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Abundance, Age, Sex, and Size Statistics for Pacific Salmon in Bristol Bay, 1988

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ABSTRACT

Abundance, age, sex, and size data are summarized for 1988 commercial catches and spawning escapements of Pacific salmon (*Oncorhynchus*) in Bristol Bay as part of an ongoing project to collect baseline information. These data have been used to determine spawner-recruit relationships, establish spawning escapement goals, and forecast future run sizes. Age, sex, and size data for sockeye salmon (*O. nerka*) were estimated with stratified systematic sampling programs. Sockeye salmon harvests were assigned to river of origin using age and sex composition data which were combined with escapements to estimate the run to each river. Sampling efforts for other salmon species were limited. A total of 16,665,755 salmon were caught in Bristol Bay in 1988. The catch was dominated by sockeye salmon (84%), followed by chum (*O. keta*; 9%), pink (*O. gorbuscha*; 6%), coho (*O. kisutch*; 1%), and chinook (*O. tshawytscha*; <1%) salmon. An estimated 23,436,248 sockeye salmon returned to Bristol Bay in 1988. Of these, 14,005,984 were harvested in the commercial fishery, and 9,430,264 escaped to spawn. Sockeye salmon runs to Naknek/Kvichak District and Egegik District accounted for 38% and 35%, respectively, of the total Bristol Bay run. Age-1.3 sockeye salmon (1983 brood year) comprised 41% of the total run, followed by age-2.2 (22%), age-1.2 (21%), and age-2.3 (13%). An estimated 45,135 chinook salmon were commercially harvested in Bristol Bay in 1988. Age-1.4 chinook salmon (1982 brood year) predominated in Ugashik District and Togiak District catches, while age-1.2 chinook salmon (1984 brood year) predominated in Nushagak District catches. An additional 1,477,015 chum salmon (mostly ages 0.3 and 0.4), 201,751 coho salmon (mostly age 2.1), and 935,870 pink salmon were harvested.

KEY WORDS: Bristol Bay, Pacific salmon (*Oncorhynchus*), catch, escapement, age composition, size composition, sex composition

INTRODUCTION

The Bristol Bay Management Area includes all waters east of a line from Cape Newenham to Cape Menshikof (Figure 1) and supports harvests of five species of Pacific salmon, including the largest sockeye salmon (*Oncorhynchus nerka*) fishery in the world. Following sockeye salmon in average abundance are pink salmon (*O. gorbuscha*) during even-years, chum salmon (*O. keta*), coho salmon (*O.kisutch*), chinook salmon (*O. tshawytscha*), and pink salmon during odd-years.

The area is divided into five fishing districts for regulation of the commercial salmon fisheries: Naknek-Kvichak, Egegik, Ugashik, Nushagak, and Togiak Districts (Figure 1). Rivers which produce major salmon runs include Kvichak, Naknek, Branch, Egegik, Ugashik, Wood, Igushik, Nuyakuk, Nushagak-Mulchatna, Snake, and Togiak Rivers. Sockeye and chum salmon bound for Bristol Bay are also intercepted by the Japanese mothership fishery and the South Alaska Peninsula June fishery.

The Alaska Department of Fish and Game (ADF&G) conducts a variety of programs that supply information used to manage Bristol Bay salmon fisheries. These programs include (1) compiling catch statistics; (2) sampling catches for age, sex, and size data; (3) counting and/or indexing major spawning escapements; and (4) sampling escapements for age, sex, and size data. Data generated from these programs are used to establish optimum escapement goals and forecast future run sizes. This report summarizes commercial catch, escapement, age, sex, and size data for Bristol Bay Pacific salmon in 1988. Abundance, age, and size data for Bristol Bay salmon have been summarized annually since 1972 (McCurdy and Paulus 1972; Paulus and Nelson 1972a, 1972b; McCurdy and Schroeder 1972; Krasnowski and Randall 1975a, 1975b, 1976; Randall and Yuen 1978; Meacham and Randall 1979; Meacham and Nelson 1980; Yuen et al. 1981; Yuen and Nelson 1983, 1984a, 1984b, 1985, 1987; Yuen and Meacham 1983; Yuen et al. 1984; Yuen 1984; Yuen et al. 1986; Cross and Stratton 1988; Yuen and Bill 1989a, 1989b).

METHODS

Catch Estimation

Commercial catches in numbers of salmon for Bristol Bay districts were taken from final operation reports prepared by fish processors, and may differ slightly from final catch numbers compiled by ADF&G, Commercial Fisheries Division, from sales receipts (fish tickets) given to fishermen by buyers at the time of delivery. The numbers of Bristol Bay sockeye salmon caught by the Japanese mothership fishery were provided by M.L. Dahlberg (National Marine Fisheries Service, Auke Bay, Alaska, personal communication). Methods used to estimate the stock composition of sockeye catches by the Japanese mothership fishery are documented by Fredin and Worlund (1974), Fredin et al. (1977), and Harris (1987). All sockeye caught during the South Peninsula fishery (Unimak and Shumagin Islands) in June were assumed to be of Bristol Bay origin. These catch statistics were obtained from computer summaries of fish tickets (McCullough 1989).

Escapement Enumeration

Escapements of salmon in Bristol Bay in 1988 were estimated with various enumeration methods by the ADF&G, Commercial Fisheries Division. Sockeye salmon escapement estimates were based on counts made from towers erected on the banks of Kvichak, Naknek, Egegik, Ugashik, Wood, Igushik, Nuyakuk, and Togiak Rivers. Counts were made daily on each river bank for 10 min every hour. Counting began at the start of each hour for one bank and was followed by counting on the opposite bank. Each 10-min count was expanded into an hourly estimate to calculate the total daily escapement. Escapements in Branch and Snake Rivers, as well as various rivers in Ugashik and Togiak Districts, were estimated from aerial surveys of major spawning grounds (Russell et al. 1989).

Side-scanning sonar, located in the lower Nushagak River near Portage Creek, was used to estimate escapements of all five species of Pacific salmon for the entire Nushagak River drainage (Bue 1988). Total chinook salmon escapements into Branch and Naknek Rivers were not determined, instead, indices of abundance were obtained with aerial surveys by the ADF&G, Sport Fish Division (Brookover 1989; Minard 1989).

Age, Sex, and Size Estimation

Ages for the 1988 Bristol Bay salmon runs were determined by examining scales (Mosher 1968), except that ages of sockeye salmon spawning in Branch River were determined from otoliths. We used European notation (Koo 1962) to record ages; numerals preceding the decimal refer to the number of freshwater annuli and numerals following the decimal refer to the number of marine annuli. Total age from time of egg deposition (brood year) is the sum of these two numbers plus one.

Scales were collected from the left side of the fish, approximately two rows above the lateral line, in the area transected by a diagonal from the posterior insertion of the dorsal fin to the anterior insertion of the anal fin (INPFC 1963). Scales were mounted on gummed cards and impressions made on cellulose acetate cards using a heated hydraulic press (Clutter and Whitesel 1956). Salmon were measured to the nearest millimeter from the middle of the eye to the fork of the tail. Weights were taken to the nearest tenth of a kilogram. Sex was determined from morphometric characteristics.

Age, weight and length (AWL) data for sockeye salmon were collected from all district catches and major escapements by personnel from the ADF&G Commercial Fisheries Division. These data were also collected for (1) chinook salmon from Ugashik, Nushagak, and Togiak District catches, and Branch, Naknek, and Nushagak River escapements; (2) coho salmon from Nushagak River escapement and Nushagak District catch; and (3) chum salmon from Nushagak and Togiak District catches, and Nushagak River escapement. No pink salmon were sampled for AWL information.

Sample size goals for sockeye and chinook salmon catches were set at 600 per species per strata. Goals for chum and coho salmon catches were set at 400 samples per species per strata. These goals were originally selected so that sufficient numbers of samples would be collected to simultaneously estimate the

true percentage of each major age group in each stratum within 5 percentage points, 90% of the time, based on the normal approximation of a binomial proportion (Goodman 1965, Cochran 1977). However, Thompson's (1987) work on the "worst case" parameter value for the multinomial distribution, suggested that our sample goals would result in simultaneously estimating the true percentage of each age group within 5 percentage points 95% of the time.

Catch sampling was stratified spatially by district, while escapement sampling was stratified by major drainage. The number of time strata sampled differed among fisheries and rivers. District catches of sockeye salmon were usually sampled each fishing period from 23 June to 17 July, except when fishing periods were greater than 24 h. When this occurred, we generally sampled each district catch once every 3 d. For dates not sampled, the age composition of sockeye salmon harvested was assumed to be the same as that estimated for the most recent catch date. Catches of other species were sampled less frequently than catches of sockeye salmon. Chinook salmon catches were only sampled once in Ugashik, Togiak, and Nushagak Districts. For chum salmon catches, three strata were used for Nushagak District and four for Togiak District. Coho salmon catches were only sampled once in Nushagak District.

Sample size goals for sockeye salmon escapements were set at 200 per day. In practice, this daily goal was only reached during the peak of the run. Successive daily age composition estimates were compared using chi-square tests. Successive dates were placed in the same time stratum if significant ($P < 0.05$) differences were not found.

Age, sex, and length data for chinook salmon escapements into Branch and Naknek Rivers were documented by Brookover (1989) and Minard (1989). Age data for sockeye salmon caught in the South Peninsula June fishery were reported by McCullough (1989).

Estimation of Sockeye Salmon Catch Composition

Sockeye salmon harvested in Egegik and Ugashik Districts were assumed to be destined for Egegik and Ugashik Rivers, respectively. Similarly, sockeye salmon caught in Togiak River Section of Togiak District were assumed to be destined for Togiak River. Sockeye salmon harvested in other sections of Togiak District were assumed to be returning to systems not monitored for escapement or age composition, and were not assigned to Togiak River. All sockeye salmon caught in set nets fished from Igushik Beach were included within total run estimates for Igushik River. Sockeye salmon harvested in Naknek-Kvichak District were assumed to be returning to Kvichak, Branch, and Naknek Rivers, while those harvested in Nushagak District were assumed to be returning to Wood, Igushik and Nushagak Rivers. Sockeye salmon caught in these districts were assigned a natal river under the assumption that age and sex compositions occurred in the same proportion within the catches as they did within the river's combined escapement:

$$\hat{C}_{ijk} = \hat{C}_{jk} \frac{\hat{E}_{ijk}}{\sum_{i=1}^{n} \hat{E}_{ijk}}$$

where:

$\hat{C}_{ijk}$ = estimated catch of sockeye salmon from river i age j and sex k;

$\hat{C}_{jk}$ = estimated district catch of sockeye salmon age j and sex k;

$\hat{E}_{ijk}$ = estimated escapement to river i of sockeye salmon age j and sex k;

and

n = number of rivers contributing to the mixed-stock catch.

RESULTS

A total of 16,665,755 Pacific salmon were harvested in Bristol Bay in 1988. Sockeye salmon dominated the catch (84%), followed by chum salmon (9%), pink salmon (6%), coho salmon (1%), and chinook salmon (<1%; Table 1). The 1988 salmon harvest was 6% greater than the 20-year (1968-1987) average catch, but 32% less than the 10-year (1978-1987) average catch.

The fishing season began 1 June and ended 30 September. Districts were closed to fishing unless specifically opened by management biologists' emergency orders. Openings were provided within the following periods: 1 June until 17 July in the Nushagak District; 23 June until 17 July in Naknek-Kvichak, Egegik, and Ugashik Districts (Table 2). Fishing prior to and after the above dates was regulated by weekly periods. These periods extended from 9:00 am Monday until 9:00 am Saturday in Nushagak and Naknek-Kvichak Districts, and Cape Pierce, Osviak, and Matogak Sections of Togiak District; from 9:00 am Monday until 9:00 am Friday in Egegik and Ugashik Districts, and Togiak River Section of Togiak District; and from 9:00 a.m. Monday through 9:00 a.m. Thursday in Kulukak Section of Togiak District.

Bristol Bay Runs

Sockeye Salmon

The inshore run of sockeye salmon to Bristol Bay was 23,436,248 in 1988. Of these, 14,005,984 sockeye salmon were harvested by the commercial fishery and 9,430,264 escaped to spawn in Bristol Bay rivers (Table 3). The run to Naknek-Kvichak District was estimated to be 8,847,130 sockeye salmon (38% of the total Bristol Bay run). This was followed, in descending order, by a run of 8,012,806 in Egegik District (35%), 3,232,791 in Nushagak District (14%), 2,186,027 in Ugashik District (9%), and 1,157,494 in Togiak District (5%). Age-1.3 (1983

brood year) sockeye salmon comprised 41% of the total run (Tables 4 and 5). Ages-2.2 (1983 brood year), -1.2 (1984 brood year), and -2.3 (1982 brood year) sockeye salmon contributed 22%, 21%, and 13% of the run, respectively. Mean length of sockeye salmon in the total run was 549 mm and mean weight was 2.7 kg (Table 6). Males and females were almost equally abundant.

Not included in inshore run estimates were catches of Bristol Bay sockeye salmon taken by the Japanese mothership and the South Peninsula fisheries. The Japanese mothership fishery caught an estimated 252,000 sockeye salmon of Bristol Bay origin in 1988. This level of interception was well below that recorded for earlier years when catches of several million were common (Appendix A.1). The age, size composition, and maturity of these sockeye salmon were unknown. The South Peninsula June fishery catch, regulated by weekly guideline harvests, totaled 756,687 sockeye salmon. Guideline harvests were based on percentages of the preseason forecast for Bristol Bay catches: 6.8% for South Unimak and 1.5% for the Shumagin Islands. South Unimak fishermen harvested 474,457 sockeye salmon, while the Shumagin Islands sockeye catch was 282,230. Approximately 42% of the South Peninsula sockeye catch were age-2.2 (Appendix A.2).

Chinook Salmon

An estimated 45,135 chinook salmon were harvested in Bristol Bay in 1988 (Table 1). Most were caught in Nushagak (16,501) and Togiak (15,615) Districts. Naknek-Kvichak, Egegik, and Ugashik Districts harvested 6,677, 3,023, and 3,319 chinook salmon, respectively. Age-1.4 chinook salmon (1982 brood year) dominated catches in Togiak and Ugashik Districts, while most chinook salmon sampled in Nushagak District catch were age 1.2 (1984 brood year). Most chinook salmon sampled in the escapements of Branch, Naknek, and Nushagak Rivers were age 1.4 and age 1.3 (1983 brood year).

Chum Salmon

An estimated 1,477,015 chum salmon were harvested in Bristol Bay in 1988 (Table 1). Most were harvested in Togiak (470,721) and Nushagak Districts (370,223). The Naknek-Kvichak District harvest was 298,966 chum salmon, followed by Egegik and Ugashik Districts harvests of 244,745, and 92,360 chum salmon. Nushagak District catch and escapement and Togiak District catch were mostly comprised of age-0.3 and -0.4 chum salmon.

Coho Salmon

An estimated 201,751 coho salmon were harvested in Bristol Bay in 1988 (Table 1). Nushagak, Ugashik, and Egegik Districts coho catches were similar: 53,125, 52,272, and 49,407, respectively. The Naknek-Kvichak District harvest was 28,352 coho salmon, and Togiak District contributed 18,595 coho salmon to the total catch. Nushagak District coho catch and Nushagak River escapement were mostly age 2.1 (1984 brood year).

Pink Salmon

The 1988 Bristol Bay harvest of pink salmon was 935,870 fish (Table 1). Most were caught in Naknek-Kvichak District (625,551), followed, in descending order, by Nushagak District (248,656), Togiak District (57,016), Egegik District (4,437), and Ugashik District (210).

Naknek-Kvichak District Runs

A total of 4,508,968 salmon were harvested in Naknek-Kvichak District (Table 7). Most of the catch was comprised of sockeye salmon (79%), pink salmon (14%), and chum salmon (7%). Combined catches of chinook and coho salmon accounted for < 1% of the total harvest. Approximately 85% of the total district harvest occurred from 22 June to 23 July.

Sockeye Salmon

The inshore run of sockeye salmon to Naknek-Kvichak District, which included the district catch plus escapements to Kvichak, Branch, and Naknek Rivers, was 8,847,130 fish (Table 8). Age-1.3 sockeye salmon were the dominant (41%) age group, while age-1.2 (35%) and age-2.2 (17%) sockeye salmon followed in abundance. The Naknek-Kvichak commercial catch of 3,549,422 sockeye salmon was comprised of 44% age-1.3, 32% age-1.2, 16% age-2.2, and 8% age-2.3 sockeye salmon (Table 9). Mean length of sockeye salmon harvested was 552 mm and mean weight was 2.7 kg.

An estimated 6,771,881 Kvichak River sockeye salmon returned to Bristol Bay; 2,706,665 were caught and 4,065,216 escaped to spawn (Table 10). Age-1.3 (2,979,991) and age-1.2 (2,458,121) sockeye salmon accounted for over 80% of the run. Spawning escapement into Kvichak River reached 85% of the goal by 12 July (Table 11). The proportion of age-1.3 sockeye salmon in the escapement decreased through time, while the age-1.2 proportion increased (NSC = nonstatistical comparison; Table 12). Mean length of sockeye salmon in the escapement was 547 mm.

Of the 322,061 sockeye salmon bound for Branch River: 127,431 were harvested and 194,630 escaped to spawn (Table 13). Most sockeye salmon returning to Branch River were either age 1.2 (48%) or age 1.3 (40%).

The total run to Naknek River was 1,753,188 sockeye salmon; 715,326 were harvested and 1,037,862 escaped the fishery (Table 14). Approximately 85% of the escapement to Naknek River was obtained by 10 July (Table 15). Sockeye salmon returning to Naknek River were mostly age 1.3 (26%), age 1.2 (28%), age 2.3 (24%), and age 2.2 (19%; Table 16). Mean length of sockeye salmon escaping to Naknek River was 533 mm.

Chinook Salmon

None of the 6,677 chinook salmon harvested in Naknek-Kvichak District were sampled for age, sex or size information. Chinook escapements into Branch and Naknek Rivers were mostly age 1.3 and 1.4 (Tables 17 and 18).

Egegik District Runs

An estimated 6,701,738 salmon were caught in Egegik District (Table 19). Sockeye and chum salmon accounted for 96% and 4% of the total catch. Chinook, pink, and coho salmon combined accounted for less than 1% of the total catch. Approximately 85% of the total district harvest occurred between 20 June and 13 July.

Sockeye Salmon

Catch and escapement of Egegik River sockeye salmon totaled 8,012,806 (Table 20). Age-2.2 (38%) and -1.3 (34%) sockeye salmon comprised the bulk of the run. The commercial fishery harvested 6,400,126 sockeye salmon. Mean length of sockeye salmon in the catch was 562 mm; mean weight was 2.8 kg (Table 21). No temporal trends were observed in the catch or escapement age composition. Over 85% of the escapement into Egegik River was obtained by 11 July (Table 22). Mean length of sockeye salmon in the escapement was 539 mm (Table 23).

Ugashik District Runs

An estimated 1,679,776 Pacific salmon were caught in Ugashik District (Table 24). The catch was comprised of sockeye (91%), chum (6%), coho (3%), chinook (<1%), and pink salmon (<1%). Approximately 85% of the salmon catch occurred during 9 to 16 July.

Sockeye Salmon

An estimated 2,174,587 Ugashik River sockeye salmon returned to Bristol Bay: 70% were caught, and 30% escaped to spawn (Table 25). Most sockeye salmon returning to Ugashik River were age 2.3 (33%), age 2.2 (27%), age 1.2 (21%), and age 1.3 (15%). The commercial fishery harvested 1,531,615 sockeye salmon. Mean length of the sockeye salmon caught was 562 mm; mean weight was 2.8 kg (Table 26). About 85% of the estimated 642,972 sockeye salmon which escaped into Ugashik River had passed the counting tower by 22 July (Table 27). The mean length of sockeye salmon escaping into Ugashik River was 538 mm (Table 28).

Chinook Salmon

The commercial fishery harvested 3,319 chinook salmon in the Ugashik District. Age-1.4 (66%) chinook salmon dominated the catch (Table 29).

Nushagak District Runs

A total of 2,396,544 salmon were caught in Nushagak District (Table 30). Most of the catch was sockeye (71%), chum (15%), and pink (10%) salmon. Chinook and coho salmon combined accounted for 3% of the catch. Approximately 85% of the total district harvest occurred from 26 June to 17 July.

Sockeye Salmon

The inshore run to Nushagak District, which includes district catch and escapements to Wood, Igushik, and Nushagak Rivers, was estimated to be 3,228,471 sockeye salmon (Table 31). Age-1.3 and -1.2 sockeye salmon comprised most of the run (62% and 20%). The Nushagak District sockeye catch of 1,708,039 was comprised of 1,079,879 age-1.3 and 303,125 age-1.2 fish (Table 31). Mean length of sockeye salmon harvested was 557 mm and mean weight was 3.0 kg (Table 32). Igushik Beach set nets caught 52,612 sockeye salmon (Table 33), mainly age 1.3 (79%; Table 34).

Of the estimated 1,749,783 sockeye salmon bound for Wood River, 883,005 were caught and 866,778 escaped to spawn (Table 35). Age-1.3 and -1.2 sockeye salmon comprised 65% and 32% of the run to Wood River. Over 85% of the spawning escapement into Wood River was obtained by 12 July (Table 36), and the mean length of the escapement was 541 mm (Table 37).

An estimated 406,107 Igushik River sockeye salmon returned to Bristol Bay, 235,653 were harvested and 170,454 escaped into the river (Table 38). The Igushik River run was mostly (85%) age 1.3. Over 85% of the escapement entered the river by 13 July (Table 39), and the mean length of the escapement was 574 mm (Table 40).

Of the estimated 1,072,581 sockeye salmon bound for Nushagak River, 589,381 were caught and 483,200 escaped into the river (Table 41). Sockeye salmon returning to Nushagak River were mostly age 1.3 (49%), while ages-0.2, -0.3, and -0.4, combined, accounted for 40% of the total run. Over 85% of the escapement passed the sonar counters near Portage Creek by 12 July (Table 42). Age-1.3 fish accounted for most (50%) of the escapement. Mean length of the escapement was 546 mm (Table 43).

An estimated 319,992 sockeye salmon entered Nuyakuk River to spawn. Over 85% of the escapement passed the counting towers by 16 July (Table 44). Age-1.3 sockeye accounted for 84% of the escapement (Table 45). Mean length of sockeye salmon in the escapement was 562 mm. The remaining 163,208 sockeye salmon escaping into Nushagak River were assumed to have spawned in the Nushagak-Mulchatna River drainage.

Chinook Salmon

An estimated 16,501 chinook salmon were caught in Nushagak District (Table 46). Most chinook salmon caught were age-1.2 (58%). Age-1.3, and -1.4 chinook salmon comprised 23% and 14% of the catch. Mean length of chinook salmon in the catch was 654 mm and mean weight was 6.0 kg. An estimated 56,905 chinook salmon passed

the sonar site on Nushagak River (Table 47). The age composition of this escapement was estimated to be 44% age 1.4, 27% age 1.3, and 13% age 1.2 (Table 48). Chinook salmon subsistence catches from Lewis Point were sampled for age, sex, and size information (Appendix A.3); most (61%) were age 1.4.

Chum Salmon

A total of 370,223 chum salmon were caught in Nushagak District (Table 49). Age-0.3 and -0.4 chum salmon comprised 62% and 30% of the harvest. Percentages of older chum salmon (age 0.5 and 0.4) in catches decreased through time, while the percentage of younger chum salmon (age 0.3) increased through time (NSC). Mean length of chum salmon in the commercial catch was 569 mm, and mean weight was 3.1 kg. An estimated 186,418 chum salmon passed the Nushagak River sonar counter in 1988 (Table 50). This escapement was mostly comprised of age-0.4 (54%) and age-0.3 (40%) salmon, and mean length the escapement was 585 mm.

Coho Salmon

A total of 53,125 coho salmon were caught in Nushagak District (Table 51). Age-2.1 coho salmon comprised 82% of the harvest. Mean length of the coho catch was 558 mm; mean weight was 3.2 kg. An estimated 131,101 coho salmon escaped into Nushagak River (Table 52). The escapement consisted of age-2.1 (77%), age-1.1 (15%), and age-3.1 (8%) coho salmon. Mean length of coho salmon in the escapement was 552 mm.

Pink Salmon

The Nushagak District commercial salmon catch included 248,656 pink salmon (Table 30). An estimated 494,610 pink salmon passed the sonar counter on Nushagak River (Table 47).

Togiak District Runs

An estimated 1,378,729 salmon were caught in Togiak District (Table 53). The catch was comprised of 59% sockeye, 34% chum, 4% pink, 1% coho and 1% chinook salmon. Catches of all salmon species were spread throughout the season. Salmon caught in Togiak River Section accounted for 81% (1,118,669) of the total district catch (Table 54). Salmon caught in Kulukak, Matogak, and Osviak Sections comprised 15%, 2%, and 1% of the district catch, respectively (Appendices A.4 - A.6).

Sockeye Salmon

An estimated 951,327 Togiak River sockeye salmon returned to Bristol Bay; 674,715 were caught and 276,612 escaped into the river (Table 55). The run was dominated by age-1.3 (92%) sockeye salmon. Of the 674,715 sockeye salmon harvested from Togiak River Section, 91% were age 1.3 (Table 56). Mean length of sockeye salmon in the catch was 589 mm; mean weight was 3.6 kg. Escapement into Togiak Lake

was estimated to be 276,612 sockeye salmon (Table 57). Over 85% of the escapement passed the counting tower by 22 July. The percentage of age-1.3 sockeye salmon escaping into Togiak River (95%) was similar to that of the catch (Table 58). Mean length of sockeye salmon in the escapement was 582 mm.

Chinook Salmon

Of the 15,615 chinook salmon caught in Togiak District, most (85%) were harvested in Togiak River Section (Table 59). Age-1.4 (38%), age-1.3 (29%), and age-1.2 (25%) chinook salmon dominated the Togiak River Section catch. Mean length of chinook salmon in the catch was 736 mm; mean weight was 8.2 kg.

Chum Salmon

An estimated 470,721 chum salmon were caught in Togiak District. Most chum salmon (81%) were caught in Togiak River Section (Table 60). The 0.4- and 0.3-age groups dominated, accounting for 65% and 34% of the harvest. Mean length of chum salmon in the catch was 598 mm; mean weight was 3.6 kg.

Sockeye Salmon Return From Brood Year Escapement

Returns of sockeye salmon from brood year escapements have varied considerably from 1956-80 (years of complete data) for the eleven rivers monitored in Bristol Bay (Appendices A.7 - A.18). These data have been used to determine spawner-recruit relationships, establish spawning escapement goals, and forecast future run sizes (Fried 1984; Fried and Yuen 1985, 1986, 1987; Fried et al. 1988).

LITERATURE CITED

Brookover, T. 1989. Creel and escapement statistics for Alagnak River, Alaska, during 1988. Alaska Department of Fish and Game, Division of Sport Fisheries, Fishery Data Series 89, Juneau.

Bue, B. 1988. Sonar enumeration of Pacific salmon escapement to the Nushagak River, 1988. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 2A88-10, Anchorage.

Clutter, R., and L. Whitesel. 1956. Collection and interpretation of sockeye salmon scales. International Pacific Salmon Fisheries Commission Bulletin 9.

Cochran, W. 1977. Sampling Techniques, 3rd edition. John Wiley & Sons, Inc. New York.

Cross, B., and B. Stratton. 1988. Abundance, age, sex, and size statistics for Pacific salmon in Bristol Bay, 1987. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Fishery Report 88-18, Juneau.

Fredin, R., and D. Worlund. 1974. Catches of sockeye salmon of Bristol Bay origin by the Japanese mothership salmon fishery, 1956-70. International North Pacific Fisheries Commission, Bulletin 30: 1-80.

Fredin, R., R. Major, R. Bakkala, and G. Tanonaka. 1977. Pacific salmon and the high seas salmon fisheries of Japan. Unpublished Processed Report, U.S. National Marine Fisheries Services, Northwest and Alaska Fisheries Center, Seattle, Washington.

Fried, S. 1984. Bristol Bay Pacific salmon spawning escapement goal workshop. Alaska Department of Fish and Game, Division of Commercial Fisheries, Bristol Bay Area Data Report 84-12, Anchorage.

Fried, S., and H. Yuen. 1985. A synopsis and critique of forecasts of sockeye salmon (*Oncorhynchus nerka*) returning to Bristol Bay in 1985. Alaska Department of Fish and Game, Division of Commercial Fisheries, Informational Leaflet 247, Juneau.

Fried, S., and H. Yuen. 1986. A synopsis and critique of forecasts of sockeye salmon (*Oncorhynchus nerka*) returning to Bristol Bay in 1986. Alaska Department of Fish and Game, Division of Commercial Fisheries, Informational Leaflet 255, Juneau.

Fried, S., and H. Yuen. 1987. A synopsis and critique of forecasts of sockeye salmon (*Oncorhynchus nerka*) returning to Bristol Bay in 1987. Alaska Department of Fish and Game, Division of Commercial Fisheries, Fishery Research Bulletin 87-01, Juneau.

LITERATURE CITED (Continued)

Fried, S., B. Cross, and H. Yuen. 1988. A synopsis and critique of forecasts of sockeye salmon returning to Bristol Bay in 1988. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Fishery Report 88-05, Juneau.

Goodman, L. 1965. On simultaneous confidence intervals for multinomial populations. Technometrics 7:247-254.

Harris, C. 1987. Catches of North American sockeye salmon (*Oncorhynchus nerka*) by the Japanese high seas salmon fisheries, 1972-84. Pages 458-479 *in* H.D. Smith, L. Margolis, C. C. Wood, editors. Sockeye salmon (*Oncorhynchus nerka*) population biology and future management. Canadian Special Publication of Fisheries and Aquatic Sciences 96, Ottawa.

Koo, T. S. Y. 1962. Age designation in salmon. Pages 37-48 *in* T. S. Y. Koo, editor. Studies of Alaska red salmon. University of Washington Publications in Fisheries, New Series, Volume I, Seattle.

INPFC (International North Pacific Fisheries Commission). 1963. Annual Report 1961, Vancouver, British Columbia.

Krasnowski, P., and R. Randall. 1975a. Bristol Bay sockeye salmon (*Oncorhynchus nerka*) 1972 - a compilation of catch and escapement data. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 19, Juneau.

Krasnowski, P., and R. Randall. 1975b. Bristol Bay sockeye salmon (*Oncorhynchus nerka*) 1973 - a compilation of catch and escapement data. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 22, Juneau.

Krasnowski, P., and R. Randall. 1976. Bristol Bay sockeye salmon (*Oncorhynchus nerka*) 1974 - a compilation of catch and escapement data. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 24, Juneau.

McCullough, J. 1989. Alaska Peninsula-Aleutian Islands area catch and escapement statistics, 1988. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K89-13, Kodiak.

McCurdy, M., and R. Paulus. 1972. Bristol Bay sockeye salmon (*Onchorynchus nerka*) 1968 - a compilation of catch and escapement data. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 1, Juneau.

McCurdy, M., and T. Schroeder. 1972. Bristol Bay sockeye salmon (*Oncorhynchus nerka*) 1971 - a compilation of catch and escapement data. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 7, Juneau.

LITERATURE CITED (Continued)

Meacham, C., and R. Randall. 1979. Bristol Bay sockeye salmon (*Oncorhynchus nerka*) 1976 - a compilation of catch and escapement data. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 43, Juneau.

Meacham, C., and M. Nelson. 1980. Bristol Bay sockeye salmon (*Oncorhynchus nerka*) 1977 - a compilation of catch and escapement data. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 47, Juneau.

Minard, R. 1989. Creel and escapement statistics for Naknek River, Alaska, during 1988. Alaska Department of Fish and Game, Division of Sport Fisheries, Fishery Data Series 91, Juneau.

Mosher, K. 1968. Photographic atlas of sockeye salmon scales. Fishery Bulletin 67:243-280.

Paulus, R., and M. Nelson. 1972a. Bristol Bay sockeye salmon (*Oncorhynchus nerka*) 1969 - a compilation of catch and escapement data. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 5, Juneau.

Paulus, R., and M. Nelson. 1972b. Bristol Bay sockeye salmon (*Oncorhynchus nerka*) 1970 - a compilation of catch and escapement data. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 6, Juneau.

Randall, R., and H. Yuen. 1978. Bristol Bay sockeye salmon (*Oncorhynchus nerka*) 1975 - a compilation of catch and escapement data. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 40, Juneau.

Russell, R., W. Bucher, and D. Bill. 1989. Salmon spawning ground surveys in the Bristol Bay area, 1988. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 2K88-14, Anchorage.

Thompson, S. 1987. Sample size for estimating multinomial proportions. The American Statistician 41:42-46.

Yuen, H., B. Bue, and C. Meacham. 1981. Bristol Bay sockeye salmon (*Oncorhynchus nerka*) age, weight, and length statistics, 1957-1977. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 67, Juneau.

Yuen, H., and M. Nelson. 1983. Bristol Bay salmon (*Oncorhynchus* sp.) 1978 - a compilation of catch and escapement data. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 88, Juneau.

Yuen, H., and C. Meacham. 1983. Bristol Bay salmon (*Oncorhynchus* sp.) 1979 - a compilation of catch, escapement, and biological data. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 94, Juneau.

Yuen, H., and M. Nelson. 1984a. Bristol Bay chinook salmon (*Oncorhynchus tshawytscha*) sex, age, weight, and length statistics, 1966-1977. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 120, Juneau.

Yuen, H., and M. Nelson. 1984b. Bristol Bay chum salmon (*Oncorhynchus keta*) sex, age, weight, and length statistics, 1960 to 1977. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 127, Juneau.

Yuen, H., and four coauthors. 1984. Bristol Bay salmon (*Oncorhynchus* sp.) 1980 - a compilation of catch, escapement, and biological data. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 128, Juneau.

Yuen, H. 1984. Bristol Bay salmon (*Oncorhynchus* sp.) 1981 - a compilation of catch, escapement, and biological data. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 129, Juneau.

Yuen, H., and M. Nelson. 1985. Bristol Bay pink (*Oncorhynchus gorbuscha*) and coho salmon (*O. kisutch*) sex, age, weight, and length statistics, 1961-1976. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 156, Juneau.

Yuen, H., M. Nelson, and R. Minard. 1986. Bristol Bay salmon (*Oncorhynchus* sp.) 1982 - a compilation of catch, escapement, and biological data. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 175, Juneau.

Yuen, H., and M. Nelson. 1987. 1983 Bristol Bay salmon (*Oncorhynchus* sp.) - a compilation of catch, escapement, and biological data. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report 191, Juneau.

Yuen, H., and D. Bill. 1989a. Abundance, age, sex, and size statistics for Pacific salmon (*Oncorhynchus* sp.) in Bristol Bay, 1984. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Fishery Report 89-06, Juneau.

Yuen, H., and D. Bill. 1989b. Abundance, age, sex, and size statistics for Pacific salmon (*Oncorhynchus* sp.) in Bristol Bay, 1985. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Fishery Report 89-07, Juneau.

TABLES AND FIGURES

Table 1. Commercial salmon catch by district, Bristol Bay, 1988.

District		Sockeye	Chinook	Chum	Pink	Coho	Total
Naknek-Kvichak	Numbers	3,549,422	6,677	298,966	625,551	28,352	4,508,968
	Percent	78.7	0.2	6.6	13.9	0.6	100.0
Egegik	Numbers	6,400,126	3,023	244,745	4,437	49,407	6,701,738
	Percent	95.5	0.1	3.7	0.1	0.7	100.0
Ugashik	Numbers	1,531,615	3,319	92,360	210	52,272	1,679,776
	Percent	91.2	0.2	5.5	0.0[a]	3.1	100.0
Nushagak	Numbers	1,708,039	16,501	370,223	248,656	53,125	2,396,544
	Percent	71.3	0.7	15.4	10.4	2.2	100.0
Togiak	Numbers	816,782	15,615	470,721	57,016	18,595	1,378,729
	Percent	59.3	1.1	34.2	4.1	1.3	100.0
Total	Numbers	14,005,984	45,135	1,477,015	935,870	201,751	16,665,755
	Percent	84.0	0.3	8.9	5.6	1.2	100.0

[a] Represented < 0.05% of total

Table 2. ADF&G emergency orders issued for Bristol Bay in 1988.

Number[a]	Date and Time				Action	Duration
NAKNEK-KVICHAK DISTRICT						
AKN 01	June 27	8:00 a.m.	to June 27	6:00 p.m.	Opened	10 h
AKN 05	July 1	12:00 N	to July 1	10:00 p.m.	Opened	10 h
AKN 09	July 5	3:30 a.m.	to July 5	3:30 p.m.	Opened	12 h
AKN 18	July 11	9:00 a.m.	to July 11	7:00 p.m.	Opened	10 h
AKN 19	July 11	7:00 p.m.	to July 12	9:00 a.m.	Extended	14 h
AKN 27	July 14	12:00 N	to July 14	12:00 MN	Opened	12 h
AKN 28	July 14	12:00 MN	to July 15	10:00 a.m.	Extended	10 h
AKN 35	Aug 5	4:00 a.m.	to Aug 8	7:00 a.m.	Closed	3 d 3 h
	Aug 8	7:00 a.m.	to Aug 8	9:00 a.m.	Opened	2 h
Kvichak Section Only						
AKN 24	July 13	12:00 MN	to July 14	12:00 N	Opened	12 h
AKN 32	July 16	12:00 MN	to July 18	9:00 a.m.	Opened	33 h
Naknek Section Only						
AKN 07	July 3	2:30 p.m.	to July 4	2:30 a.m.	Opened	12 h
AKN 14	July 10	7:30 a.m.	to July 10	7:30 p.m.	Opened	12 h
AKN 21	July 13	11:00 a.m.	to July 14	12:00 N	Opened	25 h
AKN 29	July 16	1:30 a.m.	to July 18	9:00 a.m.	Opened	2 d 7.5 h
Naknek River Personal Use Fishery						
AKN 16	July 10	6:00 p.m.	to July 25	12:00 MN	Opened	15 d 6 h
EGEGIK DISTRICT						
AKN 01	June 27	8:00 a.m.	to June 27	8:00 p.m.	Opened	12 h
AKN 03	June 29	10:00 a.m.	to June 29	10:00 p.m.	Opened	12 h
AKN 04	July 1	12:00 N	to July 1	11:00 p.m.	Opened	11 h
AKN 08	July 4	3:00 p.m.	to July 5	2:00 a.m.	Opened	11 h
AKN 10	July 6	4:30 a.m.	to July 6	2:30 p.m.	Opened	10 h
AKN 11	July 7	7:00 p.m.	to July 8	5:00 a.m.	Opened	10 h
AKN 12	July 9	7:00 a.m.	to July 9	4:00 p.m.	Opened	9 h
AKN 15	July 10	10:00 p.m.	to July 11	7:00 a.m.	Opened	9 h
AKN 20	July 12	9:00 a.m.	to July 12	6:00 p.m.	Opened	9 h
AKN 22	July 13	10:00 a.m.	to July 13	8:00 p.m.	Opened	10 h
AKN 25	July 14	11:00 a.m.	to July 15	11:00 a.m.	Opened	24 h
AKN 30	July 16	1:00 a.m.	to July 16	12:00 MN	Opened	23 h
AKN 33	July 17	2:00 p.m.	to July 18	9:00 a.m.	Opened	19 h
UGASHIK DISTRICT						
AKN 06	July 3	1:00 p.m.	to July 4	1:00 a.m.	Opened	12 h
AKN 13	July 9	6:00 a.m.	to July 9	6:00 p.m.	Opened	12 h
AKN 17	July 11	8:00 a.m.	to July 11	8:00 p.m.	Opened	12 h
AKN 23	July 13	10:00 a.m.	to July 13	10:00 p.m.	Opened	12 h
AKN 26	July 14	11:00 a.m.	to July 14	11:00 p.m.	Opened	12 h
AKN 31	July 15	11:00 p.m.	to July 16	1:00 p.m.	Opened	12 h
AKN 34[b]	July 17	9:00 a.m.	to July 24	9:00 p.m.	Reduced	8 d

-Continued-

Table 2. (p 2 of 2).

Number[a]	Date and Time		Action	Duration
NUSHAGAK DISTRICT				
DLG 01[d]	June 3 9:00 a.m.	to June 4 9:00 a.m.	Subsistence	24 h
	June 6 9:00 a.m.	to June 7 9:00 a.m.	Subsistence	24 h
	June 10 9:00 a.m.	to June 11 9:00 a.m.	Subsistence	24 h
	June 13 9:00 a.m.	to June 14 9:00 a.m.	Subsistence	24 h
DLG 02[d]	June 17 9:00 a.m.	to June 18 9:00 a.m.	Subsistence	24 h
DLG 03[e]	June 25 11:00 p.m.	to June 26 5:00 a.m.	Opened	6 h
DLG 05	June 28 11:00 a.m.	to June 28 11:00 p.m.	Opened	12 h
DLG 06	July 2 3:00 a.m.	to July 2 10:00 a.m.	Opened	7 h
DLG 07	July 3 4:00 p.m.	to July 3 10:00 p.m.	Opened	6 h
DLG 09	July 10 11:00 p.m.	to July 11 5:00 a.m.	Opened	6 h
DLG 10	July 11 12:00 MN	to July 12 12:30 N	Opened	12 h
DLG 11	July 12 12:00 N	to July 13 1:30 p.m.	Opened	25 h
DLG 12	July 12 1:00 p.m.	to July 15 2:00 p.m.	Opened	49 h
DLG 14[f]	July 16 3:00 p.m.	to July 17 9:00 a.m.	Reduced	18 h
DLG 16[g]	Aug 2 9:00 a.m.	to Sept 30 12:00 MN	Reduced	24 h
DLG 17	Aug 15 9:00 a.m.	to Sept 30 12:00 MN	Closed	46 d 15 h
TOGIAK DISTRICT				
DLG 15[h]	Aug 1 9:00 a.m.	to Sept 30 12:00 MN	Reduced	
DLG 18[h]	Aug 1 9:00 a.m	to Sept 30 12:00 MN	Reduced	
Togiak River Section Only				
DLG 08	July 8 9:00 a.m.	to July 9 9:00 a.m.	Extended	24 h
DLG 13	July 14 9:00 a.m.	to Aug 31 9:00 a.m.	Extended	17 d
Kulukak Section Only				
DLG 13	July 14 9:00 a.m.	to July 31 9:00 a.m.	Extended	17 d

[a] Prefix code on emergency order indicates the office of origin (AKN for King Salmon and DLG for Dillingham).

[b] Extended Emergency Order period in Ugashik District for 8 d, from 9:00 a.m. 17 July until 9:00 a.m. 24 July.

[d] Opened subsistence fishing in Nushagak District.

[e] Required use of 6-3/4-in (17.14 cm), or smaller, mesh.

[f] Weekly fishing period reduced by 18 h in Nushagak District; 9:00 a.m. Monday through 9:00 a.m. Thursday. Required 5-3/8-in (13.65 cm), or larger, mesh.

[g] Weekly fishing period reduced by 24 h in Nushagak District: 9:00 a.m. Monday through 9:00 a.m. Wednesday.

[h] Weekly fishing periods reduced to 72 h in all sections of Togiak District: 9:00 a.m. Monday through 9:00 a.m. Thursday.

Table 3. Sockeye salmon inshore run by river system, Bristol Bay, 1988.

SYSTEM	CATCH	ESCAPEMENT	RUN
Kvichak River	2,706,665	4,065,216	6,771,881
Branch River	127,431	194,630	322,061
Naknek River	715,326	1,037,862	1,753,188
NAKNEK-KVICHAK DISTRICT TOTAL	3,549,422	5,297,708	8,847,130
Egegik River	6,400,126	1,612,680	8,012,806
EGEGIK DISTRICT TOTAL	6,400,126	1,612,680	8,012,806
Ugashik River	1,531,615	642,972	2,174,587
Dog and King Salmon Rivers		11,440	11,440
UGASHIK DISTRICT TOTAL	1,531,615	654,412	2,186,027
Wood River	883,005	866,778	1,749,783
Igushik River	235,653	170,454	406,107
Nushagak River	589,381		1,072,581
- Nuyakuk River		319,992	
- Mulchatna River		163,208	
Snake River		4,320	4,320
NUSHAGAK DISTRICT TOTAL	1,708,039	1,524,752	3,232,791
Togiak Lake	674,715	276,612	951,327
Togiak River and Tributaries		32,400	32,400
Kulukak River	136,325	31,700	168,025
Matogak Section	4,510		4,510
Osviak Section	1,232		1,232
TOGIAK DISTRICT TOTAL	816,782	340,712	1,157,494
BRISTOL BAY TOTAL	14,005,984	9,430,264	23,436,248

Table 4. Sockeye salmon inshore run by age group and river system, Bristol Bay, 1988.

River System	Age Group (Numbers of Fish)													
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total[a]
Kvichak River	3,485	6,561	3,897	2,458,121	43,212		2,979,991	1,134,470	5,674	136,470				6,771,881
Branch River		3,268		154,713	209		129,565	31,263		3,043				322,061
Naknek River		1,941		455,304	22,474		479,423	318,887	22,377	450,218		2,564		1,753,188
NAK/KVI DISTRICT	3,485	11,770	3,897	3,068,138	65,895		3,588,979	1,484,620	28,051	589,731		2,564		8,847,130
Egegik River	3,881	341	7,542	582,013	83,024	704	2,692,305	3,028,613	9,199	1,587,163	10,691		7,330	8,012,806
Ugashik River	1,725	506	5,171	453,876	52,816	810	336,139	594,478	8,949	718,870		758	489	2,174,587
Wood River	7,129	2,902		564,735		1,784	1,133,406	14,280	12,196	13,351				1,749,783
Igushik River			225	39,726		27	346,569	7,765	1,827	9,968				406,107
Nushagak River	69,952		233,007	49,221		126,186	518,153	5,597	63,412	6,720		333		1,072,581
NUSHAGAK DISTRICT	77,081	2,902	233,232	653,682		127,997	1,998,128	27,642	77,435	30,039		333		3,228,471
Togiak River	187		13,784	19,750		2,226	877,218	8,052	5,175	24,699		236		951,327
TOTAL	86,359	15,519	263,626	4,777,459	201,735	131,737	9,492,769	5,143,405	128,809	2,950,502	10,691	3,891	7,819	23,214,321

[a] Some catches and escapements were not sampled for age information and were not included in the table: catches from Kulukak (136,325), Matogak (4,510), and Osviak (1,232) Sections of Togiak District; escapements from King Salmon and Dog Salmon Rivers (11,440) of Ugashik District, Snake River (4,320) of Nushagak District, Togiak River below the counting tower and its tributaries (32,400), and Kulukak River (31,700) of Togiak District.

Table 5. Percentages by age group and river system of sockeye salmon runs to Bristol Bay, 1988.

River System	Age Group (Percent)													Total[a]
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	2.4	3.3	
Kvichak River	0.02	0.03	0.02	10.59	0.19		12.84	4.89	0.02	0.59				29.17
Branch River		0.01		0.67	0.00[b]		0.56	0.13		0.01				1.39
Naknek River		0.01		1.96	0.10		2.07	1.37	0.10	1.94		0.01		7.55
NAK/KVI DISTRICT	0.02	0.05	0.02	13.22	0.28		15.46	6.40	0.12	2.54		0.01		38.11
Egegik River	0.02	0.00[b]	0.03	2.51	0.36	0.00[b]	11.60	13.05	0.04	6.84	0.05		0.03	34.52
Ugashik River	0.01	0.00[b]	0.02	1.96	0.23	0.00[b]	1.45	2.56	0.04	3.10		0.00[b]	0.00[b]	9.37
Wood River	0.03	0.01		2.43		0.01	4.88	0.06	0.05	0.06				7.54
Igushik River			0.00[b]	0.17		0.00[b]	1.49	0.03	0.01	0.04				1.75
Nushagak River	0.30		1.00	0.21		0.54	2.23	0.02	0.27	0.03		0.00[b]		4.62
NUSHAGAK DISTRICT	0.33	0.01	1.00	2.82		0.55	8.61	0.12	0.33	0.13		0.00[b]		13.91
Togiak River	0.00[b]		0.06	0.09		0.01	3.78	0.03	0.02	0.11		0.00[b]		4.10
TOTAL	0.37	0.07	1.14	20.58	0.87	0.57	40.89	22.16	0.55	12.71	0.05	0.02	0.03	100.00

[a] Some catches and escapements were not sampled for age information and were not included in the table: catches from Kulukak (136,325), Matogak (4,510), and Osviak (1,232) Sections of Togiak District; escapements from King Salmon and Dog Salmon Rivers (11,440) of Ugashik District, Snake River (4,320) of Nushagak District, Togiak River below the counting tower and its tributaries (32,400), and Kulukak River (31,700) of Togiak District.

[b] Represented < 0.01% of total

Table 6. Age, sex, and size composition of sockeye salmon catch and escapement, Bristol Bay, 1988.

	Age Group													
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total[a]
Males	78,466	15,011	108,184	2,516,423	184,070	41,610	4,489,457	2,619,415	66,973	1,568,571	6,677	1,991	5,341	11,702,189
Percent	0.34	0.06	0.47	10.84	0.79	0.18	19.34	11.28	0.29	6.76	0.03	0.01	0.02	50.41
Mean Length	433	283	578	507	374	619	588	536	607	596	561	593	597	555
Std. Error	3	18	2	1	2	3	0[b]	1	4	1	5	26	3	0[b]
Sample Size	170	26	240	3,837	410	98	8,271	3,825	133	2,528	10	6	4	19,558
Mean Weight	1.51		3.23	2.14	2.93	3.81	3.25	2.39	4.60	3.35				2.82
Std. Error	0.06		0.13	0.02		0.13	0.02	0.03	0.36	0.04				0.01
Sample Size	11		51	430	5	20	1,106	425	12	280				2,340
Females	7,893	508	155,442	2,261,036	17,665	90,127	5,003,312	2,523,990	61,836	1,381,931	4,014	1,900	2,478	11,512,132
Percent	0.03	0.00[c]	0.67	9.74	0.08	0.39	21.55	10.87	0.27	5.95	0.02	0.01	0.01	49.59
Mean Length	503	331	551	494	390	580	567	520	585	577	534	589	582	543
Std. Error	18		1	1	11	2	0[b]	1	2	1				0[b]
Sample Size	15	1	315	3,403	21	165	9,302	4,136	143	2,403	8	3	6	19,921
Mean Weight	2.00	0.58	2.88	1.97	1.08	3.54	2.91	2.19	3.51	2.98	2.54		3.13	2.58
Std. Error			0.04	0.03	0.03	0.08	0.02	0.04	0.11	0.02				0.01
Sample Size	2	1	48	304	2	38	1,193	329	23	297	1		1	2,239
Both Sexes	86,359	15,519	263,626	4,777,459	201,735	131,737	9,492,769	5,143,405	128,809	2,950,502	10,691	3,891	7,819	23,214,321
Percent	0.37	0.07	1.14	20.58	0.87	0.57	40.89	22.16	0.55	12.71	0.05	0.02	0.03	100.00
Mean Length	440	285	562	501	375	592	577	528	596	587	551	591	592	549
Std. Error	3	18	1	0[b]	2	2	0[b]	0[b]	2	0[b]	5	26	3	0[b]
Sample Size	185	27	555	7,240	431	263	17,573	7,961	276	4,931	18	9	10	39,479
Mean Weight	1.57	0.58	3.02	2.06	2.56	3.62	3.07	2.29	4.06	3.18	2.54		3.13	2.70
Std. Error	0.06		0.06	0.02	0.03	0.07	0.02	0.03	0.16	0.02				0.01
Sample Size	13	1	99	734	7	58	2,299	754	35	577	1		1	4,579

-Continued-

Table 6. (p 2 of 2).

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[a] Some catches and escapements were not sampled for age information and were not included in the table: catches from Kulukak (136,325), Matogak (4,510), and Osviak (1,232) Sections of Togiak District; escapements from King Salmon and Dog Salmon Rivers (11,440) of Ugashik District, Snake River (4,320) of Nushagak District, Togiak River below the counting tower and its tributaries (32,400), and Kulukak River (31,700) of Togiak District.

[b] Standard Error < 0.5 mm

[c] Represented < 0.01% of total

Table 7. Commercial salmon catch by period and species, Naknek-Kvichak District, 1988.

Opening		Effort[a]		Catch (number of fish)					
Period	Hours[b]	Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
6/01-6/04	81			0	4	0	0	0	4
6/06-6/11	120	3	4	43	87	0	0	0	130
6/13	15	6	11	249	11	15	0	0	275
6/14	24	22	29	1,788	149	543	0	0	2,480
6/15	24	39	36	2,054	212	1,517	0	0	3,783
6/16	24	100	51	6,801	219	1,167	0	0	8,187
6/17	24	143	57	7,889	139	1,255	0	0	9,283
6/18	9	86	22	3,970	46	624	0	0	4,640
6/20	15	352	77	34,689	252	2,844	0	0	37,785
6/21	24	423	126	64,340	245	3,480	0	0	68,065
6/22	24	430	150	99,478	384	4,771	0	0	104,632
6/23	9	295	132	43,707	127	1,697	0	0	45,531
6/27	10	567	243	361,061	140	15,097	0	0	376,298
7/01	10	653	246	675,222	369	21,078	0	0	696,669
7/03-7/04	12	679	167	153,892	54	6,714	0	0	160,660
7/05	12	648	273	376,000	267	15,268	0	0	391,535
7/10	12	750	177	149,658	56	5,762	0	0	155,476
7/11-7/12	24	671	291	544,163	413	42,473	0	0	587,049
7/13	13	500	181	82,250	60	7,035	0	0	89,345
7/14	24	539	293	374,888	184	47,886	2	0	422,960
7/15	10	481	267	190,920	146	13,176	0	0	204,242
7/16	23	439	281	158,472	230	16,643	0	0	175,345
7/17	24	431	272	69,548	161	8,987	3	2	78,701
7/18	24	390	247	42,321	69	6,204	37	1	48,632
7/19	24	309	224	31,196	161	5,643	27	0	37,027
7/20	24	221	199	15,184	209	4,600	177	0	20,170
7/21	24	156	177	16,015	450	8,741	283	2	25,491
7/22	24	144	175	13,439	583	5,828	1,120	10	20,980
7/23	9	54	76	7,545	132	3,140	516	5	11,338
7/24-7/31	120	116	129	18,709	739	37,886	91,238	2,092	150,664
8/01-8/06	91	73	83	2,544	243	7,351	218,771	8,542	237,451
8/08-8/13	122	74	74	1,002	78	1,249	272,146	8,046	283,521
8/15-8/20	120	48	57	283	35	246	36,026	5,601	42,191
8/22-8/27	120	18	38	96	23	35	4,917	2,578	7,649
8/28-9/03	120	3	6	6	0	12	288	473	779
Total	1,389			3,549,422	6,677	298,966	625,551	28,352	4,508,968
Percent of District Catch				78.7	0.2	6.6	13.9	0.6	100.0

[a] Fishing effort represents number of drift boats and set nets estimated from aerial surveys on open fishing periods. Blanks indicate no aerial surveys were conducted.

[b] See Table 2 for emergency order fishing periods.

Table 8. Age and sex composition of sockeye salmon inshore run, Naknek-Kvichak District, 1988.

	Age Group										
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
						CATCH					
Males		662	1,548	579,688	3,314	708,129	269,551	4,268	124,746		1,691,906
Percent		0.01	0.02	6.55	0.04	8.00	3.05	0.05	1.41		19.12
Females		508	1,187	546,852	1,015	858,736	299,235	7,143	142,840		1,857,516
Percent		0.01	0.01	6.18	0.01	9.71	3.38	0.08	1.61		21.00
Both Sexes		1,170	2,735	1,126,540	4,329	1,566,865	568,786	11,411	267,586		3,549,422
Percent		0.01	0.03	12.73	0.05	17.71	6.43	0.13	3.02		40.12
						ESCAPEMENT					
Males	3,485	10,600		951,449	50,919	850,958	427,366	10,955	156,119	997	2,462,848
Percent	0.04	0.12		10.75	0.58	9.62	4.83	0.12	1.76	0.01	27.84
Females			1,162	990,149	10,647	1,171,156	488,468	5,685	166,026	1,567	2,834,860
Percent			0.01	11.19	0.12	13.24	5.52	0.06	1.88	0.02	32.04
Both Sexes	3,485	10,600	1,162	1,941,598	61,566	2,022,114	915,834	16,640	322,145	2,564	5,297,708
Percent	0.04	0.12	0.01	21.95	0.70	22.86	10.35	0.19	3.64	0.03	59.88
						CATCH AND ESCAPEMENT					
Males	3,485	11,262	1,548	1,531,137	54,233	1,559,087	696,917	15,223	280,865	997	4,154,754
Percent	0.04	0.13	0.02	17.31	0.61	17.62	7.88	0.17	3.17	0.01	46.96
Females		508	2,349	1,537,001	11,662	2,029,892	787,703	12,828	308,866	1,567	4,692,376
Percent		0.01	0.03	17.37	0.13	22.94	8.90	0.14	3.49	0.02	53.04
Both Sexes	3,485	11,770	3,897	3,068,138	65,895	3,588,979	1,484,620	28,051	589,731	2,564	8,847,130
Percent	0.04	0.13	0.04	34.68	0.74	40.57	16.78	0.32	6.67	0.03	100.00

Table 9. Age, sex, and size composition of sockeye salmon commercial catch, Naknek-Kvichak District, 1988.

	Age Group								
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	Total
Sample Period 1	6/06-6/23								
Males			28,077		86,694	19,211		5,911	139,893
Percent			10.59		32.71	7.25		2.23	52.79
Mean Length			509		598	542		599	573
Std. Error			4		2	5		6	2
Sample Size			57		176	39		12	284
Mean Weight			2.05		3.25	2.47			2.89
Std. Error			0.16		0.17	0.19			0.12
Sample Size			4		9	7			20
Females			13,792		84,723	20,196	493	5,911	125,115
Percent			5.20		31.97	7.62	0.19	2.23	47.21
Mean Length			504		579	532	607	567	563
Std. Error			6		2	3		5	1
Sample Size			28		172	41	1	12	254
Mean Weight			2.02		3.04	2.18		2.91	2.78
Std. Error			0.23		0.11	0.17			0.08
Sample Size			5		15	9		1	30
Both Sexes			41,869		171,417	39,407	493	11,822	265,008
Percent			15.80		64.68	14.87	0.19	4.46	100.00
Mean Length			507		589	537	607	583	568
Std. Error			4		1	3		4	1
Sample Size			85		348	80	1	24	538
Mean Weight			2.04		3.15	2.32		2.91	2.84
Std. Error			0.13		0.10	0.13			0.07
Sample Size			9		24	16		1	50

-Continued-

Table 9. (p 2 of 12).

	Age Group								
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	Total
Sample Period 2	6/24-6/27								
Males		1,394	54,368	697	91,312	26,487		6,273	180,531
Percent		0.39	15.06	0.19	25.29	7.34		1.74	50.00
Mean Length		593	519	373	598	545		590	566
Std. Error		3	4		2	5		14	2
Sample Size		2	78	1	131	38		9	259
Mean Weight		2.97	2.50		3.48	2.48		2.68	3.00
Std. Error			0.14		0.12	0.20		0.81	0.08
Sample Size		1	14		21	4		2	42
Females			49,489		104,554	19,517	2,091	4,879	180,530
Percent			13.71		28.96	5.41	0.58	1.35	50.00
Mean Length			511		580	542	599	580	557
Std. Error			3		2	6	5	8	2
Sample Size			71		150	28	3	7	259
Mean Weight			2.09		3.03	2.42		3.62	2.72
Std. Error			0.11		0.08	0.32			0.06
Sample Size			9		19	4		1	33
Both Sexes		1,394	103,857	697	195,866	46,004	2,091	11,152	361,061
Percent		0.39	28.76	0.19	54.25	12.74	0.58	3.09	100.00
Mean Length		593	516	373	588	544	599	586	561
Std. Error		3	3		1	4	5	9	1
Sample Size		2	149	1	281	66	3	16	518
Mean Weight		2.97	2.30		3.24	2.45		3.09	2.86
Std. Error			0.09		0.07	0.18		0.81	0.05
Sample Size		1	23		40	8		3	75

-Continued-

Table 9. (p 3 of 12).

	Age Group								
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	Total
Sample Period 3	6/28-7/01								
Males			86,628		155,456	54,587		28,480	325,151
Percent			12.83		23.02	8.08		4.22	48.15
Mean Length			519		592	538		588	563
Std. Error			4		2	5		5	2
Sample Size			73		131	46		24	274
Mean Weight			2.40		3.56	2.50		3.66	3.08
Std. Error			0.12		0.11	0.21		0.17	0.07
Sample Size			16		22	8		3	49
Females		1,187	56,961		192,241	68,828		30,854	350,071
Percent		0.18	8.44		28.47	10.19		4.57	51.85
Mean Length		557	512		576	525		575	555
Std. Error			3		2	3		4	1
Sample Size		1	48		162	58		26	295
Mean Weight			1.92		3.05	2.05		2.88	2.65
Std. Error			0.07		0.11	0.10		0.23	0.07
Sample Size			8		22	6		4	40
Both Sexes		1,187	143,589		347,697	123,415		59,334	675,222
Percent		0.18	21.27		51.49	18.28		8.79	100.00
Mean Length		557	516		583	531		581	559
Std. Error			3		1	3		3	1
Sample Size		1	121		293	104		50	569
Mean Weight			2.21		3.28	2.25		3.25	2.86
Std. Error			0.08		0.08	0.11		0.14	0.05
Sample Size			24		44	14		7	89

-Continued-

Table 9. (p 4 of 12).

	Age Group								
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	Total
Sample Period 4	7/02-7/04								
Males			21,861		30,491	17,834	575	11,794	82,555
Percent			14.21		19.81	11.59	0.37	7.66	53.64
Mean Length			519		577	536	596	571	552
Std. Error			4		3	4	24	5	2
Sample Size			76		106	62	2	41	287
Mean Weight			2.06		3.13	2.28		3.21	2.67
Std. Error			0.10		0.15	0.24		0.29	0.09
Sample Size			20		19	12		6	57
Females			14,382		27,327	14,095		15,533	71,337
Percent			9.35		17.76	9.16		10.09	46.36
Mean Length			513		564	527		563	546
Std. Error			5		3	4		4	2
Sample Size			50		95	49		54	248
Mean Weight			1.94		2.99	2.43		2.88	2.64
Std. Error			0.15		0.08	0.23		0.22	0.08
Sample Size			6		16	5		6	33
Both Sexes			36,243		57,818	31,929	575	27,327	153,892
Percent			23.55		37.57	20.75	0.37	17.76	100.00
Mean Length			517		571	532	596	567	549
Std. Error			3		2	3	24	3	1
Sample Size			126		201	111	2	95	535
Mean Weight			2.01		3.06	2.35		3.02	2.66
Std. Error			0.09		0.09	0.17		0.17	0.06
Sample Size			26		35	17		12	90

-Continued-

Table 9. (p 5 of 12).

	Age Group								
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	Total
Sample Period 5 7/05-7/07									
Males			60,555		54,217	43,655	704	11,970	171,101
Percent			16.11		14.42	11.61	0.19	3.18	45.51
Mean Length			526		588	542	639	583	554
Std. Error			4		4	4		9	2
Sample Size			86		77	62	1	17	243
Mean Weight			2.44		3.09	2.54		3.64	2.76
Std. Error			0.14		0.16	0.10		0.23	0.08
Sample Size			16		12	13		5	46
Females			52,809		102,098	37,318	704	11,970	204,899
Percent			14.04		27.15	9.93	0.19	3.18	54.49
Mean Length			516		568	526	599	568	547
Std. Error			3		2	3		5	2
Sample Size			75		145	53	1	17	291
Mean Weight			1.98		2.90	2.32		2.80	2.55
Std. Error			0.09		0.12	0.06		0.06	0.07
Sample Size			6		30	7		5	48
Both Sexes			113,364		156,315	80,973	1,408	23,940	376,000
Percent			30.15		41.57	21.54	0.37	6.37	100.00
Mean Length			521		575	535	619	576	550
Std. Error			2		2	2		5	1
Sample Size			161		222	115	2	34	534
Mean Weight			2.23		2.97	2.44		3.22	2.64
Std. Error			0.08		0.10	0.06		0.12	0.05
Sample Size			22		42	20		10	94

-Continued-

Table 9. (p 6 of 12).

	Age Group								
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	Total
Sample Period 6	7/08-7/10								
Males			17,257		27,725	7,638		13,580	66,200
Percent			11.53		18.53	5.10		9.07	44.23
Mean Length			519		595	534		582	566
Std. Error			4		10	4		4	4
Sample Size			61		98	27		48	234
Mean Weight			2.06		3.37	2.41		3.48	2.94
Std. Error			0.14		0.17	0.08		0.11	0.08
Sample Size			8		24	11		9	52
Females			18,955		36,212	10,468	566	17,257	83,458
Percent			12.67		24.20	6.99	0.38	11.53	55.77
Mean Length			515		571	525	571	572	553
Std. Error			3		2	3	22	2	1
Sample Size			67		128	37	2	61	295
Mean Weight			1.94		2.88	2.16	2.60	2.98	2.59
Std. Error			0.07		0.07	0.06		0.07	0.04
Sample Size			12		34	16	1	19	82
Both Sexes			36,212		63,937	18,106	566	30,837	149,658
Percent			24.20		42.72	12.10	0.38	20.60	100.00
Mean Length			517		581	529	571	577	558
Std. Error			2		4	2	22	2	2
Sample Size			128		226	64	2	109	529
Mean Weight			2.00		3.09	2.27	2.60	3.20	2.75
Std. Error			0.08		0.08	0.05		0.06	0.04
Sample Size			20		58	27	1	28	134

-Continued-

Table 9. (p 7 of 12).

	Age Group								
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	Total
Sample Period 7	7/11-7/12								
Males	508		101,015	508	106,092	40,609		15,228	263,960
Percent	0.09		18.56	0.09	19.50	7.46		2.80	48.51
Mean Length	320		518	520	589	550		587	555
Std. Error			2		2	3		4	1
Sample Size	1		199	1	209	80		30	520
Mean Weight			2.21	2.44	3.39	2.53		3.40	2.80
Std. Error			0.07		0.09	0.08		0.14	0.05
Sample Size			35	1	39	17		7	99
Females	508		109,137	1,015	111,675	35,533	508	21,827	280,203
Percent	0.09		20.06	0.19	20.52	6.53	0.09	4.01	51.49
Mean Length	331		506	340	571	524	546	568	538
Std. Error			2	13	2	3		3	1
Sample Size	1		215	2	220	70	1	43	552
Mean Weight	0.58		1.89		2.93	1.99	1.97	2.86	2.39
Std. Error			0.06		0.08	0.10		0.16	0.04
Sample Size	1		32		44	10	1	10	98
Both Sexes	1,016		210,152	1,523	217,767	76,142	508	37,055	544,163
Percent	0.19		38.62	0.28	40.02	13.99	0.09	6.81	100.00
Mean Length	326		512	400	580	538	546	576	547
Std. Error			1	13	1	2		2	1
Sample Size	2		414	3	429	150	1	73	1,072
Mean Weight	0.58		2.04	2.44	3.15	2.28	1.97	3.08	2.59
Std. Error			0.05		0.06	0.06		0.11	0.03
Sample Size	1		67	1	83	27	1	17	197

-Continued-

Table 9. (p 8 of 12).

	Age Group								
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	Total
Sample Period 8	7/13								
Males	154	154	13,376	307	10,915	5,073		2,614	32,593
Percent	0.19	0.19	16.26	0.37	13.27	6.17		3.18	39.63
Mean Length	302	564	521	364	590	554		589	552
Std. Error			3	18	3	4		8	2
Sample Size	1	1	87	2	71	33		17	212
Mean Weight			2.28		3.57	2.82		3.12	2.87
Std. Error			0.07		0.13	0.11		0.24	0.06
Sample Size			21		15	6		6	48
Females			17,372		21,830	7,687	154	2,614	49,657
Percent			21.12		26.54	9.35	0.19	3.18	60.37
Mean Length			504		571	525	587	571	541
Std. Error			2		2	4		4	1
Sample Size			113		142	50	1	17	323
Mean Weight			1.76		2.86	2.30		3.09	2.40
Std. Error			0.12		0.08	0.15		0.17	0.06
Sample Size			16		21	10		5	52
Both Sexes	154	154	30,748	307	32,745	12,760	154	5,228	82,250
Percent	0.19	0.19	37.38	0.37	39.81	15.51	0.19	6.36	100.00
Mean Length	302	564	511	364	577	537	587	580	545
Std. Error			2	18	2	3		5	1
Sample Size	1	1	200	2	213	83	1	34	535
Mean Weight			1.99		3.10	2.51		3.11	2.59
Std. Error			0.07		0.07	0.10		0.15	0.04
Sample Size			37		36	16		11	100

-Continued-

Table 9. (p 9 of 12).

	Age Group								
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	Total
Sample Period 9 7/14									
Males			76,340		60,664	23,175	682	16,359	177,220
Percent			20.36		16.18	6.18	0.18	4.36	47.27
Mean Length			529		573	541	550	569	549
Std. Error			3		4	4		7	2
Sample Size			112		89	34	1	24	260
Mean Weight			2.40		3.15	2.67		3.16	2.76
Std. Error			0.12		0.10	0.10		0.35	0.07
Sample Size			17		20	8		4	49
Females			70,888		73,614	34,762	682	17,722	197,668
Percent			18.91		19.64	9.27	0.18	4.73	52.73
Mean Length			512		561	526	589	561	538
Std. Error			3		3	4		5	2
Sample Size			104		108	51	1	26	290
Mean Weight			1.89		2.89	2.27		3.01	2.43
Std. Error			0.06		0.12	0.08		0.12	0.05
Sample Size			9		12	11		6	38
Both Sexes			147,228		134,278	57,937	1,364	34,081	374,888
Percent			39.27		35.82	15.45	0.36	9.09	100.00
Mean Length			521		567	532	570	565	543
Std. Error			2		2	3		4	1
Sample Size			216		197	85	2	50	550
Mean Weight			2.15		3.01	2.43		3.08	2.59
Std. Error			0.07		0.08	0.06		0.18	0.04
Sample Size			26		32	19		10	87

-Continued-

Table 9. (p 10 of 12).

	Age Group								
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	Total
Sample Period 10	7/15-7/16								
Males			66,119	1,296	55,747	22,688	1,296	11,020	158,166
Percent			18.92	0.37	15.96	6.49	0.37	3.15	45.27
Mean Length			523	376	589	541	635	590	553
Std. Error			2	4	3	3	4	6	2
Sample Size			102	2	86	35	2	17	244
Mean Weight			2.33		3.33	2.63		3.77	2.83
Std. Error			0.10		0.15	0.09		0.12	0.07
Sample Size			23		16	18		4	61
Females			80,380		68,063	31,115	1,945	9,723	191,226
Percent			23.01		19.48	8.91	0.56	2.78	54.73
Mean Length			508		564	528	594	569	535
Std. Error			3		2	3	8	5	2
Sample Size			124		105	48	3	15	295
Mean Weight			2.01		2.91	2.26		2.82	2.42
Std. Error			0.07		0.08	0.08		0.40	0.05
Sample Size			36		27	12		3	78
Both Sexes			146,499	1,296	123,810	53,803	3,241	20,743	349,392
Percent			41.93	0.37	35.44	15.40	0.93	5.94	100.00
Mean Length			515	376	575	533	610	580	544
Std. Error			2	4	2	2	5	4	1
Sample Size			226	2	191	83	5	32	539
Mean Weight			2.15		3.10	2.42		3.32	2.60
Std. Error			0.06		0.08	0.06		0.20	0.04
Sample Size			59		43	30		7	139

-Continued-

Table 9. (p 11 of 12).

	Age Group								
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	Total
Sample Period 11	7/17-9/03								
Males			54,092	506	28,816	8,594	1,011	1,517	94,536
Percent			24.83	0.23	13.23	3.94	0.46	0.70	43.39
Mean Length			529	357	577	560	604	560	547
Std. Error			3		4	9	4	5	2
Sample Size			107	1	57	17	2	3	187
Mean Weight			2.24		2.93	3.25	4.32		2.57
Std. Error			0.16		0.31	0.24			0.14
Sample Size			24		9	3	1		37
Females			62,687		36,399	19,716		4,550	123,352
Percent			28.77		16.71	9.05		2.09	56.61
Mean Length			510		559	536		562	531
Std. Error			3		3	6		13	2
Sample Size			124		72	39		9	244
Mean Weight			1.92		2.77	2.03		3.22	2.24
Std. Error			0.06		0.09	0.08		0.33	0.04
Sample Size			40		21	7		2	70
Both Sexes			116,779	506	65,215	28,310	1,011	6,067	217,888
Percent			53.60	0.23	29.93	12.99	0.46	2.78	100.00
Mean Length			519	357	567	543	604	561	538
Std. Error			2		3	5	4	10	2
Sample Size			231	1	129	56	2	12	431
Mean Weight			2.07		2.84	2.40	4.32	3.22	2.38
Std. Error			0.08		0.15	0.09		0.33	0.06
Sample Size			64		30	10	1	2	107

-Continued-

Table 9. (p 12 of 12).

	Age Group								
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	Total
All Periods Combined									
Males	662	1,548	579,688	3,314	708,129	269,551	4,268	124,746	1,691,906
Percent	0.02	0.04	16.33	0.09	19.95	7.59	0.12	3.51	47.67
Mean Length	316	590	522	393	590	543	609	583	558
Std. Error		3	1	5	1	1	5	2	1
Sample Size	2	3	1,038	7	1,231	473	8	242	3,004
Mean Weight		2.97	2.31	2.44	3.35	2.55	4.32	3.43	2.87
Std. Error			0.04		0.05	0.06		0.09	0.03
Sample Size		1	198	1	206	107	1	46	560
Females	508	1,187	546,852	1,015	858,736	299,235	7,143	142,840	1,857,516
Percent	0.01	0.03	15.41	0.03	24.19	8.43	0.20	4.02	52.33
Mean Length	331	557	510	340	572	528	591	569	546
Std. Error			1	13	1	1	5	2	0
Sample Size	1	1	1,019	2	1,499	524	13	287	3,346
Mean Weight	0.58		1.94		2.96	2.18	2.30	2.94	2.53
Std. Error			0.03		0.04	0.04		0.07	0.02
Sample Size	1		179		261	97	2	62	602
Both Sexes	1,170	2,735	1,126,540	4,329	1,566,865	568,786	11,411	267,586	3,549,422
Percent	0.03	0.08	31.74	0.12	44.14	16.02	0.32	7.54	100.00
Mean Length	322	576	516	381	580	535	598	575	552
Std. Error		3	1	6	1	1	4	1	0
Sample Size	3	4	2,057	9	2,730	997	21	529	6,350
Mean Weight	0.58	2.97	2.13	2.44	3.14	2.36	3.28	3.16	2.69
Std. Error			0.02		0.03	0.03		0.06	0.02
Sample Size	1	1	377	1	467	204	3	108	1,162

Table 10. Age and sex composition of sockeye salmon estimated catch and escapement, Kvichak River, 1988.

	Age Group									
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	Total
					CATCH					
Males		652	1,187	438,134	2,020	584,396	194,454	944	27,150	1,248,937
Percent		0.01	0.02	6.47	0.03	8.63	2.87	0.01	0.40	18.44
Females			1,548	462,839	883	716,354	239,977	1,284	34,843	1,457,728
Percent			0.02	6.83	0.01	10.58	3.54	0.02	0.51	21.53
Both Sexes		652	2,735	900,973	2,903	1,300,750	434,431	2,228	61,993	2,706,665
Percent		0.01	0.04	13.30	0.04	19.21	6.42	0.03	0.92	39.97
					ESCAPEMENT					
Males	3,485	5,909		719,114	31,048	702,268	308,301	2,424	33,978	1,806,527
Percent	0.05	0.09		10.62	0.46	10.37	4.55	0.04	0.50	26.68
Females			1,162	838,034	9,261	976,973	391,738	1,022	40,499	2,258,689
Percent			0.02	12.38	0.14	14.43	5.78	0.02	0.60	33.35
Both Sexes	3,485	5,909	1,162	1,557,148	40,309	1,679,241	700,039	3,446	74,477	4,065,216
Percent	0.05	0.09	0.02	22.99	0.60	24.80	10.34	0.05	1.10	60.03
					CATCH AND ESCAPEMENT					
Males	3,485	6,561	1,187	1,157,248	33,068	1,286,664	502,755	3,368	61,128	3,055,464
Percent	0.05	0.10	0.02	17.09	0.49	19.00	7.42	0.05	0.90	45.12
Females			2,710	1,300,873	10,144	1,693,327	631,715	2,306	75,342	3,716,417
Percent			0.04	19.21	0.15	25.01	9.33	0.03	1.11	54.88
Both Sexes	3,485	6,561	3,897	2,458,121	43,212	2,979,991	1,134,470	5,674	136,470	6,771,881
Percent	0.05	0.10	0.06	36.30	0.64	44.01	16.75	0.08	2.02	100.00

Table 11. Daily sockeye salmon escapement counts, Kvichak River, 1988.

Date	Daily Count	Cumulative Count	Daily Percent of Total	Cumulative Percent
June 25	1,068	1,068	0.03	0.03
26	3,378	4,446	0.08	0.11
27	71,958	76,404	1.77	1.88
28	188,070	264,474	4.63	6.51
29	48,396	312,870	1.19	7.70
30	14,730	327,600	0.36	8.06
July 1	36,204	363,804	0.89	8.95
2	414,204	778,008	10.19	19.14
3	414,504	1,192,512	10.20	29.33
4	405,258	1,597,770	9.97	39.30
5	303,438	1,901,208	7.46	46.77
6	178,062	2,079,270	4.38	51.15
7	109,842	2,189,112	2.70	53.85
8	42,528	2,231,640	1.05	54.90
9	40,224	2,271,864	0.99	55.89
10	117,084	2,388,948	2.88	58.77
11	385,602	2,774,550	9.49	68.25
12	698,280	3,472,830	17.18	85.43
13	279,762	3,752,592	6.88	92.31
14	87,486	3,840,078	2.15	94.46
15	107,856	3,947,934	2.65	97.11
16	41,706	3,989,640	1.03	98.14
17	30,636	4,020,276	0.75	98.89
18	25,224	4,045,500	0.62	99.52
19	11,742	4,057,242	0.29	99.80
20	4,296	4,061,538	0.11	99.91
21	3,078	4,064,616	0.08	99.99
22	600	4,065,216	0.01	100.00

Table 12. Age, sex, and size composition of sockeye salmon escapement, Kvichak River, 1988.

	Age Group									
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	Total
Sample Period 1	6/25-7/01									
Males				40,877	1,022	87,884	43,943		2,044	175,770
Percent				11.24	0.28	24.16	12.08		0.56	48.31
Mean Length				518	372	597	542		608	563
Std. Error				5		3	5		8	2
Sample Size				40	1	86	43		2	172
Females				24,526		125,697	36,789	1,022		188,034
Percent				6.74		34.55	10.11	0.28		51.69
Mean Length				504		586	527	600		564
Std. Error				6		2	5			2
Sample Size				24		123	36	1		184
Both Sexes				65,403	1,022	213,581	80,732	1,022	2,044	363,804
Percent				17.98	0.28	58.71	22.19	0.28	0.56	100.00
Mean Length				513	372	590	535	600	608	564
Std. Error				4		2	3		8	1
Sample Size				64	1	209	79	1	2	356
Sample Period 2	7/02-7/04									
Males				173,635	11,576	201,416	122,702		18,521	527,850
Percent				14.07	0.94	16.32	9.94		1.50	42.78
Mean Length				512	376	599	538		592	551
Std. Error				4	27	3	5		9	2
Sample Size				75	5	87	53		8	228
Females				231,513	9,261	314,858	141,223		9,261	706,116
Percent				18.76	0.75	25.52	11.44		0.75	57.22
Mean Length				506	365	580	519		565	541
Std. Error				3	12	2	3		19	2
Sample Size				100	4	136	61		4	305
Both Sexes				405,148	20,837	516,274	263,925		27,782	1,233,966
Percent				32.83	1.69	41.84	21.39		2.25	100.00
Mean Length				509	371	588	528		583	545
Std. Error				2	16	2	3		9	1
Sample Size				175	9	223	114		12	533

-Continued-

Table 12. (p 2 of 3).

	Age Group									
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	Total
Sample Period 3	7/05-7/08									
Males				122,596	5,572	107,270	47,366		1,393	284,197
Percent				19.34	0.88	16.92	7.47		0.22	44.84
Mean Length				523	349	601	543		635	553
Std. Error				3	15	3	7			2
Sample Size				88	4	77	34		1	204
Females				130,953		146,277	64,084		8,359	349,673
Percent				20.66		23.08	10.11		1.32	55.16
Mean Length				499		578	521		585	538
Std. Error				2		3	4		17	2
Sample Size				94		105	46		6	251
Both Sexes				253,549	5,572	253,547	111,450		9,752	633,870
Percent				40.00	0.88	40.00	17.58		1.54	100.00
Mean Length				511	349	588	530		592	545
Std. Error				2	15	2	4		17	1
Sample Size				182	4	182	80		7	455
Sample Period 4	7/09-7/12									
Males		2,424		247,268	2,424	227,875	60,605	2,424	9,697	552,717
Percent		0.20		19.92	0.20	18.36	4.88	0.20	0.78	44.53
Mean Length		337		520	350	603	542	650	600	557
Std. Error				3		3	6		19	2
Sample Size		1		102	1	94	25	1	4	228
Females				259,389		303,025	106,665		19,394	688,473
Percent				20.90		24.41	8.59		1.56	55.47
Mean Length				510		586	531		566	548
Std. Error				2		2	4		9	1
Sample Size				107		125	44		8	284
Both Sexes		2,424		506,657	2,424	530,900	167,270	2,424	29,091	1,241,190
Percent		0.20		40.82	0.20	42.77	13.48	0.20	2.34	100.00
Mean Length		337		515	350	593	535	650	578	552
Std. Error				2		2	3		9	1
Sample Size		1		209	1	219	69	1	12	512

-Continued-

Table 12. (p 3 of 3).

	Age Group									
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	Total
Sample Period 5 7/13-7/22										
Males	3,485	3,485		134,738	10,454	77,823	33,685		2,323	265,993
Percent	0.59	0.59		22.74	1.76	13.14	5.69		0.39	44.90
Mean Length	467	349		519	354	602	541		608	538
Std. Error	35	16		3	9	3	6		3	2
Sample Size	3	3		116	9	67	29		2	229
Females			1,162	191,653		87,116	42,977		3,485	326,393
Percent			0.20	32.35		14.71	7.25		0.59	55.10
Mean Length			589	502		576	526		577	526
Std. Error				2		2	4		17	1
Sample Size			1	165		75	37		3	281
Both Sexes	3,485	3,485	1,162	326,391	10,454	164,939	76,662		5,808	592,386
Percent	0.59	0.59	0.20	55.10	1.76	27.84	12.94		0.98	100.00
Mean Length	467	349	589	509	354	588	532		589	531
Std. Error	35	16		2	9	2	4		10	1
Sample Size	3	3	1	281	9	142	66		5	510
All Periods Combined										
Males	3,485	5,909		719,114	31,048	702,268	308,301	2,424	33,978	1,806,527
Percent	0.09	0.15		17.69	0.76	17.28	7.58	0.06	0.84	44.44
Mean Length	467	344		518	362	601	541	650	598	552
Std. Error	35	16		2	12	2	3		8	1
Sample Size	3	4		421	20	411	184	1	17	1,061
Females			1,162	838,034	9,261	976,973	391,738	1,022	40,499	2,258,689
Percent			0.03	20.61	0.23	24.03	9.64	0.03	1.00	55.56
Mean Length			589	505	365	582	524	600	571	542
Std. Error				1	12	1	2		7	1
Sample Size			1	490	4	564	224	1	21	1,305
Both Sexes	3,485	5,909	1,162	1,557,148	40,309	1,679,241	700,039	3,446	74,477	4,065,216
Percent	0.09	0.15	0.03	38.30	0.99	41.31	17.22	0.08	1.83	100.00
Mean Length	467	344	589	511	362	590	531	635	583	547
Std. Error	35	16		1	10	1	2		5	1
Sample Size	3	4	1	911	24	975	408	2	38	2,366

Table 13. Age and sex composition of sockeye salmon estimated catch and escapement, Branch River, 1988.

	Age Group						
	1.1	1.2	2.1	1.3	2.2	2.3	Total
				CATCH			
Males	325	29,815	13	30,240	6,080	664	67,137
Percent	0.10	9.26	0.00[a]	9.39	1.89	0.21	20.85
Females		27,027		26,646	5,905	716	60,294
Percent		8.39		8.27	1.83	0.22	18.72
Both Sexes	325	56,842	13	56,886	11,985	1,380	127,431
Percent	0.10	17.65	0.00[a]	17.66	3.72	0.43	39.57
				ESCAPEMENT			
Males	2,943	48,935	196	36,339	9,639	831	98,883
Percent	0.91	15.19	0.06	11.28	2.99	0.26	30.70
Females		48,936		36,340	9,639	832	95,747
Percent		15.19		11.28	2.99	0.26	29.73
Both Sexes	2,943	97,871	196	72,679	19,278	1,663	194,630
Percent	0.91	30.39	0.06	22.57	5.99	0.52	60.43
				CATCH AND ESCAPEMENT			
Males	3,268	78,750	209	66,579	15,719	1,495	166,020
Percent	1.01	24.45	0.06	20.67	4.88	0.46	51.55
Females		75,963		62,986	15,544	1,548	156,041
Percent		23.59		19.56	4.83	0.48	48.45
Both Sexes	3,268	154,713	209	129,565	31,263	3,043	322,061
Percent	1.01	48.04	0.06	40.23	9.71	0.94	100.00

[a] Represented < 0.01% of total

Table 14. Age and sex composition of sockeye salmon estimated catch and escapement, Naknek River, 1988.

	Age Group								
	1.1	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
					CATCH				
Males	193	111,740	1,281	93,493	69,018	3,324	96,932		375,981
Percent	0.01	6.37	0.07	5.33	3.94	0.19	5.53		21.45
Females		56,985	132	115,736	53,352	5,859	107,281		339,345
Percent		3.25	0.01	6.60	3.04	0.33	6.12		19.36
Both Sexes	193	168,725	1,413	209,229	122,370	9,183	204,213		715,326
Percent	0.01	9.62	0.08	11.93	6.98	0.52	11.65		40.80
					ESCAPEMENT				
Males	1,748	183,400	19,675	112,351	109,426	8,531	121,310	997	557,438
Percent	0.10	10.46	1.12	6.41	6.24	0.49	6.92	0.06	31.80
Females		103,179	1,386	157,843	87,091	4,663	124,695	1,567	480,424
Percent		5.89	0.08	9.00	4.97	0.27	7.11	0.09	27.40
Both Sexes	1,748	286,579	21,061	270,194	196,517	13,194	246,005	2,564	1,037,862
Percent	0.10	16.35	1.20	15.41	11.21	0.75	14.03	0.15	59.20
					CATCH AND ESCAPEMENT				
Males	1,941	295,140	20,956	205,844	178,444	11,855	218,242	997	933,419
Percent	0.11	16.83	1.20	11.74	10.18	0.68	12.45	0.06	53.24
Females		160,164	1,518	273,579	140,443	10,522	231,976	1,567	819,769
Percent		9.14	0.09	15.60	8.01	0.60	13.23	0.09	46.76
Both Sexes	1,941	455,304	22,474	479,423	318,887	22,377	450,218	2,564	1,753,188
Percent	0.11	25.97	1.28	27.35	18.19	1.28	25.68	0.15	100.00

Table 15. Daily sockeye salmon escapement counts, Naknek River, 1988.

Date	Daily Count	Cumulative Count	Daily Percent of Total	Cumulative Percent
June 21	0	0	0.00	0.00
22	618	618	0.06	0.06
23	252	870	0.02	0.08
24	1,062	1,932	0.10	0.19
25	15,492	17,424	1.49	1.68
26	9,564	26,988	0.92	2.60
27	39,540	66,528	3.81	6.41
28	8,718	75,246	0.84	7.25
29	9,528	84,774	0.92	8.17
30	67,272	152,046	6.48	14.65
July 1	140,556	292,602	13.54	28.19
2	47,586	340,188	4.59	32.78
3	120,600	460,788	11.62	44.40
4	56,448	517,236	5.44	49.84
5	24,906	542,142	2.40	52.24
6	14,988	557,130	1.44	53.68
7	31,806	588,936	3.06	56.75
8	71,262	660,198	6.87	63.61
9	111,612	771,810	10.75	74.37
10	134,046	905,856	12.92	87.28
11	23,280	929,136	2.24	89.52
12	21,666	950,802	2.09	91.61
13	28,170	978,972	2.71	94.33
14	21,720	1,000,692	2.09	96.42
15	6,696	1,007,388	0.65	97.06
16	20,232	1,027,620	1.95	99.01
17	5,202	1,032,822	0.50	99.51
18	2,286	1,035,108	0.22	99.73
19	1,764	1,036,872	0.17	99.90
20	990	1,037,862	0.10	100.00

Table 16. Age, sex, and size composition of sockeye salmon escapement, Naknek River, 1988.

	Age Group							
	1.1	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 1 6/21-6/27									
Males		18,457	572	7,154	8,584	1,001	5,007	143	40,918
Percent		27.74	0.86	10.75	12.90	1.50	7.53	0.21	61.50
Mean Length		470	339	580	498	620	589	640	512
Std. Error		3	4	5	5	7	4		2
Sample Size		129	4	50	60	7	35	1	286
Females		7,155		7,010	4,578	429	6,438		25,610
Percent		10.75		10.54	6.88	0.64	9.68		38.50
Mean Length		480		570	500	592	574		534
Std. Error		4		3	5	10	2		2
Sample Size		50		49	32	3	45		179
Both Sexes		25,612	572	14,164	13,162	1,430	11,445	143	66,528
Percent		38.50	0.86	21.29	19.78	2.15	17.20	0.21	100.00
Mean Length		473	339	575	499	611	581	640	520
Std. Error		2	4	3	4	5	2		1
Sample Size		179	4	99	92	10	80	1	465
Sample Period 2 6/28-7/03									
Males		91,462	4,850	35,338	50,582	2,772	54,739		239,743
Percent		23.20	1.23	8.96	12.83	0.70	13.88		60.81
Mean Length		474	351	580	501	624	591		521
Std. Error		3	13	5	5	9	3		2
Sample Size		132	7	51	73	4	79		346
Females		42,267	1,386	40,188	29,102	2,079	38,802	693	154,517
Percent		10.72	0.35	10.19	7.38	0.53	9.84	0.18	39.19
Mean Length		480	389	571	500	605	575	583	533
Std. Error		3	27	2	5	12	2		2
Sample Size		61	2	58	42	3	56	1	223
Both Sexes		133,729	6,236	75,526	79,684	4,851	93,541	693	394,260
Percent		33.92	1.58	19.16	20.21	1.23	23.73	0.18	100.00
Mean Length		476	359	575	501	616	585	583	526
Std. Error		2	12	3	4	7	2		1
Sample Size		193	9	109	115	7	135	1	569
Sample Period 3 7/04-7/08									
Males		35,015	7,259	21,777	18,788	2,135	21,350	854	107,178
Percent		17.56	3.64	10.92	9.42	1.07	10.71	0.43	53.75
Mean Length		480	355	585	495	628	585	575	520
Std. Error		4	7	4	6	15	4	26	2
Sample Size		82	17	51	44	5	50	2	251
Females		18,788		34,587	14,945	1,281	22,631		92,232
Percent		9.42		17.34	7.49	0.64	11.35		46.25
Mean Length		480		566	505	589	571		540
Std. Error		5		2	5	4	2		2
Sample Size		44		81	35	3	53		216
Both Sexes		53,803	7,259	56,364	33,733	3,416	43,981	854	199,410
Percent		26.98	3.64	28.27	16.92	1.71	22.06	0.43	100.00
Mean Length		480	355	573	499	614	578	575	529
Std. Error		3	7	2	4	9	2	26	1
Sample Size		126	17	132	79	8	103	2	467

-Continued-

Table 16. (p 2 of 2).

	Age Group								
	1.1	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 4 7/09-7/20									
Males	1,748	38,466	6,994	48,082	31,472	2,623	40,214		169,599
Percent	0.46	10.19	1.85	12.73	8.33	0.69	10.65		44.91
Mean Length	326	485	352	593	517	639	591		542
Std. Error	16	5	5	3	5	11	3		2
Sample Size	2	44	8	55	36	3	46		194
Females		34,969		76,058	38,466	874	56,824	874	208,065
Percent		9.26		20.14	10.19	0.23	15.05	0.23	55.09
Mean Length		485		567	515	598	578	595	547
Std. Error		4		3	3		2		1
Sample Size		40		87	44	1	65	1	238
Both Sexes	1,748	73,435	6,994	124,140	69,938	3,497	97,038	874	377,664
Percent	0.46	19.44	1.85	32.87	18.52	0.93	25.69	0.23	100.00
Mean Length	326	485	352	577	516	629	583	595	545
Std. Error	16	3	5	2	3	11	2		1
Sample Size	2	84	8	142	80	4	111	1	432
All Periods Combined									
Males	1,748	183,400	19,675	112,351	109,426	8,531	121,310	997	557,438
Percent	0.17	17.67	1.90	10.83	10.54	0.82	11.69	0.10	53.71
Mean Length	326	477	353	587	505	629	590	584	527
Std. Error	16	2	4	2	3	6	2	26	1
Sample Size	2	387	36	207	213	19	210	3	1,077
Females		103,179	1,386	157,843	87,091	4,663	124,695	1,567	480,424
Percent		9.94	0.13	15.21	8.39	0.45	12.01	0.15	46.29
Mean Length		482	389	568	507	598	576	590	540
Std. Error		2	27	2	3	7	1		1
Sample Size		195	2	275	153	10	219	2	856
Both Sexes	1,748	286,579	21,061	270,194	196,517	13,194	246,005	2,564	1,037,862
Percent	0.17	27.61	2.03	26.03	18.93	1.27	23.70	0.25	100.00
Mean Length	326	479	355	576	506	618	583	588	533
Std. Error	16	1	4	1	2	4	1	26	1
Sample Size	2	582	38	482	366	29	429	5	1,933

Table 17. Age, sex, and size composition of chinook salmon escapement, Branch River, 1988.

	Age Group					
	1.1	1.2	1.3	1.4	1.5	Total[a]
Males	92	432	3,210	1,142	62	4,938
Percent	1.17	5.47	40.63	14.45	0.78	62.50
Mean Length	641	786	877	922	1,024	877
Std. Error	148	21	7	16	3	8
Sample Size	3	14	104	37	2	160
Females		401	1,604	895	62	2,962
Percent		5.08	20.31	11.33	0.78	37.50
Mean Length		818	874	919	951	882
Std. Error		23	8	10	26	7
Sample Size		13	52	29	2	96
Both Sexes	92	833	4,814	2,037	123	7,900
Percent	1.17	10.55	60.94	25.78	1.56	100.00
Mean Length	641	802	876	921	987	879
Std. Error	148	15	5	10	24	5
Sample Size	3	27	156	66	4	256

[a] Escapement counts are indices of abundance from aerial surveys and do not represent total escapement.

Table 18. Age, sex, and size composition of chinook salmon escapement, Naknek River, 1988.

	Age Group					
	1.1	1.2	1.3	1.4	1.5	Total
Big Creek Escapement[a]						
Males	170	241	765	723	14	1,913
Percent	4.72	6.69	21.26	20.08	0.39	53.15
Mean Length	553	670	859	905	895	826
Std. Error	25	23	12	9		12
Sample Size	12	17	54	51	1	135
Females		85	907	666	28	1,687
Percent		2.36	25.20	18.50	0.79	46.85
Mean Length		727	819	845	890	825
Std. Error		25	8	8	15	6
Sample Size		6	64	47	2	119
Both Sexes	170	326	1,672	1,389	43	3,600
Percent	4.72	9.06	45.46	38.58	1.18	100.00
Mean Length	553	685	837	876	892	826
Std. Error	25	19	7	6	9	7
Sample Size	12	23	118	98	3	254
Naknek River Escapement[a]						
Males	122	226	2,276	1,042	52	3,717
Percent	1.64	3.05	30.75	14.08	0.70	50.23
Mean Length	538	657	883	922	951	876
Std. Error	47	20	8	7	23	7
Sample Size	7	13	131	60	3	214
Females		122	2,467	1,025	69	3,683
Percent		1.64	33.33	13.85	0.94	49.77
Mean Length		803	849	874	871	856
Std. Error		25	4	6	38	3
Sample Size		7	142	59	4	212
Both Sexes	122	347	4,742	2,067	122	7,400
Percent	1.64	4.69	64.08	27.93	1.64	100.00
Mean Length	538	773	865	898	906	866
Std. Error	47	16	4	5	27	4
Sample Size	7	20	273	119	7	426

[a] Escapement counts are indices of abundance from aerial surveys and do not represent total escapement.

Table 19. Commercial salmon catch by period and species, Egegik District, 1988.

Opening		Effort[a]		Catch (number of fish)					
Period	Hours[b]	Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
6/06	15			189	34	47	0	0	270
6/07	24	3	30	363	47	149	0	0	559
6/08	24			345	40	138	0	0	523
6/09	24			496	106	328	0	0	930
6/10	9			233	55	206	0	0	494
6/13	15	102	81	12,631	319	4,654	0	0	17,604
6/14	24			26,684	152	5,784	0	0	32,620
6/15	24			30,758	204	6,583	0	0	37,545
6/16	24			42,649	140	7,151	0	0	49,940
6/17	9			33,055	49	4,888	0	0	37,992
6/20	15	576	147	292,350	216	16,708	0	0	309,274
6/21	24			215,591	267	10,806	1	0	226,665
6/22	24			259,472	168	10,987	0	0	270,627
6/23	9			244,216	78	10,223	0	0	254,517
6/27	12	715	241	519,225	259	18,728	0	0	538,212
6/29	12	575	236	938,322	247	15,279	0	0	953,848
7/01	11			1,007,728	87	16,960	0	0	1,024,775
7/03[c]	0			2,017	0	27	0	0	2,044
7/04	9	563	227	143,750	49	3,050	0	0	146,849
7/05	2			229,893	25	5,576	0	0	235,494
7/06	10	385	220	327,356	52	7,062	0	0	334,470
7/07	5		225	104,687	9	2,023	0	0	106,719
7/08	5			354,901	25	7,444	0	0	362,370
7/09	9	384	231	306,276	34	6,611	0	0	312,921
7/10	2			462	0	11	0	0	473
7/11	7			182,536	10	6,069	0	0	188,615
7/12	9			246,657	38	9,163	0	0	255,858
7/13	10	283	231	264,725	26	12,235	0	0	276,986
7/14	13	337	234	92,229	27	5,438	0	0	97,694
7/15	11			164,399	27	11,161	0	0	175,587
7/16	23			119,563	27	9,769	0	0	129,359
7/17	10			52,318	22	3,885	0	0	56,225
7/18	24			69,980	23	4,749	1	1	74,754
7/19	24	300		41,532	15	3,833	1	4	45,385
7/20	24			19,157	17	1,992	0	4	21,170
7/21	24			21,271	14	3,492	2	6	24,785
7/22	9			14,536	8	2,723	2	6	17,275
7/25	15			4,724	10	2,021	27	114	6,896
7/26	24			6,430	13	2,687	46	364	9,540
7/27	24			1,873	8	898	95	249	3,123
7/28	24			871	10	292	105	377	1,655
7/29	9			339	2	82	73	195	691
8/01	15			323	3	142	76	472	1,016
8/02	24			642	5	362	378	1,210	2,597
8/03	24			725	10	418	508	1,806	3,467
8/04	24			467	5	337	504	1,556	2,869
8/05	9			148	1	119	101	453	862
8/08	15			213	7	370	488	3,122	4,200
8/09	24	8	60	285	9	403	697	3,679	5,073
8/10	24			138	3	189	405	2,573	3,308
8/11	24			69	4	150	233	2,022	2,478
8/12	9			43	2	52	122	756	975
8/15	15			46	2	60	117	3,341	3,566
8/16	24			25	1	61	56	1,858	2,001
8/17	24			20	0	16	34	1,909	1,979
8/18	24			33	2	20	18	2,838	2,911

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Table 19. (p 2 of 2).

Opening		Effort[a]		Catch (number of fish)					
Period	Hours[b]	Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
8/19	9			12	1	20	10	473	516
8/22	15			20	2	21	37	2,639	2,719
8/23	24			32	4	25	51	3,063	3,175
8/24	24			15	1	10	29	2,468	2,523
8/25	24			16	0	15	29	1,611	1,671
8/26	9			13	0	10	14	1,063	1,100
8/29	15			8	0	0	13	1,299	1,320
8/30	24			7	1	8	15	1,073	1,104
8/31	24	3	32	5	0	2	13	888	908
9/01	24			6	0	2	22	1,015	1,045
9/02	9			6	0	10	21	323	360
9/05	15			7	0	2	23	1,297	1,329
9/06	24			3	0	3	34	1,181	1,221
9/07	24			7	0	4	24	1,002	1,037
9/08	24			3	1	2	12	566	584
9/09	9			0	0	0	0	12	12
9/12	15			0	0	0	0	330	330
9/13	24			0	0	0	0	189	189
Total	1,240			6,400,126	3,023	244,745	4,437	49,407	6,701,738
Percent of District Catch				95.5	0.1	3.7	0.1	0.7	100.0

[a] Fishing effort represents number of drift boats and set nets estimated from aerial surveys on open fishing periods. Blanks indicate no aerial surveys were conducted.

[b] See Table 2 for emergency fishing periods.

[c] ADF&G test-fish catch

Table 20. Age and sex composition of sockeye salmon catch and escapement, Egegik District, 1988.

	Age Group												
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	3.3	Total
						CATCH							
Males	2,595		6,537	287,448	6,359	704	1,160,461	1,296,140	4,624	776,307	5,210	4,852	3,551,237
Percent	0.03		0.08	3.59	0.08	0.01	14.48	16.18	0.06	9.69	0.07	0.06	44.32
Females	825		1,005	195,709	2,576		1,104,337	958,165	3,759	578,796	2,396	1,321	2,848,889
Percent	0.01		0.01	2.44	0.03		13.78	11.96	0.05	7.22	0.03	0.02	35.55
Both Sexes	3,420		7,542	483,157	8,935	704	2,264,798	2,254,305	8,383	1,355,103	7,606	6,173	6,400,126
Percent	0.04		0.09	6.03	0.11	0.01	28.26	28.13	0.10	16.91	0.09	0.08	79.87
						ESCAPEMENT							
Males		341		56,397	73,167		199,145	316,677	327	104,224	1,467	489	752,234
Percent		0.00[a]		0.70	0.91		2.49	3.95	0.00[a]	1.30	0.02	0.01	9.39
Females	461			42,459	922		228,362	457,631	489	127,836	1,618	668	860,446
Percent	0.01			0.53	0.01		2.85	5.71	0.01	1.60	0.02	0.01	10.74
Both Sexes	461	341		98,856	74,089		427,507	774,308	816	232,060	3,085	1,157	1,612,680
Percent	0.01	0.00[a]		1.23	0.92		5.34	9.66	0.01	2.90	0.04	0.01	20.13
						CATCH AND ESCAPEMENT							
Males	2,595	341	6,537	343,845	79,526	704	1,359,606	1,612,817	4,951	880,531	6,677	5,341	4,303,471
Percent	0.03	0.00[a]	0.08	4.29	0.99	0.01	16.97	20.13	0.06	10.99	0.08	0.07	53.71
Females	1,286		1,005	238,168	3,498		1,332,699	1,415,796	4,248	706,632	4,014	1,989	3,709,335
Percent	0.02		0.01	2.97	0.04		16.63	17.67	0.05	8.82	0.05	0.02	46.29
Both Sexes	3,881	341	7,542	582,013	83,024	704	2,692,305	3,028,613	9,199	1,587,163	10,691	7,330	8,012,806
Percent	0.05	0.00[a]	0.09	7.26	1.04	0.01	33.60	37.80	0.11	19.81	0.13	0.09	100.00

[a] Represented < 0.01% of total

Table 21. Age, sex, and size composition of sockeye salmon commercial catch, Egegik District, 1988.

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	3.3	Total
Sample Period 1 6/06-6/17												
Males		584	5,254			47,869	17,513	292	14,011			85,523
Percent		0.40	3.56			32.47	11.88	0.20	9.51			58.02
Mean Length		540	520			599	539	655	609			583
Std. Error		60	8			2	4		3			2
Sample Size		2	18			164	60	1	48			293
Mean Weight			2.65			3.49	2.48		3.65			3.26
Std. Error			0.18			0.08	0.15		0.10			0.06
Sample Size			4			44	13		17			78
Females		292	1,751			39,697	7,297	876	11,967			61,880
Percent		0.20	1.19			26.93	4.95	0.59	8.12			41.98
Mean Length		562	506			581	527	592	589			574
Std. Error			18			2	4	11	3			2
Sample Size		1	6			136	25	3	41			212
Mean Weight			1.88			3.08	2.31		3.10			2.96
Std. Error						0.06	0.09		0.12			0.05
Sample Size			1			34	7		11			53
Both Sexes		876	7,005			87,566	24,810	1,168	25,978			147,403
Percent		0.59	4.75			59.41	16.83	0.79	17.62			100.00
Mean Length		547	517			591	535	608	600			579
Std. Error		60	7			1	3	11	2			1
Sample Size		3	24			300	85	4	89			505
Mean Weight			2.46			3.30	2.43		3.40			3.13
Std. Error			0.18			0.05	0.11		0.08			0.04
Sample Size			5			78	20		28			131

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Table 21. (p 2 of 15).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	3.3	Total
Sample Period 2 6/18-6/23												
Males		2,375	23,747			187,603	189,977		75,991			479,693
Percent		0.23	2.35			18.54	18.78		7.51			47.42
Mean Length		589	527			597	537		600			570
Std. Error			17			3	3		5			2
Sample Size		1	10			79	80		32			202
Mean Weight			2.68			3.53	2.44		3.97			3.12
Std. Error						0.10	0.11		0.18			0.07
Sample Size			1			15	9		6			31
Females			26,122			308,712	121,111		75,991			531,936
Percent			2.58			30.52	11.97		7.51			52.58
Mean Length			525			578	529		578			564
Std. Error			6			2	4		3			1
Sample Size			11			130	51		32			224
Mean Weight			1.75			2.99	2.65		2.96			2.85
Std. Error						0.07	0.41		0.08			0.10
Sample Size			1			21	7		7			36
Both Sexes		2,375	49,869			496,315	311,088		151,982			1,011,629
Percent		0.23	4.93			49.06	30.75		15.02			100.00
Mean Length		589	526			585	534		589			567
Std. Error			9			1	2		3			1
Sample Size		1	21			209	131		64			426
Mean Weight			2.19			3.19	2.52		3.47			2.98
Std. Error						0.06	0.17		0.10			0.06
Sample Size			2			36	16		13			67

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Table 21. (p 3 of 15).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	3.3	Total
Sample Period 3 6/24-6/27												
Males			18,767			121,986	108,433	1,043	65,685			315,914
Percent			3.61			23.49	20.88	0.20	12.65			60.84
Mean Length			513			588	538	587	597			568
Std. Error			5			2	2		3			1
Sample Size			18			117	104	1	63			303
Mean Weight			2.24			3.49	2.45		3.27			3.01
Std. Error			0.45			0.15	0.06		0.11			0.07
Sample Size			2			13	20		8			43
Females			13,554			98,007	51,088		40,662			203,311
Percent			2.61			18.88	9.84		7.83			39.16
Mean Length			513			572	523		582			558
Std. Error			6			2	3		4			2
Sample Size			13			94	49		39			195
Mean Weight			1.85			2.94	2.47		2.96			2.75
Std. Error			0.11			0.08	0.33		0.11			0.09
Sample Size			3			13	5		7			28
Both Sexes			32,321			219,993	159,521	1,043	106,347			519,225
Percent			6.22			42.37	30.72	0.20	20.48			100.00
Mean Length			513			581	533	587	591			564
Std. Error			4			1	2		2			1
Sample Size			31			211	153	1	102			498
Mean Weight			2.08			3.24	2.46		3.15			2.91
Std. Error			0.26			0.09	0.11		0.08			0.06
Sample Size			5			26	25		15			71

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Table 21. (p 4 of 15).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	3.3	Total
Sample Period 4	6/28-6/29											
Males		1,694	47,424			203,248	198,165		106,704			557,235
Percent		0.18	5.05			21.66	21.12		11.37			59.39
Mean Length		581	527			589	541		602			569
Std. Error			4			2	2		3			1
Sample Size		1	28			120	117		63			329
Mean Weight			2.04			3.27	2.63		3.54			2.99
Std. Error			0.13			0.12	0.09		0.21			0.07
Sample Size			5			19	19		9			52
Females			20,325			155,821	110,092	1,694	93,155			381,087
Percent			2.17			16.61	11.73	0.18	9.93			40.61
Mean Length			508			579	525	582	584			561
Std. Error			6			2	3		2			1
Sample Size			12			92	65	1	55			225
Mean Weight			1.70			2.84	2.15		3.06			2.63
Std. Error			0.20			0.05	0.11		0.08			0.04
Sample Size			3			19	16		16			54
Both Sexes		1,694	67,749			359,069	308,257	1,694	199,859			938,322
Percent		0.18	7.22			38.27	32.85	0.18	21.30			100.00
Mean Length		581	521			585	535	582	594			566
Std. Error			3			2	2		2			1
Sample Size		1	40			212	182	1	118			554
Mean Weight			1.94			3.08	2.46		3.32			2.84
Std. Error			0.11			0.07	0.07		0.12			0.04
Sample Size			8			38	35		25			106

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Table 21. (p 5 of 15).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	3.3	Total
Sample Period 5 6/30-7/02												
Males	2,069		51,731			258,658	200,718	2,069	204,856	2,069	4,139	726,309
Percent	0.21		5.13			25.67	19.92	0.21	20.33	0.21	0.41	72.07
Mean Length	520		536			591	541	535	592	560	598	573
Std. Error			5			2	3		3		3	1
Sample Size	1		25			125	97	1	99	1	2	351
Mean Weight			2.31			3.36	2.59		3.21			3.03
Std. Error			0.12			0.13	0.09		0.12			0.06
Sample Size			6			22	15		18			61
Females			24,831			128,294	74,493		53,801			281,419
Percent			2.46			12.73	7.39		5.34			27.93
Mean Length			508			569	527		580			555
Std. Error			10			3	3		6			2
Sample Size			12			62	36		26			136
Mean Weight			2.68			2.89	2.27		3.07			2.74
Std. Error			0.63			0.08	0.16		0.20			0.09
Sample Size			3			11	11		5			30
Both Sexes	2,069		76,562			386,952	275,211	2,069	258,657	2,069	4,139	1,007,728
Percent	0.21		7.60			38.40	27.31	0.21	25.67	0.21	0.41	100.00
Mean Length	520		527			584	537	535	590	560	598	568
Std. Error			5			2	2		2		3	1
Sample Size	1		37			187	133	1	125	1	2	487
Mean Weight			2.43			3.20	2.50		3.18			2.95
Std. Error			0.22			0.09	0.08		0.10			0.05
Sample Size			9			33	26		23			91

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Table 21. (p 6 of 15).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	3.3	Total
Sample Period 6 7/03-7/05												
Males	526		10,523			55,244	83,655		45,774	1,052		196,774
Percent	0.14		2.80			14.71	22.27		12.18	0.28		52.38
Mean Length	535		525			588	538		598	551		565
Std. Error			5			2	2		3	8		1
Sample Size	1		20			105	159		87	2		374
Mean Weight						3.27	2.25		3.42			2.85
Std. Error						0.08	0.08		0.16			0.06
Sample Size						21	26		15			62
Females			4,209			56,296	74,712	526	42,091	526	526	178,886
Percent			1.12			14.99	19.89	0.14	11.20	0.14	0.14	47.62
Mean Length			505			573	523	604	579	542	574	552
Std. Error			7			2	2		2			1
Sample Size			8			107	142	1	80	1	1	340
Mean Weight			1.65			2.53	1.79		2.91	2.54		2.29
Std. Error						0.15	0.16		0.09			0.09
Sample Size			1			14	18		17	1		51
Both Sexes	526		14,732			111,540	158,367	526	87,865	1,578	526	375,660
Percent	0.14		3.92			29.69	42.16	0.14	23.39	0.42	0.14	100.00
Mean Length	535		519			580	531	604	589	548	574	559
Std. Error			4			1	1		2	8		1
Sample Size	1		28			212	301	1	167	3	1	714
Mean Weight			1.65			2.90	2.03		3.18	2.54		2.57
Std. Error						0.08	0.09		0.10			0.05
Sample Size			1			35	44		32	1		113

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Table 21. (p 7 of 15).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	3.3	Total
Sample Period 7 7/06												
Males		713	20,683			56,343	54,916		29,241	1,426	713	164,035
Percent		0.22	6.32			17.21	16.78		8.93	0.44	0.22	50.11
Mean Length		564	525			585	547		592	586	569	566
Std. Error			6			3	3		4	13		2
Sample Size		1	29			79	77		41	2	1	230
Mean Weight			1.91			3.55	2.45		3.59			2.97
Std. Error			0.07			0.11	0.09		0.19			0.06
Sample Size			6			16	14		9			45
Females		713	12,837			50,637	58,482		39,939	713		163,321
Percent		0.22	3.92			15.47	17.86		12.20	0.22		49.89
Mean Length		563	522			570	537		570	522		554
Std. Error			9			3	13		3			5
Sample Size		1	18			71	82		56	1		229
Mean Weight			2.14			2.77	2.06		2.95			2.51
Std. Error			0.06			0.18	0.07		0.09			0.07
Sample Size			2			16	15		13			46
Both Sexes		1,426	33,520			106,980	113,398		69,180	2,139	713	327,356
Percent		0.44	10.24			32.68	34.64		21.13	0.65	0.22	100.00
Mean Length		564	524			578	542		580	564	569	560
Std. Error			5			2	7		3	13		3
Sample Size		2	47			150	159		97	3	1	459
Mean Weight			2.00			3.18	2.25		3.22			2.74
Std. Error			0.05			0.10	0.06		0.10			0.04
Sample Size			8			32	29		22			91

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Table 21. (p 8 of 15).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	3.3	Total
Sample Period 8 7/07-7/08												
Males			30,529			36,305	111,391		39,605			217,830
Percent			6.64			7.90	24.24		8.62			47.40
Mean Length			524			614	545		598			563
Std. Error			4			23	2		4			4
Sample Size			37			44	135		48			264
Mean Weight			2.32			3.54	2.50		3.50			2.83
Std. Error			0.12			0.18	0.07		0.17			0.06
Sample Size			10			6	26		7			49
Females	825		25,579			68,484	92,413		53,632	825		241,758
Percent	0.18		5.57			14.90	20.11		11.67	0.18		52.60
Mean Length	586		511			575	526		582	532		551
Std. Error			5			3	2		2			1
Sample Size	1		31			83	112		65	1		293
Mean Weight			1.92			2.96	2.20		2.98			2.56
Std. Error			0.12			0.11	0.11		0.09			0.06
Sample Size			4			16	12		12			44
Both Sexes	825		56,108			104,789	203,804		93,237	825		459,588
Percent	0.18		12.21			22.80	44.34		20.29	0.18		100.00
Mean Length	586		518			588	536		589	532		557
Std. Error			3			8	1		2			2
Sample Size	1		68			127	247		113	1		557
Mean Weight			2.14			3.16	2.36		3.20			2.69
Std. Error			0.09			0.10	0.06		0.09			0.04
Sample Size			14			22	38		19			93

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Table 21. (p 9 of 15).

	Age Group										
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	3.3	Total
Sample Period 9 7/09												
Males		1,171	15,812	586		40,407	60,903		26,353			145,232
Percent		0.38	5.16	0.19		13.19	19.89		8.60			47.42
Mean Length		568	531	397		594	541		597			564
Std. Error		5	4			3	2		4			2
Sample Size		2	27	1		69	104		45			248
Mean Weight			2.52			3.47	2.57		3.42			2.97
Std. Error			0.16			0.13	0.06		0.18			0.06
Sample Size			7			16	38		11			72
Females			8,784			45,678	63,247		43,335			161,044
Percent			2.87			14.91	20.65		14.15			52.58
Mean Length			509			576	529		581			555
Std. Error			6			2	2		3			1
Sample Size			15			78	108		74			275
Mean Weight			1.90			2.85	2.19		2.92			2.56
Std. Error			0.16			0.12	0.08		0.06			0.05
Sample Size			3			12	22		23			60
Both Sexes		1,171	24,596	586		86,085	124,150		69,688			306,276
Percent		0.38	8.03	0.19		28.11	40.54		22.75			100.00
Mean Length		568	523	397		584	535		587			560
Std. Error		5	3			2	1		2			1
Sample Size		2	42	1		147	212		119			523
Mean Weight			2.30			3.14	2.38		3.11			2.75
Std. Error			0.12			0.09	0.05		0.08			0.04
Sample Size			10			28	60		34			132

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Table 21. (p 10 of 15).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	3.3	Total
Sample Period 10	7/10-7/11											
Males			11,603	332		20,554	43,097		22,212	663		98,461
Percent			6.34	0.18		11.23	23.55		12.14	0.36		53.80
Mean Length			526	409		595	542		600	559		564
Std. Error			4			3	2		3	11		1
Sample Size			35	1		62	130		67	2		297
Mean Weight			2.56	2.04		3.31	2.49		3.70			2.94
Std. Error			0.12			0.17	0.08		0.25			0.08
Sample Size			4	1		8	19		7			39
Females			7,956			23,206	29,173	663	22,875	332	332	84,537
Percent			4.35			12.68	15.94	0.36	12.50	0.18	0.18	46.20
Mean Length			511			573	526	587	578	525	547	552
Std. Error			3			2	2	3	2			1
Sample Size			24			70	88	2	69	1	1	255
Mean Weight			1.70			2.83	2.07	3.10	2.96			2.50
Std. Error			0.31			0.07	0.06		0.10			0.05
Sample Size			6			11	19	1	14			51
Both Sexes			19,559	332		43,760	72,270	663	45,087	995	332	182,998
Percent			10.69	0.18		23.91	39.49	0.36	24.64	0.54	0.18	100.00
Mean Length			520	409		583	535	587	589	547	547	558
Std. Error			2			2	1	3	2	11		1
Sample Size			59	1		132	218	2	136	3	1	552
Mean Weight			2.21	2.04		3.06	2.32	3.10	3.32			2.74
Std. Error			0.14			0.09	0.05		0.13			0.05
Sample Size			10	1		19	38	1	21			90

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Table 21. (p 11 of 15).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	3.3	Total
Sample Period 11 7/12												
Males			16,197			34,708	44,425		29,155			124,485
Percent			6.57			14.07	18.01		11.82			50.47
Mean Length			526			592	541		596			566
Std. Error			3			3	2		4			1
Sample Size			35			75	96		63			269
Mean Weight			2.32			3.18	2.61		3.49			2.94
Std. Error			0.15			0.14	0.11		0.19			0.07
Sample Size			5			12	13		13			43
Females			11,107	463		39,798	45,351		24,990		463	122,172
Percent			4.50	0.19		16.13	18.39		10.13		0.19	49.53
Mean Length			511	402		576	527		584		584	553
Std. Error			7			2	2		2			1
Sample Size			24	1		86	98		54		1	264
Mean Weight			2.00			2.83	2.41		2.72		3.13	2.58
Std. Error						0.09	0.13		.13			0.06
Sample Size			1			17	12		10		1	41
Both Sexes			27,304	463		74,506	89,776		54,145		463	246,657
Percent			11.07	0.19		30.21	36.40		21.95		0.19	100.00
Mean Length			520	402		583	534		590		584	560
Std. Error			3			2	1		2			1
Sample Size			59	1		161	194		117		1	533
Mean Weight			2.19			2.99	2.51		3.13		3.13	2.76
Std. Error			0.15			0.08	0.09		0.12			0.05
Sample Size			6			29	25		23		1	84

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Table 21. (p 12 of 15).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	3.3	Total
Sample Period 12 7/13												
Males			13,933	516		40,251	63,471	516	44,379			163,066
Percent			5.26	0.19		15.20	23.98	0.19	16.76			61.60
Mean Length			525	382		584	537	604	594			563
Std. Error			3			3	2		3			1
Sample Size			27	1		78	123	1	86			316
Mean Weight			2.05			3.06	2.49		3.50			2.87
Std. Error			0.08			0.18	0.08		0.22			0.08
Sample Size			2			15	31		10			58
Females			8,257			26,834	45,927		20,641			101,659
Percent			3.12			10.14	17.35		7.80			38.40
Mean Length			511			574	522		574			545
Std. Error			9			3	2		4			2
Sample Size			16			52	89		40			197
Mean Weight			2.48			2.94	2.06		3.08			2.53
Std. Error			0.57			0.13	0.12		.22			0.09
Sample Size			2			9	19		3			33
Both Sexes			22,190	516		67,085	109,398	516	65,020			264,725
Percent			8.38	0.19		25.34	41.33	0.19	24.56			100.00
Mean Length			520	382		580	531	604	588			556
Std. Error			4			2	2		2			1
Sample Size			43	1		130	212	1	126			513
Mean Weight			2.21			3.01	2.31		3.37			2.74
Std. Error			0.22			0.12	0.07		0.17			0.06
Sample Size			4			24	50		13			91

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Table 21. (p 13 of 15).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	3.3	Total
Sample Period 13	7/14-7/16											
Males			11,976	2,818	704	38,746	73,972	704	47,904			176,824
Percent			3.18	0.75	0.19	10.30	19.66	0.19	12.73			47.00
Mean Length			519	434	588	590	534	556	591			559
Std. Error			5	39		4	3		4			2
Sample Size			17	4	1	55	105	1	68			251
Mean Weight			2.24	1.11	3.40	3.33	2.48		3.81			2.99
Std. Error			0.21			0.22	0.19		0.23			0.11
Sample Size			3	1	1	7	7		3			22
Females			19,021	2,113		29,588	116,944		31,701			199,367
Percent			5.06	0.56		7.87	31.09		8.43			53.00
Mean Length			518	395		567	520		570			533
Std. Error			5	6		5	2		4			2
Sample Size			27	3		42	166		45			283
Mean Weight			2.49			2.79	2.25		2.78			2.44
Std. Error						0.14	0.05		0.26			0.05
Sample Size			1			9	9		8			27
Both Sexes			30,997	4,931	704	68,334	190,916	704	79,605			376,191
Percent			8.24	1.31	0.19	18.16	50.75	0.19	21.16			100.00
Mean Length			518	417	588	580	525	556	582			545
Std. Error			4	23		3	2		3			1
Sample Size			44	7	1	97	271	1	113			534
Mean Weight			2.39	1.11	3.40	3.10	2.34		3.40			2.70
Std. Error			0.21			0.14	0.08		0.17			0.06
Sample Size			4	1	1	16	16		11			49

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Table 21. (p 14 of 15).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	3.3	Total
Sample Period 14	7/17-9/08											
Males			9,269	2,107		18,539	45,504		24,437			99,856
Percent			3.92	0.88		7.84	19.25		10.34			42.25
Mean Length			527	377		594	538		594			558
Std. Error			7	16		4	3		3			2
Sample Size			22	5		44	108		58			237
Females			11,376			33,285	67,835		24,016			136,512
Percent			4.81			14.08	28.70		10.16			57.75
Mean Length			513			568	524		576			543
Std. Error			5			3	2		3			1
Sample Size			27			79	161		57			324
Both Sexes			20,645	2,107		51,824	113,339		48,453			236,368
Percent			8.73	0.89		21.93	47.95		20.50			100.00
Mean Length			520	377		577	529		585			549
Std. Error			4	16		2	1		2			1
Sample Size			49	5		123	267		115			561

-Continued-

Table 21. (p 15 of 15).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	3.3	Total
All Periods Combined												
Males	2,595	6,537	287,448	6,359	704	1,160,461	1,296,140	4,624	776,307	5,210	4,852	3,551,237
Percent	0.04	0.10	4.49	0.10	0.01	18.13	20.25	0.07	12.13	0.08	0.08	55.49
Mean Length	523	576	527	406	588	592	540	565	596	565	594	568
Std. Error		20	2	23		1	1		1	7	3	1
Sample Size	2	7	348	12	1	1,216	1,495	5	868	7	3	3,964
Mean Weight			2.28	1.21	3.40	3.38	2.50		3.46			2.98
Std. Error			0.06			0.05	0.03		0.06			0.02
Sample Size			55	2	1	214	250		133			655
Females	825	1,005	195,709	2,576		1,104,337	958,165	3,759	578,796	2,396	1,321	2,848,889
Percent	0.01	0.02	3.06	0.04		17.25	14.97	0.06	9.04	0.04	0.02	44.51
Mean Length	586	563	514	396		575	526	588	579	530	571	555
Std. Error			2	6		1	1	6	1			1
Sample Size	1	2	244	4		1,182	1,272	7	733	4	3	3,452
Mean Weight			2.08			2.89	2.24	3.10	2.96	2.54	3.13	2.63
Std. Error			0.14			0.03	0.07		0.04			0.03
Sample Size			31			202	171	1	146	1	1	553
Both Sexes	3,420	7,542	483,157	8,935	704	2,264,798	2,254,305	8,383	1,355,103	7,606	6,173	6,400,126
Percent	0.05	0.12	7.55	0.14	0.01	35.39	35.22	0.13	21.17	0.12	0.10	100.00
Mean Length	538	574	521	403	588	584	534	576	589	554	589	562
Std. Error		20	1	16		1	1	6	1	7	3	0
Sample Size	3	9	592	16	1	2,398	2,767	12	1,601	11	6	7,416
Mean Weight			2.20	1.21	3.40	3.14	2.39	3.10	3.24	2.54	3.13	2.83
Std. Error			0.06			0.03	0.03		0.04			0.02
Sample Size			86	2	1	416	421	1	279	1	1	1,208

Table 22. Daily sockeye salmon escapement counts, Egegik River, 1988.

Date	Daily Count	Cumulative Count	Daily Percent of Total	Cumulative Percent
June 22	10,032	10,032	0.62	0.62
23	6,768	16,800	0.42	1.04
24	5,964	22,764	0.37	1.41
25	2,256	25,020	0.14	1.55
26	6,636	31,656	0.41	1.96
27	17,100	48,756	1.06	3.02
28	96,108	144,864	5.96	8.98
29	111,444	256,308	6.91	15.89
30	66,288	322,596	4.11	20.00
July 1	39,348	361,944	2.44	22.44
2	58,164	420,108	3.61	26.05
3	109,584	529,692	6.80	32.84
4	126,168	655,860	7.82	40.67
5	158,940	814,800	9.86	50.52
6	135,216	950,016	8.38	58.91
7	81,666	1,031,682	5.06	63.97
8	115,896	1,147,578	7.19	71.16
9	64,506	1,212,084	4.00	75.16
10	78,918	1,291,002	4.89	80.05
11	104,148	1,395,150	6.46	86.51
12	42,048	1,437,198	2.61	89.12
13	53,796	1,490,994	3.34	92.45
14	79,578	1,570,572	4.93	97.39
15	9,804	1,580,376	0.61	97.99
16	5,466	1,585,842	0.34	98.33
17	8,328	1,594,170	0.52	98.85
18	10,938	1,605,108	0.68	99.53
19	4,662	1,609,770	0.29	99.82
20	1,986	1,611,756	0.12	99.94
21	924	1,612,680	0.06	100.00

Table 23. Age, sex, and size composition of sockeye salmon escapement, Egegik River, 1988.

	Age Group										
	0.2	1.1	1.2	2.1	1.3	2.2	1.4	2.3	3.2	3.3	Total
Sample Period 1 6/22-6/29											
Males			14,185	18,098	41,088	53,316		24,457	1,467	489	153,100
Percent			5.53	7.06	16.03	20.80		9.54	0.57	0.19	59.73
Mean Length			462	357	595	512		610	545	628	528
Std. Error			7	3	3	4		3	5		2
Sample Size			29	37	84	109		50	3	1	313
Females			1,467		30,327	45,490	489	24,946	489		103,208
Percent			0.57		11.83	17.75	0.19	9.73	0.19		40.27
Mean Length			518		574	509	624	580	535		546
Std. Error			27		2	2		2			1
Sample Size			3		62	93	1	51	1		211
Both Sexes			15,652	18,098	71,415	98,806	489	49,403	1,956	489	256,308
Percent			6.11	7.06	27.86	38.55	0.19	19.27	0.76	0.19	100.00
Mean Length			468	357	586	511	624	595	543	628	535
Std. Error			7	3	2	2		2	5		1
Sample Size			32	37	146	202	1	101	4	1	524
Sample Period 2 6/30-7/02											
Males			4,904	6,212	21,251	34,330	327	11,770			78,794
Percent			2.99	3.79	12.97	20.96	0.20	7.19			48.10
Mean Length			485	369	599	528	543	606			544
Std. Error			14	7	3	3		4			2
Sample Size			15	19	65	105	1	36			241
Females			2,289		23,540	48,388		10,135	327	327	85,006
Percent			1.40		14.37	29.54		6.19	0.20	0.20	51.90
Mean Length			498		576	509		579	592	598	536
Std. Error			9		2	2		4			1
Sample Size			7		72	148		31	1	1	260
Both Sexes			7,193	6,212	44,791	82,718	327	21,905	327	327	163,800
Percent			4.39	3.79	27.34	50.50	0.20	13.37	0.20	0.20	100.00
Mean Length			489	369	587	517	543	594	592	598	540
Std. Error			10	7	2	2		3			1
Sample Size			22	19	137	253	1	67	1	1	501

-Continued-

Table 23. (p 2 of 4).

	Age Group										
	0.2	1.1	1.2	2.1	1.3	2.2	1.4	2.3	3.2	3.3	Total
Sample Period 3 7/03-7/05											
Males			13,991	11,045	49,337	78,791		27,246			180,410
Percent			3.54	2.80	12.50	19.96		6.90			45.71
Mean Length			513	371	596	527		601			546
Std. Error			10	8	3	3		4			2
Sample Size			19	15	67	107		37			245
Females			13,255		66,273	103,090		31,664			214,282
Percent			3.36		16.79	26.12		8.02			54.29
Mean Length			512		573	514		582			542
Std. Error			11		2	2		3			1
Sample Size			18		90	140		43			291
Both Sexes			27,246	11,045	115,610	181,881		58,910			394,692
Percent			6.90	2.80	29.29	46.08		14.93			100.00
Mean Length			513	371	583	519		590			544
Std. Error			7	8	2	2		2			1
Sample Size			37	15	157	247		80			536
Sample Period 4 7/06-7/08											
Males			14,148	12,302	41,213	71,353		14,148			153,164
Percent			4.25	3.70	12.38	21.44		4.25			46.03
Mean Length			524	385	601	536		619			548
Std. Error			8	6	3	3		6			2
Sample Size			23	20	67	116		23			249
Females			10,457		51,670	97,188		20,299			179,614
Percent			3.14		15.53	29.21		6.10			53.97
Mean Length			496		577	513		583			538
Std. Error			3		2	2		3			1
Sample Size			17		84	158		33			292
Both Sexes			24,605	12,302	92,883	168,541		34,447			332,778
Percent			7.39	3.70	27.91	50.65		10.35			100.00
Mean Length			512	385	587	522		598			543
Std. Error			5	6	2	2		3			1
Sample Size			40	20	151	274		56			541

-Continued-

Table 23. (p 3 of 4).

	Age Group										
	0.2	1.1	1.2	2.1	1.3	2.2	1.4	2.3	3.2	3.3	Total
Sample Period 5 7/09-7/11											
Males			5,071	10,143	30,889	46,103		15,675			107,881
Percent			2.05	4.10	12.48	18.62		6.33			43.58
Mean Length			516	375	597	530		599			544
Std. Error			13	6	3	3		5			2
Sample Size			11	22	67	100		34			234
Females	461		6,454	922	35,038	74,687		21,668	461		139,691
Percent	0.19		2.61	0.37	14.15	30.17		8.75	0.19		56.42
Mean Length	517		491	570	573	512		579	527		537
Std. Error			7	23	2	2		3			1
Sample Size	1		14	2	76	162		47	1		303
Both Sexes	461		11,525	11,065	65,927	120,790		37,343	461		247,572
Percent	0.19		4.66	4.47	26.63	48.79		15.08	0.19		100.00
Mean Length	517		502	391	584	519		588	527		540
Std. Error			7	5	2	2		3			1
Sample Size	1		25	24	143	262		81	1		537
Sample Period 6 7/12-7/21											
Males		341	4,098	15,367	15,367	32,784		10,928			78,885
Percent		0.16	1.88	7.06	7.06	15.07		5.02			36.26
Mean Length		370	538	378	604	531		609			526
Std. Error			10	4	4	3		5			2
Sample Size		1	12	45	45	96		32			231
Females			8,537		21,514	88,788		19,124	341	341	138,645
Percent			3.92		9.89	40.82		8.79	0.16	0.16	63.74
Mean Length			493		578	510		585	516	608	530
Std. Error			5		3	1		2			1
Sample Size			25		63	260		56	1	1	406
Both Sexes		341	12,635	15,367	36,881	121,572		30,052	341	341	217,530
Percent		0.16	5.81	7.06	16.95	55.89		13.82	0.16	0.16	100.00
Mean Length		370	508	378	589	516		594	516	608	529
Std. Error			4	4	2	1		2			1
Sample Size		1	37	45	108	356		88	1	1	637

-Continued-

Table 23. (p 4 of 4).

	Age Group										
	0.2	1.1	1.2	2.1	1.3	2.2	1.4	2.3	3.2	3.3	Total
All Periods Combined											
Males		341	56,397	73,167	199,145	316,677	327	104,224	1,467	489	752,234
Percent		0.02	3.50	4.54	12.35	19.64	0.02	6.46	0.09	0.03	46.64
Mean Length		370	503	372	598	527	543	607	545	628	540
Std. Error			4	2	1	1		2	5		1
Sample Size		1	109	158	395	633	1	212	3	1	1,513
Females	461		42,459	922	228,362	457,631	489	127,836	1,618	668	860,446
Percent	0.03		2.63	0.06	14.16	28.38	0.03	7.93	0.10	0.04	53.36
Mean Length	517		501	570	575	512	624	581	540	603	538
Std. Error			4	23	1	1		1			1
Sample Size	1		84	2	447	961	1	261	4	2	1,763
Both Sexes	461	341	98,856	74,089	427,507	774,308	816	232,060	3,085	1,157	1,612,680
Percent	0.03	0.02	6.13	4.59	26.51	48.01	0.05	14.39	0.19	0.07	100.00
Mean Length	517	370	502	374	586	518	592	593	543	614	539
Std. Error			3	2	1	1		1	5		0
Sample Size	1	1	193	160	842	1,594	2	473	7	3	3,276

Table 24. Commercial salmon catch by period and species, Ugashik District, 1988.

Opening		Effort[a]		Catch (number of fish)					
Period	Hours[b]	Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
6/06	15			0	20	0	0	0	20
6/07	24	12	3	2	104	0	0	0	106
6/08	24			2	139	0	0	0	141
6/09	24			3	114	0	0	0	117
6/10	9			5	91	0	0	0	96
6/13	15	10	7	69	146	5	0	0	220
6/14	24			113	316	91	0	0	520
6/15	24			461	459	24	0	0	944
6/16	24			1,074	409	123	0	0	1,606
6/17	9			3,067	476	617	0	0	4,160
6/20	15	50	31	6,288	151	2,013	0	0	8,452
6/21	24			17,120	162	5,445	0	0	22,737
6/22	24			22,578	130	5,921	0	0	28,629
6/23	9			13,672	36	2,806	0	0	16,514
6/26[c]	0			144	2	27	0	0	173
6/27[c]	0			3	1	1	0	0	5
6/29[c]	0			324	0	0	0	0	324
7/01[c]	0			285	0	35	0	0	320
7/03	11	58	62	36,789	222	6,303	0	0	43,314
7/08[c]	0			1,045	0	57	0	0	1,102
7/09	12	84	65	215,221	68	9,488	0	0	224,777
7/11	12	150	76	437,165	60	16,589	0	0	453,814
7/13	12	332	77	424,741	30	11,534	0	0	436,305
7/14	12	406	71	196,132	60	10,302	0	0	206,494
7/15	1			28,975	9	2,200	0	0	31,184
7/16	13			99,510	22	7,552	0	0	107,084
7/25	15			12,463	41	3,728	0	15	16,247
7/26	24			6,927	13	3,166	1	34	10,141
7/27	24			2,964	12	1,121	0	38	4,135
7/28	24			1,612	10	833	0	54	2,509
7/29	9			443	1	54	0	10	508
8/01	15			259	3	40	0	98	400
8/02	24			52	0	115	0	194	361
8/03	24			364	0	115	0	293	772
8/04	24			852	3	235	0	576	1,666
8/05	9			52	0	115	0	224	391
8/08	15			192	0	398	0	769	1,359
8/09	24			153	1	353	12	1,191	1,710
8/10	24			90	3	179	5	608	885
8/11	24			135	0	335	0	1,180	1,650
8/12	9			5	0	21	0	244	270
8/15	15			18	0	44	0	1,411	1,473
8/16	24			52	1	86	5	2,726	2,870
8/17	24			24	0	66	12	2,126	2,228
8/18	24			14	0	71	6	2,621	2,712
8/19	9			9	0	16	2	966	993
8/22	15			20	0	18	12	2,577	2,627
8/23	24			11	1	36	12	3,444	3,504
8/24	24			21	1	30	15	4,653	4,720
8/25	24			17	0	17	10	3,572	3,616
8/26	9			0	0	0	0	233	233
8/29	15			9	0	6	8	2,421	2,444
8/30	24			11	2	4	20	2,318	2,355
8/31	24	10	24	30	0	4	18	2,853	2,905

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Table 24. (p 2 of 2).

Opening		Effort[a]		Catch (number of fish)					
Period	Hours[b]	Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
9/01	24			9	0	0	27	3,568	3,604
9/02	9			3	0	0	8	978	989
9/05	15			0	0	1	2	2,699	2,702
9/06	24			8	0	6	22	3,056	3,092
9/07	24		17	8	0	2	13	1,640	1,663
9/08	24			0	0	2	0	748	750
9/09	9	10	9	0	0	0	0	523	523
9/12	15			0	0	0	0	466	466
9/13	24			0	0	0	0	638	638
9/14	24			0	0	0	0	443	443
9/15	24			0	0	0	0	49	49
9/16	9			0	0	0	0	15	15
Total	1,105			1,531,615	3,319	92,360	210	52,272	1,679,776
Percent of District Catch				91.2	0.2	5.5	0.0[d]	3.1	100.0

[a] Fishing effort represents number of drift boats and set nets estimated from aerial surveys on open fishing periods. Blanks indicate no aerial surveys were conducted.

[b] See Table 2 for emergency fishing periods.

[c] ADF&G test fishing catches

[d] Represented < 0.05% of total

Table 25. Age and sex composition of sockeye salmon catch and escapement, Ugashik District, 1988.

	Age Group												
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4	3.3	Total
						CATCH							
Males	679		881	207,737	5,168	698	140,949	229,725	4,518	284,507	609		875,471
Percent	0.03		0.04	9.55	0.24	0.03	6.48	10.56	0.21	13.08	0.03		40.26
Females			839	89,242	2,182	112	130,094	174,251	3,891	255,044		489	656,144
Percent			0.04	4.10	0.10	0.01	5.98	8.01	0.18	11.73		0.02	30.17
Both Sexes	679		1,720	296,979	7,350	810	271,043	403,976	8,409	539,551	609	489	1,531,615
Percent	0.03		0.08	13.66	0.34	0.04	12.46	18.58	0.39	24.81	0.03	0.02	70.43
						ESCAPEMENT[a]							
Males	616	506	2,244	57,063	45,143		31,835	64,718	430	94,085	149		296,789
Percent	0.03	0.02	0.10	2.62	2.08		1.46	2.98	0.02	4.33	0.01		13.65
Females	430		1,207	99,834	323		33,261	125,784	110	85,234			346,183
Percent	0.02		0.06	4.59	0.01		1.53	5.78	0.01	3.92			15.92
Both Sexes	1,046	506	3,451	156,897	45,466		65,096	190,502	540	179,319	149		642,972
Percent	0.05	0.02	0.16	7.22	2.09		2.99	8.76	0.02	8.25	0.01		29.57
						CATCH AND ESCAPEMENT							
Males	1,295	506	3,125	264,800	50,311	698	172,784	294,443	4,948	378,592	758		1,172,260
Percent	0.06	0.02	0.14	12.18	2.31	0.03	7.95	13.54	0.23	17.41	0.03		53.91
Females	430		2,046	189,076	2,505	112	163,355	300,035	4,001	340,278		489	1,002,327
Percent	0.02		0.09	8.69	0.12	0.01	7.51	13.80	0.18	15.65		0.02	46.09
Both Sexes	1,725	506	5,171	453,876	52,816	810	336,139	594,478	8,949	718,870	758	489	2,174,587
Percent	0.08	0.02	0.24	20.87	2.43	0.04	15.46	27.34	0.41	33.06	0.03	0.02	100.00

[a] An additional 11,440 sockeye salmon were counted in the Dog Salmon and King Salmon Rivers but were not sampled.

Table 26. Age, sex, and size composition of sockeye salmon commercial catch, Ugashik District, 1988.

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 1	6/07-6/17											
Males		29	144			1,378	890		632			3,073
Percent		0.60	3.00			28.73	18.56		13.18			64.07
Mean Length		598	516			600	540		613			581
Std. Error			11			4	4		5			2
Sample Size		1	5			48	31		22			107
Mean Weight						3.59	2.29		3.97			3.27
Std. Error						0.24			0.18			0.12
Sample Size						7	1		2			10
Females		29	29			890	402		373			1,723
Percent		0.60	0.60			18.56	8.38		7.78			35.93
Mean Length		544	457			575	518		585			561
Std. Error						4	4		7			3
Sample Size		1	1			31	14		13			60
Mean Weight		2.54	1.48			2.88	2.29		2.84			2.70
Std. Error						0.22	0.12		0.10			0.12
Sample Size		1	1			3	3		2			10
Both Sexes		58	173			2,268	1,292		1,005			4,796
Percent		1.21	3.61			47.29	26.94		20.95			100.00
Mean Length		571	506			590	533		602			574
Std. Error			11			3	3		4			2
Sample Size		2	6			79	45		35			167
Mean Weight		2.54	1.48			3.31	2.29		3.55			3.06
Std. Error						0.17	0.12		0.12			0.09
Sample Size		1	1			10	4		4			20

-Continued-

Table 26. (p 2 of 9).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 2	6/18-6/23											
Males		628	3,977		209	8,373	11,304	419	8,582			33,492
Percent		1.05	6.67		0.35	14.03	18.95	0.70	14.39			56.14
Mean Length		591	533		585	601	540	617	609			574
Std. Error		14	9			4	4	4	4			2
Sample Size		3	19		1	40	54	2	41			160
Mean Weight		2.93	2.68			3.90	2.78	4.22	3.55			3.27
Std. Error			0.23			0.19	0.18		0.14			0.09
Sample Size		1	7			6	16	1	11			42
Females		209	2,303			8,164	7,326	419	7,745			26,166
Percent		0.35	3.86			13.68	12.28	0.70	12.98			43.86
Mean Length		615	506			588	519	580	584			561
Std. Error			8			4	8	20	4			3
Sample Size		1	11			39	35	2	37			125
Mean Weight			3.58			3.16	2.46	3.18	3.18			3.01
Std. Error			0.59			0.13	0.26	0.06	0.09			0.10
Sample Size			2			11	12	2	14			41
Both Sexes		837	6,280		209	16,537	18,630	838	16,327			59,658
Percent		1.40	10.53		0.35	27.72	31.23	1.40	27.37			100.00
Mean Length		597	523		585	594	532	598	597			568
Std. Error		14	6			3	4	10	3			2
Sample Size		4	30		1	79	89	4	78			285
Mean Weight		2.93	3.01			3.53	2.65	3.70	3.37			3.15
Std. Error			0.26			0.12	0.15	0.06	0.09			0.07
Sample Size		1	9			17	28	3	25			83

-Continued-

Table 26. (p 3 of 9).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 3	6/24-7/04											
Males		224	6,726	672		3,698	6,276		6,276			23,872
Percent		0.60	17.91	1.79		9.85	16.72		16.72			63.58
Mean Length		596	519	364		583	534		600			551
Std. Error		13	3	11		7	3		3			2
Sample Size		2	60	6		33	56		56			213
Females		112	1,569	336	112	2,802	3,923		4,819			13,673
Percent		0.30	4.18	0.89	0.30	7.46	10.45		12.84			36.42
Mean Length		562	495	389	600	574	529		578			549
Std. Error			6	13		4	4		3			2
Sample Size		1	14	3	1	25	35		43			122
Both Sexes		336	8,295	1,008	112	6,500	10,199		11,095			37,545
Percent		0.89	22.09	2.68	0.30	17.31	27.16		29.55			100.00
Mean Length		584	515	373	600	579	532		590			550
Std. Error		13	3	8		4	3		2			1
Sample Size		3	74	9	1	58	91		99			335

-Continued-

Table 26. (p 4 of 9).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 4 7/05-7/09												
Males			41,100	1,468	489	14,679	40,611	489	31,804			130,640
Percent			19.00	0.68	0.23	6.79	18.78	0.23	14.71			60.41
Mean Length			529	394	655	600	551	641	604			562
Std. Error			3	17		6	3		3			2
Sample Size			84	3	1	30	83	1	65			267
Mean Weight			2.28			2.83	2.72		3.59			2.81
Std. Error			0.05			0.54	0.14		0.12			0.08
Sample Size			24			7	16		9			56
Females		489	9,297	489		20,550	18,593		35,719		489	85,626
Percent		0.23	4.30	0.23		9.50	8.60		16.52		0.23	39.59
Mean Length		568	517	386		585	533		579		585	563
Std. Error			5			3	4		2			2
Sample Size		1	19	1		42	38		73		1	175
Mean Weight			1.90			3.01	2.20		2.84			2.64
Std. Error			0.04			0.08	0.10		0.07			0.04
Sample Size			5			6	5		14			30
Both Sexes		489	50,397	1,957	489	35,229	59,204	489	67,523		489	216,266
Percent		0.23	23.30	0.90	0.23	16.29	27.38	0.23	31.22		0.23	100.00
Mean Length		568	527	392	655	592	546	641	591		585	562
Std. Error			2	17		3	2		2			1
Sample Size		1	103	4	1	72	121	1	138		1	442
Mean Weight			2.21			2.93	2.56		3.19			2.74
Std. Error			0.04			0.23	0.10		0.07			0.05
Sample Size			29			13	21		23			86

-Continued-

Table 26. (p 5 of 9).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 5 7/10-7/11												
Males			59,076			62,452	57,388	1,688	102,962			283,566
Percent			13.51			14.29	13.13	0.39	23.55			64.86
Mean Length			526			599	547	594	594			572
Std. Error			3			5	4		3			2
Sample Size			35			37	34	1	61			168
Mean Weight			2.34			3.69	2.52		3.39			3.06
Std. Error			0.08			0.13	0.06		0.13			0.06
Sample Size			12			8	6		13			39
Females			13,503			43,885	27,006	1,688	67,517			153,599
Percent			3.09			10.04	6.18	0.39	15.44			35.14
Mean Length			520			566	527	591	577			560
Std. Error			5			4	3		3			2
Sample Size			8			26	16	1	40			91
Mean Weight			2.00			2.94	2.31		2.92			2.74
Std. Error						0.05	0.20		0.07			0.05
Sample Size			1			9	6		15			31
Both Sexes			72,579			106,337	84,394	3,376	170,479			437,165
Percent			16.60			24.32	19.30	0.77	39.00			100.00
Mean Length			525			585	541	593	587			568
Std. Error			3			3	3		2			1
Sample Size			43			63	50	2	101			259
Mean Weight			2.28			3.38	2.45		3.20			2.95
Std. Error			0.08			0.08	0.08		0.08			0.04
Sample Size			13			17	12		28			70

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Table 26. (p 6 of 9).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 6 7/12-7/13												
Males			53,016	1,219		27,422	62,157		74,955	609		219,378
Percent			12.48	0.29		6.46	14.63		17.65	0.14		51.65
Mean Length			534	388		587	550		600	602		567
Std. Error			3	20		4	3		3			1
Sample Size			87	2		45	102		123	1		360
Mean Weight			2.51			3.19	2.17		3.33			2.78
Std. Error			0.10			0.27	0.54		0.13			0.17
Sample Size			9			8	5		22			44
Females			31,688			30,469	60,938	1,219	81,049			205,363
Percent			7.46			7.17	14.35	0.29	19.08			48.35
Mean Length			519			579	533	614	583			558
Std. Error			3			3	2	6	2			1
Sample Size			52			50	100	2	133			337
Mean Weight			2.08			3.00	2.10		3.05			2.61
Std. Error			0.06			0.17	0.07		0.05			0.04
Sample Size			2			4	8		10			24
Both Sexes			84,704	1,219		57,891	123,095	1,219	156,004	609		424,741
Percent			19.94	0.29		13.63	28.98	0.29	36.73	0.14		100.00
Mean Length			528	388		583	542	614	591	602		563
Std. Error			2	20		3	2	6	2			1
Sample Size			139	2		95	202	2	256	1		697
Mean Weight			2.35			3.09	2.14		3.18			2.70
Std. Error			0.07			0.16	0.28		0.07			0.09
Sample Size			11			12	13		32			68

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Table 26. (p 7 of 9).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 7 7/14												
Males	679		29,861	679		12,216	31,897	1,357	38,683			115,372
Percent	0.35		15.22	0.35		6.23	16.26	0.69	19.72			58.82
Mean Length	570		541	533		572	550	610	580			561
Std. Error			5			8	5	42	4			2
Sample Size	1		44	1		18	47	2	57			170
Mean Weight			2.47	9.66		2.98	2.52		3.21			2.83
Std. Error			0.11			0.28	0.16		0.13			0.08
Sample Size			12	1		3	11		14			41
Females			12,216	1,357		6,108	27,825		33,254			80,760
Percent			6.23	0.69		3.11	14.19		16.95			41.18
Mean Length			520	459		565	532		564			545
Std. Error			9	95		8	3		4			3
Sample Size			18	2		9	41		49			119
Mean Weight			2.13	1.08		3.16	2.28		2.90			2.56
Std. Error			0.10	0.03		0.38	0.36		0.09			0.13
Sample Size			3	2		2	4		9			20
Both Sexes	679		42,077	2,036		18,324	59,722	1,357	71,937			196,132
Percent	0.35		21.45	1.04		9.34	30.45	0.69	36.68			100.00
Mean Length	570		535	484		570	541	610	573			554
Std. Error			4	95		6	3	42	3			2
Sample Size	1		62	3		27	88	2	106			289
Mean Weight			2.37	3.94		3.04	2.41		3.07			2.72
Std. Error			0.08	0.03		0.22	0.19		0.08			0.07
Sample Size			15	3		5	15		23			61

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Table 26. (p 8 of 9).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 8 7/15-9/07												
Males			13,837	1,130		10,731	19,202	565	20,613			66,078
Percent			8.91	0.73		6.91	12.36	0.36	13.27			42.55
Mean Length			527	422		598	549	664	609			570
Std. Error			4	11		5	4	9	3			2
Sample Size			49	4		38	68	2	73			234
Mean Weight			2.06	3.89		3.40	2.60	4.61	3.86			3.05
Std. Error			0.27			0.20	0.21		0.11			0.09
Sample Size			4	1		6	8	1	10			30
Females			18,637			17,226	28,238	565	24,568			89,234
Percent			12.00			11.09	18.18	0.36	15.82			57.45
Mean Length			513			580	523	601	581			549
Std. Error			2			3	2	26	2			1
Sample Size			66			61	100	2	87			316
Mean Weight			2.15			3.07	2.11		3.00			2.55
Std. Error			0.17			0.08	0.09		0.10			0.06
Sample Size			6			11	15		10			42
Both Sexes			32,474	1,130		27,957	47,440	1,130	45,181			155,312
Percent			20.91	0.73		18.00	30.54	0.73	29.09			100.00
Mean Length			519	422		587	534	633	594			558
Std. Error			2	11		2	2	14	2			1
Sample Size			115	4		99	168	4	160			550
Mean Weight			2.11	3.89		3.20	2.31	4.61	3.39			2.76
Std. Error			0.15			0.09	0.10		0.07			0.05
Sample Size			10	1		17	23	1	20			72

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Table 26. (p 9 of 9).

	Age Group											
	0.2	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4	3.3	Total
All Periods Combined												
Males	679	881	207,737	5,168	698	140,949	229,725	4,518	284,507	609		875,471
Percent	0.04	0.06	13.56	0.34	0.05	9.20	15.00	0.29	18.58	0.04		57.16
Mean Length	570	593	531	413	634	594	549	615	597	602		567
Std. Error		11	1	8		3	2	24	1			1
Sample Size	1	6	383	16	2	289	475	8	498	1		1,679
Mean Weight		2.93	2.42	6.06		3.42	2.48	4.44	3.41			2.93
Std. Error			0.04			0.10	0.16		0.06			0.05
Sample Size		1	68	2		45	63	2	81			262
Females		839	89,242	2,182	112	130,094	174,251	3,891	255,044		489	656,144
Percent		0.05	5.83	0.14	0.01	8.49	11.38	0.25	16.65		0.03	42.84
Mean Length		578	517	432	600	576	530	598	578		585	556
Std. Error			2	76		2	1	8	1			1
Sample Size		4	189	6	1	283	379	7	475		1	1,345
Mean Weight		2.54	2.14	1.08		3.01	2.20	3.18	2.97			2.65
Std. Error			0.06	0.03		0.05	0.07	0.06	0.03			0.03
Sample Size		1	20	2		46	53	2	74			198
Both Sexes	679	1,720	296,979	7,350	810	271,043	403,976	8,409	539,551	609	489	1,531,615
Percent	0.04	0.11	19.39	0.48	0.05	17.70	26.38	0.55	35.23	0.04	0.03	100.00
Mean Length	570	586	527	419	629	585	540	607	588	602	585	562
Std. Error		11	1	22		2	1	13	1			1
Sample Size	1	10	572	22	3	572	854	15	973	1	1	3,024
Mean Weight		2.91	2.33	3.92		3.22	2.36	4.07	3.20			2.81
Std. Error			0.04	0.03		0.06	0.09	0.06	0.04			0.03
Sample Size		2	88	4		91	116	4	155			460

Table 27. Daily sockeye salmon escapement counts, Ugashik River, 1988.

Date	Daily Count[a]	Cumulative Count	Daily Percent of Total	Cumulative Percent
July 3	0	0	0.00	0.00
4	3,792	3,792	0.59	0.59
5	1,968	5,760	0.31	0.90
6	1,296	7,056	0.20	1.10
7	312	7,368	0.05	1.15
8	360	7,728	0.06	1.20
9	3,240	10,968	0.50	1.71
10	750	11,718	0.12	1.82
11	642	12,360	0.10	1.92
12	504	12,864	0.08	2.00
13	11,694	24,558	1.82	3.82
14	66,366	90,924	10.32	14.14
15	96,690	187,614	15.04	29.18
16	130,008	317,622	20.22	49.40
17	35,340	352,962	5.50	54.90
18	53,004	405,966	8.24	63.14
19	54,756	460,722	8.52	71.66
20	36,426	497,148	5.67	77.32
21	29,826	526,974	4.64	81.96
22	25,806	552,780	4.01	85.97
23	21,198	573,978	3.30	89.27
24	11,016	584,994	1.71	90.98
25	14,778	599,772	2.30	93.28
26	25,980	625,752	4.04	97.32
27	6,126	631,878	0.95	98.27
28	2,334	634,212	0.36	98.64
29	2,220	636,432	0.35	98.99
30	2,718	639,150	0.42	99.41
31	2,070	641,220	0.32	99.73
Aug. 1	1,056	642,276	0.16	99.89
2	696	642,972	0.11	100.00

[a] An additional 11,440 sockeye salmon were counted in drainages of the Dog Salmon and King Salmon Rivers, bringing the Ugashik District escapement total to 654,412.

Table 28. Age, sex, and size composition of sockeye salmon escapement, Ugashik River, 1988.

	Age Group										
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total[a]
Sample Period 1 7/04-7/14											
Males				7,516	6,547	3,879	6,304		13,578		37,824
Percent				8.27	7.20	4.27	6.93		14.93		41.60
Mean Length				520	386	606	541		609		541
Std. Error				4	3	7	6		4		2
Sample Size				31	27	16	26		56		156
Females				14,548		6,062	14,548		17,942		53,100
Percent				16.00		6.67	16.00		19.73		58.40
Mean Length				508		584	523		584		547
Std. Error				3		4	3		3		2
Sample Size				60		25	60		74		219
Both Sexes				22,064	6,547	9,941	20,852		31,520		90,924
Percent				24.27	7.20	10.93	22.93		34.67		100.00
Mean Length				513	386	593	528		595		544
Std. Error				3	3	4	3		2		1
Sample Size				91	27	41	86		130		375
Sample Period 2 7/15-7/17											
Males				26,247	17,211	8,606	25,386	430	40,446		118,326
Percent				10.02	6.57	3.28	9.69	0.16	15.44		45.16
Mean Length				523	383	604	545	625	613		544
Std. Error				3	4	7	5		2		2
Sample Size				61	40	20	59	1	94		275
Females	430			41,306		9,466	51,634		40,876		143,712
Percent	0.16			15.76		3.61	19.70		15.60		54.84
Mean Length	507			496		581	513		580		532
Std. Error				2		3	2		2		1
Sample Size	1			96		22	120		95		334
Both Sexes	430			67,553	17,211	18,072	77,020	430	81,322		262,038
Percent	0.16			25.78	6.57	6.90	29.39	0.16	31.03		100.00
Mean Length	507			507	383	592	523	625	597		537
Std. Error				2	4	4	2		2		1
Sample Size	1			157	40	42	179	1	189		609

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Table 28. (p 2 of 4).

	Age Group										
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total[a]
Sample Period 3 7/18-7/20											
Males			323	6,774	17,418	5,806	14,515		21,935		66,771
Percent			0.22	4.70	12.08	4.03	10.07		15.21		46.31
Mean Length			601	530	389	615	539		613		530
Std. Error				5	3	4	4		2		2
Sample Size			1	21	54	18	45		68		207
Females				21,934	323	6,451	32,256		16,451		77,415
Percent				15.21	0.22	4.47	22.37		11.41		53.69
Mean Length				497	399	582	512		584		528
Std. Error				2		4	2		3		1
Sample Size				68	1	20	100		51		240
Both Sexes			323	28,708	17,741	12,257	46,771		38,386		144,186
Percent			0.22	19.91	12.30	8.50	32.44		26.62		100.00
Mean Length			601	505	389	598	520		601		529
Std. Error				2	3	3	2		2		1
Sample Size			1	89	55	38	145		119		447
Sample Period 4 7/21-7/23											
Males	448	448	747	10,167	1,345	6,128	9,865		8,520	149	37,817
Percent	0.58	0.58	0.97	13.23	1.75	7.98	12.84		11.09	0.19	49.22
Mean Length	454	325	574	521	376	606	549		608	655	555
Std. Error	18	7	17	4	8	4	3		3		2
Sample Size	3	3	5	68	9	41	66		57	1	253
Females			598	14,350		7,025	12,556		4,484		39,013
Percent			0.78	18.68		9.14	16.34		5.84		50.78
Mean Length			562	502		578	520		572		530
Std. Error			10	2		3	2		5		1
Sample Size			4	96		47	84		30		261
Both Sexes	448	448	1,345	24,517	1,345	13,153	22,421		13,004	149	76,830
Percent	0.58	0.58	1.75	31.91	1.75	17.12	29.18		16.93	0.19	100.00
Mean Length	454	325	569	510	376	591	532		595	655	543
Std. Error	18	7	11	2	8	2	2		3		1
Sample Size	3	3	9	164	9	88	150		87	1	514

-Continued-

Table 28. (p 3 of 4).

	Age Group										
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total[a]
Sample Period 5 7/24-7/26											
Males	110		771	4,516	1,873	4,076	7,381		7,821		26,548
Percent	0.21		1.49	8.72	3.62	7.87	14.26		15.11		51.28
Mean Length	435		594	525	389	602	538		605		556
Std. Error			2	5	3	5	4		3		2
Sample Size	1		7	41	17	37	67		71		241
Females			551	5,508		2,644	11,566	110	4,847		25,226
Percent			1.06	10.64		5.11	22.34	0.21	9.36		48.72
Mean Length			564	501		579	513	615	570		530
Std. Error			11	3		3	2		4		2
Sample Size			5	50		24	105	1	44		229
Both Sexes	110		1,322	10,024	1,873	6,720	18,947	110	12,668		51,774
Percent	0.21		2.55	19.36	3.62	12.98	36.60	0.21	24.47		100.00
Mean Length	435		582	512	389	593	523	615	592		543
Std. Error			5	3	3	3	2		2		1
Sample Size	1		12	91	17	61	172	1	115		470
Sample Period 6 7/27-8/02											
Males	58	58	403	1,843	749	3,340	1,267		1,785		9,503
Percent	0.34	0.34	2.34	10.70	4.35	19.40	7.36		10.37		55.19
Mean Length	550	358	581	531	371	607	535		610		562
Std. Error			9	5	6	3	8		3		2
Sample Size	1	1	7	32	13	58	22		31		165
Females			58	2,188		1,613	3,224		634		7,717
Percent			0.34	12.71		9.37	18.72		3.68		44.81
Mean Length			531	510		574	510		577		529
Std. Error				5		5	4		5		2
Sample Size			1	38		28	56		11		134
Both Sexes	58	58	461	4,031	749	4,953	4,491		2,419		17,220
Percent	0.34	0.34	2.68	23.41	4.35	28.76	26.08		14.05		100.00
Mean Length	550	358	574	520	371	597	517		601		547
Std. Error			9	4	6	3	3		3		2
Sample Size	1	1	8	70	13	86	78		42		299

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Table 28. (p 4 of 4).

	Age Group										
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total[a]
All Periods Combined											
Males	616	506	2,244	57,063	45,143	31,835	64,718	430	94,085	149	296,789
Percent	0.10	0.08	0.35	8.87	7.02	4.95	10.07	0.07	14.63	0.02	46.16
Mean Length	460	328	586	524	385	607	543	625	611	655	544
Std. Error	18	7	7	2	2	2	2		1		1
Sample Size	5	4	20	254	160	190	285	1	377	1	1,297
Females	430		1,207	99,834	323	33,261	125,784	110	85,234		346,183
Percent	0.07		0.19	15.53	0.05	5.17	19.56	0.02	13.26		53.84
Mean Length	507		562	500	399	581	514	615	581		533
Std. Error			7	1		2	1		1		1
Sample Size	1		10	408	1	166	525	1	305		1,417
Both Sexes	1,046	506	3,451	156,897	45,466	65,096	190,502	540	179,319	149	642,972
Percent	0.16	0.08	0.54	24.40	7.07	10.12	29.63	0.08	27.89	0.02	100.00
Mean Length	479	328	577	508	385	594	524	623	597	655	538
Std. Error	18	7	5	1	2	1	1		1		1
Sample Size	6	4	30	662	161	356	810	2	682	1	2,714

[a] An additional 11,440 sockeye salmon were counted in the Dog Salmon and King Salmon Rivers but were not sampled.

Table 29. Age composition of chinook salmon commercial catch, Ugashik District, 1988.

	Age Group						
	1.2	1.3	1.4	1.5	2.4	2.5	Total
All Periods Combined							
Both Sexes	41	466	2,191	466	114	41	3,319
Percent	1.23	14.04	66.01	14.04	3.45	1.23	100.00
Sample Size	5	57	268	57	14	5	406

Table 30. Commercial salmon catch by period and species, Nushagak District, 1988.

Openings		Effort[a]		Catch(number of fish)					
Period	Hours[b]	Drift	Set	Sockeye	Chinook	Chum	Pink	Coho	Total
6/26	6	300	164	100,306	3,037	57,167	1	0	160,511
6/28	12	335	262	180,503	5,197	76,543	3	0	262,246
7/02	7			490,426	449	80,622	1	0	571,498
7/03	6	382	259	219,001	1,754	29,696	5	0	250,456
7/11	6	420	258	209,185	1,139	31,574	11	0	241,909
7/12	24	347		162,609	1,567	27,721	125	0	192,022
7/13	24	299		92,887	929	18,902	160	5	112,883
7/14	24	291		74,496	421	12,603	267	4	87,791
7/15	14	299		60,611	494	8,836	362	33	70,336
7/16	9	292		30,608	168	1,926	1,053	23	33,778
7/17	9	279		32,792	234	5,158	1,095	33	39,312
7/18	15			21,971	183	3,439	4,824	194	30,611
7/19	24			13,112	155	5,203	5,308	374	24,152
7/20	24			5,325	153	1,625	6,316	270	13,689
7/21	24			5,442	134	2,499	9,680	1,117	18,872
7/22	24			2,560	102	1,316	12,942	476	17,396
7/23	9			2,291	82	516	12,394	329	15,612
7/25	15			1,637	126	2,732	26,844	8,253	39,592
7/26	24			785	72	980	33,734	3,099	38,670
7/27	24			553	18	365	11,422	968	13,326
7/28	9			374	28	284	23,742	744	25,172
8/02	9			173	21	100	29,110	7,860	37,264
8/03	24			168	11	107	13,292	1,642	15,220
8/04	9			102	7	173	30,671	789	31,742
8/09	15			62	10	78	15,752	8,728	24,630
8/10	24			60	10	48	8,064	15,905	24,087
8/11	9			0	0	10	1,478	2,279	3,767
Total	423 hrs.			1,708,039	16,501	370,223	248,656	53,125	2,396,544
Percent of District Catch				71.3	0.7	15.4	10.4	2.2	100.0

[a] Fishing effort represents number of drift boats and number of set nets estimated from aerial surveys on open fishing periods. Blanks indicate no aerial surveys were conducted.

[b] See Table 2 for emergency fishing periods.

Table 31. Age and sex composition of sockeye salmon inshore run, Nushagak District, 1988.

	Age Group										
	0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
						CATCH					
Males	17,483		57,727	170,210	25,112	541,292	7,419	23,444	6,458		849,145
Percent	0.54		1.79	5.27	0.78	16.77	0.23	0.73	0.20		26.30
Females	3,249		83,610	132,915	65,833	538,587	5,499	23,745	5,456		858,894
Percent	0.10		2.59	4.12	2.04	16.68	0.17	0.74	0.17		26.60
Both Sexes	20,732		141,337	303,125	90,945	1,079,879	12,918	47,189	11,914		1,708,039
Percent	0.64		4.38	9.39	2.82	33.45	0.40	1.46	0.37		52.91
						ESCAPEMENT[a]					
Males	53,538	2,902	33,747	197,139	13,106	458,525	4,967	16,522	8,650		789,096
Percent	1.66	0.09	1.05	6.11	0.41	14.20	0.15	0.51	0.27		24.44
Females	2,811		58,148	153,418	23,946	459,724	9,757	13,724	9,475	333	731,336
Percent	0.09		1.80	4.75	0.74	14.24	0.30	0.43	0.29	0.01	22.65
Both Sexes	56,349	2,902	91,895	350,557	37,052	918,249	14,724	30,246	18,125	333	1,520,432
Percent	1.75	0.09	2.85	10.86	1.15	28.44	0.46	0.94	0.56	0.01	47.09
						CATCH AND ESCAPEMENT					
Males	71,021	2,902	91,474	367,349	38,218	999,817	12,386	39,966	15,108		1,638,241
Percent	2.20	0.09	2.83	11.38	1.18	30.97	0.38	1.24	0.47		50.74
Females	6,060		141,758	286,333	89,779	998,311	15,256	37,469	14,931	333	1,590,230
Percent	0.19		4.39	8.87	2.78	30.92	0.47	1.16	0.46	0.01	49.26
Both Sexes	77,081	2,902	233,232	653,682	127,997	1,998,128	27,642	77,435	30,039	333	3,228,471
Percent	2.39	0.09	7.22	20.25	3.96	61.89	0.86	2.40	0.93	0.01	100.00

[a] An additional 4,320 sockeye salmon were counted in Snake River but were not sampled for age composition.

Table 32. Age, sex, and size composition of sockeye salmon commercial catch, Nushagak District, 1988.

	Age Group								
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total[a]
Sample Period 1	6/26-6/27								
Males	613	2,863	4,703	3,272	34,358		1,022	204	47,035
Percent	0.61	2.85	4.68	3.26	34.22		1.02	0.20	46.84
Mean Length	483	563	521	630	587		606	518	581
Std. Error	24	14	6	6	2		14		2
Sample Size	3	14	23	16	168		5	1	230
Mean Weight	1.81	3.18	2.61	4.34	3.49		3.82		3.43
Std. Error	0.16	0.34	0.23	0.27	0.07				0.06
Sample Size	3	5	7	9	67		1		92
Females	204	3,681	3,681	5,930	36,606		2,863	409	53,374
Percent	0.20	3.67	3.67	5.91	36.46		2.85	0.41	53.16
Mean Length	434	575	508	593	567		598	569	567
Std. Error		5	5	3	1		6	15	1
Sample Size	1	18	18	29	179		14	2	261
Mean Weight	1.30	3.23	1.91	3.43	2.90		3.66		2.95
Std. Error		0.12	0.06	0.14	0.05				0.04
Sample Size	1	8	8	11	56		1		85
Both Sexes	817	6,544	8,384	9,202	70,964		3,885	613	100,409
Percent	0.81	6.52	8.35	9.16	70.67		3.87	0.61	100.00
Mean Length	471	570	515	606	577		600	552	574
Std. Error	24	7	4	3	1		6	15	1
Sample Size	4	32	41	45	347		19	3	491
Mean Weight	1.68	3.21	2.30	3.75	3.19		3.70		3.17
Std. Error	0.16	0.16	0.13	0.13	0.04				0.04
Sample Size	4	13	15	20	123		2		177

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Table 32. (p 2 of 8).

	Age Group								
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total[a]
Sample Period 2 6/28 -7/01									
Males	3,585	5,377	12,904	5,377	72,408	358	1,434	1,075	102,518
Percent	2.09	3.14	7.53	3.14	42.26	0.21	0.84	0.63	59.83
Mean Length	467	573	509	618	582	542	630	575	571
Std. Error	15	13	5	7	2		18	23	2
Sample Size	10	15	36	15	202	1	4	3	286
Mean Weight	1.62	2.48	2.16	4.05	3.30	2.61	4.80	2.56	3.10
Std. Error	0.15	0.36	0.21	0.26	0.07				0.06
Sample Size	5	5	9	5	67	1	1	1	94
Females		2,509	5,735	4,301	53,769	717	1,792		68,823
Percent		1.46	3.35	2.51	31.38	0.42	1.05		40.17
Mean Length		568	506	582	562	546	597		559
Std. Error		6	6	6	2	6	16		2
Sample Size		7	16	12	150	2	5		192
Mean Weight		3.03	2.12	3.46	2.83	2.84	3.07		2.82
Std. Error		0.09	0.20	0.13	0.05		0.27		0.04
Sample Size		3	4	5	52	1	2		67
Both Sexes	3,585	7,886	18,639	9,678	126,177	1,075	3,226	1,075	171,341
Percent	2.09	4.60	10.88	5.65	73.64	0.63	1.88	0.63	100.00
Mean Length	467	572	508	602	573	544	611	575	566
Std. Error	15	9	4	5	1	6	12	23	1
Sample Size	10	22	52	27	352	3	9	3	478
Mean Weight	1.62	2.65	2.15	3.79	3.10	2.76	3.84	2.56	2.99
Std. Error	0.15	0.25	0.16	0.16	0.05		0.27		0.04
Sample Size	5	8	13	10	119	2	3	1	161

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Table 32. (p 3 of 8).

	Age Group								
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total[a]
Sample Period 3 7/02									
Males	6,224	17,635	47,718	10,373	154,566	2,075	7,261	1,037	246,889
Percent	1.28	3.62	9.81	2.13	31.77	0.43	1.49	0.21	50.75
Mean Length	447	577	516	620	588	512	585	583	570
Std. Error	15	6	4	9	3	9	18		2
Sample Size	6	17	46	10	149	2	7	1	238
Mean Weight	1.35	3.45	2.38	3.46	3.66		5.38		3.38
Std. Error	0.03	0.23	0.05	0.18	0.06				0.05
Sample Size	2	4	20	2	57		1		86
Females		20,747	18,672	28,008	160,789	1,037	8,299	2,075	239,627
Percent		4.26	3.84	5.76	33.05	0.21	1.71	0.43	49.25
Mean Length		556	506	586	562	531	587	552	561
Std. Error		4	6	4	2		4	1	1
Sample Size		20	18	27	155	1	8	2	231
Mean Weight		2.85	1.92	3.24	2.79	2.70	3.32	2.87	2.80
Std. Error		0.10	0.13	0.18	0.04		0.16		0.04
Sample Size		9	3	9	54	1	2	1	79
Both Sexes	6,224	38,382	66,390	38,381	315,355	3,112	15,560	3,112	486,516
Percent	1.28	7.89	13.65	7.89	64.82	0.64	3.20	0.64	100.00
Mean Length	447	566	513	595	575	518	586	562	566
Std. Error	15	3	3	4	2	9	8	1	1
Sample Size	6	37	64	37	304	3	15	3	469
Mean Weight	1.35	3.13	2.25	3.30	3.22	2.70	4.28	2.87	3.09
Std. Error	0.03	0.12	0.05	0.14	0.04		0.16		0.03
Sample Size	2	13	23	11	111	1	3	1	165

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Table 32. (p 4 of 8).

	Age Group								
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total[a]
Sample Period 4 7/03-7/09									
Males	888	11,989	19,981	3,552	66,161	444	3,108		106,123
Percent	0.41	5.59	9.32	1.66	30.85	0.21	1.45		49.48
Mean Length	428	573	514	614	584	520	583		569
Std. Error	8	7	3	9	2		17		2
Sample Size	2	27	45	8	149	1	7		239
Mean Weight		3.37	2.23	3.58	3.36		3.92		3.17
Std. Error		0.38	0.11		0.08		1.19		0.08
Sample Size		5	17	1	51		2		76
Females	1,332	9,325	15,541	6,216	71,934	888	2,220	888	108,344
Percent	0.62	4.35	7.25	2.90	33.54	0.41	1.04	0.41	50.52
Mean Length	483	554	506	581	556	510	577	559	549
Std. Error	45	3	5	6	2	1	10	4	2
Sample Size	3	21	35	14	162	2	5	2	244
Mean Weight	2.11	2.79	1.95	3.38	2.77		3.11	2.75	2.69
Std. Error		0.12	0.05	0.17	0.04		0.49		0.04
Sample Size	1	9	15	6	55		2	1	89
Both Sexes	2,220	21,314	35,522	9,768	138,095	1,332	5,328	888	214,467
Percent	1.04	9.94	16.56	4.55	64.39	0.62	2.48	0.41	100.00
Mean Length	461	565	511	593	569	513	580	559	559
Std. Error	27	4	3	5	1	1	11	4	1
Sample Size	5	48	80	22	311	3	12	2	483
Mean Weight	2.11	3.12	2.11	3.45	3.05		3.58	2.75	2.93
Std. Error		0.22	0.07	0.17	0.04		0.72		0.04
Sample Size	1	14	32	7	106		4	1	165

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Table 32. (p 5 of 8).

	Age Group								
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total[a]
Sample Period 5 7/10-7/11									
Males	413	5,779	28,068	1,238	52,008	1,238	4,128	1,238	94,110
Percent	0.21	2.89	14.02	0.62	25.98	0.62	2.06	0.62	47.01
Mean Length	410	574	515	614	577	522	600	573	558
Std. Error		10	3	14	3	25	12	20	2
Sample Size	1	14	68	3	126	3	10	3	228
Mean Weight		3.39	2.31	4.54	3.35	2.56	5.03	2.90	3.11
Std. Error		0.26	0.10	0.64	0.08	0.54	0.42	0.64	0.06
Sample Size		5	21	2	50	2	2	2	84
Females	413	9,906	19,813	1,651	66,868	826	5,366	1,238	106,081
Percent	0.21	4.95	9.90	0.82	33.40	0.41	2.68	0.62	52.99
Mean Length	472	551	497	575	553	491	562	565	543
Std. Error		4	3	12	2	4	8	7	1
Sample Size	1	24	48	4	162	2	13	3	257
Mean Weight		2.75	1.95	3.13	2.73		3.14		2.61
Std. Error		0.17	0.04	0.13	0.04		0.18		0.04
Sample Size		6	18	2	54		4		84
Both Sexes	826	15,685	47,881	2,889	118,876	2,064	9,494	2,476	200,191
Percent	0.41	7.84	23.92	1.44	59.38	1.03	4.74	1.24	100.00
Mean Length	441	559	508	591	564	509	578	569	550
Std. Error		4	2	9	2	15	7	11	1
Sample Size	2	38	116	7	288	5	23	6	485
Mean Weight		2.99	2.16	3.73	3.00	2.56	3.96	2.90	2.85
Std. Error		0.15	0.06	0.28	0.04	0.54	0.21	0.64	0.03
Sample Size		11	39	4	104	2	6	2	168

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Table 32. (p 6 of 8).

	Age Group								
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total[a]
Sample Period 6 7/12									
Males	560	2,239	21,835		42,550	560	1,120	560	69,424
Percent	0.37	1.47	14.34		27.94	0.37	0.74	0.37	45.59
Mean Length	529	563	497		570	525	618	596	547
Std. Error		8	4		3		11		2
Sample Size	1	4	39		76	1	2	1	124
Mean Weight	2.34	3.73	2.19		3.46	2.39		3.71	3.05
Std. Error			0.07		0.10				0.07
Sample Size	1	1	29		31	1		1	64
Females		6,159	23,514	2,799	48,148	560	1,680		82,860
Percent		4.04	15.44	1.84	31.62	0.37	1.10		54.41
Mean Length		557	489	555	539	500	575		527
Std. Error		4	4	6	3		7		2
Sample Size		11	42	5	86	1	3		148
Mean Weight		3.10	1.89	2.46	2.69		3.30		2.50
Std. Error		0.10	0.06	0.15	0.04				0.03
Sample Size		5	14	2	34		1		56
Both Sexes	560	8,398	45,349	2,799	90,698	1,120	2,800	560	152,284
Percent	0.37	5.51	29.78	1.84	59.56	0.74	1.84	0.37	100.00
Mean Length	529	559	493	555	553	513	592	596	536
Std. Error		4	3	6	2		6		2
Sample Size	1	15	81	5	162	2	5	1	272
Mean Weight	2.34	3.27	2.03	2.46	3.05	2.39	3.30	3.71	2.75
Std. Error		0.10	0.04	0.15	0.05				0.04
Sample Size	1	6	43	2	65	1	1	1	120

-Continued-

Table 32. (p 7 of 8).

	Age Group								
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total[a]
Sample Period 7 7/13-8/10									
Males	5,200	11,701	29,902	1,300	100,106	2,600	5,200	1,300	157,309
Percent	1.57	3.54	9.06	0.39	30.32	0.79	1.57	0.39	47.64
Mean Length	420	588	506	630	581	537	603	578	562
Std. Error	11	5	8		2	17	19		2
Sample Size	4	9	23	1	77	2	4	1	121
Mean Weight		3.81	2.25		3.76		4.00	4.00	3.47
Std. Error		0.69			0.12				0.10
Sample Size		4	2		24		1	1	32
Females	1,300	31,202	42,902	16,901	78,005	1,300	1,300		172,910
Percent	0.39	9.45	12.99	5.12	23.62	0.39	0.39		52.36
Mean Length	532	539	485	579	549	550	599		534
Std. Error		4	4	4	3				2
Sample Size	1	24	33	13	60	1	1		133
Mean Weight		2.88	1.96	3.88	2.92		4.25		2.78
Std. Error		0.07	0.08	0.13	0.12				0.06
Sample Size		4	6	2	16		1		29
Both Sexes	6,500	42,903	72,804	18,201	178,111	3,900	6,500	1,300	330,219
Percent	1.97	12.99	22.05	5.51	53.94	1.18	1.97	0.39	100.00
Mean Length	442	552	494	583	567	541	602	578	548
Std. Error	11	3	4	4	2	17	19		1
Sample Size	5	33	56	14	137	3	5	1	254
Mean Weight		3.13	2.08	3.88	3.39		4.05	4.00	3.10
Std. Error		0.19	0.08	0.13	0.09				0.06
Sample Size		8	8	2	40		2	1	61

-Continued-

Table 32. (p 8 of 8).

	Age Group								
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total[a]
All Periods Combined									
Males	17,483	57,583	165,111	25,112	522,157	7,275	23,273	5,414	823,408
Percent	1.06	3.48	9.97	1.52	31.54	0.44	1.41	0.33	49.74
Mean Length	445	576	511	620	583	526	597	577	566
Std. Error	7	3	2	5	1	10	8	15	1
Sample Size	27	100	280	53	947	10	39	10	1,466
Mean Weight	1.51	3.41	2.29	3.79	3.53	2.52	4.68	3.26	3.28
Std. Error	0.06	0.19	0.04	0.13	0.04	0.54	0.56	0.64	0.03
Sample Size	11	29	105	19	347	4	8	5	528
Females	3,249	83,529	129,858	65,806	516,119	5,328	23,520	4,610	832,019
Percent	0.20	5.05	7.84	3.98	31.18	0.32	1.42	0.28	50.26
Mean Length	498	550	495	582	556	524	582	558	548
Std. Error	45	2	2	2	1	2	3	2	1
Sample Size	6	125	210	104	954	9	49	9	1,466
Mean Weight	2.00	2.88	1.94	3.41	2.80	2.76	3.33	2.83	2.74
Std. Error		0.04	0.04	0.09	0.03		0.11		0.02
Sample Size	2	44	68	37	321	2	13	2	489
Both Sexes	20,732	141,112	294,969	90,918	1,038,276	12,603	46,793	10,024	1,655,427
Percent	1.25	8.52	17.82	5.49	62.72	0.76	2.83	0.61	100.00
Mean Length	453	561	504	593	569	525	589	568	557
Std. Error	8	2	1	2	1	7	4	5	1
Sample Size	33	225	490	157	1,901	19	88	19	2,932
Mean Weight	1.57	3.10	2.14	3.51	3.17	2.63	3.98	3.09	3.00
Std. Error	0.06	0.08	0.03	0.07	0.02	0.54	0.18	0.64	0.02
Sample Size	13	73	173	56	668	6	21	7	1,017

[a] Does not include age, weight, length, or catch data for sockeye salmon harvested by set nets in Igushik Section (52,612 fish).

Table 33. Commercial set net sockeye salmon catches by period, Clark's Point, Ekuk, and Igushik Beaches, 1988.

Period	Hours[a]	Clark's Point Beach[b]	Ekuk Beach[c]	Igushik Beach[d]
June 26	6	5,329	5,906	1,453
28	12	829	1,492	8,754
July 2	7	9,971	12,576	2,762
3	6	1,924	8,554	7,266
11	6	8,028	28,041	6,262
12	24	6,018	21,285	10,325
13	24	1,070	6,058	4,203
14	24	572	8,044	3,609
15	14	990	3,693	1,550
16	9	1,631	3,682	1,350
17	9	643	2,072	945
18	15	1,243	2,665	1,150
19	24	185	950	1,312
20	24	45	457	809
21	24		329	792
22	24		139	70
23	9		124	
25	15		95	
26	24		333	
27	24		332	
28	9		124	
Aug. 2	9		11	
3	24		89	2,349
4	9		44	3,200
9	15		25	1,112
10	24		30	
11	9		2	
Totals		38,478	107,152	52,612

[a] See Table 2 for emergency order fishing periods.

[b] Approximate fishing effort was 24 set nets. Catch of other species included 35 chinook, and 2,946 chum.

[c] Approximate fishing effort was 88 set nets. Catch of other species included 273 chinook, 3,437 chum, 2,343 pink, and 112 coho.

[d] Approximate fishing effort was 73 set nets. Catch of other species included 264 chinook, 614 chum, 12 pink, and 1 coho.

Table 34. Age, sex, and size composition of sockeye salmon commercial catch, Igushik Beach set net fishery, 1988.

	Age Group							
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total
Sample Period 1 6/26-7/02								
Males	27	538		4,869	27	54	108	5,623
Percent	0.21	4.15		37.54	0.21	0.42	0.83	43.36
Mean Length	606	575		592	491	605	571	589
Std. Error		10		2		25	30	2
Sample Size	1	20		181	1	2	4	209
Mean Weight		3.58		3.61		3.70	3.40	3.60
Std. Error		0.23		0.08				0.08
Sample Size		4		45		1	1	51
Females	81	484	27	6,565	54	108	27	7,346
Percent	0.62	3.73	0.21	50.62	0.42	0.83	0.21	56.64
Mean Length	583	510	596	564	473	582	590	560
Std. Error	5	6		1	13	9		1
Sample Size	3	18	1	244	2	4	1	273
Mean Weight		2.05	3.30	2.81	1.50	3.20	3.00	2.76
Std. Error		0.15		0.04		0.20		0.04
Sample Size		2	1	68	1	2	1	75
Both Sexes	108	1,022	27	11,434	81	162	135	12,969
Percent	0.83	7.88	0.21	88.16	0.62	1.25	1.04	100.00
Mean Length	589	544	596	576	479	590	574	573
Std. Error	5	6		1	13	10	30	1
Sample Size	4	38	1	425	3	6	5	482
Mean Weight		2.86	3.30	3.15	1.50	3.37	3.32	3.13
Std. Error		0.14		0.04		0.20		0.04
Sample Size		6	1	113	1	3	2	126
Sample Period 2 7/03-7/22								
Males	117	4,561		14,266	117	117	936	20,114
Percent	0.30	11.51		35.99	0.30	0.30	2.36	50.74
Mean Length	615	535		593	536	598	595	580
Std. Error		6		2			10	2
Sample Size	1	39		122	1	1	8	172
Mean Weight		2.62		3.73			2.95	3.44
Std. Error		0.23		0.12			0.55	0.11
Sample Size		9		32			2	43
Females		2,573		15,903	117	117	819	19,529
Percent		6.49		40.12	0.30	0.30	2.07	49.26
Mean Length		495		561	476	540	564	552
Std. Error		5		2			7	2
Sample Size		22		136	1	1	7	167
Mean Weight		2.09		2.85	2.90	2.25	3.00	2.75
Std. Error		0.10		0.04				0.04
Sample Size		5		32	1	1	2	41
Both Sexes	117	7,134		30,169	234	234	1,755	39,643
Percent	0.30	18.00		76.10	0.59	0.59	4.43	100.00
Mean Length	615	521		576	506	569	580	566
Std. Error		4		1			6	1
Sample Size	1	61		258	2	2	15	339
Mean Weight		2.43		3.27	2.90	2.25	2.97	3.10
Std. Error		0.15		0.06			0.55	0.06
Sample Size		14		64	1	1	4	84

-Continued-

Table 34. (p 2 of 2).

	Age Group							
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total
All Periods Combined								
Males	144	5,099		19,135	144	171	1,044	25,737
Percent	0.27	9.69		36.37	0.27	0.33	1.98	48.92
Mean Length	613	540		592	528	600	593	582
Std. Error		5		2		25	10	2
Sample Size	2	59		303	2	3	12	381
Mean Weight		2.72		3.70		3.70	3.00	3.47
Std. Error		0.21		0.09			0.55	0.08
Sample Size		13		77		1	3	94
Females	81	3,057	27	22,468	171	225	846	26,875
Percent	0.15	5.81	0.05	42.71	0.33	0.43	1.61	51.08
Mean Length	583	497	596	562	475	560	565	554
Std. Error	5	4		1	13	9	7	1
Sample Size	3	40	1	380	3	5	8	440
Mean Weight		2.08	3.30	2.84	2.46	2.71	3.00	2.75
Std. Error		0.09		0.03		0.20		0.03
Sample Size		7	1	100	2	3	3	116
Both Sexes	225	8,156	27	41,603	315	396	1,890	52,612
Percent	0.43	15.50	0.05	79.08	0.60	0.75	3.59	100.00
Mean Length	602	524	596	576	499	577	580	568
Std. Error	5	4		1	13	10	6	1
Sample Size	5	99	1	683	5	8	20	821
Mean Weight		2.48	3.30	3.23	2.46	2.90	3.00	3.10
Std. Error		0.14		0.05		0.20	0.55	0.04
Sample Size		20	1	177	2	4	6	210

Table 35. Age and sex composition of sockeye salmon estimated catch and escapement, Wood River, 1988.

	Age Group								
	0.2	1.1	1.2	0.4	1.3	2.2	1.4	2.3	Total
					CATCH				
Males	632		142,919		334,071	4,493	6,377	3,008	491,500
Percent	0.04		8.17		19.09	0.26	0.36	0.17	28.09
Females	2,446		115,142	1,308	267,608	2,373	816	1,812	391,505
Percent	0.14		6.58	0.07	15.29	0.14	0.05	0.10	22.37
Both Sexes	3,078		258,061	1,308	601,679	6,866	7,193	4,820	883,005
Percent	0.18		14.75	0.07	34.39	0.39	0.41	0.28	50.46
					ESCAPEMENT				
Males	1,935	2,902	170,642		293,360	3,068	4,527	4,806	481,240
Percent	0.11	0.17	9.75		16.77	0.18	0.26	0.27	27.50
Females	2,116		136,032	476	238,367	4,346	476	3,725	385,538
Percent	0.12		7.77	0.03	13.62	0.25	0.03	0.21	22.03
Both Sexes	4,051	2,902	306,674	476	531,727	7,414	5,003	8,531	866,778
Percent	0.23	0.17	17.53	0.03	30.39	0.42	0.29	0.49	49.54
					CATCH AND ESCAPEMENT				
Males	2,567	2,902	313,561		627,431	7,561	10,904	7,814	972,740
Percent	0.15	0.17	17.92		35.86	0.43	0.62	0.45	55.59
Females	4,562		251,174	1,784	505,975	6,719	1,292	5,537	777,043
Percent	0.26		14.35	0.10	28.92	0.38	0.07	0.32	44.41
Both Sexes	7,129	2,902	564,735	1,784	1,133,406	14,280	12,196	13,351	1,749,783
Percent	0.41	0.17	32.27	0.10	64.77	0.82	0.70	0.76	100.00

Table 36. Daily sockeye salmon escapement counts, Wood River, 1988.

Date	Daily Count	Cumulative Count	Daily Percent of Total	Cumulative Percent
June 23	18	18	0.00	0.00
24	1,098	1,116	0.13	0.13
25	9,744	10,860	1.12	1.25
26	28,320	39,180	3.27	4.52
27	19,566	58,746	2.26	6.78
28	21,522	80,268	2.48	9.26
29	14,142	94,410	1.63	10.89
30	2,610	97,020	10.30	11.19
July 1	1,362	98,382	10.16	11.35
2	2,472	100,854	0.29	11.64
3	36,372	137,226	4.20	15.83
4	107,922	245,148	2.45	28.28
5	45,564	290,712	5.26	33.54
6	14,722	305,484	1.70	35.24
7	15,678	321,162	1.81	37.05
8	20,832	341,994	2.40	39.46
9	64,206	406,200	7.41	46.86
10	82,812	489,012	9.55	56.42
11	164,610	653,622	18.99	75.41
12	161,562	815,184	18.64	94.05
13	23,622	838,806	2.73	96.77
14	3,732	842,538	0.43	97.20
15	2,268	844,806	0.26	97.47
16	4,260	849,066	0.49	97.96
17	10,308	859,374	1.19	99.15
18	4,890	864,264	0.56	99.71
19	1,326	865,590	0.15	99.86
20	1,188	866,778	0.14	100.00

Table 37. Age, sex, and size composition of sockeye salmon escapement, Wood River, 1988.

	Age Group								
	0.2	1.1	1.2	0.4	1.3	2.2	1.4	2.3	Total
Sample Period 1 6/23-6/28									
Males			9,220		33,625	181	181		43,207
Percent			11.49		41.89	0.23	0.23		53.83
Mean Length			529		582	519	594		571
Std. Error			6		2				2
Sample Size			51		186	1	1		239
Females	181		8,316		28,202			362	37,061
Percent	0.23		10.36		35.13			0.45	46.17
Mean Length	546		485		559			565	543
Std. Error			5		1			11	2
Sample Size	1		46		156			2	205
Both Sexes	181		17,536		61,827	181	181	362	80,268
Percent	0.23		21.85		77.03	0.23	0.23	0.45	100.00
Mean Length	546		508		572	519	594	565	558
Std. Error			4		1			11	1
Sample Size	1		97		342	1	1	2	444
Sample Period 2 6/29-7/07									
Males			38,562		91,407	952	476	1,904	133,301
Percent			16.01		37.94	0.40	0.20	0.79	55.34
Mean Length			493		576	460	550	558	551
Std. Error			4		2			21	2
Sample Size			81		192	2	1	4	280
Females			29,041	476	75,696	476	476	1,428	107,593
Percent			12.06	0.20	31.42	0.20	0.20	0.59	44.66
Mean Length			487	470	549	480	572	521	531
Std. Error			3		2			24	2
Sample Size			61	1	159	1	1	3	226
Both Sexes			67,603	476	167,103	1,428	952	3,332	240,894
Percent			28.06	0.20	69.37	0.59	0.40	1.38	100.00
Mean Length			491	470	564	467	561	542	542
Std. Error			3		2			16	1
Sample Size			142	1	351	3	2	7	506

-Continued-

Table 37. (p 2 of 2).

	Age Group								
	0.2	1.1	1.2	0.4	1.3	2.2	1.4	2.3	Total
Sample Period 3 7/08-7/20									
Males	1,935	2,902	122,860		168,328	1,935	3,870	2,902	304,732
Percent	0.35	0.53	22.52		30.85	0.35	0.71	0.53	55.85
Mean Length	453	394	518		574	490	593	555	549
Std. Error	63	49	4		2	10	8	19	2
Sample Size	2	3	127		174	2	4	3	315
Females	1,935		98,675		134,469	3,870		1,935	240,884
Percent	0.35		18.09		24.65	0.71		0.35	44.15
Mean Length	486		493		550	524		541	525
Std. Error	3		3		2	25		2	2
Sample Size	2		102		139	4		2	249
Both Sexes	3,870	2,902	221,535		302,797	5,805	3,870	4,837	545,616
Percent	0.71	0.53	40.60		55.50	1.06	0.71	0.89	100.00
Mean Length	469	394	507		563	513	593	550	538
Std. Error	31	49	3		2	17	8	11	1
Sample Size	4	3	229		313	6	4	5	564
All Periods Combined									
Males	1,935	2,902	170,642		293,360	3,068	4,527	4,806	481,240
Percent	0.22	0.33	19.69		33.84	0.35	0.52	0.55	55.52
Mean Length	453	394	513		576	482	589	556	551
Std. Error	63	49	3		2	10	8	14	1
Sample Size	2	3	259		552	5	6	7	834
Females	2,116		136,032	476	238,367	4,346	476	3,725	385,538
Percent	0.24		15.69	0.05	27.50	0.50	0.05	0.43	44.48
Mean Length	491		491	470	551	519	572	536	529
Std. Error	3		3		1	25		9	1
Sample Size	3		209	1	454	5	1	7	680
Both Sexes	4,051	2,902	306,674	476	531,727	7,414	5,003	8,531	866,778
Percent	0.47	0.33	35.38	0.05	61.35	0.86	0.58	0.98	100.00
Mean Length	473	394	503	470	564	504	587	547	541
Std. Error	31	49	2		1	17	8	9	1
Sample Size	5	3	468	1	1,006	10	7	14	1,514

Table 38. Age and sex composition of sockeye salmon estimated catch and escapement, Igushik River, 1988.

	Age Group							
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total
				CATCH				
Males	144	10,219		89,508	1,407	841	2,353	104,472
Percent	0.04	2.52		22.04	0.35	0.21	0.58	25.73
Females	81	12,380	27	113,859	2,052	405	2,377	131,181
Percent	0.02	3.05	0.01	28.04	0.51	0.10	0.59	32.30
Both Sexes	225	22,599	27	203,367	3,459	1,246	4,730	235,653
Percent	0.06	5.56	0.01	50.08	0.85	0.31	1.16	58.03
				ESCAPEMENT				
Males		6,113		61,797	862	476	2,092	71,340
Percent		1.51		15.22	0.21	0.12	0.52	17.57
Females		11,014		81,405	3,444	105	3,146	99,114
Percent		2.71		20.05	0.85	0.03	0.77	24.41
Both Sexes		17,127		143,202	4,306	581	5,238	170,454
Percent		4.22		35.26	1.06	0.14	1.29	41.97
				CATCH AND ESCAPEMENT				
Males	144	16,332		151,305	2,269	1,317	4,445	175,812
Percent	0.04	4.02		37.26	0.56	0.32	1.09	43.29
Females	81	23,394	27	195,264	5,496	510	5,523	230,295
Percent	0.02	5.76	0.01	48.08	1.35	0.13	1.36	56.71
Both Sexes	225	39,726	27	346,569	7,765	1,827	9,968	406,107
Percent	0.06	9.78	0.01	85.34	1.91	0.45	2.45	100.00

Table 39. Daily sockeye salmon escapement counts, Igushik River, 1988.

Date	Daily Count	Cumulative Count	Daily Percent of Total	Cumulative Percent
June 23	600	600	0.35	0.35
24	1,452	2,052	0.85	1.20
25	2,832	4,884	1.66	2.87
26	4,242	9,126	2.49	5.35
27	6,114	15,240	3.59	8.94
28	9,048	24,288	5.31	14.25
29	6,072	30,360	3.56	17.81
30	4,224	34,584	2.48	20.29
July 1	4,758	39,342	2.79	23.08
2	11,670	51,012	6.85	29.93
3	9,072	60,084	5.32	35.25
4	9,018	69,102	5.29	40.54
5	8,844	77,946	5.19	45.73
6	11,208	89,154	6.58	52.30
7	10,266	99,420	6.02	58.33
8	9,888	109,308	5.80	64.13
9	9,930	119,238	5.83	69.95
10	8,700	127,938	5.10	75.06
11	7,356	135,294	4.32	79.37
12	6,084	141,378	3.57	82.94
13	4,230	145,608	2.48	85.42
14	7,596	153,204	4.46	89.88
15	7,242	160,446	4.25	94.13
16	3,456	163,902	2.03	96.16
17	2,922	166,824	1.71	97.87
18	1,872	168,696	1.10	98.97
19	996	169,692	0.58	99.55
20	762	170,454	0.45	100.00

Table 40. Age, sex, and size composition of sockeye salmon escapement, Igushik River, 1988.

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
Sample Period 1 6/23-7/04						
Males	1,147	31,237	127	255	255	33,021
Percent	1.66	45.20	0.18	0.37	0.37	47.79
Mean Length	557	606	580	613	585	604
Std. Error	10	2		8	5	2
Sample Size	9	245	1	2	2	259
Females	1,020	34,297	127		637	36,081
Percent	1.48	49.63	0.18		0.92	52.21
Mean Length	524	566	510		585	565
Std. Error	12	1			14	1
Sample Size	8	269	1		5	283
Both Sexes	2,167	65,534	254	255	892	69,102
Percent	3.14	94.84	0.37	0.37	1.29	100.00
Mean Length	541	585	545	613	585	583
Std. Error	8	1		8	10	1
Sample Size	17	514	2	2	7	542
Sample Period 2 7/05-7/09						
Males	2,657	15,132		116	578	18,483
Percent	5.30	30.18		0.23	1.15	36.87
Mean Length	535	603		635	600	593
Std. Error	5	2			14	2
Sample Size	23	131		1	5	160
Females	3,697	26,223	693		1,040	31,653
Percent	7.37	52.30	1.38		2.07	63.13
Mean Length	527	565	507		557	559
Std. Error	6	1	6		4	1
Sample Size	32	227	6		9	274
Both Sexes	6,354	41,355	693	116	1,618	50,136
Percent	12.67	82.49	1.38	0.23	3.23	100.00
Mean Length	530	579	507	635	572	572
Std. Error	4	1	6		5	1
Sample Size	55	358	6	1	14	434

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Table 40. (p 2 of 2).

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
Sample Period 3 7/10-7/20						
Males	2,309	15,428	735	105	1,259	19,836
Percent	4.51	30.12	1.44	0.21	2.46	38.73
Mean Length	537	602	550	610	592	592
Std. Error	6	2	15		6	2
Sample Size	22	147	7	1	12	189
Females	6,297	20,885	2,624	105	1,469	31,380
Percent	12.29	40.78	5.12	0.21	2.87	61.27
Mean Length	502	562	498	550	563	544
Std. Error	4	2	5		4	1
Sample Size	60	199	25	1	14	299
Both Sexes	8,606	36,313	3,359	210	2,728	51,216
Percent	16.80	70.90	6.56	0.41	5.33	100.00
Mean Length	511	579	509	580	576	563
Std. Error	3	1	5		4	1
Sample Size	82	346	32	2	26	488
All Periods Combined						
Males	6,113	61,797	862	476	2,092	71,340
Percent	3.59	36.25	0.51	0.28	1.23	41.85
Mean Length	539	604	554	617	593	598
Std. Error	4	1	15	8	5	1
Sample Size	54	523	8	4	19	608
Females	11,014	81,405	3,444	105	3,146	99,114
Percent	6.46	47.76	2.02	0.06	1.85	58.15
Mean Length	512	564	500	550	565	556
Std. Error	3	1	4		4	1
Sample Size	100	695	32	1	28	856
Both Sexes	17,127	143,202	4,306	581	5,238	170,454
Percent	10.05	84.01	2.53	0.34	3.07	100.00
Mean Length	522	582	511	605	577	574
Std. Error	2	1	4	8	3	1
Sample Size	154	1,218	40	5	47	1,464

Table 41. Age and sex composition of sockeye salmon estimated catch and escapement, Nushagak River, 1988.

	Age Group									
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
					CATCH					
Males	16,851	57,583	17,072	25,112	117,713	1,519	16,226	1,097		253,173
Percent	1.57	5.37	1.59	2.34	10.97	0.14	1.51	0.10		23.60
Females	803	83,529	5,393	64,498	157,120	1,074	22,524	1,267		336,208
Percent	0.07	7.79	0.50	6.01	14.65	0.10	2.10	0.12		31.35
Both Sexes	17,654	141,112	22,465	89,610	274,833	2,593	38,750	2,364		589,381
Percent	1.65	13.16	2.09	8.35	25.62	0.24	3.61	0.22		54.95
					ESCAPEMENT					
Males	51,603	33,747	20,384	13,106	103,368	1,037	11,519	1,752		236,516
Percent	4.81	3.15	1.90	1.22	9.64	0.10	1.07	0.16		22.05
Females	695	58,148	6,372	23,470	139,952	1,967	13,143	2,604	333	246,684
Percent	0.06	5.42	0.59	2.19	13.05	0.18	1.23	0.24	0.03	23.00
Both Sexes	52,298	91,895	26,756	36,576	243,320	3,004	24,662	4,356	333	483,200
Percent	4.88	8.57	2.49	3.41	22.69	0.28	2.30	0.41	0.03	45.05
					CATCH AND ESCAPEMENT					
Males	68,454	91,330	37,456	38,218	221,081	2,556	27,745	2,849		489,689
Percent	6.38	8.51	3.49	3.56	20.61	0.24	2.59	0.27		45.66
Females	1,498	141,677	11,765	87,968	297,072	3,041	35,667	3,871	333	582,892
Percent	0.14	13.21	1.10	8.20	27.70	0.28	3.33	0.36	.03	54.34
Both Sexes	69,952	233,007	49,221	126,186	518,153	5,597	63,412	6,720	333	1,072,581
Percent	6.52	21.72	4.59	11.76	48.31	0.52	5.91	0.63	0.03	100.00

Table 42. Daily sockeye salmon escapement counts, Nushagak River, 1988.

Date	Daily Count[a]	Cumulative Count	Daily Percent of Total	Cumulative Percent
June 7	2	2	0.00	0.00
8	3	5	0.00	0.00
9	11	16	0.00	0.00
10	25	41	0.01	0.01
11	18	59	0.00	0.01
12	5	64	0.00	0.01
13	6	70	0.00	0.01
14	4	74	0.00	0.02
15	106	180	0.02	0.04
16	185	365	0.04	0.08
17	71	436	0.01	0.09
18	50	487	0.01	0.10
19	41	527	0.01	0.11
20	65	592	0.01	0.12
21	27	619	0.01	0.13
22	28	647	0.01	0.13
23	50	697	0.01	0.14
24	54	751	0.01	0.16
25	8,697	9,448	1.80	1.96
26	19,752	29,200	4.09	6.04
27	15,167	44,367	3.14	9.18
28	16,237	60,604	3.36	12.54
29	5,819	66,423	1.20	13.75
30	2,392	68,815	0.50	14.24
July 1	1,466	70,281	0.30	14.54
2	1,708	71,989	0.35	14.90
3	4,345	76,334	0.90	15.80
4	45,767	122,101	9.47	25.27
5	42,967	165,068	8.89	34.16
6	10,097	175,165	2.09	36.25
7	11,032	186,197	2.28	38.53
8	11,348	197,545	2.35	40.88
9	52,969	250,514	10.96	51.84
10	57,393	307,907	11.88	63.72
11	57,062	364,969	11.81	75.53
12	85,645	450,614	17.72	93.26
13	11,291	461,905	2.34	95.59
14	2,097	464,002	0.43	96.03
15	857	464,859	0.18	96.20
16	888	465,747	0.18	96.39
17	1,891	467,638	0.39	96.78
18	1,877	469,515	0.39	97.17

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Table 42. (p 2 of 2).

Date	Daily Count[a]	Cumulative Count	Daily Percent of Total	Cumulative Percent
July 19	816	470,331	0.17	97.34
20	1,532	471,863	0.32	97.65
21	2,286	474,149	0.47	98.13
22	2,219	476,368	0.46	98.59
23	442	476,810	0.09	98.68
24	639	477,449	0.13	98.81
25	911	478,360	0.19	99.00
26	275	478,635	0.06	99.06
27	254	478,889	0.05	99.11
28	208	479,097	0.04	99.15
29	163	479,260	0.03	99.18
30	343	479,603	0.07	99.26
31	645	480,248	0.13	99.39
Aug. 1	410	480,658	0.08	99.47
2	0	480,658	0.00	99.47
3	0	480,658	0.00	99.47
4	0	480,658	0.00	99.47
5	285	480,943	0.06	99.53
6	294	481,237	0.06	99.59
7	355	481,592	0.07	99.67
8	476	482,068	0.10	99.77
9	279	482,347	0.06	99.82
10	140	482,487	0.03	99.85
11	132	482,619	0.03	99.88
12	211	482,830	0.04	99.92
13	71	482,901	0.01	99.94
14	79	482,980	0.02	99.95
15	43	483,023	0.01	99.96
16	36	483,059	0.01	99.97
17	62	483,121	0.01	99.98
18	31	483,152	0.01	99.99
19	13	483,165	0.00	99.99
20	9	483,174	0.00	99.99
21	15	483,189	0.00	100.00
22	6	483,195	0.00	100.00
23	5	483,200	0.00	100.00

[a] Escapement numbers represent sonar counts made at Portage Creek.

Table 43. Age, sex, and size composition of sockeye salmon escapement, Nushagak River (Portage Creek), 1988.

	Age Group									
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 1 6/25-7/05										
Males	19,910	7,240	10,498	4,706	42,352		6,154	1,086		91,946
Percent	12.06	4.39	6.36	2.85	25.66		3.73	0.66		55.70
Mean Length	422	564	450	624	580		621	582		535
Std. Error	2	10	8	8	3		8	7		2
Sample Size	55	20	29	13	117		17	3		254
Females	362	10,498	1,448	5,068	46,696	1,448	6,516	1,086		73,122
Percent	0.22	6.36	0.88	3.07	28.29	0.88	3.95	0.66		44.30
Mean Length	431	553	493	579	549	483	579	541		551
Std. Error		4	7	6	2	4	4	5		1
Sample Size	1	29	4	14	129	4	18	3		202
Both Sexes	20,272	17,738	11,946	9,774	89,048	1,448	12,670	2,172		165,068
Percent	12.28	10.75	7.24	5.92	53.95	0.88	7.68	1.32		100.00
Mean Length	422	558	455	600	564	483	599	562		542
Std. Error	2	5	7	5	2	4	4	4		1
Sample Size	56	49	33	27	246	4	35	6		456
Sample Period 2 7/06-7/10										
Males	11,986	11,986	3,663	6,326	27,304		4,328	666		66,259
Percent	8.39	8.39	2.56	4.43	19.11		3.03	0.47		46.39
Mean Length	419	582	470	617	581		622	600		552
Std. Error	3	6	18	6	4		5	11		2
Sample Size	36	36	11	19	82		13	2		199
Females	333	19,645	2,331	6,992	42,950		2,997	999	333	76,580
Percent	0.23	13.75	1.63	4.89	30.07		2.10	0.70	0.23	53.61
Mean Length	448	550	489	581	553		584	535	583	553
Std. Error		3	9	5	2		4	9		1
Sample Size	1	59	7	21	129		9	3	1	230
Both Sexes	12,319	31,631	5,994	13,318	70,254		7,325	1,665	333	142,839
Percent	8.63	22.15	4.20	9.32	49.18		5.13	1.17	0.23	100.00
Mean Length	419	562	477	598	563		606	561	583	553
Std. Error	3	3	11	4	2		3	7		1
Sample Size	37	95	18	40	211		22	5	1	429

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Table 43. (p 2 of 2).

	Age Group									
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 3 7/11-8/23										
Males	19,707	14,521	6,223	2,074	33,712	1,037	1,037			78,311
Percent	11.24	8.28	3.55	1.18	19.23	0.59	0.59			44.67
Mean Length	418	571	483	589	586	549	603			533
Std. Error	3	5	19	16	3	44	8			2
Sample Size	38	28	12	4	65	2	2			151
Females		28,005	2,593	11,410	50,306	519	3,630	519		96,982
Percent		15.98	1.48	6.51	28.70	0.30	2.07	0.30		55.33
Mean Length		548	491	570	554	478	566	582		552
Std. Error		3	6	4	2		12			2
Sample Size		54	5	22	97	1	7	1		187
Both Sexes	19,707	42,526	8,816	13,484	84,018	1,556	4,667	519		175,293
Percent	11.24	24.26	5.03	7.69	47.93	0.89	2.66	0.30		100.00
Mean Length	418	556	486	573	567	525	574	582		543
Std. Error	3	2	14	4	2	44	9			1
Sample Size	38	82	17	26	162	3	9	1		338
All Periods Combined										
Males	51,603	33,747	20,384	13,106	103,368	1,037	11,519	1,752		236,516
Percent	10.68	6.98	4.22	2.71	21.39	0.21	2.38	0.36		48.95
Mean Length	420	573	464	615	582	549	619	589		539
Std. Error	2	4	8	5	2	44	5	6		1
Sample Size	129	84	52	36	264	2	32	5		604
Females	695	58,148	6,372	23,470	139,952	1,967	13,143	2,604	333	246,684
Percent	0.14	12.03	1.32	4.86	28.96	0.41	2.72	0.54	0.07	51.05
Mean Length	439	549	491	575	552	482	576	547	583	552
Std. Error		2	5	3	1	4	4	5		1
Sample Size	2	142	16	57	355	5	34	7	1	619
Both Sexes	52,298	91,895	26,756	36,576	243,320	3,004	24,662	4,356	333	483,200
Percent	10.82	19.02	5.54	7.57	50.36	0.62	5.10	0.90	0.07	100.00
Mean Length	420	558	470	589	565	505	596	564	583	546
Std. Error	2	2	6	2	1	19	3	4		1
Sample Size	131	226	68	93	619	7	66	12	1	1,223

Table 44. Daily sockeye salmon escapement counts, Nuyakuk River, 1988.

Date	Daily Count	Cumulative Count	Daily Percent of Total	Cumulative Percent
July 1	7,362	7,362	2.30	2.30
2	19,926	27,288	6.23	8.53
3	13,080	40,368	4.09	12.62
4	8,844	49,212	2.76	15.38
5	3,996	53,208	1.25	16.63
6	1,854	55,062	0.58	17.21
7	5,520	60,582	1.73	18.93
8	18,858	79,440	5.89	24.83
9	29,736	109,176	9.29	34.12
10	26,976	136,152	8.43	42.55
11	11,862	148,014	3.71	46.26
12	12,114	160,128	3.79	50.04
13	28,614	188,742	8.94	58.98
14	34,602	223,344	10.81	69.80
15	35,154	258,498	10.99	80.78
16	40,008	298,506	12.50	93.29
17	13,464	311,970	4.21	97.49
18	3,234	315,204	1.01	98.50
19	2,052	317,256	0.64	99.14
20	1,944	319,200	0.61	99.75
21	792	319,992	0.25	100.00

Table 45. Age, sex, and size composition of sockeye salmon escapement, Nuyakuk River, 1988.

	Age Group								
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total
Sample Period 1: 1 - 11 July									
Males	1,033	1,377	2,410	344	67,810		344	1,033	74,351
Percent	0.70	0.93	1.63	0.23	45.81		0.23	0.70	50.23
Mean Length	482	602	523	560	588		600	544	584
Std. Error	51	18	11		2			28	2
Sample Size	3	4	7	1	197		1	3	216
Females		1,377	6,196	344	64,025		688	1,033	73,663
Percent		0.93	4.19	0.23	43.26		0.46	0.70	49.77
Mean Length		573	505	581	558		572	591	555
Std. Error		21	9		2		28	25	2
Sample Size		4	18	1	186		2	3	214
Both Sexes	1,033	2,754	8,606	688	131,835		1,032	2,066	148,014
Percent	0.70	1.86	5.81	0.46	89.07		0.70	1.40	100.00
Mean Length	482	587	510	571	573		581	568	569
Std. Error	51	14	7		2		28	19	1
Sample Size	3	8	25	2	383		3	6	430

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Table 45. (p 2 of 4).

	Age Group								
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total
Sample Period 2: 12 - 15 July									
Males	5,752	992	3,372	198	38,085	198	397	397	49,391
Percent	5.21	0.90	3.05	0.18	34.47	0.18	0.36	0.36	44.70
Mean Length	421	581	522	668	590	500	582	588	565
Std. Error	3	23	8		2		42		2
Sample Size	29	5	17	1	192	1	2	2	249
Females	198	1,587	5,157	1,587	50,978	198	595	793	61,093
Percent	0.18	1.44	4.67	1.44	46.14	0.18	0.54	0.72	55.30
Mean Length	418	544	492	574	555	458	583	573	550
Std. Error		14	5	9	1		14	6	1
Sample Size	1	8	26	8	257	1	3	4	308
Both Sexes	5,950	2,579	8,529	1,785	89,063	396	992	1,190	110,484
Percent	5.39	2.33	7.72	1.62	80.61	0.36	0.90	1.08	100.00
Mean Length	421	558	504	584	570	479	582	578	557
Std. Error	3	12	4	9	1		19	6	1
Sample Size	30	13	43	9	449	2	5	6	557

-Continued-

Table 45. (p 3 of 4).

	Age Group								
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total
Sample Period 3: 16 - 21 July									
Males	1,295	432	6,042		13,592	432			21,793
Percent	2.11	0.70	9.83		22.10	0.70			35.44
Mean Length	413	581	545		585	516			562
Std. Error	9	22	11		3	6			4
Sample Size	6	2	28		63	2			101
Females		216	3,237	863	33,658	216	1,295	216	39,701
Percent		0.35	5.26	1.40	54.73	0.35	2.11	0.35	64.56
Mean Length		565	494	577	549	473	579	575	546
Std. Error			11	4	2		8		2
Sample Size		1	15	4	156	1	6	1	184
Both Sexes	1,295	648	9,279	863	47,250	648	1,295	216	61,494
Percent	2.11	1.05	15.09	1.40	76.84	1.05	2.11	0.35	100.00
Mean Length	413	576	527	577	559	502	579	575	552
Std. Error	9	22	8	4	2	6	8		2
Sample Size	6	3	43	4	219	3	6	1	285

-Continued-

Table 45. (p 4 of 4).

	Age Group								
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total
All Periods Combined									
Males	8,080	2,801	11,824	542	119,487	630	741	1,430	145,535
Percent	2.53	0.88	3.70	0.17	37.34	0.20	0.23	0.45	45.48
Mean Length	427	591	534	599	588	511	590	556	574
Std. Error	7	12	7		1	6	42	28	1
Sample Size	38	11	52	2	452	3	3	5	566
Females	198	3,180	14,590	2,794	148,661	414	2,578	2,042	174,457
Percent	0.06	0.99	4.56	0.87	46.46	0.13	0.81	0.64	54.52
Mean Length	418	558	498	576	555	466	578	582	551
Std. Error		13	5	6	1		9	14	1
Sample Size	1	13	59	13	599	2	11	8	706
Both Sexes	8,278	5,981	26,414	3,336	268,148	1,044	3,319	3,472	319,992
Percent	2.59	1.87	8.25	1.04	83.80	0.33	1.04	1.09	100.00
Mean Length	427	573	514	580	570	493	581	572	562
Std. Error	7	9	4	6	1	6	10	14	1
Sample Size	39	24	111	15	1,051	5	14	13	1,272

Table 46. Age, sex, and size composition of chinook salmon commercial catch, Nushagak District, 1988.

	Age Group					
	1.1	1.2	1.3	1.4	1.5	Total
All Periods Combined						
Males	168	8,292	2,387	838	209	11,894
Percent	1.02	50.26	14.47	5.08	1.27	72.08
Mean Length	440	545	745	876	897	613
Std. Error	16	3	12	18	75	4
Sample Size	4	198	57	20	5	284
Mean Weight	1.72	3.01	8.09	13.66	18.83	5.04
Std. Error	0.04	0.09	0.61	1.73	2.50	0.19
Sample Size	2	75	24	6	2	109
Females		1,340	1,424	1,424	419	4,607
Percent		8.12	8.63	8.63	2.54	27.92
Mean Length		570	791	874	883	761
Std. Error		7	10	11	15	5
Sample Size		32	34	34	10	110
Mean Weight		3.27	9.45	11.74	11.18	8.52
Std. Error		0.14	0.49	0.62	1.25	0.27
Sample Size		18	21	21	4	64
Both Sexes	168	9,632	3,811	2,262	628	16,501
Percent	1.02	58.38	23.10	13.70	3.80	100.00
Mean Length	440	549	762	874	888	654
Std. Error	16	3	8	9	27	3
Sample Size	4	230	91	54	15	394
Mean Weight	1.72	3.05	8.60	12.45	13.73	6.01
Std. Error	0.04	0.08	0.42	0.75	1.18	0.16
Sample Size	2	93	45	27	6	173

Table 47. Daily escapement counts of chinook, chum, pink, and coho salmon, Nushagak River (Portage Creek), 1988.

	Chinook		Chum		Pink		Coho	
Date	Daily[a]	Cum	Daily[a]	Cum	Daily[a]	Cum	Daily[a]	Cum
6/07	115	115	65	65	0	0	0	0
6/08	165	280	94	159	0	0	0	0
6/09	336	616	205	364	0	0	0	0
6/10	916	1,532	545	909	0	0	0	0
6/11	873	2,405	501	1,410	0	0	0	0
6/12	186	2,591	112	1,522	0	0	0	0
6/13	205	2,796	123	1,645	0	0	0	0
6/14	143	2,939	85	1,730	0	0	0	0
6/15	1,875	4,814	2,650	4,380	0	0	0	0
6/16	5,078	9,892	5,774	10,154	0	0	0	0
6/17	1,359	11,251	1,839	11,993	0	0	0	0
6/18	874	12,125	1,241	13,234	0	0	0	0
6/19	570	12,695	924	14,158	0	0	0	0
6/20	1,084	13,779	1,579	15,737	0	0	0	0
6/21	613	14,392	764	16,501	0	0	0	0
6/22	449	14,841	666	17,167	0	0	0	0
6/23	781	15,622	1,181	18,348	0	0	0	0
6/24	1,279	16,901	1,549	19,897	0	0	0	0
6/25	6,334	23,235	37,375	57,272	0	0	0	0
6/26	4,292	27,527	24,871	82,143	0	0	0	0
6/27	2,481	30,008	6,206	88,349	0	0	0	0
6/28	1,980	31,988	6,181	94,530	0	0	0	0
6/29	2,486	34,474	1,784	96,314	0	0	0	0
6/30	1,007	35,481	750	97,064	0	0	0	0
7/01	536	36,017	551	97,615	0	0	0	0
7/02	700	36,717	556	98,171	0	0	0	0
7/03	1,612	38,329	1,607	99,778	0	0	0	0
7/04	3,519	41,848	8,898	108,676	0	0	0	0
7/05	3,339	45,187	7,069	115,745	0	0	0	0
7/06	625	45,812	2,746	118,491	0	0	0	0
7/07	684	46,496	2,981	121,472	0	0	0	0
7/08	705	47,201	3,053	124,525	0	0	0	0
7/09	0	47,201	1,135	125,660	227	227	0	0
7/10	0	47,201	6,152	131,812	134	361	0	0
7/11	0	47,201	6,382	138,194	191	552	0	0
7/12	2,663	49,864	24,133	162,327	0	552	0	0
7/13	509	50,373	5,310	167,637	0	552	0	0
7/14	724	51,097	840	168,477	304	856	0	0
7/15	296	51,393	368	168,845	107	963	0	0
7/16	307	51,700	379	169,224	113	1,076	0	0
7/17	653	52,353	756	169,980	275	1,351	0	0
7/18	648	53,001	667	170,647	331	1,682	0	0

-Continued-

Table 47. (p 2 of 2).

Date	Chinook		Chum		Pink		Coho	
	Daily[a]	Cum	Daily[a]	Cum	Daily[a]	Cum	Daily[a]	Cum
7/19	282	53,283	296	170,943	140	1,822	0	0
7/20	529	53,812	531	171,474	279	2,101	0	0
7/21	788	54,600	742	172,216	451	2,552	0	0
7/22	766	55,366	728	172,944	432	2,984	0	0
7/23	89	55,455	913	173,857	4,209	7,193	810	810
7/24	102	55,557	1,258	175,115	6,170	13,363	1,166	1,976
7/25	229	55,786	1,985	177,100	8,514	21,877	1,674	3,650
7/26	91	55,877	797	177,897	14,669	36,546	1,059	4,709
7/27	78	55,955	723	178,620	13,728	50,274	976	5,685
7/28	111	56,066	691	179,311	9,722	59,996	808	6,493
7/29	79	56,145	525	179,836	7,873	67,869	632	7,125
7/30	142	56,287	1,054	180,890	17,365	85,234	1,326	8,451
7/31	87	56,374	1,602	182,492	38,549	123,783	2,464	10,915
8/01	95	56,469	1,102	183,594	23,238	147,021	1,574	12,489
8/02	0	56,469	489	184,083	32,460	179,481	5,174	17,663
8/03	436	56,905	436	184,519	55,663	235,144	8,513	26,176
8/04	0	56,905	156	184,675	60,774	295,918	9,168	35,344
8/05	0	56,905	205	184,880	19,695	315,613	6,362	41,706
8/06	0	56,905	170	185,050	17,049	332,662	6,033	47,739
8/07	0	56,905	248	185,298	23,977	356,639	7,837	55,576
8/08	0	56,905	945	186,243	80,869	437,508	18,480	74,056
8/09	0	56,905	175	186,418	17,246	454,754	5,903	79,959
8/10	0	56,905	0	186,418	6,451	461,205	7,888	87,847
8/11	0	56,905	0	186,418	6,699	467,904	11,607	99,454
8/12	0	56,905	0	186,418	9,763	477,667	11,984	111,438
8/13	0	56,905	0	186,418	3,195	480,862	3,359	114,797
8/14	0	56,905	0	186,418	3,491	484,353	3,278	118,075
8/15	0	56,905	0	186,418	1,957	486,310	2,107	120,182
8/16	0	56,905	0	186,418	1,636	487,946	1,928	122,110
8/17	0	56,905	0	186,418	2,762	490,708	2,852	124,962
8/18	0	56,905	0	186,418	1,432	492,140	1,701	126,663
8/19	0	56,905	0	186,418	706	492,846	1,421	128,084
8/20	0	56,905	0	186,418	438	493,284	799	128,883
8/21	0	56,905	0	186,418	718	494,002	911	129,794
8/22	0	56,905	0	186,418	392	494,394	1,016	130,810
8/23	0	56,905	0	186,418	216	494,610	291	131,101

[a] Escapement numbers represent sonar counts made at Portage Creek.

Table 48. Age, sex, and size composition of chinook salmon escapement, Nushagak River (Portage Creek), 1988.

	Age Group						
	1.1	1.2	0.4	1.3	1.4	1.5	Total
All Periods Combined							
			MALES				
Mean Length	374	487		698	992	837	551
Std. Error	16	29					18
Sample Size	2	8		1	1	1	13
			FEMALES				
Mean Length		527		830	818	914	790
Std. Error		53			59	1	26
Sample Size		2		1	4	3	10
			ALL FISH				
Numbers	3,010	7,364	336	15,398	25,106	5,691	56,905
Percent	5.29	12.94	0.59	27.06	44.12	10.00	100.00
Sample Size	9	22	1	46	75	17	170

Table 49. Age, sex, and size composition of chum salmon commercial catch, Nushagak District, 1988.

	Age Group				
	0.2	0.3	0.4	0.5	Total
Sample Period 1 6/26 - 6/28					
Males	1,851	26,834	17,581	1,851	48,117
Percent	1.38	20.07	13.15	1.38	35.99
Mean Length	570	587	602	590	592
Std. Error	11	4	5	28	3
Sample Size	4	58	38	4	104
Mean Weight	3.35	3.96	3.87		3.90
Std. Error		0.25	0.18		0.16
Sample Size	1	11	14		26
Females	1,388	51,818	32,387		85,593
Percent	1.04	38.75	24.22		64.01
Mean Length	551	561	573		565
Std. Error	13	2	3		2
Sample Size	3	112	70		185
Mean Weight	3.45	2.94	3.36		3.11
Std. Error	0.20	0.05	0.13		0.06
Sample Size	2	25	21		48
Both Sexes	3,239	78,652	49,968	1,851	133,710
Percent	2.42	58.82	37.37	1.38	100.00
Mean Length	561	570	583	590	575
Std. Error	8	2	2	28	1
Sample Size	7	170	108	4	289
Mean Weight	3.39	3.29	3.54		3.39
Std. Error	0.20	0.09	0.10		0.07
Sample Size	3	36	35		74

-Continued-

Table 49. (p 2 of 4).

	Age Group				
	0.2	0.3	0.4	0.5	Total
Sample Period 2 7/02 - 7/03					
Males	2,520	19,319	15,400	280	37,519
Percent	2.28	17.51	13.96	0.25	34.01
Mean Length	549	594	606	598	596
Std. Error	10	3	4		2
Sample Size	9	69	55	1	134
Mean Weight	3.03	3.59	3.80		3.64
Std. Error	0.64	0.13	0.16		0.10
Sample Size	3	29	17		49
Females	3,080	46,199	23,520		72,799
Percent	2.79	41.88	21.32		65.99
Mean Length	530	562	569		563
Std. Error	6	2	3		1
Sample Size	11	165	84		260
Mean Weight	2.46	2.81	3.02		2.86
Std. Error	0.06	0.05	0.08		0.04
Sample Size	7	60	30		97
Both Sexes	5,600	65,518	38,920	280	110,318
Percent	5.08	59.39	35.28	0.25	100.00
Mean Length	539	572	584	598	574
Std. Error	5	2	2		1
Sample Size	20	234	139	1	394
Mean Weight	2.72	3.04	3.33		3.13
Std. Error	0.29	0.05	0.08		0.04
Sample Size	10	89	47		146

-Continued-

Table 49. (p 3 of 4).

	Age Group				
	0.2	0.3	0.4	0.5	Total
Sample Period 3 7/10 - 8/11					
Males	4,579	20,031	7,440	286	32,336
Percent	3.63	15.87	5.90	0.23	25.62
Mean Length	551	586	589	630	582
Std. Error	8	3	6		3
Sample Size	16	70	26	1	113
Mean Weight	3.08	3.59	4.01		3.61
Std. Error	0.17	0.13	0.14		0.09
Sample Size	8	29	13		50
Females	12,305	66,388	14,880	286	93,859
Percent	9.75	52.61	11.79	0.23	74.38
Mean Length	521	551	558	593	548
Std. Error	4	2	3		1
Sample Size	43	232	52	1	328
Mean Weight	2.27	2.69	2.80		2.65
Std. Error	0.10	0.05	0.11		0.04
Sample Size	18	82	17		117
Both Sexes	16,884	86,419	22,320	572	126,195
Percent	13.38	68.48	17.69	0.45	100.00
Mean Length	529	559	568	612	557
Std. Error	4	1	3		1
Sample Size	59	302	78	2	441
Mean Weight	2.49	2.90	3.20		2.90
Std. Error	0.09	0.05	0.09		0.04
Sample Size	26	111	30		167

-Continued-

Table 49. (p 4 of 4).

	Age Group				
	0.2	0.3	0.4	0.5	Total
All Periods Combined					
Males	8,950	66,184	40,421	2,417	117,972
Percent	2.42	17.88	10.92	0.65	31.87
Mean Length	554	589	601	596	590
Std. Error	6	2	3	28	2
Sample Size	29	197	119	6	351
Mean Weight	3.12	3.74	3.87		3.74
Std. Error	0.25	0.11	0.10		0.08
Sample Size	12	69	44		125
Females	16,773	164,405	70,787	286	252,251
Percent	4.53	44.41	19.12	0.08	68.13
Mean Length	525	557	569	593	558
Std. Error	3	1	2		1
Sample Size	57	509	206	1	773
Mean Weight	2.40	2.80	3.13		2.87
Std. Error	0.08	0.03	0.07		0.03
Sample Size	27	167	68		262
Both Sexes	25,723	230,589	111,208	2,703	370,223
Percent	6.95	62.28	30.04	0.73	100.00
Mean Length	535	566	580	596	569
Std. Error	3	1	1	28	1
Sample Size	86	706	325	7	1,124
Mean Weight	2.65	3.07	3.40		3.14
Std. Error	0.09	0.04	0.06		0.03
Sample Size	39	236	112		387

Table 50. Age, sex, and size composition of chum salmon escapement, Nushagak River (Portage Creek), 1988.

	Age Group				
	0.2	0.3	0.4	0.5	Total
All Periods Combined					
Males	3,471	38,672	58,007	2,975	103,125
Percent	1.86	20.74	31.12	1.60	55.32
Mean Length	554	592	608	615	600
Std. Error	12	3	2	7	2
Sample Size	7	78	117	6	208
Females	1,983	36,689	43,134	1,487	83,293
Percent	1.06	19.68	23.14	0.80	44.68
Mean Length	530	560	574	575	567
Std. Error	9	3	3	25	2
Sample Size	4	74	87	3	168
Both Sexes	5,454	75,361	101,141	4,462	186,418
Percent	2.93	40.43	54.26	2.39	100.00
Mean Length	545	576	593	601	585
Std. Error	8	2	2	10	1
Sample Size	11	152	204	9	376

Table 51. Age, sex, and size composition of coho salmon commercial catch, Nushagak District, 1988.

	Age Group			
	1.1	2.1	3.1	Total
All Periods Combined				
Males	3,825	19,072		22,897
Percent	7.20	35.90		43.10
Mean Length	559	553		554
Std. Error	12	5		5
Sample Size	13	65		78
Mean Weight	2.50	3.12		3.02
Std. Error		0.13		0.11
Sample Size	1	26		27
Females	5,259	24,650	319	30,228
Percent	9.90	46.40	0.60	56.90
Mean Length	567	560	584	561
Std. Error	6	4		3
Sample Size	18	84	1	103
Mean Weight	3.35	3.33	3.70	3.34
Std. Error	0.13	0.11		0.09
Sample Size	6	25	1	32
Sexes Combined	9,084	43,722	319	53,125
Percent	17.10	82.30	0.60	100.00
Mean Length	564	557	584	558
Std. Error	6	3		3
Sample Size	31	149	1	181
Mean Weight	2.99	3.24	3.70	3.20
Std. Error	0.13	0.08		0.07
Sample Size	7	51	1	59

Table 52. Age, sex, and size composition of coho salmon escapement, Nushagak River (Portage Creek), 1988.

	Age Group			
	1.1	2.1	3.1	Total
All Periods Combined				
Males	10,726	56,016	5,959	72,701
Percent	8.18	42.73	4.55	55.45
Mean Length	524	554	542	548
Std. Error	21	7	14	7
Sample Size	9	47	5	61
Females	8,343	45,290	4,767	58,400
Percent	6.36	34.55	3.64	44.55
Mean Length	555	559	529	556
Std. Error	14	6	26	6
Sample Size	7	38	4	49
Both Sexes	19,069	101,306	10,726	131,101
Percent	14.55	77.27	8.18	100.00
Mean Length	537	556	536	552
Std. Error	13	5	14	4
Sample Size	16	85	9	110

Table 53. Commercial salmon catch by period and species, Togiak District, 1988.

Period[a]	Number of Deliveries	Catch (number of fish)					
		Sockeye	Chinook	Chum	Pink	Coho	Total
6/06	1	0	2	0	0	0	2
6/07	6	18	24	27	0	0	69
6/08	6	21	32	45	0	0	98
6/09	3	2	18	28	0	0	48
6/10	2	13	23	13	0	0	49
6/13	20	44	68	514	0	0	626
6/14	95	998	566	2,005	0	0	3,569
6/15	65	1,262	281	3,015	1	0	4,559
6/16	103	2,150	634	6,411	0	0	9,195
6/17	73	1,908	368	5,948	0	0	8,224
6/18	12	107	66	1,099	0	0	1,272
6/20	99	8,588	979	5,762	0	0	15,329
6/21	187	13,877	1,224	14,730	1	0	29,832
6/22	154	9,306	890	12,587	0	0	22,783
6/23	158	8,874	579	17,717	3	0	27,173
6/24	85	4,038	252	9,107	0	0	13,397
6/25	4	72	28	1,894	2	0	1,996
6/27	138	20,136	1,138	20,232	1	0	41,507
6/28	209	24,486	1,164	17,729	5	0	43,384
6/29	226	28,230	978	21,860	6	0	51,074
6/30	209	20,801	787	31,222	2	0	52,812
7/01	105	9,536	354	14,734	1	0	24,625
7/02	1	24	4	215	0	0	243
7/04	159	38,160	747	18,526	15	0	57,448
7/05	277	50,874	675	28,555	37	0	80,141
7/06	195	21,485	467	19,806	21	0	41,779
7/07	177	20,767	472	20,518	17	0	41,774
7/08	171	28,340	362	18,487	24	0	47,213
7/09	153	29,101	162	8,556	23	0	37,842
7/11	142	28,039	283	9,813	22	0	38,157
7/12	218	37,610	316	17,151	50	0	55,127
7/13	218	34,397	178	17,682	27	0	52,284
7/14	220	36,583	173	17,864	34	0	54,654
7/15	249	41,307	152	15,800	67	0	57,326
7/16	187	38,656	122	6,170	53	0	45,001
7/17	123	25,478	64	4,074	21	0	29,637
7/18	237	40,142	145	14,929	139	0	55,355
7/19	356	35,475	137	14,848	356	0	50,816
7/20	316	21,842	111	7,879	531	0	30,363

-Continued-

Table 53. (p 2 of 2).

Period[a]	Number of Deliveries	Catch (number of fish) Sockeye	Chinook	Chum	Pink	Coho	Total
7/21	299	18,875	76	6,398	1,138	4	26,491
7/22	179	14,704	47	5,023	1,126	0	20,900
7/23	177	15,092	60	4,120	1,169	1	20,442
7/24	160	13,067	52	4,059	1,348	4	18,530
7/25	228	12,536	56	5,569	3,469	1	21,631
7/26	207	9,731	46	3,815	3,529	1	17,122
7/27	194	11,260	30	3,835	4,898	9	20,032
7/28	164	7,311	22	2,004	4,582	1	13,920
7/29	146	7,836	43	1,700	5,091	17	14,687
7/30	107	5,088	26	1,199	4,084	10	10,407
7/31	66	2,913	10	881	2,970	14	6,788
8/01	69	2,111	5	695	2,584	14	5,409
8/02	101	2,501	15	1,131	4,065	22	7,734
8/03	79	1,984	13	638	2,696	54	5,385
8/04	38	1,186	11	278	1,846	43	3,364
8/08	70	923	13	264	1,722	211	3,133
8/09	117	3,067	17	761	4,318	791	8,954
8/10	65	926	6	217	1,494	305	2,948
8/11	30	355	4	81	579	255	1,274
8/15	101	606	2	130	690	1,759	3,187
8/16	96	614	14	137	762	2,582	4,109
8/17	108	825	10	127	720	3,301	4,983
8/18	79	300	5	80	437	1,962	2,784
8/29	43	21	0	4	16	1,338	1,379
8/30	56	36	0	4	38	1,542	1,620
8/31	82	97	4	15	92	2,528	2,736
9/01	61	70	3	4	94	1,826	1,997
Total		816,782	15,615	470,721	57,016	18,595	1,378,729
Percent of Dist. Catch		59.3	1.1	34.2	4.1	1.3	100.0

[a] See Table 2 for emergency order adjustments in the regular weekly fishing schedule.

Table 54. Commercial salmon catch by period and species, Togiak River Section, Togiak District, 1988.

Period[a]	Number of Deliveries	Catch (number of fish)					
		Sockeye	Chinook	Chum	Pink	Coho	Total
6/06	1	0	2	0	0	0	2
6/07	6	18	24	27	0	0	69
6/08	5	21	16	39	0	0	76
6/09	2	1	6	4	0	0	11
6/10	2	13	23	13	0	0	49
6/13	13	41	26	19	0	0	86
6/14	86	744	551	1,699	0	0	2,994
6/15	40	737	157	662	1	0	1,557
6/16	65	1,578	438	2,560	0	0	4,576
6/17	52	1,713	289	2,601	0	0	4,603
6/20	66	6,783	823	2,286	0	0	9,892
6/21	123	10,544	938	5,304	1	0	16,787
6/22	105	5,923	614	5,920	0	0	12,457
6/23	125	7,005	486	11,991	1	0	19,483
6/24	66	3,805	151	4,917	0	0	8,873
6/27	107	17,476	927	13,835	1	0	32,239
6/28	159	19,878	1,026	11,438	2	0	32,344
6/29	192	25,034	861	18,157	2	0	44,054
6/30	193	19,026	751	30,391	1	0	50,169
7/01	105	9,536	354	14,734	1	0	24,625
7/04	139	35,685	648	17,227	15	0	53,575
7/05	245	48,391	619	24,743	27	0	73,780
7/06	179	19,262	449	19,007	20	0	38,738
7/07	170	19,778	460	20,010	17	0	40,265
7/08	171	28,340	362	18,487	24	0	47,213
7/09	153	29,101	162	8,556	23	0	37,842
7/11	120	26,204	269	9,549	16	0	36,038
7/12	197	32,269	300	16,588	48	0	49,205
7/13	193	28,932	162	16,099	27	0	45,220
7/14	192	30,029	165	16,501	34	0	46,729
7/15	217	32,832	142	14,766	56	0	47,796
7/16	139	27,338	116	4,572	46	0	32,072
7/17	63	14,333	57	2,467	11	0	16,868
7/18	189	33,487	143	13,478	95	0	47,203
7/19	248	23,172	117	10,312	249	0	33,850

-Continued-

Table 54. (p 2 of 2).

Period[a]	Number of Deliveries	Catch (number of fish)					
		Sockeye	Chinook	Chum	Pink	Coho	Total
7/20	232	15,282	84	6,215	224	0	21,805
7/21	174	9,630	69	4,636	381	1	14,717
7/22	128	10,808	43	4,370	672	0	15,893
7/23	138	12,419	57	3,564	871	0	16,911
7/24	110	10,267	37	3,351	1,267	0	14,922
7/25	173	10,824	44	4,996	2,449	0	18,313
7/26	162	8,232	42	3,447	2,520	1	14,242
7/27	140	8,096	21	2,800	3,198	2	14,117
7/28	129	5,564	19	1,577	3,571	1	10,732
7/29	116	5,972	36	1,320	4,016	11	11,355
7/30	90	3,963	24	1,086	3,328	5	8,406
7/31	55	2,276	9	794	2,719	9	5,807
8/01	69	2,111	5	695	2,584	14	5,409
8/02	74	1,888	7	631	2,701	14	5,241
8/03	60	1,621	10	387	2,036	13	4,067
8/04	24	899	8	178	1,322	18	2,425
8/08	50	777	11	186	1,444	111	2,529
8/09	87	2,261	11	466	3,172	297	6,207
8/10	55	842	5	190	1,291	219	2,547
8/11	18	298	1	39	438	127	903
8/15	86	540	2	113	586	990	2,231
8/16	66	396	11	75	410	822	1,714
8/17	67	361	8	75	376	1,432	2,252
8/18	55	216	2	51	302	1,275	1,846
8/29	27	19	0	3	14	723	759
8/30	38	36	0	4	34	806	880
8/31	37	46	3	8	64	503	624
9/01	26	42	3	3	49	378	475
Total		674,715	13,206	380,219	42,757	7,772	1,118,669
Percent of Section Catch		60.3	1.2	34.0	3.8	0.7	100.0

[a] Togiak River Section opened four days per week. See Table 2 for emergency order adjustments in weekly fishing periods.

Table 55. Age and sex composition of sockeye salmon catch and escapement, Togiak River Section, Togiak District, 1988.

	Age Group									
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
					CATCH					
Males		5,032	6,123	1,990	280,448	2,852	1,581	12,402	236	310,664
Percent		0.53	0.64	0.21	29.48	0.30	0.17	1.30	0.02	32.66
Females		6,978	5,796	236	333,101	5,200	2,799	9,941		364,051
Percent		0.73	0.61	0.02	35.01	0.55	0.29	1.04		38.27
Both Sexes		12,010	11,919	2,226	613,549	8,052	4,380	22,343	236	674,715
Percent		1.26	1.25	0.23	64.49	0.85	0.46	2.35	0.02	70.92
					ESCAPEMENT[a]					
Males	70	468	3,169		117,715		304	1,073		122,799
Percent	0.01	0.05	0.33		12.37		0.03	0.11		12.91
Females	117	1,306	4,662		145,954		491	1,283		153,813
Percent	0.01	0.14	0.49		15.34		0.05	0.13		16.17
Both Sexes	187	1,774	7,831		263,669		795	2,356		276,612
Percent	0.02	0.19	0.82		27.72		0.08	0.25		29.08
					CATCH AND ESCAPEMENT					
Males	70	5,500	9,292	1,990	398,163	2,852	1,885	13,475	236	433,463
Percent	0.01	0.58	0.98	0.21	41.85	0.30	0.20	1.42	0.02	45.56
Females	117	8,284	10,458	236	479,055	5,200	3,290	11,224		517,864
Percent	0.01	0.87	1.10	0.02	50.36	0.55	0.35	1.18		54.44
Both Sexes	187	13,784	19,750	2,226	877,218	8,052	5,175	24,699	236	951,327
Percent	0.02	1.45	2.08	0.23	92.21	0.85	0.54	2.60	0.02	100.00

[a] Based on aerial surveys, and additional 32,400 sockeye salmon escaped to Togiak River (18,800 in the mainstem below the tower and 13,600 in tributaries) but were not sampled.

Table 56. Age, sex, and size composition of sockeye salmon commercial catch, Togiak River Section, Togiak District, 1988.

	Age Group								
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 1 6/07-6/30									
Males	1,655	709	709	60,053		236	4,492	236	68,090
Percent	1.38	0.59	0.59	49.90		0.20	3.73	0.20	56.58
Mean Length	595	555	613	608		610	607	570	607
Std. Error	12	33	7	1			7		1
Sample Size	7	3	3	254		1	19	1	288
Mean Weight	3.43			3.96			3.99		3.95
Std. Error	0.16			0.19			0.24		0.17
Sample Size	3			71			5		79
Females	1,182		236	46,813		1,182	2,837		52,250
Percent	0.98		0.20	38.90		0.98	2.36		43.42
Mean Length	554		590	574		594	560		573
Std. Error	9			2		10	5		1
Sample Size	5		1	198		5	12		221
Mean Weight	2.49			2.94			3.02		2.87
Std. Error	0.09			0.12			0.20		0.11
Sample Size	2			49			5		57
Both Sexes	2,837	709	945	106,866		1,418	7,329	236	120,340
Percent	2.36	0.59	0.79	88.80		1.18	6.09	0.20	100.00
Mean Length	578	555	608	593		597	589	570	592
Std. Error	8	33	7	1		10	5		1
Sample Size	12	3	4	452		6	31	1	509
Mean Weight	3.04			3.51			3.61		3.47
Std. Error	0.10			0.12			0.16		0.11
Sample Size	5			120			10		136
Sample Period 2 7/01-7/06									
Males	622	1,037		43,782	1,037		1,037		47,515
Percent	0.55	0.92		38.79	0.92		0.92		42.10
Mean Length	600	531		607	568		604		604
Std. Error	5	15		2	10		18		2
Sample Size	3	5		211	5		5		229
Mean Weight	3.71	3.01		3.93	3.08		4.08		3.89
Std. Error		0.16		0.08					0.07
Sample Size	1	2		46	1		1		51
Females	415	415		63,285	207	207	830		65,359
Percent	0.37	0.37		56.07	0.18	0.18	0.74		57.90
Mean Length	538	525		574	540	590	553		573
Std. Error	3	5		1			14		1
Sample Size	2	2		305	1	1	4		315
Mean Weight				3.08		3.03			3.08
Std. Error				0.14					0.14
Sample Size				85		1			86
Both Sexes	1,037	1,452		107,067	1,244	207	1,867		112,874
Percent	0.92	1.29		94.86	1.10	0.18	1.65		100.00
Mean Length	575	529		587	563	590	581		586
Std. Error	3	11		1	10		12		1
Sample Size	5	7		516	6	1	9		544
Mean Weight	3.71	3.01		3.43	3.08	3.03	4.08		3.43
Std. Error		0.16		0.09					0.09
Sample Size	1	2		131	1	1	1		137

-Continued-

Table 56. (p 2 of 3).

	Age Group								
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 3 7/07-7/15									
Males	2,350	2,350	470	84,602	1,410	940	2,820		94,942
Percent	1.03	1.03	0.21	37.19	0.62	0.41	1.24		41.74
Mean Length	616	522	640	608	560	605	610		606
Std. Error	10	4		2	23	5	12		2
Sample Size	5	5	1	180	3	2	6		202
Mean Weight	4.02	2.60		4.08			4.15		4.04
Std. Error	0.17	0.34		0.07			0.30		0.07
Sample Size	3	2		43			2		50
Females	3,760	3,760		121,263	940	1,410	1,410		132,543
Percent	1.65	1.65		53.31	0.41	0.62	0.62		58.26
Mean Length	573	527		577	510	592	590		576
Std. Error	9	11		1	10	9	15		1
Sample Size	8	8		258	2	3	3		282
Mean Weight				3.13			3.17		3.13
Std. Error				0.05					0.05
Sample Size				64			1		65
Both Sexes	6,110	6,110	470	205,865	2,350	2,350	4,230		227,485
Percent	2.69	2.69	0.21	90.50	1.03	1.03	1.86		100.00
Mean Length	589	525	640	590	540	597	603		588
Std. Error	7	7		1	14	6	10		1
Sample Size	13	13	1	438	5	5	9		484
Mean Weight	4.02	2.60		3.52			3.82		3.52
Std. Error	0.17	0.34		0.04			0.30		0.04
Sample Size	3	2		107			3		115
Sample Period 4 7/16-9/01									
Males	405	2,027	811	92,011	405	405	4,053		100,117
Percent	0.19	0.95	0.38	42.99	0.19	0.19	1.89		46.78
Mean Length	600	545	625	611	540	635	605		609
Std. Error		8	25	2			6		2
Sample Size	1	5	2	227	1	1	10		247
Mean Weight				3.95			4.05		3.95
Std. Error				0.08			0.18		0.08
Sample Size				57			4		61
Females	1,621	1,621		101,740	4,053		4,864		113,899
Percent	0.76	0.76		47.54	1.89		2.27		53.22
Mean Length	574	486		577	536		590		575
Std. Error	9	16		1	7		5		1
Sample Size	4	4		251	10		12		281
Mean Weight	2.94	1.98		3.65	2.68		3.32		3.57
Std. Error		0.04		0.28	0.14		0.12		0.25
Sample Size	1	3		65	4		4		77
Both Sexes	2,026	3,648	811	193,751	4,458	405	8,917		214,016
Percent	0.95	1.70	0.38	90.53	2.08	0.19	4.17		100.00
Mean Length	579	519	625	593	536	635	597		591
Std. Error	9	8	25	1	7		4		1
Sample Size	5	9	2	478	11	1	22		528
Mean Weight	2.94	1.98		3.79	2.68		3.65		3.74
Std. Error		0.04		0.15	0.14		0.10		0.14
Sample Size	1	3		122	4		8		138

-Continued-

Table 56. (p 3 of 3).

	Age Group								
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
All Periods Combined									
Males	5,032	6,123	1,990	280,448	2,852	1,581	12,402	236	310,664
Percent	0.75	0.91	0.29	41.57	0.42	0.23	1.84	0.03	46.04
Mean Length	606	535	624	609	560	613	607	570	607
Std. Error	7	6	14	1	14	5	5		1
Sample Size	16	18	6	872	9	4	40	1	966
Mean Weight	3.77	2.73		3.99	3.08		4.05		3.97
Std. Error	0.12	0.24		0.05			0.14		0.05
Sample Size	7	4		217	1		12		241
Females	6,978	5,796	236	333,101	5,200	2,799	9,941		364,051
Percent	1.03	0.86	0.03	49.37	0.77	0.41	1.47		53.96
Mean Length	568	515	590	576	531	593	578		575
Std. Error	5	9		1	6	7	4		1
Sample Size	19	14	1	1,012	13	9	31		1,099
Mean Weight	2.75	1.98		3.25	2.68	3.03	3.20		3.22
Std. Error	0.09	0.04		0.09	0.14		0.10		0.09
Sample Size	3	3		263	4	1	10		285
Both Sexes	12,010	11,919	2,226	613,549	8,052	4,380	22,343	236	674,715
Percent	1.78	1.77	0.33	90.93	1.19	0.65	3.31	0.03	100.00
Mean Length	584	525	621	591	542	600	594	570	589
Std. Error	4	5	14	1	6	5	3		1
Sample Size	35	32	7	1,884	22	13	71	1	2,065
Mean Weight	3.38	2.48		3.59	2.76	3.03	3.69		3.57
Std. Error	0.09	0.16		0.06	0.14		0.09		0.05
Sample Size	10	7		480	5	1	22		526

Table 57. Daily sockeye salmon escapement counts, Togiak Lake, 1988.

Date	Daily Count[a]	Cumulative Count	Daily Percent of Total	Cumulative Percent
July 1	2,070	2,920	0.75	0.75
2	3,456	5,526	1.25	2.00
3	4,938	10,464	1.79	3.78
4	4,248	14,712	1.54	5.32
5	5,826	20,538	2.11	7.42
6	16,404	36,942	5.93	13.36
7	29,400	66,342	10.63	23.98
8	21,996	88,338	7.95	31.94
9	13,038	101,376	4.71	36.65
10	9,072	110,448	3.28	39.93
11	7,386	117,834	2.67	42.60
12	8,784	126,618	3.18	45.77
13	14,424	141,042	5.21	50.99
14	17,046	158,088	6.16	57.15
15	7,938	166,026	2.87	60.02
16	11,550	177,576	4.18	64.20
17	8,964	186,540	3.24	67.44
18	6,606	193,146	2.39	69.83
19	10,728	203,874	3.88	73.70
20	16,656	220,530	6.02	79.73
21	10,764	231,294	3.89	83.62
22	5,658	236,952	2.05	85.66
23	7,578	244,530	2.74	88.40
24	9,474	254,004	3.43	91.83
25	2,874	256,878	1.04	92.87
26	6,996	263,874	2.53	95.39
27	3,816	267,690	1.38	96.77
28	3,468	271,158	1.25	98.03
29	2,568	273,726	0.93	98.96
30	1,458	275,184	0.53	99.48
31	792	275,976	0.29	99.77
Aug. 1	636	276,612	0.23	100.00

[a] Based on aerial surveys, an additional 32,400 sockeye salmon escaped to the Togiak River (18,800 in the mainstem below the tower and 13,600 in tributaries).

Table 58. Age, sex, and size composition of sockeye salmon escapement, Togiak Lake, 1988.

	Age Group						
	0.2	0.3	1.2	1.3	1.4	2.3	Total
Sample Period 1 7/01-7/10							
Males		468	468	42,354	234	234	43,758
Percent		0.42	0.42	38.35	0.21	0.21	39.62
Mean Length		628	532	603	643	569	602
Std. Error		2	11	2			2
Sample Size		2	2	181	1	1	187
Females		468	1,170	64,350	234	468	66,690
Percent		0.42	1.06	58.26	0.21	0.42	60.38
Mean Length		546	510	566	555	579	565
Std. Error		8	7	1		1	1
Sample Size		2	5	275	1	2	285
Both Sexes		936	1,638	106,704	468	702	110,448
Percent		0.85	1.48	96.61	0.42	0.64	100.00
Mean Length		587	516	580	599	575	580
Std. Error		4	6	1		1	1
Sample Size		4	7	456	2	3	472
Sample Period 2 7/11-7/13							
Males	70			13,652	70	280	14,072
Percent	0.23			44.62	0.23	0.92	46.00
Mean Length	588			609	585	616	609
Std. Error				1		8	1
Sample Size	1			195	1	4	201
Females		70	140	15,892	140	280	16,522
Percent		0.23	0.46	51.94	0.46	0.92	54.00
Mean Length		564	510	568	569	568	567
Std. Error			17	1	16	7	1
Sample Size		1	2	227	2	4	236
Both Sexes	70	70	140	29,544	210	560	30,594
Percent	0.23	0.23	0.46	96.57	0.69	1.83	100.00
Mean Length	588	564	510	587	574	592	586
Std. Error			17	1	16	5	1
Sample Size	1	1	2	422	3	8	437
Sample Period 3 7/14-7/18							
Males			818	21,963		350	23,131
Percent			1.57	42.15		0.67	44.39
Mean Length			523	606		585	603
Std. Error			15	1		11	1
Sample Size			7	188		3	198
Females	117	350	1,051	27,221	117	117	28,973
Percent	0.22	0.67	2.02	52.24	0.22	0.22	55.61
Mean Length	570	582	511	567	549	550	565
Std. Error		16	13	1			1
Sample Size	1	3	9	233	1	1	248
Both Sexes	117	350	1,869	49,184	117	467	52,104
Percent	0.22	0.67	3.59	94.40	0.22	0.90	100.00
Mean Length	570	582	516	585	549	576	582
Std. Error		16	10	1		11	1
Sample Size	1	3	16	421	1	4	446

-Continued-

Table 58. (p 2 of 2).

	Age Group						
	0.2	0.3	1.2	1.3	1.4	2.3	Total
Sample Period 4 7/19-8/01							
Males			1,883	39,746		209	41,838
Percent			2.26	47.62		0.25	50.13
Mean Length			538	610		610	606
Std. Error			9	2			2
Sample Size			9	190		1	200
Females		418	2,301	38,491		418	41,628
Percent		0.50	2.76	46.12		0.50	49.87
Mean Length		552	503	566		563	562
Std. Error		18	6	2		2	2
Sample Size		2	11	184		2	199
Both Sexes		418	4,184	78,237		627	83,466
Percent		0.50	5.01	93.74		0.75	100.00
Mean Length		552	519	588		579	584
Std. Error		18	5	1		2	1
Sample Size		2	20	374		3	399
All Periods Combined[a]							
Males	70	468	3,169	117,715	304	1,073	122,799
Percent	0.03	0.17	1.15	42.56	0.11	0.39	44.39
Mean Length	588	628	533	606	630	594	605
Std. Error		2	7	1		7	1
Sample Size	1	2	18	754	2	9	786
Females	117	1,306	4,662	145,954	491	1,283	153,813
Percent	0.04	0.47	1.69	52.76	0.18	.46	55.61
Mean Length	570	558	507	566	557	569	564
Std. Error		8	5	1	16	2	1
Sample Size	1	8	27	919	4	9	968
Both Sexes	187	1,774	7,831	263,669	795	2,356	276,612
Percent	0.07	0.64	2.83	95.32	0.29	0.85	100.00
Mean Length	577	577	517	584	585	580	582
Std. Error		6	4	1	16	3	1
Sample Size	2	10	45	1,673	6	18	1,754

[a] An additional 32,400 sockeye salmon were estimated from aerial surveys to have spawned in Togiak River below the tower, but were not sampled.

Table 59. Age, sex, and size composition of chinook salmon commercial catch, Togiak River Section, Togiak District, 1988.

	Age Group					
	1.1	1.2	1.3	1.4	1.5	Total
All Periods Combined						
Males	85	3,273	3,160	1,862	226	8,606
Percent	0.64	24.78	23.93	14.10	1.71	65.17
Mean Length	485	544	672	867	923	670
Std. Error	8	4	9	10	39	4
Sample Size	3	116	112	66	8	305
Mean Weight	2.26	2.69	5.83	12.18	20.71	6.37
Std. Error		0.16	0.45	0.82	2.82	0.26
Sample Size	1	19	31	20	3	74
Females		56	649	3,218	677	4,600
Percent		0.42	4.91	24.37	5.13	34.83
Mean Length		520	747	879	900	859
Std. Error			19	4	14	5
Sample Size		2	23	114	24	163
Mean Weight			9.52	12.09	11.79	11.68
Std. Error			0.88	0.46	0.65	0.37
Sample Size			8	32	8	48
Both Sexes	85	3,329	3,809	5,080	903	13,206
Percent	0.64	25.21	28.84	38.47	6.84	100.00
Mean Length	485	543	685	874	905	736
Std. Error	8	4	8	5	14	3
Sample Size	3	118	135	180	32	468
Mean Weight	2.26	2.69	6.46	12.12	14.02	8.20
Std. Error		0.16	0.40	0.42	0.86	0.21
Sample Size	1	19	39	52	11	122

Table 60. Age, sex, and size composition of chum salmon commercial catch, Togiak River Section, Togiak District, 1988.

	Age Group				
	0.2	0.3	0.4	0.5	Total
Sample Period 1 6/14 - 7/10					
Males		21,976	91,136	1,293	114,405
Percent		9.37	38.84	0.55	48.76
Mean Length		611	632	635	628
Std. Error		5	3	35	2
Sample Size		34	141	2	177
Mean Weight		4.17	4.16		4.16
Std. Error		0.10	0.13		0.11
Sample Size		14	37		51
Females		28,440	91,136	646	120,222
Percent		12.12	38.84	0.28	51.24
Mean Length		578	592	610	589
Std. Error		3	2		2
Sample Size		44	141	1	186
Mean Weight		3.03	3.43		3.33
Std. Error		0.12	0.11		0.09
Sample Size		10	33		43
Both Sexes		50,416	182,272	1,939	234,627
Percent		21.49	77.69	0.83	100.00
Mean Length		592	612	627	608
Std. Error		3	2	35	1
Sample Size		78	282	3	363
Mean Weight		3.53	3.80		3.74
Std. Error		0.08	0.09		0.07
Sample Size		24	70		94

-Continued-

Table 60. (p 2 of 5).

	Age Group				
	0.2	0.3	0.4	0.5	Total
Sample Period 2 7/11 - 7/17					
Males	211	9,066	9,066		18,343
Percent	0.26	11.26	11.26		22.77
Mean Length	540	600	617		608
Std. Error		5	4		3
Sample Size	1	43	43		87
Mean Weight		3.71	3.59		3.65
Std. Error		0.34	0.64		0.36
Sample Size		7	6		13
Females	843	28,885	32,260	211	62,199
Percent	1.05	35.86	40.05	0.26	77.23
Mean Length	543	574	585	540	579
Std. Error	9	2	2		1
Sample Size	4	137	153	1	295
Mean Weight	2.56	3.03	3.18		3.10
Std. Error	0.07	0.08	0.06		0.05
Sample Size	2	37	37		76
Both Sexes	1,054	37,951	41,326	211	80,542
Percent	1.31	47.12	51.31	0.26	100.00
Mean Length	542	580	592	540	586
Std. Error	9	2	2		1
Sample Size	5	180	196	1	382
Mean Weight	2.56	3.19	3.27		3.23
Std. Error	0.07	0.10	0.15		0.09
Sample Size	2	44	43		89

-Continued-

Table 60. (p 3 of 5).

	Age Group				
	0.2	0.3	0.4	0.5	Total
Sample Period 3 7/18 - 7/24					
Males	237	6,273	4,498	118	11,126
Percent	0.52	13.66	9.79	0.26	24.23
Mean Length	543	598	613	530	602
Std. Error	8	4	6		3
Sample Size	2	53	38	1	94
Mean Weight	2.49	3.64	3.82		3.69
Std. Error		0.20	0.34		0.18
Sample Size	1	10	8		19
Females	592	21,424	12,784		34,800
Percent	1.29	46.65	27.84		75.77
Mean Length	532	570	583		574
Std. Error	7	2	2		1
Sample Size	5	181	108		294
Mean Weight		3.94	3.23		3.67
Std. Error		0.99	0.07		0.62
Sample Size		51	26		77
Both Sexes	829	27,697	17,282	118	45,926
Percent	1.81	60.31	37.63	0.26	100.00
Mean Length	535	577	591	530	581
Std. Error	6	1	2		1
Sample Size	7	234	146	1	388
Mean Weight	2.49	3.87	3.38		3.68
Std. Error		0.76	0.10		0.47
Sample Size	1	61	34		96

-Continued-

Table 60. (p 4 of 5).

	Age Group				
	0.2	0.3	0.4	0.5	Total
Sample Period 4 7/25 - 9/01					
Males	255	2,295	1,530		4,080
Percent	1.33	12.00	8.00		21.33
Mean Length	560	588	613		596
Std. Error	14	4	6		3
Sample Size	4	36	24		64
Mean Weight		3.66	4.27		3.90
Std. Error		0.17	0.13		0.11
Sample Size		7	7		14
Females	255	9,944	4,845		15,044
Percent	1.33	52.00	25.33		78.67
Mean Length	539	561	568		563
Std. Error	13	2	3		1
Sample Size	4	156	76		236
Mean Weight	2.38	2.87	2.85		2.86
Std. Error	0.11	0.06	0.08		0.05
Sample Size	2	37	23		62
Both Sexes	510	12,239	6,375		19,124
Percent	2.67	64.00	33.34		100.00
Mean Length	549	566	579		570
Std. Error	9	2	3		1
Sample Size	8	192	100		300
Mean Weight	2.38	3.02	3.19		3.07
Std. Error	0.11	0.06	0.07		0.04
Sample Size	2	44	30		76

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Table 60. (p 5 of 5).

	Age Group				
	0.2	0.3	0.4	0.5	Total
All Periods Combined					
Males	703	39,610	106,230	1,411	147,954
Percent	0.18	10.42	27.94	0.37	38.91
Mean Length	548	605	629	626	622
Std. Error	8	3	2	35	2
Sample Size	7	166	246	3	422
Mean Weight	2.49	3.95	4.10		4.06
Std. Error		0.10	0.12		0.10
Sample Size	1	38	58		97
Females	1,690	88,693	141,025	857	232,265
Percent	0.44	23.33	37.09	0.23	61.09
Mean Length	538	573	588	593	582
Std. Error	6	1	1		1
Sample Size	13	518	478	2	1,011
Mean Weight	2.52	3.23	3.33		3.29
Std. Error	0.06	0.24	0.07		0.10
Sample Size	4	135	119		258
Both Sexes	2,393	128,303	247,255	2,268	380,219
Percent	0.63	33.74	65.03	0.60	100.00
Mean Length	541	583	606	614	598
Std. Error	5	1	1	35	1
Sample Size	20	684	724	5	1,433
Mean Weight	2.51	3.45	3.66		3.59
Std. Error	0.06	0.17	0.07		0.07
Sample Size	5	173	177		355

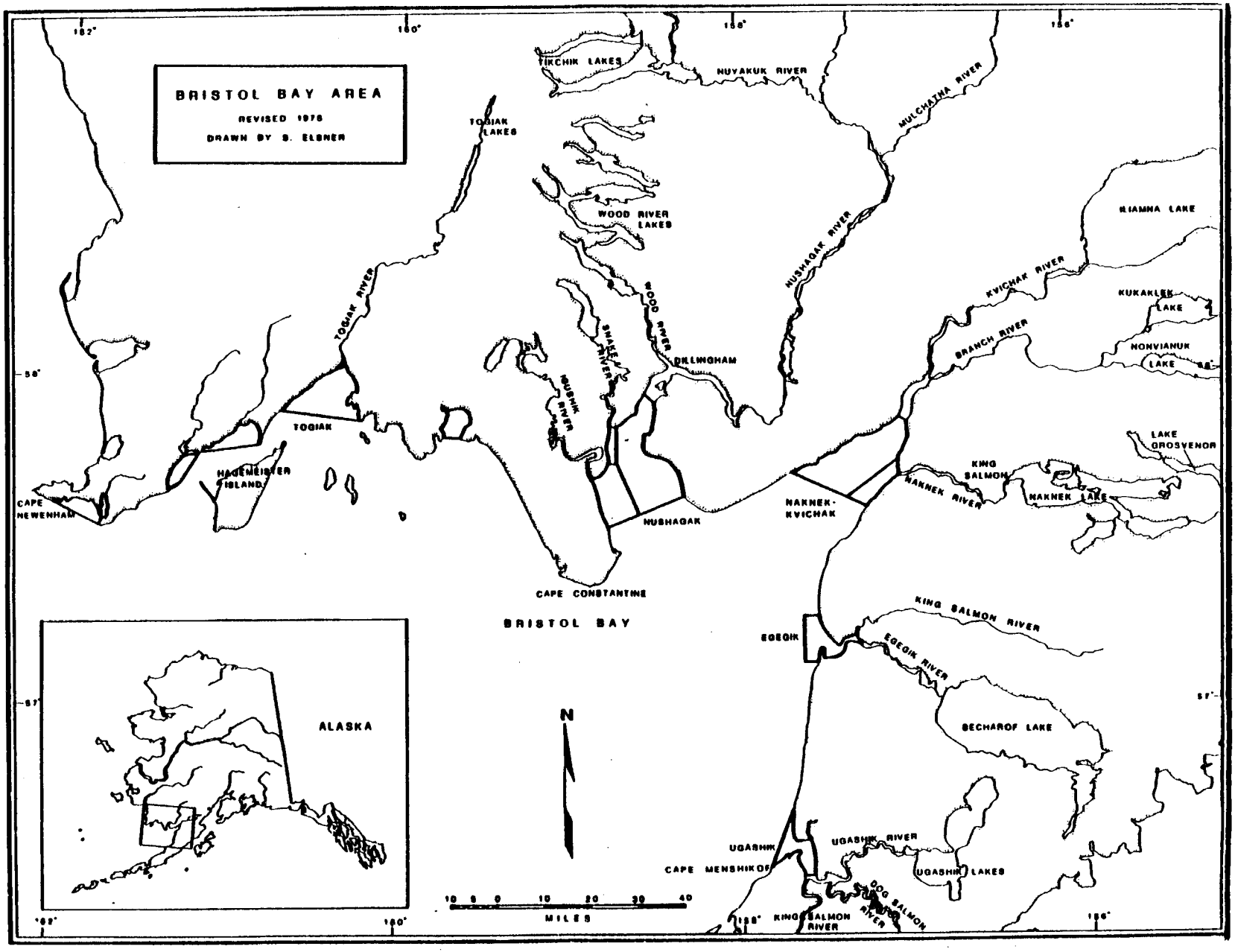

Figure 1. Bristol Bay major river systems and commercial fishing districts.

APPENDICES

Appendix A.1. Japanese mothership fishery catches of sockeye salmon destined for Bristol Bay, 1957 to 1987.

	Age Group[a]											
Year	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.2	2.4	3.3	3.4	Total
1957													
Maturing[b]:	38	13172	310646	0	3450277	1352760	2608	1300843	1048	2122	10486	0	6444000
Immature[b]:	0	2494	0	0	653309	0	494	246315	0	402	1986	0	905000
Total :	38	15666	310646	0	4103586	1352760	3102	1547158	1048	2524	12472	0	7349000
1958													
Maturing :	0	519	100753	89	78605	96268	1053	86477	1426	159	651	0	366000
Immature :	0	34	0	6	5160	0	69	5678	0	10	43	0	11000
Total :	0	553	100753	95	83765	96268	1122	92155	1426	169	694	0	377000
1959													
Maturing :	273	1387	209929	0	43327	257941	245	38702	12720	126	350	0	565000
Immature :	0	544	0	0	16994	0	96	15180	0	49	137	0	33000
Total :	273	1931	209929	0	60321	257941	341	53882	12720	175	487	0	598000
1960													
Maturing :	741	4328	3001953	65	266131	211984	88	143814	9403	182	1311	0	3640000
Immature :	0	905	0	14	55669	0	18	30082	0	38	274	0	87000
Total :	741	5233	3001953	79	321800	211984	106	173896	9403	220	1585	0	3727000
1961													
Maturing :	119	6310	136348	0	3502272	1821951	1203	317933	6668	3421	18558	4217	5819000
Immature :	0	508	0	0	281714	0	97	25574	0	275	1493	339	310000
Total :	119	6818	136348	0	3783986	1821951	1300	343507	6668	3696	20051	4556	6129000
1962													
Maturing :	26	158	192145	0	77884	391065	1742	168826	278	356	520	0	833000
Immature :	0	81	0	0	39647	0	887	85939	0	181	265	0	127000
Total :	26	239	192145	0	117531	391065	2629	254765	278	537	785	0	960000
1963													
Maturing :	1492	6017	266168	0	155668	253633	506	234622	9402	31	1461	0	929000
Immature :	0	1088	0	0	28139	0	91	42412	0	6	264	0	72000
Total :	1492	7105	266168	0	183807	253633	597	277034	9402	37	1725	0	1001000
1964													
Maturing :	64	259	132651	3	36451	66717	13	15874	434	0	1534	0	254000
Immature :	0	287	0	3	40402	0	14	17594	0	0	1700	0	60000
Total :	64	546	132651	6	76853	66717	27	33468	434	0	3234	0	314000
1965													
Maturing :	69	4976	142453	0	347150	5474695	106	128311	1495	0	745	0	6100000
Immature :	0	8716	0	0	608051	0	185	224743	0	0	1305	0	843000
Total :	69	13692	142453	0	955201	5474695	291	353054	1495	0	2050	0	6943000
1966													
Maturing :	14	1571	116290	78	299145	263701	280	842894	4792	36	2199	0	1531000
Immature :	0	554	0	28	105439	0	99	297092	0	13	775	0	404000
Total :	14	2125	116290	106	404584	263701	379	1139986	4792	49	2974	0	1935000
1967													
Maturing :	134	2350	95405	140	107675	480638	625	171975	2503	126	4429	0	866000
Immature :	0	458	0	27	20986	0	122	33519	0	25	863	0	56000
Total :	134	2808	95405	167	128661	480638	747	205494	2503	151	5292	0	922000

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Appendix A.1. (p 2 of 3).

	Age Group[a]												
Year	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.2	2.4	3.3	3.4	Total
1968													
Maturing :	336	2076	337722	125	184247	212012	884	119596	5100	64	1838	0	864000
Immature :	0	141	0	9	12529	0	60	8132	0	4	125	0	21000
Total :	336	2217	337722	134	196776	212012	944	127728	5100	68	1963	0	885000
1969													
Maturing :	325	758	463404	0	50218	229371	33	42566	3409	0	916	0	791000
Immature :	0	9944	0	0	659007	0	437	558591	0	0	12021	0	1240000
Total :	325	10702	463404	0	709225	229371	470	601157	3409	0	12937	0	2031000
1970													
Maturing :	184	5242	298284	0	233396	2820623	0	84946	7230	0	1095	0	3451000
Immature :	0	8348	0	0	371645	0	0	135263	0	0	1744	0	517000
Total :	184	13590	298284	0	605041	2820623	0	220209	7230	0	2839	0	3968000
1971													
Maturing :	206	2140	84009	0	361452	255790	557	136849	495	0	502	0	842000
Immature :	0	5152	0	0	869934	0	1340	329366	0	0	1208	0	1207000
Total :	206	7292	84009	0	1231386	255790	1897	466215	495	0	1710	0	2049000
1972													
Maturing :	204	784	133988	6	162096	223043	1185	185582	821	148	2143	0	710000
Immature :	0	1319	0	9	272660	0	1994	312165	0	249	3604	0	592000
Total :	204	2103	133988	15	434756	223043	3179	497747	821	397	5747	0	1302000
1973													
Maturing :	130	22136	56621	1515	261334	55583	1425	223411	329	418	2098	0	625000
Immature :	0	9246	0	633	109158	0	595	93317	0	175	876	0	214000
Total :	130	31382	56621	2148	370492	55583	2020	316728	329	593	2974	0	839000
1974													
Maturing :	93	235	46344	116	32015	157246	427	14334	107	38	45	0	251000
Immature :	0	1292	0	635	175641	0	2341	78636	0	210	245	0	259000
Total :	93	1527	46344	751	207656	157246	2768	92970	107	248	290	0	510000
1975													
Maturing :	74	909	41021	0	59316	461402	422	73594	7865	119	278	0	645000
Immature :	0	4779	0	0	311918	0	2219	386999	0	624	1461	0	708000
Total :	74	5688	41021	0	371234	461402	2641	460593	7865	743	1739	0	1353000
1976													
Maturing :	122	3518	105567	0	173665	356244	232	99609	32306	110	7627	0	779000
Immature :	0	2742	0	0	135390	0	181	77655	0	86	5946	0	222000
Total :	122	6260	105567	0	309055	356244	413	177264	32306	196	13573	0	1001000
1977													
Maturing :	132	3354	90183	358	100162	160733	177	179098	4096	23	1684	0	540000
Immature :	0	2684	0	287	80170	0	142	143351	0	18	1348	0	228000
Total :	132	6038	90183	645	180332	160733	319	322449	4096	41	3032	0	768000
1978													
Maturing :	127	95	67062	29	30947	9605	863	14438	363	81	390	0	124000
Immature :	0	667	0	202	216695	0	6040	101098	0	564	2734	0	328000
Total :	127	762	67062	231	247642	9605	6903	115536	363	645	3124	0	452000
1979													
Maturing :	6	29	18998	0	8905	36378	16	3513	118	0	37	0	68000
Immature :	0	539	0	3	168115	0	301	66329	0	0	705	8	236000
Total :	6	568	18998	3	177020	36378	317	69842	118	0	742	8	304000

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Appendix A.1. (p 3 of 3).

	Age Group[a]												
Year	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.2	2.4	3.3	3.4	Total
1980													
Maturing :	25	144	35013	0	39013	99223	59	6278	234	0	11	0	180000
Immature :	0	1296	0	0	351502	0	534	56568	0	0	100	0	410000
Total :	25	1440	35013	0	390515	99223	593	62846	234	0	111	0	590000
1981													
Maturing :	0	206	22710	0	54991	40911	41	18012	78	3	48	0	137000
Immature :	0	1917	0	4	510882	0	383	167341	0	23	450	0	681000
Total :	0	2123	22710	4	565873	40911	424	185353	78	26	498	0	818000
1982													
Maturing :	8	36	11947	2	36909	3446	399	10215	0	35	3	0	63000
Immature :	0	286	0	13	294660	0	3188	81552	0	279	22	0	380000
Total :	8	322	11947	15	331569	3446	3587	91767	0	314	25	0	443000
1983													
Maturing :	6	22	58443	0	13913	20150	592	2689	122	53	10	0	96000
Immature :	0	290	0	6	183586	0	7810	35483	0	699	126	0	228000
Total :	6	312	58443	6	197499	20150	8402	38172	122	752	136	0	324000
1984													
Maturing :	0	39	7762	4	9996	28004	31	5288	48	1	27	0	51200
Immature :	0	607	0	57	155917	0	489	82485	0	22	423	0	240000
Total :	0	646	7762	61	165913	28004	520	87773	48	23	450	0	291200
1985													
Maturing :	0	0	0	0	0	0	0	0	0	0	0	0	0
Immature :	0	409	0	0	158605	0	479	100200	0	67	140	0	259900
Total :	0	409	0	0	158605	0	479	100200	0	67	140	0	259900
1986													
Maturing :	0	33	4290	0	14898	10181	66	4506	14	9	3	0	34000
Immature :	0	444	0	0	201545	0	887	60959	0	121	44	0	264000
Total :	0	477	4290	0	216443	10181	953	65465	14	130	47	0	298000
1987													
Maturing :	0	47	34730	4	17869	8129	114	9077	22	8	0	0	70000
Immature :	0	163	0	13	62598	0	400	31798	0	28	0	0	95000
Total :	0	210	34730	17	80467	8129	514	40875	22	36	0	0	165000

[a] Scales are not sampled from sockeye salmon harvested by the Japanese mothership fishery. Therefore, the age composition of the total Bristol Bay inshore return is applied to mothership catch numbers to estimate catch by age.

[b] Indices of maturity were made by examining gonads.

Appendix A.2. Sockeye salmon catch by age group for the South Peninsula fishery in June, 1956 to 1988.

Year	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
56	0	0	307	171421	0	207	46548	82096	0	28	28577	952	0	213	0	330349
57	1	1	336	7917	0	0	87928	34474	0	66	33151	27	54	267	0	164222
58	0	36	190	36837	1037	32	28739	35196	114	385	31617	521	58	238	0	135000
59	38	197	192	29043	100	0	5994	35686	0	34	5354	1760	17	48	0	78463
60	32	11	185	128250	443	3	11370	9057	35	4	6144	402	8	56	0	156000
61	5	34	275	5950	28	0	152839	79509	0	52	13874	291	149	810	184	254000
62	10	18	62	75129	267	0	30453	152907	11	681	66011	109	139	203	0	326000
63	238	173	961	42526	405	0	24870	40522	0	81	37484	1502	5	233	0	149000
64	61	253	244	125279	3850	3	34426	63010	11	12	14992	410	0	1449	0	244000
65	9	304	632	18089	88	0	44083	695203	0	13	16294	190	0	95	0	775000
66	5	0	597	44183	310	30	113657	100191	0	106	320250	1821	14	836	0	582000
67	39	393	690	28009	367	41	31611	141107	0	183	50488	735	37	1300	0	255000
68	219	2522	1351	219875	9894	82	119955	138031	75	575	77863	3320	41	1197	0	575000
69	1673	0	1120	517417	0	0	54813	245493	0	0	33770	1693	0	1021	0	857000
70	0	0	1071	142544	0	0	146131	1345170	0	0	43270	3209	0	1605	0	1683000
71	0	0	0	156994	0	0	221420	160930	0	0	61903	0	0	8753	0	610000
72	149	13	573	97941	0	4	118487	163039	0	866	135654	600	108	1566	0	519000
73	0	20	6452	12560	469	0	162010	8490	0	0	71680	0	0	319	0	262000
74	22	15	56	11015	327	28	7609	37375	0	101	3407	25	9	11	0	60000
75	27	49	336	15166	431	0	21930	170586	55	156	27209	2908	44	103	0	239000
76	48	20	1385	41578	148	0	68398	140307	23	91	39231	12724	43	3004	0	307000
77	58	425	1481	39827	100	158	44234	70983	0	78	79093	1809	10	744	0	239000
78	488	1708	366	257930	8370	111	119027	36942	0	3318	55531	1397	310	1502	0	487000
79	0	0	2289	315779	4043	0	70885	440145	0	0	28859	0	0	0	0	862000
80	4395	9350	0	586323	0	0	223607	2420379	0	0	56014	2932	0	0	0	3303000
81	15689	0	4303	338455	0	0	564765	674826	0	0	226962	0	0	0	0	1825000
82	0	0	3628	437003	0	0	1114939	177293	0	0	388137	0	0	0	0	2121000
83	0	0	4660	1084307	0	0	181247	583691	0	2052	102208	783	2052	0	0	1961000
84	210	168	12171	247255	0	0	216104	793385	0	1163	116074	980	490	0	0	1388000
85	130	0	15153	203265	4350	0	549464	669836	0	8469	252864	130	0	5339	0	1709000
86	822	0	11430	20242	58	0	138065	135689	0	642	158180	368	0	504	0	466000
87	790	0	30234	279448	195	881	260507	104860	0	4543	109610	1498	1687	606	0	794859
88	4458	0	5256	177541	3922	50	177386	314500	0	2000	71143	333	48	50	0	756687

Appendix A.3. Age, sex, and size composition of chinook salmon subsistence catch, Lewis Point, Nushagak River, 1988.

	Age Group						
	1.2	1.3	1.4	2.3	1.5	2.4	Total
All Periods Combined							
			MALES				
Percent	1.40	11.10	25.70	1.80	5.00	3.20	48.20
Mean Length	540	743	849	724	886	832	814
Std. Error	31	10	7	9	22	26	5
Sample Size	4	31	72	5	14	9	135
Mean Weight		7.30	9.80	7.40	12.30	10.60	9.40
Std. Error		0.30	0.50	0.40	1.70	1.50	0.30
Sample Size		14	23	4	7	5	53
			FEMALES				
Percent	0.40	3.90	35.70	0.40	9.60	1.80	51.80
Mean Length	472	756	856	801	870	848	847
Std. Error		30	6		8	35	5
Sample Size	1	11	100	1	27	5	145
Mean Weight		8.30	10.80		10.20	11.90	10.50
Std. Error		0.60	0.30		0.60	1.90	0.30
Sample Size		3	52		9	3	67
			BOTH SEXES				
Percent	1.80	15.00	61.40	2.20	14.60	5.00	100.00
Mean Length	525	747	853	738	876	837	831
Std. Error	31	11	5	9	9	21	4
Sample Size	5	42	172	6	41	14	280
Mean Weight		7.60	10.40	7.40	10.90	11.10	10.00
Std. Error		0.30	0.30	0.40	0.70	1.20	0.20
Sample Size		17	75	4	16	8	120

Appendix A.4. Commercial salmon catch by period and species, Kulukak Section, Togiak District, 1988.

Period[a]	Number of Deliveries	Catch (number of fish)					
		Sockeye	Chinook	Chum	Pink	Coho	Total
6/14	6	241	9	20	0	0	270
6/15	9	404	40	446	0	0	890
6/16	9	406	37	975	0	0	1,418
6/20	22	1,737	113	2,751	0	0	4,601
6/21	40	2,812	180	4,605	0	0	7,597
6/22	38	3,180	148	4,188	0	0	7,516
6/23	20	1,703	41	1,918	0	0	3,662
6/27	31	2,660	211	6,397	0	0	9,268
6/28	50	4,608	138	6,291	3	0	11,040
6/29	34	3,196	117	3,703	4	0	7,020
6/30	16	1,775	36	831	1	0	2,643
7/04	20	2,475	99	1,299	0	0	3,873
7/05	32	2,483	56	3,812	10	0	6,361
7/06	16	2,223	18	799	1	0	3,041
7/07	7	989	12	508	0	0	1,509
7/11	22	1,835	14	264	6	0	2,119
7/12	21	5,341	16	563	2	0	5,922
7/13	25	5,465	16	1,583	0	0	7,064
7/14	28	6,554	8	1,363	0	0	7,925
7/15	32	8,475	10	1,034	11	0	9,530
7/16	48	11,318	6	1,598	7	0	12,929
7/17	60	11,145	7	1,607	10	0	12,769
7/18	48	6,655	2	1,451	44	0	8,152
7/19	108	12,303	20	4,536	107	0	16,966
7/20	84	6,560	27	1,664	307	0	8,558
7/21	125	9,245	7	1,762	757	3	11,774
7/22	51	3,896	4	653	454	0	5,007
7/23	39	2,673	3	556	298	1	3,531
7/24	50	2,800	15	708	81	4	3,608
7/25	55	1,712	12	573	1,020	1	3,318
7/26	45	1,499	4	368	1,009	0	2,880
7/27	42	2,158	3	375	828	7	3,371
7/28	30	1,248	2	212	541	0	2,003
7/29	24	1,476	4	123	694	6	2,303
7/30	17	1,125	2	113	756	5	2,001
7/31	11	637	1	87	251	5	981

-Continued-

Appendix A.4. (p 2 of 2).

Period[a]	Number of Deliveries	Catch (number of fish)					
		Sockeye	Chinook	Chum	Pink	Coho	Total
8/02	17	305	5	159	597	2	1,068
8/03	11	116	0	37	197	0	350
8/04	9	215	2	41	293	0	551
8/08	14	90	0	41	172	78	381
8/09	17	262	2	76	404	143	887
8/10	10	84	1	27	203	86	401
8/11	8	47	2	27	104	107	288
8/15	13	48	0	16	84	718	866
8/16	16	51	0	19	68	615	753
8/17	22	28	0	17	52	357	454
8/18	11	9	2	11	44	148	214
8/29	16	2	0	1	2	615	620
8/30	18	0	0	0	4	736	740
8/31	26	34	1	7	9	851	902
9/01	19	22	0	0	9	404	435
Total		136,325	1,454	60,215	9,444	4,892	212,330
Percent of Section Catch		64.2	0.7	28.4	4.4	2.3	100.0

[a] Kulukak Section open four days per week. See Table 2 for emergency order adjustments in the weekly fishing schedule.

Appendix A.5. Commercial salmon catch by period and species, Matogak Section, Togiak District, 1988.

Period[a]	Number of Deliveries	Catch (number of fish)					
		Sockeye	Chinook	Chum	Pink	Coho	Total
6/15	9	88	39	1,243	0	0	1,370
6/16	20	136	71	2,225	0	0	2,432
6/17	8	101	14	1,163	0	0	1,278
6/18	2	16	0	46	0	0	62
6/21	12	409	48	3,048	0	0	3,505
6/22	1	7	1	215	0	0	223
6/23	3	36	6	1,635	0	0	1,679
6/24	7	127	11	2,642	0	0	2,780
6/25	2	21	6	1,514	0	0	1,543
7/02	1	24	4	215	0	0	243
7/27	12	1,006	6	600	872	0	2,544
7/28	5	499	1	215	470	0	1,185
7/29	6	388	3	257	381	0	1,029
8/02	10	308	3	341	767	6	1,425
8/03	6	161	3	131	330	39	664
8/04	5	72	1	59	231	25	388
8/08	6	56	2	37	106	22	223
8/09	11	467	4	205	580	325	1,581
8/11	4	10	0	15	37	21	83
8/15	2	18	0	1	20	51	90
8/16	14	167	3	43	284	1,145	1,642
8/17	12	337	2	30	205	803	1,377
8/18	6	33	0	13	48	205	299
8/31	19	17	0	0	19	1,174	1,210
9/01	16	6	0	1	36	1,044	1,087
Total		4,510	228	15,954	4,390	4,860	29,942
Percent of Section Catch		15.1	0.8	53.3	14.7	16.2	100.0

[a] Matogak Section open five days per week. See Table 2 for emergency order adjustments in the weekly fishing period.

Appendix A.6. Commercial salmon catch by period and species, Osviak Section, Togiak District, 1988.

Period[a]	Number of Deliveries	Catch (number of fish)					
		Sockeye	Chinook	Chum	Pink	Coho	Total
6/08	1	0	16	6	0	0	22
6/09	1	1	12	24	0	0	37
6/13	7	3	42	495	0	0	540
6/14	3	13	6	286	0	0	305
6/15	7	33	45	664	0	0	742
6/16	9	30	88	651	0	0	769
6/17	13	94	65	2,184	0	0	2,343
6/18	10	91	66	1,053	0	0	1,210
6/20	11	68	43	725	0	0	836
6/21	12	112	58	1,773	0	0	1,943
6/22	10	196	127	2,264	0	0	2,587
6/23	10	130	46	2,173	0	0	2,349
6/24	12	106	90	1,548	0	0	1,744
6/25	2	51	22	380	0	0	453
8/03	2	86	0	83	133	2	304
8/09	2	77	0	14	162	26	279
8/17	7	99	0	5	87	709	900
8/18	7	42	1	5	43	334	425
Total		1,232	727	14,333	425	1,071	17,788
Percent of Section Catch		6.9	4.1	80.6	2.4	6.0	100.0

[a] Osviak Section open five days per week. See Table 2 for emergency order adjustments in the weekly fishing period.

Appendix A.7. Kvichak River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1950	[a]	[b] -	-	-	-	-	-	-	-	-	0	274	0	0	0	0	274[c]
1951	[a]	-	-	-	-	-	0	245	3717	0	0	983	0	1	0	0	4946[c]
1952	[a]	-	-	0	10955	0	0	6681	2956	0	0	654	1	0	1	0	21249[c]
1953	[a]	0	0	0	91	0	0	62	365	0	0	60	0	0	0	16	593
1954	[a]	0	0	0	81	17	0	29	643	0	0	0	0	0	29	0	799
1955	[a]	0	0	0	251	14	0	101	589	0	0	531	20	0	0	0	1504
1956	9443	0	14	0	24280	0	0	6960	6465	0	0	1308	0	0	0	0	39027
1957	2843	8	0	0	243	0	0	244	3333	0	2	259	0	0	2	0	4090
1958	535	0	0	0	76	0	0	48	135	0	0	26	0	0	3	0	289
1959	680	0	0	0	212	1	0	117	206	0	0	11	0	0	0	0	546
1960	14630	0	0	1	1314	134	0	563	46743	0	0	6483	10	0	6	0	55255
1961	3706	1	0	0	334	0	0	190	2293	0	0	679	5	0	0	0	3502
1962	2581	0	0	0	104	2	0	152	4673	0	0	408	12	0	4	0	5356
1963	339	0	0	1	49	3	0	50	639	0	0	366	3	0	9	0	1120
1964	957	0	8	0	2232	105	0	407	2341	0	0	647	8	0	3	0	5751
1965	24326	0	25	0	9853	484	0	471	32950	0	0	1238	2	0	1	0	45024
1966	3775	4	11	6	497	11	0	1086	4261	0	0	385	0	1	0	0	6261
1967	3216	0	0	5	349	2	0	272	812	0	0	86	0	0	0	0	1527
1968	2557	0	0	0	293	0	0	34	77	0	5	132	0	0	2	0	543
1969	8394	0	0	1	129	7	0	321	4221	0	0	594	19	0	11	0	5303
1970	13935	0	1	0	43	40	0	13	14462	6	0	849	412	0	7	0	15833
1971	2387	0	0	0	244	18	0	93	2170	0	0	303	2	0	0	0	2830
1972	1010	0	0	0	255	1	0	159	1206	0	22	297	0	0	0	0	1941
1973	227	0	0	2	576	2	2	1028	274	0	4	543	28	0	0	0	2457
1974	4434	0	9	1	6328	309	0	2009	16726	0	12	880	23	0	5	0	26302
1975	13140	0	5	0	5682	302	0	1198	30234	0	0	623	2	0	0	0	38047
1976	1965	0	5	12	5319	43	0	816	4110	0	4	273	0	0	0	0	10582
1977	1341	11	43	5	1932	2	0	935	208	0	0	99	0	0	0	0	3237
1978	4149	0	0	0	1835	16	0	1157	1318	0	0	817	11	0	6	0	5160
1979	11218	1	57	3	18331	73	0	2233	17931	0	0	3512	0	0	0	0	42141
1980	22505	0	2	5	2889	20	0	1641	8076	0	2	413	0	0	0	0	13047
1981	1754	0	0	12	789	0	0	230	931	0	0	166	0	0	0	0	2128
1982	1135	25	0	2	445	1	0	542	523	0	6	140	0	0	0	-	1682[c]
1983	3570	0	1	5	8575	3	0	3035	1204	0	5	576	0	-	-	-	13404[c]
1984	10491	0	0	4	2549	44	1	1930	17000	0	-	-	-	-	-	-	21529[c]
1985	7211	4	7	30	1027	29	-	-	-	-	-	-	-	-	-	-	1096[c]
1986	1179	10	0	-	-	-	-	-	-	-	-	-	-	-	-	-	10[c]

[a] Escapements not monitored

[b] Dash (-) indicates missing or incomplete data

[c] Incomplete returns from brood year escapement

Appendix A.8. Branch River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1950	[a]	-[b]	-	-	-	-	-	-	-	-	0	290	0	0	0	0	290[c]
1951	[a]	-	-	-	-	-	0	325	378	0	0	43	0	0	0	0	747[c]
1952	[a]	-	-	0	422	0	0	295	131	0	0	115	0	0	1	0	963[c]
1953	[a]	0	0	0	5	0	0	11	64	0	0	0	0	0	0	0	80
1954	[a]	0	0	0	14	3	0	109	392	0	0	141	0	0	1	0	661
1955	[a]	0	0	0	788	0	0	237	26	0	0	44	0	0	0	0	1095
1956	784	5	0	0	1885	0	0	458	0	0	0	38	3	0	0	0	2390
1957	127	0	0	0	5	0	0	23	43	0	0	13	0	0	1	0	85
1958	95	0	0	0	43	0	0	26	27	0	0	52	0	0	0	0	147
1959	825	0	0	0	301	0	0	265	122	0	0	76	1	0	2	0	767
1960	1241	0	0	0	105	0	0	185	135	0	0	31	0	0	0	0	456
1961	90	0	10	1	89	1	0	185	7	0	0	0	0	0	0	0	292
1962	91	0	19	0	129	0	0	92	3	0	0	19	1	0	0	0	262
1963	203	0	0	0	199	1	0	140	34	0	0	1	0	0	0	0	376
1964	249	0	5	0	100	2	0	98	113	0	0	17	0	0	0	0	336
1965	175	0	6	0	104	1	0	161	10	0	0	17	0	0	0	0	299
1966	174	0	13	0	282	0	0	262	12	0	0	11	0	0	0	0	581
1967	203	0	9	8	291	1	0	51	46	0	0	7	0	0	0	0	414
1968	194	3	5	0	127	0	0	40	2	0	0	3	0	0	0	0	180
1969	182	0	0	0	4	1	0	54	105	0	0	25	0	0	0	0	190
1970	177	0	0	0	73	0	0	71	6	0	0	2	0	0	0	0	153
1971	187	0	2	0	26	0	0	28	31	0	0	37	0	0	2	0	126
1972	151	0	1	0	91	0	0	17	7	0	0	14	0	0	0	0	130
1973	35	0	0	0	97	1	0	130	18	0	0	2	0	0	0	0	248
1974	215	0	4	0	292	5	0	18	128	0	0	9	0	0	0	0	457
1975	100	0	15	0	415	0	0	330	3	0	1	1	0	0	0	0	765
1976	82	0	26	0	212	0	0	166	20	0	0	55	0	0	0	0	480
1977	100	0	27	0	141	1	0	700	0	0	4	9	0	0	0	0	881
1978	229	0	1	0	102	0	0	68	39	0	0	147	0	0	0	0	358
1979	294	0	3	2	459	2	0	297	32	0	0	3	0	0	0	0	799
1980	298	0	0	0	103	0	0	211	13	0	2	9	0	1	0	0	339
1981	82	0	0	0	55	0	0	171	53	0	2	11	0	0	0	0	291
1982	239	0	0	0	172	0	0	141	4	0	0	3	0	0	0	-	321[c]
1983	96	0	0	0	148	0	0	132	33	0	0	3	0	-	-	-	317[c]
1984	215	0	1	0	160	0	0	146	42	0	-	-	-	-	-	-	350[c]
1985	118	0	3	0	358	0	-	-	-	-	-	-	-	-	-	-	362[c]
1986	230	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1[c]

[a] Escapements not monitored

[b] Dash (-) indicates missing or incomplete data

[c] Incomplete returns from brood year escapement

Appendix A.9. Naknek River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															Total
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	
1950	[a]	[b]	-	-	-	-	-	-	-	-	0	1211	0	2	5	0	1218[c]
1951	[a]	-	-	-	-	-	0	1435	757	0	0	1250	0	1	0	0	3443[c]
1952	[a]	-	-	0	87	0	0	1199	108	0	7	176	1	0	2	0	1579[c]
1953	[a]	0	0	0	24	0	0	135	177	3	0	206	42	0	1	1	589
1954	[a]	0	0	0	85	19	0	302	2129	0	0	587	0	13	3	0	3138
1955	[a]	0	0	0	720	1	0	821	214	0	0	88	2	4	2	0	1852
1956	1773	0	1	0	474	0	0	1700	3	0	17	304	0	0	0	0	2499
1957	635	0	0	0	53	2	0	329	505	0	1	673	5	0	3	0	1569
1958	278	0	0	0	112	4	0	211	538	0	0	168	3	0	2	0	1039
1959	2232	0	0	0	349	7	0	351	742	0	0	704	0	0	0	0	2153
1960	828	0	1	1	1408	9	0	626	696	0	0	1278	1	1	2	0	4023
1961	351	0	0	0	239	3	0	745	315	0	3	639	0	0	8	0	1953
1962	723	0	0	0	76	4	0	230	351	0	2	397	13	0	1	0	1074
1963	905	0	0	0	136	8	0	390	833	0	0	627	7	0	1	0	2002
1964	1350	0	1	0	447	24	0	264	1135	0	0	177	11	0	1	0	2061
1965	718	0	5	0	540	44	0	361	732	0	0	437	1	0	1	0	2121
1966	1016	1	4	0	728	2	0	2305	167	0	1	629	0	1	0	0	3838
1967	756	0	0	2	326	6	0	625	401	0	0	356	0	1	0	0	1717
1968	1023	0	3	0	152	0	0	234	83	0	0	269	2	0	2	0	745
1969	1331	0	0	0	47	3	0	308	976	0	0	1209	5	0	3	0	2550
1970	733	0	1	0	154	19	0	318	1845	0	0	370	12	0	0	0	2719
1971	936	0	1	0	398	24	0	559	1428	0	0	1844	3	9	8	0	4274
1972	587	0	3	0	245	3	0	241	161	0	3	598	9	0	1	0	1264
1973	357	0	0	0	494	0	0	618	524	0	0	598	0	0	0	0	2235
1974	1241	0	2	0	232	3	0	228	1026	0	2	904	5	0	5	0	2407
1975	2027	0	1	0	425	11	0	1697	1392	0	0	1706	1	8	0	0	5242
1976	1321	0	4	0	1088	3	0	4000	1573	0	21	1492	0	28	1	0	8210
1977	1086	2	10	7	634	0	0	2272	95	0	64	401	0	1	5	0	3492
1978	813	0	1	0	331	4	0	1695	1121	0	11	530	2	0	0	0	3694
1979	925	0	4	1	2438	4	0	973	793	0	9	408	4	0	3	0	4637
1980	2645	0	1	1	723	14	0	1504	1192	0	9	828	0	2	0	0	4273
1981	1796	0	4	0	782	9	0	2567	472	0	12	933	0	3	0	0	4783
1982	1156	0	3	3	185	0	0	1167	191	0	23	461	0	9	0	-	2041[c]
1983	888	0	0	1	163	7	0	488	338	0	5	482	0	-	-	-	1484[c]
1984	1242	0	1	0	472	23	0	915	1217	0	-	-	-	-	-	-	2628[c]
1985	1850	0	2	6	658	20	-	-	-	-	-	-	-	-	-	-	686[c]
1986	1978	0	3	-	-	-	-	-	-	-	-	-	-	-	-	-	3[c]

[a] Escapements not monitored

[b] Dash (-) indicates missing or incomplete data

[c] Incomplete returns from brood year escapement

Appendix A.10. Egegik River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1949	[a]	[b] -	-	-	-	-	-	-	-	-	0	0	0	0	15	0	15[c]
1950	[a]	-	-	-	-	-	0	0	0	0	0	304	77	4	23	0	407[c]
1951	[a]	-	-	0	0	0	0	360	1120	0	1	1301	2	0	6	0	2791[c]
1952	[a]	0	0	0	685	0	0	446	241	0	1	295	19	2	5	0	1695
1953	[a]	0	0	0	26	0	0	39	435	2	0	337	254	0	12	0	1104
1954	[a]	0	0	0	11	4	0	13	1190	0	0	641	87	0	45	0	1991
1955	[a]	0	1	0	20	0	0	163	672	0	0	396	6	1	6	0	1265
1956	1104	0	6	0	2025	0	0	3186	924	0	2	685	1	0	12	0	6841
1957	391	0	0	0	37	0	0	43	1096	0	0	926	70	0	62	0	2235
1958	246	0	0	0	42	2	0	73	817	0	0	308	16	0	3	0	1262
1959	1072	0	0	0	73	2	0	164	1037	0	0	467	14	0	24	0	1782
1960	1799	8	0	0	447	21	0	328	4447	0	1	2559	49	0	50	0	7912
1961	702	0	0	3	82	0	0	230	446	0	1	790	28	0	10	0	1590
1962	1027	0	0	0	22	0	0	69	950	0	0	375	28	0	30	0	1475
1963	998	0	0	1	16	2	0	112	538	1	1	506	74	0	7	0	1258
1964	850	0	1	0	126	6	0	69	1454	1	0	242	73	0	12	0	1983
1965	1445	0	0	0	104	35	0	72	2016	0	4	844	6	2	20	0	3102
1966	804	0	0	1	249	0	0	752	600	0	2	889	7	0	10	0	2511
1967	637	0	0	2	60	2	0	257	665	0	0	622	1	1	2	0	1613
1968	339	0	0	0	41	0	0	56	87	0	0	258	3	5	9	0	458
1969	1016	0	0	0	12	1	0	111	1096	0	0	1139	279	2	113	0	2754
1970	920	0	0	0	59	0	0	89	796	0	1	175	95	0	25	0	1240
1971	634	0	0	0	45	2	0	109	1477	0	0	970	74	1	55	0	2732
1972	546	0	0	1	57	2	0	61	1508	0	0	1263	48	0	18	0	2958
1973	329	0	0	0	76	0	0	135	578	0	0	851	35	0	4	0	1679
1974	1276	0	0	0	131	18	0	99	2225	0	0	573	54	0	3	0	3102
1975	1174	0	0	0	148	9	0	234	2447	2	0	828	14	2	1	0	3686
1976	509	1	1	2	615	59	0	780	2999	0	4	846	0	0	0	0	5307
1977	693	0	2	0	822	1	0	1969	688	0	14	655	52	0	13	0	4216
1978	896	0	0	2	398	6	0	510	6071	0	0	2183	25	4	8	0	9208
1979	1032	0	3	0	712	9	3	519	3036	0	4	1659	0	0	0	0	5947
1980	1061	0	1	13	803	26	0	2224	4576	0	6	939	7	0	0	0	8597
1981	695	0	0	6	544	64	0	981	3368	0	11	1445	9	0	7	0	6436
1982	1035	2	2	4	1013	12	0	1883	1804	0	9	1625	11	2	2	-	6369[c]
1983	792	0	3	0	1756	7	1	2742	3214	0	7	2773	21	-	-	-	10524[c]
1984	1165	0	1	8	604	85	0	958	6411	3	-	-	-	-	-	-	8069[c]
1985	1095	4	0	9	555	32	-	-	-	-	-	-	-	-	-	-	600[c]
1986	1151	0	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2[c]

[a] Escapements not monitored

[b] Dash (-) indicates missing or incomplete data

[c] Incomplete returns from brood year escapement

Appendix A.11. Ugashik River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1949	[a]	-[b]	-	-	-	-	-	-	-	-	0	0	0	0	2	0	2[c]
1950	[a]	-	-	-	-	-	0	0	0	0	1	50	0	0	3	0	54[c]
1951	[a]	-	-	0	0	0	1	52	191	0	2	118	1	0	0	0	364[c]
1952	[a]	0	0	1	559	0	0	391	209	0	0	78	2	0	0	0	1240
1953	[a]	0	0	0	216	0	0	249	420	0	0	216	7	0	0	0	1108
1954	[a]	0	0	0	24	3	0	28	395	0	0	61	0	0	0	0	511
1955	[a]	0	0	1	17	1	0	33	118	0	0	7	0	0	0	0	177
1956	425	1	12	0	3166	0	0	836	80	0	2	35	0	0	0	0	4132
1957	215	0	0	3	35	0	0	105	354	0	2	100	4	0	2	0	604
1958	280	0	0	0	63	0	0	105	444	0	0	66	0	0	0	0	679
1959	219	0	0	0	18	0	0	38	310	0	0	132	0	0	1	0	497
1960	2304	0	0	0	674	11	0	296	1563	0	0	487	0	0	0	0	3032
1961	349	0	0	3	240	2	0	500	247	0	1	119	0	0	0	0	1113
1962	255	0	0	2	77	2	0	130	185	0	0	27	0	0	0	0	424
1963	388	0	0	0	13	0	0	21	91	0	0	23	0	0	0	0	148
1964	473	0	0	0	31	9	0	16	245	0	0	18	0	0	2	0	324
1965	997	0	0	0	86	2	0	38	249	0	1	162	1	0	0	0	538
1966	704	1	0	2	724	0	0	1478	90	0	0	21	0	0	0	0	2316
1967	239	0	0	0	56	0	0	50	44	0	0	34	0	0	0	0	184
1968	71	0	0	0	14	0	0	7	15	0	0	3	0	0	0	0	40
1969	160	0	0	0	4	0	0	5	53	0	0	26	2	0	2	0	92
1970	735	0	0	0	4	1	0	2	256	0	1	27	2	0	1	0	294
1971	530	0	0	0	178	0	0	229	282	0	0	130	0	0	1	0	821
1972	79	0	0	0	34	0	0	58	119	0	0	36	2	0	3	0	252
1973	39	0	0	1	16	0	0	7	15	0	0	46	4	0	0	0	89
1974	62	0	0	0	11	9	0	15	600	0	0	95	2	0	0	0	732
1975	429	0	3	0	1479	4	0	557	1713	0	0	338	2	1	0	0	4098
1976	342	0	0	2	2028	58	0	1508	1246	0	7	431	0	0	3	0	5284
1977	201	0	2	18	585	0	0	1595	263	0	10	186	6	1	4	0	2671
1978	70	0	0	5	244	7	0	413	863	0	6	521	1	0	0	0	2058
1979	1701	0	19	0	3075	8	0	847	1457	0	14	561	0	5	0	0	5986
1980	3321	0	1	13	1173	38	0	2307	3367	0	10	837	3	2	0	0	7751
1981	1327	0	2	10	1601	4	0	2593	2244	0	4	925	1	1	0	0	7386
1982	1158	0	1	14	417	1	1	707	600	0	9	736	0	2	0	-	2489[c]
1983	1001	0	0	10	642	6	1	342	631	0	3	321	1	-	-	-	1957[c]
1984	1241	0	0	5	471	54	0	568	3643	0	-	-	-	-	-	-	4741[c]
1985	998	2	1	6	506	2	-	-	-	-	-	-	-	-	-	-	517[c]
1986	1001	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	5[c]

[a] Escapements not monitored

[b] Dash (-) indicates missing or incomplete data

[c] Incomplete returns from brood year escapement

Appendix A.12. Wood River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1950	[a]	[b]	-	-	-	-	-	-	-	-	1	64	0	0	0	0	64[c]
1951	[a]	-	-	-	-	-	0	505	319	0	3	54	0	0	1	0	881[c]
1952	[a]	-	-	0	759	0	0	558	29	0	2	34	0	0	0	0	1383[c]
1953	[a]	0	0	0	301	0	0	331	139	0	2	34	0	0	1	0	809
1954	[a]	0	0	0	1237	0	0	140	1085	0	1	67	0	0	0	0	2529
1955	[a]	0	0	0	2407	0	0	834	401	0	5	143	0	0	0	0	3790
1956	773	0	0	48	774	0	0	626	24	0	0	0	0	0	0	0	1472
1957	289	0	0	40	136	0	0	257	35	0	0	0	0	0	0	0	469
1958	960	0	1	0	2145	1	0	388	75	0	0	32	0	0	0	0	2642
1959	2209	0	0	1	978	10	0	398	359	0	1	55	0	0	2	0	1803
1960	1016	0	6	0	1473	0	0	1040	106	0	2	105	1	0	0	0	2733
1961	461	0	0	10	255	0	0	1184	24	0	2	20	0	1	1	0	1497
1962	874	1	2	0	992	1	2	341	116	0	6	43	0	0	0	0	1504
1963	721	0	0	0	536	1	0	769	76	0	0	46	0	0	0	0	1427
1964	1076	0	1	6	452	0	0	347	338	0	0	74	0	0	2	0	1219
1965	675	2	1	8	472	1	0	1000	90	0	0	213	0	0	1	0	1787
1966	1209	0	7	29	975	0	0	988	46	0	7	69	0	0	1	0	2122
1967	516	0	3	21	642	0	0	269	75	0	2	80	0	0	0	0	1091
1968	649	0	1	0	514	0	0	565	5	0	4	19	0	0	0	0	1108
1969	604	0	0	4	57	0	0	445	201	0	10	116	0	0	0	0	834
1970	1162	0	2	0	1539	0	0	1004	231	0	0	26	0	0	0	0	2801
1971	851	3	0	19	456	0	0	576	198	0	1	49	0	0	0	0	1302
1972	431	2	1	22	779	0	0	631	32	0	19	27	0	0	0	0	1514
1973	330	1	1	0	213	0	0	1149	74	0	3	44	0	0	0	0	1485
1974	1709	0	3	6	2956	4	0	1698	421	0	8	82	0	0	0	0	5177
1975	1270	13	47	13	1591	2	0	1922	406	0	2	763	0	0	0	0	4759
1976	817	0	3	0	2287	3	0	2558	571	0	10	265	0	0	0	0	5698
1977	562	0	20	0	1028	0	0	2173	40	0	0	26	2	0	0	0	3288
1978	2267	0	0	0	1364	3	0	1029	784	0	12	96	0	0	0	0	3288
1979	1706	0	10	0	2643	0	0	1490	24	0	1	13	0	0	0	0	4181
1980	2969	0	0	0	453	0	0	978	72	0	1	101	0	0	0	0	1606
1981	1233	0	0	0	626	0	0	1137	60	0	0	86	0	0	0	0	1909
1982	976	0	4	0	522	0	0	765	121	0	12	14	0	0	0	-	1438[c]
1983	1361	0	1	5	1940	0	2	1154	15	0	2	75	0	-	-	-	3195[c]
1984	1003	0	0	0	586	0	2	1359	32	0	-	-	-	-	-	-	1979[c]
1985	939	8	3	15	1140	0	-	-	-	-	-	-	-	-	-	-	1166[c]
1986	819	7	2	-	-	-	-	-	-	-	-	-	-	-	-	-	9[c]

[a] Escapements not monitored

[b] Dash (-) indicates missing or incomplete data

[c] Incomplete returns from brood year escapement

Appendix A.13. Igushik River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1950	[a]	-[b]	-	-	-	-	-	-	-	-	1	86	0	0	0	0	87[c]
1951	[a]	-	-	-	-	-	0	681	68	0	1	29	0	0	2	0	782[c]
1952	[a]	-	-	0	162	0	0	303	9	0	5	73	0	0	0	0	553[c]
1953	[a]	0	0	0	98	0	0	1	20	0	3	65	0	0	1	0	187
1954	[a]	0	0	0	175	0	0	269	204	0	0	113	0	1	0	0	763
1955	[a]	0	0	0	454	0	0	783	113	0	0	94	0	0	0	0	1444
1956	400	0	0	0	169	0	0	522	12	0	3	36	0	0	0	0	742
1957	130	0	0	0	2	0	0	35	19	0	0	20	0	0	0	0	76
1958	107	0	0	1	14	0	0	71	20	0	0	28	0	0	0	0	133
1959	644	0	0	0	101	0	0	155	93	0	0	22	0	0	0	0	372
1960	495	0	0	1	61	0	0	310	44	0	0	57	0	0	0	0	474
1961	294	0	0	1	33	0	1	365	20	0	0	17	0	0	0	0	438
1962	16	0	0	8	20	0	0	281	9	0	0	9	0	0	0	0	327
1963	92	0	0	3	254	0	0	190	36	0	0	25	0	0	0	0	508
1964	129	0	0	1	162	0	0	586	133	0	0	49	0	0	0	0	931
1965	181	0	0	0	371	0	0	436	203	0	0	79	0	0	0	0	1089
1966	206	0	0	0	66	0	0	384	6	0	0	15	0	0	0	0	471
1967	282	0	0	3	57	0	0	91	13	0	0	12	0	0	0	0	175
1968	195	0	0	0	43	0	0	120	0	0	2	10	0	0	0	0	176
1969	512	0	0	0	1	0	0	131	301	0	2	103	0	0	0	0	536
1970	371	0	0	1	26	0	0	171	41	0	0	71	0	0	0	0	309
1971	211	0	0	1	48	0	0	164	60	0	0	30	0	0	0	0	303
1972	60	0	0	4	89	0	0	109	6	0	8	13	0	0	0	0	229
1973	60	0	0	0	19	0	0	651	25	0	2	29	0	0	0	0	726
1974	359	0	0	7	441	1	0	750	346	0	7	29	0	0	0	0	1580
1975	241	0	0	0	783	0	0	2485	137	0	1	523	0	0	0	0	3929
1976	186	0	0	0	553	3	0	1394	193	0	20	215	0	0	0	0	2379
1977	96	0	0	6	294	0	0	1689	9	0	8	9	0	0	0	0	2014
1978	536	0	0	0	96	0	0	330	84	0	1	15	0	0	0	0	527
1979	860	0	0	0	422	0	0	406	13	0	0	5	0	0	0	0	846
1980	1988	0	0	0	20	0	0	271	25	0	0	56	0	0	0	0	373
1981	591	0	0	0	188	0	0	779	8	0	1	49	0	0	0	0	1025
1982	424	0	0	7	57	0	0	434	9	0	2	10	0	0	0	-	518[c]
1983	180	1	0	0	151	0	0	353	8	0	2	30	0	-	-	-	545[c]
1984	185	0	0	0	41	0	0	651	57	0	-	-	-	-	-	-	749[c]
1985	212	0	0	7	523	0	-	-	-	-	-	-	-	-	-	-	530[c]
1986	308	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	3[c]

[a] Escapements not monitored

[b] Dash (-) indicates missing or incomplete data

[c] Incomplete returns from brood year escapement

Appendix A.14. Nuyakuk River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1950	[a]	-[b]	-	-	-	-	-	-	-	-	0	8	0	0	0	0	8[c]
1951	[a]	-	-	-	-	-	0	61	3	0	1	14	0	0	1	0	80[c]
1952	[a]	-	-	0	7	0	0	150	5	0	3	43	0	0	0	0	208[c]
1953	[a]	0	0	0	55	0	0	427	6	0	0	1	0	0	0	0	489
1954	[a]	0	0	0	53	0	0	4	23	0	0	0	0	0	0	0	80
1955	[a]	0	0	0	52	0	0	10	10	0	0	0	0	0	0	0	72
1956	30	0	0	0	217	0	0	162	0	0	0	0	0	0	0	0	379
1957	67	0	0	0	4	0	0	11	2	0	0	1	0	0	0	0	18
1958	196	0	0	0	93	0	0	307	31	0	0	11	0	0	0	0	443
1959	49	0	0	60	11	0	0	57	3	0	0	9	0	0	0	0	140
1960	146	5	0	8	147	0	0	380	23	0	0	12	0	0	0	0	575
1961	80	1	0	37	37	0	0	317	2	0	0	0	0	0	0	0	394
1962	38	0	0	4	17	0	0	36	0	0	0	2	0	0	0	0	59
1963	167	0	0	26	4	0	0	194	2	0	0	6	0	0	0	0	232
1964	103	2	0	1	17	0	0	51	14	0	0	2	0	0	0	0	86
1965	203	0	0	7	72	0	0	603	36	0	7	54	0	0	0	0	779
1966	161	1	0	2	121	0	0	527	4	0	2	5	0	0	0	0	663
1967	20	0	1	2	9	0	0	64	0	0	0	6	0	0	0	0	83
1968	97	0	0	8	12	0	0	210	0	0	1	6	0	0	0	0	238
1969	70	2	0	23	5	0	1	81	13	0	4	6	0	0	0	0	134
1970	365	0	0	1	98	0	0	717	160	0	1	92	0	0	0	0	1070
1971	224	1	0	17	87	0	0	785	28	0	0	41	0	1	0	0	959
1972	29	0	0	11	49	0	0	295	14	0	47	120	0	0	0	0	535
1973	110	0	0	4	47	0	3	1100	2	0	1	1	0	0	0	0	1156
1974	155	0	0	0	117	0	0	249	7	0	0	0	0	0	0	0	373
1975	670	7	0	3	528	0	0	4369	127	0	4	253	0	1	0	0	5291
1976	425	2	1	38	399	0	0	2905	58	0	22	254	0	0	0	0	3678
1977	233	0	0	16	325	0	3	1936	3	0	99	10	1	0	0	0	2393
1978	577	0	0	0	100	0	21	779	7	0	1	6	0	1	0	0	914
1979	360	0	1	89	441	0	0	854	6	0	14	5	0	0	0	0	1411
1980	3027	3	0	0	84	0	0	344	162	0	4	154	0	0	0	0	752
1981	834	0	0	52	150	0	2	1476	2	0	25	17	0	0	0	-	1724[c]
1982	538	14	0	67	114	0	49	299	2	0	9	6	0	-	-	-	560[c]
1983	319	7	0	110	114	0	13	553	2	0	-	-	-	-	-	-	798[c]
1984	473	0	0	17	50	0	-	-	-	-	-	-	-	-	-	-	67[c]
1985	429	12	0	-	-	-	-	-	-	-	-	-	-	-	-	-	12[c]

[a] Escapements not monitored

[b] Dash (-) indicates missing or incomplete data

[c] Incomplete returns from brood year escapement

Appendix A.15. Snake River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1951	[a]	[b]	-	-	-	-	0	2	2	0	0	1	0	0	0	0	5[c]
1952	[a]	-	-	-	4	0	0	6	0	0	0	0	0	0	0	0	10[c]
1953	[a]	-	-	0	3	0	0	3	1	0	0	2	0	0	0	0	10[c]
1954	[a]	0	0	0	12	0	0	9	69	0	0	0	0	0	0	0	90
1955	[a]	0	0	0	153	0	0	0	0	0	0	0	0	0	0	0	153
1958	9	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	3
1959	140	0	0	0	68	0	0	7	6	0	0	1	0	0	0	0	83
1960	17	0	0	0	14	0	0	18	1	0	0	0	0	0	0	0	33
1961	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5
1971	9	0	0	0	0	0	0	2	17	1	0	3	0	0	0	0	24
1972	2	0	0	0	6	0	0	1	0	0	0	0	0	0	0	0	8
1973	1	0	0	0	8	0	0	3	5	0	0	1	0	0	0	0	16
1974	15	0	0	0	26	0	0	7	1	0	0	0	0	0	0	0	34
1975	10	0	0	0	10	0	0	0	0	0	0	13	0	0	0	0	23
1976	13	0	0	0	0	0	0	22	6	0	0	0	0	0	0	0	28
1977	9	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	16

[a] Escapements not monitored

[b] Dash (-) indicates missing or incomplete data

[c] Incomplete returns from brood year escapement

Appendix A.16. Nushagak-Mulchatna Rivers sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															Total
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	
1951	[a]	-[b]	-	-	-	-	16	0	0	0	0	0	0	0	0	0	16[c]
1952	[a]	-	-	24	0	0	0	0	0	0	0	0	0	0	0	0	24[c]
1953	[a]	0	0	37	0	0	2	0	0	0	0	0	0	0	0	0	39
1954	[a]	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	9
1955	[a]	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	33
1962	9	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
1963	46	0	0	0	0	0	1	53	0	0	0	2	0	0	0	0	56
1964	19	0	0	13	4	0	0	12	2	0	0	0	0	0	0	0	32
1965	28	1	0	13	16	0	0	91	0	0	0	0	0	0	0	0	120
1966	50	2	0	29	0	0	0	0	0	0	0	0	0	0	0	0	31
1967	47	1	0	0	0	0	0	0	0	0	4	3	0	0	0	0	8
1968	32	0	0	0	0	0	8	79	0	0	5	4	0	0	0	0	95
1969	17	0	0	90	0	0	5	2	2	0	0	0	0	0	0	0	100
1970	45	1	0	9	10	1	0	0	0	0	1	6	0	0	0	0	26
1971	58	0	0	0	0	0	0	78	2	0	0	125	0	0	0	0	206
1972	7	0	0	20	7	0	7	291	27	0	0	0	0	0	0	0	351
1973	80	0	0	51	44	0	0	0	0	0	0	0	0	0	0	0	96
1974	30	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1976	45	0	0	0	0	0	0	0	0	0	16	28	0	0	0	0	44
1977	320	0	0	0	0	0	63	10	0	0	36	1	0	0	0	0	110
1978	87	0	0	436	0	0	128	0	13	0	0	0	0	0	0	0	577
1979	138	18	0	376	53	0	16	0	0	0	28	0	0	0	0	0	491
1980	291	16	0	447	0	0	67	0	0	0	0	1	0	0	0	0	532
1981	177	9	0	86	20	0	12	0	0	0	61	14	0	0	0	0	204
1982	63	21	0	284	49	0	0	595	0	0	52	1	0	0	0	-	1004[c]
1983	85	93	0	498	0	0	109	0	4	0	16	-	-	-	-	-	721[c]
1984	120	10	0	209	1	0	-	-	-	-	-	-	-	-	-	-	220[c]
1985	69	56	0	-	-	-	-	-	-	-	-	-	-	-	-	-	56[c]

[a] Escapements not monitored

[b] Dash (-) indicates missing or incomplete data

[c] Incomplete returns from brood year escapement

Appendix A.17. Nushagak River drainage sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															Total
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	
1982	601	35	0	351	163	0	49	894	2	0	61	7	0	0	0	-[a]	1564[b]
1983	404	100	0	608	114	0	122	553	6	0	16	3	0	-	-	-	1522[b]
1984	593	10	0	226	51	0	32	574	2	0	-	-	-	-	-	-	895[b]
1985	498	68	0	518	64	0	-	-	-	-	-	-	-	-	-	-	650[b]
1986	990	69	0	-	-	-	-	-	-	-	-	-	-	-	-	-	69[b]

[a] Dash (-) indicates missing or incomplete data

[b] Incomplete returns from brood year escapement

Appendix A.18. Togiak River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Escapement	Return by Age Group (in thousands)															
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1950	[a]	[b]	-	-	-	-	-	-	-	-	0	31	0	0	0	0	31[c]
1951	[a]	-	-	-	-	-	0	109	58	0	0	9	0	0	0	0	176[c]
1952	[a]	-	-	0	168	0	0	58	9	0	0	6	0	0	0	0	241[c]
1953	[a]	0	0	1	31	0	0	84	8	0	0	16	0	2	0	0	143
1954	[a]	0	0	0	20	0	0	146	12	0	0	0	17	0	0	0	194
1955	[a]	0	0	0	136	0	0	0	186	8	1	38	0	0	0	0	369
1956	225	0	0	0	4	104	0	306	22	0	1	13	0	0	0	0	450
1957	25	0	2	9	48	0	0	69	20	0	0	36	1	0	0	0	187
1958	72	0	1	3	68	0	0	115	59	0	0	25	0	0	0	0	271
1959	210	0	0	0	141	0	0	92	55	0	0	7	0	0	0	0	296
1960	163	0	0	3	191	0	0	276	22	0	0	52	0	0	0	0	545
1961	122	1	0	3	85	0	0	216	15	0	1	19	0	0	0	0	340
1962	62	0	0	7	48	0	0	103	4	0	0	8	0	0	0	0	170
1963	116	0	0	2	43	0	0	66	19	0	0	24	0	0	0	0	153
1964	105	0	0	1	43	0	0	84	41	0	0	6	0	0	0	0	175
1965	96	0	0	2	154	0	0	181	31	0	0	37	0	0	0	0	406
1966	104	1	0	6	200	0	0	420	4	0	1	9	0	0	0	0	642
1967	81	1	0	6	18	0	0	99	16	0	1	40	0	0	0	0	181
1968	50	0	0	1	49	0	0	190	6	0	3	13	0	0	0	0	263
1969	117	0	0	5	28	0	0	142	25	0	3	12	0	0	0	0	216
1970	203	0	0	1	54	0	0	226	55	0	1	70	0	0	0	0	409
1971	200	0	0	4	106	0	0	317	62	0	1	68	0	2	0	0	561
1972	79	0	0	2	93	0	0	150	21	0	46	56	0	0	0	0	369
1973	107	1	0	10	151	0	0	378	32	0	1	14	0	0	0	0	586
1974	104	0	0	1	256	0	0	321	22	0	4	52	0	3	0	0	660
1975	181	0	0	4	253	0	0	825	87	0	2	58	0	0	0	0	1230
1976	189	0	0	2	189	0	0	534	142	0	4	162	0	0	0	0	1033
1977	163	0	0	3	252	0	0	638	13	0	3	12	0	0	0	0	922
1978	306	0	1	6	146	0	0	434	66	0	1	25	0	0	0	0	680
1979	198	2	0	1	266	0	0	404	14	0	0	7	0	0	0	0	695
1980	527	0	0	0	51	0	0	298	13	0	1	11	0	0	0	0	374
1981	307	0	0	0	61	0	0	293	6	0	0	16	0	0	0	0	377
1982	289	0	0	0	96	0	0	244	13	0	5	26	0	0	0	-	385[c]
1983	213	0	0	2	265	0	2	925	9	0	2	21	0	-	-	-	1226[c]
1984	151	0	0	14	21	0	0	109	4	0	-	-	-	-	-	-	149[c]
1985	145	0	0	7	35	0	-	-	-	-	-	-	-	-	-	-	42[c]

[a] Escapements not monitored

[b] Dash (-) indicates missing or incomplete data

[c] Incomplete returns from brood year escapement