Sloughs across from Timber	11/7	Poor	--	--	225	0
Clear Creek (heads near Whitestone) <sup>k</sup>	10/26	Good	--	--	0	850
Tanana Ri channel by Whitestone Farm <sup>k</sup>	10/26	Good	--	--	600	50
Delta River (aerial) <sup>k</sup>						
Foot Survey (peak count)	10/31	Good	--	--	(22,500)	200
Population estimate <sup>m</sup>			--	--	(20,173)	0
South Bank Tanana <sup>k</sup>	10/26	Good	--	--	23,777	--
Goodpaster River	7/31	Fair	1,392	17	12,500	0
Bluff Cabin Slough (BCS) <sup>k</sup>	10/26	Good	--	--	--	--
Bluff Cabin Slough (BCS)	11/7	Fair	--	--	(4,000)	(200)
Bluff Cabin Spring	11/7	Fair	--	--	2,277	16
Clearwater Lake Outlet Slough <sup>k</sup>	10/26	Good	--	--	--	45
Clearwater Lake Outlet	11/7	Fair	--	--	(5,600)	0
Clearwater Lake Outlet <sup>k,p</sup>	10/24	Fair	--	--	944	152
Clearwater Lake and inlets (aerial) <sup>k</sup>	10/24	Good	--	--	25	3,425
					0	1,270
Delta Clearwater River <sup>k,p</sup>	10/24	Fair	--	--	250	62,675
Tributaries (aerial) <sup>k</sup>	10/27		--	--	0	17,565
Onemile Slough-aerial	11/7	Fair	--	--	394	65
Other upper Tanana sloughs from upper end onemile slough to 4 miles upstr.	11/7	Good	--	--	653	1
Total Upper Tanana River			1,392	17	41,960	88,255
Total Tanana River			32,947	50,193	118,324	96,722
Chandalar River			(Flooded Out)			
<b>Porcupine River Drainage</b>						
Black River <sup>i</sup>	10/1		--	--	60	--
Sheenjok River						
Sonar Estimate	8/8-9/28		--	--	153,013 *	--
Fishing Branch River						
Weir Passage <sup>a</sup>	8/26-10/25		--	--	65,247	--
Total Porcupine River			0	0	218,320	0
<b>Yukon River (Eagle)</b>						
Main River HTI Sonar (split beam)			(3rd Year - Developmental)			
Total Alaskan Portion of Drainage			47,776	1,663,174	271,397 <sup>r</sup>	96,722

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Table 2. (page 4 of 4)

Stream (drainage) <sup>a</sup>	Date	Survey Rating	Chinook	Summer Chum	Fall Chum	Coho
<b>Yukon Territory Streams<sup>q</sup></b>						
<b>White River</b>						
Donjek River			--	--	--	--
Kluane River	10/20	Fair	--	--	10,734	--
Tincup Creek	8/23	Poor	101	--	--	--
Koidern River		Flyby	--	--	20	--
	Subtotal		101	--	10,754	--
<b>Pelly River Drainage</b>						
Ross River	8/19	Fair	506	--	--	--
Tatchum Creek <sup>c</sup>	8/22	Fair	477	--	--	--
Little Salmon River	8/16	Good	726	--	--	--
<b>Big Salmon River</b>						
Big Salmon Lake to vicinity Souch Cr	8/25	Excellent	1,764	--	--	--
<b>Teslin River Drainage</b>						
Mainstem vicinity Boswell Cr	11/01	Poor	--	--	209	--
Nisutlin River						
Mainstem (Sidney Cr – 100 mile Cr)	8/25	Good	389	--	--	--
Wolf River (Wolf Lk – Fish Cr)	8/25	Excellent	393	--	--	--
	Subtotal		782	--	209	--
<b>Whitehorse Fishway Counts</b>						
Michie Creek Weir	7/29 – 9/3		1,577 <sup>a</sup>	--	--	--
	8/8 – 9/7		(586)	--	--	--
<b>Mainstem Yukon River</b>						
Tatchum Creek to Ft. Selkirk	10/17	Poor	--	--	1,429	--
Border Passage Estimate <sup>u,w</sup>			(46,680)*	--	(133,712)*	--
	Subtotal		--	--	1,429	--
	Total Yukon Territory (observed)		5,933	--	77,639 <sup>r</sup>	--
	Total Yukon Territory (estimated) <sup>x</sup>		(25,890)*	--	(98,358)*	--
<b>Yukon River Drainage Totals</b>			<b>53,709</b>	<b>1,663,174</b>	<b>77,639</b>	<b>96,722</b>

<sup>a</sup> Estimates are from aerial surveys (peak count) unless otherwise indicated; carcass counts included. Data in parentheses are not included in totals or subtotals.

<sup>b</sup> USFWS estimate.

<sup>c</sup> Foot survey

<sup>d</sup> Numbers represent "net" upstream movement (i.e., upstream minus downstream passage). Projects started late due to high water.

<sup>e</sup> BLM estimate.

<sup>f</sup> An additional 1,500 – 2,000 coho salmon estimated passing the weir site in a 24 hr period, beginning at approximately noon on October 4.

<sup>g</sup> Combination foot and aerial survey.

<sup>h</sup> Population estimate based upon timing of ground surveys of the Toklat Springs area salmon streamlife data.

<sup>i</sup> Survey by Dennis Miller; a long-time aerial salmon survey pilot for CFMDD in Interior Alaska.

<sup>j</sup> Sex composition was 29% females. A total of 144 coho (60 males; 84 females) were used in egg take.

<sup>k</sup> Sport Fish Division estimate.

<sup>l</sup> Population estimate based upon expanded counting tower observations.

<sup>m</sup> Population estimate based upon replicate foot surveys and salmon streamlife data.

<sup>n</sup> Boat survey.

<sup>o</sup> Canada Department of Fisheries and Oceans (DFO) estimate.

<sup>p</sup> Total for Alaskan portion of drainage does not include Fishing Branch River. Total for Yukon Territory includes Fishing Branch River.

<sup>q</sup> Approximately 1,339 of the chinook salmon which returned to the fishway were passed. A total of 78 females and 118 males were taken for hatchery brood stock. An additional 42 fish were culled for coded-wire tags. The number of clipped chinook salmon which returned to the fishway totaled 895, however some clipped fish re-ascended the fishway, and hence, were counted more than once.

<sup>r</sup> Population estimate based upon survey mark and recapture study.

<sup>s</sup> Canadian border passage estimate for Yukon Territory streams excluding the Fishing Branch River. Canadian harvest has not been removed; these are "border" escapement estimates.

<sup>t</sup> Canadian estimated spawning escapement for Yukon Territory streams excluding the Fishing Branch River; from DFO tagging study (border passage estimate minus Canadian harvest).

\* Preliminary

Table 3. Harvest of Yukon River chinook salmon by age, sex, and fishery, 1994.

District	Fishery	Sample Size	Sex	Brood Year and Age Group <sup>a</sup>										Total
				1991		1990		1989		1988		1987		
				1.1	0.3	1.2	0.4	1.3	0.5	1.4	2.3	1.5	2.4	
1	Commercial Gillnet	1,392	Female	0	0	0	0	9,070	0	21,398	0	2,041	103	32,613
			Male	0	33	1,080	0	18,449	0	9,101	78	725	162	29,628
			Total	0	33	1,080	0	27,520	0	30,500	78	2,765	266	62,241
1	Subsistence Gillnet		Female	0	0	0	0	1,182	0	2,078	0	76	19	3,356
			Male	0	0	153	0	2,059	0	1,049	38	0	0	3,298
			Total	0	0	153	0	3,241	0	3,127	38	76	19	6,654
2	Commercial Gillnet	1,408	Female	0	0	11	33	5,197	0	14,690	51	1,152	58	21,193
			Male	0	103	252	11	12,256	33	7,221	0	578	46	20,499
			Total	0	103	263	44	17,453	33	21,911	51	1,729	104	41,692
2	Subsistence Gillnet		Female	0	0	0	0	898	0	2,361	0	77	51	3,388
			Male	0	0	128	0	3,080	0	2,233	0	154	51	5,646
			Total	0	0	128	0	3,978	0	4,594	0	231	103	9,034
3	Commercial Gillnet		Female	0	0	0	2	142	0	416	2	32	0	594
			Male	0	3	5	0	327	2	173	0	11	0	520
			Total	0	3	5	2	469	2	589	2	43	0	1,114
3	Subsistence Gillnet		Female	0	0	0	0	582	0	1,531	0	50	33	2,197
			Male	0	0	83	0	1,997	0	1,448	0	100	33	3,661
			Total	0	0	83	0	2,580	0	2,979	0	150	67	5,858
4	Comm & Subs Gillnet	125	Female	0	0	0	0	150	0	308	0	40	0	498
			Male	0	0	8	0	300	0	182	0	0	0	490
			Total	0	0	8	0	451	0	490	0	40	0	988

-Continued-

Table 3. (page 2 of 2)

District	Fishery	Sample Size	Sex	Brood Year and Age Group <sup>a</sup>										Total
				1991		1990		1989		1988		1987		
				1.1	0.3	1.2	0.4	1.3	0.5	1.4	2.3	1.5	2.4	
4	Comm & Subs Fish Wheel	300	Female	0	0	41	0	737	0	1,350	0	123	0	2,251
			Male	82	0	941	0	7,284	0	1,678	0	41	0	10,025
			Total	82	0	982	0	8,020	0	3,028	0	164	0	12,276
5	Comm & Subs Gillnet	136	Female	0	0	0	0	409	0	1,106	0	328	0	1,843
			Male	0	0	82	0	2,334	0	1,146	0	164	0	3,726
			Total	0	0	82	0	2,743	0	2,252	0	491	0	5,569
5	Comm & Subs Fish Wheel	151	Female	0	0	0	0	707	0	1,886	0	0	0	2,594
			Male	118	0	3,183	0	10,140	0	1,651	0	118	0	15,209
			Total	118	0	3,183	0	10,847	0	3,537	0	118	0	17,803
6	Comm & Subs Fish Wheel	180	Female	0	0	0	0	229	0	1,003	0	115	0	1,347
			Male	287	0	745	0	1,977	0	802	0	0	0	3,811
			Total	287	0	745	0	2,207	0	1,805	0	115	0	5,158
			Female	0	0	52	34	19,306	0	48,129	53	4,032	265	71,871
			Male	486	139	6,660	11	60,202	34	26,683	116	1,890	293	96,516
Alaska Harvest <sup>b,c</sup>			Total	486	139	6,712	46	79,508	34	74,812	169	5,922	558	168,387

<sup>a</sup> Discrepancies in row and column addition by category are due to rounding error and may be ignored.

<sup>b</sup> Total does not include ADF&G test fish sales in District 1 (1,561) and District 2 (70).

<sup>c</sup> District 6 gillnet harvest (16), Alaska sport fish harvest (2,281), and Canada harvest (21,218) of chinook salmon were not included due to insufficient samples.

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, 1994.

Fishery	Sex		Brood Year and Age Group									
			1991		1990		1989		1988		1987	
			1.1	0.3	1.2	0.4	1.3	0.5	1.4	2.3	1.5	2.4
District 1 Commercial 6 in (15.2 cm) Maximum Mesh Size Gillnet	Female	Mean Length				769		855		897		
		Standard Error				12.2		8.9		14.7		
		Sample Size				13		29		10		
	Male	Mean Length			563		722		802		955	
		Standard Error			14.6		13.0		28.5		0.0	
		Sample Size			9		28		13		1	
District 1 Commercial Unrestricted & 8 in (20.3 cm) or Greater Mesh Size Gillnet	Female	Mean Length				787		864		900	840	
		Standard Error				3.5		2.1		6.4	15.0	
		Sample Size				198		486		47	2	
	Male	Mean Length	600	593		749		851	793	954	855	
		Standard Error	0.0	10.6		2.6		4.2	7.5	13.2	16.1	
		Sample Size	1	22		397		216	2	18	3	
District 2 Commercial Unrestricted & 8 in (20.3 cm) or Greater Mesh Size Gillnet	Female	Mean Length			555	760	787		857	815	900	862
		Standard Error			0.0	0.0	3.9		2.2	0.0	8.1	30.3
		Sample Size			1	1	160		494	1	44	3
	Male	Mean Length	683	648		815	747	840	839		938	803
		Standard Error	2.5	27.2		0.0	2.5	0.0	4.0		12.7	42.5
		Sample Size	2	8		1	409	1	253		28	2
District 4 Comm & Subs Gillnet	Female	Mean Length				771		864		902		
		Standard Error				18.0		8.3		7.4		
		Sample Size				19		39		5		
	Male	Mean Length			500		758		852			
		Standard Error			0.0		9.3		15.2			
		Sample Size			1		38		23			
District 4 Commercial Fish Wheel	Female	Mean Length			590		751		881		893	
		Standard Error			0.0		13.9		9.3		78.8	
		Sample Size			1		18		33		3	
	Male	Mean Length	420		565		726		806		910	
		Standard Error	0.0		12.1		3.5		10.7		0.0	
		Sample Size	2		23		178		41		1	

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Table 4. (page 2 of 2)

Fishery	Sex		Brood Year and Age Group									
			1991		1990		1989		1988		1987	
			1.1	0.3	1.2	0.4	1.3	0.5	1.4	2.3	1.5	2.4
District 5 Commercial Gillnet	Female	Mean Length				744		851				
		Standard Error				15.6		13.2				
		Sample Size				6		16				
	Male	Mean Length	395		572		705		867			980
		Standard Error	0.0		13.0		5.7		17.5			0
		Sample Size	1		27		86		14			1
District 5 Commercial Fish Wheel	Female	Mean Length				788		889			897	
		Standard Error				22.8		10.7			14.0	
		Sample Size				10		27			8	
	Male	Mean Length			608		756		867			900
		Standard Error			12.5		7.7		14.0			22.5
		Sample Size			2		57		28			4
District 6 Comm & Subs Fish Wheel	Female	Mean Length				799		860			896	
		Standard Error				18.0		9.7			37.6	
		Sample Size				8		35			4	
	Male	Mean Length	379		550		720		839			
		Standard Error	6.4		17.5		7.1		14.9			
		Sample Size	10		26		69		28			

Table 5. Age and sex composition of Yukon River chinook salmon escapement samples, 1994.

		Brood Year and Age Group <sup>a</sup>									
		1991	1990	1989			1988		1987	1986	
		1.1	1.2	0.4	1.3	2.2	1.4	2.3	1.5	1.6	Total
Location:	East Fork Andreafsky River <sup>a</sup>										
Sample Dates:	7/4–7/26										
Escapement:	7,801										
Sample Size:	440										
Female	Sample Size	0	0	0	33	0	103	0	19	1	156
	Percent of Sample	0.0	0.0	0.0	7.5	0.0	23.4	0.0	4.3	0.2	35.5
Male	Sample Size	0	35	0	199	1	49	0	0	0	284
	Percent of Sample	0.0	8.0	0.0	45.2	0.2	11.1	0.0	0.0	0.0	64.5
Total	Sample Size	0	35	0	232	1	152	0	19	1	440
	Percent of Sample	0.0	8.0	0.0	52.7	0.2	34.5	0.0	4.3	0.2	100.0
	Standard Error	0.0	1.3	0.0	2.4	0.2	2.3	0.0	1.0	0.2	
Location:	Anvik River <sup>b</sup>										
Sample Dates:	7/28–8/7										
Escapement:	913										
Sample Size:	405										
Female	Sample Size	0	0	0	32	0	117	0	21	0	170
	Percent of Sample	0.0	0.0	0.0	7.9	0.0	28.9	0.0	5.2	0.0	42.0
Male	Sample Size	0	12	0	178	0	44	0	1	0	235
	Percent of Sample	0.0	3.0	0.0	44.0	0.0	10.9	0.0	0.2	0.0	58.0
Total	Sample Size	0	12	0	210	0	161	0	22	0	405
	Percent of Sample	0.0	3.0	0.0	51.9	0.0	39.8	0.0	5.4	0.0	100.0
	Standard Error	0.0	0.8	0.0	2.5	0.0	2.4	0.0	1.1	0.0	
Location:	Nulato River <sup>c</sup>										
Sample Dates:	6/27–7/18										
Escapement:	1,795										
Sample Size:	9										
Female	Sample Size	0	0	0	3	0	1	0	0	0	4
	Percent of Sample	0.0	0.0	0.0	33.3	0.0	11.1	0.0	0.0	0.0	44.4
Male	Sample Size	0	0	0	5	0	0	0	0	0	5
	Percent of Sample	0.0	0.0	0.0	55.6	0.0	0.0	0.0	0.0	0.0	55.6
Total	Sample Size	0	0	0	8	0	1	0	0	0	9
	Percent of Sample	0.0	0.0	0.0	88.9	0.0	11.1	0.0	0.0	0.0	100.0
	Standard Error	0.0	0.0	0.0	11.1	0.0	11.1	0.0	0.0	0.0	

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Table 5. (page 2 of 2)

		Brood Year and Age Group <sup>a</sup>									
		1991	1990	1989			1988		1987	1986	
		1.1	1.2	0.4	1.3	2.2	1.4	2.3	1.5	1.6	Total
Location:	Chena River <sup>b</sup>										
Sample Dates:	8/3–8/5										
Escapement:	11,877										
Sample Size:	512										
Female	Sample Size	0	0	0	42	0	178	1	10	0	231
	Percent of Sample	0.0	0.0	0.0	8.2	0.0	34.8	0.2	2.0	0.0	45.1
Male	Sample Size	0	15	0	181	0	82	1	2	0	281
	Percent of Sample	0.0	2.9	0.0	35.4	0.0	16.0	0.2	0.4	0.0	54.9
Total	Sample Size	0	15	0	223	0	260	2	12	0	512
	Percent of Sample	0.0	2.9	0.0	43.6	0.0	50.8	0.4	2.3	0.0	100.0
	Standard Error	0.0	0.7	0.0	2.2	0.0	2.2	0.3	0.7	0.0	
Location:	Salcha River <sup>b</sup>										
Sample Dates:	8/3–8/4										
Escapement:	18,399										
Sample Size:	524										
Female	Sample Size	0	4	0	43	0	168	1	17	0	233
	Percent of Sample	0.0	0.8	0.0	8.2	0.0	32.1	0.2	3.2	0.0	44.5
Male	Sample Size	3	10	2	162	0	106	0	8	0	291
	Percent of Sample	0.6	1.9	0.4	30.9	0.0	20.2	0.0	1.5	0.0	55.5
Total	Sample Size	3	14	2	205	0	274	1	25	0	524
	Percent of Sample	0.6	2.7	0.4	39.1	0.0	52.3	0.2	4.8	0.0	100.0
	Standard Error	0.3	0.7	0.3	2.1	0.0	2.2	0.2	0.9	0.0	

<sup>a</sup> Samples collected from live fish captured in weir trap.

<sup>b</sup> Samples collected from carcasses or from spawned out live fish captured with spears.

<sup>c</sup> Samples collected from live fish captured in beach seine.

Table 6. Length (mm measured from mid-orbit to fork-of-tail) by age and sex of Yukon River chinook salmon escapement samples, 1994.

River	Sex		Brood Year and Age Group									
			1991		1990		1989		1988		1987	1986
			1.1	1.2	0.4	1.3	2.2	1.4	2.3	1.5	1.6	
East Fork Andreafsky <sup>a</sup>	Female	Mean Length				767			833		866	930
		Standard Error				9.0			4.8		7.5	0.0
		Sample Size				33			103		19	1
	Male	Mean Length		550		714	570		795			
		Standard Error		9.9		3.7	0.0		7.5			
		Sample Size		35		199	1		49			
Anvik <sup>b</sup>	Female	Mean Length				765			847		875	
		Standard Error				6.8			4.1		8.9	
		Sample Size				32			117		21	
	Male	Mean Length		587		723			801		850	
		Standard Error		13.6		3.9			10.6		0.0	
		Sample Size		12		178			44		1	
Chena <sup>b</sup>	Female	Mean Length				777			864	815	900	
		Standard Error				10.9			3.3	0.0	13.9	
		Sample Size				42			178	1	10	
	Male	Mean Length		579		718			820	730	1045	
		Standard Error		16.4		4.5			8.7	0.0	40.0	
		Sample Size		15		181			82	1	2	
Salcha <sup>b</sup>	Female	Mean Length		609		751			865	840	911	
		Standard Error		38.9		10.1			3.7	0.0	13.5	
		Sample Size		4		43			168	1	17	
	Male	Mean Length	397	573	583	738			855		943	
		Standard Error	24.6	12.8	17.5	4.4			6.9		38.8	
		Sample Size	3	10	2	162			105		8	
Nulato <sup>c</sup>	Female	Mean Length				727			815			
		Standard Error				41.8			0.0			
		Sample Size				3			1			
	Male	Mean Length				722						
		Standard Error				19.7						
		Sample Size				5						

<sup>a</sup> Samples collected from live fish captured in weir trap.

<sup>b</sup> Samples collected from carcasses or from spawned out live fish captured with spears.

<sup>c</sup> Samples collected from live fish captured in beach seine.

Table 7. Harvest of Yukon River summer chum salmon by age, sex, and fishery, 1994.

District	Fishery	Sample Size	Sex	Brood Year and Age Group <sup>a</sup>					Total
				1991	1990	1989	1988	1987	
				0.2	0.3	0.4	0.5	0.6	
1	Commercial Gillnet	938	Female	0	8,755	13,045	519	0	22,319
			Male	0	7,488	11,788	736	0	20,013
			Total	0	16,243	24,834	1,255	0	42,332
1	Subsistence Gillnet		Female	0	9,256	13,792	549	0	23,596
			Male	0	7,916	12,462	778	0	21,157
			Total	0	17,172	26,254	1,327	0	44,753
2	Commercial Gillnet	757	Female	0	2,018	4,301	193	0	6,512
			Male	0	1,664	4,490	202	0	6,357
			Total	0	3,682	8,792	395	0	12,869
2	Subsistence Gillnet		Female	0	5,926	8,830	351	0	15,107
			Male	0	5,068	7,979	498	0	13,545
			Total	0	10,994	16,808	849	0	28,652
3	Comm & Subs Gillnet		Female	0	491	732	29	0	1,252
			Male	0	420	661	41	0	1,122
			Total	0	911	1,393	70	0	2,374
4	Commercial Beach Seine	551	Female	77	11,142	9,721	77	0	21,016
			Male	0	77	77	0	0	154
			Total	77	11,219	9,797	77	0	21,170
4	Comm & Subs Gillnet	224	Female	0	13,218	10,248	446	0	23,911
			Male	0	4,604	4,753	0	0	9,357
			Total	0	17,822	15,000	446	0	33,268
4	Comm & Subs Fish Wheel	1,105	Female	137	66,499	46,836	1,912	137	115,520
			Male	0	20,482	13,791	1,092	0	35,366
			Total	137	86,981	60,627	3,004	137	150,885
5	Comm & Subs Fish Wheel		Female	10	5,076	3,575	146	10	8,817
			Male	0	1,563	1,053	83	0	2,699
			Total	10	6,639	4,627	229	10	11,516
5	Comm & Subs Gillnet		Female	0	578	448	19	0	1,045
			Male	0	201	208	0	0	409
			Total	0	779	655	19	0	1,454
6	Comm & Subs Fish Wheel	245	Female	0	17,977	8,736	0	0	26,713
			Male	168	9,912	4,368	0	0	14,449
			Total	168	27,889	13,105	0	0	41,162
Alaska Harvest <sup>b, c</sup>			Female	224	140,935	120,263	4,240	147	265,808
			Male	168	59,397	61,630	3,432	0	124,627
			Total	392	200,331	181,893	7,672	147	390,435

<sup>a</sup> Discrepancies in row and column addition by category are due to rounding error and may be ignored.

<sup>b</sup> Total does not include ADF&G test fish sales in District 1 (2,769) and District 2 (443).

<sup>c</sup> District 6 gillnet (816) and sport fish (350) harvests were not included due to insufficient samples.

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, 1994.

Fishery	Sex		Brood Year and Age Group				
			1991	1990	1989	1988	1987
			0.2	0.3	0.4	0.5	0.6
District 1 Commercial 6 in (15.2 cm) Maximum Mesh Size Gillnet	Female	Mean Length		558	567	583	
		Standard Error		2.8	3.3	13.6	
		Sample Size		51	52	3	
	Male	Mean Length		569	586	610	
		Standard Error		4.4	4.2	0.0	
		Sample Size		44	42	1	
District 1 Commercial Unrestricted & 8 in (20.3 cm) or Greater Mesh Size Gillnet	Female	Mean Length		557	569	577	
		Standard Error		2.6	1.7	9.1	
		Sample Size		115	258	9	
	Male	Mean Length		580	598	591	
		Standard Error		2.8	1.8	7.1	
		Sample Size		99	246	18	
District 2 Commercial Unrestricted Mesh Size Gillnet	Female	Mean Length		554	569	587	
		Standard Error		2.3	1.7	8.5	
		Sample Size		115	258	13	
	Male	Mean Length		581	597	598	
		Standard Error		2.9	1.9	8.2	
		Sample Size		107	251	13	
District 4 Commercial Beach Seine	Female	Mean Length	550	539	550	540	
		Standard Error	5.0	1.4	1.6	20.0	
		Sample Size	2	290	253	2	
	Male	Mean Length		518	538		
		Standard Error		7.5	27.5		
		Sample Size		2	2		
District 4 Commercial Fish Wheel	Female	Mean Length	550	541	551	549	565
		Standard Error	0.0	1.3	1.4	6.8	0.0
		Sample Size	1	487	343	14	1
	Male	Mean Length		571	589	591	
		Standard Error		2.6	3.3	11.8	
		Sample Size		150	101	8	

Continued

Table 8 (page 2 of 2).

Fishery	Sex		Brood Year and Age Group				
			1991	1990	1989	1988	1987
			0.2	0.3	0.4	0.5	0.6
District 4 Commercial Gillnet	Female	Mean Length		547	554	582	
		Standard Error		2.3	2.4	20.3	
		Sample Size		89	69	3	
	Male	Mean Length		564	581		
		Standard Error		3.8	4.9		
		Sample Size		31	32		
District 6 Comm. & Subs. Fish Wheel	Female	Mean Length		547	549		
		Standard Error		3.9	3.3		
		Sample Size		107	52		
	Male	Mean Length	530	565	570		
		Standard Error	0.0	6.9	19.3		
		Sample Size	1	59	26		

Table 9. Age and sex composition of Yukon River summer chum salmon escapement samples, 1994.

		Brood Year and Age Group				
		1991	1990	1989	1988	Total
		0.2	0.3	0.4	0.5	
Location:	East Fork Andreafsky River <sup>a</sup>					
Escapement	200,981					
Sample Dates:	7/3–8/1					
Sample Size:	733					
Female	Sample Size	0	352	123	3	478
	Percent of Sample	0.0	48.0	16.8	0.4	65.2
Male	Sample Size	0	153	97	5	255
	Percent of Sample	0.0	20.9	13.2	0.7	34.8
Total	Sample Size	0	505	220	8	733
	Percent of Sample	0.0	68.9	30.0	1.1	100.0
	Standard Error	0.0	1.7	1.7	0.4	
Location:	Anvik River <sup>b</sup>					
Sample Dates:	6/27–7/21					
Escapement	1,124,689					
Sample Size:	560					
Female	Sample Size	0	120	208	3	331
	Percent of Sample	0.0	21.4	37.1	0.5	59.1
Male	Sample Size	0	87	138	4	229
	Percent of Sample	0.0	15.5	24.6	0.7	40.9
Total	Sample Size	0	207	346	7	560
	Percent of Sample	0.0	37.0	61.8	1.3	100.0
	Standard Error	0.0	2.0	2.1	0.5	
Location:	Nulato River <sup>b</sup>					
Sample Dates:	6/25–7/19					
Escapement	148,762					
Sample Size:	551					
Female	Sample Size	1	112	149	1	263
	Percent of Sample	0.2	20.3	27.0	0.2	47.7
Male	Sample Size	1	81	202	4	288
	Percent of Sample	0.2	14.7	36.7	0.7	52.3
Total	Sample Size	2	193	351	5	551
	Percent of Sample	0.4	35.0	63.7	0.9	100.0
	Standard Error	0.3	2.0	2.1	0.4	

<sup>a</sup> Samples collected from live fish captured in weir trap.

<sup>b</sup> Samples collected from live fish captured in beach seine.

Table 10. Length (mm measured from mid-orbit to fork-of-tail) by age and sex of Yukon River summer chum salmon escapement samples, 1994.

River	Sex		Brood Year and Age Group			
			1991	1990	1989	1988
			0.2	0.3	0.4	0.5
East Fork Andreafsky <sup>a</sup>	Female	Mean Length		512	528	543
		Standard Error		1.4	2.3	15.9
		Sample Size		352	123	3
	Male	Mean Length		548	568	589
		Standard Error		2.6	3.4	9.1
		Sample Size		153	97	5
Anvik <sup>b</sup>	Female	Mean Length		536	551	567
		Standard Error		2.3	1.8	13.6
		Sample Size		120	208	3
	Male	Mean Length		566	585	601
		Standard Error		2.9	2.8	18.2
		Sample Size		87	138	4
Nulato <sup>b</sup>	Female	Mean Length	505	535	554	570
		Standard Error	0.0	2.4	2.0	0.0
		Sample Size	1	112	149	1
	Male	Mean Length	565	568	585	605
		Standard Error	0.0	3.0	2.2	15.1
		Sample Size	1	81	201	4

<sup>a</sup> Samples collected from live fish captured in weir trap.

<sup>b</sup> Samples collected from live fish captured in beach seine.

Table 11. Harvest of Yukon River fall chum salmon by age, sex, and fishery, 1994.

District	Fishery	Sample Size	Sex	Brood Year and Age Group <sup>a</sup>				Total
				1991	1990	1989	1988	
				0.2	0.3	0.4	0.5	
1	Subsistence Gillnet <sup>b</sup>		Female	4	1,640	1,099	33	2,777
			Male	8	1,224	858	21	2,110
			Total	12	2,864	1,956	54	4,887
2	Subsistence Gillnet <sup>b</sup>		Female	4	1,393	933	28	2,358
			Male	7	1,040	728	18	1,793
			Total	11	2,433	1,662	46	4,151
3	Subsistence Gillnet <sup>b</sup>		Female	1	227	152	5	384
			Male	1	169	119	3	292
			Total	2	396	271	7	676
4	Subsistence Fish Wheel <sup>c</sup>		Female	92	4,241	1,475	0	5,808
			Male	184	3,043	2,121	0	5,348
			Total	277	7,284	3,596	0	11,156
5	Comm & Subs Fish Wheel <sup>d</sup>	112	Female	559	24,028	7,823	0	32,410
			Male	1,118	18,440	10,617	0	30,175
			Total	1,676	42,468	18,440	0	62,585
Alaska Harvest <sup>f</sup>			Female	659	31,529	11,483	66	43,738
			Male	1,319	23,915	14,442	41	39,718
			Total	1,978	55,445	25,925	108	83,455

<sup>a</sup> Discrepancies in row and column addition by category are due to rounding error and may be ignored.

<sup>b</sup> Age and sex composition is based on Big Eddy and Middle Mouth fall chum salmon test fishing catches combined (1,174).

<sup>c</sup> Age and sex composition is based on combined District 5 and 6 subsistence fish wheel catch samples (121).

<sup>d</sup> Age and sex composition is based on District 5 subsistence fish wheel catch samples.

<sup>f</sup> Districts 4 (2,355) and 5 (7,441) gillnet harvests, and District 6 (37,966) and Canada (38,008) harvests were not included due to insufficient samples.

Table 12. Length (mm measured from mid-orbit to fork-of-tail) by age and sex of Yukon River fall chum salmon subsistence catch samples, 1994.

			Brood Year and Age Group		
			1991	1990	1989
Fishery	Sex		0.2	0.3	0.4
District 5 Subsistence Fish Wheel	Female	Mean Length	535	555	578
		Standard Error	0.0	3.4	8.0
		Sample Size	1	43	14
	Male	Mean Length	578	582	612
		Standard Error	2.5	5.6	8.5
		Sample Size	2	33	19
District 6 Subsistence Fish Wheel	Female	Mean Length		548	585
		Standard Error		15.9	25.0
		Sample Size		3	2
	Male	Mean Length			608
		Standard Error			5.2
		Sample Size			4

Table 13. Age and sex composition of Yukon River fall chum salmon escapement samples, 1994.

		Brood Year and Age Group				
		1991	1990	1989	1988	Total
		0.2	0.3	0.4	0.5	
Location:	Toklat River <sup>a, b</sup>					
Sample Dates:	10/10–10/16					
Escapement:	76,057					
Sample Size:	193					
Female	Sample Size	3	137	50	3	193
	Percent of Sample	1.6	71.0	25.9	1.6	100.0
Male	Sample Size					
	Percent of Sample					
Total	Sample Size	3	137	50	3	193
	Percent of Sample	1.6	71.0	25.9	1.6	100.0
	Standard Error	0.9	3.3	3.2	0.9	
Location:	Delta River <sup>a</sup>					
Sample Dates:	10/31					
Escapement:	23,777					
Sample Size:	144					
Female	Sample Size	0	25	39	0	64
	Percent of Sample	0.0	17.4	27.1	0.0	44.4
Male	Sample Size	2	28	48	2	80
	Percent of Sample	1.4	19.4	33.3	1.4	54.2
Total	Sample Size	2	53	87	2	144
	Percent of Sample	1.4	36.8	60.4	1.4	100.0
	Standard Error	1.0	4.0	4.1	1.0	
Location:	Sheenjek River <sup>c</sup>					
Sample Dates:	8/24–9/13					
Escapement:	153,013					
Sample Size:	173					
Female	Sample Size	1	51	31	3	86
	Percent of Sample	0.6	29.5	17.9	1.7	49.7
Male	Sample Size	1	46	39	1	87
	Percent of Sample	0.6	26.6	22.5	0.6	50.3
Total	Sample Size	2	97	70	4	173
	Percent of Sample	1.2	56.1	40.5	2.3	100.0
	Standard Error	0.8	3.8	3.7	1.1	

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Table 13. (page 2 of 2)

		Brood Year and Age Group				
		1991	1990	1989	1988	Total
		0.2	0.3	0.4	0.5	
Location:	Bluff Cabin Slough <sup>a</sup>					
Sample Dates:	11/7					
Escapement:	2,277					
Sample Size:	144					
Female	Sample Size	7	39	29	1	76
	Percent of Sample	4.9	27.1	20.1	0.7	52.8
Male	Sample Size	1	30	37	0	68
	Percent of Sample	0.7	20.8	25.7	0.0	47.2
Total	Sample Size	8	69	66	1	144
	Percent of Sample	5.6	47.9	45.8	0.7	100.0
	Standard Error	1.9	4.2	4.2	0.7	

<sup>a</sup> Samples collected from carcasses.

<sup>b</sup> Only females were sampled.

<sup>c</sup> Samples collected from live fish captured in beach seine.

Table 14. Length (mm measured from mid-orbit to fork-of-tail) by age and sex of Yukon River fall chum salmon escapement samples, 1994.

River <sup>a</sup>	Sex		Brood Year and Age Group			
			1991	1990	1989	1988
			0.2	0.3	0.4	0.5
Toklat <sup>b</sup>	Female	Mean Length	522	545	561	563
		Standard Error	8.8	2.6	4.3	14.2
		Sample Size	3	137	50	3
	Male	Mean Length				
		Standard Error				
		Sample Size				
Delta	Female	Mean Length		547	567	
		Standard Error		4.6	4.5	
		Sample Size		25	39	
	Male	Mean Length	530	567	584	578
		Standard Error	10.0	7.1	4.9	62.5
		Sample Size	2	27	48	2
Bluff Cabin Slough	Female	Mean Length	553	561	574	555
		Standard Error	6.8	4.9	5.0	0.0
		Sample Size	7	39	29	1
	Male	Mean Length	550	606	627	
		Standard Error	0.0	5.1	4.5	
		Sample Size	1	30	37	
Sheenjek	Female	Mean Length	570	570	585	577
		Standard Error	0.0	3.6	5.3	16.7
		Sample Size	1	51	31	3
	Male	Mean Length	610	588	610	650
		Standard Error	0.0	4.5	4.3	0.0
		Sample Size	1	46	39	1

<sup>a</sup> All samples were from carcasses except from Sheenjek River which were from live fish captured in beach seine.

<sup>b</sup> Only vertebrae from females were taken.

Table 15. Harvest of Yukon River coho salmon by age, sex, and fishery, 1994.

District	Fishery	Sample Size	Sex	Brood Year and Age Group <sup>a</sup>			Total
				1991	1990	1989	
				1.1	2.1	3.1	
1	Subsistence Gillnet <sup>b</sup>		Female	444	1,123	13	1,579
			Male	305	1,371	17	1,693
			Total	748	2,493	30	3,272
2	Subsistence Gillnet <sup>b</sup>		Female	526	1,332	15	1,873
			Male	361	1,626	21	2,008
			Total	888	2,957	36	3,881
3	Subsistence Gillnet <sup>b</sup>		Female	31	78	1	109
			Male	21	95	1	117
			Total	52	172	2	226
Alaska Harvest <sup>c</sup>			Female	1,001	2,532	29	3,562
			Male	687	3,091	39	3,817
			Total	1,688	5,623	69	7,379

<sup>a</sup> Discrepancies in row and column addition by category are due to rounding error and may be ignored.

<sup>b</sup> Age and sex composition is based on Big Eddy and Middle Mouth coho salmon test fishing catches combined (752).

<sup>c</sup> District 4 (3,652), District 5 (4,174), and District 6 (33,840), Canada (334) and sport fish (1,893) harvests were not included due to insufficient samples.

Table 16. Age and sex composition of Yukon River coho salmon escapement samples, 1994.

		Brood Year and Age Group		Total
		1991	1990	
		1.1	2.1	
Location: Delta Clearwater River				
Escapement: 62,675				
Sample Dates: 11/16				
Sample Size: 317				
Female	Sample Size	38	77	115
	Percent of Sample	12.0	24.3	36.3
Male	Sample Size	67	135	202
	Percent of Sample	21.1	42.6	63.7
Total	Sample Size	105	212	317
	Percent of Sample	33.1	66.9	100.0
	Standard Error	2.6	2.6	

Table 17. Length (mm measured from mid-orbit to fork-of-tail) by age and sex of Yukon River coho salmon escapement samples, 1994.

		Brood Year and Age Group		
		1991	1990	
River	Sex	1.1	2.1	
Delta Clearwater	Female	Mean Length	563	557
		Standard Error	3.8	3.5
		Sample Size	38	77
	Male	Mean Length	556	554
		Standard Error	6.3	3.5
		Sample Size	67	134

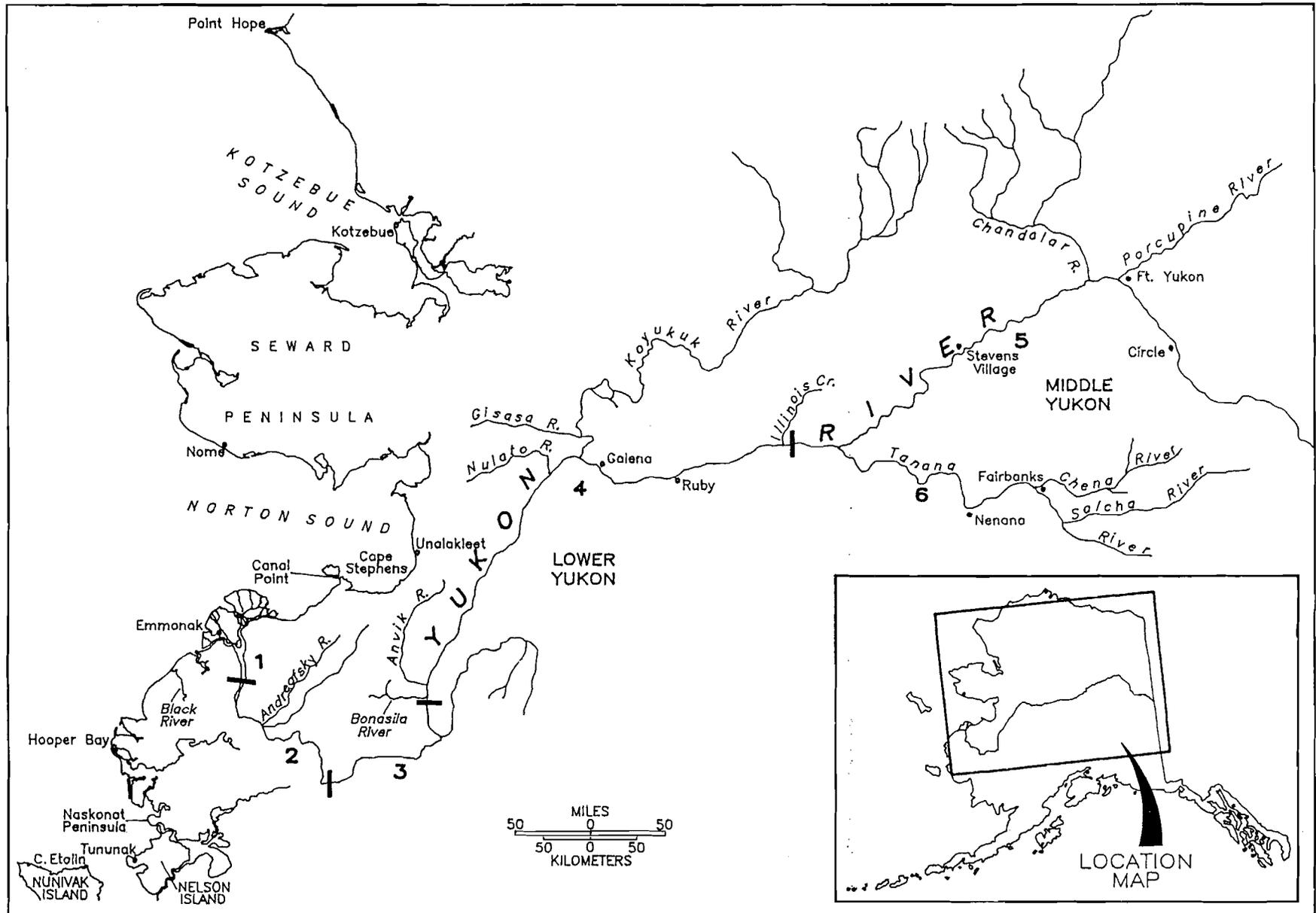


Figure 1. Alaskan portion of the Yukon River with fishing district boundaries.





## **APPENDIX**

Appendix A.1. Yukon River District 1 commercial salmon catch by period, 1994.

Period No. <sup>b</sup>	Period Dates	Hours Fished	No. of Fishers	Period Catch <sup>a</sup>			Cumulative Catch		
				Chinook	Coho	Chum	Chinook	Coho	Chum
1	6/13–6/14	6	396	13,549	0	4,113	13,549	0	4,113
2	6/16–6/17	9	400	23,048	0	5,765	36,597	0	9,878
3	6/22–6/23	9	398	13,822	0	8,888	50,419	0	18,766
4	6/27	6	391	11,214	0	8,197	61,633	0	26,963
5	7/04–7/05	9	241	608	0	15,369	62,241	0	42,332
<b>Season Total</b>		<b>39</b>	<b>414</b>	<b>62,241</b>	<b>0</b>	<b>42,332</b>			

<sup>a</sup> Catches reported in numbers of fish sold in the round.

<sup>b</sup> Mesh size restricted to 8 in (20.3 cm) or greater in periods 1–3. No mesh size restrictions in period 4 and mesh size restricted to 6 in (15.2 cm) or less during period 5.

Appendix A.2. Yukon River District 2 commercial salmon catch by period, 1994.

Period No. <sup>b</sup>	Period Dates	Hours Fished	No. of Fishers	Period Catch <sup>a</sup>			Cumulative Catch		
				Chinook	Coho	Chum	Chinook	Coho	Chum
1	6/15	6	228	8,173	0	1,775	8,173	0	1,775
2	6/21	9	233	18,222	0	5,507	26,395	0	7,282
3	6/26–6/27	9	234	11,167	0	4,141	37,562	0	11,423
4	7/03	6	206	4,130	0	1,446	41,692	0	12,869
Total		30	250	41,692	0	12,869			

<sup>a</sup> Catches reported in numbers of fish sold in the round.

<sup>b</sup> Mesh size restricted to 8 in (20.3 cm) or greater in periods 1–3. No mesh size restrictions in period 4.

Appendix A.3. Yukon River District 3 commercial salmon catch by period, 1994.

Period No. <sup>b</sup>	Period Dates	Hours Fished	No. of Fishers	Period Catch <sup>a</sup>			Cumulative Catch		
				Chinook	Coho	Chum	Chinook	Coho	Chum
1	6/22–6/23	12	5	597	0	0	597	0	0
2	6/26–6/27	12	7	517	0	35	1,114	0	35
<b>Total</b>		<b>24</b>	<b>6</b>	<b>1,114</b>	<b>0</b>	<b>35</b>			

<sup>a</sup> Catches reported in numbers of fish sold in the round.

<sup>b</sup> Mesh size restricted to 8 in (20.3 cm) or greater.

Appendix A.4. Yukon River District 4 commercial salmon catch by period, 1994.

Period	Period Dates	Hours Fished	Number of Fishers	Chinook				Summer Chum			
				Sold in Round	Pounds of Roe	Roe Weight <sup>a</sup>	Estimated Harvest <sup>b</sup>	Sold in Round	Pounds of Roe	Roe Weight <sup>c</sup>	Estimated Harvest <sup>d</sup>
Subdistrict 4A											
1	7/07-7/08	24	31	0	0	2.00	0	0	21,890	0.83	41,904
2	7/11-7/12	18	36	0	0	2.00	0	0	21,155	0.81	52,785
3	7/14-7/15	24	32	0	0	2.00	0	0	11,874	0.84	20,767
4	7/18-7/19	24	21	0	14	2.00	7	0	7,882	0.77	16,338
Subtotal		90	41	0	14		7	0	62,801		131,794
Anvik River											
1	7/09-7/10	8	15					0	5,329	0.89	5,989
2	7/10-7/11	8	16					0	4,868	0.83	5,865
3	7/12-7/13	8	12					0	3,063	0.85	3,603
4	7/13-7/14	8	14					0	2,951	0.91	3,243
5	7/16-7/17	12	9					0	2,292	0.87	2,634
6	7/17-7/18	12	7					0	1,029	0.83	1,240
Subtotal		56	20					0	19,532		22,574
Subdistricts 4B and 4C											
1	6/22-6/24	48	4	199	0	2.56	199	1	0		1
2	6/26-6/28	48	5	453	0	2.56	453	158	0	1.00	158
3	6/29-7/01	48	4	659	3	2.63	660	589	67	0.83	735
4	7/03-7/05	48	7	905	73	2.54	934	1,011	92	0.91	1,195
5	7/10-7/12	48	12	0	457	2.54	184	1,252	4,192	0.90	8,933
6	7/13-7/14	24	12	0	17	2.54	6	600	3,033	0.90	6,217
Subtotal		264	16	2,216	550		2,436	3,611	7,384		17,239
Season Total				2,216	564		2,443	3,611	89,717		171,607

<sup>a</sup> Weighted average of pounds of roe per female sampled from set gillnets and fish wheels.

<sup>b</sup> Estimated harvest is the number of fish sold in the round plus the estimated females to produce roe sold.

<sup>c</sup> In Subdistrict 4A average pounds of roe per female sampled from fish wheels and seines. In Subdistricts 4B and 4C weighted average c pounds of roe per female sampled from set gillnets and fish wheels.

<sup>d</sup> Estimated harvest is the estimated males and females harvested to produce roe sold. Numbers sold in the round are assumed to be primarily males and are not included in the estimated harvest to avoid double counting.

Appendix A.5. Yukon River District 5 commercial salmon catch by period, 1994.

Period	Period Dates	Hours Fished	Number of Fishers	Summer Chum					Fall Chum <sup>d</sup>	Coho
				Chinook <sup>a</sup>	Sold in Round	Pounds of Roe	Roe Weight <sup>b</sup>	Estimated Harvest <sup>c</sup>		
Subdistricts 5A, 5B, and 5C										
1	7/05-7/06	24	23	1,756	157	28	0.90	188		
2	7/08-7/09	12	21	1,538	72	184	0.90	276		
Subtotal		36	25	3,294	229	212		464		
Subdistrict 5D										
1	7/12-7/14	36	3	159						
2	7/18-7/19	24	2	291						
3	9/19-9/21	48	1						1,140	
4	9/22-9/24	48	1						1,290	
5	9/26-9/28	48	1						1,200	
Subtotal		204	16	450					3,630	
Season Total				3,744	229	212		464	3,630	0

<sup>a</sup> All chinook sales were in the round except for estimated harvest of 5 fish from roe sales of 10 pounds in Subdistrict 5B during period 2 which were included in the total of 1,538 chinook salmon.

<sup>b</sup> Weighted average of pounds of roe per female sampled from set gillnets and fish wheels.

<sup>c</sup> Estimated harvest is the number of fish sold in the round plus the estimated females to produce roe sold.

<sup>d</sup> All fall chum sales were in the round.

Appendix A.6. Yukon River District 6 commercial salmon catch by period, 1994.

Period	Period Dates	Hours Fished	Number of Fishers	Chinook				Summer Chum			
				Sold in Round	Pounds of Roe	Roe Weight <sup>a</sup>	Estimated Harvest <sup>b</sup>	Sold in Round	Pounds of Roe	Roe Weight <sup>a</sup>	Estimated Harvest <sup>b</sup>
1	7/11-7/13	42	16	1,994	1,328	3.86	2,337	4,407	602	0.77	5,189
2	7/22-7/24	42	17	111	238	3.86	173	7,399	2,852	0.78	11,056
3	7/29-7/31	42	16	29	188	3.86	78	4,991	1,924	0.76	7,523
4	8/05-8/07	42	14	1	66	3.86	18	3,508	1,824	0.75	5,940
5	8/08-8/10	42	11	0	0		0	903	626	0.76	1,726
Season Total		210	19	2,135	1,820		2,606	21,208	7,828		31,434

Period	Period Dates	Hours Fished	Number of Fishers	Fall Chum				Coho			
				Sold in Round	Pounds of Roe	Roe Weight <sup>a</sup>	Estimated Harvest <sup>b</sup>	Sold in Round	Pounds of Roe	Roe Weight <sup>a</sup>	Estimated Harvest <sup>b</sup>
6	9/19-9/20	24	11	1	3,276	0.75	4,369	120	5,588	1.29	4,451
Season Total		24	11	1	3,276		4,369	120	5,588		4,451

<sup>a</sup> Estimated average roe weight, in pounds per female, is a weighted period average based on the commercial season sampling program.

<sup>b</sup> Estimated harvest is the number of fish sold in the round plus the estimated females harvested to produce roe sold.

Appendix A.7. Yukon River, Canada commercial salmon catch by week, 1994.

Week	Days Fished	Number of Fishers	Chinook		Fall Chum		Coho
			Weekly	Cum.	Weekly	Cum.	
7/03-7/09	2	13	141	141	0	0	0
7/10-7/16	3	19	1,772	1,913	0	0	0
7/17-7/23	5	15	3,821	5,734	1	1	0
7/24-7/30	5	14	2,782	8,516	8	9	0
7/31-8/06	5	13	2,225	10,741	16	25	0
8/07-8/13	4	8	797	11,538	9	34	0
8/14-8/20	3	3	118	11,656	13	47	0
8/21-8/27	0			11,656		47	0
8/28-9/03	0			11,656		47	0
9/04-9/10	3	15	3	11,659	7,608	7,655	0
9/11-9/17	3	16	3	11,662	6,814	14,469	0
9/18-9/24	3	13	2	11,664	7,032	21,501	2
9/25-10/1	3	10	2	11,666	5,394	26,895	0
10/2-10/8	3	10	0	11,666	3,140	30,035	0
<b>Subtotal</b>	<b>42</b>			<b>11,666</b>		<b>30,035</b>	<b>2</b>
<b>Upriver Subtotal</b>				<b>362</b>		<b>0</b>	<b>0</b>
<b>Total Canada Catch</b>				<b>12,028</b>		<b>30,035</b>	<b>2</b>

Appendix B.1. Yukon River chinook salmon commercial and subsistence gillnet (GN) and fish wheel (FW) catch by district, 1994.

District	Commercial Catch			Subsistence Catch			Total Catch		
	GN	FW	Total	GN	FW	Total	GN	FW	Total
1 <sup>a</sup>	63,802		63,802	6,654		6,654	70,456		70,456
2 <sup>b</sup>	41,762		41,762	9,034		9,034	50,796		50,796
3	1,114		1,114	5,858		5,858	6,972		6,972
4A <sup>c</sup>	0	7	7	555	6,893	7,448	555	6,900	7,455
4B, 4C	182	2,254	2,436	251	3,122	3,373	433	5,376	5,809
4 Total <sup>d</sup>	182	2,261	2,443	806	10,015	10,821	988	12,276	13,264
5A, 5B, 5C	1,050	2,244	3,294	2,276	4,865	7,141	3,326	7,109	10,435
5D <sup>e</sup>	78	372	450	2,164	10,323	12,487	2,242	10,695	12,937
5 Total <sup>d</sup>	1,128	2,616	3,744	4,441	15,187	19,628	5,569	17,803	23,372
6 <sup>d</sup>	8	2,598	2,606	8	2,560	2,568	16	5,158	5,174
Alaska Total <sup>f</sup>	107,996	7,475	115,471	26,801	27,762	54,563	134,797	35,237	170,034
Porcupine Mainstem Yukon	12,028		12,028	428		428	428		428
				8,462		8,462	20,490		20,490
Canada Total <sup>g</sup>	12,028		12,028	8,890		8,890	20,918		20,918
Yukon R. Total	120,024	7,475	127,499	35,691	27,762	63,453	155,715	35,237	190,952

<sup>a</sup> Total includes ADF&G test fish sales (1,561). Total does not include Hooper Bay (157) and Scammon Bay (668) subsistence catches.

<sup>b</sup> Total includes ADF&G test fish sales (70).

<sup>c</sup> Total includes Innoko River (291) and Koyukuk River (710) subsistence catches.

<sup>d</sup> Catch by gear type for subsistence fisheries is estimated for Districts 4, 5, and 6 using the proportion caught by gear type in the commercial fisheries.

<sup>e</sup> Total includes Chandalar River subsistence catch (524).

<sup>f</sup> Total does not include Alaska sport fish harvest (2,281).

<sup>g</sup> Catch by gear type in Yukon Territory is not known, it is believed most fish are taken in gillnets (JTC 1994). Canada subsistence catch includes domestic food fisheries and Indian food fisheries. Total does not include Canada sport fish harvest (300).

Appendix B.2. Yukon River summer chum salmon commercial and subsistence gillnet (GN) and fish wheel (FW) catch by district, 1994.

District	Commercial Related Harvest														
	Fish Sold in the Round			Pounds of Roe			Estimated Harvest			Subsistence Catch			Total		
	GN	FW	Total	GN	FW	Total	GN	FW	Total	GN	FW	Total	GN	FW	Total
1 <sup>a</sup>	45,101		45,101				45,101		45,101	44,753		44,753	89,854		89,854
2 <sup>b</sup>	13,312		13,312				13,312		13,312	28,652		28,652	41,964		41,964
3	35		35				35		35	2,339		2,339	2,374		2,374
4A <sup>c,d</sup>	0	0	0	32,653	49,680	82,333	48,554	105,814	154,368	4,869	23,063	27,932	53,423	128,877	182,300
4B, 4C	0	3,611	3,611	3	7,381	7,384	6	17,233	17,239	1,008	4,775	5,784	1,014	22,008	23,023
4 Total <sup>e,f</sup>	0	3,611	3,611	32,656	57,061	89,717	48,560	123,047	171,607	5,878	27,838	33,716	54,438	150,885	205,323
5A, 5B, 5C	2	227	229	45	167	212	52	412	464	890	7,051	7,941	942	7,463	8,405
5D <sup>g</sup>	0	0	0	0	0	0	0	0	0	512	4,053	4,565	512	4,053	4,565
5 Total <sup>f,h</sup>	2	227	229	45	167	212	52	412	464	1,402	11,104	12,506	1,454	11,516	12,970
6 <sup>f,i</sup>	611	20,597	21,208	0	7,828	7,828	611	30,823	31,434	205	10,339	10,544	816	41,162	41,978
Alaska Total <sup>h</sup>	59,061	24,435	83,496	32,701	65,056	97,757	107,671	154,282	261,953	83,228	49,282	132,510	190,899	203,564	394,463

<sup>a</sup> Total includes ADF&G test fish sales (2,769). Total does not include Hooper Bay (10,556) and Scammon Bay (4,347) subsistence catches.

<sup>b</sup> Total includes ADF&G test fish sales (443).

<sup>c</sup> Total includes Innoko River (6,212) and Koyukuk River (12,698) subsistence catches.

<sup>d</sup> Total includes commercial harvest in Anvik River by gillnet (1,404), beach seine (16,828), and hand purse seine (4,342).

<sup>e</sup> 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.

<sup>f</sup> Catch by gear type for subsistence fisheries is estimated for Districts 4, 5, and 6 using the proportion caught by gear type in the commercial fisheries. For District 4 the commercial catch proportions excluding the special Anvik River harvest were used.

<sup>g</sup> Total includes Chandalar River subsistence catch (567).

<sup>h</sup> 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.

<sup>i</sup> Total does not include sport fish harvest (350).

Appendix B.3. Yukon River fall chum salmon commercial and subsistence gillnet (GN) and fish wheel (FW) catch by district, 1994.

District	Commercial Catch			Subsistence Catch			Total Catch		
	GN	FW	Total	GN	FW	Total	GN	FW	Total
1 <sup>a</sup>				4,887		4,887	4,887		4,887
2				4,151		4,151	4,151		4,151
3				676		676	676		676
4 <sup>b,c</sup>				2,355	11,156	13,511	2,355	11,156	13,511
5 <sup>b,d</sup>		3,630	3,630	7,441	58,955	66,396	7,441	62,585	70,026
6 <sup>b</sup>		4,369	4,369	653	32,944	33,597	653	37,313	37,966
Alaska Total		7,999	7,999	20,163	103,055	123,218	20,163	111,054	131,217
Porcupine Mainstem Yukon	22,526	7,509	30,035	2,654 3,989		2,654 5,319	2,654 26,516		2,654 35,354
Canada Total <sup>f</sup>	22,526	7,509	30,035	6,643	1,330	7,973	29,170	8,839	38,008
Yukon R. Total	22,526	15,508	38,034	26,807	104,385	131,191	49,333	119,893	169,225

<sup>a</sup> Total does not include Hooper Bay (284) and Scammon Bay (63) subsistence catches.

<sup>b</sup> Catch by gear type for subsistence fisheries is estimated for Districts 4, 5, and 6 using the proportion caught by gear type in the summer chum salmon commercial fisheries.

<sup>c</sup> Total includes Innoko River (186) and Koyukuk River (55) subsistence catches.

<sup>d</sup> Total includes Black River (1,751) and Chandalar River (4,302) subsistence catches.

<sup>f</sup> Catch by gear type in Yukon Territory is not known; it is believed that more than 25% of the catch is taken in fish wheels (JTC 1994). Therefore, 75% of the catch was assigned to gillnet and 25% to fish wheel in the mainstem Yukon River fishery. Canada subsistence catch includes domestic and Aboriginal fisheries.

Appendix B.4. Yukon River coho salmon commercial and subsistence gillnet (GN) and fish wheel (FW) catch by district, 1994.

District	Commercial Catch			Subsistence Catch			Total Catch		
	GN	FW	Total	GN	FW	Total	GN	FW	Total
1 <sup>a</sup>				3,272		3,272	3,272		3,272
2				3,881		3,881	3,881		3,881
3				226		226	226		226
4 <sup>b,c</sup>				637	3,015	3,652	637	3,015	3,652
5 <sup>b,d</sup>				468	3,706	4,174	468	3,706	4,174
6 <sup>d</sup>		4,451	4,451	571	28,818	29,389	571	33,269	33,840
Alaska Total <sup>f</sup>		4,451	4,451	9,055	35,539	44,594	9,055	39,990	49,045
Porcupine River <sup>g</sup>		2	2	332		332	332	2	334
Yukon River Total		4,453	4,453	9,387	35,539	44,926	9,387	39,992	49,379

<sup>a</sup> Total does not include Hooper Bay (1) and Scammon Bay (80) subsistence catches.

<sup>b</sup> Catch by gear type for subsistence fisheries is estimated for Districts 4, 5, and 6 using the proportion caught by gear type in the summer chum salmon commercial fisheries.

<sup>c</sup> Total includes Innoko River (137) and Koyukuk River (47) subsistence catches.

<sup>d</sup> Total includes Black River (4) and Chandalar River (456) subsistence catches.

<sup>f</sup> Total does not include sport fish harvest (1,893).

<sup>g</sup> Coho salmon in the subsistence catch are usually caught by gillnets in late October and November under the ice.

Appendix C.1. East Fork Andreafsky River weir counts of chinook and summer chum salmon, 1994

Date	Chinook Salmon		Summer Chum Salmon	
	Daily	Cumulative	Daily	Cumulative
29-Jun <sup>a</sup>	1	1	609	609
30-Jun	188	189	19254	19,863
01-Jul	141	330	12,435	32,298
02-Jul	54	384	2,840	35,138
03-Jul	222	606	4,973	40,111
04-Jul	156	762	13,321	53,432
05-Jul	651	1,413	12,552	65,984
06-Jul	225	1,638	4,043	70,027
07-Jul	1,156	2,794	27,527	97,554
08-Jul	108	2,902	5,251	102,805
09-Jul	351	3,253	3,883	106,688
10-Jul	375	3,628	12,416	119,104
11-Jul	288	3,916	6,896	126,000
12-Jul	581	4,497	8,424	134,424
13-Jul	779	5,276	14,628	149,052
14-Jul	433	5,709	11,611	160,663
15-Jul	352	6,061	8,275	168,938
16-Jul	389	6,450	4,690	173,628
17-Jul	144	6,594	4,886	178,514
18-Jul	285	6,879	4,532	183,046
19-Jul	161	7,040	2,977	186,023
20-Jul	53	7,093	1,091	187,114
21-Jul	66	7,159	1,351	188,465
22-Jul	62	7,221	2,228	190,693
23-Jul	209	7,430	1,320	192,013
24-Jul	149	7,579	868	192,881
25-Jul	25	7,604	1,349	194,230
26-Jul	51	7,655	1,977	196,207
27-Jul	92	7,747	2,196	198,403
28-Jul	20	7,767	841	199,244
29-Jul	10	7,777	564	199,808
30-Jul	13	7,790	524	200,332
31-Jul	10	7,800	410	200,742
01-Aug	1	7,801	239	200,981
<b>Total</b>	<b>7,801</b>		<b>200,981</b>	

<sup>a</sup> Weir counts began on June 29 at 2300 hours. Fish were seen passing the weir site for nine days before counting began.

Appendix C.2. Kaltag River counting tower daily counts of chinook and summer chum salmon, 1994.

Date	Chinook Salmon		Summer Chum Salmon	
	Daily	Cumulative	Daily	Cumulative
20-Jun	0	0	0	0
21-Jun	0	0	22	22
22-Jun	0	0	42	64
23-Jun	0	0	110	174
24-Jun	0	0	115	289
25-Jun	1	1	335	624
26-Jun	1	2	1,032	1,656
27-Jun	-1	1	1,803	3,459
28-Jun	3	4	2,273	5,732
29-Jun	12	16	2,784	8,516
30-Jun	7	23	3,169	11,685
01-Jul	24	47	2,891	14,576
02-Jul	24	71	2,612	17,188
03-Jul	1	72	1,903	19,091
04-Jul	3	75	2,015	21,106
05-Jul <sup>a</sup>	2	77	2,020	23,126
06-Jul <sup>a</sup>	1	78	2,025	25,151
07-Jul	1	79	2,031	27,182
08-Jul	9	88	1,538	28,720
09-Jul	18	106	2,495	31,215
10-Jul	20	126	1,863	33,078
11-Jul	17	143	2,403	35,481
12-Jul <sup>a</sup>	14.5	157.5	1,978	37,459
13-Jul <sup>a</sup>	12	169.5	1,553	39,012
14-Jul <sup>a</sup>	9.5	179	1,128	40,140
15-Jul	7	186	702	40,842
16-Jul <sup>a</sup>	7	193	719	41,561
17-Jul <sup>a</sup>	7	200	736	42,297
18-Jul	7	207	754	43,051
19-Jul	8	215	566	43,617
20-Jul	1	216	596	44,213
21-Jul	3	219	556	44,769
22-Jul	7	226	557	45,326
23-Jul	-1	225	429	45,755
24-Jul	0	225	488	46,243
25-Jul	7	232	313	46,556
26-Jul	0	232	346	46,902
27-Jul	4	236	235	47,137
28-Jul	5	241	158	47,295
Total	241		47,295	

<sup>a</sup> Counts are the average of preceding and following daily counts.

Appendix C.3. Nulato River counting tower daily counts of chinook and summer chum salmon, 1994.

Date	Chinook Salmon		Summer Chum Salmon	
	Daily	Cumulative	Daily	Cumulative
29-Jun	0	0	2,001	2,001
30-Jun	3	3	8,355	10,356
01-Jul	6	9	7,898	18,254
02-Jul	72	81	9,604	27,858
03-Jul	72	153	7,601	35,459
04-Jul	60	213	6,708	42,167
05-Jul	216	429	10,188	52,355
06-Jul	208	637	8,092	60,447
07-Jul	120	757	7,008	67,455
08-Jul	84	841	4,704	72,159
09-Jul	92	933	9,232	81,391
10-Jul	100	1,033	10,744	92,135
11-Jul	112	1,145	8,776	100,911
12-Jul	92	1,237	7,327	108,238
13-Jul	96	1,333	6,931	115,169
14-Jul	100	1,433	6,535	121,704
15-Jul	104	1,537	6,140	127,844
16-Jul	44	1,581	4,440	132,284
17-Jul	51	1,632	3,211	135,495
18-Jul	40	1,672	3,332	138,827
19-Jul	43	1,715	2,215	141,042
20-Jul	28	1,743	1,712	142,754
21-Jul	12	1,755	1,208	143,962
22-Jul	8	1,763	2,808	146,770
23-Jul	32	1,795	1,992	148,762
<b>Total</b>	<b>1,795</b>		<b>148,762</b>	

Appendix C.4. Gisasa River weir counts of chinook and summer chum salmon, 1994.

Date	Chinook Salmon		Summer Chum Salmon	
	Daily	Cumulative	Daily	Cumulative
12-Jul <sup>a</sup>	212	212	6,178	6,178
13-Jul	259	471	4,528	10,706
14-Jul	189	660	5,195	15,901
15-Jul	239	899	5,449	21,350
16-Jul	355	1,254	3,347	24,697
17-Jul	248	1,502	3,450	28,147
18-Jul	219	1,721	2,193	30,340
19-Jul	302	2,023	2,089	32,429
20-Jul	248	2,271	2,007	34,436
21-Jul	70	2,341	1,416	35,852
22-Jul	42	2,383	1,864	37,716
23-Jul	100	2,483	2,138	39,854
24-Jul	99	2,582	1,676	41,530
25-Jul	65	2,647	2,120	43,650
26-Jul	48	2,695	1,994	45,644
27-Jul	39	2,734	1,325	46,969
28-Jul	33	2,767	994	47,963
29-Jul	32	2,799	671	48,634
30-Jul	24	2,823	360	48,994
31-Jul	9	2,832	321	49,315
01-Aug	21	2,853	247	49,562
02-Aug	12	2,865	205	49,767
03-Aug	5	2,870	225	49,992
04-Aug	2	2,872	238	50,230
05-Aug	3	2,875	259	50,489
06-Aug	5	2,880	194	50,683
07-Aug	6	2,886	169	50,852
08-Aug	1	2,887	130	50,982
09-Aug	0	2,887	81	51,063
10-Aug	1	2,888	53	51,116
Total	2,888		51,116	

<sup>a</sup> Weir counts for July 12 began at 1800 hours on July 11.

<sup>b</sup> Trap gate was left open for two to three hours; fish passing during these times were not counted.

Appendix C.5. Chena River counting tower daily expanded estimates of chinook and summer chum salmon counts, 1994.

Date	Chinook Salmon		Summer Chum Salmon	
	Estimate <sup>a</sup>	Cumulative	Estimate <sup>a</sup>	Cumulative
08-Jul	45	45	0	0
09-Jul	36	81	0	0
10-Jul	54	135	0	0
11-Jul	117	252	36	36
12-Jul	72	324	32	68
13-Jul	477	801	63	131
14-Jul	1,347	2,148	45	176
15-Jul	1,872	4,020	131	307
16-Jul	1,283	5,303	81	388
17-Jul	864	6,167	129	517
18-Jul	1,116	7,283	333	850
19-Jul	716	7,999	207	1,057
20-Jul	561	8,560	435	1,492
21-Jul	624	9,184	222	1,714
22-Jul	288	9,472	275	1,989
23-Jul	230	9,702	1,211	3,200
24-Jul	348	10,050	549	3,749
25-Jul	891	10,941	473	4,222
26-Jul	410	11,351	657	4,879
27-Jul	303	11,654	576	5,455
28-Jul	3	11,657	24	5,479
29-Jul	2	11,659	30	5,509
30-Jul	0	11,659	36	5,545
31-Jul	9	11,668	135	5,680
01-Aug	18	11,686	308	5,988
02-Aug	18	11,704	308	6,296
03-Aug	27	11,731	482	6,778
04-Aug	32	11,763	351	7,129
05-Aug	45	11,808	243	7,372
06-Aug	50	11,858	671	8,043
07-Aug	0	11,858	171	8,214
08-Aug	9	11,867	90	8,304
09-Aug	9	11,876	711	9,015
10-Aug	0	11,876	509	9,524
11-Aug	5	11,881	306	9,830
12-Aug	0	11,881	158	9,988
Total <sup>b</sup>	11,881		9,988	

<sup>a</sup> Estimates are made from 20 minute counts each hour with the counting period ranging from 16 to 24 hours each day. The estimate is the actual daily count expanded over 24 hours.

<sup>b</sup> The final estimates were reported in text (Evenson 1995) as 11,877 chinook salmon and 9,984 summer chum salmon.

Appendix C.6. Salcha River counting tower daily expanded estimates of chinook and summer chum salmon counts, 1994.

Date	Chinook Salmon		Summer Chum Salmon	
	Estimate <sup>a</sup>	Cumulative	Estimate <sup>a</sup>	Cumulative
05-Jul	0	0	0	0
06-Jul	15	15	0	0
07-Jul	33	48	6	6
08-Jul	48	96	3	9
09-Jul	63	159	0	9
10-Jul	347	506	0	9
11-Jul	383	889	14	23
12-Jul	387	1,276	14	37
13-Jul	1,518	2,794	222	259
14-Jul	1,686	4,480	366	625
15-Jul	1,778	6,258	414	1,039
16-Jul	1,126	7,384	302	1,341
17-Jul	385	7,769	124	1,465
18-Jul	1,503	9,272	531	1,996
19-Jul	738	10,010	428	2,424
20-Jul	963	10,973	690	3,114
21-Jul	1,203	12,176	1,122	4,236
22-Jul	621	12,797	977	5,213
23-Jul	720	13,517	1,877	7,090
24-Jul	1,050	14,567	2,406	9,496
25-Jul	1,085	15,652	3,123	12,619
26-Jul	486	16,138	2,696	15,315
27-Jul	684	16,822	2,808	18,123
28-Jul	563	17,385	2,426	20,549
29-Jul	306	17,691	2,115	22,664
30-Jul	255	17,946	2,565	25,229
31-Jul	153	18,099	3,081	28,310
01-Aug	27	18,126	1,107	29,417
02-Aug	90	18,216	1,584	31,001
03-Aug	54	18,270	873	31,874
04-Aug	32	18,302	972	32,846
05-Aug	9	18,311	1,071	33,917
06-Aug	21	18,332	786	34,703
07-Aug	32	18,364	675	35,378
08-Aug	14	18,378	585	35,963
09-Aug	18	18,396	1,130	37,093
10-Aug	3	18,399	957	38,050
11-Aug	5	18,404	972	39,022
12-Aug	0	18,404	432	39,454
Total <sup>b</sup>	18,404		39,454	

<sup>a</sup> Estimates are made from 20 minute counts each hour with the counting period ranging from 16 to 24 hours each day. The estimate is the actual daily count expanded over 24 hours.

<sup>b</sup> The final estimates were reported in text (Evenson 1995) as 18,399 chinook salmon and 39,450 summer chum salmon.

Appendix C.7. Yukon River, Canada chinook salmon fish wheel catches, 1994.

Date	White Rock		Sheep Rock		Total			
	Count	Cum.	Count	Cum.	Count	Prop.	Cum.	Prop.
23-Jun	0	0	0	0	0	0.0000	0	0.0000
24-Jun	1	1	0	0	1	0.0008	1	0.0008
25-Jun	0	1	0	0	0	0.0000	1	0.0008
26-Jun	0	1	0	0	0	0.0000	1	0.0008
27-Jun	0	1	0	0	0	0.0000	1	0.0008
28-Jun	1	2	0	0	1	0.0008	2	0.0016
29-Jun	1	3	0	0	1	0.0008	3	0.0023
30-Jun	1	4	0	0	1	0.0008	4	0.0031
01-Jul	7	11	2	2	9	0.0070	13	0.0101
02-Jul	3	14	0	2	3	0.0023	16	0.0124
03-Jul	7	21	4	6	11	0.0085	27	0.0209
04-Jul	8	29	1	7	9	0.0070	36	0.0279
05-Jul	15	44	8	15	23	0.0178	59	0.0457
06-Jul	9	53	6	21	15	0.0116	74	0.0574
07-Jul	13	66	2	23	15	0.0116	89	0.0690
08-Jul	13	79	8	31	21	0.0163	110	0.0853
09-Jul	16	95	10	41	26	0.0202	136	0.1054
10-Jul	16	111	11	52	27	0.0209	163	0.1264
11-Jul	12	123	8	60	20	0.0155	183	0.1419
12-Jul	26	149	15	75	41	0.0318	224	0.1736
13-Jul	48	197	24	99	72	0.0558	296	0.2295
14-Jul	38	235	25	124	63	0.0488	359	0.2783
15-Jul	17	252	28	152	45	0.0349	404	0.3132
16-Jul	21	273	36	188	57	0.0442	461	0.3574
17-Jul	16	289	19	207	35	0.0271	496	0.3845
18-Jul	36	325	22	229	58	0.0450	554	0.4295
19-Jul	16	341	29	258	45	0.0349	599	0.4643
20-Jul	17	358	18	276	35	0.0271	634	0.4915
21-Jul	15	373	22	298	37	0.0287	671	0.5202
22-Jul	11	384	20	318	31	0.0240	702	0.5442
23-Jul	11	395	19	337	30	0.0233	732	0.5674
24-Jul	7	402	15	352	22	0.0171	754	0.5845
25-Jul	13	415	18	370	31	0.0240	785	0.6085
26-Jul	12	427	16	386	28	0.0217	813	0.6302
27-Jul	22	449	20	406	42	0.0326	855	0.6628
28-Jul	20	469	12	418	32	0.0248	887	0.6876
29-Jul	25	494	19	437	44	0.0341	931	0.7217
30-Jul	12	506	18	455	30	0.0233	961	0.7450
31-Jul	13	519	12	467	25	0.0194	986	0.7643

-Continued-

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Date	White Rock		Sheep Rock		Total			
	Count	Cum.	Count	Cum.	Count	Prop.	Cum.	Prop.
01-Aug	10	529	11	478	21	0.0163	1007	0.7806
02-Aug	12	541	17	495	29	0.0225	1036	0.8031
03-Aug	15	556	15	510	30	0.0233	1066	0.8264
04-Aug	8	564	13	523	21	0.0163	1087	0.8426
05-Aug	14	578	8	531	22	0.0171	1109	0.8597
06-Aug	8	586	10	541	18	0.0140	1127	0.8736
07-Aug	13	599	13	554	26	0.0202	1153	0.8938
08-Aug	11	610	9	563	20	0.0155	1173	0.9093
09-Aug	14	624	6	569	20	0.0155	1193	0.9248
10-Aug	8	632	6	575	14	0.0109	1207	0.9357
11-Aug	9	641	6	581	15	0.0116	1222	0.9473
12-Aug	7	648	1	582	8	0.0062	1230	0.9535
13-Aug	5	653	2	584	7	0.0054	1237	0.9589
14-Aug	3	656	3	587	6	0.0047	1243	0.9636
15-Aug	4	660	4	591	8	0.0062	1251	0.9698
16-Aug	6	666	2	593	8	0.0062	1259	0.9760
17-Aug	3	669	1	594	4	0.0031	1263	0.9791
18-Aug	0	669	5	599	5	0.0039	1268	0.9829
19-Aug	2	671	1	600	3	0.0023	1271	0.9853
20-Aug	1	672	1	601	2	0.0016	1273	0.9868
21-Aug	2	674	4	605	6	0.0047	1279	0.9915
22-Aug	0	674	0	605	0	0.0000	1279	0.9915
23-Aug	0	674	1	606	1	0.0008	1280	0.9922
24-Aug	0	674	1	607	1	0.0008	1281	0.9930
25-Aug	0	674	0	607	0	0.0000	1281	0.9930
26-Aug	0	674	0	607	0	0.0000	1281	0.9930
27-Aug	1	675	1	608	2	0.0016	1283	0.9946
28-Aug	2	677	1	609	3	0.0023	1286	0.9969
29-Aug	1	678	0	609	1	0.0008	1287	0.9977
30-Aug	0	678	0	609	0	0.0000	1287	0.9977
31-Aug	0	678	0	609	0	0.0000	1287	0.9977
01-Sep	2	680	0	609	2	0.0016	1289	0.9992
02-Sep	1	681	0	609	1	0.0008	1290	1.0000
03-Sep	0	681	0	609	0	0.0000	1290	1.0000
04-Sep	0	681	0	609	0	0.0000	1290	1.0000
05-Sep	0	681	0	609	0	0.0000	1290	1.0000
Total	681		609					

Appendix C.8. Whitehorse fishway chinook salmon counts, 1994.

Date	Male	Female	Daily <sup>a</sup>		Cumulative <sup>a</sup>	
			Count	Prop.	Count	Prop.
28-Jul	0	0	0	0.0000	0	0.0000
29-Jul	0	1	1	0.0006	1	0.0006
30-Jul	0	0	0	0.0000	1	0.0006
31-Jul	3	0	3	0.0019	4	0.0025
01-Aug	1	0	1	0.0006	5	0.0032
02-Aug	3	0	3	0.0019	8	0.0051
03-Aug	4	1	5	0.0032	13	0.0082
04-Aug	9	1	10	0.0063	23	0.0146
05-Aug	19	2	21	0.0133	44	0.0279
06-Aug	23	6	29	0.0184	73	0.0463
07-Aug	30	10	40	0.0254	113	0.0717
08-Aug	61	11	72	0.0457	185	0.1173
09-Aug	63	7	70	0.0444	255	0.1617
10-Aug	61	8	69	0.0438	324	0.2055
11-Aug	63	15	78	0.0495	402	0.2549
12-Aug	71	16	87	0.0552	489	0.3101
13-Aug	63	17	80	0.0507	569	0.3608
14-Aug	97	15	112	0.0710	681	0.4318
15-Aug	106	16	122	0.0774	803	0.5092
16-Aug	86	23	109	0.0691	912	0.5783
17-Aug	77	13	90	0.0571	1,002	0.6354
18-Aug	51	20	71	0.0450	1,073	0.6804
19-Aug	79	22	101	0.0640	1,174	0.7445
20-Aug	44	14	58	0.0368	1,232	0.7812
21-Aug	36	7	43	0.0273	1,275	0.8085
22-Aug	26	7	33	0.0209	1,308	0.8294
23-Aug	36	12	48	0.0304	1,356	0.8599
24-Aug	27	10	37	0.0235	1,393	0.8833
25-Aug	15	3	18	0.0114	1,411	0.8947
26-Aug	22	8	30	0.0190	1,441	0.9138
27-Aug	18	3	21	0.0133	1,462	0.9271
28-Aug	27	2	29	0.0184	1,491	0.9455
29-Aug	21	1	22	0.0140	1,513	0.9594
30-Aug	26	1	27	0.0171	1,540	0.9765
31-Aug	9	2	11	0.0070	1,551	0.9835
01-Sep	15	0	15	0.0095	1,566	0.9930
02-Sep	6	0	6	0.0038	1,572	0.9968
03-Sep	5	0	5	0.0032	1,577	1.0000
Total	1,303	274	1,577			

<sup>a</sup> The numbers are considered preliminary as some clipped fish are believed to have passed through more than once.

Appendix C.9. Anvik River sonar project daily adjusted summer chum salmon counts, 1994.

Date	West Bank	East Bank	Daily		Cumulative	
			Count	Prop.	Count	Prop.
19-Jun <sup>a</sup>	279	0	279	0.0002	279	0.0002
20-Jun	1,372	20	1,392	0.0012	1,671	0.0015
21-Jun	2,280	36	2,316	0.0021	3,987	0.0035
22-Jun	2,399	90	2,489	0.0022	6,476	0.0058
23-Jun	9,297	397	9,694	0.0086	16,170	0.0144
24-Jun	16,195	790	16,985	0.0151	33,155	0.0295
25-Jun	25,377	1,412	26,789	0.0238	59,944	0.0533
26-Jun	36,564	2,315	38,879	0.0346	98,823	0.0879
27-Jun	30,573	2,234	32,807	0.0292	131,630	0.1170
28-Jun	22,713	1,850	24,563	0.0218	156,193	0.1389
29-Jun	15,272	1,407	16,679	0.0148	172,872	0.1537
30-Jun	37,059	3,851	40,910	0.0364	213,782	0.1901
01-Jul	47,828	27,754	75,582	0.0672	289,364	0.2573
02-Jul	37,767	12,521	50,288	0.0447	339,652	0.3020
03-Jul	29,443	8,879	38,322	0.0341	377,974	0.3361
04-Jul	19,246	5,415	24,661	0.0219	402,635	0.3580
05-Jul	47,409	6,833	54,242	0.0482	456,877	0.4062
06-Jul	46,313	6,542	52,855	0.0470	509,732	0.4532
07-Jul	44,629	6,552	51,181	0.0455	560,913	0.4987
08-Jul	73,158	11,183	84,341	0.0750	645,254	0.5737
09-Jul	44,511	12,565	57,076	0.0507	702,330	0.6245
10-Jul	53,115	17,980	71,095	0.0632	773,425	0.6877
11-Jul	76,269	12,316	88,585	0.0788	862,010	0.7664
12-Jul	37,100	8,695	45,795	0.0407	907,805	0.8072
13-Jul	23,188	9,835	33,023	0.0294	940,828	0.8365
14-Jul	19,656	8,363	28,019	0.0249	968,847	0.8614
15-Jul	12,560	5,442	18,002	0.0160	986,849	0.8774
16-Jul	7,725	5,743	13,468	0.0120	1,000,317	0.8894
17-Jul	16,478	8,554	25,032	0.0223	1,025,349	0.9117
18-Jul	16,924	10,266	27,190	0.0242	1,052,539	0.9358
19-Jul	15,755	10,393	26,148	0.0232	1,078,687	0.9591
20-Jul	7,090	4,672	11,762	0.0105	1,090,449	0.9696
21-Jul	5,308	2,104	7,412	0.0066	1,097,861	0.9761
22-Jul	9,415	4,777	14,192	0.0126	1,112,053	0.9888
23-Jul	7,094	5,542	12,636	0.0112	1,124,689	1.0000
Total	897,361	227,328	1,124,689			

<sup>a</sup> Counts initiated on the west bank on June 19 at 1900 hrs and on the east bank on June 19 at 1600 hrs.

Appendix C.10. Sheenjek River sonar project daily adjusted fall chum salmon counts, 1994.

Date	Daily		Cumulative	
	Count <sup>a</sup>	Prop.	Count	Prop.
07-Aug	102	0.0007	102	0.0007
08-Aug	75	0.0005	177	0.0012
09-Aug	112	0.0007	289	0.0019
10-Aug	38	0.0002	327	0.0021
11-Aug	214	0.0014	541	0.0035
12-Aug	243	0.0016	784	0.0051
13-Aug	328	0.0021	1,112	0.0073
14-Aug	215	0.0014	1,327	0.0087
15-Aug	261	0.0017	1,588	0.0104
16-Aug	333	0.0022	1,921	0.0126
17-Aug	378	0.0025	2,299	0.0150
18-Aug	524	0.0034	2,823	0.0184
19-Aug	497	0.0032	3,320	0.0217
20-Aug	257	0.0017	3,577	0.0234
21-Aug	594	0.0039	4,171	0.0273
22-Aug	642	0.0042	4,813	0.0315
23-Aug	1,673	0.0109	6,486	0.0424
24-Aug	1,035	0.0068	7,521	0.0492
25-Aug	848	0.0055	8,369	0.0547
26-Aug	791	0.0052	9,160	0.0599
27-Aug	2,934	0.0192	12,094	0.0790
28-Aug	3,677	0.0240	15,771	0.1031
29-Aug	4,199	0.0274	19,970	0.1305
30-Aug	4,721	0.0309	24,691	0.1614
31-Aug	5,472	0.0358	30,163	0.1971
01-Sep	6,912	0.0452	37,075	0.2423
02-Sep	7,196	0.0470	44,271	0.2893
03-Sep	5,918	0.0387	50,189	0.3280
04-Sep	3,666	0.0240	53,855	0.3520
05-Sep	2,832	0.0185	56,687	0.3705
06-Sep	2,952	0.0193	59,639	0.3898
07-Sep	3,928	0.0257	63,567	0.4154
08-Sep	3,587	0.0234	67,154	0.4389
09-Sep	2,598	0.0170	69,752	0.4559
10-Sep	2,341	0.0153	72,093	0.4712
11-Sep	3,382	0.0221	75,475	0.4933
12-Sep	2,796	0.0183	78,271	0.5115
13-Sep	3,859	0.0252	82,130	0.5368
14-Sep	4,945	0.0323	87,075	0.5691
15-Sep	3,522	0.0230	90,597	0.5921
16-Sep	4,764	0.0311	95,361	0.6232
17-Sep	4,413	0.0288	99,774	0.6521
18-Sep	3,249	0.0212	103,023	0.6733
19-Sep	6,500	0.0425	109,523	0.7158
20-Sep	7,583	0.0496	117,106	0.7653
21-Sep	5,287	0.0346	122,393	0.7999
22-Sep	6,520	0.0426	128,913	0.8425
23-Sep	5,153	0.0337	134,066	0.8762
24-Sep	4,523	0.0296	138,589	0.9057
25-Sep	3,607	0.0236	142,196	0.9293
26-Sep	3,458	0.0226	145,654	0.9519
27-Sep	3,600	0.0235	149,254	0.9754
28-Sep	3,759	0.0246	153,013	1.0000
<b>Total</b>	<b>153,013</b>			

<sup>a</sup> Counts are adjusted by oscilloscope calibrations and expanded for 24 hours.

Appendix C.11. Fishing Branch River weir fall chum salmon counts, 1994.

Date	Male	Female	Daily Counts	Cumulative	
				Total	Percent
26-Aug <sup>a</sup>	5	12	17	17	0.03
27-Aug	2	8	10	27	0.04
28-Aug	43	45	88	115	0.18
29-Aug	22	59	81	196	0.30
30-Aug	33	39	72	268	0.41
31-Aug	75	86	161	429	0.66
01-Sep	145	133	278	707	1.08
02-Sep	162	150	312	1,019	1.56
03-Sep	171	163	334	1,353	2.07
04-Sep	222	213	435	1,788	2.74
05-Sep	193	245	438	2,226	3.41
06-Sep	152	189	341	2,567	3.93
07-Sep	273	330	603	3,170	4.86
08-Sep	633	647	1,280	4,450	6.82
09-Sep	412	443	855	5,305	8.13
10-Sep	531	538	1,069	6,374	9.77
11-Sep	612	638	1,250	7,624	11.68
12-Sep	1,050	1,244	2,294	9,918	15.20
13-Sep	642	679	1,321	11,239	17.23
14-Sep	1,051	1,122	2,173	13,412	20.56
15-Sep	1,082	1,402	2,484	15,896	24.36
16-Sep	991	1,263	2,254	18,150	27.82
17-Sep	1,320	1,444	2,764	20,914	32.05
18-Sep	1,084	1,197	2,281	23,195	35.55
19-Sep	1,352	1,544	2,896	26,091	39.99
20-Sep	1,348	1,525	2,873	28,964	44.39
21-Sep	1,372	1,655	3,027	31,991	49.03
22-Sep	1,163	1,351	2,514	34,505	52.88
23-Sep	1,293	1,663	2,956	37,461	57.41
24-Sep	1,046	1,422	2,468	39,929	61.20
25-Sep	1,023	1,267	2,290	42,219	64.71
26-Sep	784	1,123	1,907	44,126	67.63
27-Sep	568	805	1,373	45,499	69.73
28-Sep	689	811	1,500	46,999	72.03
29-Sep	805	1,105	1,910	48,909	74.96
30-Sep	681	912	1,593	50,502	77.40
01-Oct	540	798	1,338	51,840	79.45
02-Oct	567	742	1,309	53,149	81.46
03-Oct	406	633	1,039	54,188	83.05
04-Oct	438	626	1,064	55,252	84.68
05-Oct	484	691	1,175	56,427	86.48
06-Oct	487	691	1,178	57,605	88.29
07-Oct	468	678	1,146	58,751	90.04
08-Oct	447	622	1,069	59,820	91.68

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Date	Male	Female	Daily Counts	Cumulative	
				Total	Percent
09-Oct	324	620	944	60,764	93.13
10-Oct	233	383	616	61,380	94.07
11-Oct	216	318	534	61,914	94.89
12-Oct	156	314	470	62,384	95.61
13-Oct	146	240	386	62,770	96.20
14-Oct	112	195	307	63,077	96.67
15-Oct	73	150	223	63,300	97.02
16-Oct	111	124	235	63,535	97.38
17-Oct	160	279	439	63,974	98.05
18-Oct	147	258	405	64,379	98.67
19-Oct	110	187	297	64,676	99.12
20-Oct	92	128	220	64,896	99.46
21-Oct	77	92	169	65,065	99.72
22-Oct	34	65	99	65,164	99.87
23-Oct	8	40	48	65,212	99.95
24-Oct	10	22	32	65,244	100.00
25-Oct <sup>b</sup>	2	1	3	65,247	100.00
<b>Total</b>	<b>28,878</b>	<b>36,369</b>	<b>65,247</b>		

<sup>a</sup> Weir fish tight as of 1200 hours.

<sup>b</sup> Weir pulled October 25 at 1000 hours.

Appendix C.12. Yukon River, Canada fall chum salmon fish wheel catches, 1994.

Date	White Rock		Sheep Rock		Total			
	Count	Cum.	Count	Cum.	Count	Prop.	Cum.	Prop.
21-Jul	0	0	1	1	1	0.0003	1	0.0003
22-Jul	0	0	0	1	0	0.0000	1	0.0003
23-Jul	0	0	0	1	0	0.0000	1	0.0003
24-Jul	1	1	0	1	1	0.0003	2	0.0005
25-Jul	1	2	1	2	2	0.0005	4	0.0011
26-Jul	0	2	0	2	0	0.0000	4	0.0011
27-Jul	3	5	1	3	4	0.0011	8	0.0021
28-Jul	0	5	1	4	1	0.0003	9	0.0024
29-Jul	0	5	0	4	0	0.0000	9	0.0024
30-Jul	1	6	0	4	1	0.0003	10	0.0026
31-Jul	0	6	4	8	4	0.0011	14	0.0037
01-Aug	3	9	0	8	3	0.0008	17	0.0045
02-Aug	0	9	0	8	0	0.0000	17	0.0045
03-Aug	1	10	0	8	1	0.0003	18	0.0047
04-Aug	0	10	4	12	4	0.0011	22	0.0058
05-Aug	2	12	0	12	2	0.0005	24	0.0063
06-Aug	1	13	0	12	1	0.0003	25	0.0066
07-Aug	1	14	0	12	1	0.0003	26	0.0068
08-Aug	4	18	0	12	4	0.0011	30	0.0079
09-Aug	1	19	2	14	3	0.0008	33	0.0087
10-Aug	6	25	0	14	6	0.0016	39	0.0103
11-Aug	1	26	1	15	2	0.0005	41	0.0108
12-Aug	3	29	1	16	4	0.0011	45	0.0118
13-Aug	1	30	0	16	1	0.0003	46	0.0121
14-Aug	4	34	2	18	6	0.0016	52	0.0137
15-Aug	0	34	2	20	2	0.0005	54	0.0142
16-Aug	1	35	1	21	2	0.0005	56	0.0147
17-Aug	1	36	0	21	1	0.0003	57	0.0150
18-Aug	6	42	1	22	7	0.0018	64	0.0168
19-Aug	4	46	2	24	6	0.0016	70	0.0184
20-Aug	5	51	0	24	5	0.0013	75	0.0197
21-Aug	4	55	3	27	7	0.0018	82	0.0216
22-Aug	1	56	2	29	3	0.0008	85	0.0224
23-Aug	12	68	3	32	15	0.0039	100	0.0263
24-Aug	2	70	8	40	10	0.0026	110	0.0289
25-Aug	5	75	10	50	15	0.0039	125	0.0329
26-Aug	5	80	12	62	17	0.0045	142	0.0373
27-Aug	7	87	11	73	18	0.0047	160	0.0421
28-Aug	21	108	18	91	39	0.0103	199	0.0523
29-Aug	26	134	24	115	50	0.0131	249	0.0655
30-Aug	22	156	42	157	64	0.0168	313	0.0823
31-Aug	28	184	77	234	105	0.0276	418	0.1099
01-Sep	33	217	47	281	80	0.0210	498	0.1309
02-Sep	45	262	70	351	115	0.0302	613	0.1612
03-Sep	38	300	65	416	103	0.0271	716	0.1883
04-Sep	24	324	88	504	112	0.0295	828	0.2177
05-Sep	52	376	88	592	140	0.0368	968	0.2545
06-Sep	42	418	84	676	126	0.0331	1094	0.2877
07-Sep	54	472	107	783	161	0.0423	1255	0.3300

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Date	White Rock		Sheep Rock		Total			
	Count	Cum.	Count	Cum.	Count	Prop.	Cum.	Prop.
08-Sep	37	509	109	892	146	0.0384	1401	0.3684
09-Sep	78	587	109	1001	187	0.0492	1588	0.4176
10-Sep	13	600	119	1120	132	0.0347	1720	0.4523
11-Sep	31	631	119	1239	150	0.0394	1870	0.4917
12-Sep	23	654	110	1349	133	0.0350	2003	0.5267
13-Sep	36	690	73	1422	109	0.0287	2112	0.5554
14-Sep	27	717	90	1512	117	0.0308	2229	0.5861
15-Sep	33	750	80	1592	113	0.0297	2342	0.6158
16-Sep	39	789	60	1652	99	0.0260	2441	0.6419
17-Sep	39	828	86	1738	125	0.0329	2566	0.6747
18-Sep	65	893	85	1823	150	0.0394	2716	0.7142
19-Sep	45	938	65	1888	110	0.0289	2826	0.7431
20-Sep	65	1003	96	1984	161	0.0423	2987	0.7854
21-Sep	53	1056	89	2073	142	0.0373	3129	0.8228
22-Sep	33	1089	63	2136	96	0.0252	3225	0.8480
23-Sep	43	1132	56	2192	99	0.0260	3324	0.8740
24-Sep	36	1168	52	2244	88	0.0231	3412	0.8972
25-Sep	41	1209	39	2283	80	0.0210	3492	0.9182
26-Sep	22	1231	45	2328	67	0.0176	3559	0.9358
27-Sep	11	1242	23	2351	34	0.0089	3593	0.9448
28-Sep	9	1251	17	2368	26	0.0068	3619	0.9516
29-Sep	7	1258	10	2378	17	0.0045	3636	0.9561
30-Sep	14	1272	10	2388	24	0.0063	3660	0.9624
01-Oct	7	1279	16	2404	23	0.0060	3683	0.9684
02-Oct	10	1289	10	2414	20	0.0053	3703	0.9737
03-Oct	5	1294	7	2421	12	0.0032	3715	0.9769
04-Oct	9	1303	9	2430	18	0.0047	3733	0.9816
05-Oct	4	1307	17	2447	21	0.0055	3754	0.9871
06-Oct	4	1311	8	2455	12	0.0032	3766	0.9903
07-Oct	0	1311	0	2455	0	0.0000	3766	0.9903
08-Oct	5	1316	9	2464	14	0.0037	3780	0.9940
09-Oct	4	1320	3	2467	7	0.0018	3787	0.9958
10-Oct	2	1322	4	2471	6	0.0016	3793	0.9974
11-Oct	3	1325	3	2474	6	0.0016	3799	0.9989
12-Oct <sup>a</sup>	1	1326	3	2477	4	0.0011	3803	1.0000
Total	1,326		2,477		3,803			

<sup>a</sup> Fish wheels stopped on October 13.

Appendix D.1. Yukon River District 1 chinook salmon commercial catch composition by age, sex, and fishing period, 1994.

		Brood Year and Age Group <sup>a</sup>							Total
		1990		1989		1988		1987	
		0.3	1.2	1.3	1.4	2.3	1.5	2.4	
Stratum Dates: 6/13		Period 1 <sup>b</sup>							
Sampling Dates: 6/14									
Sample Size: 349									
Female	Percent of Sample	0.0	0.0	17.8	31.2	0.0	1.1	0.3	50.4
	Number in Catch	0	0	2,407	4,232	0	155	39	6,833
Male	Percent of Sample	0.0	2.3	30.9	15.8	0.6	0.0	0.0	49.6
	Number in Catch	0	311	4,193	2,135	78	0	0	6,716
Total	Percent of Sample	0.0	2.3	48.7	47.0	0.6	1.1	0.3	100.0
	Number in Catch	0	311	6,600	6,367	78	155	39	13,549
	Standard Error	0	109	363	362	55	77	39	
Stratum Dates: 6/16-17		Period 2 <sup>b</sup>							
Sampling Dates: 6/17									
Sample Size: 357									
Female	Percent of Sample	0.0	0.0	16.2	32.8	0.0	2.5	0.3	51.8
	Number in Catch	0	0	3,744	7,554	0	581	65	11,944
Male	Percent of Sample	0.0	2.0	35.0	10.1	0.0	0.6	0.6	48.2
	Number in Catch	0	452	8,070	2,324	0	129	129	11,104
Total	Percent of Sample	0.0	2.0	51.3	42.9	0.0	3.1	0.8	100.0
	Number in Catch	0	452	11,815	9,878	0	710	194	23,048
	Standard Error	0	169	611	605	0	211	112	
Stratum Dates: 6/22-23		Period 3 <sup>b</sup>							
Sampling Dates: 6/23									
Sample Size: 348									
Female	Percent of Sample	0.0	0.0	11.2	35.9	0.0	5.2	0.0	52.3
	Number in Catch	0	0	1,549	4,965	0	715	0	7,229
Male	Percent of Sample	0.0	1.4	25.3	18.4	0.0	2.6	0.0	47.7
	Number in Catch	0	199	3,495	2,542	0	357	0	6,593
Total	Percent of Sample	0.0	1.4	36.5	54.3	0.0	7.8	0.0	100.0
	Number in Catch	0	199	5,044	7,507	0	1,072	0	13,822
	Standard Error	0	88	357	370	0	199	0	

-Continued-

		Brood Year and Age Group <sup>a</sup>								
		1990		1989		1988		1987		
		0.3	1.2	1.3	1.4	2.3	1.5	2.4	Total	
Stratum Dates: 6/27		Period 4 <sup>c</sup>								
Sampling Dates: 6/28										
Sample Size: 338										
Female	Percent of Sample	0.0	0.0	11.5	39.9	0.0	4.7	0.0	56.2	
	Number in Catch	0	0	1,294	4,479	0	531	0	6,304	
Male	Percent of Sample	0.3	0.6	22.5	18.0	0.0	2.1	0.3	43.8	
	Number in Catch	33	66	2,521	2,024	0	232	33	4,910	
Total	Percent of Sample	0.3	0.6	34.0	58.0	0.0	6.8	0.3	100.0	
	Number in Catch	33	66	3,815	6,503	0	763	33	11,214	
	Standard Error	33	47	289	302	0	154	33		
Stratum Dates: 7/4–5		Period 5 <sup>d</sup>								
Sampling Dates: 7/5										
Sample Size: 104										
Female	Percent of Sample	0.0	0.0	12.5	27.9	0.0	9.6	0.0	50.0	
	Number in Catch	0	0	76	170	0	58	0	304	
Male	Percent of Sample	0.0	8.7	27.9	12.5	0.0	1.0	0.0	50.0	
	Number in Catch	0	53	170	76	0	6	0	304	
Total	Percent of Sample	0.0	8.7	40.4	40.4	0.0	10.6	0.0	100.0	
	Number in Catch	0	53	246	246	0	64	0	608	
	Standard Error	0	17	29	29	0	18	0		

<sup>a</sup> Total catch for each period is from Appendix A.1. Catches allocated to age and sex categories are calculated from total catch. Discrepancies in row and column addition by category are due to rounding error.

<sup>b</sup> Mesh size restricted to 8 in (20.3 cm) or greater; most fish taken with 8.5 in (21.6 cm) mesh gillnet.

<sup>c</sup> No mesh size restriction; most fish taken with 8.5 in (21.6 cm) mesh gillnet.

<sup>d</sup> 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 gillnet mesh size, 1994.

		Brood Year and Age Group <sup>a</sup>							
		1990		1989	1988		1987		
		0.3	1.2	1.3	1.4	2.3	1.5	2.4	Total
Stratum Dates: 6/13–6/27		Periods 1–4 Restricted (8 in or greater) and Unrestricted Mesh Gillnet							
Sampling Dates: 6/13, 6/17, 6/23, 6/28									
Sample Size: 1,392									
Female	Percent of Sample	0.0	0.0	14.6	34.4	0.0	3.2	0.2	52.4
	Number in Catch	0	0	8,994	21,229	0	1,982	103	32,309
Male	Percent of Sample	0.1	1.7	29.7	14.6	0.1	1.2	0.3	47.6
	Number in Catch	33	1,027	18,280	9,025	78	719	162	29,324
Total	Percent of Sample	0.1	1.7	44.3	49.1	0.1	4.4	0.4	100.0
	Number in Catch	33	1,027	27,274	30,254	78	2,701	266	61,633
	Standard Error	38	212	821	826	59	338	108	
Stratum Dates: 7/4–7/5		Period 5 Restricted (6 in maximum) Mesh Gillnet							
Sampling Dates: 7/5									
Sample Size: 104									
Female	Percent of Sample	0.0	0.0	12.5	27.9	0.0	9.6	0.0	50.0
	Number in Catch	0	0	76	170	0	58	0	304
Male	Percent of Sample	0.0	8.7	27.9	12.5	0.0	1.0	0.0	50.0
	Number in Catch	0	53	170	76	0	6	0	304
Total	Percent of Sample	0.0	8.7	40.4	40.4	0.0	10.6	0.0	100.0
	Number in Catch	0	53	246	246	0	64	0	608
	Standard Error	0	17	29	29	0	18	0	
Stratum Dates: 6/13–7/5		Season Total							
Sampling Dates: 6/14–7/5									
Sample Size: 1,496									
Female	Percent of Sample	0.0	0.0	14.6	34.4	0.0	3.3	0.2	52.4
	Number in Catch	0	0	9,070	21,398	0	2,041	103	32,613
Male	Percent of Sample	0.1	1.7	29.6	14.6	0.1	1.2	0.3	47.6
	Number in Catch	33	1,080	18,449	9,101	78	725	162	29,628
Total <sup>b</sup>	Percent of Sample	0.1	1.7	44.2	49.0	0.1	4.4	0.4	100.0
	Number in Catch	33	1,080	27,520	30,500	78	2,765	266	62,241
	Standard Error	37	210	799	805	57	332	105	

<sup>a</sup> Discrepancies in row and column addition by category are due to rounding error.

<sup>b</sup> Total catch is from Appendix A.1. and does not include ADF&G test fish sales of 1,561 chinook salmon.

Appendix D.3. Yukon River District 1 chinook salmon subsistence catch by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>							
		1990		1989	1988		1987		
		0.3	1.2	1.3	1.4	2.3	1.5	2.4	Total
Stratum Dates:									
Sampling Dates:									
Sample Size:		349							
Female	Percent of Sample	0.0	0.0	17.8	31.2	0.0	1.1	0.3	50.4
	Number in Catch	0	0	1,182	2,078	0	76	19	3,356
Male	Percent of Sample	0.0	2.3	30.9	15.8	0.6	0.0	0.0	49.6
	Number in Catch	0	153	2,059	1,049	38	0	0	3,298
Total <sup>b</sup>	Percent of Sample	0.0	2.3	48.7	47.0	0.6	1.1	0.3	100.0
	Number in Catch	0	153	3,241	3,127	38	76	19	6,654
	Standard Error	0	53	178	178	27	38	19	

<sup>a</sup> Age and sex composition is based on Yukon River District 1 period 1 commercial catch. Discrepancies in row and column addition are due to rounding error.

<sup>b</sup> Total catch is from Appendix B.1 and includes 1,985 chinook salmon from ADF&G test fish catches.

Appendix D.4. Yukon River District 2 chinook salmon commercial catch composition by age, sex, and fishing period, 1994.

		Brood Year and Age Group <sup>a</sup>									
		1990		1989		1988			1987		
		0.3	1.2	0.4	1.3	0.5	1.4	2.3	1.5	2.4	Total
Stratum Dates: 6/15		Period 1 <sup>b</sup>									
Sampling Dates: 6/16											
Sample Size: 352											
Female	Percent of Sample	0.0	0.0	0.0	9.9	0.0	26.1	0.0	0.9	0.6	37.5
	Number in Catch	0	0	0	813	0	2,136	0	70	46	3,065
Male	Percent of Sample	0.0	1.4	0.0	34.1	0.0	24.7	0.0	1.7	0.6	62.5
	Number in Catch	0	116	0	2,786	0	2,020	0	139	46	5,108
Total	Percent of Sample	0.0	1.4	0.0	44.0	0.0	50.9	0.0	2.6	1.1	100.0
	Number in Catch	0	116	0	3,599	0	4,156	0	209	93	8,173
	Standard Error	0	52	0	217	0	218	0	69	46	
Stratum Dates: 6/21		Period 2 <sup>b</sup>									
Sampling Dates: 6/22											
Sample Size: 354											
Female	Percent of Sample	0.0	0.0	0.0	15.8	0.0	36.7	0.3	2.8	0.0	55.6
	Number in Catch	0	0	0	2,883	0	6,692	51	515	0	10,140
Male	Percent of Sample	0.6	0.6	0.0	27.7	0.0	15.0	0.0	0.6	0.0	44.4
	Number in Catch	103	103	0	5,045	0	2,728	0	103	0	8,082
Total	Percent of Sample	0.6	0.6	0.0	43.5	0.0	51.7	0.3	3.4	0.0	100.0
	Number in Catch	103	103	0	7,927	0	9,420	51	618	0	18,222
	Standard Error	73	73	0	481	0	485	51	176	0	
Stratum Dates: 6/26		Period 3 <sup>b</sup>									
Sampling Dates: 6/27											
Sample Size: 342											
Female	Percent of Sample	0.0	0.0	0.3	9.6	0.0	38.0	0.0	2.9	0.0	50.9
	Number in Catch	0	0	33	1,078	0	4,245	0	327	0	5,681
Male	Percent of Sample	0.0	0.3	0.0	31.0	0.3	16.1	0.0	1.5	0.0	49.1
	Number in Catch	0	33	0	3,461	33	1,796	0	163	0	5,486
Total	Percent of Sample	0.0	0.3	0.3	40.6	0.3	54.1	0.0	4.4	0.0	100.0
	Number in Catch	0	33	33	4,539	33	6,041	0	490	0	11,167
	Standard Error	0	33	33	297	33	301	0	124	0	

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		Brood Year and Age Group <sup>a</sup>									
		1990		1989		1988			1987		
		0.3	1.2	0.4	1.3	0.5	1.4	2.3	1.5	2.4	Total
Stratum Dates: 7/3											
Sampling Dates: 7/4											
Sample Size: 360											
		Period 4 <sup>c</sup>									
Female	Percent of Sample	0.0	0.3	0.0	10.3	0.0	39.2	0.0	5.8	0.3	55.8
	Number in Catch	0	11	0	424	0	1,618	0	241	11	2,306
Male	Percent of Sample	0.0	0.0	0.3	23.3	0.0	16.4	0.0	4.2	0.0	44.2
	Number in Catch	0	0	11	964	0	677	0	172	0	1,824
Total	Percent of Sample	0.0	0.3	0.3	33.6	0.0	55.6	0.0	10.0	0.3	100.0
	Number in Catch	0	11	11	1,388	0	2,294	0	413	11	4,130
	Standard Error	0	11	11	103	0	108	0	65	11	

<sup>a</sup> Total catch for each period is from Appendix A.2. Catches allocated to age and sex categories are calculated from total catch. Discrepancies in row and column addition by category are due to rounding error.

<sup>b</sup> Mesh size restricted to 8 in (20.3 cm) or greater; most fish taken with 8.5 in (21.6 cm) mesh gillnet.

<sup>c</sup> No mesh size restrictions; most fish taken with 8.5 in (21.6 cm) mesh gillnet.

Appendix D.5. Yukon River District 2 chinook salmon commercial catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>									Total
		1990		1989		1988			1987		
		0.3	1.2	0.4	1.3	0.5	1.4	2.3	1.5	2.4	
Stratum Dates: 6/15–7/03		Periods 1–4 Restricted (8 in or greater) and Unrestricted Mesh Gillnet									
Sampling Dates: 6/16, 6/21, 6/27, 7/4											
Sample Size: 1,408											
Female	Percent of Sample	0.0	0.0	0.1	12.5	0.0	35.2	0.1	2.8	0.1	50.8
	Number in Catch	0	11	33	5,197	0	14,690	51	1,152	58	21,193
Male	Percent of Sample	0.2	0.6	0.0	29.4	0.1	17.3	0.0	1.4	0.1	49.2
	Number in Catch	103	252	11	12,256	33	7,221	0	578	46	20,499
Total <sup>b</sup>	Percent of Sample	0.2	0.6	0.1	41.9	0.1	52.6	0.1	4.1	0.3	100.0
	Number in Catch	103	263	44	17,453	33	21,911	51	1,729	104	41,692
	Standard Error	55	88	36	548	31	555	39	222	56	

<sup>a</sup> Discrepancies in row and column addition by category are due to rounding error.

<sup>b</sup> Total catch is from Appendix A.2 and does not include ADF&G test fish sales of 70 chinook salmon.

Appendix D.6. Yukon River District 2 chinook salmon subsistence catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>									
		1990		1989		1988		1987			
		0.3	1.2	0.4	1.3	0.5	1.4	2.3	1.5	2.4	Total
Stratum Dates:											
Sampling Dates:											
Sample Size:		352									
Female	Percent of Sample	0.0	0.0	0.0	9.9	0.0	26.1	0.0	0.9	0.6	37.5
	Number in Catch	0	0	0	898	0	2,361	0	77	51	3,388
Male	Percent of Sample	0.0	1.4	0.0	34.1	0.0	24.7	0.0	1.7	0.6	62.5
	Number in Catch	0	128	0	3,080	0	2,233	0	154	51	5,646
Total <sup>b</sup>	Percent of Sample	0.0	1.4	0.0	44.0	0.0	50.9	0.0	2.6	1.1	100.0
	Number in Catch	0	128	0	3,978	0	4,594	0	231	103	9,034
	Standard Error	0	57	0	239	0	241	0	76	51	

<sup>a</sup> Age and sex composition is based on Yukon River District 2 period 1 commercial catch samples. Discrepancies in row and column addition are due to rounding error.

<sup>b</sup> Total catch is from Appendix B.1 and includes 334 chinook salmon from ADF&G test fish catches.

Appendix D.7. Yukon River District 3 chinook salmon commercial catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>								Total
		1990		1989		1988		1987		
		0.3	1.2	0.4	1.3	0.5	1.4	2.3	1.5	
Stratum Dates: 6/22–6/27		Periods 1–2 Restricted (8 in or greater) Mesh Gillnet								
Sampling Dates:										
Sample Size: 696										
Female	Percent of Sample	0	0.0	0.1	12.8	0.0	37.4	0.1	2.9	53.3
	Number in Catch	0	0	2	142	0	416	2	32	594
Male	Percent of Sample	0.3	0.4	0.0	29.3	0.1	15.5	0.0	1.0	46.7
	Number in Catch	3	5	0	327	2	173	0	11	520
Total <sup>b</sup>	Percent of Sample	0.3	0.4	0.1	42.1	0.1	52.9	0.1	3.9	100.0
	Number in Catch	3	5	2	469	2	589	2	43	1,114
	Standard Error	8	9	5	90	5	100	5	28	

<sup>a</sup> Age and sex composition is based on District 2 periods 2 and 3 commercial catch samples. Discrepancies in row and column addition are due to rounding error.

<sup>b</sup> Total catch is from Appendix A.3.

Appendix D.8. Yukon River District 3 chinook salmon subsistence catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>									
		1990		1989		1988		1987			
		0.3	1.2	0.4	1.3	0.5	1.4	2.3	1.5	2.4	Total
Stratum Dates:											
Sampling Dates:											
Sample Size:		352									
Female	Percent of Sample	0.0	0.0	0.0	9.9	0.0	26.1	0.0	0.9	0.6	37.5
	Number in Catch	0	0	0	582	0	1,531	0	50	33	2,197
Male	Percent of Sample	0.0	1.4	0.0	34.1	0.0	24.7	0.0	1.7	0.6	62.5
	Number in Catch	0	83	0	1,997	0	1,448	0	100	33	3,661
Total <sup>b</sup>	Percent of Sample	0.0	1.4	0.0	44.0	0.0	50.9	0.0	2.6	1.1	100.0
	Number in Catch	0	83	0	2,580	0	2,979	0	150	67	5,858
	Standard Error	0	37	0	155	0	156	0	49	33	

<sup>a</sup> Age and sex composition is based on Yukon River District 2 period 1 commercial catch samples. Discrepancies in row and column addition are due to rounding error.

<sup>b</sup> Total catch is from Appendix B.1.

Appendix D.9. Yukon River District 4 chinook salmon commercial and subsistence catch composition by age sex and gear type, 1994.

		Brood Year and Age Group <sup>a</sup>					
		1991	1990	1989	1988	1987	Total
		1.1	1.2	1.3	1.4	1.5	
Stratum Dates: 6/22–7/10		Fish Wheel <sup>b</sup>					
Sampling Dates: 6/22–7/10							
Sample Size: 300							
Female	Percent of Sample	0.0	0.3	6.0	11.0	1.0	18.3
	Number in Catch	0	41	737	1,350	123	2,251
Male	Percent of Sample	0.7	7.7	59.3	13.7	0.3	81.7
	Number in Catch	82	941	7,284	1,678	41	10,025
Total	Percent of Sample	0.7	8.0	65.3	24.7	1.3	100.0
	Number in Catch	82	982	8,020	3,028	164	12,276
	Standard Error	58	193	338	306	81	
Stratum Dates: 6/23–7/8		Gillnet					
Sampling Dates: 6/23–7/8							
Sample Size: 125							
Female	Percent of Sample	0.0	0.0	15.2	31.2	4.0	50.4
	Number in Catch	0	0	150	308	40	498
Male	Percent of Sample	0.0	0.8	30.4	18.4	0.0	49.6
	Number in Catch	0	8	300	182	0	490
Total	Percent of Sample	0.0	0.8	45.6	49.6	4.0	100.0
	Number in Catch	0	8	451	490	40	988
	Standard Error	0	8	44	44	17	

<sup>a</sup> Discrepancies in row and column addition by category are due to rounding error.

<sup>b</sup> Samples are from commercial catch only.

Appendix D.10. Yukon River District 5 chinook salmon commercial and subsistence catch composition by age, sex and gear type, 1994.

		Brood Year and Age Group <sup>a</sup>					
		1991	1990	1989	1988	1987	Total
		1.1	1.2	1.3	1.4	1.5	
Stratum Dates: 7/6–7/9		Fish Wheel					
Sampling Dates: 7/6, 7/9							
Sample Size: 151							
Female	Percent of Sample	0.0	0.0	4.0	10.6	0.0	14.6
	Number in Catch	0	0	707	1,886	0	2,594
Male	Percent of Sample	0.7	17.9	57.0	9.3	0.7	85.4
	Number in Catch	118	3,183	10,140	1,651	118	15,209
Total	Percent of Sample	0.7	17.9	60.9	19.9	0.7	100.0
	Number in Catch	118	3,183	10,847	3,537	118	17,803
	Standard Error	118	557	709	580	118	
Stratum Dates: 7/6–7/9		Gillnet					
Sampling Dates: 7/6, 7/9							
Sample Size: 136							
Female	Percent of Sample	0.0	0.0	7.4	19.9	5.9	33.1
	Number in Catch	0	0	409	1,106	328	1,843
Male	Percent of Sample	0.0	1.5	41.9	20.6	2.9	66.9
	Number in Catch	0	82	2,334	1,146	164	3,726
Total	Percent of Sample	0.0	1.5	49.3	40.4	8.8	100.0
	Number in Catch	0	82	2,743	2,252	491	5,569
	Standard Error	0	58	240	235	136	

<sup>a</sup> Samples are from commercial catch only. Discrepancies in row and column addition by category are due to rounding error.

Appendix D.11. Yukon River District 6 chinook salmon commercial and subsistence fish wheel catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>					
		1991	1990	1989	1988	1987	
		1.1	1.2	1.3	1.4	1.5	Total
Stratum Dates:	7/12–7/23	Fish Wheel					
Sampling Dates:	7/12, 7/19, 7/23						
Sample Size:	180						
Female	Percent of Sample	0.0	0.0	4.4	19.4	2.2	26.1
	Number in Catch	0	0	229	1,003	115	1,347
Male	Percent of Sample	5.6	14.4	38.3	15.6	0.0	73.9
	Number in Catch	287	745	1,977	802	0	3,811
Total <sup>b</sup>	Percent of Sample	5.6	14.4	42.8	35.0	2.2	100.0
	Number in Catch	287	745	2,207	1,805	115	5,158
	Standard Error	88	136	191	184	57	

<sup>a</sup> Discrepancies in row and column addition are due to rounding error.

<sup>b</sup> Gillnet catch (16) was not apportioned due to insufficient samples.

Appendix D.12. Yukon River, Canada chinook salmon test fish wheel catch composition by age, 1994.

		Brood Year and Age Group											
		1991		1990		1989		1988		1987		1986	
		1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates:		Sheep Rock											
Sampling Dates: 7/5-9/7													
Sample Size: 445													
	Sample Size	5	0	41	0	250	1	129	2	13	3	1	445
	Percent of Sample	1.1	0.0	9.2	0.0	56.2	0.2	29.0	0.4	2.9	0.7	0.2	100.0
	Standard Error	0.5	0.0	1.4	0.0	2.4	0.2	2.2	0.3	0.8	0.4	0.2	
Stratum Dates:		White Rock											
Sampling Dates: 7/1-8/9													
Sample Size: 488													
	Sample Size	23	1	61	2	282	0	102	1	14	2	0	488
	Percent of Sample	4.7	0.2	12.5	0.4	57.8	0.0	20.9	0.2	2.9	0.4	0.0	100.0
	Standard Error	1.0	0.2	1.5	0.3	2.2	0.0	1.8	0.2	0.8	0.3	0.0	
Stratum Dates:		Combined Test Wheels											
Sampling Dates: 6/23-9/4													
Sample Size: 933													
	Sample Size	28	1	102	2	532	1	231	3	27	5		933
	Percent of Sample	3.0	0.1	10.9	0.2	57.0	0.1	24.8	0.3	2.9	0.5		100.0
	Standard Error	0.6	0.1	1.0	0.2	1.6	0.1	1.4	0.2	0.5	0.2		

Appendix D.13. Length (mm measured from mid-orbit to fork-of-tail) by age and sex of Yukon River chinook salmon test fishing catch samples, 1994.

Location	Sex		Brood Year and Age Group						
			1991	1990	1989	1988		1987	
			1.1	1.2	1.3	1.4	2.3	1.5	2.4
Big Eddy 8.5 in (21.6 cm) Set Gillnet	Female	Mean Length		725	799	859		901	810
		Standard Error		0.0	6.3	4.0		15.6	0.0
		Sample Size		1	61	181		20	1
	Male	Mean Length	400	561	769	847		891	860
		Standard Error	0.0	20.1	4.7	6.7		9.5	0.0
		Sample Size	1	8	161	103		8	1
Big Eddy 5.5 in (14.0 cm) Set Gillnet	Female	Mean Length				829			
		Standard Error				58.0			
		Sample Size				3			
	Male	Mean Length		593	702	873			
		Standard Error		28.7	9.0	59.5			
		Sample Size		4	26	3			
Middle Mouth 8.5 in (21.6 cm) Set Gillnet	Female	Mean Length			776	870		960	
		Standard Error			11.7	8.2		0.0	
		Sample Size			15	29		1	
	Male	Mean Length			762	859		940	
		Standard Error			10.2	13.0		23.6	
		Sample Size			33	25		5	
Middle Mouth 5.5 in (14.0 cm) Set Gillnet	Female	Mean Length		648	679	846			
		Standard Error		2.5	6.9	9.7			
		Sample Size		2	24	5			
	Male	Mean Length		557	691	834	735	895	
		Standard Error		9.9	11.4	24.0	0.0	0.0	
		Sample Size		12	30	11	1	1	

Appendix E.1. Yukon River District 1 summer chum salmon commercial catch composition by age, sex, and fishing period, 1994.

		Brood Year and Age Group <sup>a</sup>			
		1990	1989	1988	Total
		0.3	0.4	0.5	
Stratum Dates:	6/13				Period 1 <sup>b</sup>
Sampling Dates:	6/14				
Sample Size:		189			
Female	Percent of Sample	4.8	45.0	1.6	51.3
	Number in Catch	196	1,850	65	2,111
Male	Percent of Sample	6.3	40.2	2.1	48.7
	Number in Catch	261	1,654	87	2,002
Total	Percent of Sample	11.1	85.2	3.7	100.0
	Number in Catch	457	3,504	152	4,113
	Standard Error	94	107	57	
Stratum Dates:	6/16–17				Period 2 <sup>b</sup>
Sampling Dates:	6/17				
Sample Size:		191			
Female	Percent of Sample	12.6	33.5	2.1	48.2
	Number in Catch	724	1,932	121	2,777
Male	Percent of Sample	11.0	37.7	3.1	51.8
	Number in Catch	634	2,173	181	2,988
Total	Percent of Sample	23.6	71.2	5.2	100.0
	Number in Catch	1,358	4,105	302	5,765
	Standard Error	177	189	93	
Stratum Dates:	6/22–23				Period 3 <sup>b</sup>
Sampling Dates:	6/23				
Sample Size:		177			
Female	Percent of Sample	16.9	31.6	0.6	49.2
	Number in Catch	1,506	2,812	50	4,369
Male	Percent of Sample	18.1	29.4	3.4	50.8
	Number in Catch	1,607	2,611	301	4,519
Total	Percent of Sample	35.0	61.0	4.0	100.0
	Number in Catch	3,113	5,423	352	8,888
	Standard Error	320	327	131	

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		Brood Year and Age Group <sup>a</sup>			
		1990	1989	1988	Total
		0.3	0.4	0.5	
Stratum Dates:	6/27				Period 4 <sup>c</sup>
Sampling Dates:	6/28				
Sample Size:	188				
Female	Percent of Sample	27.7	28.2	0.5	56.4
	Number in Catch	2,267	2,311	44	4,622
Male	Percent of Sample	18.1	24.5	1.1	43.6
	Number in Catch	1,482	2,006	87	3,575
Total	Percent of Sample	45.7	52.7	1.6	100.0
	Number in Catch	3,750	4,317	131	8,197
	Standard Error	299	299	75	
Stratum Dates:	7/4-5				Period 5 <sup>d</sup>
Sampling Dates:	7/5				
Sample Size:	193				
Female	Percent of Sample	26.4	26.9	1.6	54.9
	Number in Catch	4,061	4,141	239	8,441
Male	Percent of Sample	22.8	21.8	0.5	45.1
	Number in Catch	3,504	3,345	80	6,928
Total	Percent of Sample	49.2	48.7	2.1	100.0
	Number in Catch	7,565	7,485	319	15,369
	Standard Error	555	554	158	

<sup>a</sup> Discrepancies in row and column addition by category are due to rounding error.

<sup>b</sup> Mesh size restricted to 8 in (20.3 cm) or greater; most fish taken with 8.5 in (21.6 cm) mesh gillnet

<sup>c</sup> No mesh size restriction; most fish taken with 8.5 in (21.6 cm) mesh gillnet.

<sup>d</sup> Mesh size restricted to 6 in (15.2 cm) maximum.

Appendix E.2. Yukon River District 1 summer chum salmon commercial catch composition by age, sex, and gillnet mesh size, 1994.

		Brood Year and Age Group <sup>a</sup>			
		1990	1989	1988	Total
		0.3	0.4	0.5	
Stratum Dates:	6/13–6/27	Periods 1–4 Restricted (8 in or greater) and			
Sampling Dates:	6/13, 6/17, 6/23, 6/28	Unrestricted Mesh Gillnet			
Sample Size:	745				
Female	Percent of Sample Number in Catch	17.4 4,694	33.0 8,904	1.0 280	51.5 13,878
Male	Percent of Sample Number in Catch	14.8 3,984	31.3 8,444	2.4 657	48.5 13,085
Total	Percent of Sample Number in Catch Standard Error	32.2 8,678 462	64.3 17,348 473	3.5 936 181	100.0 26,963
Stratum Dates:	7/4–5	Period 5 Restricted (6 in maximum) Mesh Gillnet			
Sampling Dates:	7/5				
Sample Size:	193				
Female	Percent of Sample Number in Catch	26.4 4,061	26.9 4,141	1.6 239	54.9 8,441
Male	Percent of Sample Number in Catch	22.8 3,504	21.8 3,345	0.5 80	45.1 6,928
Total	Percent of Sample Number in Catch Standard Error	49.2 7,565 555	48.7 7,485 554	2.1 319 158	100.0 15,369
Stratum Dates:	6/13–7/5	Season Total			
Sampling Dates:	6/13–7/5				
Sample Size:	938				
Female	Percent of Sample Number in Catch	20.7 8,755	30.8 13,045	1.2 519	52.7 22,319
Male	Percent of Sample Number in Catch	17.7 7,488	27.8 11,788	1.7 736	47.3 20,013
Total <sup>b</sup>	Percent of Sample Number in Catch Standard Error	38.4 16,243 673	58.7 24,834 681	3.0 1,255 235	100.0 42,332

<sup>a</sup> Discrepancies in row and column addition by category are due to rounding error.

<sup>b</sup> Total does not include ADF&G test fish sales of 2,769 chum salmon in District 1.

Appendix E.3. Yukon River District 1 summer chum salmon subsistence catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>			Total
		1990	1989	1988	
		0.3	0.4	0.5	
Stratum Dates:					
Sampling Dates:					
Sample Size:		938			
Female	Percent of Sample	20.7	30.8	1.2	52.7
	Number in Catch	9,256	13,792	549	23,596
Male	Percent of Sample	17.7	27.8	1.7	47.3
	Number in Catch	7,916	12,462	778	21,157
Total <sup>b</sup>	Percent of Sample	38.4	58.7	3.0	100.0
	Number in Catch	17,172	26,254	1,327	44,753
	Standard Error	711	720	248	

<sup>a</sup> Age and sex composition is based on District 1 commercial catch. Discrepancies in row and column addition by category are due to rounding error.

<sup>b</sup> Total catch is from Appendix B.2 and includes 7,060 summer chum salmon from ADF&G test fish catches.

Appendix E.4. Yukon River District 2 summer chum salmon commercial catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>			
		1989	1988	1987	Total
		0.3	0.4	0.5	
Stratum Dates:	6/15	Period 1 <sup>b</sup>			
Sampling Dates:	6/16				
Sample Size:	180				
Female	Percent of Sample	7.8	45.6	4.4	57.8
	Number in Catch	138	809	79	1,026
Male	Percent of Sample	5.0	33.9	3.3	42.2
	Number in Catch	89	602	59	749
Total	Percent of Sample	12.8	79.4	7.8	100.0
	Number in Catch	227	1,410	138	1,775
	Standard Error	44	54	36	
Stratum Dates:	6/21	Period 2 <sup>b</sup>			
Sampling Dates:	6/21				
Sample Size:	195				
Female	Percent of Sample	19.0	32.8	0.5	52.3
	Number in Catch	1,045	1,807	28	2,881
Male	Percent of Sample	11.3	35.9	0.5	47.7
	Number in Catch	621	1,977	28	2,626
Total	Percent of Sample	30.3	68.7	1.0	100.0
	Number in Catch	1,666	3,784	56	5,507
	Standard Error	182	183	40	
Stratum Dates:	6/26–27	Period 3 <sup>b</sup>			
Sampling Dates:	6/27				
Sample Size:	193				
Female	Percent of Sample	13.0	31.1	2.1	46.1
	Number in Catch	536	1,287	86	1,910
Male	Percent of Sample	14.0	37.3	2.6	53.9
	Number in Catch	579	1,545	107	2,231
Total	Percent of Sample	26.9	68.4	4.7	100.0
	Number in Catch	1,116	2,832	193	4,141
	Standard Error	133	139	63	

–Continued–

		Brood Year and Age Group <sup>a</sup>			
		1990	1989	1988	Total
		0.3	0.4	0.5	
Stratum Dates:	7/3	Period 4 <sup>c</sup>			
Sampling Dates:	7/4				
Sample Size:	189				
Female	Percent of Sample	20.6	27.5	0.0	48.1
	Number in Catch	298	398	0	696
Male	Percent of Sample	25.9	25.4	0.5	51.9
	Number in Catch	375	367	8	750
Total	Percent of Sample	46.6	52.9	0.5	100.0
	Number in Catch	673	765	8	1,446
	Standard Error	53	53	8	
Stratum Dates:	6/15–7/3	Season Total			
Sampling Dates:	6/16, 6/21, 6/27, 7/4				
Sample Size:	757				
Female	Percent of Sample	15.7	33.4	1.5	50.6
	Number in Catch	2,018	4,301	193	6,512
Male	Percent of Sample	12.9	34.9	1.6	49.4
	Number in Catch	1,664	4,490	202	6,357
Total	Percent of Sample	28.6	68.3	3.1	100.0
	Number in Catch	3,682	8,792	395	12,869
	Standard Error	212	218	81	

<sup>a</sup> Discrepancies in row and column addition by category are due to rounding error.

<sup>b</sup> Mesh size restricted to 8 in (20.3 cm) or greater; most fish taken with 8.5 in (21.6 cm) mesh gillnet.

<sup>c</sup> No mesh size restriction; most fish taken with 8.5 in (21.6 cm) mesh gillnet.

Appendix E.5. Yukon River District 2 summer chum salmon subsistence catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>			
		1990	1989	1988	
		0.3	0.4	0.5	Total
Stratum Dates:					
Sampling Dates:					
Sample Size:		938			
Female	Percent of Sample	20.7	30.8	1.2	52.7
	Number in Catch	5,926	8,830	351	15,107
Male	Percent of Sample	17.7	27.8	1.7	47.3
	Number in Catch	5,068	7,979	498	13,545
Total <sup>b</sup>	Percent of Sample	38.4	58.7	3.0	100.0
	Number in Catch	10,994	16,808	849	28,652
	Standard Error	455	461	159	

<sup>a</sup> Age and sex composition is based on District 1 commercial catch. Discrepancies in row and column addition are due to rounding error.

<sup>b</sup> Total catch is from Appendix B.2 and includes 2,998 summer chum salmon from ADF&G test fish catches.

Appendix E.6. Yukon River District 3 summer chum salmon commercial and subsistence catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>			Total
		1990	1989	1988	
		0.3	0.4	0.5	
Stratum Dates:					
Sampling Dates:					
Sample Size:		938			
Female	Percent of Sample	20.7	30.8	1.2	52.7
	Number in Catch	491	732	29	1,252
Male	Percent of Sample	17.7	27.8	1.7	47.3
	Number in Catch	420	661	41	1,122
Total	Percent of Sample	38.4	58.7	3.0	100.0
	Number in Catch	911	1,393	70	2,374
	Standard Error	38	38	13	

<sup>a</sup> Age and sex composition is based on District 1 commercial catch samples. Discrepancies in row and column addition are due to rounding error.

Appendix E.7. Yukon River District 4 summer chum salmon commercial and subsistence catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>					Total
		1991	1990	1989	1988	1987	
		0.2	0.3	0.4	0.5	0.6	
Stratum Dates: 7/9–7/18 Sampling Dates: 7/9–7/18 Sample Size: 551		Beach Seine <sup>b</sup>					
Female	Percent of Sample	0.4	52.6	45.9	0.4	0.0	99.3
	Number in Catch	77	11,142	9,721	77	0	21,016
Male	Percent of Sample	0.0	0.4	0.4	0.0	0.0	0.7
	Number in Catch	0	77	77	0	0	154
Total	Percent of Sample	0.4	53.0	46.3	0.4	0.0	100.0
	Number in Catch	77	11,219	9,797	77	0	21,170
	Standard Error	54	451	450	54	0	
Stratum Dates: 6/28–7/19 Sampling Dates: 6/28–7/19 Sample Size: 1,105		Fish Wheel					
Female	Percent of Sample	0.1	44.1	31.0	1.3	0.1	76.6
	Number in Catch	137	66,499	46,836	1,912	137	115,520
Male	Percent of Sample	0.0	13.6	9.1	0.7	0.0	23.4
	Number in Catch	0	20,482	13,791	1,092	0	35,366
Total	Percent of Sample	0.1	57.6	40.2	2.0	0.1	100.0
	Number in Catch	137	86,981	60,627	3,004	137	150,885
	Standard Error	137	2,244	2,226	634	137	
Stratum Dates: 7/8–7/11 Sampling Dates: 7/8, 7/11 Sample Size: 224		Gillnet					
Female	Percent of Sample	0.0	39.7	30.8	1.3	0.0	71.9
	Number in Catch	0	13,218	10,248	446	0	23,911
Male	Percent of Sample	0.0	13.8	14.3	0.0	0.0	28.1
	Number in Catch	0	4,604	4,753	0	0	9,357
Total	Percent of Sample	0.0	53.6	45.1	1.3	0.0	100.0
	Number in Catch	0	17,822	15,000	446	0	33,268
	Standard Error	0	1,111	1,109	256	0	

<sup>a</sup> Samples are from commercial catch only. Discrepancies in row and column addition are due to rounding error.

<sup>b</sup> Anvik River terminal fishery.

Appendix E.8. Yukon River District 5 summer chum salmon commercial and subsistence catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>					
		1991	1990	1989	1988	1987	
		0.2	0.3	0.4	0.5	0.6	Total
Stratum Dates: 6/28–7/19		Fish Wheel					
Sampling Dates:							
Sample Size: 1,105							
Female	Percent of Sample	0.1	44.1	31.0	1.3	0.1	76.6
	Number in Catch	10	5,076	3,575	146	10	8,817
Male	Percent of Sample	0.0	13.6	9.1	0.7	0.0	23.4
	Number in Catch	0	1,563	1,053	83	0	2,699
Total	Percent of Sample	0.1	57.6	40.2	2.0	0.1	100.0
	Number in Catch	10	6,639	4,627	229	10	11,516
	Standard Error	10	171	170	48	10	
Stratum Dates: 7/8–7/11		Gillnet					
Sampling Dates:							
Sample Size: 224							
Female	Percent of Sample	0.0	39.7	30.8	1.3	0.0	71.9
	Number in Catch	0	578	448	19	0	1,045
Male	Percent of Sample	0.0	13.8	14.3	0.0	0.0	28.1
	Number in Catch	0	201	208	0	0	409
Total	Percent of Sample	0.0	53.6	45.1	1.3	0.0	100.0
	Number in Catch	0	779	655	19	0	1,454
	Standard Error	0	49	48	11	0	

<sup>a</sup> Samples are from District 4 commercial catch only. Discrepancies in row and column addition are due to rounding error.

Appendix E.9. Yukon River District 6 summer chum salmon commercial and subsistence fish wheel catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>			
		1991	1990	1989	Total
		0.2	0.3	0.4	
Stratum Dates:	7/19–7/30				
Sampling Dates:	7/19, 7/23, 7/26, 7/30				
Sample Size:	245				
Female	Percent of Sample	0.0	43.7	21.2	64.9
	Number in Catch	0	17,977	8,736	26,713
Male	Percent of Sample	0.4	24.1	10.6	35.1
	Number in Catch	168	9,912	4,368	14,449
Total <sup>b</sup>	Percent of Sample	0.4	67.8	31.8	100.0
	Number in Catch	168	27,889	13,105	41,162
	Standard Error	168	1,232	1,228	

<sup>a</sup> Discrepancies in row and column addition by category are due to rounding error.

<sup>b</sup> Gillnet catch (816) was not apportioned due to insufficient samples.

Appendix E.10. Length (mm measured from mid-orbit to fork-of-tail) by age and sex of Yukon River summer chum salmon test fishing catch samples, 1994.

Location	Sex		Brood Year and Age Group				
			1991	1990	1989	1988	1987
			0.2	0.3	0.4	0.5	0.6
Big Eddy 8.5 in (21.6 cm) Set Gillnet	Female	Mean Length			546		
		Standard Error			11.6		
		Sample Size			4		
	Male	Mean Length			587		
		Standard Error			15.9		
		Sample Size			3		
Big Eddy 5.5 in (14.0 cm) Set Gillnet	Female	Mean Length		554	567	565	
		Standard Error		1.4	1.2	5.4	
		Sample Size		274	448	16	
	Male	Mean Length		564	582	586	570
		Standard Error		2.0	1.7	6.6	0.0
		Sample Size		146	256	14	1
Middle Mouth 5.5 in (14.0 cm) Set Gillnet	Female	Mean Length		555	568	574	
		Standard Error		1.4	1.0	5.3	
		Sample Size		274	461	18	
	Male	Mean Length		567	587	590	
		Standard Error		2.2	1.7	5.9	
		Sample Size		154	311	13	

Appendix F.1. Yukon River District 1 fall chum salmon subsistence catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>				
		1991	1990	1989	1988	Total
		0.2	0.3	0.4	0.5	
Stratum Dates:	7/16–8/18					
Sampling Dates:						
Sample Size:	1,174					
Female	Percent of Sample	0.1	33.6	22.5	0.7	56.8
	Number in Catch	4	1,640	1,099	33	2,777
Male	Percent of Sample	0.2	25.0	17.5	0.4	43.2
	Number in Catch	8	1,224	858	21	2,110
Total	Percent of Sample	0.3	58.6	40.0	1.1	100.0
	Number in Catch	12	2,864	1,956	54	4,887
	Standard Error	7	70	70	15	

<sup>a</sup> Age and sex composition is based on Big Eddy and Middle Mouth fall chum salmon test fishing catches combined. Discrepancies in row and column addition are due to rounding error.

Appendix F.2. Yukon River District 2 fall chum salmon subsistence catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>				Total
		1991	1990	1989	1988	
		0.2	0.3	0.4	0.5	
Stratum Dates:	7/16–8/18					
Sampling Dates:						
Sample Size:	1,174					
Female	Percent of Sample	0.1	33.6	22.5	0.7	56.8
	Number in Catch	4	1,393	933	28	2,358
Male	Percent of Sample	0.2	25.0	17.5	0.4	43.2
	Number in Catch	7	1,040	728	18	1,793
Total	Percent of Sample	0.3	58.6	40.0	1.1	100.0
	Number in Catch	11	2,433	1,662	46	4,151
	Standard Error	6	60	59	13	

<sup>a</sup> Age and sex composition is based on Big Eddy and Middle Mouth fall chum salmon test fishing catches combined. Discrepancies in row and column addition are due to rounding error.

Appendix F.3. Yukon River District 3 fall chum salmon subsistence catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>				Total
		1991	1990	1989	1988	
		0.2	0.3	0.4	0.5	
Stratum Dates:	7/16–8/18					
Sampling Dates:						
Sample Size:	1,174					
Female	Percent of Sample	0.1	33.6	22.5	0.7	56.8
	Number in Catch	1	227	152	5	384
Male	Percent of Sample	0.2	25.0	17.5	0.4	43.2
	Number in Catch	1	169	119	3	292
Total	Percent of Sample	0.3	58.6	40.0	1.1	100.0
	Number in Catch	2	396	271	7	676
	Standard Error	1	10	10	2	

<sup>a</sup> Age and sex composition is based on Big Eddy and Middle Mouth fall chum salmon test fishing catches combined. Discrepancies in row and column addition are due to rounding error.

Appendix F.4. Yukon River District 4 fall chum salmon subsistence fish wheel catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>			
		1991	1990	1989	Total
		0.2	0.3	0.4	
Stratum Dates:					
Sampling Dates:					
Sample Size:		121			
Female	Percent of Sample	0.8	38.0	13.2	52.1
	Number in Catch	92	4,241	1,475	5,808
Male	Percent of Sample	1.7	27.3	19.0	47.9
	Number in Catch	184	3,043	2,121	5,348
Total <sup>b</sup>	Percent of Sample	2.5	65.3	32.2	100.0
	Number in Catch	277	7,284	3,596	11,156
	Standard Error	158	485	476	

<sup>a</sup> Age and sex composition is based on combined District 5 and 6 subsistence fish wheel catch samples. Discrepancies in row and column addition are due to rounding error.

<sup>b</sup> Gillnet catch (2,355) was not apportioned due to insufficient samples.

Appendix F.5. Yukon River District 5 fall chum salmon commercial and subsistence fish wheel catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>			
		1991	1990	1989	Total
		0.2	0.3	0.4	
Stratum Dates:					
Sampling Dates:	8/23–8/24				
Sample Size:		112			
Female	Percent of Sample	0.9	38.4	12.5	51.8
	Number in Catch	559	24,028	7,823	32,410
Male	Percent of Sample	1.8	29.5	17.0	48.2
	Number in Catch	1,118	18,440	10,617	30,175
Total <sup>b</sup>	Percent of Sample	2.7	67.9	29.5	100.0
	Number in Catch	1,676	42,468	18,440	62,585
	Standard Error	959	2,774	2,708	

<sup>a</sup> Samples are from District 5 subsistence catch only. Discrepancies in row and column addition are due to rounding error.

<sup>b</sup> Gillnet catch (7,441) was not apportioned due to insufficient samples.

Appendix F.6. Length (mm measured from mid-orbit to fork-of-tail) by age and sex of Yukon River fall chum salmon test fishing catch samples, 1994.

Location	Sex		Brood Year and Age Group			
			1991	1990	1989	1988
			0.2	0.3	0.4	0.5
Big Eddy 6 in (15.2 cm) Set Gillnet	Female	Mean Length		583	589	579
		Standard Error		1.8	2.0	15.1
		Sample Size		177	146	5
	Male	Mean Length		587	601	619
		Standard Error		2.2	2.9	12.6
		Sample Size		125	111	4
Middle Mouth 6 in (15.2 cm) Set Gillnet	Female	Mean Length	580	576	589	588
		Standard Error	0.0	1.6	2.7	6.0
		Sample Size	1	217	118	3
	Male	Mean Length	548	582	593	625
		Standard Error	7.5	2.0	2.7	0.0
		Sample Size	2	169	95	1
Pilot Station 5 in (12.7 cm) Drift Gillnet	Female	Mean Length		547	558	
		Standard Error		6.2	13.6	
		Sample Size		6	4	
	Male	Mean Length		570	570	
		Standard Error		0.0	0.0	
		Sample Size		1	1	
Pilot Station 5.5 in (14.0 cm) Drift Gillnet	Female	Mean Length	538	561	573	505
		Standard Error	12.7	5.6	22.3	0.0
		Sample Size	4	30	5	1
	Male	Mean Length	543	549	628	
		Standard Error	12.5	4.1	57.5	
		Sample Size	2	10	2	
Pilot Station 6.5 in (16.5 cm) Drift Gillnet	Female	Mean Length		575	585	
		Standard Error		6.5	9.6	
		Sample Size		5	4	
	Male	Mean Length		581	591	
		Standard Error		9.5	20.1	
		Sample Size		12	7	

Appendix G.1. Yukon River District 1 coho salmon subsistence catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>			Total
		1991	1990	1989	
		1.1	2.1	3.1	
Stratum Dates:	7/24–8/18				
Sampling Dates:					
Sample Size:	752				
Female	Percent of Sample	13.6	34.3	0.4	48.3
	Number in Catch	444	1,123	13	1,579
Male	Percent of Sample	9.3	41.9	0.5	51.7
	Number in Catch	305	1,371	17	1,693
Total	Percent of Sample	22.9	76.2	0.9	100.0
	Number in Catch	748	2,493	30	3,272
	Standard Error	50	51	11	

<sup>a</sup> Age and sex composition is based on Big Eddy and Middle Mouth coho salmon test fishing catches combined. Discrepancies in row and column addition are due to rounding error.

Appendix G.2. Yukon River District 2 coho salmon subsistence catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>			
		1991	1990	1989	Total
		1.1	2.1	3.1	
Stratum Dates:	7/24–8/18				
Sampling Dates:					
Sample Size:	752				
Female	Percent of Sample	13.6	34.3	0.4	48.3
	Number in Catch	526	1,332	15	1,873
Male	Percent of Sample	9.3	41.9	0.5	51.7
	Number in Catch	361	1,626	21	2,008
Total	Percent of Sample	22.9	76.2	0.9	100.0
	Number in Catch	888	2,957	36	3,881
	Standard Error	59	60	14	

<sup>a</sup> Age and sex composition is based on Big Eddy and Middle Mouth coho salmon test fishing catches combined. Discrepancies in row and column addition are due to rounding error.

Appendix G.3. Yukon River District 3 coho salmon subsistence catch composition by age and sex, 1994.

		Brood Year and Age Group <sup>a</sup>			
		1991	1990	1989	Total
		1.1	2.1	3.1	
Stratum Dates:	7/24–8/18				
Sampling Dates:					
Sample Size:	752				
Female	Percent of Sample	13.6	34.3	0.4	48.3
	Number in Catch	31	78	1	109
Male	Percent of Sample	9.3	41.9	0.5	51.7
	Number in Catch	21	95	1	117
Total	Percent of Sample	22.9	76.2	0.9	100.0
	Number in Catch	52	172	2	226
	Standard Error	3	4	1	

<sup>a</sup> Age and sex composition is based on Big Eddy and Middle Mouth coho salmon test fishing catches combined. Discrepancies in row and column addition are due to rounding error.

Appendix G.4. Length (mm measured from mid-orbit to fork-of-tail) by age and sex of Yukon River coho salmon test fishing catch samples, 1994.

Location	Sex		Brood Year and Age Group		
			1991	1990	1989
			1.1	2.1	3.1
Big Eddy 6 in (15.2 cm) Set Gillnet	Female	Mean Length	584	587	560
		Standard Error	3.2	2.1	0.0
		Sample Size	58	139	1
	Male	Mean Length	584	587	610
		Standard Error	5.6	2.4	0.0
		Sample Size	35	145	1
Middle Mouth 6 in (15.2 cm) Set Gillnet	Female	Mean Length	577	576	618
		Standard Error	4.0	2.8	27.5
		Sample Size	44	119	2
	Male	Mean Length	579	581	582
		Standard Error	4.9	2.2	18.6
		Sample Size	35	170	3
Pilot Station 5 in (12.7 cm) Drift Gillnet	Female	Mean Length	518	563	
		Standard Error	37.5	14.5	
		Sample Size	2	3	
	Male	Mean Length	543	538	
		Standard Error	2.5	4.4	
		Sample Size	2	3	
Pilot Station 5.5 in (14.0 cm) Drift Gillnet	Female	Mean Length	577	568	
		Standard Error	12.7	5.0	
		Sample Size	8	20	
	Male	Mean Length	563	573	595
		Standard Error	13.8	9.8	0.0
		Sample Size	8	18	1
Pilot Station 6.5 in (16.5 cm) Drift Gillnet	Female	Mean Length	573	598	
		Standard Error	6.0	2.5	
		Sample Size	3	2	
	Male	Mean Length	582	593	
		Standard Error	14.8	10.2	
		Sample Size	3	5	