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# AGE, SEX, AND SIZE OF YUKON RIVER SALMON CATCH AND ESCAPEMENT, 1984

By:
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June 1985

ALASKA DEPARTMENT OF FISH AND GAME
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Commissioner

## ADF&G TECHNICAL DATA REPORTS

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## ABSTRACT

Commercial and subsistence harvest of chinook *(Oncorhynchus tshawytscha* Walbaum*)*, summer and fall chum *(O. keta* Walbaum*)*, and coho salmon *(O. kisutch* Walbaum*)* for the Yukon River in 1984 are presented by age, sex, fishing district, and gear type. Samples are stratified by time period where possible and temporal trends in age and sex composition are discussed. Peak aerial survey salmon escapement counts, side-scan sonar, foot survey, and fishpass counts are presented for all salmon escapements enumerated in the Yukon River drainage in 1984. Age, sex, and size composition is presented for those escapements that were sampled. This report includes all Yukon River salmon age-sex-size data collected in 1984. Those samples not used to apportion catches or escapements are summarized in appendices.



KEY WORDS: Yukon River, chinook salmon *(Oncorhynchus tshawytscha)*, chum salmon *(O. keta)*, coho salmon *(O. kisutch)*, fishery synopsis, age classification.

# INTRODUCTION

The Yukon River drainage supports major runs 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 Yukon River drainage. Pink salmon returns are stronger in even-numbered years, while sockeye salmon are only rarely documented, and neither species is harvested by commercial or subsistence fishermen to any extent.

Most commercial fishing occurs in the lower 230 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. Resource management agencies, primarily the Alaska Department of Fish and Game (ADF&G) and the Department of Fisheries and Oceans, Canada (DFO), conduct a variety of programs that supply information used to manage and document the fisheries. These programs include: (1) documentation of catch in each fishery; (2) catch sampling for age, sex, and size data; (3) assessing the magnitude of spawning escapements by aerial and ground surveys, hydroacoustic counters, and visually through a fishpass; and (4) sampling major spawning escapements for age, sex, and size data. In some cases, escapements are estimated by hydroacoustic counts.

Basic fishery statistics for Yukon River salmon are presented in several sources. Commercial and subsistence harvest data and escapement estimates are presented in the Yukon River Annual Management Report (1985). Historical escapement data are compiled in a computerized data base by Barton (1984). Detailed analysis of escapement sonar count data for the 1984 season is presented by Buklis (1984) for the Anvik and Andreafsky Rivers and by Barton (1985) for the Sheenjek River. Age, sex, and size summaries before 1982 were annually reported in the ADF&G Arctic-Yukon-Kuskokwim Region Age, Sex, and Size Composition of Salmon report series. Beginning with the 1982 season, age, sex, and size of Yukon River salmon has been presented in the series of which this report is the third edition. The previous reports were prepared by McBride, Hamner, and Buklis (1983), and by Buklis and Wilcock (1984).

This report presents commercial and subsistence salmon harvest, and enumerated spawning escapements, in number of fish by age and sex. Indices of relative abundance and age and sex summaries are presented for the major spawning escapements. Length is reported by age and sex for each sampled fishery and escapement. No attempt has been made in this report to identify the origin of fish in mixed stock fisheries or to estimate the contribution of any spawning escapement to a fishery. It is hoped that this report will serve as an initial data base for further investigation of these parameters.

## METHODS

### Study Area Description

The Yukon Area includes all waters of the Yukon River and its tributary streams in Alaska (Figure 1) and the Yukon Territory, Canada (Figure 2), and all coastal waters from Canal Point light near Cape Stephens southward to the Naskonat Peninsula. The Alaska portion of the river is divided into six fishing districts as follows: Districts 1, 2, and 3 in the lower Yukon area; and Districts 4, 5, and 6 in the upper Yukon Area. Commercial fishing occurs throughout the main Yukon River and in the lower 360 km (225 mi) of the Tanana River, however, most of the commercial harvest is taken in Districts 1 and 2. Set and drift gill nets are the legal gear in the lower Yukon, and set gill nets and fishwheels in the upper Yukon. Chinook and fall chum salmon are also commercially harvested in a gillnet fishery near Dawson City, Yukon Territory. Subsistence fishing is allowed throughout the drainage, although most of the effort is concentrated in the main Yukon River. The Annual Management Report (1985) provides a complete description of the Yukon River area and its fisheries.

### Abundance of Catch and Escapement

Alaskan commercial catch data presented in this report were compiled by the Division of Commercial Fisheries for each management district and are based on computer tabulations of individual harvest receipts (fish tickets). Subsistence catch data were tabulated from personal interviews of subsistence fishermen in selected villages and from mail-in questionnaires. Gear types used to harvest salmon in the subsistence fishery are not accurately documented for the upper Yukon Area, where both gill nets and fishwheels are used. Subsistence catches in Districts 4, 5, and 6 are apportioned by gear type based on subjective estimates (P.C. Fred Andersen, upper Yukon Area Management Biologist, Commercial Fisheries Division, ADF&G) due to lack of adequate gear survey information. All Yukon Territory catch data were obtained from the DFO.

Most escapement data are peak aerial survey estimates for selected spawning streams. An effort is made to survey the major spawning populations and these indices are taken to represent overall trends in escapement. Total season escapement for the following three spawning populations was estimated by side-scan sonar: (1) East Fork Andreafsky River summer chum salmon, (2) Anvik River summer chum salmon, and (3) Sheenjek River fall chum salmon. Chinook salmon passing the Whitehorse Dam in Yukon Territory, Canada were visually counted through a fishpass.

### Age, Sex, and Length

Salmon were sampled for scales, sex, and length. Examination of scale samples 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 and on the diagonal row downward from the posterior insertion of the dorsal fin (INPFC 1963). Scales were mounted on gum cards and permanent impressions made in cellulose acetate (Clutter and Whitesel 1956). Ages are

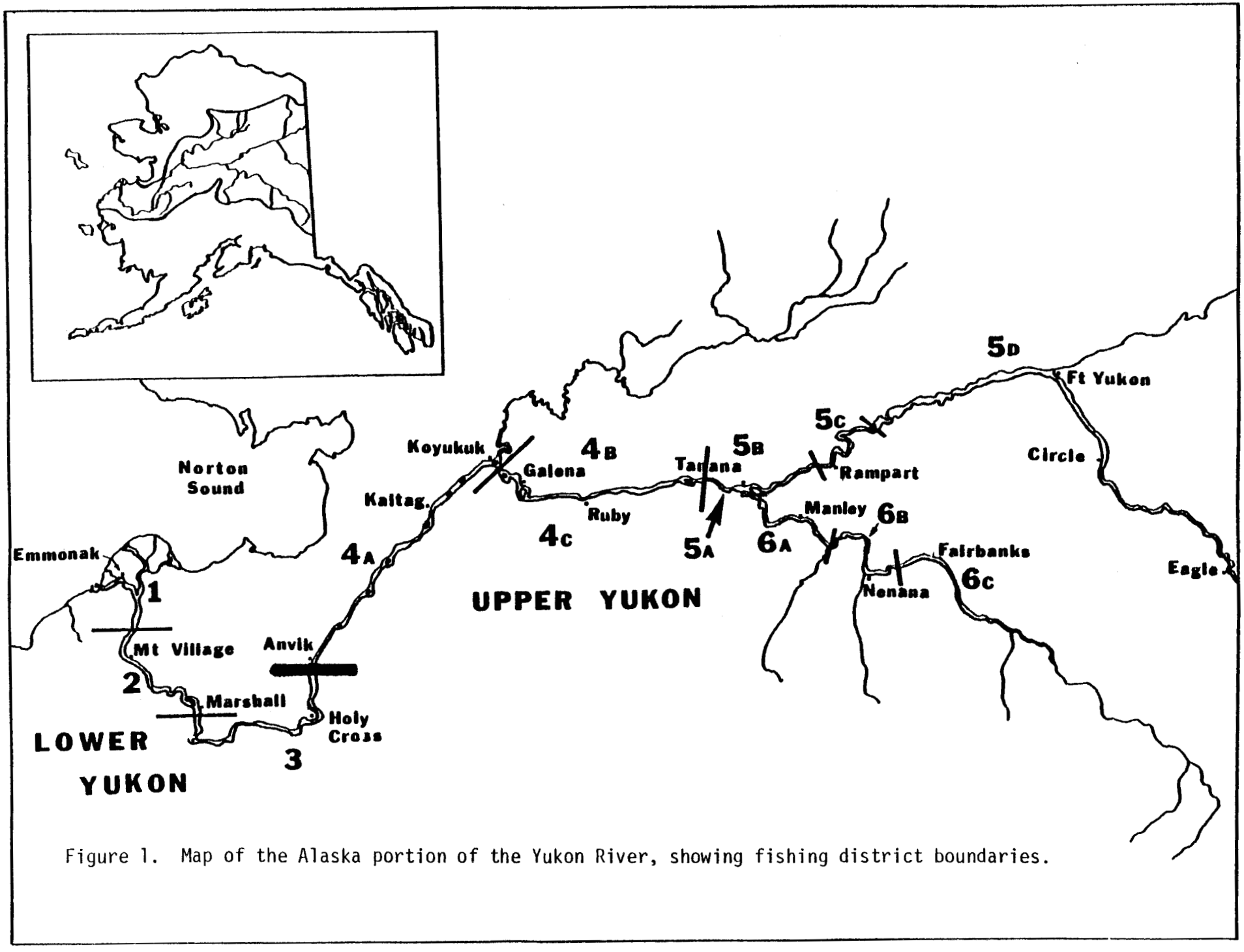


Figure 1. Map of the Alaska portion of the Yukon River, showing fishing district boundaries.

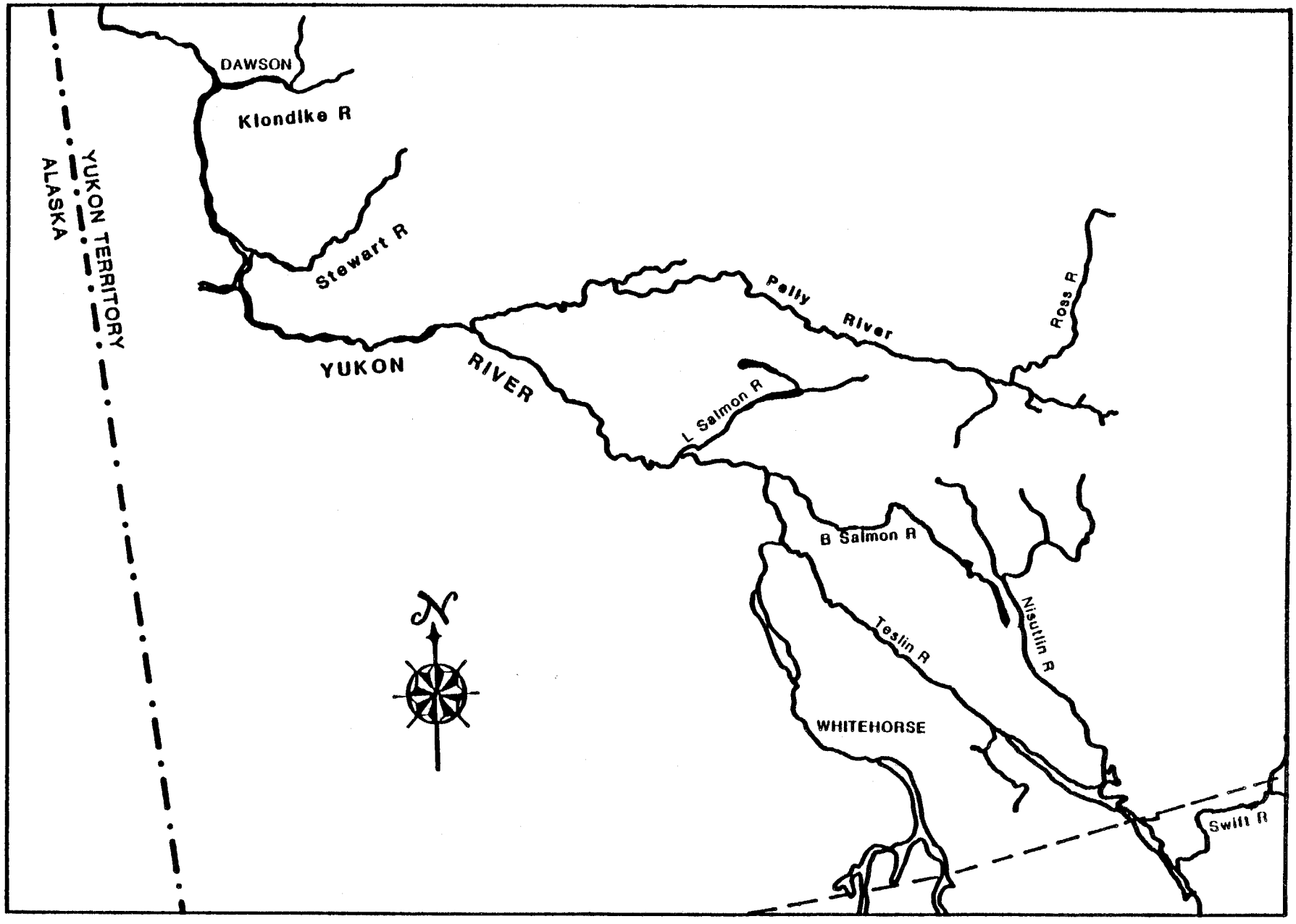


Figure 2. Map of the Canadian portion of the Yukon River.

reported in Gilbert-Rich[1] notations. Sex determination was based on examination of either external morphological features or gonads.

An attempt was made to sample fish from the commercial catch for each gear type in each district. However, because of logistic considerations involved in sampling such a widely dispersed fishery, many of the smaller harvests were not sampled. The majority of the commercial catch samples were collected in Districts 1 and 2. Subsistence catches were generally not sampled. Subsistence harvests were apportioned by age and sex for a given district and gear type based on commercial catch samples taken by that gear type in the same or, in some cases, a neighboring district. An attempt was made to sample the major chinook and chum salmon spawning populations. Most escapement data were collected from carcasses, although live salmon were captured by beach seine at the East Fork Andreafsky, Anvik, and Sheenjek Rivers.

Age and sex composition was estimated for each sampled fishery with a stratified systematic sampling design (Cochran 1977). Strata were defined as weekly periods (generally two fishing periods per week) for District 1 and 2 chinook salmon, and for District 1 summer chum, fall chum, and coho salmon during that portion of the season when the majority of the harvest was taken. 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 a sufficient number of fish within a strata to simultaneously estimate the true proportion of each major age class in the catch within ± 5 percentage points 90% of the time.

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

$$C_{tj} = C_t P_{tj} \qquad V[C_{tj}] = (C_t)^2 \left( \frac{P_{tj}(P_{tj} - 1)}{N_t - 1} \right)$$

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

Where:

$C_t$ = Number of fish caught in stratum t,

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

$N_t$ = Number of samples during stratum t,

$C_{tj}$ = Estimated number of fish of age j during stratum t,

---

[1] Gilbert-Rich formula: The first digit refers to the total age of the fish. The second digit, subscripted, refers to the number of years of freshwater residence. Marine age is the difference between these two. The second digit of the Gilbert-Rich ages presented in the tables of this report are not subscripted because of computer programming format.

$T$ = Total number of strata,

$C_{.j}$ = Estimated number of fish of age j for the season, T.

If there were insufficient samples to attain the above levels of precision and accuracy, the samples were pooled into a single sample period for that fishery or escapement. Catch or escapement was then apportioned by age and sex. For those escapement samples with only aerial survey indices of abundance, sample data are presented, but indices of abundance are not apportioned by age and sex.

Lengths were measured from mid-orbit to fork of tail in millimeters. Average length, by sex and age, was reported for each sampled fishery and escapement. Length samples were not stratified by sample period.

## RESULTS

### Commercial and Subsistence Harvest

Commercial harvest (Alaska and Canada combined) totaled 129,789 chinook, 755,821 summer chum, 233,491 fall chum, and 81,940 coho salmon in 1984 (Table 1). The chinook salmon harvest was 19% below that of 1983, summer chum salmon 16% below, fall chum salmon 30% below, and the record coho salmon harvest was six times greater than the 1983 level. The chinook and chum salmon (summer and fall combined) harvests in the Alaska portion of the drainage in 1984 were 16% and 29% below the previous 5-year (1979-1983) averages, respectively, while the coho salmon harvest was more than triple the recent 5-year average. Fishermen in the Alaska portion of the drainage received an estimated $5,685,000 for their catch, down 25% from the previous 5-year average. The largest commercial harvests of chinook, summer chum, and fall chum salmon occurred in District 1, while District 2 accounted for the largest coho salmon commercial harvest. Gill nets accounted for the majority of the harvest for each species. Commercial harvest and catch per unit effort by species and fishing period is presented for each district in Appendix Tables 1-7.

Subsistence harvest (Alaska and Canada combined) totaled 48,549 chinook, 230,565 summer chum, 180,894 fall chum, and 49,436 coho salmon in 1984 (Table 2). The chinook salmon harvest was 12% below that of 1983, summer chum salmon 4% below, fall chum salmon 8% below, and the record coho salmon harvest was more than double the 1983 level. The chinook salmon harvest was the third highest on record, exceeded only in 1980 and 1983. The largest chinook, fall chum, and coho salmon subsistence harvests occurred in District 5, while the largest summer chum salmon subsistence harvest occurred in District 4. Fishwheels accounted for the majority of the summer chum, fall chum, and coho salmon subsistence harvests, while the majority of the chinook salmon were taken by gillnet.

Table 1. Yukon River salmon commercial catch in numbers of fish by district, species, and gear type, 1984.

| District | Chinook | | | Summer Chum[1] | | | Fall Chum[1] | | | Coho | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN[2] | FW[3] | Total | GN | FW | Total | GN | FW | Total | GN | FW | Total |
| 1 | 74,671 | - | 74,671 | 292,676 | - | 292,676 | 78,751 | - | 78,751 | 29,472 | - | 29,472 |
| 2 | 36,697 | - | 36,697 | 236,931 | - | 236,931 | 70,803 | - | 70,803 | 43,064 | - | 43,064 |
| 3 | 3,039 | - | 3,039 | 1,087 | - | 1,087 | 6,429 | - | 6,429 | 621 | - | 621 |
| 4A | 0 | 2 | 2 | 32,539 | 116,031 | 148,570 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4B | 224 | 48 | 272 | 862 | 14,981 | 15,843 | 2,130 | 2,053 | 4,183 | 73 | 339 | 412 |
| 4C | 666 | 21 | 687 | 640 | 2,798 | 3,438 | 921 | 4,736 | 5,657 | 465 | 218 | 683 |
| 4 Total | 890 | 71 | 961 | 34,041 | 133,810 | 167,851 | 3,051 | 6,789 | 9,840 | 538 | 557 | 1,095 |
| 5A | 25 | 103 | 128 | 50 | 0 | 50 | 0 | 1,415 | 1,415 | 0 | 0 | 0 |
| 5B | 990 | 599 | 1,589 | 168 | 457 | 625 | 2,121 | 8,208 | 10,329 | 0 | 0 | 0 |
| 5C | 883 | 685 | 1,568 | 12 | 0 | 12 | 2,663 | 6,740 | 9,403 | 0 | 0 | 0 |
| 5D | 384 | 0 | 384 | 5 | 0 | 5 | 106 | 2,864 | 2,970 | 0 | 0 | 0 |
| 5 Total | 2,282 | 1,387 | 3,669 | 235 | 457 | 692 | 4,890 | 19,227 | 24,117 | 0 | 0 | 0 |
| 6A | 0 | 0 | 0 | 1,235 | 2,534 | 3,769 | 0 | 5,617 | 5,617 | 0 | 1,608 | 1,608 |
| 6B | 94 | 281 | 375 | 6,064 | 36,319 | 42,383 | 302 | 11,507 | 11,809 | 187 | 5,173 | 5,360 |
| 6C | 119 | 373 | 492 | 1,839 | 8,593 | 10,432 | 338 | 2,856 | 3,194 | 79 | 641 | 720 |
| 6 Total | 213 | 654 | 867 | 9,138 | 47,446 | 56,584 | 640 | 19,980 | 20,620 | 266 | 7,422 | 7,688 |
| Alaska Total | 117,792 | 2,112 | 119,904 | 574,108 | 181,713 | 755,821 | 164,564 | 45,996 | 210,560 | 73,961 | 7,979 | 81,940 |
| Canada | 9,885 | 0 | 9,885 | | | | 22,931 | 0 | 22,931 | | | |
| Total | 127,677 | 2,112 | 129,789 | 574,108 | 181,713 | 755,821 | 187,495 | 45,996 | 233,491 | 73,961 | 7,979 | 81,940 |

[1] Includes "equivalent salmon" converted from roe sales in Districts 4, 5, and 6. Conversion factor of 1 pound (0.453 kg) roe equal to one chum salmon was used.

[2] Gillnet

[3] Fishwheel

Table 2. Yukon River salmon subsistence catch in numbers of fish by district, species, and gear type, 1984.

| District | Chinook | | | Summer Chum[1] | | | Fall Chum[2] | | | Coho[3] | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN | FW | Total | GN | FW | Total | GN | FW | Total | GN | FW | Total |
| 1 | 4,624 | - | 4,624 | 28,459 | - | 28,459 | 8,885 | - | 8,885 | 6,095 | - | 6,095 |
| 2 | 7,172 | - | 7,172 | 26,996 | - | 26,996 | 11,394 | - | 11,394 | 7,066 | - | 7,066 |
| 3 | 4,355 | - | 4,355 | 7,169 | - | 7,169 | 2,074 | - | 2,074 | 656 | - | 656 |
| 4 | [4] | [4] | 7,650 | 16,945 | 96,020 | 112,965 | 3,115 | 28,037 | 31,152 | 287 | 2,580 | 2,867 |
| 5 | 9,293[5] | 5,696[5] | 14,989 | 3,153 | 28,382 | 31,535 | 9,843 | 88,590 | 98,433 | 1,747 | 15,720 | 17,467 |
| 6 | 900[6] | 2,699[6] | 3,599 | 4,688 | 18,753 | 23,441 | 2,273 | 20,453 | 22,726 | 1,479 | 13,306 | 14,785 |
| Alaska Total | 26,344[7] | 8,395[7] | 42,389 | 87,410 | 143,155 | 230,565 | 37,584 | 137,080 | 174,664 | 17,330 | 31,606 | 48,936 |
| Canada | 6,160 | 0 | 6,160 | | | | 6,230 | 0 | 6,230 | 500 | 0 | 500 |
| Total | 32,504[7] | 8,395[7] | 48,549 | 87,410 | 143,155 | 230,565 | 43,814 | 137,080 | 180,894 | 17,830 | 31,606 | 49,436 |

[1] Subsistence catch is not known by gear type, but a subjective estimate is that fishwheels account for 85% of the District 4 summer chum salmon subsistence catch, 90% of the District 5 catch, and 80% of the District 6 catch.

[2] Subsistence catch is not known by gear type, but a subjective estimate is that fishwheels account for 90% of the fall chum salmon subsistence catch in Districts 4, 5, and 6.

[3] Subsistence catch is not known by gear type, but a subjective estimate is that fishwheels account for 90% of the coho salmon subsistence catch in Districts 4, 5, and 6.

[4] Harvest by gear type is not known for the subsistence chinook salmon fishery in District 4. Gear composition of the commercial fishery is not thought to be representative of the gear composition of the subsistence fishery. Commercial harvest was only 961 chinook salmon.

[5] Subsistence catch apportioned by gear type based on the gear composition of the commercial fishery: 62% gillnet and 38% fishwheel.

[6] Subsistence catch apportioned by gear type based on the gear composition of the commercial fishery: 25% gillnet and 75% fishwheel.

[7] Does not include District 4 catch, which has not been apportioned by gear type.

## Escapement Abundance

Escapement objectives have been established for the major spawning populations of chinook, summer chum, and fall chum salmon for which a sufficient data base exists (ADF&G 1985). These escapement objectives are in most cases based on historical aerial survey indices of abundance, and should be considered preliminary assessments of optimal escapement levels.

Chinook salmon spawn in tributary streams throughout the Yukon River drainage (Figure 3). Aerial surveys of both chinook and summer chum salmon escapements in 1984 were limited in the middle portion of the drainage because of inclement weather and/or high water conditions. Escapement indices in the lower portion of the drainage numbered 2,473 chinook salmon in the East Fork Andreafsky River (apportioned sonar counts), 1,933 in the West Fork Andreafsky River, and 641 in the Anvik River (Table 3), meeting desired escapement objectives. The Chena and Salcha Rivers in the middle portion of the drainage were surveyed past the peak of spawning due to prior weather and water conditions. Counts of 501 and 1,031 chinook salmon, respectively, fell about 500 fish short of the escapement objectives for each of these streams. Yukon Territory chinook salmon escapements overall were slightly better than occurred in 1983, but about average compared to the historical data base. Escapements to the Pelly and upper Teslin Rivers were weak, while they were strong to the Nisutlin and Big Salmon Rivers. A total of 1,042 chinook salmon were counted at the Whitehorse fishpass (Appendix Table 8), with 65 fish sacrificed for a hatchery egg-take operation.

Summer chum salmon spawn primarily in streams tributary to the lower Yukon, e.g., the Koyukuk, and the Tanana Rivers (Figure 4). Escapements of 891,028 and 70,125 summer chum salmon were estimated by side-scan sonar in the Anvik and East Fork Andreafsky River, respectively, while 238,565 fish were counted in the West Fork Andreafsky River by aerial survey (Table 3). The Anvik and West Fork Andreafsky River escapements were almost double their respective objectives, while the East Fork Andreafsky River escapement was the lowest documented by sonar since the project was initiated in 1981. A strong pink salmon escapement to the Andreafsky River affected the accuracy of both aerial survey and sonar estimation of summer chum salmon escapement. Escapements to the Koyukuk and Tanana River tributaries appeared to be good based on limited aerial survey data. The Salcha River aerial survey count of 9,810 summer chum salmon is the largest on record for this system.

Fall chum salmon spawn in spring fed upwelling areas in streams and sloughs in the upper portion of the Yukon River drainage (Figure 5). Escapements to the Sheenjek River was estimated by side-scan sonar to be 25,120 fall chum salmon, and 5,570 fall chum salmon were estimated by aerial survey in the Fishing Branch River (Table 3). Both of these Porcupine River drainage escapements are well below escapement objectives and continue the trend of poor spawning levels documented over the past several years (Buklis and Barton 1984). The Sheenjek River count was the lowest since sonar operations began in 1981, and the Fishing Branch River count was the lowest observed since the early 1970's. Escapements were below average in both the Kluane (7,200) and main Yukon River between Ft. Selkirk and Carmacks (2,800) in the Canadian portion of the upper Yukon River. Escapements to spawning areas in the upper

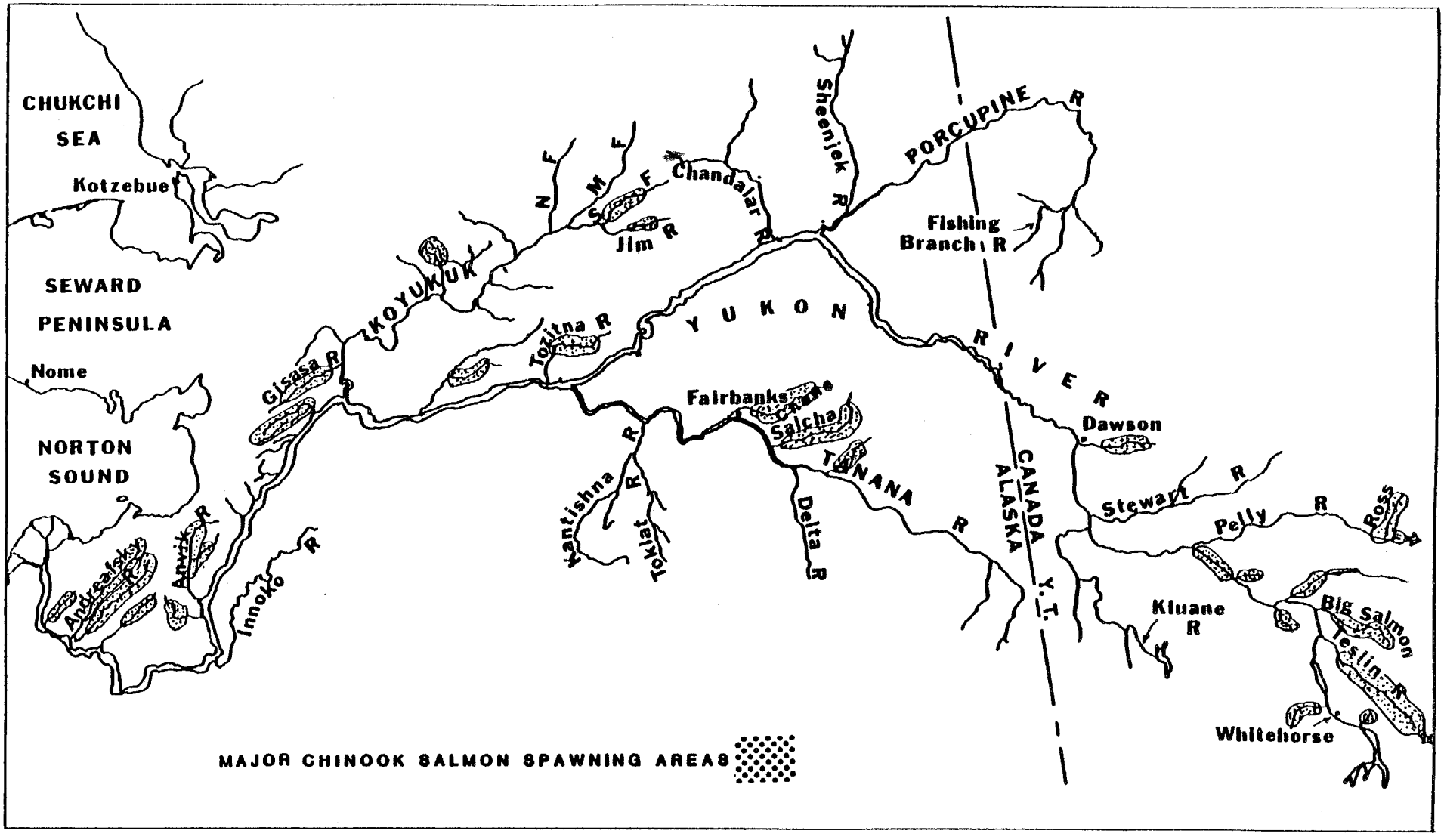


Figure 3. Chinook salmon spawning areas in the Yukon River drainage.

Table 3. Aerial survey salmon escapement estimates, Yukon River drainage, 1984[1].

| Stream (drainage) | Date | Survey rating | Chinook | Coho | Summer chum | Fall chum |
|---|---|---|---|---|---|---|
| **Andreafsky River** | | | | | | |
| East Fork sonar count[2] | 6/22-7/25 | | 2,473 | - | 70,125 | - |
| East Fork | 7/13 | poor | (1,573) | - | (95,200) | - |
| West Fork | 7/13 | good | 1,933 | - | 238,565 | - |
| Subtotal | | | 4,466 | - | 308,690 | - |
| **Anvik River** | | | | | | |
| Aerial | 7/17 | poor | 641 | - | - | - |
| Sonar[2] | 6/22-7/27 | | - | - | 891,028 | - |
| Subtotal | | | 641 | | 891,028 | |
| **Atchuelinguk River** | 7/14 | fair | 280 | - | 31,605 | - |
| **Stuyahok River** | 7/17 | poor | few | - | few | - |
| **Koyukuk River Drainage** | | | | | | |
| Huslia River | | | | | | |
| North Fork[3] | 7/23 | fair | - | - | 2 | - |
| Billy Hawk Creek[3] | 7/23 | fair | - | - | 4,500 | - |
| Subtotal | | | | | 4,502 | |
| Hogatza River | | | | | | |
| Caribou Creek | | | | | | |
| Bear Creek[4] | 7/18 | fair | - | - | 184 | - |
| Henshaw Creek | 7/30 | poor | 253 | - | 532 | - |
| South Fork Koyukuk | 7/30 | poor | 23 | - | 4 | - |
| Fish Creek | 7/30 | poor | 6 | - | - | - |
| Jim River | 7/30 | poor | 85 | - | 311 | - |
| Subtotal | | | 114 | | 315 | |
| TOTAL Koyukuk R. Drainage | | | 367 | | 5,533 | |
| **LOWER Tanana River Drainage** | | | | | | |
| Kantishna River Drainage | | | | | | |
| Toklat River | | | | | | |
| Barton Creek | 8/8 | poor | 30 | - | - | - |
| Geiger Creek | 10/28 | fair | - | 20 | - | 3,000 |
| Sushana River[5] | 10/27 | good | - | 185 | - | 5,960 |
| Toklat-vic. Rdhse[5] | 10/27 | good | - | 15 | - | 6,901 |
| Toklat subtotal | | | 30 | 220 | | 15,861 |
| Clear Creek | 8/8 | fair | 48 | - | - | - |
| Nenana River Drainage | | | | | | |
| Lost Slough | 10/17 | good | - | 2,677 | - | - |
| Julius Creek | | | | | | |
| Clear Creek[6,7] | 9/21 | fair | - | 2,600 | - | 100 |
| Wood Creek Weir[7,8] | | | - | 8,805 | - | 2,126 |
| June Creek[5,7] | 9/28 | good | - | 55 | - | - |
| Panguingue Creek[5,7] | 9/28 | good | - | 26 | - | - |
| Nenana Subtotal | | | | 14,163 | | 2,226 |

-Continued-

Table 3. Aerial survey salmon escapement estimates, Yukon River drainage, 1984[1] (continued).

| Stream (drainage) | Date | Survey rating | Chinook | Coho | Summer chum | Fall chum |
|---|---|---|---|---|---|---|
| Chatanika River | 8/15 | poor | 9 | - | 70 | - |
| Chena River | 8/7 | fair | 501 | - | 1,861 | - |
| Salcha River | 8/7 | good | 1,031 | - | 9,810 | - |
| UPPER Tanana River Drainage | | | | | | |
| Slough near Eielson AFB | 10/30 | poor | - | - | - | 2 |
| Slough near BM 735 Slough | 10/30 | poor | - | - | - | 91 |
| Slough near mouth of Little Delta River | 10/30 | poor | - | - | - | 7 |
| Richardson Clearwater R. | 10/30 | fair-poor | - | 428 | - | - |
| Between Andersen Slough and Delta River | 10/30 | fair | - | - | - | 222 |
| Delta River[5] | 11/15 | good-poor | - | 7 | - | 12,327 |
| South Bank Tanana | 10/30 | fair | - | - | - | 2,150 |
| Blue Creek | 10/30 | fair | - | 31 | - | 42 |
| Bluff Cabin Slough[5] | 11/7 | good | - | 110 | - | 4,017 |
| Clearwater Lake Outlet Slough | 10/30 | poor | - | - | - | 851 |
| Clearwater Lake and outlet | 10/30 | fair | - | 1,368 | - | - |
| Delta Clearwater River[6,9] | 11/5-6 | fair | - | 11,061 | - | - |
| One mile Slough | 10/30 | poor | - | 170 | - | 560 |
| Goodpaster River | 8/8 | good | 165 | - | 189 | - |
| Subtotal | | | 165 | 13,147 | 189 | 20,269 |
| TOTAL TANANA RIVER DRAINAGE | | | 1,784 | 27,530 | 11,930 | 38,356 |
| Porcupine River Drainage | | | | | | |
| Sheenjek River[10] | 9/20 | good | - | 3 | - | (11,402) |
| Sonar count[2] | 8/30-9/25 | | - | - | - | 25,120 |
| Fishing Branch[11] | 10/16 | fair | - | - | - | 5,570 |
| Porcupine Subtotal | | | | 3 | | 30,690 |
| Yukon Territory Streams | | | | | | |
| Kluane River[11] | 10/17 | good | - | - | - | 7,200 |
| Tincup Creek | 8/19 | good | 125 | - | - | - |
| Koidern River[11] | 10/17 | good | - | - | - | 1,300 |
| Mainstem Yukon[11,12] | 10/12 | good | - | - | - | 2,800 |
| Tatchun Creek | 8/31 | - | 161 | - | - | - |
| Little Salmon River | 8/18 | good | 434 | - | - | - |
| Big Salmon River | 8/15-19 | fair | 1,456 | - | - | - |
| Teslin River Drainage | | | | | | |
| Swift River (Lower Teslin River) | 8/14 | poor | 3 | - | - | - |
| Nisutlin River | 8/18 | good-fair | 1,347 | - | - | - |
| Wolf River | 8/16 | good-fair | 374 | - | - | - |
| Morley River | 8/16 | fair | 93 | - | - | - |
| Swift River | 8/16 | good | 62 | - | - | - |
| Jennings River | 8/16 | fair | 29 | - | - | - |
| Gladys River | 8/16 | poor | 0 | - | - | - |
| Upper Teslin River | 8/16 | fair-poor | 86 | - | - | - |
| Whitehorse Fishway[11,13] | 8/1-30 | | 977 | - | - | - |

-Continued-

Table 3. Aerial survey salmon escapement estimates, Yukon River drainage, 1984[1] (continued).

| Stream (drainage) | Date | Survey rating | Chinook | Coho | Summer chum | Fall chum |
|---|---|---|---|---|---|---|
| **Pelly River Drainage** | | | | | | |
| Lapie River | 8/17 | good | 5 | - | - | - |
| Ross River | 8/17 | fair-poor | 89 | - | - | - |
| Prevost River | 8/17 | good-fair | 0 | - | - | - |
| Lewis Lake outlet | 8/17 | fair-poor | 62 | - | - | - |
| Lower Pelly Lake outlet | 8/17 | fair | 24 | - | - | - |
| Hoole River | 8/17 | good | 58 | - | - | - |
| Subtotal | | | 5,385 | - | - | 11,300 |
| **YUKON RIVER DRAINAGE TOTALS** | | | 12,923 | 27,533 | 1,248,786 | 80,346 |

[1] Only peak estimates listed; carcass counts included. Data in parentheses not included in subtotals.

[2] Side-scan sonar estimate.

[3] Surveyed by USFWS.

[4] Combination foot and aerial estimate.

[5] Foot Survey.

[6] Boat survey.

[7] Surveyed by F.R.E.D. Division.

[8] Weir count by F.R.E.D. Division. No chums allowed to spawn wild. Only 6,018 coho (2,835 males; 3,183 females) were passed and allowed to spawn wild. Remainder (2,787) went for Clear hatchery egg-take.

[9] Surveyed by Sport Fish Division.

[10] Incomplete survey - minimal estimates.

[11] Surveyed by Department of Fisheries and Oceans (Canadians).

[12] Mainstem Yukon River from Yukon Crossing to Fort Selkirk.

[13] An additional 65 chinooks were utilized in egg-take operation (42 females; 30 males).

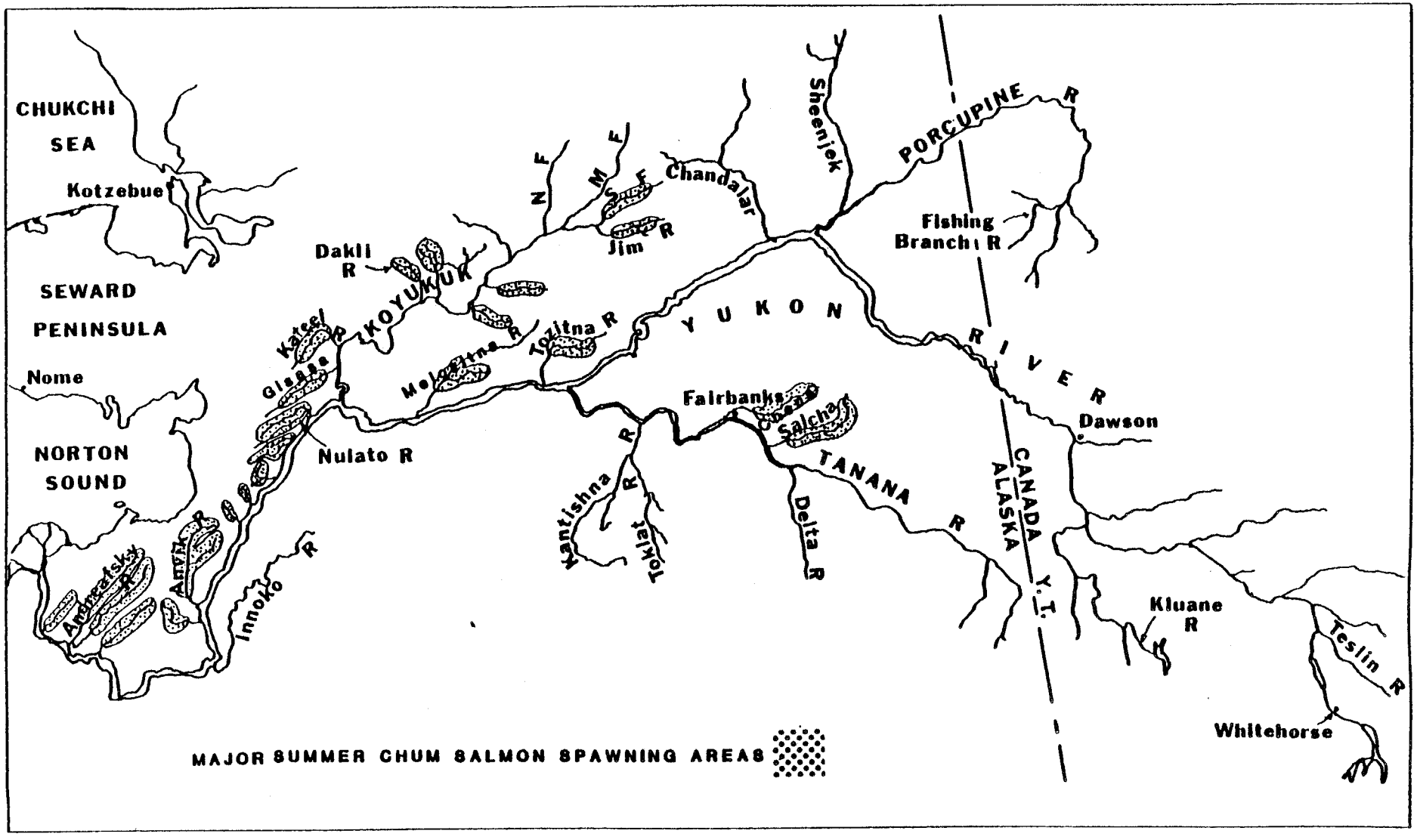


Figure 4. Summer chum salmon spawning areas in the Yukon River drainage.

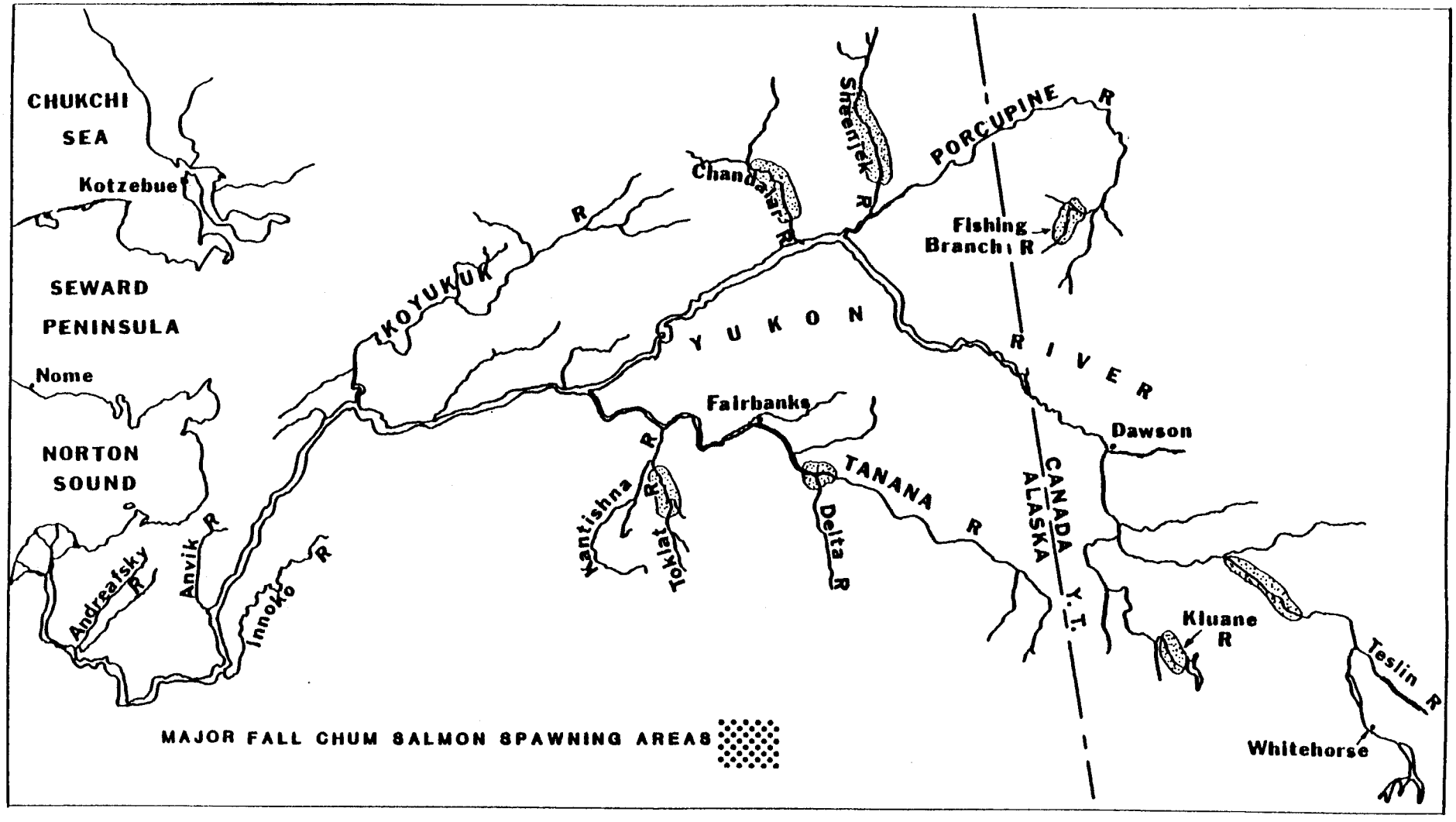


Figure 5. Fall chum salmon spawning areas in the Yukon River drainage.

Tanana River totaled 20,269 fall chum salmon, which is similar to that of recent years, and the objective was met for the Delta River. However, escapement to the Toklat River in the lower Tanana drainage continued the recent trend of poor escapements, with only 15,861 fall chum salmon enumerated in 1984.

Coho salmon spawn in widely scattered tributaries throughout the Yukon River drainage, although the major concentrations have been documented in the upper Tanana River drainage (Figure 6). Coho salmon escapement counts are generally obtained ancillary to fall chum salmon escapement survey priorities, and, therefore, a comprehensive data base does not exist. Escapements were the highest on record for most index areas surveyed in 1984. The Delta Clearwater River, in the upper Tanana drainage, is the single most important coho salmon spawning stream, and had an escapement count of 11,061 coho salmon.

Age, Sex, and Length Composition

Age, sex, and length composition of Yukon River salmon catches and escapements in 1984 are presented separately for each species.

Chinook Salmon:

Age $6_2$ chinook salmon were the dominant age class in 1984 Yukon River commercial catches (Table 4, Appendix Tables 9-16) as in most of the recent years. District 1 and 2 gillnet catches, which together comprised nearly 70% of the total river harvest, were made up of 58% and 53% age $6_2$ fish, respectively. Age $5_2$ chinook salmon were the next most abundant age class, comprising 24% and 32% of the respective District 1 and 2 catches.

There was little change in age structure during the first two sample periods in either District 1 or 2. However, the proportion of older fish decreased markedly while the proportion of younger fish increased for the third sample period in each district (small mesh season). Contribution of age $6_2$ fish decreased from approximately 60% for the first sample period in Districts 1 and 2, to only 30% for the third period in each district. The contribution of age $5_2$ fish in District 1 increased from about 19% to 46%, while it increased from 27% to 58% in District 2. The incidence of age $4_2$ fish, likewise, increased in each district from 2% or less during the first two periods to 10% or more in the third period.

No samples were collected from fisheries in District 6 in 1984, and no attempt was made to apportion catches in this district. Commercial and subsistence harvests for this district comprised less than 7% of the total Yukon River chinook salmon harvest in 1984.

Subsistence gillnet and fishwheel harvests in Districts 1, 2, 3, and Canada were not sampled. Since these fisheries utilize the same gear types and occur concurrently with the commercial fisheries in these districts, harvests were apportioned by age and sex from the appropriate commercial catch samples (Appendix Table 17-20). Age, sex, and size composition of samples collected but not used to apportion catches is shown in Appendix Table 21. Because of significant intermixing of commercial and subsistence gillnet and fishwheel

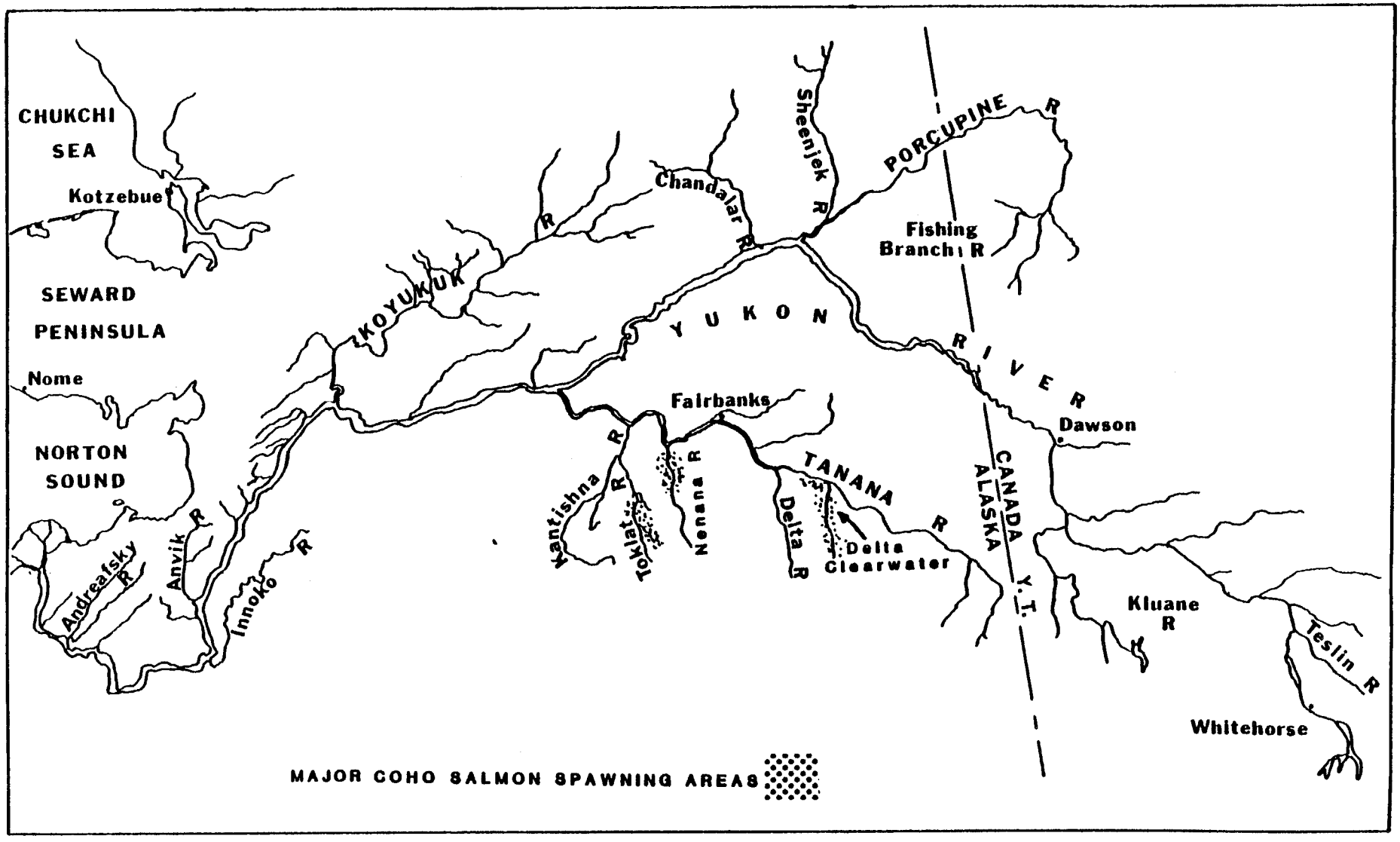


Figure 6. Coho salmon spawning areas in the Yukon River drainage.

Table 4. Total utilization in numbers of Yukon River chinook salmon by age, sex, and fishery, 1984.

| District | Fishery | Sample Size | Sex | AGE GROUP * 42 | 52 | 53 | 62 | 63 | 72 | 73 | 83 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Commercial Gillnet | 1,542 | Males | 2,121 | 14,279 | 67 | 17,238 | 200 | 3,113 | 1,084 | 0 | 38,102 |
| | | | Females | 0 | 3,612 | 0 | 26,321 | 0 | 4,927 | 1,397 | 0 | 36,257 |
| | | | Combined | 2,121 | 17,891 | 67 | 43,559 | 255[1] | 8,193[1] | 2,519[1] | 66[1] | 74,671 |
| | Subsistence Gillnet | [2] | Males | 131 | 884 | 4 | 1,067 | 12 | 193 | 67 | 0 | 2,359 |
| | | | Females | 0 | 224 | 0 | 1,630 | 0 | 305 | 87 | 0 | 2,245 |
| | | | Combined | 131 | 1,108 | 4 | 2,697 | 16[1] | 507[1] | 156[1] | 4[1] | 4,624 |
| 2 | Commercial Gillnet | 934 | Males | 1,034 | 10,698 | 0 | 7,049 | 0 | 1,414 | 411 | 0 | 20,605 |
| | | | Females | 0 | 1,102 | 0 | 12,265 | 0 | 2,316 | 281 | 32 | 15,996 |
| | | | Combined | 1,034 | 11,800 | 0 | 19,314 | 76[1] | 3,730 | 690 | 54[1] | 36,697 |
| | Subsistence Gillnet | [3] | Males | 202 | 2,091 | 0 | 1,378 | 0 | 276 | 80 | 0 | 4,027 |
| | | | Females | 0 | 215 | 0 | 2,397 | 0 | 453 | 55 | 6 | 3,126 |
| | | | Combined | 202 | 2,306 | 0 | 3,775 | 15[1] | 729 | 135 | 11[1] | 7,172 |
| 3 | Commercial Gillnet | 246 | Males | 37 | 692 | 0 | 791 | 0 | 124 | 12 | 12 | 1,668 |
| | | | Females | 0 | 62 | 0 | 1,050 | 0 | 197 | 62 | 0 | 1,371 |
| | | | Combined | 37 | 754 | 0 | 1,841 | 0 | 321 | 74 | 12 | 3,039 |
| | Subsistence Gillnet | [4] | Males | 53 | 991 | 0 | 1,133 | 0 | 177 | 18 | 18 | 2,390 |
| | | | Females | 0 | 89 | 0 | 1,505 | 0 | 283 | 89 | 0 | 1,965 |
| | | | Combined | 53 | 1,080 | 0 | 2,638 | 0 | 460 | 106 | 18 | 4,355 |
| 4 | [5] | 160 | Males | 161 | 1,830 | 0 | 1,345 | 0 | 54 | 161 | 0 | 3,552 |
| | | | Females | 0 | 646 | 0 | 3,606 | 0 | 646 | 161 | 0 | 5,059 |
| | | | Combined | 161 | 2,476 | 0 | 4,951 | 0 | 700 | 323 | 0 | 8,611 |
| 5 | [5] | 189 | Males | 1,185 | 5,430 | 0 | 5,035 | 197 | 592 | 99 | 0 | 12,537 |
| | | | Females | 0 | 99 | 0 | 4,837 | 0 | 1,185 | 0 | 0 | 6,121 |
| | | | Combined | 1,185 | 5,528 | 0 | 9,872 | 197 | 1,777 | 99 | 0 | 18,658 |
| 6 | [5] | | Males | - | - | - | - | - | - | - | - | - |
| | | | Females | - | - | - | - | - | - | - | - | - |
| | | | Combined | - | - | - | - | - | - | - | - | 4,466 |
| Yukon Territory | Commercial Gillnet | 629 | Males | 931 | 2,375 | 32 | 867 | 96 | 128 | 0 | 0 | 4,429 |
| | | | Females | 32 | 64 | 0 | 4,076 | 0 | 1,220 | 64 | 0 | 5,456 |
| | | | Combined | 963 | 2,439 | 32 | 4,943 | 96 | 1,348 | 64 | 0 | 9,885 |
| | Subsistence Gillnet | [6] | Males | 580 | 1,480 | 20 | 540 | 60 | 80 | 0 | 0 | 2,760 |
| | | | Females | 20 | 40 | 0 | 2,540 | 0 | 760 | 40 | 0 | 3,400 |
| | | | Combined | 600 | 1,520 | 20 | 3,080 | 60 | 840 | 40 | 0 | 6,160 |
| TOTAL HARVEST | | | Males | 6,435 | 40,750 | 123 | 36,443 | 566 | 6,151 | 1,932 | 30 | 92,430 |
| | | | Females | 52 | 6,152 | 0 | 60,227 | 0 | 12,292 | 2,236 | 38 | 80,996 |
| | | | Combined | 6,487 | 46,902 | 123 | 96,670 | 716[1] | 18,604[1] | 4,205[1] | 165[1] | 178,338[7] |

* 42-83 are computerized printing of the Gilbert-Rich subscripted $4_2$ - $8_3$.

[1] Total for sexes combined greater than sum of individual sexes due to fish being sampled without sex identification.

[2] Allocation based on District 1 commercial catch samples.

[3] Allocation based on District 2 commercial catch samples.

[4] Allocation based on District 3 commercial catch samples.

[5] Combined commercial and subsistence, gillnet, and fishwheel catches.

[6] Allocation based on Yukon Territory commercial catch samples.

[7] Total includes commercial and subsistence harvests in District 6 that are not apportioned by age and sex due to lack of sample data.

catches by fishermen in Districts 4 and 5, estimates for both gear types and fisheries were pooled and assumed to be self-weighting. These pooled estimates for Districts 4 and 5 (Appendix Tables 14 and 15) were similar to those for the other districts, comprised predominantly of age $6_2$ fish (58% and 53% for Districts 4 and 5, respectively).

Size of chinook salmon in the District 1 commercial gillnet catch ranged from approximately 563 mm for age $4_2$ to 931 mm for age $7_2$ males, and from 802 mm for age $5_2$ to 907 mm for age $7_2$ females (Table 5).

In contrast to the relatively high abundance of age $6_2$ fish in Yukon River harvests, age $5_2$ fish comprised the largest segment of escapements to the Andreafsky, Anvik, and Chena Rivers (approximately 50%, 50%, and 48%, respectively). Sex compositions for the lower and middle Yukon River escapements were dominated by males, ranging from a high of 73% males for the Andreafsky River to a low of 58% males for the Salcha River (Table 6).

Escapements in the Canadian portion of the drainage tended to consist of more older fish and more females than escapements in the other regions (Table 6), which has also been observed in previous years. Age $6_2$ fish were the most abundant age group, averaging about 58% of escapements to the two major upper Yukon River spawning tributaries, the Big Salmon and Nisutlin Rivers. The relative abundance of age $5_2$ and $6_2$ fish was about equal for the Little Salmon River (37% and 35%, respectively). As has been the case in recent years, the occurrence of fish with two freshwater annuli was much greater in upper Yukon River spawning streams than in other regions of the drainage.

Average size of male chinook salmon in Yukon River escapements ranged from 554 mm for age $4_2$ fish from the Chena River to 987 mm for age $7_2$ fish from the Little Salmon River, while females ranged from 722 mm for age $5_2$ fish from the Anvik River to 923 mm for age $7_2$ fish from the Andreafsky River (Table 7).

Summer Chum Salmon:

Summer chum salmon were sampled from the District 1 and 2 commercial gillnet fisheries, and the District 4 and 6 commercial fishwheel fisheries in sufficient numbers to permit apportionment of harvest by age and sex. The District 3 harvest was apportioned by age and sex based on the composition of the District 2 sample, while Districts 4, 5, and 6 commercial gillnet harvests and the District 5 commercial fishwheel harvest could not be apportioned because of the lack of appropriate sample data. Subsistence harvest for each district and gear type was apportioned by age and sex using the commercial catch sample data for that district and gear type. The number of summer chum salmon harvest by age, sex, and fishery for the entire drainage is presented in Table 8, while age and sex composition for each fishery is presented by sample period in Appendix Tables 22-31. Age, sex, and size composition of samples collected but not used to apportion catches is shown in Appendix Table 32.

Age $4_1$ fish accounted for 73% of the commercial gillnet harvest and 74% of the commercial fishwheel harvest for all districts combined. Age $5_1$ fish followed in importance, accounting for 25% and 22% of the gillnet and fishwheel harvests,

Table 5. The length (mm) of Yukon River chinook salmon commercial and subsistence catch samples, by age and sex, 1984[1].

| District | Fishery | Sex | | AGE GROUP 42 | 52 | 53 | 62 | 63 | 72 | 73 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Commercial 6" and 8-1/2" (15.2 cm and 21.6 cm) Gillnets | Males | Mean | 563 | 704 | 654 | 857 | 734 | 931 | 842 | |
| | | | Std. Err. | 10.2 | 4.9 | 4.0 | 6.1 | 36.4 | 17.0 | 9.4 | |
| | | | Samp. Size | 43 | 187 | 2 | 158 | 5 | 28 | 5 | |
| | | Females | Mean | | 802 | | 872 | | 907 | 826 | |
| | | | Std. Err. | | 10.3 | | 3.4 | | 9.6 | 17.5 | |
| | | | Samp. Size | | 35 | | 227 | | 36 | 8 | |
| 2 | Commercial 6" and 8-1/2" (15.2 cm and 21.6 cm) Gillnets | Males | Mean | 561 | 708 | | 847 | | 939 | 879 | |
| | | | Std. Err. | 13.7 | 5.5 | | 8.0 | | 28.7 | 14.9 | |
| | | | Samp. Size | 27 | 177 | | 76 | | 19 | 6 | |
| | | Females | Mean | | 765 | | 875 | | 917 | 848 | 915 |
| | | | Std. Err. | | 14.9 | | 4.6 | | 6.1 | 27.1 | 0.0 |
| | | | Samp. Size | | 17 | | 144 | | 29 | 4 | 1 |
| 3 | Commercial 8-1/2" (21.6 cm) Gillnets | Males | Mean | 552 | 719 | | 877 | | 901 | 720 | 990 |
| | | | Std. Err. | 23.9 | 8.7 | | 9.1 | | 45.0 | 0.0 | 0.0 |
| | | | Samp. Size | 3 | 56 | | 64 | | 9 | 1 | 1 |
| | | Females | Mean | | 828 | | 869 | | 914 | 854 | |
| | | | Std. Err. | | 22.0 | | 5.3 | | 11.3 | 20.6 | |
| | | | Samp. Size | | 5 | | 85 | | 16 | 5 | |
| 4 | Gillnets[2] Mesh size unknown | Males | Mean | 496 | 723 | | 874 | | 833 | 802 | |
| | | | Std. Err. | 0.0 | 9.7 | | 15.0 | | 0.0 | 29.8 | |
| | | | Samp. Size | 1 | 29 | | 23 | | 1 | 3 | |
| | | Females | Mean | | 769 | | 872 | | 923 | 861 | |
| | | | Std. Err. | | 20.3 | | 6.1 | | 10.9 | 13.2 | |
| | | | Samp. Size | | 8 | | 66 | | 11 | 3 | |
| | Fishwheel[2] | Males | Mean | 562 | 660 | | 803 | | | | |
| | | | Std. Err. | 28.5 | 46.6 | | 54.0 | | | | |
| | | | Samp. Size | 2 | 5 | | 2 | | | | |
| | | Females | Mean | | 711 | | 902 | | 889 | | |
| | | | Std. Err. | | 22.2 | | 0.0 | | 0.0 | | |
| | | | Samp. Size | | 4 | | 1 | | 1 | | |
| 5 | [3] | Males | Mean | 550 | 697 | | 873 | 713 | 943 | 970 | |
| | | | Std. Err. | 15.3 | 10.1 | | 10.3 | 82.5 | 32.5 | 0.0 | |
| | | | Samp. Size | 11 | 54 | | 51 | 2 | 6 | 1 | |
| | | Females | Mean | | 810 | | 872 | | 913 | | |
| | | | Std. Err. | | 0.0 | | 6.1 | | 8.3 | | |
| | | | Samp. Size | | 1 | | 48 | | 12 | | |
| Yukon Territory[4] | Commercial 8-1/2" (21.6 cm) Gillnets | Males | Mean | 533 | 707 | 544 | 917 | 721 | 1028 | | |
| | | | Std. Err. | 11.5 | 6.7 | 0.0 | 17.4 | 63.4 | 56.0 | | |
| | | | Samp. Size | 29 | 74 | 1 | 27 | 3 | 4 | | |
| | | Females | Mean | 546 | 784 | | 917 | | 974 | 905 | |
| | | | Std. Err. | 0.0 | 73.5 | | 5.2 | | 10.1 | 2.0 | |
| | | | Samp. Size | 1 | 2 | | 127 | | 38 | 2 | |

[1] Length is mid-eye to fork-of-tail, except where noted.
[2] Combined commercial and subsistence.
[3] Combined commercial and subsistence, gillnets of unknown mesh size and fishwheels.
[4] Length reported is tip-of-snout to fork-of-tail.

Table 6. The percentage of Yukon River chinook salmon escapement carcass samples, age and sex by spawning area, 1984.

| River | Aerial Survey Estimate | Sample Size | Sex | Age Group 32 | 42 | 52 | 62 | 63 | 72 | 73 | 82 | 83 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Andreafsky | 4,466[1] | 420[2] | Males | 0.2 | 12.6 | 46.2 | 13.8 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 73.3 |
| | | | Females | 0.0 | 0.0 | 3.6 | 21.9 | 0.0 | 1.2 | 0.0 | 0.0 | 0.0 | 26.7 |
| | | | Combined | 0.2 | 12.6 | 49.8 | 35.7 | 0.0 | 1.7 | 0.0 | 0.0 | 0.0 | 100.0 |
| | | | Std. Err. | 0.2 | 1.6 | 2.4 | 2.3 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | |
| Anvik | 641[3] | 276[4] | Males | 0.0 | 10.5 | 39.1 | 9.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 58.7 |
| | | | Females | 0.0 | 1.4 | 10.9 | 26.8 | 0.0 | 2.2 | 0.0 | 0.0 | 0.0 | 41.3 |
| | | | Combined | 0.0 | 12.0 | 50.0 | 35.9 | 0.0 | 2.2 | 0.0 | 0.0 | 0.0 | 100.0 |
| | | | Std. Err. | 0.0 | 2.0 | 3.0 | 2.9 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 | |
| Chena | 501[3] | 499 | Males | 0.0 | 11.6 | 38.3 | 6.0 | 0.2 | 1.8 | 0.2 | 0.0 | 0.0 | 58.1 |
| | | | Females | 0.0 | 0.0 | 9.4 | 24.4 | 0.2 | 7.6 | 0.2 | 0.0 | 0.0 | 41.9 |
| | | | Combined | 0.0 | 11.6 | 47.7 | 30.5 | 0.4 | 9.4 | 0.4 | 0.0 | 0.0 | 100.0 |
| | | | Std. Err. | 0.0 | 1.4 | 2.2 | 2.1 | 0.3 | 1.3 | 0.3 | 0.0 | 0.0 | |
| Salcha | 1,031[3] | 515 | Males | 0.0 | 8.9 | 35.1 | 11.7 | 0.0 | 2.1 | 0.0 | 0.0 | 0.0 | 57.9 |
| | | | Females | 0.0 | 0.0 | 3.5 | 29.1 | 0.0 | 8.9 | 0.4 | 0.2 | 0.0 | 42.1 |
| | | | Combined | 0.0 | 8.9 | 38.6 | 40.8 | 0.0 | 11.1 | 0.4 | 0.2 | 0.0 | 100.0 |
| | | | Std. Err. | 0.0 | 1.3 | 2.1 | 2.2 | 0.0 | 1.4 | 0.3 | 0.2 | 0.0 | |
| Big Salmon | 1,044 | 154 | Males | 0.0 | 0.0 | 18.8 | 14.9 | 0.6 | 1.9 | 1.3 | 0.0 | 0.0 | 37.7 |
| | | | Females | 0.0 | 0.0 | 2.6 | 42.9 | 0.0 | 15.6 | 1.3 | 0.0 | 0.0 | 62.3 |
| | | | Combined | 0.0 | 0.0 | 21.4 | 57.8 | 0.6 | 17.5 | 2.6 | 0.0 | 0.0 | 100.0 |
| | | | Std. Err. | 0.0 | 0.0 | 3.3 | 4.0 | 0.6 | 3.1 | 1.3 | 0.0 | 0.0 | |
| Little Salmon | 434 | 105 | Males | 0.0 | 6.7 | 29.5 | 7.6 | 1.9 | 6.7 | 0.0 | 0.0 | 0.0 | 52.4 |
| | | | Females | 0.0 | 0.0 | 7.6 | 27.6 | 0.0 | 12.4 | 0.0 | 0.0 | 0.0 | 47.6 |
| | | | Combined | 0.0 | 6.7 | 37.1 | 35.2 | 1.9 | 19.0 | 0.0 | 0.0 | 0.0 | 100.0 |
| | | | Std. Err. | 0.0 | 2.4 | 4.7 | 4.7 | 1.3 | 3.9 | 0.0 | 0.0 | 0.0 | |
| Nisutlin | 1,178 | 216 | Males | 0.0 | 0.0 | 14.8 | 19.0 | 0.5 | 2.3 | 6.0 | 0.0 | 0.0 | 42.6 |
| | | | Females | 0.0 | 0.0 | 1.9 | 38.9 | 0.5 | 4.2 | 11.6 | 0.0 | 0.5 | 57.4 |
| | | | Combined | 0.0 | 0.0 | 16.7 | 57.9 | 0.9 | 6.5 | 17.6 | 0.0 | 0.5 | 100.0 |
| | | | Std. Err. | 0.0 | 0.0 | 2.5 | 3.4 | 0.7 | 1.7 | 2.6 | 0.0 | 0.5 | |
| Tatchun | 161[5] | 23 | Males | 0.0 | 0.0 | 13.0 | 8.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 21.7 |
| | | | Females | 0.0 | 0.0 | 4.3 | 56.5 | 0.0 | 17.4 | 0.0 | 0.0 | 0.0 | 78.3 |
| | | | Combined | 0.0 | 0.0 | 17.4 | 65.2 | 0.0 | 17.4 | 0.0 | 0.0 | 0.0 | 100.0 |
| | | | Std. Err. | 0.0 | 0.0 | 8.1 | 10.2 | 0.0 | 8.1 | 0.0 | 0.0 | 0.0 | |

[1] Sonar estimate for East Fork = 2,473. Aerial survey for West Fork = 1,993.

[2] Carcass samples: East Fork = 237, West Fork = 118. Beach seine samples: East Fork = 65.

[3] Incomplete or poor survey conditions resulting in a very minimal count.

[4] Carcass samples = 275. Beach seine samples = 1.

[5] Foot survey, Department of Fisheries and Oceans, Canada.

Table 7. The length (mm) of Yukon River chinook salmon escapement carcass samples, by age and sex, 1984.

| River | Sex | | AGE GROUP 32 | 42 | 52 | 62 | 63 | 72 | 73 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Andreafsky[1] | Males | Mean | 385 | 554 | 699 | 825 | | 894 | | | |
| | | Std. Err. | 0.0 | 9.3 | 4.6 | 9.6 | | 51.5 | | | |
| | | Samp. Size | 1 | 53 | 194 | 57 | | 2 | | | |
| | Females | Mean | | | 762 | 857 | | 923 | | | |
| | | Std. Err. | | | 18.6 | 7.7 | | 25.1 | | | |
| | | Samp. Size | | | 15 | 92 | | 5 | | | |
| Anvik[2] | Males | Mean | | 544 | 702 | 812 | | | | | |
| | | Std. Err. | | 10.5 | 5.3 | 14.1 | | | | | |
| | | Samp. Size | | 29 | 108 | 25 | | | | | |
| | Females | Mean | | 542 | 722 | 865 | | 878 | | | |
| | | Std. Err. | | 24.6 | 10.5 | 7.1 | | 21.8 | | | |
| | | Samp. Size | | 4 | 30 | 74 | | 6 | | | |
| Chena | Males | Mean | | 510 | 694 | 872 | 695 | 950 | 845 | | |
| | | Std. Err. | | 7.0 | 4.1 | 15.3 | 0.0 | 21.5 | 0.0 | | |
| | | Samp. Size | | 58 | 190 | 29 | 1 | 9 | 1 | | |
| | Females | Mean | | | 739 | 863 | 675 | 910 | 870 | | |
| | | Std. Err. | | | 11.1 | 8.0 | 0.0 | 6.8 | 0.0 | | |
| | | Samp. Size | | | 44 | 120 | 1 | 37 | 1 | | |
| Salcha | Males | Mean | | 525 | 693 | 878 | | 944 | | | |
| | | Std. Err. | | 6.8 | 4.2 | 11.0 | | 22.4 | | | |
| | | Samp. Size | | 46 | 180 | 60 | | 11 | | | |
| | Females | Mean | | | 781 | 868 | | 904 | 890 | 960 | |
| | | Std. Err. | | | 21.5 | 4.6 | | 8.5 | 40.0 | 0.0 | |
| | | Samp. Size | | | 17 | 150 | | 45 | 2 | 1 | |
| Big Salmon | Males | Mean | | | 697 | 879 | 570 | 942 | 855 | | |
| | | Std. Err. | | | 15.6 | 17.5 | 0.0 | 40.5 | 90.0 | | |
| | | Samp. Size | | | 28 | 23 | 1 | 3 | 2 | | |
| | Females | Mean | | | 770 | 853 | | 898 | 805 | | |
| | | Std. Err. | | | 50.6 | 5.1 | | 8.3 | 35.0 | | |
| | | Samp. Size | | | 4 | 64 | | 24 | 2 | | |
| Little Salmon | Males | Mean | | 561 | 713 | 851 | 710 | 987 | | | |
| | | Std. Err. | | 25.4 | 18.3 | 30.8 | 40.0 | 16.7 | | | |
| | | Samp. Size | | 7 | 28 | 8 | 2 | 6 | | | |
| | Females | Mean | | | 789 | 822 | | 890 | | | |
| | | Std. Err. | | | 34.8 | 7.3 | | 13.0 | | | |
| | | Samp. Size | | | 7 | 28 | | 13 | | | |
| Nisutlin | Males | Mean | | | 689 | 835 | 795 | 936 | 865 | | |
| | | Std. Err. | | | 11.4 | 9.5 | 0.0 | 29.9 | 19.0 | | |
| | | Samp. Size | | | 30 | 39 | 1 | 5 | 12 | | |
| | Females | Mean | | | 768 | 831 | 780 | 874 | 813 | | 895 |
| | | Std. Err. | | | 33.0 | 4.3 | 0.0 | 9.2 | 7.5 | | 0.0 |
| | | Samp. Size | | | 4 | 84 | 1 | 9 | 25 | | 1 |
| Tatchun | Males | Mean | | | 725 | 810 | | | | | |
| | | Std. Err. | | | 30.1 | 0.0 | | | | | |
| | | Samp. Size | | | 3 | 1 | | | | | |
| | Females | Mean | | | 710 | 799 | | 868 | | | |
| | | Std. Err. | | | 0.0 | 13.4 | | 14.2 | | | |
| | | Samp. Size | | | 1 | 13 | | 4 | | | |

[1] Carcass samples = 355. Beach seine samples = 65.
[2] Carcass samples = 275. Beach seine samples = 1.

Table 8. Total utilization in numbers of fish of Yukon River summer chum salmon by age, sex, and fishery, 1984.

| Fishery | Sample Size | Age 31 | | | Age 41 | | | Age 51 | | | Age 61 | | | Combined Ages | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | M | F | Total | M | F | Total | M | F | Total | M | F | Total | M | F | Total |
| District 1 | | | | | | | | | | | | | | | | |
| Commercial Gillnet | 1,709 | 3,066 | 1,600 | 4,666 | 125,956 | 85,438 | 211,394 | 38,729 | 35,206 | 73,935 | 1,645 | 1,036 | 2,681 | 169,396 | 123,280 | 292,676 |
| Subsistence Gillnet | - | 333 | 133 | 466 | 12,073 | 8,260 | 20,333 | 3,763 | 3,664 | 7,427 | 133 | 100 | 233 | 16,303 | 12,156 | 28,459 |
| Total | | 3,399 | 1,733 | 5,132 | 138,029 | 93,698 | 231,727 | 42,492 | 38,870 | 81,362 | 1,778 | 1,136 | 2,914 | 185,699 | 135,436 | 321,135 |
| District 2 | | | | | | | | | | | | | | | | |
| Commercial Gillnet | 539 | 1,102 | 431 | 1,533 | 123,935 | 53,889 | 177,824 | 30,364 | 26,108 | 56,472 | 1,102 | 0 | 1,102 | 156,503 | 80,428 | 236,931 |
| Subsistence Gilllnet | - | 100 | 100 | 200 | 12,271 | 6,912 | 19,183 | 4,408 | 3,105 | 7,513 | 100 | 0 | 100 | 16,879 | 10,117 | 26,996 |
| Total | | 1,202 | 531 | 1,733 | 136,206 | 60,801 | 197,007 | 34,772 | 29,213 | 63,985 | 1,202 | 0 | 1,202 | 173,382 | 90,545 | 263,927 |
| District 3 | | | | | | | | | | | | | | | | |
| Commercial Gillnet | - | 3 | 6 | 9 | 421 | 309 | 730 | 215 | 130 | 345 | 3 | 0 | 3 | 642 | 445 | 1,087 |
| Subsistence Gillnet | - | 27 | 27 | 53 | 3,259 | 1,835 | 5,094 | 1,170 | 825 | 1,995 | 27 | 0 | 27 | 4,482 | 2,687 | 7,169 |
| Total | | 30 | 33 | 62 | 3,680 | 2,144 | 5,824 | 1,385 | 955 | 2,340 | 30 | 0 | 30 | 5,124 | 3,132 | 8,256 |
| District 4 | | | | | | | | | | | | | | | | |
| Commercial Gillnet | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 34,041 |
| Commercial Fishwheel | 202 | 1,325 | 2,650 | 3,975 | 21,198 | 78,829 | 100,026 | 9,936 | 19,873 | 29,809 | 0 | 0 | 0 | 32,459 | 101,351 | 133,810 |
| Subsistence Gillnet | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 16,945 |
| Subsistence Fishwheel | - | 951 | 1,901 | 2,852 | 15,211 | 56,566 | 71,777 | 7,130 | 14,260 | 21,391 | 0 | 0 | 0 | 23,292 | 72,728 | 96,020 |
| Total | | 2,276 | 4,551 | 6,827 | 36,409 | 135,395 | 171,803 | 17,066 | 34,133 | 51,200 | 0 | 0 | 0 | 55,751 | 174,079 | 280,816 |
| District 5 | | | | | | | | | | | | | | | | |
| Commercial Gillnet | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 235 |
| Commercial Fishwheel | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 457 |
| Subsistence Gillnet | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3,153 |
| Subsistence Fishwheel | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 28,382 |
| Total | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 32,227 |
| District 6 | | | | | | | | | | | | | | | | |
| Commercial Gillnet | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 9,138 |
| Commercial Fishwheel | 272 | 698 | 2,093 | 2,791 | 11,862 | 23,025 | 34,887 | 4,710 | 5,059 | 9,768 | 0 | 0 | 0 | 17,269 | 30,177 | 47,446 |
| Subsistence Gillnet | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4,688 |
| Subsistence Fishwheel | - | 276 | 827 | 1,103 | 4,688 | 9,101 | 13,789 | 1,862 | 1,999 | 3,861 | 0 | 0 | 0 | 6,826 | 11,927 | 18,753 |
| Total | | 974 | 2,920 | 3,894 | 16,550 | 32,126 | 48,676 | 6,572 | 7,058 | 13,629 | 0 | 0 | 0 | 24,095 | 42,104 | 80,025 |
| Districts Combined | | | | | | | | | | | | | | | | |
| Commercial Gillnet | | 4,171 | 2,037 | 6,208 | 250,312 | 139,636 | 389,948 | 69,308 | 61,444 | 130,752 | 2,750 | 1,036 | 3,786 | 326,541 | 204,153 | 574,108 |
| Commercial Fishwheel | | 2,023 | 4,743 | 6,766 | 33,060 | 101,854 | 134,913 | 14,646 | 24,932 | 39,577 | 0 | 0 | 0 | 49,728 | 131,528 | 181,713 |
| Subsistence Gillnet | | 460 | 260 | 719 | 27,603 | 17,007 | 44,610 | 9,341 | 7,594 | 16,935 | 260 | 100 | 360 | 37,664 | 24,960 | 87,410 |
| Subsistence Fishwheel | | 1,227 | 2,728 | 3,955 | 19,899 | 65,667 | 85,566 | 8,992 | 16,259 | 25,252 | 0 | 0 | 0 | 30,118 | 84,655 | 143,155 |
| Total | | 7,881 | 9,768 | 17,648 | 330,874 | 324,164 | 655,037 | 102,287 | 110,229 | 212,516 | 3,010 | 1,136 | 4,146 | 444,051 | 445,296 | 986,386 |

[1] Gillnet catches in Districts 4, 5, and 6, and fishwheel catches in District 5 are not apportioned by age and sex due to lack of adequate sample data. Therefore, row and column totals may include unapportioned catches.

respectively. Age $3_1$ and $6_1$ fish each accounted for only 1% of the gillnet harvest, while they accounted for 4% and 0% of the fishwheel harvest, respectively. These results are similar to those of 1982 and 1983 in that age $4_1$ fish were predominant. However, the age $4_1$ component was even stronger in 1984 than it had been in either of the two previous years.

Temporal trends in age composition are not apparent for the District 1 commercial gillnet fishery. During each of the two previous years, age $5_1$ declined in abundance while age $4_1$ increased as the season progressed. Age $4_1$ predominated through all four sample periods in 1984. Too few samples were collected during the later part of the season in District 2 to permit an analysis of temporal trends in age composition for that district.

Males outnumbered females in the District 1 and 2 gillnet fisheries, while females were more abundant in the District 4 and 6 fishwheel fisheries. Females comprised 50% of total harvest for all districts and fisheries combined. This is very similar to the contribution of females in 1982 (50%) and 1983 (57%). Average size by age and sex group did not vary significantly between districts or gear types (Table 9).

The East Fork Andreafsky and Anvik Rivers were the only summer chum salmon escapements sampled in 1984 (Tables 10 and 11). Age $4_1$ was predominant, comprising 70% and 87% of the sample at each location, respectively. Sex composition was 51% female for the East Fork Andreafsky River, 61% for the Anvik River. Size appeared to be greater for samples from the Anvik River for each age and sex group, although the differences are not significant in all cases.

Fall Chum Salmon:

Fall chum salmon were sampled from the District 1 and Yukon Territory commercial gillnet fisheries, and the District 4 and 5 commercial fishwheel fisheries in sufficient numbers to permit apportionment of harvest by age and sex. The District 2 and 3 harvests were apportioned by age and sex based on the composition of the District 1 sample, while District 6 commercial fishwheel harvest could not be apportioned because of the lack of appropriate sample data. Subsistence harvest for each district and gear type was apportioned by age and sex using the commercial catch sample data for that district and gear type. Fall chum salmon harvest by age, sex, and fishery for the entire drainage is presented in Table 12, while age and sex composition for each fishery is presented by sample period in Appendix Tables 33-44. Age, sex, and size composition of samples collected but not used to apportion catches is shown in Appendix Table 45.

Age $4_1$ fish accounted for 57% of the commercial gillnet harvest and 54% of the commercial fishwheel harvest for all districts combined. Age $5_1$ fish followed in importance, accounting for 36% and 40% of the gillnet and fishwheel harvests, respectively. Age $3_1$ fish accounted for 7% and 6% of the gillnet and fishwheel harvests, respectively, while age $6_1$ fish contributed less than 1% of the catch for each gear type. These results are similar to those of 1982, when age $4_1$ accounted for 59% of the total catch for all districts and gear types combined. However, the age $4_1$ component was substantially stronger in 1983, when it represented 88% of the gillnet harvest and 97% of the fishwheel harvest.

Table 9. Length (mm) of Yukon River summer chum salmon commercial catch samples, by age and sex, 1984[1].

| Fishery | Sex | | Age Group 31 | 41 | 51 | 61 |
|---|---|---|---|---|---|---|
| District 1 8-1/2 in Gillnet (21.6 cm) | Male | Mean | 546 | 581 | 618 | 638 |
| | | Std Error | 5.8 | 1.3 | 3.6 | 11.7 |
| | | Sample Size | 8 | 388 | 133 | 3 |
| | Female | Mean | - | 560 | 587 | 566 |
| | | Std Error | - | 1.6 | 2.5 | 19.5 |
| | | Sample Size | 0 | 223 | 89 | 2 |
| District 1 6 in Gillnet (15.2 cm) | Male | Mean | 553 | 579 | 610 | 613 |
| | | Std Error | 6.0 | 1.4 | 3.5 | 14.8 |
| | | Sample Size | 12 | 337 | 93 | 5 |
| | Female | Mean | 539 | 564 | 591 | 576 |
| | | Std Error | 8.1 | 1.5 | 2.6 | 14.2 |
| | | Sample Size | 8 | 272 | 131 | 4 |
| District 2 8-1/2 in Gillnet (21.6 cm) | Male | Mean | 540 | 593 | 627 | 590 |
| | | Std Error | 0.0 | 2.4 | 4.2 | 0.0 |
| | | Sample Size | 1 | 139 | 71 | 1 |
| | Female | Mean | 538 | 561 | 600 | - |
| | | Std Error | 22.5 | 2.6 | 4.2 | - |
| | | Sample Size | 2 | 102 | 43 | 0 |
| District 2 6 in Gillnet (15.2 cm) | Male | Mean | 540 | 580 | 616 | 660 |
| | | Std Error | 0.0 | 2.5 | 6.3 | 0.0 |
| | | Sample Size | 1 | 103 | 17 | 1 |
| | Female | Mean | - | 573 | 588 | - |
| | | Std Error | - | 3.6 | 6.1 | - |
| | | Sample Size | 0 | 34 | 19 | 0 |
| District 4 Fishwheel | Male | Mean | 516 | 583 | 613 | - |
| | | Std Error | 10.5 | 5.6 | 7.8 | - |
| | | Sample Size | 2 | 32 | 15 | 0 |
| | Female | Mean | 552 | 551 | 596 | - |
| | | Std Error | 12.9 | 2.2 | 5.2 | - |
| | | Sample Size | 4 | 119 | 30 | 0 |
| District 6 Fishwheel | Male | Mean | 552 | 583 | 615 | - |
| | | Std Error | 12.5 | 3.6 | 5.8 | - |
| | | Sample Size | 4 | 68 | 27 | 0 |
| | Female | Mean | 531 | 565 | 589 | - |
| | | Std Error | 5.6 | 2.1 | 5.3 | - |
| | | Sample Size | 12 | 132 | 29 | 0 |

[1] Length measured from mid-orbit to fork of tail.

Table 10. Number, percentage, and length (mm) of the East Fork Andreafsky River summer chum salmon escapement, by age and sex, 1984[1].

| | AGE GROUP | | | | |
|---|---|---|---|---|---|
| | 31 | 41 | 51 | 61 | TOTAL |
| MALES | | | | | |
| NUMBER | 1,122 | 23,141 | 9,818 | 491 | 34,572 |
| PERCENT | 1.6 | 33.0 | 14.0 | 0.7 | 49.3 |
| AV LENGTH | 547 | 570 | 606 | 601 | - |
| STD ERROR | 15.3 | 2.6 | 5.3 | 3.7 | - |
| SAMP SIZE | 7 | 149 | 63 | 3 | 222 |
| FEMALES | | | | | |
| NUMBER | 1,683 | 25,666 | 7,293 | 911 | 35,553 |
| PERCENT | 2.4 | 36.6 | 10.4 | 1.3 | 50.7 |
| AV LENGTH | 495 | 528 | 552 | 546 | - |
| STD ERROR | 6.8 | 2.1 | 4.6 | 17.4 | - |
| SAMP SIZE | 11 | 165 | 47 | 6 | 229 |
| SEXES COMBINED | | | | | |
| NUMBER | 2,805 | 48,807 | 17,111 | 1,402 | 70,125 |
| PERCENT | 4.0 | 69.6 | 24.4 | 2.0 | 100.0 |
| STD ERROR | 0.9 | 2.2 | 2.0 | 0.7 | |
| SAMP SIZE | 18 | 314 | 110 | 9 | 451 |

[1] Total sample composed of 338 beach seine samples (collected 6/25-7/25) and 113 carcass samples (collected 7/28-7/31). Escapement estimated by side-scan sonar and visual tower counts.

Table 11. Number, percentage, and length (mm) of the Anvik River summer chum salmon escapement, by age and sex, 1984[1].

| | AGE GROUP | | | | |
|---|---|---|---|---|---|
| | 31 | 41 | 51 | 61 | TOTAL |
| MALES | | | | | |
| NUMBER | 5,346 | 294,930 | 48,116 | 0 | 348,392 |
| PERCENT | 0.6 | 33.1 | 5.4 | 0.0 | 39.1 |
| AV LENGTH | 575 | 584 | 610 | - | - |
| STD ERROR | 5.0 | 3.0 | 8.1 | - | - |
| SAMP SIZE | 2 | 117 | 19 | 0 | 138 |
| FEMALES | | | | | |
| NUMBER | 15,148 | 476,700 | 50,789 | 0 | 542,637 |
| PERCENT | 1.7 | 53.5 | 5.7 | 0.0 | 60.9 |
| AV LENGTH | 555 | 542 | 569 | - | - |
| STD ERROR | 14.0 | 1.9 | 5.8 | - | - |
| SAMP SIZE | 6 | 189 | 20 | 0 | 215 |
| SEXES COMBINED | | | | | |
| NUMBER | 20,494 | 771,630 | 98,905 | 0 | 891,029 |
| PERCENT | 2.3 | 86.6 | 11.1 | 0.0 | 100.0 |
| STD ERROR | 0.8 | 1.8 | 1.7 | - | |
| SAMP SIZE | 8 | 306 | 39 | 0 | 353 |

[1] Samples collected by beach seine during period 6/28-7/27. Escapement estimated by side-scan sonar.

Table 12. Total utilization of Yukon River fall chum salmon by age, sex, and fishery, 1984[1].

| Fishery | Sample Size | Age 31 | | | Age 41 | | | Age 51 | | | Age 61 | | | Combined Ages | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | M | F | Total | M | F | Total | M | F | Total | M | F | Total | M | F | Total |
| District 1 | | | | | | | | | | | | | | | | |
| Commercial Gillnet | 1,211 | 2,196 | 3,596 | 5,792 | 16,026 | 30,532 | 46,558 | 11,120 | 14,898 | 26,018 | 298 | 85 | 383 | 29,640 | 49,111 | 78,751 |
| Subsistence Gillnet | - | 301 | 455 | 756 | 1,871 | 3,324 | 5,195 | 1,240 | 1,658 | 2,898 | 29 | 7 | 37 | 3,441 | 5,444 | 8,885 |
| Total | | 2,497 | 4,051 | 6,548 | 17,897 | 33,856 | 51,753 | 12,360 | 16,556 | 28,916 | 327 | 92 | 420 | 33,081 | 54,555 | 87,636 |
| District 2 | | | | | | | | | | | | | | | | |
| Commercial Gillnet | - | 2,397 | 3,625 | 6,022 | 14,909 | 26,485 | 41,394 | 9,881 | 13,213 | 23,094 | 234 | 58 | 292 | 27,421 | 43,382 | 70,803 |
| Subsistence Gillnet | - | 386 | 583 | 969 | 2,399 | 4,262 | 6,661 | 1,590 | 2,126 | 3,716 | 38 | 9 | 47 | 4,413 | 6,981 | 11,394 |
| Total | | 2,783 | 4,208 | 6,991 | 17,308 | 30,747 | 48,055 | 11,471 | 15,339 | 26,810 | 272 | 67 | 339 | 31,834 | 50,363 | 82,197 |
| District 3 | | | | | | | | | | | | | | | | |
| Commercial Gillnet | - | 218 | 329 | 547 | 1,354 | 2,405 | 3,759 | 897 | 1,200 | 2,097 | 21 | 5 | 27 | 2,490 | 3,939 | 6,429 |
| Subsistence Gillnet | - | 70 | 106 | 176 | 437 | 776 | 1,213 | 289 | 387 | 676 | 7 | 2 | 9 | 803 | 1,271 | 2,074 |
| Total | | 288 | 435 | 723 | 1,791 | 3,181 | 4,972 | 1,186 | 1,587 | 2,773 | 28 | 7 | 36 | 3,293 | 5,210 | 8,503 |
| District 4 | | | | | | | | | | | | | | | | |
| Commercial Gillnet | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3,051 |
| Commercial Fishwheel | 304 | 112 | 335 | 447 | 1,563 | 2,568 | 4,131 | 1,385 | 782 | 2,166 | 22 | 22 | 45 | 3,082 | 3,707 | 6,789 |
| Subsistence Gillnet | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3,115 |
| Subsistence Fishwheel | - | 461 | 1,383 | 1,845 | 6,456 | 10,606 | 17,062 | 5,718 | 3,228 | 8,946 | 92 | 92 | 184 | 12,727 | 15,310 | 28,037 |
| Total | | 573 | 1,718 | 2,292 | 8,019 | 13,174 | 21,193 | 7,103 | 4,010 | 11,112 | 114 | 114 | 229 | 15,809 | 19,017 | 40,992 |
| District 5 | | | | | | | | | | | | | | | | |
| Commercial Gillnet | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4,890 |
| Commercial Fishwheel | 167 | 576 | 461 | 1,036 | 5,181 | 4,836 | 10,016 | 4,375 | 3,799 | 8,174 | 0 | 0 | 0 | 10,132 | 9,095 | 19,227 |
| Subsistence Gillnet | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 9,843 |
| Subsistence Fishwheel | - | 2,652 | 2,122 | 4,774 | 23,872 | 22,280 | 46,152 | 20,158 | 17,506 | 37,664 | 0 | 0 | 0 | 46,682 | 41,908 | 88,590 |
| Total | | 3,228 | 2,583 | 5,810 | 29,053 | 27,116 | 56,168 | 24,533 | 21,305 | 45,838 | 0 | 0 | 0 | 56,814 | 51,003 | 122,550 |
| District 6 | | | | | | | | | | | | | | | | |
| Commercial Gillnet | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 640 |
| Commercial Fishwheel | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 19,980 |
| Subsistence Gillnet | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2,273 |
| Subsistence Fishwheel | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 20,453 |
| Total | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 43,346 |
| Canada | | | | | | | | | | | | | | | | |
| Commercial Gillnet | 220 | 417 | 104 | 521 | 5,316 | 4,482 | 9,798 | 6,775 | 5,629 | 12,404 | 0 | 208 | 208 | 12,508 | 10,423 | 22,931 |
| Subsistence Gillnet | - | 113 | 28 | 142 | 1,444 | 1,218 | 2,662 | 1,841 | 1,529 | 3,370 | 0 | 57 | 57 | 3,398 | 2,832 | 6,230 |
| Total | | 530 | 132 | 663 | 6,760 | 5,700 | 12,460 | 8,616 | 7,158 | 15,774 | 0 | 265 | 265 | 15,906 | 13,255 | 29,161 |
| Districts Combined | | | | | | | | | | | | | | | | |
| Commercial Gillnet | | 5,228 | 7,654 | 12,882 | 37,605 | 63,904 | 101,509 | 28,673 | 34,940 | 63,613 | 553 | 356 | 910 | 72,059 | 106,855 | 187,495 |
| Commercial Fishwheel | | 688 | 796 | 1,483 | 6,744 | 7,404 | 14,147 | 5,760 | 4,581 | 10,340 | 22 | 22 | 45 | 13,214 | 12,802 | 45,996 |
| Subsistence Gillnet | | 870 | 1,172 | 2,043 | 6,151 | 9,580 | 15,731 | 4,960 | 5,700 | 10,660 | 74 | 75 | 150 | 12,055 | 16,528 | 43,814 |
| Subsistence Fishwheel | | 3,113 | 3,505 | 6,619 | 30,328 | 32,886 | 63,214 | 25,876 | 20,734 | 46,610 | 92 | 92 | 184 | 59,409 | 57,218 | 137,080 |
| Total | | 9,899 | 13,127 | 23,027 | 80,828 | 113,774 | 194,601 | 65,269 | 65,955 | 131,223 | 741 | 545 | 1,289 | 156,737 | 193,403 | 414,385 |

[1] Gillnet catches in Districts 4, 5, and 6, and fishwheel catches in District 6 are not apportioned by age and sex due to lack of adequate sample data. Therefore, row and column totals may include unapportioned catches.

A sufficient number of samples were collected from the District 1 commercial gillnet fishery to permit stratification into two sample periods, but no differences are apparent in age or sex composition between the two periods (Appendix Table 33).

Females outnumbered males in the District 1 gillnet and District 4 fishwheel fisheries, while males were more abundant in the District 5 fishwheel and Yukon Territory gillnet fisheries. Females comprised 55% of total harvest for all districts and fisheries combined. This compares to 57% female in 1982 and 52% in 1983. Average size by age and sex group did not vary significantly between districts or gear types (Table 13).

Samples collected from test fishing fishwheels operated by ADF&G on the north and south banks of the Yukon River at Ruby indicated a distinct difference in age composition between stocks on the two lakes (Appendix Table 45). Age $4_1$ accounted for approximately 60% of the fall chum salmon sampled on each bank, but the north bank had relatively more age $5_1$ fish (32%) and fewer age $3_1$ fish (7%) than the south bank (18% and 21%, respectively). Sex composition was similar between the two samples. Similar results had been found for these sites in 1982, but not in 1983. A tagging study conducted from 1976 to 1978 indicated that there was a significant difference in bank orientation between fall chum salmon stocks in the Galena-Ruby area of the Yukon River (Buklis 1981). Fall chum salmon bound for the Porcupine and upper Yukon (Canadian) spawning areas migrated along the north bank, while those bound for the Tanana drainage migrated along the south bank of the Yukon River in the Galena-Ruby area. The differences in age compositions observed in both 1982 and 1984 appear to support these findings.

Escapement samples were collected from the Sheenjek River by beach seine, and from the Toklat, Delta, and Kluane Rivers by carcass survey in 1984 (Tables 14-17). Age $4_1$ was predominant, accounting for between 76% and 83% of the total sample for each of these streams. The relative contribution of ages $3_1$ and $5_1$ for the Toklat, Delta, and Kluane Rivers support the differential age compositions of the north and south bank fishwheel samples taken at Ruby. The Kluane River sample (upper Yukon River drainage in Canada) was 19% age $5_1$ and only 5% age $3_1$. The Tanana drainage stocks, however, were more similar to the Ruby south bank sample, in that age $3_1$ was relatively more abundant than age $5_1$ (Toklat River: 16% age $3_1$ and 7% age $5_1$ Delta River: 11% age $3_1$ and 6% age $5_1$). Samples collected by beach seine from the Sheenjek River (Porcupine drainage) were not supportive of these age composition distinctions, with age $3_1$ comprising 10% of the sample and age $5_1$ 9%. Sex composition was only 39% female for the Sheenjek River sample, but was between 52% and 63% female for the other three escapements sampled. It is not known whether differences in age and sex composition between the Sheenjek River sample and the other escapement samples were due to the different methods of sample collection employed or to real differences among the populations.

Coho Salmon:

Coho salmon were sampled from the District 1 commercial gillnet fishery in sufficient numbers to permit apportionment of commercial and subsistence harvests in Districts 1, 2, and 3 by age and sex (Table 18). Age and sex

Table 13. Length (mm) of Yukon River fall chum salmon commercial catch samples, by age and sex, 1984[1].

| Fishery | Sex | | Age Group 31 | 41 | 51 | 61 |
|---|---|---|---|---|---|---|
| District 1 6 in Gillnet (15.2 cm) | Male | Mean | 574 | 597 | 622 | 624 |
| | | Std Error | 3.8 | 1.9 | 2.2 | 6.6 |
| | | Sample Size | 41 | 255 | 169 | 4 |
| | Female | Mean | 563 | 580 | 603 | 611 |
| | | Std Error | 2.2 | 1.2 | 1.8 | 0.0 |
| | | Sample Size | 62 | 453 | 226 | 1 |
| District 4 Fishwheel | Male | Mean | 573 | 599 | 632 | 633 |
| | | Std Error | 6.7 | 3.6 | 4.0 | 0.0 |
| | | Sample Size | 5 | 70 | 62 | 1 |
| | Female | Mean | 548 | 565 | 600 | 601 |
| | | Std Error | 4.6 | 2.9 | 4.6 | 0.0 |
| | | Sample Size | 15 | 115 | 35 | 1 |
| District 5 Fishwheel | Male | Mean | 569 | 609 | 651 | - |
| | | Std Error | 5.3 | 4.2 | 5.9 | - |
| | | Sample Size | 5 | 45 | 38 | 0 |
| | Female | Mean | 569 | 586 | 621 | - |
| | | Std Error | 5.2 | 4.6 | 3.8 | - |
| | | Sample Size | 4 | 42 | 33 | 0 |
| Yukon Territory 6 to 7 in Gillnet (15.2 to 17.8 cm) | Male | Mean[2] | 624 | 669 | 708 | - |
| | | Std Error | 29.6 | 5.1 | 4.5 | - |
| | | Sample Size | 4 | 51 | 65 | 0 |
| | Female | Mean[2] | 570 | 643 | 663 | 668 |
| | | Std Error | 0.0 | 5.2 | 4.2 | 5.5 |
| | | Sample Size | 1 | 43 | 54 | 2 |

[1] Length measured from mid-orbit to fork of tail, unless noted otherwise.

[2] Length measured from tip of snout to fork of tail.

Table 14. The number, percentage, and length (mm) of Sheenjek River fall chum salmon escapement, by age and sex, 1984[1].

| | AGE GROUP | | | | |
|---|---|---|---|---|---|
| | 31 | 41 | 51 | 61 | TOTAL |
| MALES | | | | | |
| NUMBER | 1,861 | 11,756 | 1,607 | 0 | 15,224 |
| PERCENT | 7.4 | 46.8 | 6.4 | 0.0 | 60.6 |
| AV LENGTH | 563 | 614 | 621 | - | - |
| STD ERROR | 4.0 | 2.9 | 6.3 | - | - |
| SAMP SIZE | 22 | 139 | 19 | 0 | 180 |
| FEMALES | | | | | |
| NUMBER | 677 | 8,458 | 761 | 0 | 9,896 |
| PERCENT | 2.7 | 33.7 | 3.0 | 0.0 | 39.4 |
| AV LENGTH | 508 | 582 | 600 | - | - |
| STD ERROR | 16.2 | 2.8 | 10.8 | - | - |
| SAMP SIZE | 8 | 100 | 9 | 0 | 117 |
| SEXES COMBINED | | | | | |
| NUMBER | 2,537 | 20,214 | 2,368 | 0 | 25,120 |
| PERCENT | 10.1 | 80.5 | 9.4 | 0.0 | 100.0 |
| STD ERROR | 1.8 | 2.3 | 1.7 | - | |
| SAMP SIZE | 30 | 239 | 28 | 0 | 297 |

[1] Samples collected by beach seine during period 9/12-9/24. Escapement estimated by side-scan sonar.

Table 15. The number, percentage, and length (mm) of Toklat River fall chum salmon escapement, by age and sex, 1984[1].

| | AGE GROUP | | | | |
|---|---|---|---|---|---|
| | 31 | 41 | 51 | 61 | TOTAL |
| MALES | | | | | |
| NUMBER | 1,040 | 4,680 | 173 | 0 | 5,894 |
| PERCENT | 6.6 | 29.5 | 1.1 | 0.0 | 37.2 |
| AV LENGTH | 540 | 580 | 608 | - | - |
| STD ERROR | 7.0 | 3.1 | 27.5 | - | - |
| SAMP SIZE | 12 | 54 | 2 | 0 | 68 |
| FEMALES | | | | | |
| NUMBER | 1,560 | 7,540 | 867 | 0 | 9,967 |
| PERCENT | 9.8 | 47.5 | 5.5 | 0.0 | 62.8 |
| AV LENGTH | 517 | 558 | 590 | - | - |
| STD ERROR | 4.2 | 3.0 | 7.5 | - | - |
| SAMP SIZE | 18 | 87 | 10 | 0 | 115 |
| SEXES COMBINED | | | | | |
| NUMBER | 2,600 | 12,221 | 1,040 | 0 | 15,861 |
| PERCENT | 16.4 | 77.0 | 6.6 | 0.0 | 100.0 |
| STD ERROR | 2.7 | 3.1 | 1.8 | - | |
| SAMP SIZE | 30 | 141 | 12 | 0 | 183 |

[1] Samples collected by carcass survey during period 10/25-10/26. Escapement estimated by aerial survey count.

Table 16. The number, percentage, and length (mm) of Delta River fall chum salmon escapement, by age and sex, 1984[1].

| | AGE GROUP | | | | |
|---|---|---|---|---|---|
| | 31 | 41 | 51 | 61 | TOTAL |
| MALES | | | | | |
| NUMBER | 690 | 4,741 | 431 | 0 | 5,862 |
| PERCENT | 5.6 | 38.5 | 3.5 | 0.0 | 47.6 |
| AV LENGTH | 569 | 584 | 628 | - | - |
| STD ERROR | 11.6 | 3.6 | 5.6 | - | - |
| SAMP SIZE | 8 | 55 | 5 | 0 | 68 |
| FEMALES | | | | | |
| NUMBER | 603 | 5,517 | 345 | 0 | 6,465 |
| PERCENT | 4.9 | 44.8 | 2.8 | 0.0 | 52.4 |
| AV LENGTH | 512 | 560 | 571 | - | - |
| STD ERROR | 6.4 | 3.2 | 13.6 | - | - |
| SAMP SIZE | 7 | 64 | 4 | 0 | 75 |
| SEXES COMBINED | | | | | |
| NUMBER | 1,293 | 10,258 | 776 | 0 | 12,327 |
| PERCENT | 10.5 | 83.2 | 6.3 | 0.0 | 100.0 |
| STD ERROR | 2.6 | 3.1 | 2.0 | - | |
| SAMP SIZE | 15 | 119 | 9 | 0 | 143 |

[1] Samples collected by carcass survey during period 11/02-11/06. Escapement estimated by foot survey count.

Table 17. The number, percentage, and length (mm) of Kluane River fall chum salmon escapement, by age and sex, 1984[1].

| | AGE GROUP | | | | |
|---|---|---|---|---|---|
| | 31 | 41 | 51 | 61 | TOTAL |
| MALES | | | | | |
| NUMBER | 41 | 1,964 | 777 | 0 | 2,782 |
| PERCENT | 0.6 | 27.3 | 10.8 | 0.0 | 38.6 |
| AV LENGTH | 545 | 592 | 615 | - | - |
| STD ERROR | 0.0 | 3.9 | 5.0 | - | - |
| SAMP SIZE | 1 | 48 | 19 | 0 | 68 |
| FEMALES | | | | | |
| NUMBER | 286 | 3,518 | 614 | 0 | 4,418 |
| PERCENT | 4.0 | 48.9 | 8.5 | 0.0 | 61.4 |
| AV LENGTH | 545 | 565 | 594 | - | - |
| STD ERROR | 5.2 | 2.6 | 8.0 | - | - |
| SAMP SIZE | 7 | 86 | 15 | 0 | 108 |
| SEXES COMBINED | | | | | |
| NUMBER | 327 | 5,482 | 1,391 | 0 | 7,200 |
| PERCENT | 4.5 | 76.1 | 19.3 | 0.0 | 100.0 |
| STD ERROR | 1.6 | 3.2 | 3.0 | - | |
| SAMP SIZE | 8 | 134 | 34 | 0 | 176 |

[1] Samples collected by carcass survey during period 10/16-10/18. Escapement estimated by aerial survey count.

Table 18. Total utilization in numbers of fish of Yukon River coho salmon by age, sex, and fishery, 1984[1].

| Fishery | Sample Size | Age 32 | | | Age 43 | | | Age 54 | | | Combined Ages | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | M | F | Total | M | F | Total | M | F | Total | M | F | Total |
| District 1 | | | | | | | | | | | | | |
| Commercial Gillnet | 619 | 1,944 | 1,923 | 3,867 | 11,362 | 10,747 | 22,109 | 1,906 | 1,590 | 3,496 | 15,212 | 14,260 | 29,472 |
| Subsistence Gillnet | - | 404 | 374 | 778 | 2,304 | 2,147 | 4,451 | 453 | 414 | 866 | 3,161 | 2,934 | 6,095 |
| Total | | 2,348 | 2,297 | 4,645 | 13,666 | 12,894 | 26,560 | 2,359 | 2,004 | 4,362 | 18,373 | 17,194 | 35,567 |
| District 2 | | | | | | | | | | | | | |
| Commercial Gillnet | - | 2,852 | 2,644 | 5,496 | 16,279 | 15,166 | 31,446 | 3,200 | 2,922 | 6,122 | 22,332 | 20,732 | 43,064 |
| Subsistence Gillnet | - | 468 | 434 | 902 | 2,671 | 2,489 | 5,160 | 525 | 479 | 1,005 | 3,664 | 3,402 | 7,066 |
| Total | | 3,320 | 3,078 | 6,398 | 18,950 | 17,655 | 36,606 | 3,725 | 3,401 | 7,127 | 25,996 | 24,134 | 50,130 |
| District 3 | | | | | | | | | | | | | |
| Commercial Gillnet | - | 41 | 38 | 79 | 235 | 219 | 453 | 46 | 42 | 88 | 322 | 299 | 621 |
| Subsistence Gillnet | - | 43 | 40 | 84 | 248 | 231 | 479 | 49 | 45 | 93 | 340 | 316 | 656 |
| Total | | 84 | 78 | 163 | 483 | 450 | 932 | 95 | 87 | 181 | 662 | 615 | 1,277 |
| District 4 | | | | | | | | | | | | | |
| Commercial Gillnet | - | - | - | - | - | - | - | - | - | - | - | - | 538 |
| Commercial Fishwheel | - | - | - | - | - | - | - | - | - | - | - | - | 557 |
| Subsistence Gillnet | - | - | - | - | - | - | - | - | - | - | - | - | 287 |
| Subsistence Fishwheel | - | - | - | - | - | - | - | - | - | - | - | - | 2,580 |
| Total | | - | - | - | - | - | - | - | - | - | - | - | 3,962 |
| District 5 | | | | | | | | | | | | | |
| Subsistence Gillnet | - | - | - | - | - | - | - | - | - | - | - | - | 1,747 |
| Subsistence Fishwheel | - | - | - | - | - | - | - | - | - | - | - | - | 15,720 |
| Total | | - | - | - | - | - | - | - | - | - | - | - | 17,467 |
| District 6 | | | | | | | | | | | | | |
| Commercial Gillnet | - | - | - | - | - | - | - | - | - | - | - | - | 266 |
| Commercial Fishwheel | - | - | - | - | - | - | - | - | - | - | - | - | 7,422 |
| Subsistence Gillnet | - | - | - | - | - | - | - | - | - | - | - | - | 1,479 |
| Subsistence Fishwheel | - | - | - | - | - | - | - | - | - | - | - | - | 13,306 |
| Total | | - | - | - | - | - | - | - | - | - | - | - | 22,473 |
| Yukon Territory | | | | | | | | | | | | | |
| Subsistence Gillnet | - | - | - | - | - | - | - | - | - | - | - | - | 500 |
| Districts Combined | | | | | | | | | | | | | |
| Commercial Gillnet | | 4,837 | 4,605 | 9,442 | 27,876 | 26,132 | 54,008 | 5,152 | 4,554 | 9,706 | 37,866 | 35,291 | 73,961 |
| Commercial Fishwheel | | - | - | - | - | - | - | - | - | - | - | - | 7,979 |
| Subsistence Gillnet | | 915 | 848 | 1,764 | 5,223 | 4,867 | 10,090 | 1,027 | 938 | 1,964 | 7,165 | 6,652 | 17,830 |
| Subsistence Fishwheel | | - | - | - | - | - | - | - | - | - | - | - | 31,606 |
| Total | | 5,752 | 5,453 | 11,206 | 33,099 | 30,999 | 64,098 | 6,179 | 5,492 | 11,670 | 45,031 | 41,943 | 131,376 |

[1] Catches in Districts 4, 5, and 6, and in Yukon Territory, are not apportioned by age and sex due to lack of sample data. Therefore, row and column totals may include unapportioned catches.

composition for each district and fishery is presented by sample period in Appendix Tables 46-51, while samples collected at other locations but not used to apportion catches are presented in Appendix Table 52. Coho salmon commercial and subsistence harvests in Districts 4, 5, and 6 could not be apportioned by age and sex because of the lack of appropriate sample data.

Age $4_3$ accounted for an estimated 74% of the commercial and subsistence harvests in Districts 1, 2, and 3, followed by ages $3_2$ and $5_4$ with 13% each. Females comprised 48% of the catch. Average lengths ranged from a low of 578 mm for age $3_2$ males to 594 mm for age $5_4$ females (Table 19). These results are similar to those of 1982 and 1983, except that the $4_3$ age class was even more predominant in those years (87% in 1982, 92% in 1983). Sufficient coho salmon samples were collected in 1984 to permit stratification into two sample periods for the first time. Age $3_2$ remained relatively unchanged between the two periods, while age $4_3$ increased from 70% to 77% and age $5_4$ decreased from 18% to 9% (Appendix Table 46).

Coho salmon escapement samples were collected from the Delta Clearwater River in 1984. Age $4_3$ accounted for 75% of the escapement sample, age $5_4$ 21%, and age $3_2$ 4% (Table 20). Females made up 48% of the sample, similar to the sex composition of the catch sample. Average length was less for the escapement sample than for the catch sample in every age and sex group.

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Table 19. Length (mm) of Yukon River coho salmon commercial catch samples, by age and sex, 1984[1].

| Fishery | Sex | | Age Group 32 | 43 | 54 |
|---|---|---|---|---|---|
| District 1 6 in Gillnet (15.2 cm) | Male | Mean | 578 | 581 | 580 |
| | | Std Error | 5.6 | 2.5 | 5.3 |
| | | Sample Size | 41 | 234 | 46 |
| | Female | Mean | 581 | 582 | 594 |
| | | Std Error | 3.7 | 1.8 | 3.2 |
| | | Sample Size | 38 | 218 | 41 |

[1] Length measured from mid-orbit to fork of tail. One age $5_3$ female with length 570 mm is not included in this summary

Table 20. Length (mm) of Delta Clearwater River coho salmon escapement, by age and sex, 1984[1].

| | AGE GROUP | | | |
|---|---|---|---|---|
| | 32 | 43 | 54 | TOTAL |
| MALES | | | | |
| NUMBER | 177 | 4,557 | 1,018 | 5,752 |
| PERCENT | 1.6 | 41.2 | 9.2 | 52.0 |
| AV LENGTH | 517 | 525 | 538 | - |
| STD ERROR | 22.7 | 3.9 | 8.1 | - |
| SAMP SIZE | 4 | 103 | 23 | 130 |
| FEMALES | | | | |
| NUMBER | 265 | 3,761 | 1,283 | 5,309 |
| PERCENT | 2.4 | 34.0 | 11.6 | 48.0 |
| AV LENGTH | 534 | 536 | 541 | - |
| STD ERROR | 7.1 | 2.7 | 3.8 | - |
| SAMP SIZE | 6 | 85 | 29 | 120 |
| SEXES COMBINED | | | | |
| NUMBER | 442 | 8,318 | 2,301 | 11,061 |
| PERCENT | 4.0 | 75.2 | 20.8 | 100.0 |
| STD ERROR | 6.5 | 3.2 | 5.7 | |
| SAMP SIZE | 10 | 188 | 52 | 250 |

[1] Samples collected by carcass survey during period 11/05-11/15. Escapement estimated by foot survey count.

## LITERATURE CITED


Alaska Department of Fish and Game. 1985. Yukon Area Annual Management Report, 1984. Division of Commercial Fisheries. Anchorage. 133 pp.

Barton, L.H. 1984. A catalog of Yukon River salmon spawning escapement surveys. Alaska Department of Fish and Game, Technical Data Report No. 121. Juneau. 472 pp.

Barton, L.H. 1985. Enumeration of fall chum salmon by side-scanning sonar in the Sheenjek River in 1984. Alaska Department of Fish and Game, Division of Commercial Fisheries, Yukon Salmon Escapement Report No. 25. Fairbanks.

Buklis, L.S. 1981. Yukon and Tanana River fall chum salmon tagging study, 1976-1980. Alaska Department of Fish and Game, Informational Leaflet No. 194. Juneau. 40 pp.

Buklis, L.H. 1984. Anvik and Andreafsky River salmon studies, 1984. Alaska Department of Fish and Game, Division of Commercial Fisheries, Yukon Salmon Escapement Report No. 24. Anchorage. 45 pp.

Buklis, L.S. and L.H. Barton. 1984. Yukon River fall chum salmon biology and stock status. Alaska Department of Fish and Game, Informational Leaflet No. 239. Juneau. 67 pp.

Buklis, L.S. and J.A. Wilcock. 1984. Age, sex, and size of Yukon River salmon catch and escapement, 1983. Alaska Department of Fish and Game, Technical Data Report No. 119. Juneau. 91 pp.

Clutter, R. and L. Whitesel. 1956. Collection and interpretation of sockeye salmon scales. Bull. Int. Pac. Salmon Fish. Comm., No. 9. 15 pp.

Cochran, W.G. 1977. Sampling Techniques, 3rd Ed., John Wiley and Sons, Inc. New York, N.Y. 428 pp.

International North Pacific Fisheries Commission. 1963. Annual Report - 1961. 167 pp.

McBride, D.N., H.H. Hamner, and L.S. Buklis. 1983. Age, sex, and size of Yukon River salmon catch and escapement, 1982. Alaska Department of Fish and Game, Technical Data Report No. 90. Juneau. 141 pp.

APPENDICES

Appendix Table 1. Yukon River District 1 salmon commercial catch by period, 1984[1].

| Period Dates | Hours | No. of Fishermen | Chinook | | Summer Chum | | Fall Chum | | Coho | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Fish | CPUE | Fish | CPUE | Fish | CPUE | Fish | CPUE |
| 6/18-6/19[2] | 24 | 374 | 13,722 | 1.53 | 37,334 | 4.16 | | | | |
| 6/21-6/22 | 24 | 409 | 18,760 | 1.91 | 35,556 | 3.62 | | | | |
| 6/25-6/26 | 24 | 418 | 16,102 | 1.61 | 67,961 | 6.77 | | | | |
| 6/28-6/29 | 24 | 419 | 16,517 | 1.64 | 23,928 | 2.38 | | | | |
| 7/02-7/03[3] | 24 | 361 | 5,053 | 0.58 | 56,584 | 6.53 | | | | |
| 7/05-7/06 | 24 | 287 | 2,699 | 0.39 | 37,044 | 5.38 | | | | |
| 7/09-7/10 | 24 | 316 | 1,101 | 0.15 | 23,107 | 3.05 | | | | |
| 7/12-7/13 | 24 | 251 | 351 | 0.06 | 11,162 | 1.85 | | | | |
| 7/16-7/17[4] | 24 | 227 | 270 | 0.05 | | | 19,627 | 3.60 | 5 | 0.00 |
| 7/30-7/31 | 24 | 212 | 37 | 0.01 | | | 18,316 | 3.60 | 2,557 | 0.50 |
| 8/02-8/03 | 24 | 252 | 38 | 0.01 | | | 17,094 | 2.83 | 5,028 | 0.83 |
| 8/06-8/07 | 24 | 165 | 12 | 0.00 | | | 1,759 | 0.44 | 1,403 | 0.35 |
| 8/13-8/14 | 24 | 129 | 6 | 0.00 | | | 11,807 | 3.81 | 10,683 | 3.45 |
| 8/16-8/17 | 24 | 137 | 3 | 0.00 | | | 10,148 | 3.09 | 9,796 | 2.98 |
| TOTAL | | | 74,671[5] | | 292,676 | | 78,751 | | 29,472 | |

[1] All fish captured by set or drift gillnet. CPUE is number of fish per fisherman per hour.

[2] Chinook salmon (unrestricted mesh size) through 6/29.

[3] Summer chum season (6 in [15.2 cm] maximum mesh size) through 7/13.

[4] Fall chum season (6 in [15.2 cm] maximum mesh size) through 8/17.

[5] Chinook harvest was 65,101 fish during unrestricted mesh season (6/18-6/29), and 9,570 fish during small mesh season (7/02-8/17).

Appendix Table 2. Yukon River District 2 salmon commercial catch by period, 1984[1].

| Period Dates | Hours | No. of Fishermen | Chinook | | Summer Chum | | Fall Chum | | Coho | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Fish | CPUE | Fish | CPUE | Fish | CPUE | Fish | CPUE |
| 6/20-6/21[2] | 24 | 203 | 5,581 | 1.15 | 22,815 | 4.68 | | | | |
| 6/24-6/25 | 24 | 210 | 14,356 | 2.85 | 31,739 | 6.30 | | | | |
| 6/27-6/28 | 24 | 196 | 9,418 | 2.00 | 22,743 | 4.83 | | | | |
| 7/01-7/02[3] | 24 | 193 | 2,863 | 0.62 | 76,481 | 16.51 | | | | |
| 7/04-7/05 | 24 | 132 | 1,592 | 0.50 | 28,579 | 9.02 | | | | |
| 7/08-7/09 | 24 | 171 | 1,757 | 0.43 | 31,222 | 7.61 | | | | |
| 7/11-7/12 | 24 | 157 | 682 | 0.18 | 14,550 | 3.86 | | | | |
| 7/15-7/16 | 24 | 82 | 241 | 0.12 | 6,548 | 3.33 | | | | |
| 7/18 | 6 | 50 | 55 | 0.18 | 2,254 | 7.51 | | | | |
| 7/19 [4] | 18 | 93 | 108 | 0.06 | | | 9,091 | 5.43 | | |
| 8/01 | 12 | 125 | 10 | 0.01 | | | 19,177 | 12.78 | 948 | 0.63 |
| 8/05 | 12 | 176 | 14 | 0.01 | | | 17,152 | 8.12 | 3,770 | 1.79 |
| 8/08 | 12 | 142 | 8 | 0.00 | | | 4,999 | 2.93 | 2,882 | 1.69 |
| 8/15 | 12 | 162 | 4 | 0.00 | | | 8,473 | 4.36 | 14,888 | 7.66 |
| 8/19 | 12 | 175 | 8 | 0.00 | | | 11,911 | 5.67 | 20,576 | 9.80 |
| TOTAL | | | 36,697[5] | | 236,931 | | 70,803 | | 43,064 | |

[1] All fish captured by set or drift gillnet. CPUE is number of fish per fisherman per hour.

[2] Chinook season (unrestricted mesh size) through 6/28.

[3] Summer chum season (6 in [15.2 cm] maximum mesh size) through 7/18.

[4] Fall chum season ( 6 in [15.2 cm] maximum mesh size) through 8/19.

[5] Chinook harvest was 29,355 fish during unrestricted mesh season (6/20-6/28), and 7,342 fish during small mesh season (7/01-8/19).

Appendix Table 3. Yukon River District 3 salmon commercial catch by period, 1984[1].

| Period Dates | Hours | No. of Fishermen | Chinook | | Summer Chum | | Fall Chum | | Coho | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Fish | CPUE | Fish | CPUE | Fish | CPUE | Fish | CPUE |
| 6/28-6/29[2] | 24 | 18 | 1,273 | 2.95 | 840 | 1.94 | | | | |
| 7/02-7/03 | 24 | 18 | 1,763 | 4.08 | 247 | 0.57 | | | | |
| 8/02-8/03[3] | 24 | 6 | 2 | 0.01 | | | 2,191 | 15.22 | | |
| 8/06-8/07 | 24 | 8 | 1 | 0.01 | | | 1,730 | 9.01 | 199 | 1.04 |
| 8/09-8/10 | 24 | 8 | | | | | 760 | 3.96 | 194 | 1.01 |
| 8/13-8/14 | 24 | 8 | | | | | 1,748 | 9.10 | 228 | 1.19 |
| TOTAL | | | 3,039[4] | | 1,087 | | 6,429 | | 621 | |

[1] All fish captured by set or drift gillnet. CPUE is number of fish per fisherman per hour.

[2] Chinook season (unrestricted mesh size) through 7/03.

[3] Fall chum season (6 in [15.2 cm] maximum mesh size) through 8/14.

[4] Chinook harvest was 3,036 fish during unrestricted mesh season (6/28-7/03), and 3 fish during small mesh season (8/02-8/14).

Appendix Table 4. Yukon River District 4 salmon commercial catch by period, 1984[1].

| Period Dates | Hours | No. of Fishermen | Chinook | | Summer Chum | | | | Fall Chum | | | | Coho | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Fish | CPUE | Fish | Roe | Total | CPUE | Fish | Roe | Total | CPUE | Fish | CPUE |
| 6/15 | 18 | 0 | | | | | | | | | | | | |
| 6/17-6/19 | 48 | 0 | | | | | | | | | | | | |
| 6/20-6/22 | 48 | 8 | | | 51 | 2,566 | 2,617 | 6.81 | | | | | | |
| 6/24-6/26 | 48 | 16 | 4 | 0.01 | 0 | 7,184 | 7,184 | 9.35 | | | | | | |
| 6/27-6/29 | 48 | 27 | 125 | 0.10 | 1 | 10,988 | 10,989 | 8.48 | | | | | | |
| 7/01-7/03 | 48 | 36 | 220 | 0.13 | 3 | 19,490 | 19,493 | 11.60 | | | | | | |
| 7/04-7/06 | 48 | 36 | 106 | 0.06 | 9 | 28,625 | 28,634 | 17.04 | | | | | | |
| 7/08-7/10 | 48 | 41 | 128 | 0.07 | 27 | 34,523 | 34,550 | 17.99 | | | | | | |
| 7/11-7/13 | 48 | 48 | 161 | 0.07 | 163 | 31,107 | 31,270 | 13.86 | | | | | | |
| 7/15-7/17 | 48 | 45 | 126 | 0.06 | 252 | 17,415 | 17,667 | 8.36 | | | | | | |
| 7/18-7/20 | 48 | 40 | 72 | 0.04 | 106 | 8,682 | 8,788 | 4.69 | | | | | | |
| 7/22-7/24 | 48 | 36 | 19 | 0.01 | 192 | 4,449 | 4,641 | 2.76 | | | | | | |
| 7/25-7/27 | 48 | 23 | | | 205 | 1,616 | 1,821 | 1.72 | | | | | | |
| 7/29-7/31 | 48 | 2 | | | 0 | 149 | 149 | 1.55 | | | | | | |
| 8/01-8/03[2] | 48 | 1 | | | 0 | 48 | 48 | 1.00 | | | | | | |
| 8/05-8/07 | 48 | 0 | | | | | | | | | | | | |
| 8/08-8/10 | 48 | 3 | | | | | | | 210 | 82 | 292 | 2.03 | | |
| 8/12-8/14 | 48 | 10 | | | | | | | 813 | 337 | 1,150 | 2.66 | | |
| 8/15-8/17 | 48 | 14 | | | | | | | 1,605 | 608 | 2,213 | 3.54 | 4 | 0.01 |
| 8/19-8/21 | 48 | 15 | | | | | | | 1,015 | 296 | 1,311 | 1.95 | 20 | 0.03 |
| 8/22-8/24 | 48 | 10 | | | | | | | 979 | 288 | 1,267 | 2.93 | 204 | 0.47 |
| 8/26-8/28 | 48 | 11 | | | | | | | 1,277 | 241 | 1,518 | 3.16 | 318 | 0.66 |
| 8/29-8/31 | 48 | 11 | | | | | | | 1,332 | 363 | 1,695 | 3.92 | 419 | 0.97 |
| 9/02-9/04 | 48 | 2 | | | | | | | 394 | 0 | 394 | 8.21 | 130 | 2.71 |
| 9/05-9/07 | 48 | 0 | | | | | | | | | | | | |
| TOTAL | | | 961 | | 1,009 | 166,842 | 167,851 | | 7,625 | 2,215 | 9,840 | | 1,095 | |

[1] Fish taken by set gillnet and fishwheel. CPUE is number of fish per fisherman per hour. Roe sales are in pounds, with the conversion factor of one pound roe equal to one chum salmon used to determine total chum salmon harvest in numbers of "equivalent fish".

[2] Subdistricts 4B and 4C only from 8/01 through 9/07.

Appendix Table 5. Yukon River District 5 salmon commercial catch by period, 1984[1].

| Period Dates | Hours | No. of Fishermen | Chinook | | Summer Chum | | | | Fall Chum | | | | Coho | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Fish | CPUE | Fish | Roe | Total | CPUE | Fish | Roe | Total | CPUE | Fish | CPUE |
| 6/15-6/17 | 48 | 0 | | | | | | | | | | | | |
| 6/19-6/21 | 48 | 0 | | | | | | | | | | | | |
| 6/22-6/24 | 48 | 0 | | | | | | | | | | | | |
| 6/26-6/28 | 48 | 0 | | | | | | | | | | | | |
| 6/29-7/01 | 48 | 9 | 342 | 0.79 | | | | | | | | | | |
| 7/03-7/05 | 48 | 15 | 753 | 1.05 | 7 | 26 | 33 | 0.05 | | | | | | |
| 7/06-7/08 | 48 | 20 | 929 | 0.97 | 165 | 0 | 165 | 0.17 | | | | | | |
| 7/10-7/12 | 48 | 26 | 1,261 | 1.01 | 468 | 21 | 489 | 0.39 | | | | | | |
| 7/15-7/21[2] | 168 | 1 | 120 | 0.71 | 0 | 0 | 0 | 0.00 | | | | | | |
| 7/22-7/28[2] | 168 | 1 | 127 | 0.76 | 5 | 0 | 5 | 0.03 | | | | | | |
| 7/29-8/04[2] | 168 | 1 | 97 | 0.58 | | | | | | | | | | |
| 8/05-8/07[2] | 72 | 1 | 40 | 0.56 | | | | | | | | | | |
| 8/15-8/16 | 24 | 23 | | | | | | | 5,875 | 0 | 5,875 | 10.64 | | |
| 8/18-8/19 | 24 | 29 | | | | | | | 6,193 | 0 | 6,193 | 8.90 | | |
| 8/21-8/22 | 24 | 34 | | | | | | | 10,211 | 0 | 10,211 | 12.51 | | |
| 9/07-9/11[2] | 96 | 3 | | | | | | | 1,781 | 57 | 1,838 | 6.38 | | |
| TOTAL | | | 3,669 | | 645 | 47 | 692 | | 24,060 | 57 | 24,117 | | 0 | |

[1] Fish taken by set gillnet and fishwheel. CPUE is number of fish per fisherman per hour. Roe sales are in pounds, with the conversion factor of one pound roe equal to one chum salmon used to determine total chum salmon harvest in numbers of "equivalent fish".

[2] Subdistrict 5D only.

Appendix Table 6. Yukon River District 6 salmon commercial catch by period, 1984[1].

| Period Dates | Hours | No. of Fishermen | Chinook | | Summer Chum | | | | Fall Chum | | | | Coho | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Fish | CPUE | Fish | Roe | Total | CPUE | Fish | Roe | Total | CPUE | Fish | CPUE |
| 6/15-6/17 | 48 | 0 | | | | | | | | | | | | |
| 6/18-6/20 | 48 | 0 | | | | | | | | | | | | |
| 6/22-6/24 | 48 | 0 | | | | | | | | | | | | |
| 6/25-6/27 | 48 | 0 | | | | | | | | | | | | |
| 6/29-7/01 | 48 | 0 | | | | | | | | | | | | |
| 7/02-7/04 | 48 | 0 | | | | | | | | | | | | |
| 7/06-7/08 | 48 | 4 | 66 | 0.34 | | | | | | | | | | |
| 7/09-7/11 | 48 | 7 | 183 | 0.54 | 113 | 0 | 113 | 0.34 | | | | | | |
| 7/13-7/15 | 48 | 18 | 115 | 0.13 | 3,036 | 0 | 3,036 | 3.51 | | | | | | |
| 7/16-7/18 | 48 | 16 | 107 | 0.14 | 4,764 | 0 | 4,764 | 6.20 | | | | | | |
| 7/20-7/22 | 48 | 17 | 70 | 0.09 | 7,652 | 183 | 7,835 | 9.60 | | | | | | |
| 7/23-7/25 | 48 | 18 | 14 | 0.02 | 10,069 | 0 | 10,069 | 11.66 | | | | | | |
| 7/27-7/29 | 48 | 17 | 12 | 0.01 | 5,603 | 0 | 5,603 | 6.87 | | | | | | |
| 7/30-8/01 | 48 | 15 | 115 | 0.16 | 6,806 | 152 | 6,958 | 9.66 | | | | | | |
| 8/03-8/05 | 48 | 19 | 165 | 0.18 | 7,614 | 0 | 7,614 | 8.35 | | | | | | |
| 8/06-8/08 | 48 | 20 | 20 | 0.02 | 8,204 | 0 | 8,204 | 8.55 | | | | | | |
| 8/10-8/12 | 48 | 13 | | | 2,388 | 0 | 2,388 | 3.83 | | | | | | |
| 9/14-9/15 | 24 | 25 | | | | | | | 10,014 | 40 | 10,054 | 16.76 | 2,516 | 4.19 |
| 9/16-9/17 | 24 | 23 | | | | | | | 7,715 | 16 | 7,731 | 14.01 | 4,490 | 8.13 |
| TOTAL | | | 867 | | 56,249 | 335 | 56,584 | | 20,564[2] | 56 | 20,620[2] | | 7,688[3] | |

[1] Fish taken by set gillnet and fishwheel. CPUE is number of fish per fisherman per hour. Roe sales are in pounds, with the conversion factor of one pound roe equal to one chum salmon used to determine total chum salmon harvest in numbers of "equivalent fish".

[2] Total includes sale of 2,835 fall chum salmon from Department test fishwheel catch between 8/17 and 9/11.

[3] Total includes sale of 682 coho salmon from Department test fishwheel catch between 8/20 and 9/11.

Appendix Table 7. Yukon Territory, Canada, salmon commercial catch by period, 1984[1].

| Period Dates | Chinook | Fall Chum |
|---|---|---|
| -07/08 | 15 | |
| 07/09-07/15 | 984 | |
| 07/16-07/22 | 2,224 | |
| 07/23-07/29 | 2,148 | 12 |
| 07/30-08/05 | 1,989 | 15 |
| 08/06-08/12 | 1,564 | 21 |
| 08/13-08/19 | 794 | 13 |
| 08/20-08/26 | 130 | 43 |
| 08/27-09/02 | 24 | 1,058 |
| 09/03-09/09 | 13 | 5,032 |
| 09/10-09/16 | | 6,470 |
| 09/17-09/23 | | 5,335 |
| 09/24-09/30 | | 4,062 |
| 10/01-10/07 | | 720 |
| 10/08-10/14 | | 150 |
| Total | 9,885 | 22,931 |

[1] All fish taken by gillnet.

Appendix Table 8. Whitehorse fishway daily chinook salmon escapement counts, 1984.

| | Daily Counts | | | Cummulative | |
|---|---|---|---|---|---|
| Dates | Males | Females | Total | Total | Percent |
| 08/01 | 1 | 0 | 1 | 1 | 0.1 |
| 08/02 | 2 | 1 | 3 | 4 | 0.4 |
| 08/03 | 2 | 4 | 6 | 10 | 1.0 |
| 08/04 | 0 | 3 | 3 | 13 | 1.2 |
| 08/05 | 3 | 8 | 11 | 24 | 2.3 |
| 08/06 | 8 | 5 | 13 | 37 | 3.6 |
| 08/07 | 13 | 14 | 27 | 64 | 6.1 |
| 08/08 | 23 | 30 | 53 | 117 | 11.2 |
| 08/09 | 16 | 10 | 26 | 143 | 13.7 |
| 08/10 | 36 | 16 | 52 | 195 | 18.7 |
| 08/11 | 8 | 4 | 12 | 207 | 19.9 |
| 08/12 | 9 | 4 | 13 | 220 | 21.1 |
| 08/13 | 31 | 13 | 44 | 264 | 25.3 |
| 08/14 | 46 | 30 | 76 | 340 | 32.6 |
| 08/15 | 41 | 33 | 74 | 414 | 39.7 |
| 08/16 | 90 | 47 | 137 | 551 | 52.9 |
| 08/17 | 35 | 20 | 55 | 606 | 58.2 |
| 08/18 | 48 | 32 | 80 | 686 | 65.8 |
| 08/19 | 38 | 26 | 64 | 750 | 72.0 |
| 08/20 | 39 | 16 | 55 | 805 | 77.3 |
| 08/21 | 48 | 24 | 72 | 877 | 84.2 |
| 08/22 | 22 | 11 | 33 | 910 | 87.3 |
| 08/23 | 26 | 21 | 47 | 957 | 91.8 |
| 08/24 | 18 | 2 | 20 | 977 | 93.8 |
| 08/25 | 13 | 3 | 16 | 993 | 95.3 |
| 08/26 | 13 | 12 | 25 | 1,018 | 97.7 |
| 08/27 | 6 | 2 | 8 | 1,026 | 98.5 |
| 08/28 | 4 | 0 | 4 | 1,030 | 98.8 |
| 08/29 | 4 | 2 | 6 | 1,036 | 99.4 |
| 08/30 | 6 | 0 | 6 | 1,042 | 100.0 |
| Total | 649 | 393 | 1,042 | | |

Appendix Table 9. Yukon River District 1 chinook salmon commercial gillnet catch, age, and sex by fishing period, 1984.

| | | Age Group | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 42 | 52 | 53 | 62 | 63 | 72 | 73 | 83 | TOTAL |
| Period 1 Sample Size | 6/18-6/19[1] 251 | | | | | | | | | |
| Males | Catch | 109 | 2,577 | 0 | 3,835 | 0 | 791 | 519 | 0 | 7,832 |
| | Percent | 0.8 | 18.8 | 0.0 | 27.9 | 0.0 | 5.8 | 3.8 | 0.0 | 57.1 |
| Females | Catch | 0 | 430 | 0 | 3,983 | 0 | 904 | 519 | 0 | 5,835 |
| | Percent | 0.0 | 3.1 | 0.0 | 29.0 | 0.0 | 6.6 | 3.8 | 0.0 | 42.5 |
| Sexes Combined | Catch | 109 | 3,007 | 0 | 7,818 | 55[2] | 1,695 | 1,039 | 0 | 13,722 |
| | Percent | 0.8 | 21.9 | 0.0 | 57.0 | 0.4 | 12.4 | 7.6 | 0.0 | 100.0 |
| | S.E. of Catch | 76 | 356 | 0 | 426 | 54 | 283 | 227 | 0 | |
| Period 2 Sample Size | 6/21-6/22[1] 266 | | | | | | | | | |
| Males | Catch | 141 | 2,594 | 0 | 5,243 | 0 | 698 | 165 | 0 | 8,841 |
| | Percent | 0.8 | 13.8 | 0.0 | 27.9 | 0.0 | 3.7 | 0.9 | 0.0 | 47.1 |
| Females | Catch | 0 | 721 | 0 | 7,240 | 0 | 1,629 | 329 | 0 | 9,919 |
| | Percent | 0.0 | 3.8 | 0.0 | 38.6 | 0.0 | 8.7 | 1.8 | 0.0 | 52.9 |
| Sexes Combined | Catch | 141 | 3,315 | 0 | 12,483 | 0 | 2,327 | 494 | 0 | 18,760 |
| | Percent | 0.8 | 17.7 | 0.0 | 66.5 | 0.0 | 12.4 | 2.6 | 0.0 | 100.0 |
| | S.E. of Catch | 99 | 436 | 0 | 540 | 0 | 377 | 183 | 0 | |
| Period 3 Sample Size | 6/25-6/26[1] 270 | | | | | | | | | |
| Males | Catch | 179 | 2,554 | 0 | 2,831 | 60 | 384 | 268 | 0 | 6,276 |
| | Percent | 1.1 | 15.9 | 0.0 | 17.6 | 0.4 | 2.4 | 1.7 | 0.0 | 39.0 |
| Females | Catch | 0 | 1,561 | 0 | 6,652 | 0 | 1,345 | 268 | 0 | 9,826 |
| | Percent | 0.0 | 9.7 | 0.0 | 41.3 | 0.0 | 8.4 | 1.7 | 0.0 | 61.0 |
| Sexes Combined | Catch | 179 | 4,115 | 0 | 9,482 | 60 | 1,729 | 537 | 0 | 16,102 |
| | Percent | 1.1 | 25.6 | 0.0 | 58.9 | 0.4 | 10.7 | 3.3 | 0.0 | 100.0 |
| | S.E. of Catch | 102 | 425 | 0 | 479 | 59 | 301 | 175 | 0 | |
| Period 4 Sample Size | 6/28-6/29[1] 250 | | | | | | | | | |
| Males | Catch | 595 | 2,589 | 0 | 3,781 | 66 | 1,189 | 132 | 0 | 8,352 |
| | Percent | 3.6 | 15.7 | 0.0 | 22.9 | 0.4 | 7.2 | 0.8 | 0.0 | 50.6 |
| Females | Catch | 0 | 450 | 0 | 6,592 | 0 | 793 | 264 | 0 | 8,099 |
| | Percent | 0.0 | 2.7 | 0.0 | 39.9 | 0.0 | 4.8 | 1.6 | 0.0 | 49.0 |
| Sexes Combined | Catch | 595 | 3,039 | 0 | 10,373 | 66 | 1,982 | 396 | 66[2] | 16,517 |
| | Percent | 3.6 | 18.4 | 0.0 | 62.8 | 0.4 | 12.0 | 2.4 | 0.4 | 100.0 |
| | S.E. of Catch | 194 | 403 | 0 | 502 | 66 | 338 | 159 | 66 | |
| Period 5 Sample Size | 7/02-7/03[3] 205 | | | | | | | | | |
| Males | Catch | 592 | 2,147 | 0 | 753 | 74 | 0 | 0 | 0 | 3,566 |
| | Percent | 11.7 | 42.5 | 0.0 | 14.9 | 1.5 | 0.0 | 0.0 | 0.0 | 70.6 |
| Females | Catch | 0 | 219 | 0 | 1,046 | 0 | 222 | 0 | 0 | 1,487 |
| | Percent | 0.0 | 4.3 | 0.0 | 20.7 | 0.0 | 4.4 | 0.0 | 0.0 | 29.4 |
| Sexes Combined | Catch | 592 | 2,366 | 0 | 1,799 | 74 | 222 | 0 | 0 | 5,053 |
| | Percent | 11.7 | 46.8 | 0.0 | 35.6 | 1.5 | 4.4 | 0.0 | 0.0 | 100.0 |
| | S.E. of Catch | 111 | 173 | 0 | 166 | 42 | 71 | 0 | 0 | |

-Continued-

Appendix Table 9. Yukon River District 1 chinook salmon commercial gillnet catch, age,and sex by fishing period, 1984 (continued).

| | | Age Group | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 42 | 52 | 53 | 62 | 63 | 72 | 73 | 83 | TOTAL |
| Period 6 Sample Size | 7/05-7/06[3] 211 | | | | | | | | | |
| Males | Catch | 205 | 1,128 | 0 | 524 | 0 | 0 | 0 | 0 | 1,857 |
| | Percent | 7.6 | 41.8 | 0.0 | 19.4 | 0.0 | 0.0 | 0.0 | 0.0 | 68.8 |
| Females | Catch | 0 | 125 | 0 | 524 | 0 | 0 | 0 | 0 | 650 |
| | Percent | 0.0 | 4.6 | 0.0 | 19.4 | 0.0 | 0.0 | 0.0 | 0.0 | 24.1 |
| Sexes Combined | Catch | 205 | 1,254 | 0 | 1,049 | 0 | 153[2] | 38[2] | 0 | 2,699 |
| | Percent | 7.6 | 46.4 | 0.0 | 38.9 | 0.0 | 5.7 | 1.4 | 0.0 | 100.0 |
| | S.E. of Catch | 47 | 89 | 0 | 87 | 0 | 41 | 21 | 0 | |
| Period 7 Sample Size | 7/09-7/10[3] 65 | | | | | | | | | |
| Males | Catch | 152 | 455 | 0 | 177 | 0 | 51 | 0 | 0 | 835 |
| | Percent | 13.8 | 41.4 | 0.0 | 16.0 | 0.0 | 4.6 | 0.0 | 0.0 | 75.8 |
| Females | Catch | 0 | 19 | 0 | 196 | 0 | 34 | 17 | 0 | 266 |
| | Percent | 0.0 | 1.7 | 0.0 | 17.8 | 0.0 | 3.1 | 1.5 | 0.0 | 24.2 |
| Sexes Combined | Catch | 152 | 474 | 0 | 373 | 0 | 85 | 17 | 0 | 1,101 |
| | Percent | 13.8 | 43.1 | 0.0 | 33.8 | 0.0 | 7.7 | 1.5 | 0.0 | 100.0 |
| | S.E. of Catch | 46 | 66 | 0 | 63 | 0 | 36 | 16 | 0 | |
| Period 8 Sample Size | 7/12-7/13[3] 13 | | | | | | | | | |
| Males | Catch | 81 | 135 | 0 | 27 | 0 | 0 | 0 | 0 | 243 |
| | Percent | 23.1 | 38.5 | 0.0 | 7.7 | 0.0 | 0.0 | 0.0 | 0.0 | 69.2 |
| Females | Catch | 0 | 54 | 0 | 54 | 0 | 0 | 0 | 0 | 108 |
| | Percent | 0.0 | 15.4 | 0.0 | 15.4 | 0.0 | 0.0 | 0.0 | 0.0 | 30.8 |
| | S.E. of Catch | 42 | 50 | 0 | 42 | 0 | 0 | 0 | 0 | |
| Sexes Combined | Catch | 81 | 189 | 0 | 81 | 0 | 0 | 0 | 0 | 351 |
| | Percent | 23.1 | 15.8 | 0.0 | 23.1 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 |
| | S.E. of Catch | 42 | 50 | 0 | 42 | 0 | 0 | 0 | 0 | |
| Period 9-12 Sample Size | 7/16-8/07[4] 11 | | | | | | | | | |
| Males | Catch | 67 | 100 | 67 | 67 | 0 | 0 | 0 | 0 | 299 |
| | Percent | 18.2 | 27.3 | 18.2 | 18.2 | 0.0 | 0.0 | 0.0 | 0.0 | 81.8 |
| Females | Catch | 0 | 33 | 0 | 33 | 0 | 0 | 0 | 0 | 67 |
| | Percent | 0.0 | 9.1 | 0.0 | 9.1 | 0.0 | 0.0 | 0.0 | 0.0 | 18.2 |
| Sexes Combined | Catch | 67 | 133 | 67 | 100 | 0 | 0 | 0 | 0 | 366 |
| | Percent | 18.2 | 36.4 | 18.2 | 27.3 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 |
| | S.E. of Catch | 44 | 55 | 44 | 51 | 0 | 0 | 0 | 0 | |

[1] Chinook salmon season. No mesh size restriction, most fish taken with 8-1/2 in (21.6 cm) mesh.

[2] Fish sampled without sex information, totals for sexes combined greater than sum of individual sexes.

[3] Summer chum salmon season, 6 in (15.2 cm) stretch mesh maximum.

[4] Fall chum salmon season, 6 in (15.2 cm) stretch mesh maximum.

Appendix Table 10. Yukon River District 1 chinook salmon commercial gillnet catch, age, and sex by sample period, 1984.

| | | AGE GROUP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 42 | 52 | 53 | 62 | 63 | 72 | 73 | 83 | TOTAL |
| Sample Period 1 6/18-6/22[1] Sample Size 517 | | | | | | | | | | |
| Males | Catch | 250 | 5,171 | 0 | 9,078 | 0 | 1,489 | 684 | 0 | 16,672 |
| | Percent | 0.8 | 15.9 | 0.0 | 27.9 | 0.0 | 4.6 | 2.1 | 0.0 | 51.3 |
| Females | Catch | 0 | 1,151 | 0 | 11,223 | 0 | 2,533 | 848 | 0 | 15,755 |
| | Percent | 0.0 | 3.5 | 0.0 | 34.6 | 0.0 | 7.8 | 2.6 | 0.0 | 48.5 |
| Sexes Combined | Catch | 250 | 6,322 | 0 | 20,301 | 55[2] | 4,022 | 1,532 | 0 | 32,482 |
| | Percent | 0.8 | 19.5 | 0.0 | 62.5 | 0.2 | 12.4 | 4.7 | 0.0 | 100.0 |
| | S.E. of Catch | 125 | 563 | 0 | 688 | 54 | 472 | 292 | 0 | |
| Sample Period 2 6/25-6/29[1] Sample Size 520 | | | | | | | | | | |
| Males | Catch | 774 | 5,143 | 0 | 6,612 | 126 | 1,573 | 400 | 0 | 14,628 |
| | Percent | 2.4 | 15.8 | 0.0 | 20.3 | 0.4 | 4.8 | 1.2 | 0.0 | 44.8 |
| Females | Catch | 0 | 2,011 | 0 | 13,244 | 0 | 2,138 | 532 | 0 | 17,925 |
| | Percent | 0.0 | 6.2 | 0.0 | 40.6 | 0.0 | 6.6 | 1.6 | 0.0 | 55.0 |
| Sexes Combined | Catch | 774 | 7,154 | 0 | 19,856 | 126 | 3,711 | 932 | 66[2] | 32,619 |
| | Percent | 2.4 | 21.9 | 0.0 | 60.9 | 0.4 | 11.4 | 2.9 | 0.2 | 100.0 |
| | S.E. of Catch | 219 | 585 | 0 | 694 | 88 | 453 | 236 | 66 | |
| Sample Period 3 7/02-8/07[3] Sample Size 505 | | | | | | | | | | |
| Males | Catch | 1,097 | 3,965 | 67 | 1,548 | 74 | 51 | 0 | 0 | 6,802 |
| | Percent | 11.5 | 41.4 | 0.7 | 16.2 | 0.8 | 0.5 | 0.0 | 0.0 | 71.1 |
| Females | Catch | 0 | 450 | 0 | 1,854 | 0 | 256 | 17 | 0 | 2,577 |
| | Percent | 0.0 | 4.7 | 0.0 | 19.4 | 0.0 | 2.7 | 0.2 | 0.0 | 26.9 |
| Sexes Combined | Catch | 1,097 | 4,415 | 67 | 3,402 | 74 | 460[2] | 55[2] | 0 | 9,570 |
| | Percent | 11.5 | 46.1 | 0.7 | 35.5 | 0.8 | 4.8 | 0.6 | 0.0 | 100.0 |
| | S.E. of Catch | 143 | 218 | 44 | 209 | 42 | 90 | 27 | 0 | |
| SEASON TOTAL 6/18-8/07 Total Sample 1,542 | | | | | | | | | | |
| Males | Catch | 2,121 | 14,279 | 67 | 17,238 | 200 | 3,113 | 1,084 | 0 | 38,102 |
| | Percent | 2.8 | 19.1 | 0.1 | 23.1 | 0.3 | 4.2 | 1.5 | 0.0 | 51.0 |
| Females | Catch | 0 | 3,612 | 0 | 26,321 | 0 | 4,927 | 1,397 | 0 | 36,257 |
| | Percent | 0.0 | 4.8 | 0.0 | 35.2 | 0.0 | 6.6 | 1.9 | 0.0 | 48.6 |
| Sexes Combined | Catch | 2,121 | 17,891 | 67 | 43,559 | 255 | 8,193 | 2,519 | 66 | 74,671 |
| | Percent | 2.8 | 24.0 | 0.1 | 58.3 | 0.3 | 11.0 | 3.4 | 0.1 | 100.0 |
| | S.E. of Catch | 290 | 841 | 44 | 999 | 112 | 660 | 377 | 66 | |

[1] Chinook salmon season. No mesh size restriction, most fish taken with 8-1/2 in (21.6 cm) mesh.

[2] One fish sampled without sex information, total for sexes combined greater than sum of individual sexes.

[3] Chum salmon season, 6 in (15.2 cm) stretch mesh maximum.

Appendix Table 11. Yukon River District 2 chinook salmon commercial gillnet catch, age, and sex by fishing period, 1984.

| | | Age Group | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 42 | 52 | 62 | 63 | 72 | 73 | 83 | TOTAL |
| Period 1 | 6/20-6/21[1] | | | | | | | | |
| Sample Size | 255 | | | | | | | | |
| Males | Catch | 44 | 1,190 | 1,516 | 0 | 260 | 55 | 0 | 3,064 |
| | Percent | 0.8 | 21.3 | 27.2 | 0.0 | 4.7 | 1.0 | 0.0 | 54.9 |
| Females | Catch | 0 | 145 | 1,833 | 0 | 462 | 55 | 0 | 2,495 |
| | Percent | 0.0 | 2.6 | 32.8 | 0.0 | 8.3 | 1.0 | 0.0 | 44.7 |
| Sexes Combined | Catch | 44 | 1,335 | 3,349 | 0 | 722 | 109 | 22[2] | 5,581 |
| | Percent | 0.8 | 23.9 | 60.0 | 0.0 | 12.9 | 2.0 | 0.4 | 100.0 |
| | S.E. of Catch | 30 | 146 | 168 | 0 | 115 | 47 | 21 | |
| Period 2 | 6/24-6/25[1,3] | | | | | | | | |
| Sample Size | 190 | | | | | | | | |
| Sexes Combined | Catch | 151 | 4,005 | 8,236 | 76[2] | 1,662 | 227 | 0 | 14,356 |
| | Percent | 1.0 | 27.9 | 57.4 | 0.5 | 11.6 | 1.6 | 0.0 | 100.0 |
| | S.E. of Catch | 106 | 465 | 513 | 75 | 332 | 129 | 0 | |
| Period 3 | 6/27-6/28[1] | | | | | | | | |
| Sample Size | 259 | | | | | | | | |
| Males | Catch | 73 | 2,010 | 1,142 | 0 | 409 | 242 | 0 | 3,876 |
| | Percent | 0.8 | 21.3 | 12.1 | 0.0 | 4.3 | 2.6 | 0.0 | 41.2 |
| Females | Catch | 0 | 172 | 4,640 | 0 | 682 | 48 | 0 | 5,542 |
| | Percent | 0.0 | 1.8 | 49.3 | 0.0 | 7.2 | 0.5 | 0.0 | 58.8 |
| Sexes Combined | Catch | 73 | 2,182 | 5,782 | 0 | 1,091 | 291 | 0 | 9,418 |
| | Percent | 0.8 | 23.2 | 61.4 | 0.0 | 11.6 | 3.1 | 0.0 | 100.0 |
| | S.E. of Catch | 51 | 244 | 282 | 0 | 185 | 100 | 0 | |
| Period 4 | 7/01-7/02[4] | | | | | | | | |
| Sample Size | 230 | | | | | | | | |
| Males | Catch | 299 | 1,532 | 258 | 0 | 57 | 0 | 0 | 2,146 |
| | Percent | 10.4 | 53.5 | 9.0 | 0.0 | 2.0 | 0.0 | 0.0 | 74.9 |
| Females | Catch | 0 | 136 | 501 | 0 | 43 | 25 | 12 | 717 |
| | Percent | 0.0 | 4.8 | 17.5 | 0.0 | 1.5 | 0.9 | 0.4 | 25.1 |
| Sexes Combined | Catch | 299 | 1,668 | 759 | 0 | 100 | 25 | 12 | 2,863 |
| | Percent | 10.4 | 58.3 | 26.5 | 0.0 | 3.5 | 0.9 | 0.4 | 100.0 |
| | S.E. of Catch | 55 | 89 | 80 | 0 | 33 | 17 | 12 | |

[1] Chinook salmon season. No mesh size restrictions, most fish taken with 8-1/2 in (21.6 cm) mesh.

[2] Fish sampled without sex information, totals for sexes combined greater than sum of individual sexes.

[3] No sex data obtained for this date.

[4] Chum salmon season, 6 in (15.2 cm) stretch mesh maximum.

Appendix Table 12. Yukon River District 2 chinook salmon commercial gillnet catch, age, and sex by sample period, 1984.

| | | AGE GROUP | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 42 | 52 | 62 | 63 | 72 | 73 | 83 | TOTAL |
| Sample Period 1 6/20-6/25[1] Sample Size 445 | | | | | | | | | |
| Males | Catch | 195 | 4,760 | 5,244 | 0 | 859 | 169 | 0 | 11,226 |
| | Percent | 1.0 | 23.9 | 26.3 | 0.0 | 4.3 | 0.8 | 0.0 | 56.3 |
| Females | Catch | 0 | 580 | 6,341 | 0 | 1,525 | 169 | 0 | 8,615 |
| | Percent | 0.0 | 2.9 | 31.8 | 0.0 | 7.7 | 0.8 | 0.0 | 43.2 |
| Sexes Combined | Catch | 195 | 5,340 | 11,585 | 76[2] | 2,384 | 336 | 22[2] | 19,937 |
| | Percent | 1.0 | 26.8 | 58.1 | 0.4 | 12.0 | 1.7 | 0.1 | 100.0 |
| | S.E. of Catch | 110 | 488 | 540 | 75 | 351 | 138 | 21 | |
| Sample Period 2 6/27-6/28[1] Sample Size 259 | | | | | | | | | |
| Males | Catch | 73 | 2,010 | 1,142 | 0 | 409 | 242 | 0 | 3,876 |
| | Percent | 0.8 | 21.3 | 12.1 | 0.0 | 4.3 | 2.6 | 0.0 | 41.2 |
| Females | Catch | 0 | 172 | 4,640 | 0 | 682 | 48 | 0 | 5,542 |
| | Percent | 0.0 | 1.8 | 49.3 | 0.0 | 7.2 | 0.5 | 0.0 | 58.8 |
| Sexes Combined | Catch | 73 | 2,182 | 5,782 | 0 | 1,091 | 290 | 0 | 9,418 |
| | Percent | 0.8 | 23.2 | 61.4 | 0.0 | 11.6 | 3.1 | 0.0 | 100.0 |
| | S.E. of Catch | 51 | 244 | 282 | 0 | 185 | 100 | 0 | |
| Sample Period 3 7/01-8/19[3] Sample Size 230 | | | | | | | | | |
| Males | Catch | 766 | 3,928 | 663 | 0 | 146 | 0 | 0 | 5,503 |
| | Percent | 10.4 | 53.5 | 9.0 | 0.0 | 2.0 | 0.0 | 0.0 | 75.0 |
| Females | Catch | 0 | 350 | 1,284 | 0 | 109 | 64 | 32 | 1,839 |
| | Percent | 0.0 | 4.8 | 17.5 | 0.0 | 1.5 | 0.9 | 0.4 | 25.0 |
| Sexes Combined | Catch | 766 | 4,278 | 1,947 | 0 | 255 | 64 | 32 | 7,342 |
| | Percent | 10.4 | 58.3 | 26.5 | 0.0 | 3.5 | 0.9 | 0.4 | 100.0 |
| | S.E. of Catch | 146 | 235 | 211 | 0 | 88 | 44 | 31 | |
| SEASON TOTAL 6/20-8/19 Total Sample 934 | | | | | | | | | |
| Males | Catch | 1,034 | 10,698 | 7,049 | 0 | 1,414 | 411 | 0 | 20,605 |
| | Percent | 2.8 | 29.2 | 19.2 | 0.0 | 3.9 | 1.1 | 0.0 | 56.1 |
| Females | Catch | 0 | 1,102 | 12,265 | 0 | 2,316 | 281 | 32 | 15,996 |
| | Percent | 0.0 | 3.0 | 33.4 | 0.0 | 6.3 | 0.8 | 0.1 | 43.6 |
| Sexes Combined | Catch | 1,034 | 11,800 | 19,314 | 76 | 3,730 | 690 | 54 | 36,697 |
| | Percent | 2.8 | 32.2 | 52.6 | 0.2 | 10.2 | 1.9 | 0.1 | 100.0 |
| | S.E. of Catch | 190 | 594 | 644 | 75 | 407 | 176 | 38 | |

[1] Chinook salmon season. No mesh size restrictions, most fish taken with 8-1/2 in (21.6 cm) mesh.

[2] One fish sampled without sex information, totals for sexes combined greater than sum of individual sexes.

[3] Chum salmon season, 6 in (15.2 cm) stretch mesh maximum, allocated based on samples obtained during fishing period 4.

Appendix Table 13. Yukon River District 3 chinook salmon commercial gillnet catch, age, and sex composition, 1984[1].

| | | AGE GROUP | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 42 | 52 | 62 | 72 | 73 | 83 | TOTAL |
| Sample Period 6/29<br>Sample Size 246 | | | | | | | | |
| Males | Catch | 37 | 692 | 791 | 124 | 12 | 12 | 1,668 |
| | Percent | 1.2 | 22.8 | 26.0 | 4.1 | 0.4 | 0.4 | 54.9 |
| Females | Catch | 0 | 62 | 1,050 | 198 | 62 | 0 | 1,371 |
| | Percent | 0.0 | 2.0 | 34.6 | 6.5 | 2.0 | 0.0 | 45.1 |
| Sexes Combined | Catch | 37 | 754 | 1,841 | 321 | 74 | 12 | 3,039 |
| | Percent | 1.2 | 24.8 | 60.6 | 10.6 | 2.4 | 0.4 | 100.0 |
| | S.E. of Catch | 20 | 80 | 91 | 57 | 29 | 12 | |

[1] Allocation based on 8-1/2 in (21.6 cm) mesh gillnet samples from District 3 commercial catch.

Appendix Table 14. Yukon River District 4 chinook salmon catch, age,and sex composition, 1984[1].

| | | AGE GROUP | | | | | |
|---|---|---|---|---|---|---|---|
| | | 42 | 52 | 62 | 72 | 73 | TOTAL |
| Sample Period 7/6-8/10<br>Sample Size 160[2] | | | | | | | |
| Males | Catch | 161 | 1,830 | 1,345 | 54 | 161 | 3,552 |
| | Percent | 1.9 | 21.3 | 15.6 | 0.6 | 1.9 | 41.3 |
| Females | Catch | 0 | 646 | 3,606 | 646 | 161 | 5,059 |
| | Percent | 0.0 | 7.5 | 41.9 | 7.5 | 1.9 | 58.8 |
| Sexes Combined | Catch | 161 | 2,476 | 4,951 | 700 | 323 | 8,611 |
| | Percent | 1.9 | 28.8 | 57.5 | 8.1 | 3.8 | 100.0 |
| | S.E. of Catch | 93 | 309 | 338 | 187 | 130 | |

[1] Pooled commercial and subsistence, gillnet, and fishwheel catch. Allocation based on District 4 commercial and subsistence catch samples pooled, taken with various mesh size gillnets, up to 8-1/2 in (21.6 cm) maximum, and fishwheels near Galena.

[2] Commercial and subsistence fishwheel catch samples = 15.
Commercial gillnet catch samples = 69.
Subsistence gillnet catch samples = 76.

Appendix Table 15. Yukon River District 5 chinook salmon catch, age, and sex composition, 1984[1].

| | | AGE GROUP | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 42 | 52 | 62 | 63 | 72 | 73 | TOTAL |
| Sample Period 7/18-7/22<br>Sample Size 189 | | | | | | | | |
| Males | Catch | 1,185 | 5,430 | 5,035 | 197 | 592 | 99 | 12,537 |
| | Percent | 6.3 | 29.1 | 27.0 | 1.1 | 3.2 | 0.5 | 67.2 |
| Females | Catch | 0 | 99 | 4,837 | 0 | 1,185 | 0 | 6,121 |
| | Percent | 0.0 | 0.5 | 25.9 | 0.0 | 6.3 | 0.0 | 32.8 |
| Sexes Combined | Catch | 1,185 | 5,528 | 9,872 | 197 | 1,777 | 99 | 18,658 |
| | Percent | 6.3 | 29.6 | 52.9 | 1.1 | 9.5 | 0.5 | 100.0 |
| | S.E. of Catch | 330 | 618 | 676 | 139 | 397 | 98 | |

[1] Pooled commercial and subsistence, gillnet, and fishwheel catch. Allocation based on District 5 subsistence catch samples pooled, taken with various mesh size gillnets, up to 8-1/2 in (21.6 cm) maximum, and fishwheels.

Appendix Table 16. Yukon Territory chinook salmon commercial catch, age, and sex composition, 1984[1].

| Sex | | AGE GROUP 42 | 52 | 53 | 62 | 63 | 72 | 73 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| Sample Period | 7/19-8/14 | | | | | | | | |
| Sample Size | 308 | | | | | | | | |
| Males | Catch | 931 | 2,375 | 32 | 867 | 96 | 128 | 0 | 4,429 |
| | Percent | 9.4 | 24.0 | 0.3 | 8.8 | 1.0 | 1.3 | 0.0 | 44.8 |
| Females | Catch | 32 | 64 | 0 | 4,076 | 0 | 1,220 | 64 | 5,456 |
| | Percent | 0.3 | 0.6 | 0.0 | 41.2 | 0.0 | 12.3 | 0.6 | 55.2 |
| Sexes Combined | Catch | 963 | 2,439 | 32 | 4,943 | 96 | 1,348 | 64 | 9,885 |
| | Percent | 9.7 | 24.7 | 0.3 | 50.0 | 1.0 | 13.6 | 0.6 | 100.0 |
| | S.E. of Catch | 165 | 239 | 32 | 278 | 55 | 191 | 45 | |

[1] Allocation based on Yukon Territory commercial 8-1/2 in (21.6 cm) mesh gillnet catch samples.

Appendix Table 17. Yukon River District 1 chinook salmon subsistence catch, age, and sex composition, 1984[1].

| | | AGE GROUP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 42 | 52 | 53 | 62 | 63 | 72 | 73 | 83 | TOTAL |
| Males | Catch | 131 | 884 | 4 | 1,067 | 12 | 193 | 67 | 0 | 2,359 |
| | Percent | 2.8 | 19.1 | 0.1 | 23.1 | 0.3 | 4.2 | 1.5 | 0.0 | 51.0 |
| Females | Catch | 0 | 224 | 0 | 1,630 | 0 | 305 | 87 | 0 | 2,245 |
| | Percent | 0.0 | 4.8 | 0.0 | 35.2 | 0.0 | 6.6 | 1.9 | 0.0 | 48.6 |
| Sexes Combined | Catch | 131 | 1,108 | 4 | 2,697 | 16[2] | 507[2] | 156[2] | 4[2] | 4,624 |
| | Percent | 2.8 | 24.0 | 0.1 | 58.3 | 0.3 | 11.0 | 3.4 | 0.1 | 100.0 |

[1] Allocation based on District 1 commercial 6 in (15.2 cm) and 8-1/2 in (21.6 cm) mesh gillnet samples.

[2] Fish sampled without sex information, total for sexes combined greater than sum of individual sexes.

Appendix Table 18. Yukon River District 2 chinook salmon subsistence catch, age, and sex composition, 1984[1].

| | | AGE GROUP | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 42 | 52 | 62 | 63 | 72 | 73 | 83 | TOTAL |
| Males | Catch | 202 | 2,091 | 1,378 | 0 | 276 | 80 | 0 | 4,027 |
| | Percent | 2.8 | 29.2 | 19.2 | 0.0 | 3.9 | 1.1 | 0.0 | 56.1 |
| Females | Catch | 0 | 215 | 2,397 | 0 | 453 | 55 | 6 | 3,126 |
| | Percent | 0.0 | 3.0 | 33.4 | 0.0 | 6.3 | 0.8 | 0.1 | 43.6 |
| Sexes Combined | Catch | 202 | 2,306 | 3,775 | 15[2] | 729 | 135 | 11[2] | 7,172 |
| | Percent | 2.8 | 32.2 | 52.6 | 0.2 | 10.2 | 1.9 | 0.1 | 100.0 |

[1] Allocation based on District 2 commercial 6 in (15.2 cm) and 8-1/2 in (21.6 cm) mesh gillnet samples.

[2] Fish sampled without sex information, total for sexes combined greater than sum of individual sexes.

Appendix Table 19. Yukon River District 3 chinook salmon subsistence catch, age, and sex composition, 1984[1].

| | | AGE GROUP | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 42 | 52 | 62 | 72 | 73 | 83 | TOTAL |
| Males | Catch | 53 | 991 | 1,133 | 177 | 18 | 18 | 2,390 |
| | Percent | 1.2 | 22.8 | 26.0 | 4.1 | 0.4 | 0.4 | 54.9 |
| Females | Catch | 0 | 89 | 1,505 | 283 | 89 | 0 | 1,965 |
| | Percent | 0.0 | 2.0 | 34.6 | 6.5 | 2.0 | 0.0 | 45.1 |
| Sexes Combined | Catch | 53 | 1,080 | 2,638 | 460 | 106 | 18 | 4,355 |
| | Percent | 1.2 | 24.8 | 60.6 | 10.6 | 2.4 | 0.4 | 100.0 |

[1] Allocation based on District 3 commercial 8-1/2 in (21.6 cm) mesh gillnet samples.

Appendix Table 20. Yukon Territory chinook salmon subsistence catch, age, and sex composition, 1984[1].

| | | AGE GROUP | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 42 | 52 | 53 | 62 | 63 | 72 | 73 | TOTAL |
| Males | Catch | 580 | 1,480 | 20 | 540 | 60 | 80 | 0 | 2,760 |
| | Percent | 9.4 | 24.0 | 0.3 | 8.8 | 1.0 | 1.3 | 0.0 | 44.8 |
| Females | Catch | 20 | 40 | 0 | 2,540 | 0 | 760 | 40 | 3,400 |
| | Percent | 0.3 | 0.6 | 0.0 | 41.2 | 0.0 | 12.3 | 0.6 | 55.2 |
| Sexes Combined | Catch | 600 | 1,520 | 20 | 3,080 | 60 | 840 | 40 | 6,160 |
| | Percent | 9.7 | 24.7 | 0.3 | 50.0 | 1.0 | 13.6 | 0.6 | 100.0 |

[1] Allocation based on Yukon Territory commercial 8-1/2 in (21.6 cm) mesh gillnet samples.

Appendix Table 21. Age, sex, and size of Yukon River chinook salmon catch samples collected in 1984, but not used to apportion harvest.

| Location Gear Date | Sample Size | Sex | | AGE GROUP 32 | 42 | 52 | 53 | 62 | 63 | 72 | 73 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Big Eddy[1] 8-1/2 in. (21.6 cm) Gillnets 6/8-7/3 | 262 | Males | Mean | | 585 | 749 | | 859 | | 894 | 866 | |
| | | | Percent | | 2.3 | 16.4 | | 29.8 | | 1.9 | 1.9 | 52.3 |
| | | | Samp. Size | | 6 | 43 | | 78 | | 5 | 5 | |
| | | Females | Mean | | | 887 | | 876 | | 880 | 880 | |
| | | | Percent | | | 2.7 | | 37.8 | | 5.7 | 1.5 | 47.7 |
| | | | Samp. Size | | | 7 | | 99 | | 15 | 4 | |
| | | Combined | Percent | | 2.3 | 19.1 | | 67.6 | | 7.6 | 3.4 | 100.0 |
| | | | Samp. Size | | 6 | 50 | | 177 | | 20 | 9 | |
| Big Eddy[1] 6 in. (15.2 cm) Gillnets 7/19-8/18 | 9 | Males | Mean | | | 679 | | 778 | | 943 | | |
| | | | Percent | | | 44.4 | | 11.1 | | 11.1 | | 66.7 |
| | | | Samp. Size | | | 4 | | 1 | | 1 | | |
| | | Females | Mean | | | | | 816 | | | | |
| | | | Percent | | | | | 33.3 | | | | 33.3 |
| | | | Samp. Size | | | | | 3 | | | | |
| | | Combined | Percent | | | 44.4 | | 44.4 | | 11.1 | | 100.0 |
| | | | Samp. Size | | | 4 | | 4 | | 1 | | |
| Big Eddy[1] 5-1/2 in. (14 cm) Gillnets 6/8-7/9 | 25 | Males | Mean | | 563 | 660 | 515 | | | 890 | | |
| | | | Percent | | 24.0 | 56.0 | 4.0 | | | 4.0 | | 88.0 |
| | | | Samp. Size | | 6 | 14 | 1 | | | 1 | | |
| | | Females | Mean | | | | | 906 | | 921 | | |
| | | | Percent | | | | | 8.0 | | 4.0 | | 12.0 |
| | | | Samp. Size | | | | | 2 | | 1 | | |
| | | Combined | Percent | | 24.0 | 56.0 | 4.0 | 8.0 | | 8.0 | | 100.0 |
| | | | Samp. Size | | 6 | 14 | 1 | 2 | | 2 | | |
| Middle Mouth[1] 8-1/2 in. (21.6 cm) Gillnets 6/12-6/18 | 199 | Males | Mean | | 568 | 695 | | 874 | 649 | 925 | | |
| | | | Percent | | 2.5 | 36.7 | | 25.6 | 1.0 | 1.5 | | 67.3 |
| | | | Samp. Size | | 5 | 73 | | 51 | 2 | 3 | | |
| | | Females | Mean | | | 795 | | 877 | 705 | 935 | 887 | |
| | | | Percent | | | 2.0 | | 26.1 | 0.5 | 2.5 | 1.5 | 32.7 |
| | | | Samp. Size | | | 4 | | 52 | 1 | 5 | 3 | |
| | | Combined | Percent | | 2.5 | 38.7 | | 51.8 | 1.5 | 4.0 | 1.5 | 100.0 |
| | | | Samp. Size | | 5 | 77 | | 103 | 3 | 8 | 3 | |
| Stink Cr.[1] Fishwheel 7/6-7/22 | 52 | Males | Mean | 335 | 517 | 684 | | | 833 | | | |
| | | | Percent | 11.5 | 30.8 | 34.6 | | | 3.8 | | | 80.8 |
| | | | Samp. Size | 6 | 16 | 18 | | | 2 | | | |
| | | Females | Mean | 300 | | 692 | | | 856 | | 952 | |
| | | | Percent | 1.9 | | 5.8 | | | 7.7 | | 3.8 | 19.2 |
| | | | Samp. Size | 1 | | 3 | | | 4 | | 2 | |
| | | Combined | Percent | 13.5 | 30.8 | 40.4 | | | 11.5 | | 3.8 | 100.0 |
| | | | Samp. Size | 7 | 16 | 21 | | | 6 | | 2 | |
| Fairbanks[2] Fishwheel 7/25-8/7 | 7 | Males | Mean | | | 655 | | | | | | |
| | | | Percent | | | 14.3 | | | | | | 14.3 |
| | | | Samp. Size | | | 1 | | | | | | |
| | | Females | Mean | | | 843 | | 826 | | 879 | | |
| | | | Percent | | | 28.6 | | 28.6 | | 28.6 | | 85.7 |
| | | | Samp. Size | | | 2 | | 2 | | 2 | | |
| | | Combined | Percent | | | 42.9 | | 28.6 | | 28.6 | | 100.0 |
| | | | Samp. Size | | | 3 | | 2 | | 2 | | |
| Whitehorse Rapids[3] Fishway 8/30-9/5 | 52 | Males | Mean | | | 666 | | 728 | 708 | | 758 | |
| | | | Percent | | | 17.3 | | 15.4 | 1.9 | | 3.8 | 38.5 |
| | | | Samp. Size | | | 9 | | 8 | 1 | | 2 | |
| | | Females | Mean | | | 723 | | 728 | | | 749 | |
| | | | Percent | | | 5.8 | | 46.2 | | | 9.6 | 61.5 |
| | | | Samp. Size | | | 3 | | 24 | | | 5 | |
| | | Combined | Percent | | | 23.1 | | 61.5 | 1.9 | | 13.5 | 100.0 |
| | | | Samp. Size | | | 12 | | 32 | 1 | | 7 | |

[1] Test fish samples.
[2] *Commercial catch samples.*
[3] Hatchery egg take samples.

Appendix Table 22. Yukon River District 1 summer chum salmon commercial gillnet catch, age, and sex by sample period, 1984.

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period 1 6/19-6/22[1] | | | | | | |
| Sample Size 431 | | | | | | |
| Males | Catch | 676 | 33,655 | 13,022 | 338 | 47,691 |
| | Percent | 0.9 | 46.2 | 17.9 | 0.5 | 65.4 |
| Females | Catch | 0 | 16,743 | 8,456 | 0 | 25,199 |
| | Percent | 0.0 | 23.0 | 11.6 | 0.0 | 34.6 |
| Sexes Combined | Catch | 676 | 50,397 | 21,478 | 338 | 72,890 |
| | Percent | 0.9 | 69.1 | 29.5 | 0.5 | 100.0 |
| Sample Period 2 6/26-6/29[1] | | | | | | |
| Sample Size 415 | | | | | | |
| Males | Catch | 886 | 41,848 | 12,399 | 221 | 55,355 |
| | Percent | 1.0 | 45.5 | 13.5 | 0.2 | 60.2 |
| Females | Catch | 0 | 27,456 | 8,635 | 443 | 36,534 |
| | Percent | 0.0 | 29.9 | 9.4 | 0.5 | 39.8 |
| Sexes Combined | Catch | 886 | 69,304 | 21,035 | 664 | 91,889 |
| | Percent | 1.0 | 75.4 | 22.9 | 0.7 | 100.0 |
| Sample Period 3 7/03-7/06[2] | | | | | | |
| Sample Size 431 | | | | | | |
| Males | Catch | 869 | 37,364 | 9,341 | 1,086 | 48,660 |
| | Percent | 0.9 | 39.9 | 10.0 | 1.2 | 52.0 |
| Females | Catch | 1,521 | 30,847 | 12,165 | 434 | 44,968 |
| | Percent | 1.6 | 32.9 | 13.0 | 0.5 | 48.0 |
| Sexes Combined | Catch | 2,390 | 68,212 | 21,506 | 1,521 | 93,628 |
| | Percent | 2.6 | 72.9 | 23.0 | 1.6 | 100.0 |
| Sample Period 4 7/10-7/13[2] | | | | | | |
| Sample Size 432 | | | | | | |
| Males | Catch | 635 | 13,089 | 3,966 | 0 | 17,690 |
| | Percent | 1.9 | 38.2 | 11.6 | 0.0 | 51.6 |
| Females | Catch | 79 | 10,392 | 5,949 | 159 | 16,579 |
| | Percent | 0.2 | 30.3 | 17.4 | 0.5 | 48.4 |
| Sexes Combined | Catch | 714 | 23,481 | 9,916 | 159 | 34,269 |
| | Percent | 2.1 | 68.5 | 28.9 | 0.5 | 100.0 |
| Sample Periods Combined | | | | | | |
| Sample Size 1709 | | | | | | |
| Males | Catch | 3,066 | 125,956 | 38,729 | 1,645 | 169,396 |
| | Percent | 1.1 | 43.0 | 13.2 | 0.6 | 57.9 |
| Females | Catch | 1,600 | 85,438 | 35,206 | 1,036 | 123,280 |
| | Percent | 0.5 | 29.2 | 12.0 | 0.4 | 42.1 |
| Sexes Combined | Catch | 4,666 | 211,394 | 73,935 | 2,681 | 292,676 |
| | Percent | 1.6 | 72.2 | 25.3 | 0.9 | 100.0 |
| | Std. Error | 0.3 | 1.1 | 1.1 | 0.2 | |

[1] Allocation based on 8-1/2 in (21.6 cm) mesh gillnet samples from District 1 commercial catch.

[2] Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 23. Yukon River District 2 summer chum salmon commercial gillnet catch, age, and sex by sample period, 1984.

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period 1 6/21-6/28[1] | | | | | | |
| Sample Size 359 | | | | | | |
| Males | Catch | 215 | 29,928 | 15,287 | 215 | 45,646 |
| | Percent | 0.3 | 38.7 | 19.8 | 0.3 | 59.1 |
| Females | Catch | 431 | 21,962 | 9,258 | 0 | 31,651 |
| | Percent | 0.6 | 28.4 | 12.0 | 0.0 | 40.9 |
| Sexes Combined | Catch | 646 | 51,890 | 24,546 | 215 | 77,297 |
| | Percent | 0.8 | 67.1 | 31.8 | 0.3 | 100.0 |
| Sample Period 2 7/02[2] | | | | | | |
| Sample Size 180 | | | | | | |
| Males | Catch | 887 | 94,007 | 15,077 | 887 | 110,857 |
| | Percent | 0.6 | 58.9 | 9.4 | 0.6 | 69.4 |
| Females | Catch | 0 | 31,927 | 16,850 | 0 | 48,777 |
| | Percent | 0.0 | 20.0 | 10.6 | 0.0 | 30.6 |
| Sexes Combined | Catch | 887 | 125,933 | 31,927 | 887 | 159,634 |
| | Percent | 0.6 | 78.9 | 20.0 | 0.6 | 100.0 |
| Sample Periods Combined | | | | | | |
| Sample Size 539 | | | | | | |
| Males | Catch | 1,102 | 123,935 | 30,364 | 1,102 | 156,503 |
| | Percent | 0.5 | 52.3 | 12.8 | 0.5 | 66.1 |
| Females | Catch | 431 | 53,889 | 26,108 | 0 | 80,428 |
| | Percent | 0.2 | 22.7 | 11.0 | 0.0 | 33.9 |
| Sexes Combined | Catch | 1,533 | 177,824 | 56,472 | 1,102 | 236,931 |
| | Percent | 0.6 | 75.1 | 23.8 | 0.5 | 100.0 |
| | Std. Error | 0.4 | 2.2 | 2.2 | 0.4 | |

[1] Allocation based on 8-1/2 in (21.6 cm) mesh gillnet samples from District 2 commercial catch.

[2] Allocated based on 6 in (15.2 cm) mesh gillnet samples from District 2 commercial catch.

Appendix Table 24. Yukon River District 3 summer chum salmon commercial gillnet catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period 1 6/21-6/28 | | | | | | |
| Sample Size 359 | | | | | | |
| Males | Catch | 3 | 421 | 215 | 3 | 642 |
| | Percent | 0.3 | 38.7 | 19.8 | 0.3 | 59.1 |
| Females | Catch | 6 | 309 | 130 | 0 | 445 |
| | Percent | 0.6 | 28.4 | 12.0 | 0.0 | 40.9 |
| Sexes Combined | Catch | 9 | 730 | 345 | 3 | 1,087 |
| | Percent | 0.8 | 67.1 | 31.8 | 0.3 | 100.0 |

[1] Allocation based on 8-1/2 in (21.6 cm) mesh gillnet samples from District 2 commercial catch.

Appendix Table 25. Yukon River District 4 summer chum salmon commercial fishwheel catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period | 7/09-7/27 | | | | | |
| Sample Size | 202 | | | | | |
| Males | Catch | 1,325 | 21,198 | 9,936 | 0 | 32,459 |
| | Percent | 1.0 | 15.8 | 7.4 | 0.0 | 24.3 |
| Females | Catch | 2,650 | 78,829 | 19,873 | 0 | 101,351 |
| | Percent | 2.0 | 58.9 | 14.9 | 0.0 | 75.7 |
| Sexes Combined | Catch | 3,975 | 100,026 | 29,809 | 0 | 133,810 |
| | Percent | 3.0 | 74.8 | 22.3 | 0.0 | 100.0 |
| | Std. Error | 1.2 | 3.1 | 2.9 | 0.0 | |

[1] Allocation based on fishwheel samples from District 4 commercial catch.

Appendix Table 26. Yukon River District 6 summer chum salmon commercial fishwheel catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period | 7/24-8/08 | | | | | |
| Sample Size | 272 | | | | | |
| Males | Catch | 698 | 11,862 | 4,710 | 0 | 17,269 |
| | Percent | 1.5 | 25.0 | 9.9 | 0.0 | 36.4 |
| Females | Catch | 2,093 | 23,025 | 5,059 | 0 | 30,177 |
| | Percent | 4.4 | 48.5 | 10.7 | 0.0 | 63.6 |
| Sexes Combined | Catch | 2,791 | 34,887 | 9,768 | 0 | 47,446 |
| | Percent | 5.9 | 73.5 | 20.6 | 0.0 | 100.0 |
| | Std. Error | 1.4 | 2.7 | 2.5 | 0.0 | |

[1] Allocation based on fishwheel samples from District 6 commercial catch.

Appendix Table 27. Yukon River District 1 summer chum salmon subsistence gillnet catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period | 6/19-7/13 | | | | | |
| Sample Size | 1709 | | | | | |
| Males | Catch | 333 | 12,073 | 3,763 | 133 | 16,303 |
| | Percent | 1.2 | 42.4 | 13.2 | 0.5 | 57.3 |
| Females | Catch | 133 | 8,260 | 3,664 | 100 | 12,156 |
| | Percent | 0.5 | 29.0 | 12.9 | 0.4 | 42.7 |
| Sexes Combined | Catch | 466 | 20,333 | 7,427 | 233 | 28,459 |
| | Percent | 1.6 | 71.4 | 26.1 | 0.8 | 100.0 |

[1] Allocation based on 8-1/2 in (21.6 cm) and 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 28. Yukon River District 2 summer chum salmon subsistence gillnet catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period | 6/21-7/02 | | | | | |
| Sample Size | 539 | | | | | |
| Males | Catch | 100 | 12,271 | 4,408 | 100 | 16,879 |
| | Percent | 0.4 | 45.5 | 16.3 | 0.4 | 62.5 |
| Females | Catch | 100 | 6,912 | 3,105 | 0 | 10,117 |
| | Percent | 0.4 | 25.6 | 11.5 | 0.0 | 37.5 |
| Sexes Combined | Catch | 200 | 19,183 | 7,513 | 100 | 26,996 |
| | Percent | 0.7 | 71.1 | 27.8 | 0.4 | 100.0 |

[1] Allocation based on 8-1/2 in (21.6 cm) and 6 in (15.2 cm) mesh gillnet samples from District 2 commercial catch.

Appendix Table 29. Yukon River District 3 summer chum salmon subsistence gillnet catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period | 6/21-7/02 | | | | | |
| Sample Size | 539 | | | | | |
| Males | Catch | 27 | 3,259 | 1,170 | 27 | 4,482 |
| | Percent | 0.4 | 45.5 | 16.3 | 0.4 | 62.5 |
| Females | Catch | 27 | 1,835 | 825 | 0 | 2,687 |
| | Percent | 0.4 | 25.6 | 11.5 | 0.0 | 37.5 |
| Sexes Combined | Catch | 53 | 5,094 | 1,995 | 27 | 7,169 |
| | Percent | 0.7 | 71.1 | 27.8 | 0.4 | 100.0 |

[1] Allocation based on 8-1/2 in (21.6 cm) and 6 in (15.2 cm) mesh gillnet samples from District 2 commercial catch.

Appendix Table 30. Yukon River District 4 summer chum salmon subsistence fishwheel catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period | 7/09-7/27 | | | | | |
| Sample Size | 202 | | | | | |
| Males | Catch | 951 | 15,211 | 7,130 | 0 | 23,292 |
| | Percent | 1.0 | 15.8 | 7.4 | 0.0 | 24.3 |
| Females | Catch | 1,901 | 56,566 | 14,260 | 0 | 72,728 |
| | Percent | 2.0 | 58.9 | 14.9 | 0.0 | 75.7 |
| Sexes Combined | Catch | 2,852 | 71,777 | 21,391 | 0 | 96,020 |
| | Percent | 3.0 | 74.8 | 22.3 | 0.0 | 100.0 |

[1] Allocation based on fishwheel samples from District 4 commercial catch.

Appendix Table 31. Yukon River District 6 summer chum salmon subsistence fishwheel catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period | 7/24-8/08 | | | | | |
| Sample Size | 272 | | | | | |
| Males | Catch | 276 | 4,688 | 1,862 | 0 | 6,826 |
| | Percent | 1.5 | 25.0 | 9.9 | 0.0 | 36.4 |
| Females | Catch | 827 | 9,101 | 1,999 | 0 | 11,927 |
| | Percent | 4.4 | 48.5 | 10.7 | 0.0 | 63.6 |
| Sexes Combined | Catch | 1,103 | 13,789 | 3,861 | 0 | 18,753 |
| | Percent | 5.9 | 73.5 | 20.6 | 0.0 | 100.0 |

[1] Allocation based on fishwheel samples from District 6 commercial catch.

Appendix Table 32. Age, sex, and size of Yukon River summer chum salmon catch samples collected in 1984, but not used to apportion harvest.

| Location | | Total | | Age 31 | | | Age 41 | | | Age 51 | | | Age 61 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gear & Date | Sex | N | % | N | % | Length | N | % | Length | N | % | Length | N | % | Length |
| Big Eddy (1) | Male | 8 | 72.7 | 0 | - | - | 7 | 63.6 | 574 | 1 | 9.1 | 630 | 0 | - | - |
| 8-1/2" Gillnet | Female | 3 | 27.3 | 0 | - | - | 2 | 18.2 | 538 | 1 | 9.1 | 644 | 0 | - | - |
| 6/13-7/02 | Total | 11 | 100.0 | 0 | - | | 9 | 81.8 | | 2 | 18.2 | | 0 | - | |
| Big Eddy (1) | Male | 261 | 48.6 | 4 | 0.7 | 579 | 198 | 36.9 | 583 | 58 | 10.8 | 605 | 1 | 0.2 | 625 |
| 5-1/2" Gillnet | Female | 276 | 51.4 | 4 | 0.7 | 535 | 196 | 36.5 | 558 | 74 | 13.8 | 583 | 2 | 0.4 | 560 |
| 6/09-7/02 | Total | 537 | 100.0 | 8 | 1.4 | | 394 | 73.4 | | 132 | 24.6 | | 3 | 0.6 | |
| Middle Mouth (1) | Male | 40 | 47.1 | 0 | - | - | 21 | 24.7 | 610 | 19 | 22.4 | 624 | 0 | - | - |
| 5-1/2" Gillnet | Female | 45 | 52.9 | 0 | - | - | 28 | 32.9 | 573 | 17 | 20.0 | 580 | 0 | - | - |
| 6/13-6/17 | Total | 85 | 100.0 | 0 | - | | 49 | 57.6 | | 36 | 42.4 | | 0 | - | |
| Stink Creek (2) | Male | 168 | 36.4 | 1 | 0.2 | 518 | 143 | 31.0 | 568 | 23 | 5.0 | 608 | 1 | 0.2 | 622 |
| Fishwheel | Female | 294 | 63.6 | 15 | 3.2 | 517 | 258 | 55.8 | 535 | 21 | 4.5 | 571 | 0 | - | - |
| 6/29-7/23 | Total | 462 | 100.0 | 16 | 3.5 | | 401 | 86.8 | | 44 | 9.5 | | 1 | 0.2 | |
| Galena (3) | Male | 7 | 70.0 | 0 | - | - | 1 | 10.0 | 618 | 6 | 60.0 | 657 | 0 | - | - |
| Fishwheel | Female | 3 | 30.0 | 0 | - | - | 1 | 10.0 | 581 | 2 | 20.0 | 660 | 0 | - | - |
| 8/06 | Total | 10 | 100.0 | 0 | - | | 2 | 20.0 | | 8 | 80.0 | | 0 | - | |
| Galena (3) | Male | 23 | 67.6 | 2 | 5.9 | 616 | 10 | 29.4 | 623 | 11 | 32.4 | 660 | 0 | - | - |
| Gillnet | Female | 11 | 32.4 | 0 | - | - | 5 | 14.7 | 571 | 6 | 17.6 | 619 | 0 | - | - |
| 7/16-8/06 | Total | 34 | 100.0 | 2 | 5.9 | | 15 | 44.1 | | 17 | 50.0 | | 0 | - | |

(1) Test fishing project located in District 1 near Emmonak.
(2) Test fishing project located in District 4 near Kaltag.
(3) Subsistence catch sample located in District 4.

Appendix Table 33. Yukon River District 1 fall chum salmon commercial gillnet catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period 1 7/17-8/03<br>Sample Size 645 | | | | | | |
| Males | Catch | 939 | 10,495 | 7,936 | 256 | 19,626 |
| | Percent | 1.7 | 19.1 | 14.4 | 0.5 | 35.7 |
| Females | Catch | 1,963 | 22,697 | 10,666 | 85 | 35,411 |
| | Percent | 3.6 | 41.2 | 19.4 | 0.2 | 64.3 |
| Sexes Combined | Catch | 2,901 | 33,193 | 18,602 | 341 | 55,037 |
| | Percent | 5.3 | 60.3 | 33.8 | 0.6 | 100.0 |
| Sample Period 2 8/07-8/17<br>Sample Size 566 | | | | | | |
| Males | Catch | 1,257 | 5,530 | 3,184 | 42 | 10,014 |
| | Percent | 5.3 | 23.3 | 13.4 | 0.2 | 42.2 |
| Females | Catch | 1,634 | 7,835 | 4,232 | 0 | 13,700 |
| | Percent | 6.9 | 33.0 | 17.8 | 0.0 | 57.8 |
| Sexes Combined | Catch | 2,891 | 13,365 | 7,416 | 42 | 23,714 |
| | Percent | 12.2 | 56.4 | 31.3 | 0.2 | 100.0 |
| Sample Periods Combined<br>Sample Size 1211 | | | | | | |
| Males | Catch | 2,196 | 16,026 | 11,120 | 298 | 29,640 |
| | Percent | 2.8 | 20.3 | 14.1 | 0.4 | 37.6 |
| Females | Catch | 3,596 | 30,532 | 14,898 | 85 | 49,111 |
| | Percent | 4.6 | 38.8 | 18.9 | 0.1 | 62.4 |
| Sexes Combined | Catch | 5,792 | 46,558 | 26,018 | 383 | 78,751 |
| | Percent | 7.4 | 59.1 | 33.0 | 0.5 | 100.0 |
| | Std. Error | 0.7 | 1.5 | 1.4 | 0.2 | |

[1] Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 34. Yukon River District 2 fall chum salmon commercial gillnet catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period 1 7/17-8/17<br>Sample Size 1211 | | | | | | |
| Males | Catch | 2,397 | 14,909 | 9,881 | 234 | 27,421 |
| | Percent | 3.4 | 21.1 | 14.0 | 0.3 | 38.7 |
| Females | Catch | 3,625 | 26,485 | 13,213 | 58 | 43,382 |
| | Percent | 5.1 | 37.4 | 18.7 | 0.1 | 61.3 |
| Sexes Combined | Catch | 6,022 | 41,394 | 23,094 | 292 | 70,803 |
| | Percent | 8.5 | 58.5 | 32.6 | 0.4 | 100.0 |

[1] Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 35. Yukon River District 3 fall chum salmon commercial gillnet catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period 1 7/17-8/17<br>Sample Size 1211 | | | | | | |
| Males | Catch | 218 | 1,354 | 897 | 21 | 2,490 |
| | Percent | 3.4 | 21.1 | 14.0 | 0.3 | 38.7 |
| Females | Catch | 329 | 2,405 | 1,200 | 5 | 3,939 |
| | Percent | 5.1 | 37.4 | 18.7 | 0.1 | 61.3 |
| Sexes Combined | Catch | 547 | 3,759 | 2,097 | 27 | 6,429 |
| | Percent | 8.5 | 58.5 | 32.6 | 0.4 | 100.0 |

[1] Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 36. Yukon River District 4 fall chum salmon commercial fishwheel catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period | 8/10-8/31 | | | | | |
| Sample Size | 304 | | | | | |
| Males | Catch | 112 | 1,563 | 1,385 | 22 | 3,082 |
| | Percent | 1.6 | 23.0 | 20.4 | 0.3 | 45.4 |
| Females | Catch | 335 | 2,568 | 782 | 22 | 3,707 |
| | Percent | 4.9 | 37.8 | 11.5 | 0.3 | 54.6 |
| Sexes Combined | Catch | 447 | 4,131 | 2,166 | 45 | 6,789 |
| | Percent | 6.6 | 60.9 | 31.9 | 0.7 | 100.0 |
| | Std. Error | 1.4 | 2.8 | 2.7 | 0.5 | |

[1] Allocation based on fishwheel samples from District 4 commercial catch.

Appendix Table 37. Yukon River District 5 fall chum salmon commercial fishwheel catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period | 8/17-9/12 | | | | | |
| Sample Size | 167 | | | | | |
| Males | Catch | 576 | 5,181 | 4,375 | 0 | 10,132 |
| | Percent | 3.0 | 26.9 | 22.8 | 0.0 | 52.7 |
| Females | Catch | 461 | 4,836 | 3,799 | 0 | 9,095 |
| | Percent | 2.4 | 25.1 | 19.8 | 0.0 | 47.3 |
| Sexes Combined | Catch | 1,036 | 10,016 | 8,174 | 0 | 19,227 |
| | Percent | 5.4 | 52.1 | 42.5 | 0.0 | 100.0 |
| | Std. Error | 1.8 | 3.9 | 3.8 | 0.0 | |

[1] Allocation based on fishwheel samples from District 5 commercial catch.

Appendix Table 38. Canadian Yukon River fall chum salmon commercial gillnet catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period | 8/14-9/21 | | | | | |
| Sample Size | 220 | | | | | |
| Males | Catch | 417 | 5,316 | 6,775 | 0 | 12,508 |
| | Percent | 1.8 | 23.2 | 29.5 | 0.0 | 54.5 |
| Females | Catch | 104 | 4,482 | 5,629 | 208 | 10,423 |
| | Percent | 0.5 | 19.5 | 24.5 | 0.9 | 45.5 |
| Sexes Combined | Catch | 521 | 9,798 | 12,404 | 208 | 22,931 |
| | Percent | 2.3 | 42.7 | 54.1 | 0.9 | 100.0 |
| | Std. Error | 1.0 | 3.3 | 3.4 | 0.6 | |

[1] Allocation based on gillnet samples from Dawson area commercial catch. Mesh size reportedly used in this area is between 6 and 7 in (15.2 and 17.8 cm).

Appendix Table 39. Yukon River District 1 fall chum salmon subsistence gillnet catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period | 7/17-8/17 | | | | | |
| Sample Size | 1211 | | | | | |
| Males | Catch | 301 | 1,871 | 1,240 | 29 | 3,441 |
| | Percent | 3.4 | 21.1 | 14.0 | 0.3 | 38.7 |
| Females | Catch | 455 | 3,324 | 1,658 | 7 | 5,444 |
| | Percent | 5.1 | 37.4 | 18.7 | 0.1 | 61.3 |
| Sexes Combined | Catch | 756 | 5,195 | 2,898 | 37 | 8,885 |
| | Percent | 8.5 | 58.5 | 32.6 | 0.4 | 100.0 |

[1] Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 40. Yukon River District 2 fall chum salmon subsistence gillnet catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period | 7/17-8/17 | | | | | |
| Sample Size | 1211 | | | | | |
| Males | Catch | 386 | 2,399 | 1,590 | 38 | 4,413 |
| | Percent | 3.4 | 21.1 | 14.0 | 0.3 | 38.7 |
| Females | Catch | 583 | 4,262 | 2,126 | 9 | 6,981 |
| | Percent | 5.1 | 37.4 | 18.7 | 0.1 | 61.3 |
| Sexes Combined | Catch | 969 | 6,661 | 3,716 | 47 | 11,394 |
| | Percent | 8.5 | 58.5 | 32.6 | 0.4 | 100.0 |

[1] Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 41. Yukon River District 3 fall chum salmon subsistence gillnet catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period | 7/17-8/17 | | | | | |
| Sample Size | 1211 | | | | | |
| Males | Catch | 70 | 437 | 289 | 7 | 803 |
| | Percent | 3.4 | 21.1 | 14.0 | 0.3 | 38.7 |
| Females | Catch | 106 | 776 | 387 | 2 | 1,271 |
| | Percent | 5.1 | 37.4 | 18.7 | 0.1 | 61.3 |
| Sexes Combined | Catch | 176 | 1,213 | 676 | 9 | 2,074 |
| | Percent | 8.5 | 58.5 | 32.6 | 0.4 | 100.0 |

[1] Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

Appendix Table 42. Yukon River District 4 fall chum salmon subsistence fishwheel catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period | 8/10-8/31 | | | | | |
| Sample Size | 304 | | | | | |
| Males | Catch | 461 | 6,456 | 5,718 | 92 | 12,727 |
| | Percent | 1.6 | 23.0 | 20.4 | 0.3 | 45.4 |
| Females | Catch | 1,383 | 10,606 | 3,228 | 92 | 15,310 |
| | Percent | 4.9 | 37.8 | 11.5 | 0.3 | 54.6 |
| Sexes Combined | Catch | 1,845 | 17,062 | 8,946 | 184 | 28,037 |
| | Percent | 6.6 | 60.9 | 31.9 | 0.7 | 100.0 |

[1] Allocation based on fishwheel samples from District 4 commercial catch.

Appendix Table 43. Yukon River District 5 fall chum salmon subsistence fishwheel catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period | 8/17-9/12 | | | | | |
| Sample Size | 167 | | | | | |
| Males | Catch | 2,652 | 23,872 | 20,158 | 0 | 46,682 |
| | Percent | 3.0 | 26.9 | 22.8 | 0.0 | 52.7 |
| Females | Catch | 2,122 | 22,280 | 17,506 | 0 | 41,908 |
| | Percent | 2.4 | 25.1 | 19.8 | 0.0 | 47.3 |
| Sexes Combined | Catch | 4,774 | 46,152 | 37,664 | 0 | 88,590 |
| | Percent | 5.4 | 52.1 | 42.5 | 0.0 | 100.0 |

[1] Allocation based on fishwheel samples from District 5 commercial catch.

Appendix Table 44. Canadian Yukon River fall chum salmon subsistence gillnet catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | | |
|---|---|---|---|---|---|---|
| | | 31 | 41 | 51 | 61 | TOTAL |
| Sample Period | 8/14-9/21 | | | | | |
| Sample Size | 220 | | | | | |
| Males | Catch | 113 | 1,444 | 1,841 | 0 | 3,398 |
| | Percent | 1.8 | 23.2 | 29.5 | 0.0 | 54.5 |
| Females | Catch | 28 | 1,218 | 1,529 | 57 | 2,832 |
| | Percent | 0.5 | 19.5 | 24.5 | 0.9 | 45.5 |
| Sexes Combined | Catch | 142 | 2,662 | 3,370 | 57 | 6,230 |
| | Percent | 2.3 | 42.7 | 54.1 | 0.9 | 100.0 |

[1] Allocation based on gillnet samples from Dawson area commercial catch. Mesh size reportedly used in this area is between 6 and 7 in (15.2 and 17.8 cm).

Appendix Table 45. Age, sex, and size of Yukon River fall chum salmon catch samples collected in 1984, but not used to apportion harvest.

| Location | | Total | | Age 31 | | | Age 41 | | | Age 51 | | | Age 61 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gear & Date | Sex | N | % | N | % | Length | N | % | Length | N | % | Length | N | % | Length |
| Big Eddy (1) | Male | 178 | 43.6 | 10 | 2.5 | 591 | 88 | 21.6 | 607 | 80 | 19.6 | 632 | 0 | - | - |
| 6" Gillnet | Female | 230 | 56.4 | 16 | 3.9 | 576 | 120 | 29.4 | 594 | 94 | 23.0 | 615 | 0 | - | - |
| 7/20-8/28 | Total | 408 | 100.0 | 26 | 6.4 | | 208 | 51.0 | | 174 | 42.6 | | 0 | - | |
| Middle Mouth (1) | Male | 149 | 42.6 | 12 | 3.4 | 585 | 76 | 21.7 | 606 | 61 | 17.4 | 628 | 0 | - | - |
| 6" Gillnet | Female | 201 | 57.4 | 18 | 5.1 | 577 | 119 | 34.0 | 593 | 64 | 18.3 | 609 | 0 | - | - |
| 7/22-8/20 | Total | 350 | 100.0 | 30 | 8.6 | | 195 | 55.7 | | 125 | 35.7 | | 0 | - | |
| Galena (2) | Male | 12 | 60.0 | 0 | - | - | 7 | 35.0 | 592 | 5 | 25.0 | 641 | 0 | - | - |
| Gillnet | Female | 8 | 40.0 | 0 | - | - | 4 | 20.0 | 573 | 4 | 20.0 | 602 | 0 | - | - |
| 8/14 | Total | 20 | 100.0 | 0 | - | | 11 | 55.0 | | 9 | 45.0 | | 0 | - | |
| Galena (3) | Male | 47 | 52.2 | 2 | 2.2 | 555 | 31 | 34.4 | 592 | 14 | 15.6 | 624 | 0 | - | - |
| Gillnet | Female | 43 | 47.8 | 0 | - | - | 32 | 35.6 | 590 | 11 | 12.2 | 605 | 0 | - | - |
| 8/10-8/28 | Total | 90 | 100.0 | 2 | 2.2 | | 63 | 70.0 | | 25 | 27.8 | | 0 | - | |
| Ruby NB (4) | Male | 330 | 45.7 | 16 | 2.2 | 556 | 184 | 25.5 | 600 | 130 | 18.0 | 625 | 0 | - | - |
| Fishwheel | Female | 392 | 54.3 | 36 | 5.0 | 542 | 255 | 35.3 | 565 | 100 | 13.9 | 595 | 1 | 0.1 | 655 |
| 8/10-9/05 | Total | 722 | 100.0 | 52 | 7.2 | | 439 | 60.8 | | 230 | 31.9 | | 1 | 0.1 | |
| Ruby SB (4) | Male | 470 | 49.5 | 100 | 10.5 | 548 | 270 | 28.4 | 586 | 98 | 10.3 | 613 | 2 | 0.2 | 598 |
| Fishwheel | Female | 480 | 50.5 | 102 | 10.7 | 537 | 301 | 31.7 | 563 | 77 | 8.1 | 596 | 0 | - | - |
| 8/12-9/18 | Total | 950 | 100.0 | 202 | 21.3 | | 571 | 60.1 | | 175 | 18.4 | | 2 | 0.2 | |
| Manley (5) | Male | 171 | 48.4 | 13 | 3.7 | 539 | 112 | 31.7 | 587 | 46 | 13.0 | 618 | 0 | - | - |
| Fishwheel | Female | 182 | 51.6 | 18 | 5.1 | 525 | 135 | 38.2 | 570 | 29 | 8.2 | 613 | 0 | - | - |
| 8/15-9/18 | Total | 353 | 100.0 | 31 | 8.8 | | 247 | 70.0 | | 75 | 21.2 | | 0 | - | |
| Fairbanks (6) | Male | 36 | 58.1 | 4 | 6.5 | 564 | 25 | 40.3 | 608 | 7 | 11.3 | 627 | 0 | - | - |
| Fishwheel | Female | 26 | 41.9 | 1 | 1.6 | 590 | 20 | 32.3 | 590 | 5 | 8.1 | 631 | 0 | - | - |
| 9/15-9/17 | Total | 62 | 100.0 | 5 | 8.1 | | 45 | 72.6 | | 12 | 19.4 | | 0 | - | |

(1) Test fishing project located in District 1 near Emmonak.
(2) Commercial catch sample located in District 4.
(3) Subsistence catch sample located in District 4.
(4) Test fishing project located in District 4.
(5) Test fishing project located in District 6.
(6) Commercial catch sample located in District 6.

Appendix Table 46. Yukon River District 1 coho salmon commercial gillnet catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | |
|---|---|---|---|---|---|
| | | 32 | 43 | 54 | TOTAL |
| Sample Period 1 7/31-8/07 | | | | | |
| Sample Size 360 | | | | | |
| Males | Catch | 600 | 3,297 | 799 | 4,696 |
| | Percent | 6.7 | 36.7 | 8.9 | 52.2 |
| Females | Catch | 500 | 2,998 | 799 | 4,297 |
| | Percent | 5.6 | 33.3 | 8.9[2] | 47.8 |
| Sexes Combined | Catch | 1,099 | 6,295 | 1,599 | 8,993 |
| | Percent | 12.2 | 70.0 | 17.8 | 100.0 |
| Sample Period 2 8/14-8/17 | | | | | |
| Sample Size 259 | | | | | |
| Males | Catch | 1,344 | 8,065 | 1,107 | 10,516 |
| | Percent | 6.6 | 39.4 | 5.4 | 51.4 |
| Females | Catch | 1,423 | 7,749 | 791 | 9,963 |
| | Percent | 6.9 | 37.8 | 3.9 | 48.6 |
| Sexes Combined | Catch | 2,767 | 15,814 | 1,898 | 20,479 |
| | Percent | 13.5 | 77.2 | 9.3 | 100.0 |
| Sample Periods Combined | | | | | |
| Sample Size 619 | | | | | |
| Males | Catch | 1,944 | 11,362 | 1,906 | 15,212 |
| | Percent | 6.6 | 38.6 | 6.5 | 51.6 |
| Females | Catch | 1,923 | 10,747 | 1,590 | 14,260 |
| | Percent | 6.5 | 36.4 | 5.4 | 48.4 |
| Sexes Combined | Catch | 3,867 | 22,109 | 3,496 | 29,472 |
| | Percent | 13.1 | 75.0 | 11.9 | 100.0 |
| | Std. Error | 1.6 | 2.0 | 1.4 | |

[1] Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

[2] One age $5_3$ female is included with the age $5_4$ sample.

Appendix Table 47. Yukon River District 2 coho salmon commercial gillnet catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | |
|---|---|---|---|---|---|
| | | 32 | 43 | 54 | TOTAL |
| Sample Period 1 7/31-8/17<br>Sample Size 619 | | | | | |
| Males | Catch | 2,852 | 16,279 | 3,200 | 22,332 |
| | Percent | 6.6 | 37.8 | 7.4 | 51.9 |
| Females | Catch | 2,644 | 15,166 | 2,922 | 20,732 |
| | Percent | 6.1 | 35.2 | 6.8[2] | 48.1 |
| Sexes Combined | Catch | 5,496 | 31,446 | 6,122 | 43,064 |
| | Percent | 12.8 | 73.0 | 14.2 | 100.0 |

[1] Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

[2] One age $5_3$ female is included with the age $5_4$ sample.

Appendix Table 48. Yukon River District 3 coho salmon commercial gillnet catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | |
|---|---|---|---|---|---|
| | | 32 | 43 | 54 | TOTAL |
| Sample Period 1 7/31-8/17<br>Sample Size 619 | | | | | |
| Males | Catch | 41 | 235 | 46 | 322 |
| | Percent | 6.6 | 37.8 | 7.4 | 51.9 |
| Females | Catch | 38 | 219 | 42 | 299 |
| | Percent | 6.1 | 35.2 | 6.8[2] | 48.1 |
| Sexes Combined | Catch | 79 | 453 | 88 | 621 |
| | Percent | 12.8 | 73.0 | 14.2 | 100.0 |

[1] Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

[2] One age $5_3$ female is included with the age $5_4$ sample.

Appendix Table 49. Yukon River District 1 coho salmon subsistence gillnet catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | |
|---|---|---|---|---|---|
| | | 32 | 43 | 54 | TOTAL |
| Sample Period | 7/31-8/17 | | | | |
| Sample Size | 619 | | | | |
| Males | Catch | 404 | 2,304 | 453 | 3,161 |
| | Percent | 6.6 | 37.8 | 7.4 | 51.9 |
| Females | Catch | 374 | 2,147 | 414 | 2,934 |
| | Percent | 6.1 | 35.2 | 6.8[2] | 48.1 |
| Sexes Combined | Catch | 778 | 4,451 | 866 | 6,095 |
| | Percent | 12.8 | 73.0 | 14.2 | 100.0 |

[1] Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

[2] One age $5_3$ female is included with the age $5_4$ sample.

Appendix Table 50. Yukon River District 2 coho salmon subsistence gillnet catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | |
|---|---|---|---|---|---|
| | | 32 | 43 | 54 | TOTAL |
| Sample Period | 7/31-8/17 | | | | |
| Sample Size | 619 | | | | |
| Males | Catch | 468 | 2,671 | 525 | 3,664 |
| | Percent | 6.6 | 37.8 | 7.4 | 51.9 |
| Females | Catch | 434 | 2,489 | 479 | 3,402 |
| | Percent | 6.1 | 35.2 | 6.8[2] | 48.1 |
| Sexes Combined | Catch | 902 | 5,160 | 1,005 | 7,066 |
| | Percent | 12.8 | 73.0 | 14.2 | 100.0 |

[1] Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

[2] One age $5_3$ female is included with the age $5_4$ sample.

Appendix Table 51. Yukon River District 3 coho salmon subsistence gillnet catch, age, and sex by sample period, 1984[1].

| | | AGE GROUP | | | |
|---|---|---|---|---|---|
| | | 32 | 43 | 54 | TOTAL |
| Sample Period | 7/31-8/17 | | | | |
| Sample Size | 619 | | | | |
| Males | Catch | 43 | 248 | 49 | 340 |
| | Percent | 6.6 | 37.8 | 7.4 | 51.9 |
| Females | Catch | 40 | 231 | 45 | 316 |
| | Percent | 6.1 | 35.2 | 6.8[2] | 48.1 |
| Sexes Combined | Catch | 84 | 479 | 93 | 656 |
| | Percent | 12.8 | 73.0 | 14.2 | 100.0 |

[1] Allocation based on 6 in (15.2 cm) mesh gillnet samples from District 1 commercial catch.

[2] One age $5_3$ female is included with the age $5_4$ sample.

Appendix Table 52. Age, sex, and size of Yukon River coho salmon catch samples collected in 1984, but not used to apportion harvest.

| Location Gear & Date | Sex | Total N | Total % | Age 32 N | Age 32 % | Age 32 Length | Age 43 N | Age 43 % | Age 43 Length | Age 54 N | Age 54 % | Age 54 Length |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Big Eddy (1) | Male | 165 | 54.3 | 38 | 12.5 | 593 | 127 | 41.8 | 602 | 0 | - | - |
| 6" Gillnet | Female | 139 | 45.7 | 32 | 10.5 | 600 | 106 | 34.9 | 599 | 1 | 0.3 | 602 |
| 7/27-8/28 | Total | 304 | 100.0 | 70 | 23.0 | | 233 | 76.6 | | 1 | 0.3 | |
| Middle Mouth (1) | Male | 79 | 51.6 | 12 | 7.8 | 597 | 66 | 43.1 | 597 | 1 | 0.7 | 610 |
| 6" Gillnet | Female | 74 | 48.4 | 9 | 5.9 | 582 | 62 | 40.5 | 588 | 3 | 2.0 | 593 |
| 8/13-8/20 | Total | 153 | 100.0 | 21 | 13.7 | | 128 | 83.7 | | 4 | 2.6 | |
| Ruby NB (2) | Male | 17 | 63.0 | 4 | 14.8 | 600 | 13 | 48.1 | 542 | 0 | - | - |
| Fishwheel | Female | 10 | 37.0 | 2 | 7.4 | 612 | 6 | 22.2 | 558 | 2 | 7.4 | 555 |
| 9/02-9/05 | Total | 27 | 100.0 | 6 | 22.2 | | 19 | 70.4 | | 2 | 7.4 | |
| Ruby SB (2) | Male | 202 | 55.6 | 25 | 6.9 | 549 | 148 | 40.8 | 549 | 29 | 8.0 | 570 |
| Fishwheel | Female | 161 | 44.4 | 19 | 5.2 | 562 | 110 | 30.3 | 554 | 32 | 8.8 | 571 |
| 8/21-9/18 | Total | 363 | 100.0 | 44 | 12.1 | | 258 | 71.1 | | 61 | 16.8 | |
| Manley (3) | Male | 95 | 69.3 | 9 | 6.6 | 532 | 56 | 40.9 | 567 | 30 | 21.9 | 569 |
| Fishwheel | Female | 42 | 30.7 | 3 | 2.2 | 572 | 26 | 19.0 | 573 | 13 | 9.5 | 566 |
| 9/04-9/18 | Total | 137 | 100.0 | 12 | 8.8 | | 82 | 59.9 | | 43 | 31.4 | |

(1) Test fishing project located in District 1 near Emmonak.

(2) Test fishing project located in District 4.

(3) Test fishing project located in District 6.

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