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ABUNDANCE, AGE, SEX AND SIZE STATISTICS FOR PACIFIC SALMON IN BRISTOL BAY, 1999 – 2000



By

Frederick W. West

and

Daniel C. Gray

Regional Information Report No. 2A01-29

Alaska Department of Fish and Game
Division of Commercial Fisheries
Regional Office
333 Raspberry Road
Anchorage, Alaska 99518-1599

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ABSTRACT

Abundance, age, sex, and size data are summarized for 1999 - 2000 Bristol Bay commercial catches and spawning escapements of Pacific salmon *Oncorhynchus* as part of an ongoing project to collect baseline biological information. These data have been used to determine spawner-recruit relationships, establish spawning escapement goals, and forecast the abundance of future returns. Age, sex, and size of sockeye salmon (*O. nerka*) in the commercial catch and escapement were estimated with systematic stratified sampling programs. Sockeye salmon harvests were assigned to river of origin using either age composition data combined with escapement information or data from scale pattern analysis. Total returns to each river were estimated by combining river-specific harvests and escapements. Sampling efforts for other salmon species were limited. Escapement of chinook salmon (*O. tshawytscha*), chum salmon (*O. keta*), and coho salmon (*O. kisutch*) was sampled in the Nushagak River. Catches of chinook salmon and chum salmon were sampled in Nushagak and Togiak Districts. In 1999 and 2000 the total number of sockeye salmon commercially harvested in Bristol Bay were 25.6 million and 20.4 million fish respectively. The total escapements to all rivers in 1999 and 2000 were 14.1 million and 7.8 million fish respectively. In 1999 the age composition of the sockeye salmon total return to Bristol Bay was primarily age-1.2 (51%), followed by age-2.2 (24%), age-1.3 (17%), and age-2.3 (7%) fish. In 2000 the age composition of the sockeye salmon total return to Bristol Bay was dominated by age-1.3 (57%), followed by age-1.2 (18%), age-2.3 (15%), and age-2.2 (10%) fish.

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

INTRODUCTION

The Bristol Bay Management Area encompasses all waters east of a line from Cape Newenham to Cape Menshikof (Figure 1). Bristol Bay supports harvests of five species of Pacific salmon including the largest sockeye salmon (*Oncorhynchus nerka*) fishery in the world.

The management area is divided into five fishing districts for the regulation of commercial salmon fisheries: Naknek-Kvichak, Egegik, Ugashik, Nushagak, and Togiak Districts (Figure 1). Naknek-Kvichak, Egegik, and Ugashik Districts are referred to as the Eastside fishery, and Nushagak and Togiak Districts are referred to as the Westside fishery. Rivers that produce major salmon runs include Kvichak, Naknek, Branch, Egegik, Ugashik, Wood, Igushik, Nushagak, and Togiak Rivers. Bristol Bay sockeye salmon are intercepted in the North Alaska Peninsula fishery (Geiger 1989, Swanton and Murphy 1992), and the South Alaska Peninsula June fishery (Gilbert 1924, Gilbert and Rich 1926, Eggers et al. 1988). At this time the magnitude of interceptions of Bristol Bay salmon in other fisheries are unknown.

The Alaska Department of Fish and Game (ADF&G) conducts a variety of programs that supply the information used to manage Bristol Bay salmon fisheries. These programs include (1) compiling catch statistics, (2) sampling catches for age, sex, and size composition, (3) counting major spawning escapements, and (4) sampling escapement for age, sex, and size composition. Data generated from these programs are used to manage fisheries in season, establish biological escapement goals, and forecast the abundance of future returns. This report summarizes 1999 - 2000 commercial catch, escapement, age, sex, and size data for Bristol Bay salmon. Such 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, 1990; Stratton 1990, 1991; Stratton and Cross 1990; Stratton and Crawford 1992, 1994, Menard 1997, Gray 1998a, 1998b; Gray and Link 1999).

METHODS

Catch Estimation

Commercial catches in numbers of salmon by Bristol Bay districts were taken from summaries of fish tickets (sales receipts given to fishers by buyers at the time of delivery). The final catch numbers used for this report were from final fish ticket reports compiled by Keith Weiland, Egegik/Ugashik Area Management Biologist. The number of Bristol Bay sockeye salmon caught in the North Alaska Peninsula

fishery is unknown. All sockeye caught during the South Alaska Peninsula fishery around Unimak and Shumagin Islands in June were assumed to be of Bristol Bay origin.

A 1987 tagging study (Eggers et al. 1988) indicated that sockeye stocks other than Bristol Bay composed a small percentage of the South Alaska Peninsula harvest at this time of the year.

Escapement Enumeration

Escapements of salmon in Bristol Bay in 1999 – 2000 were estimated with various methods by staff from the Division of Commercial Fisheries (ADF&G 2000, 2001). Sockeye salmon escapement estimates were based on visual counts made from counting towers on the banks of the Kvichak, Naknek, Egegik, Ugashik, Wood, Igushik, Nuyakuk and Togiak rivers. At all tower projects, counts were made for 10 min every hour on each river bank. Counting began on one bank at the start of each hour, followed by counting on the opposite bank. Each 10-min count was expanded into an hourly estimate (x6) and these were added together to arrive at a total daily escapement. Escapement to several river systems and areas below the counting towers was estimated from aerial surveys (Branch River, as well as areas in Egegik, Ugashik, and Togiak Districts; Sands et al. 2001). The Snake River escapement, previously included in the total run and surveyed annually, was not surveyed in 1999 and 2000 because of funding shortages. Side-looking sonar located in the lower Nushagak River near Portage Creek was used to estimate salmon escapements for the entire Nushagak River drainage (Miller 2000).

Age, Sex, and Size Estimation

Ages for all 1999-2000 Bristol Bay salmon runs were determined by examining scales (Mosher 1968), except ages of sockeye salmon spawning in Branch River, which were determined from otoliths (Bilton and Jenkinson 1968). European notation (e.g., 2.2; Koo 1962) was used to record ages: numerals preceding the decimal refer to number of freshwater annuli, numerals following the decimal refer to number of marine annuli. Total age of the fish from time of egg deposition is the sum of these numbers plus one.

Scales were collected from the left side of the fish approximately two rows above the lateral line in the area crossed 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 gum cards and impressions made on cellulose acetate cards with a heated hydraulic press (Clutter and Whitesel 1956). Salmon were measured to the nearest mm from the middle-of-the-eye to the fork-of-the-tail. Weights were taken to the nearest 0.1 kg using an Accu-weigh, model A-280 digital scale. Sex was determined from visually examining external morphology of the fish (Groot and Margolis 1991).

Catch sampling was stratified spatially by district; 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 during the emergency order period for 1999-2000 (1 June to 17

July). 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. Chinook and chum salmon catches were sampled less frequently than sockeye salmon. Coho salmon catches were not sampled.

Sample size goals for sockeye and chinook salmon catches were set at 500 fish per species per time and area stratum. Chum salmon catch sample goals were set at 400 individuals per stratum. Sample size goals for each tower project are 400 – 500 per time stratum. These may be adjusted annually to account for high numbers of unreadable scales encountered in an area the previous year. These sample sizes were selected to ensure that sufficient samples would be collected, such that with repeated sampling, each major age group in each stratum would be estimated within 5% of its true value 90% of the time, based on Thompson's (1987) work on the "worst-case" parameter value for the multinomial distribution.

For the escapement, three time strata were desired for sockeye salmon, making the season goal 1200 – 1500 depending on the incidence of unreadable scales encountered the previous year. In general, the first strata represents the early part of the run and encompasses about 10 days, the middle strata represents the peak of the run and encompasses about 5 days, and the final strata represents the end of the run and encompasses about 10 days. Samples from successive dates were combined into the same time stratum when significant ($\alpha = 0.05$) differences in age composition among consecutive dates were not found.

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 gillnets fished from Igushik Beach were included in total run estimates for Igushik River. Sockeye salmon harvested in Naknek-Kvichak District were assumed to be returning to Kvichak, Branch, and Naknek Rivers with the exception of the Naknek River Special Harvest Area catch (i.e., inside the Naknek River), which was apportioned entirely to the Naknek River. Sockeye harvested in Nushagak District were assumed to be returning to Wood, Igushik and Nushagak rivers with the exception of the Wood River Special Harvest Area catch (i.e., inside the Wood River), which was apportioned entirely to the Wood River. Sockeye salmon caught in Naknek-Kvichak and Nushagak Districts were assigned to a natal river under the assumption that age proportion within the district catch was the same as within the combined escapement:

$$\hat{C}_{ij} = \hat{C}_j \frac{\hat{E}_{ij}}{\sum_{i=1}^n \hat{E}_{ij}} \quad 1$$

where:

$\hat{C}_{ij}$ = estimated catch of sockeye salmon from river i and age j

$\hat{C}_j$ = estimated district catch sockeye salmon age j , and

$\hat{E}_{ij}$ = estimated escapement to river i of sockeye salmon age j , and

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

This has been referred to as the standard method (STD) used to construct brood tables. However, when age compositions are similar among rivers, the STD method becomes unreliable because the difference in age compositions is what drives the allocation model. This was the case in 2000 for the Naknek-Kvichak District when age compositions between the two major producers, Kvichak and Naknek Rivers, were very similar. Therefore, it became necessary to use a different approach when allocating the Naknek Section catch. First, because the Branch River age composition differed significantly from the Naknek and Kvichak Rivers, we used STD to estimate the Branch River contribution. Next, using scale pattern analysis information, we estimated the percent contribution to the Kvichak River in the catch by linearly relating the ratio of Kvichak/Naknek escapement against the percent contribution of Kvichak stock in the Naknek Section catch based on data from 1987 to 1995 (Menard and Miller 1997). Lastly, the remaining catch was allocated to the Naknek River.

RESULTS

1999

Bristol Bay Sockeye Run

Bay-Wide Summary

An estimated 41,167,019 Bristol Bay sockeye salmon returned from sea in 1999 (inshore and offshore harvests and escapements); 27,024,705 were caught and 14,142,314 escaped the fishery to spawn (Table

1). An estimated 1,405,478 Bristol Bay sockeye salmon were harvested in the South Peninsula fishery in June 1999, leaving a total inshore return of 39,761,541 sockeye salmon. Of this total inshore return, 25,619,227 sockeye salmon were caught (does not include Matogak, Osviak, Kulukak, and Cape Pierce section harvests of the Togiak District which accounted for 38,662 sockeye salmon in 1999), representing an inshore harvest rate of 64%. Commercial catch of sockeye salmon was assigned to a river of origin based on 26,423 fish sampled using the methods described above (Table 2). The 1999 inshore return was virtually identical to the recent 10-year average return and the 1999 harvest was 10% smaller than the recent 10-year average harvest (Table 3).

The 1999 total Bristol Bay sockeye salmon run was comprised primarily of age-1.2 (50.9%) and age-2.2 (24.4%) fish (Table 2). The mean length of all sockeye salmon returning to Bristol Bay (catch plus escapement) in 1999 was 525 mm and the mean weight was 2.9 kg (Table 2). The 1999 return mean length was 10% smaller than the recent 10-year average and the 1999 return mean weight was 12% larger than the recent 10-year average (Table 4). Size-at-age information for the most common ages of Bristol Bay sockeye salmon is summarized in Table 4.

Results from catch and escapement sampling for each district and river system are described below. Appendices A.1 – A.25 summarize 1999 sampling results by sample period and apportion catch and escapement to ages. Brood year tables summarize the total sockeye salmon return from escapement by brood year for nine Bristol Bay river systems (Appendices C.1 – C.9). These return-per-spawner data are used to forecast future returns of Bristol Bay sockeye salmon.

The South Alaska Peninsula harvest is composed of fish caught during June fisheries around Unimak and Shumagin Islands. In 1999, the total number of sockeye salmon commercially harvested in the South Alaska Peninsula fisheries was 1,405,478 fish (Table 1). The South Peninsula harvest was composed of age-1.2 (55.4%), age-1.3 (21.5%), age-2.2 (18.8%), and age-2.3 (3.3%) fish. This harvest is incorporated into the Bristol Bay brood tables according to the proportion of the specific age groups in the inshore returns to individual districts relative to the total inshore return to Bristol Bay.

Naknek-Kvichak District Sockeye Run (Naknek, Kvichak and Branch rivers)

An estimated 17,738,850 sockeye salmon returned to the Naknek-Kvichak District in 1999; 9,452,972 were caught and 8,285,878 escaped the fishery to spawn (Table 5). The estimated total return (catch plus escapement) to the district in 1999 was 13% larger than the recent 10-year average and the total harvest was 4% larger than the recent 10-year average (Table 6). The commercial harvest rate in the district was 53%, which was lower than the last 10-year average of 62%. Age composition of the total return of Naknek-Kvichak stocks (based on catch and escapement) was dominated by age-1.2 fish (57%), followed by age-2.2 (24%), age-1.3 (11%) and age-2.3 (7%) fish (Table 7). The district commercial catch was composed of age-1.2 (54%), age-2.2 (22%), age-1.3 (14%), and age-2.3 (9%) fish. Mean length of sockeye salmon harvested in the district was 532 mm and mean weight was 2.3 kg (Appendix A.1).

Weighted mean length of sockeye salmon in the combined escapements was 505 mm (Appendices A.3 and A.4).

Kvichak River. An estimated 12,860,123 Kvichak River sockeye salmon returned to Bristol Bay in 1999; 6,663,209 were caught and 6,196,914 escaped the fishery to spawn (Table 5). This represented a harvest rate of 52%. Age composition of the Kvichak return was dominated by age-1.2 fish (58%), followed by age-2.2 (29%), age-1.3 (9%), and age-2.3 (4%) fish (Table 7). The Kvichak River escapement was made up of primarily age-1.2 fish (60%), followed by age-2.2 (31%), age-1.3 (7%), and age-2.3 (3%) fish. Mean length of sockeye salmon in the Kvichak escapement was 511 mm (Appendix A.3).

Branch River. An estimated 1,038,861 Branch River sockeye salmon returned to Bristol Bay in 1999; 575,261 were caught and 463,600 escaped the fishery to spawn (Table 5). This represented a harvest rate of 55%. Age composition of the Branch River return was dominated by age-1.2 (66%) fish, followed by age-1.3 (25%), age-2.3 (5%), and age-2.2 (4%) fish (Table 7). Branch River escapement was not sampled for length.

Naknek River. An estimated 3,839,866 Naknek River sockeye salmon returned to Bristol Bay in 1999; 2,214,502 were harvested and 1,625,364 escaped the fishery to spawn (Table 5). This represented a harvest rate of 58%. Age composition of the Naknek return (catch plus escapement) was dominated by age-1.2 fish (52%), followed by age-2.3 (18%), age-1.3 (16%), and age-2.2 (14%) fish (Table 7). The Naknek River Special Harvest Area catch was composed of age-1.2 (37%), age-2.3 (27%), age-2.2 (21%), and age-1.3 (14%) fish (Appendix A.2). Age composition of the Naknek River escapement was primarily age-1.2 fish (58%), followed by age-2.2 (16%), and age-1.3 (13%) fish. Mean length of sockeye salmon in the Naknek River escapement was 498 mm (Appendix A.4).

Egegik District Sockeye Run

An estimated 9,116,477 sockeye salmon returned to the Egegik District in 1999; 7,388,080 were caught and 1,728,397 escaped the fishery to spawn (Table 5). The estimated total return (catch plus escapement) to the district in 1999 was 25% smaller than the recent 10-year average and the total harvest was 30% smaller than the recent 10-year average (Table 6). The commercial harvest rate in the district was 81%, which was lower than the 10-year average of 87%. Age composition of the return to the district (based on catch and escapement) was primarily age-2.2 fish (45%), followed by age-1.2 fish (33%), and age-2.3 fish (11%; Table 7). The district commercial catch was composed of age-2.2 (42%), age-1.2 (35%), age-1.3 (11%), and age-2.3 (11%) fish. Mean length of sockeye salmon harvested in the district was 535 mm and mean weight was 2.3 kg (Appendix A.5). The age composition of the escapement was dominated by age-2.2 (57%) fish, followed by age-1.2 (27%), and age 2.3 (10%) fish (Table 7). Mean length of sockeye salmon in the escapement was 511 mm (Appendix A.6).

Ugashik District Sockeye Run

An estimated 3,918,049 sockeye salmon returned to the Ugashik District in 1999; 2,256,007 were caught and 1,662,042 escaped the fishery to spawn (Table 5). The estimated total return to the district (catch plus escapement) in 1999 was 9% smaller than the recent 10-year average and the total harvest was 24% smaller than the recent 10-year average (Table 6). The commercial harvest rate in the district was 58%, which was lower than the 10-year average of 69%. Age composition of the return to the district (based on catch and escapement) was dominated by age-1.2 fish (69%), followed by age-2.2 (17%), and age-1.3 (8%) fish (Table 7). The district commercial catch was composed of age-1.2 (63%), age-2.2 (22%), age-1.3 (9%), and age-2.3 (6%) fish. Mean length of sockeye salmon harvested in the district was 535 mm and mean weight was 2.3 kg (Appendix A.7). The age composition of the escapement was dominated by age-1.2 (78%) fish, followed by age-2.2 (11%), and age 1.3 (7%) fish (Table 7). Mean length of sockeye salmon in the escapement was 518 mm (Appendix A.8).

Nushagak District Sockeye Run (Wood, Igushik, and Nushagak rivers)

An estimated 8,445,280 sockeye salmon returned to the Nushagak District in 1999; 6,175,419 were caught and 2,269,861 escaped the fishery to spawn (Table 5). The estimated total return (catch plus escapement) to the district in 1999 was 20% larger than the recent 10-year average. The 1999 total harvest was 28% larger than the recent 10-year average and the largest since 1981 (Table 6). The commercial harvest rate in the district was 73%, which was higher than the last 10-year average of 66%. Age composition of the return to the district (based on catch and escapement) was primarily age-1.2 fish (49%), followed by age-1.3 (40%), and age 2.2 (6%) fish (Table 7). The district commercial catch was composed of age-1.2 (47%), age-1.3 (41%), age-2.2 (8%), and age-2.3 (4%) fish. Mean length of sockeye salmon harvested in the district was 532 mm and mean weight was 2.5 kg (Appendix A.9). Weighted mean length of sockeye salmon in the combined escapements was 533 mm (Appendix A.12 – A.14).

Wood River. An estimated 5,929,826 Wood River sockeye salmon returned to Bristol Bay in 1999; 4,417,400 were caught and 1,512,426 escaped the fishery to spawn (Table 5). This represented an inshore harvest rate of 74%. Age composition of the Wood River return (based on catch and escapement) was dominated by age-1.2 fish (57%), followed by age-1.3 (32%), age-2.2 (7%), and age-2.3 (3%) fish (Table 7). The Wood River Special Harvest Area catch was composed of age-1.2 (61%), age-1.3 (29%), age-2.2 (8%), and age-2.3 (3%) fish (Appendix A.10). Age composition of the Wood River escapement was made up of primarily age-1.2 fish (68%), followed by age-1.3 (28%), age-2.2 (3%), and age-2.3 (1%) fish (Appendix A.12). Mean length of sockeye salmon in the Wood escapement was 513 mm.

Igushik River. An estimated 1,563,461 Igushik River sockeye salmon returned to Bristol Bay in 1999; 1,117,925 were harvested and 445,536 escaped the fishery to spawn (Table 5). This represented an inshore harvest rate of 72%. The Igushik return (based on catch and escapement) was composed of age-1.3 fish (52%) and age-1.2 fish (40%; Table 7). Age composition of the Igushik River escapement was primarily age-1.3 fish (50%), followed by age-1.2 fish (47%; Appendix A.13). Mean length of sockeye salmon in the Igushik River escapement was 536 mm.

Nushagak River. An estimated 951,993 Nushagak River sockeye salmon returned to Bristol Bay in 1999; 640,094 were harvested and 311,899 escaped the fishery to spawn (Table 5). This represented an inshore harvest rate of 67%. Age composition of the Nushagak return (based on catch and escapement) was dominated by age-1.3 fish (67%), followed by age-1.2 fish (15%; Table 7). The Nushagak River escapement was primarily age-1.3 fish (65%), followed by age-1.2 fish (15%; Appendix A.14). Mean length of sockeye salmon in the Nushagak River escapement was 551 mm.

An estimated 81,006 sockeye salmon passed the Nuyakuk counting tower in 1999 (Appendix A.15). Age composition of the Nuyakuk River escapement was predominantly age-1.3 (70%) and age-1.2 (19%) fish and the mean length was 552 mm.

Togiak and Kulukak Section Sockeye Run

An estimated 542,885 sockeye salmon returned to the Togiak River Section, Togiak District in 1999; 346,749 were caught and 196,136 escaped the fishery to spawn (Table 5). The estimated total return to the section (catch plus escapement) in 1999 was 13% smaller than the recent 10-year average and the total harvest was 16% smaller than the recent 10-year average (Table 6). The commercial harvest rate in the district was 64%, which was lower than the last 10-year average of 66%. Age composition of the return to the district (based on catch and escapement) was dominated by age-1.2 fish (61%), followed by age-1.3 (30%), and age-2.2 (6%) fish (Table 7). The district commercial catch was composed of age-1.2 (47%), age-1.3 (41%), and age-2.2 (5%) fish. Mean length of sockeye salmon harvested in the district was 557 mm and mean weight was 2.7 kg (Appendix A.16). The age composition of the escapement was predominantly age-1.2 (84%) fish, followed by age-1.3 (8%), and age 2.2 (6%) fish (Table 7). Mean length of sockeye salmon in the escapement was 501 mm (Appendix A.18).

Age, sex, and size composition data for the sockeye salmon commercial harvest, Kulukak Section, Togiak District is presented in Appendix A.17.

Bristol Bay Chinook Run

In 1999, a total of 26,457 chinook salmon were harvested commercially in Bristol Bay (ADF&G 2001). Most (22,812) were caught in the Nushagak and Togiak Districts. The age and size composition for Nushagak District and Togiak River Section catches and the Nushagak River escapement was estimated.

Nushagak District Chinook Run

An estimated 10,893 chinook salmon were caught in Nushagak District with age 1.4 (50%), age 1.3 (29%), and age 1.2 (21%) accounting for most of the catch sample (Appendix A.19). Mean length of the chinook salmon in the catch was 763 mm; mean weight was 12.1 kg. An estimated 62,331 chinook salmon passed the Nushagak River sonar site (Appendix A.20). The escapement sample was composed of 52% age-1.4, 32% age-1.3 and 15% age-1.2 fish. Mean length of chinook salmon in the escapement was 770 mm.

Togiak District Chinook Run

Of the 11,919 chinook salmon caught in Togiak District, most (10,817) were harvested in Togiak River Section (Appendix A.21). Age-1.3 (44%), age-1.4 (41%), and age-1.2 (14%) chinook salmon dominated the Togiak River Section catch. Mean length of chinook salmon in the catch was 795 mm; mean weight was 8.4 kg.

Bristol Bay Chum Run

In 1999 the total number of chum salmon commercially harvested in Bristol Bay was 685,288 fish (ADF&G 2001). Most (542,394) were caught in the Naknek-Kvichak, Nushagak and Togiak Districts. Chum salmon catches were not sampled in the Naknek-Kvichak district.

Nushagak District Chum Run

An estimated 170,795 chum salmon were caught in Nushagak District. Age-0.3 (68%) and age-0.4 (32%) chum salmon dominated the catch (Appendix A.22). Mean length of the chum salmon in the catch was 576 mm; mean weight was 3.2 kg. An estimated 242,312 chum salmon passed the Nushagak River sonar site (Appendix A.23). The escapement sample was composed of 61% age-0.3, 38% age-0.4, and 1% age-0.5 fish. Mean length of chum salmon in the escapement sample was 584 mm.

Togiak District Chum Run

Of the 111,677 chum salmon caught in the Togiak District, most (99,183) were harvested in Togiak River Section (Appendix A.24). The Togiak River Section chum salmon catch was composed primarily of age-0.3 (75%), and age-0.4 (23%) fish. Mean length of chum salmon commercially harvested was 590 mm; mean weight was 3.2 kg.

Bristol Bay Coho Run

The total number of coho salmon commercially harvested in Bristol Bay in 1999 was 19,545 fish (ADF&G 2001). Most (11,464) were caught in Egegik District. No coho salmon catches were sampled.

Nushagak District Coho Run

In 1999, an estimated 2,836 coho salmon were harvested in Nushagak District. An estimated 34,853 coho salmon passed the Nushagak River sonar site (Appendix A.25). The limited escapement sample (n=187) was composed of 81% age-2.1 and 11% age-3.1 fish. Mean length of coho salmon in the escapement was 545 mm.

2000

Bristol Bay Sockeye Run

Bay-Wide Summary

An estimated 29,477,140 Bristol Bay sockeye salmon returned from sea in 2000 (inshore and offshore harvests and escapements); 21,682,927 were caught and 7,794,213 escaped the fishery to spawn (Table 8).

An estimated 1,271,585 Bristol Bay sockeye salmon were harvested in the South Peninsula fishery in June 2000, leaving a total inshore return of 28,205,555 sockeye salmon. Of this total inshore return, 20,411,342 sockeye salmon were caught (does not include Matogak, Osviak, Kulukak, and Cape Pierce section harvests of the Togiak District which accounted for 67,612 sockeye salmon in 2000), representing an inshore harvest rate of 72%. Commercial catch of sockeye salmon were assigned to a river of origin based on 24,200 fish sampled using the methods described above (Table 9). The 2000 inshore return was 30%

smaller than the recent 10-year average return and the 2000 harvest was 27% smaller than the recent 10-year average harvest (Table 3).

The 2000 total Bristol Bay sockeye run was comprised primarily of age-1.3 (56.5%) and age-1.2 (17.1%) fish (Table 9). The mean length of all sockeye salmon returning to Bristol Bay (catch plus escapement) in 2000 was 542 mm and the mean weight was 2.8 kg (Table 9). The 2000 return mean length was virtually identical to the recent 10-year average and the 2000 return mean weight was 10% larger than the recent 10-year average (Table 4). Results from catch and escapement sampling for each district and river system are described below. Appendices B.1 – B.25 summarize 2000 sampling results by sample period and apportion catch and escapement to ages.

In 2000, the total number of sockeye salmon commercially harvested in the South Alaska Peninsula fisheries was 1,271,585 fish (Table 8). The South Peninsula harvest was composed of age-1.3 (42.2%), age-1.2 (25.9%), age-2.2 (20.2%), and age-2.3 (7.4%) fish.

Naknek-Kvichak District Sockeye Run (Naknek, Kvichak and Branch rivers)

An estimated 8,381,629 sockeye salmon returned to the Naknek-Kvichak District in 2000; 4,727,061 were caught and 3,654,568 escaped the fishery to spawn (Table 10). The estimated total return (catch plus escapement) to the district in 2000 was 50% smaller than the recent 10-year average and the total harvest was 54% smaller than the recent 10-year average (Table 6). The commercial harvest rate in the district was 56%, which was lower than the last 10-year average of 62%. Age composition of the total return of Naknek-Kvichak stocks (based on catch and escapement) was dominated by age-1.3 fish (68%), followed by age-1.2 (13%), age-2.2 (10%) and age-2.3 (10%) fish (Table 11). The district commercial catch was composed of age-1.3 (75%), age-2.3 (12%), age-1.2 (7%), and age-2.2 (7%) fish. Mean length of sockeye salmon harvested in the district was 551mm and mean weight was 2.8 kg (Appendix B.1). Weighted mean length of sockeye salmon in the combined escapements was 553 mm (Appendices B.3 and B.4).

Kvichak River. An estimated 2,861,594 Kvichak River sockeye salmon returned to Bristol Bay in 2000; 1,033,814 were caught and 1,827,780 escaped the fishery to spawn (Table 10). This represented a harvest rate of 36%. Age composition of the Kvichak return was dominated by age-1.3 fish (61%), followed by age-2.2 (19%), age-1.2 (12%), and age-2.3 (9%) fish (Table 11). The Kvichak River escapement was made up of primarily age-1.3 fish (56%), followed by age-2.2 (20%), age-1.2 (16%), and age-2.3 (7%) fish. Mean length of sockeye salmon in the Kvichak escapement was 553 mm (Appendix B.3).

Branch River. An estimated 730,853 Branch River sockeye salmon returned to Bristol Bay in 2000; 279,553 were caught and 451,300 escaped the fishery to spawn (Table 10). This represented a harvest rate of 38%. Age composition of the Branch River return was primarily age-1.2 (52%) fish, followed by age-

1.3 (26%), age-2.2 (16%), and age-2.3 (5%) fish (Table 11). Branch River escapement was not sampled for length.

Naknek River. An estimated 4,789,182 Naknek River sockeye salmon returned to Bristol Bay in 2000; 3,413,694 were harvested and 1,375,488 escaped the fishery to spawn (Table 10). This represented a harvest rate of 71%. Age composition of the Naknek return (catch plus escapement) was dominated by age-1.3 fish (79%), followed by age-2.3 (11%), age-1.2 (7%), and age-2.2 (3%) fish (Table 11). The Naknek River Special Harvest Area catch was predominantly age-1.3 (72%) fish, followed by age-2.3 (15%), age-1.2 (8%), and age-2.2 (5%) fish (Appendix B.2). Age composition of the Naknek River escapement was primarily age-1.3 fish (78%), followed by age-1.2 (12%), and age-2.3 (8%) fish. Mean length of sockeye salmon in the Naknek River escapement was 552 mm (Appendix B.4).

Egegik District Sockeye Run

An estimated 8,083,037 sockeye salmon returned to the Egegik District in 2000; 7,050,899 were caught and 1,032,138 escaped the fishery to spawn (Table 10). The estimated total return (catch plus escapement) to the district and the total harvest in 2000 were 33% smaller than the recent 10-year average (Table 6). The commercial harvest rate in the district of 87% was identical to the recent 10-year average. Age composition of the return to the district (based on catch and escapement) was primarily age-1.3 fish (38%), followed by age-2.3 (37%), and age-2.2 (19%) fish (Table 11). The district commercial catch was composed of age-1.3 (39%), age-2.3 (38%), age-2.2 (18%), and age-1.2 (6%) fish. Mean length of sockeye salmon harvested in the district was 556 mm and mean weight was 3.2 kg (Appendix B.5). The age composition of the escapement was predominantly age-2.3 (35%) fish, followed by age-1.3 (31%), and age 2.2 (25%) fish (Table 7). Mean length of sockeye salmon in the escapement was 554 mm (Appendix B.6).

Ugashik District Sockeye Run

An estimated 2,177,210 sockeye salmon returned to the Ugashik District in 2000; 1,538,790 were caught and 638,420 escaped the fishery to spawn (Table 10). The estimated total return to the district (catch plus escapement) in 2000 was 49% smaller than the recent 10-year average and the total harvest was 48% smaller than the recent 10-year average (Table 6). The commercial harvest rate in the district was 71%, which was higher than the 10-year average of 69%. Age composition of the return to the district (based on catch and escapement) was dominated by age-1.3 fish (69%), followed by age-2.3 (12%), and age-1.2 (10%) fish (Table 11). The district commercial catch was composed of age-1.3 (69%), age-2.3 (15%), age-2.2 (8%), and age-1.2 (7%) fish. Mean length of sockeye salmon harvested in the district was 560 mm and mean weight was 3.1 kg (Appendix B.7). The age composition of the escapement was predominantly

age-1.3 (70%) fish, followed by age-1.2 (17%), and age 2.2 (7%) fish (Table 11). Mean length of sockeye salmon in the escapement was 561 mm (Appendix B.8).

Nushagak District Sockeye Run (Wood, Igushik, and Nushagak rivers)

An estimated 8,484,050 sockeye salmon returned to the Nushagak District in 2000; 6,367,208 were caught and 2,116,842 escaped the fishery to spawn (Table 10). The estimated total return (catch plus escapement) to the district in 2000 was 20% larger than the recent 10-year average. The 2000 total harvest was 30% larger than the recent 10-year average and the largest since 1981 (Table 6). The commercial harvest rate in the district was 75%, which was higher than the last 10-year average of 66%. Age composition of the return to the district (based on catch and escapement) was primarily age-1.3 fish (58%), followed by age-1.2 (37%), age 2.2 (2%) and age 2.3 (<1%) fish (Table 11). The district commercial catch was composed of age-1.3 (60%), age-1.2 (35%), and age-2.2 (2%) fish. Mean length of sockeye salmon harvested in the district was 542 mm and mean weight was 2.7 kg (Appendix B.9). Weighted mean length of sockeye salmon in the combined escapements was 543 mm (Appendix B.12 – B.14).

Wood River. An estimated 5,277,754 Wood River sockeye salmon returned to Bristol Bay in 2000; 3,977,728 were caught and 1,300,026 escaped the fishery to spawn (Table 10). This represented an inshore harvest rate of 75%. Age composition of the Wood River return (based on catch and escapement) was virtually identical between age-1.2 fish (48.1%) and age-1.3 (47.6%) fish (Table 11). The Wood River Special Harvest Area catch was primarily age-1.3 (54%) fish, followed by age-1.2 (41%), and age-2.3 (2%) fish (Appendix B.10). Age composition of the Wood River escapement was dominated by age-1.2 fish (59%), followed by age-1.3 (38%), age-2.2 (2%), and age-2.3 (1%) fish. Mean length of sockeye salmon in the Wood escapement was 524 mm (Appendix B.12).

Igushik River. An estimated 1,748,495 Igushik River sockeye salmon returned to Bristol Bay in 2000; 1,335,179 were harvested and 413,316 escaped the fishery to spawn (Table 10). This represented an inshore harvest rate of 76%. Age composition of the Igushik return (based on catch and escapement) was dominated by age-1.3 fish (89%), followed by age-1.2 fish (9%; Table 11). Age composition of the Igushik River escapement was primarily age-1.3 fish (88%), followed by age-1.2 fish (11%). Mean length of sockeye salmon in the Igushik River escapement was 567 mm (Appendix B.13).

Nushagak River. An estimated 1,457,801 Nushagak River sockeye salmon returned to Bristol Bay in 2000; 1,054,301 were harvested and 403,500 escaped the fishery to spawn (Table 10). This represented an inshore harvest rate of 72%. Age composition of the Nushagak return (based on catch and escapement) was dominated by age-1.3 fish (61%), followed by age-1.2 fish (32%; Table 11). Age composition of the Nushagak River escapement was primarily age-1.3 fish (60%), followed by age-1.2 fish (36%). Mean length of sockeye salmon in the Nushagak River escapement was 539 mm (Appendix B.14).

An estimated 129,468 sockeye salmon passed the Nuyakuk counting tower in 2000. Age composition of the Nuyakuk River escapement was predominantly age-1.2 (76%) and age-1.3 (22%) fish and the mean length was 523 mm (Appendix B.15).

Togiak and Kulukak Section Sockeye Run

An estimated 1,079,629 sockeye salmon returned to the Togiak River Section, Togiak District in 2000; 727,384 were caught and 352,245 escaped the fishery to spawn (Table 10). The estimated total return to the section (catch plus escapement) in 2000 was 42% larger than the recent 10-year average and the total harvest was 43% larger than the recent 10-year average (Table 6). The commercial harvest rate in the district was 67%, which was higher than the last 10-year average of 66%. Age composition of the return to the district (based on catch and escapement) was dominated by age-1.3 fish (91%), followed by age-1.2 (8%) fish (Table 11). The district commercial catch was composed of age-1.3 (89%), age-1.2 (9%), and age-2.2 (1%) fish. Mean length of sockeye salmon harvested in the district was 581 mm and mean weight was 3.3 kg (Appendix B.16). The age composition of the escapement was predominantly age-1.3 (94%) fish, followed by age-1.2 (5%) fish (Table 11). Mean length of sockeye salmon in the escapement was 575 mm (Appendix B.18).

Age, sex, and size composition data for a limited sample (n=303) from the sockeye salmon commercial harvest, Kulukak Section, Togiak District is presented in Appendix B.17.

Bristol Bay Chinook Run

In 2000, a total of 22,894 chinook salmon were harvested commercially in Bristol Bay (ADF&G 2001). Most (19,913) were caught in the Nushagak and Togiak Districts. The age and size composition for Nushagak District and Togiak River Section catches and the Nushagak River escapement was estimated.

Nushagak District Chinook Run

An estimated 12,055 chinook salmon were caught in Nushagak District (Appendix B.19). Nushagak escapement samples were used to apportion the commercial catch because an insufficient number of samples were collected from the commercial catch in 2000. Age-1.4 (43%) fish dominated the sample, followed by age-1.3 (31%), and age-1.2 (23%) fish. Mean length of chinook salmon in the sample was 730 mm. An estimated 56,372 chinook salmon passed the Nushagak River sonar site (Appendix B.20).

Togiak District Chinook Run

Of the 7,859 chinook salmon caught in Togiak District, most (7,254) were harvested in Togiak River Section (Appendix B.21). Age-1.3 (63%), age-1.4 (33%), and age-1.2 (4%) chinook salmon dominated the Togiak River Section catch. Mean length of chinook salmon in the catch was 785 mm; mean weight was 9.0 kg.

Bristol Bay Chum Run

In 2000 the total number of chum salmon commercially harvested in Bristol Bay was 398,053 fish (ADF&G 2001). Most (254,629) were caught in the Nushagak and Togiak Districts.

Nushagak District Chum Run

An estimated 114,454 chum salmon were caught in Nushagak District. Age-0.3 (65%) and age-0.4 (24%) chum salmon dominated the catch (Appendix B.22). Mean length of the chum salmon in the catch was 583 mm; mean weight was 3.3 kg. An estimated 141,324 chum salmon passed the Nushagak River sonar site (Appendix B.23). The limited escapement sample (n=83) was composed of 58% age-0.4 and 40% age-0.5 fish.. Mean length of chum salmon in the escapement sample was 592 mm.

Togiak District Chum Run

Of the 140,175 chum salmon caught in the Togiak District, most (130,912) were harvested in Togiak River Section (Appendix B.24). The Togiak River Section chum salmon catch was composed primarily of age-0.3 (78%), and age-0.4 (21%) fish. Mean length of chum salmon commercially harvested was 600 mm; mean weight was 3.4 kg

Bristol Bay Coho Run

The total number of coho salmon commercially harvested in Bristol Bay was 130,964 fish (ADF&G 2001). Most (112,819) were caught in Nushagak District. No coho salmon catches were sampled.

Nushagak District Coho Run

An estimated 112,819 coho salmon were harvested in Nushagak District. An estimated 172,849 coho salmon passed the Nushagak River sonar site (Appendix B.25). The escapement sample was composed of 90% age-2.1 and 8% age-1.1 fish. Mean length of coho salmon in the escapement was 559 mm.

LITERATURE CITED

- ADF&G (Alaska Department of Fish and Game). 2000. Bristol Bay Area annual management report, 1999. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development, Regional Information Report 2A00-20 (2A2000-xx), Anchorage.
- ADF&G. 2001. Bristol Bay Area annual management report, 2000. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development, Regional Information Report 2A01-10, Anchorage.
- Bilton, H., and D. Jenkinson. 1968. Comparison of the otolith and scale methods for aging sockeye (*Oncorhynchus nerka*) and chum (*O. keta*) salmon. Journal of the Fisheries Research Board of Canada 25 (5).
- Clutter, R., and L. Whitesel. 1956. Collection and interpretation of sockeye salmon scales. International Pacific Salmon Fisheries Commission Bulletin 9.
- 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.
- Eggers, D., K. Rowell, and B. Barrett. 1988. The stock composition of the catches of sockeye and chum in the 1987 South Peninsula June fishery based on tagging. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 5J88-03, Juneau.
- Geiger, H. 1989. A stock identification study in the Northern Alaska Peninsula sockeye salmon fishery, from Harbor Point to Strogonof Point. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 5J89-11, Juneau.
- Gilbert, C. 1924. Experiment in tagging adult red salmon, Alaska Peninsula fisheries reservation, summer of 1922. Bulletin of the United States Bureau of Fisheries, Volume 39.
- Gilbert, C., and W. Rich. 1926. Second experiment in tagging adult red salmon in the Alaska Peninsula fisheries reservation, summer of 1923. Bulletin of the United States Bureau of Fisheries, Volume 42.
- Gray, D. 1998a. Abundance, age, sex, and size statistics for Pacific salmon in Bristol Bay, 1996. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 2A98-28, Anchorage.

LITERATURE CITED (Continued)

- Gray, D. 1998b. Abundance, age, sex, and size statistics for Pacific salmon in Bristol Bay, 1997. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 2A98-33, Anchorage.
- Gray, D., and M. Link. 1999. Abundance, age, sex, and size statistics for Pacific salmon in Bristol Bay, 1998. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 2A99-37, Anchorage.
- Groot, C., and L. Margolis, editors. 1991. Pacific Salmon Life Histories. University of British Columbia Press, Vancouver, Canada.
- INPFC (International North Pacific Fisheries Commission). 1963. Annual Report 1961, Vancouver, British Columbia.
- 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.
- 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.
- McCurdy, M., and R. Paulus. 1972. Bristol Bay sockeye salmon (*Oncorhynchus 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 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.
- 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.
- Menard, J. 1997. Abundance, age, sex, and size statistics for Pacific salmon in Bristol Bay, 1993 – 1995. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development, Regional Information Report 2A97-13, Anchorage.
- Menard, J., and J. D. Miller. 1997. Report to the Alaska Board of Fisheries on the stock composition of sockeye salmon catches within east side Bristol Bay fishing districts 1983 – 1995. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development, Regional Information Report 2A95-25, Anchorage.
- Miller, J. D. 2000. Sonar enumeration of Pacific salmon escapement into Nushagak River, 1999. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development, Regional Information Report 2A00-19, Anchorage.
- 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.
- Sands, T., J. B. Browning, K. A. Weiland, and S. Morstad, 2001. Salmon spawning ground surveys in the Bristol Bay area, Alaska, 2000. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report No. 2A01-08.

LITERATURE CITED (Continued)

- Stratton, B. 1990. Abundance, age, sex, and size statistics for Pacific salmon in Bristol Bay, 1989. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Fishery Report 90-09, Juneau.
- Stratton, B. 1991. Abundance, age, sex, and size statistics for Pacific salmon in Bristol Bay, 1990. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Fishery Report 91-15, Juneau.
- Stratton, B., and D. L. Crawford. 1992. Abundance, age, sex, and size statistics for Pacific salmon in Bristol Bay, 1991. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Fishery Report 92-17, Juneau.
- Stratton, B.L., and D. L. Crawford. 1994. Abundance, age, sex, and size statistics for Pacific salmon in Bristol Bay, 1992. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development, Technical Fishery Report 94-16, Juneau.
- Stratton, B., and B. Cross. 1990. Abundance, age, sex, and size statistics for Pacific salmon in Bristol Bay, 1988. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Fishery Report 90-06, Juneau.
- Swanton, C. O., and R. L. Murphy. 1992. Origins of sockeye salmon caught within the Harbor Point to Strogonof Point reach of the Alaska Peninsula Management Area, 8 July through 21 July, 1990. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Fishery Report 92-04, Juneau.
- Thompson, S. 1987. Sample size for estimating multinomial proportions. *The American Statistician* 41:42-46.
- 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 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.

LITERATURE CITED (Continued)

- 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.
- Yuen, H., and D. Bill. 1990. Abundance, age, sex, and size statistics for Pacific salmon (*Oncorhynchus* sp.) in Bristol Bay, 1986. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Fishery Report 90-14, 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. 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 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 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., 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., 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.

LITERATURE CITED (Continued)

- 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 four co-authors. 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.

Table 1. Number of sockeye salmon by age class and river system in the catch and escapement of 10 river systems in Bristol Bay, Alaska, 1999.

		Age Group															
System ^a		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
Kvichak	C	3,585	0	0	3,736,011	0	0	744,531	1,786,470	0	4,005	382,219	0	6,388	0	0	6,663,209
	E	0	0	0	3,715,372	0	0	407,501	1,888,746	0	3,494	181,801	0	0	0	0	6,196,914
	I	3,585	0	0	7,451,383	0	0	1,152,032	3,675,216	0	7,499	564,020	0	6,388	0	0	12,860,123
	S	0	0	0	285,045	0	0	51,507	101,340	0	199	9,532	0	0	0	0	447,623
	%	0.0	0.0	0.0	58.1	0.0	0.0	9.0	28.4	0.0	0.1	4.3	0.0	0.0	0.0	0.0	100.0
Branch	C	309	0	0	352,396	0	0	169,122	19,334	0	1,114	32,434	0	552	0	0	575,261
	E	0	2,874	0	332,816	0	0	92,144	19,708	0	522	15,536	0	0	0	0	463,600
	I	309	2,874	0	685,212	0	0	261,266	39,042	0	1,636	47,970	0	552	0	0	1,038,861
	S	0	0	0	26,212	0	0	11,681	1,077	0	43	811	0	0	0	0	39,824
	%	0.0	0.3	0.0	66.0	0.0	0.0	25.3	3.7	0.0	0.2	4.5	0.0	0.1	0.0	0.0	100.0
Naknek	C	1,119	0	0	1,047,774	0	0	395,114	280,227	0	15,302	472,969	0	1,997	0	0	2,214,502
	E	0	923	0	942,689	923	0	208,780	258,060	0	6,896	207,093	0	0	0	0	1,625,364
	I	1,119	923	0	1,990,463	923	0	603,894	538,287	0	22,198	680,062	0	1,997	0	0	3,839,866
	S	0	0	0	76,143	0	0	27,000	14,843	0	588	11,493	0	0	0	0	130,067
	%	0.0	0.0	0.0	52.1	0.0	0.0	15.9	13.9	0.0	0.6	17.4	0.0	0.1	0.0	0.0	100.0
Egegik	C	0	0	0	2,565,550	0	0	839,798	3,128,977	0	10,536	812,470	4,631	14,311	11,807	0	7,388,080
	E	0	655	0	469,352	3,765	0	100,080	985,817	0	0	163,479	0	1,227	4,022	0	1,728,397
	I	0	655	0	3,034,902	3,765	0	939,878	4,114,794	0	10,536	975,949	4,631	15,538	15,829	0	9,116,477
	S	0	0	0	116,097	0	0	42,022	113,461	0	279	16,494	1,123	0	1,045	0	290,521
	%	0.0	0.0	0.0	33.5	0.0	0.0	10.4	44.9	0.0	0.1	10.6	0.1	0.2	0.2	0.0	100.0
Ugashik	C	0	0	5,000	1,414,420	1,177	0	196,310	488,284	0	15,162	131,355	0	3,122	1,177	0	2,256,007
	E	361	0	0	1,289,917	0	0	117,101	182,563	0	2,212	63,251	0	6,637	0	0	1,662,042
	I	361	0	5,000	2,704,337	1,177	0	313,411	670,847	0	17,374	194,606	0	9,759	1,177	0	3,918,049
	S	0	0	1,706	103,451	0	0	14,013	18,498	0	460	3,289	0	0	78	0	141,495
	%	0.0	0.0	0.2	69.2	0.0	0.0	8.1	17.0	0.0	0.4	4.9	0.0	0.2	0.0	0.0	100.0
Wood	C	0	0	0	2,364,510	0	0	1,479,584	389,611	0	2,612	180,318	0	765	0	0	4,417,400
	E	0	0	0	1,029,862	0	0	428,579	46,565	0	0	7,420	0	0	0	0	1,512,426
	I	0	0	0	3,394,372	0	0	1,908,163	436,176	0	2,612	187,738	0	765	0	0	5,929,826
	S	0	0	0	129,848	0	0	85,314	12,027	0	69	3,173	0	0	0	0	230,431
	%	0.0	0.0	0.0	57.2	0.0	0.0	32.4	7.3	0.0	0.0	3.1	0.0	0.0	0.0	0.0	100.0
Igushik	C	0	0	0	421,528	0	0	586,324	77,619	0	0	32,186	0	268	0	0	1,117,925
	E	0	0	0	207,475	0	0	223,687	12,212	0	0	2,162	0	0	0	0	445,536
	I	0	0	0	629,003	0	0	810,011	89,831	0	0	34,348	0	268	0	0	1,563,461
	S	0	0	0	24,062	0	0	36,215	2,477	0	0	581	0	0	0	0	63,335
	%	0.0	0.0	0.0	40.1	0.0	0.0	52.0	5.7	0.0	0.0	2.1	0.0	0.0	0.0	0.0	100.0
Nuyakuk	E	616	0	2,464	15,092	0	0	56,366	616	0	4,004	1,848	0	0	0	0	81,006
Nush-Mul	C	0	0	0	90,570	0	0	433,798	4,741	0	65,787	45,001	0	197	0	0	640,094
	E	0	0	6,056	47,164	0	1,609	202,528	1,230	0	49,953	3,359	0	0	0	0	311,899
	I	0	0	6,056	137,734	0	1,609	636,326	5,971	0	115,740	48,360	0	197	0	0	951,993
	S	0	0	2,067	5,269	0	0	28,449	165	0	3,066	817	0	0	0	0	39,833
	%	0.0	0.0	0.8	14.4	0.0	0.2	67.0	0.6	0.0	12.0	5.0	0.0	0.0	0.0	0.0	100.0
Togiak	C	0	0	4,212	163,367	0	0	143,395	18,095	0	3,416	14,264	0	0	0	0	346,749
	E	767	258	0	165,336	0	0	16,512	12,145	0	430	688	0	0	0	0	196,136
	I	767	258	4,212	328,703	0	0	159,907	30,240	0	3,846	14,952	0	0	0	0	542,885
	S	0	0	1,437	12,574	0	0	7,149	834	0	102	253	0	0	0	0	22,349
	%	0.1	0.0	1.0	60.4	0.0	0.0	29.6	5.5	0.0	0.7	2.7	0.0	0.0	0.0	0.0	100.0
Summary	C	5,013	0	9,212	12,156,126	1,177	0	4,987,976	6,193,358	0	117,934	2,103,216	4,631	27,600	12,984	0	25,619,227
	E	1,128	4,710	6,056	8,199,983	4,688	1,609	1,796,912	3,407,046	0	63,507	644,789	0	7,864	4,022	0	14,142,314
	I	6,141	4,710	15,268	20,356,109	5,865	1,609	6,784,888	9,600,404	0	181,441	2,748,005	4,631	35,464	17,006	0	39,761,541
	S	0	0	5,210	778,701	0	0	303,350	264,722	0	4,806	46,443	1,123	0	1,123	0	1,405,478
	%	0.0	0.0	0.0	51.3	0.0	0.0	17.2	24.0	0.0	0.5	6.8	0.0	0.1	0.0	0.0	100.0

^a C = Catch, E = Escapement, I = Inshore Return, S = South Peninsula Catch, and % = Percent of Total Inshore Return. Egegik escapement includes King Salmon River drainage and Shosky Creek; Ugashik escapement includes King Salmon and Dog Salmon Rivers; Togiak catch is Togiak River section only and Togiak escapement includes the tower counts, and lower river and tributaries aerial survey estimate. Nuyakuk escapement is not totaled because it is a tributary of Nushagak. Nush-Mul = Nushagak-Mulchatna River drainage.

Table 2. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch and escapement, Bristol Bay, 1999.

	Age Group													Total
	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	
Males														
Percent	0.01	0	0.02	25.24	0.01	0	8.98	11.55	0.28	3.26	0	0.04	0.02	49.43
Sample Size	4	3	16	6,807	5	2	2,864	2,652	117	756	1	10	7	13,244
Mean Length	578	354	569	516	355	589	574	527	608	584	549	588	597	534
Std. Error			14	0	22	8	1	1	4	2		38	28	0
Sample Size	4	3	16	6,801	5	2	2,863	2,651	117	756	1	10	7	13,236
Mean Weight			3.05	2.69			3.02	2.04	3.59	3.42		2.87	3.49	2.63
Std. Error				0.02			0.04	0.04	0.13	0.11				0.01
Sample Size			2	816			445	282	16	116		1	1	1,679
Females														
Percent	0.00		0.02	25.68	0.00	0.00	8.06	12.85	0.18	3.70	0.01	0.05	0.02	50.57
Sample Size	2		19	6,664	1	1	2,778	2,787	75	837	2	7	6	13,179
Mean Length	496		553	498	402	554	554	513	577	566	508	564	569	516
Std. Error	54		4	0			1	1	5	1	6	8		0
Sample Size	2		19	6,657	1	1	2,775	2,786	75	836	2	7	6	13,167
Mean Weight			3.17	4.11	0.84		2.58	1.79	3.22	2.66				3.19
Std. Error				0.03			0.04	0.02	0.4	0.07				0.01
Sample Size			1	755	1		326	290	5	103				1481
Both Sexes														
Percent	0.02	0.00	0.04	50.91	0.01	0.00	17.04	24.40	0.46	6.96	0.01	0.09	0.04	100.00
Sample Size	6	3	35	13,471	6	3	5,642	5,439	192	1,593	3	17	13	26,423
Mean Length	574	354	560	507	364	581	564	519	597	574	521	575	583	525
Std. Error	54		7	0	22	8	1	0	3	1	6	21	28	0
Sample Size	6	3	35	13,458	6	3	5,638	5,437	192	1,592	3	17	13	26,403
Mean Weight			3.09	3.41	0.84		2.82	1.91	3.42	3.01		2.87	3.49	2.91
Std. Error				0.02			0.03	0.02	0.12	0.06				0.01
Sample Size			3	1,571	1		771	572	21	219		1	1	3,160

Table 3. Annual total returns, harvests, escapement and harvest rates for Bristol Bay sockeye salmon, 1956-2000.

Year	Total Run	Harvests				Escapement	Inshore Return	Harvest Rate (%)	
		Inshore	S. Pen. ^a	Other ^b	Total			Total	Inshore
1956	24,178,393	8,921,467	330,349		9,251,816	14,966,577	23,888,044	38	37
1957	18,522,510	6,225,502	164,222	7,349,000	13,738,724	4,733,786	10,959,288	74	57
1958	6,281,052	2,985,666	135,000	377,000	3,497,666	2,783,386	5,769,052	56	52
1959	13,534,132	4,608,119	78,463	598,000	5,284,582	8,280,450	12,888,569	39	36
1960	40,225,936	13,705,002	156,000	3,727,000	17,588,002	22,637,934	36,342,936	44	38
1961	24,416,100	11,854,073	254,000	6,129,000	18,237,073	6,179,027	18,033,100	75	66
1962	11,665,502	4,702,364	326,000	960,000	5,988,364	5,677,138	10,379,502	51	45
1963	8,013,969	2,850,639	149,000	1,001,000	4,000,639	4,013,330	6,863,969	50	42
1964	11,438,331	5,558,683	244,000	314,000	6,116,683	5,321,648	10,880,331	53	51
1965	60,822,808	24,249,092	775,000	6,943,000	31,967,092	28,855,716	53,104,808	53	46
1966	20,032,492	9,305,921	582,000	1,935,000	11,822,921	8,209,571	17,515,492	59	53
1967	11,485,059	4,301,109	255,000	922,000	5,478,109	6,006,950	10,308,059	48	42
1968	9,455,405	2,784,739	575,000	885,000	4,244,739	5,210,666	7,995,405	45	35
1969	21,918,143	6,617,061	857,000	2,031,000	9,505,061	12,413,082	19,030,143	43	35
1970	45,039,815	20,720,137	1,683,000	3,968,000	26,371,137	18,668,678	39,388,815	59	53
1971	18,462,272	9,575,434	610,000	2,049,000	12,234,434	6,227,838	15,803,272	66	61
1972	7,194,044	2,392,326	519,000	1,302,000	4,213,326	2,980,718	5,373,044	59	45
1973	3,516,869	741,292	262,000	839,000	1,842,292	1,674,577	2,415,869	52	31
1974	11,502,364	1,334,070	60,000	510,000	1,904,070	9,598,294	10,932,364	17	12
1975	25,811,149	4,894,757	239,000	1,353,000	6,486,757	19,324,392	24,219,149	25	20
1976	12,827,413	5,610,425	307,000	1,001,000	6,918,425	5,908,988	11,519,413	54	49
1977	10,671,057	4,860,433	239,000	768,000	5,867,433	4,803,624	9,664,057	55	50
1978	20,798,730	9,898,223	487,000	452,000	10,837,223	9,961,507	19,859,730	52	50
1979	40,974,911	21,360,960	862,000	304,000	22,526,960	18,447,951	39,808,911	55	54
1980	66,292,853	23,718,655	3,303,000	590,000	27,611,655	38,681,198	62,399,853	42	38
1981	37,039,596	25,583,662	1,825,000	818,000	28,226,662	8,812,934	34,396,596	76	74
1982	24,705,700	15,090,413	2,121,000	443,000	17,654,413	7,051,287	22,141,700	71	68
1983	48,107,873	37,313,599	1,961,000	324,000	39,598,599	8,509,274	45,822,873	82	81
1984	42,630,124	24,601,393	1,388,000	291,200	26,280,593	16,349,531	40,950,924	62	60
1985	38,714,171	23,626,380	1,709,000	259,900	25,595,280	13,118,891	36,745,271	66	64
1986	24,313,787	15,658,526	466,000	298,000	16,422,526	7,891,261	23,549,787	68	66
1987	28,377,096	16,000,656	794,859	165,000	16,960,515	11,416,581	27,417,237	60	58
1988	23,996,394	13,841,078	756,687		14,597,765	9,398,629	23,239,707	61	60
1989	45,754,092	28,714,749	1,744,505		30,459,254	15,294,838	44,009,587	67	65
1990	49,323,010	33,493,550	1,346,295		34,839,845	14,483,165	47,976,715	71	70
1991	43,364,381	25,794,049	1,548,930		27,342,979	16,021,402	41,815,451	63	62
1992	47,415,171	31,763,805	2,457,856		34,221,661	13,193,510	44,957,315	72	71
1993	54,696,386	40,397,990	2,973,744		43,371,734	11,324,652	51,722,642	79	78
1994	51,752,387	35,125,526	1,461,263		36,586,789	15,165,598	50,291,124	71	70
1995	62,692,143	44,185,372	2,105,321		46,290,693	16,401,450	60,586,822	74	73
1996	37,892,861	29,510,279	1,037,360		30,547,639	7,345,222	36,855,501	81	80
1997	20,349,687	12,107,847	1,568,326		13,676,173	6,673,514	18,781,361	67	64
1998	19,662,531	9,958,132	1,301,020		11,259,152	8,403,379	18,361,511	57	54
1999	41,167,019	25,619,227	1,405,478		27,024,705	14,142,314	39,761,541	66	64
2000	29,477,140	20,411,342	1,271,585		21,682,927	7,794,213	28,205,555	74	72
Averages									
1956-60	20,548,405	7,289,151	172,807	3,012,750	9,872,158	10,680,427	17,969,578	48	41
1961-70	22,428,762	9,294,382	570,000	2,508,800	12,373,182	10,055,581	19,349,962	55	48
1971-80	21,805,166	8,438,658	688,800	916,800	10,044,258	11,760,909	20,199,566	46	42
1981-90	36,296,184	23,392,401	1,411,235	371,300	25,063,545	11,232,639	34,625,040	69	68
1990-00	41,617,520	28,033,374	1,679,743		29,713,118	11,904,402	39,937,776	71	70

^a The south Alaska Peninsula harvest refers to all sockeye salmon caught during June fisheries around Unimak and Shumagin Islands.

^b Other harvest refers to estimated high seas interception of Bristol Bay sockeye salmon.

Table 4. Size-at-age for sockeye salmon commercial catch and escapement, Bristol Bay, return years 1978 - 2000 (length in mm, weight in kg, SE=standard error; Standard error is taken directly from annual reports. The number of significant digits used varies among years).

Return Year	Age 1.2				Age 1.3				Age 2.2				2.3				Bay Wide ^a			
	Length		Weight		Length		Weight		Length		Weight		Length		Weight		Length		Weight	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
1957	524	6.8			564	1.0			518	1.6			572	1.4			554	1.3		
1958	510	4.9			571	5.5			531	3.6			578	1.7			551	3.4		
1959	506	2.4			571	3.5			520	0.7			581	1.2			526	1.2		
1960	489	3.8			561	19.4			505	12.6			570	6.6			498	7.7		
1961	515	14.8			571	5.8			519	2.4			576	11.0			554	6.2		
1962	515	17.3			575	9.8			524	1.4			574	2.4			536	5.4		
1963	514	2.9	2.3	0.1	577	3.9	3.1	0.1	531	2.7	2.5	0.1	584	2.0	3.2	0.1	547	2.4	2.8	0.1
1964	501	0.9			571	1.7			517	1.4			578	2.3			517	1.1		
1965	507	1.8			560	1.5			497	2.3			567	2.2			502	1.9		
1966	496	2.0			565	1.2			516	2.0			571	1.1			555	1.3		
1967	505	1.5			576	1.6			531	1.1			584	1.7			544	1.4		
1968	508	1.5			578	1.5			523	1.4			589	1.9			535	1.5		
1969	515	0	2.3	0	577	0	3.1	0	524	0	2.4	0	585	0	3.1	0	520	0	2.5	0
1970	497	0	2.1	0	557	0	2.8	0	507	0	2.2	0	567	0	2.8	0	511	0	2.3	0
1971	513	0	2.1	0	572	0	3.1	0	526	0	2.3	0	574	0	3.0	0	552	0	2.7	0
1972	501	24.2	4.9	0.7	574	22.6	6.9	0.9	520	24.2	5.1	0.6	577	21.8	6.8	0.8	544	17.2	6.2	0.3
1973	511	4.3	2.5	0.2	583	2.3	3.5	0.5	529	4.9	2.6	0.3	592	2.4	3.4	0.2	573	2.3	3.3	0.2
1974	515	2.7	2.2	0.1	569	4.2	3.2	0.2	519	2.0	2.5	0.1	583	5.8	3.4	0.3	528	2.2	2.6	0.1
1975	512	3.3	2.4	0.2	573	1.9	3.2	0.2	509	2.0	2.3	0.1	575	2.8	3.1	0.3	523	2.0	2.4	0.1
1976	519	2.5	2.5	0.1	580	1.7	3.4	0.1	524	1.7	2.5	0.0	576	3.5	3.1	0.1	544	1.8	2.8	0.1
1977	511	3.5	2.3	0.1	586	2.0	3.7	0.1	534	2.4	2.6	0.1	586	2.5	3.5	0.1	558	2.1	3.0	0.1
1978	511	2.0	2.3	0.0	580	2.2	3.3	0.1	524	3.4	2.4	0.1	591	2.3	3.5	0.0	537	2.1	2.8	0.1
1979	525	0.89	2.64	0.05	575	1.02	3.44	0.03	538	1.39	2.70	0.15	525	5.65	3.16	0.13	537	0.03	2.82	0.00
1980	500	0.34	2.31	0.02	551	0.26	3.23	0.03	514	0.28	2.35	0.02	561	0.82	2.88	0.06	520	0.16	2.57	0.01
1981	520	0.34	2.40	0.02	570	0.21	3.22	0.02	534	0.26	2.44	0.02	577	0.39	3.25	0.03	552	0.14	2.85	0.01
1982	506	1.43	2.25	0.00	566	0.71	3.22	0.06	531	12.28	2.46	0.00	582	1.58	3.33	0.20	554	0.04	3.03	0.00
1983	518	0.91	2.38	0.03	563	1.38	3.10	0.05	534	1.61	2.54	0.05	579	8.44	3.16	0.23	530	0.03	2.55	0.00
1984	486	1	2.10	0.09	560	1	2.99	0.06	514	0	2.34	0.05	571	1	3.07	0.05	524	0	2.54	0.03
1985	508	1	2.18	0.04	567	1	2.93	0.03	523	0	2.27	0.02	580	1	2.96	0.04	541	0	2.54	0.01

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Table 4. (Page 2 of 2)

Return Year	Age 1.2				Age 1.3				Age 2.2				2.3				Bay Wide ^a			
	Length		Weight		Length		Weight		Length		Weight		Length		Weight		Length		Weight	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
1986	497	1	2.23	0.05	567	0	2.95	0.10	531	0	2.36	0.05	575	1	3.07	0.06	548	0	2.69	0.02
1987	501	0	2.06	0.03	563	0	2.99	0.02	518	1	2.32	0.13	574	1	2.93	0.03	530	0	2.47	0.01
1988	501	0	2.06	0.02	577	0	3.07	0.02	528	0	2.29	0.03	587	0	3.18	0.02	549	0	2.70	0.01
1989	489	0	2.07	0.02	572	0	2.98	0.03	518	0	2.18	0.01	578	1	3.05	0.04	529	0	2.38	0.01
1990	481	0	1.95	0.02	563	0	2.96	0.02	503	0	2.10	0.02	573	0	2.98	0.02	528	0	2.45	0.01
1991	490	0	1.91	0.03	558	0	2.80	0.02	501	0	2.12	0.02	565	1	2.78	0.04	533	0	2.49	0.01
1992	487	0	1.77	0.03	553	0	2.73	0.02	507	0	2.01	0.02	562	0	2.85	0.03	530	0	2.40	0.01
1993	498	0	2.10	0.02	566	0	2.94	0.02	526	0	2.28	0.02	572	0	3.00	0.02	545	0	2.62	0.01
1994	472	1	2.09	0.03	554	0	2.74	0.02	507	0	2.05	0.03	567	0	2.74	0.04	522	0	2.29	0.01
1995	502	0	2.17	0.01	560	0	2.90	0.09	513	0	2.21	0.01	573	0	2.92	0.02	526	0	2.37	0.01
1996	494	1	2.03	0.02	565	0	3.05	0.01	512	1	2.29	0.03	573	0	2.97	0.03	552	0	2.83	0.01
1997	494	1	1.99	0.02	561	0	2.95	0.02	517	0	2.18	0.02	582	1	3.18	0.03	536	0	2.54	0.01
1998	494	0	1.97	0.01	556	0	2.78	0.02	513	1	2.37	0.03	568	0	2.75	0.02	531	0	2.45	0.01
1999	507	0	3.41	0.02	564	1	2.82	0.03	519	0	1.91	0.02	574	1	3.01	0.06	525	0	2.91	0.01
2000	470	1	2.22	0.07	564	0	3.04	0.01	506	1	2.34	0.07	567	1	3.02	0.03	542	0	2.84	0.04
<u>Averages</u>																				
56-60	507				567				519				575				532			
61-70	507		2.23		571		3.00		519		2.37		577		3.03		532		2.53	
71-80	512		2.62		574		3.70		524		2.74		574		3.58		541		3.12	
81-90	501		2.17		567		3.04		523		2.33		525		3.10		538		2.62	
91-00	491		2.17		560		2.88		512		2.18		570		2.92		534		2.57	
56-00	503		2.31		568		3.19		519		2.41		562		3.19		536		2.75	

^a Weighted average for all age classes combined.

Table 5. Total returns, harvests, escapement and harvest rates for Bristol Bay fishing districts and river systems, 1999.

District	River System	Total Run	Harvests			Escapement	Inshore Return	Harvest Rate (%)	
			Inshore	S. Pen. ^a	Total			Total	Inshore
Naknek-Kvichak									
	Kvichak	13,307,746	6,663,209	447,623	7,110,832	6,196,914	12,860,123	53	52
	Branch	1,078,685	575,261	39,824	615,085	463,600	1,038,861	57	55
	Naknek	3,969,933	2,214,502	130,067	2,344,569	1,625,364	3,839,866	59	58
	All combined	18,356,364	9,452,972	617,514	10,070,486	8,285,878	17,738,850	55	53
Egegik		9,406,998	7,388,080	290,521	7,678,601	1,728,397	9,116,477	82	81
Ugashik		4,059,544	2,256,007	141,495	2,397,502	1,662,042	3,918,049	59	58
Nushagak									
	Wood	6,160,257	4,417,400	230,431	4,647,831	1,512,426	5,929,826	75	74
	Igushik	1,626,796	1,117,925	63,335	1,181,260	445,536	1,563,461	73	72
	Nush-Mul ^b	991,826	640,094	39,833	679,927	311,899	951,993	69	67
	All combined	8,778,879	6,175,419	333,599	6,509,018	2,269,861	8,445,280	74	73
Togiak		565,234	346,749	22,349	369,098	196,136	542,885	65	64
Bay-wide totals									
		41,167,019	25,619,227	1,405,478	27,024,705	14,142,314	39,761,541	66	64

^a The South Alaska Peninsula harvest refers to all sockeye salmon caught during June fisheries around Unimak and Shumagin Islands.

^b Nush-Mul = Nushagak-Mulchatna River drainage.

Table 6. Annual inshore harvests, escapement and harvest rates for Bristol Bay sockeye salmon, by district, 1956-2000.

Year	Inshore Catch						Escapement										Inshore Harvest Rate(%)				
	Kvichak	Nak-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Kvichak	Branch	Naknek	Egegik	Ugashik	Wood	Igushik	Snake	Nushagak	Togiak	Nak-Kvi	Egegik	Ugashik	Nushagak	Togiak
1956	4,168,343	5,987,750	1,187,099	341,499	1,303,186	101,933	9,443,318	784,000	1,772,595	1,104,268	425,295	773,101	400,000	4,000	35,000	225,000	33	52	45	52	31
1957	3,540,189	4,578,643	814,459	350,858	441,498	40,044	2,842,810	126,595	634,645	391,207	214,802	288,727	130,000	3,000	77,000	25,000	56	62	47	62	
1958	549,396	922,611	500,684	433,813	1,092,156	36,402	534,785	94,650	278,118	246,354	279,546	960,455	107,478	9,000	201,000	72,000	50	67	61	46	34
1959	281,930	1,689,425	662,391	423,414	1,719,687	113,202	680,000	825,431	2,231,807	1,072,459	219,228	2,209,266	643,808	139,950	48,861	209,640	31	38	66	36	35
1960	7,976,500	9,847,848	1,446,884	752,634	1,517,988	139,648	14,630,000	1,240,530	828,381	1,798,764	2,304,200	1,016,073	495,087	16,589	145,500	162,810	37	45	25	48	46
1961	6,863,814	8,166,983	2,686,076	357,223	455,003	188,788	3,705,849	90,036	351,078	701,538	348,639	460,737	294,252	4,856	99,788	122,254	66	79	51	35	61
1962	1,833,401	2,281,284	638,862	243,159	1,446,786	92,273	2,580,884	90,630	723,066	1,027,482	255,426	873,888	15,660	1,760	46,390	61,952	40	38	49	61	60
1963	223,459	957,902	695,582	188,695	822,954	185,506	338,760	203,304	905,358	997,602	388,254	721,404	92,184	37,960	212,308	116,196	40	41	33	44	61
1964	763,486	2,243,701	1,103,935	576,768	1,391,790	242,489	957,120	248,700	1,349,604	849,576	472,770	1,076,112	128,532	12,436	121,924	104,874	47	57	55	51	70
1965	17,785,664	19,139,567	3,179,559	925,690	793,323	210,953	24,325,926	175,020	717,798	1,444,608	996,612	675,156	180,840	12,000	231,270	96,486	43	69	48	42	69
1966	4,168,575	5,397,538	2,101,174	445,458	1,170,272	191,479	3,775,184	174,336	1,016,445	804,246	704,436	1,208,682	206,360	4,500	211,184	104,198	52	72	39	42	65
1967	1,800,652	2,337,200	1,070,942	163,744	657,711	71,512	3,216,208	202,626	755,640	636,864	238,830	515,772	281,772	11,000	66,908	81,330	36	63	41	43	47
1968	387,565	1,216,858	671,554	82,457	749,281	64,589	2,557,440	193,872	1,023,222	338,654	70,896	649,344	194,508	4,100	128,712	49,918	24	66	54	43	56
1969	3,760,565	4,655,072	889,322	169,845	773,207	129,615	8,394,204	182,490	1,331,202	1,015,554	160,380	604,338	512,328	9,300	86,620	116,666	32	47	51	39	53
1970	16,581,224	17,803,805	1,403,509	171,541	1,188,534	152,748	13,935,306	177,060	732,502	1,919,734	735,024	1,161,964	370,920	23,800	409,472	202,896	55	60	19	38	43
1971	3,764,861	5,857,378	1,306,682	954,068	1,256,799	200,507	2,387,392	187,302	935,754	634,014	529,752	851,202	210,960	8,500	282,720	200,242	63	67	64	48	50
1972	342,150	1,102,365	839,820	17,440	381,347	51,354	1,009,962	151,188	586,518	546,402	79,428	430,602	60,018	2,000	36,030	78,570	39	61	18	42	40
1973	21,791	168,249	221,337	3,920	272,092	75,694	226,554	35,280	356,676	328,842	38,988	330,474	59,508	915	190,410	106,930	21	40	9	32	41
1974	148,595	538,163	172,253	2,151	510,571	110,932	4,433,844	214,848	1,241,058	1,275,630	61,854	1,708,836	358,752	15,266	184,614	103,592	8	12	3	18	52
1975	1,605,407	3,085,416	964,024	14,558	645,903	184,856	13,140,450	100,480	2,026,686	1,173,840	429,336	1,270,116	241,086	9,518	752,318	180,562	17	45	3	22	51
1976	1,458,180	2,547,276	1,329,788	174,923	1,265,422	293,016	1,965,282	81,822	1,320,750	509,160	356,308	817,008	186,120	12,728	470,420	189,390	43	72	33	46	61
1977	739,644	2,167,214	1,780,567	92,623	619,025	201,004	1,341,144	100,000	1,085,856	692,514	201,520	561,828	95,970	9,304	552,954	162,534	46	72	31	34	55
1978	3,815,636	5,123,668	1,207,294	7,995	3,137,166	422,100	4,149,288	229,400	813,378	895,698	82,435	2,267,238	536,154	18,074	663,666	306,176	50	57	9	47	58
1979	13,418,829	14,991,826	2,257,332	391,118	3,327,347	393,337	11,218,434	294,200	925,362	1,032,042	1,706,904	1,706,352	859,560	8,439	498,420	198,238	55	69	19	52	66
1980	12,743,074	15,120,457	2,623,066	885,875	4,497,787	591,470	22,505,268	297,900	2,644,698	1,060,860	3,335,284	2,969,040	1,987,530	36,500	3,317,368	526,750	37	71	21	35	53
1981	5,234,733	10,992,809	4,361,406	2,116,066	7,493,093	620,288	1,754,358	82,210	1,796,220	694,680	1,327,699	1,233,318	591,144	14,571	1,008,604	307,130	75	86	61	72	67
1982	1,858,475	5,005,802	2,447,514	1,139,192	5,916,187	581,718	1,134,840	239,300	1,155,552	1,034,628	1,185,551	976,470	423,768	11,640	600,864	288,674	66	70	49	75	67
1983	16,534,901	21,559,372	6,755,256	3,349,451	5,119,744	529,776	3,569,982	96,220	888,294	792,282	1,001,364	1,360,968	180,438	3,080	404,006	212,640	83	90	77	72	71
1984	12,523,803	14,546,710	5,190,413	2,658,376	1,992,681	213,213	10,490,670	215,370	1,242,474	1,165,345	1,270,318	1,002,792	184,872	33,840	592,872	150,978	55	82	68	52	59
1985	6,183,103	8,179,093	7,537,273	6,468,862	1,307,889	133,263	7,211,046	118,030	1,849,938	1,095,192	1,006,407	939,000	212,454	34,880	498,462	153,482	47	87	87	44	46
1986	787,303	2,892,171	4,852,935	5,002,949	2,719,313	191,158	1,179,322	230,180	1,977,645	1,151,750	1,015,582	818,652	307,728	16,780	990,238	203,384	46	81	83	56	48
1987	3,526,824	4,986,002	5,356,669	2,128,652	3,254,720	274,613	6,065,880	154,210	1,061,806	1,273,553	686,894	1,337,172	169,236	1,520	388,034	278,276	41	81	76	63	50
1988	2,654,364	3,480,836	6,456,598	1,523,520	1,706,716	673,408	4,065,216	194,630	1,037,862	1,612,745	654,412	866,778	170,454	4,320	483,200	309,012	40	80	70	53	69
1989	11,456,509	13,809,956	8,901,994	3,146,239	2,788,185	68,375	8,317,500	196,760	1,161,984	1,611,566	1,713,287	1,186,410	461,610	28,060	513,421	104,240	59	85	65	56	40
1990	10,551,217	17,272,224	10,371,762	2,149,009	3,532,543	168,012	6,970,020	168,760	2,092,578	2,191,582	749,478	1,069,440	365,802	28,840	680,368	166,297	65	83	74	62	50
1991	3,808,873	10,475,206	6,797,166	2,945,742	5,053,845	522,090	4,222,788	277,589	3,578,508	2,786,925	2,482,016	1,159,920	756,126	10,920	492,522	254,088	56	71	54	68	67
1992	5,718,947	9,395,948	15,646,575	3,320,966	2,789,741	610,575	4,725,864	224,643	1,606,650	1,945,632	2,194,927	1,286,250	304,920		695,108	209,516	59	89	60	55	74
1993	5,287,523	8,907,876	21,600,858	4,176,900	5,236,557	475,799	4,025,166	347,975	1,535,658	1,517,000	1,413,454	1,176,126	405,564		715,099	188,610	60	93	75	70	72
1994	13,893,613	16,327,858	10,750,213	4,352,797	3,393,143	321,121	8,337,840	242,595	990,810	1,897,977	1,095,068	1,471,890	445,920	22,480	509,326	174,172	63	85	80	58	65
1995	17,391,906	20,279,581	14,425,979	4,509,446	4,445,900	527,142	10,038,720	215,713	1,111,140	1,266,692	1,321,108	1,482,162	473,382	17,380	281,307	211,226	64	92	77	66	71
1996	1,983,269	8,211,983	10,809,115	4,411,055	5,693,523	384,603	1,450,578	306,750	1,078,098	1,076,460	692,167	1,649,598	400,746		503,651	187,174	74	91	86	69	67
1997	179,480	589,311	7,517,389	1,402,690	2,506,818	91,639	1,503,732	218,115	1,025,664	1,104,004											

Table 7. Summary of age composition in the catch and escapement by district and river system for major age classes of Bristol Bay sockeye salmon, 1999.

		Percent of Total by Age Class											
		1.2			2.2			1.3			2.3		
District	River System	Catch	Esc.	Total ^a	Catch	Esc.	Total ^a	Catch	Esc.	Total ^a	Catch	Esc.	Total ^a
Naknek-Kvichak													
	Kvichak	56.1	60.0	57.9	26.8	30.5	28.6	11.2	6.6	9.0	5.7	2.9	4.4
	Branch	61.3	71.8	66.0	3.4	4.3	3.8	29.4	19.9	25.1	5.6	3.4	4.6
	Naknek	47.3	58.0	51.8	12.7	15.9	14.0	17.8	12.8	15.7	21.4	12.7	17.7
	All combined	54.3	60.2	57.1	22.1	26.1	24.0	13.8	8.5	11.4	9.4	4.9	7.3
Egegik		34.7	27.2	33.3	42.4	57.0	45.1	11.4	5.8	10.3	11.0	9.5	10.7
Ugashik		62.7	77.6	69.0	21.6	11.0	17.1	8.7	7.0	8.0	5.8	3.8	5.0
Nushagak													
	Wood	53.5	68.1	57.2	8.8	3.1	7.4	33.5	28.3	32.2	4.1	0.5	3.2
	Igushik	37.7	46.6	40.2	6.9	2.7	5.7	52.4	50.2	51.8	2.9	0.5	2.2
	Nush-Mul ^b	14.1	15.1	14.5	0.7	0.4	0.6	67.8	64.9	66.8	7.0	1.1	5.1
	All combined	46.6	56.6	49.3	7.6	2.6	6.3	40.5	37.7	39.7	4.2	0.6	2.1
Togiak		47.1	84.3	60.5	5.2	6.2	5.6	41.4	8.4	29.5	4.1	0.4	2.8
Bay-wide totals		47.4	58.0	51.2	24.2	24.1	24.1	19.5	12.7	17.1	8.2	4.6	6.9

^a The total column represents the age composition of the total inshore return (catch and escapement).

^b Nush-Mul = Nushagak-Mulchatna River drainage.

Table 8. Number of sockeye salmon by age class and river system in the catch and escapement of 10 river systems in Bristol Bay, Alaska, 2000.

		Age Group															
System ^a		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
Kvichak	C	0	0	0	44,040	0	0	707,349	164,813	0	960	115,871	781	0	0	0	1,033,814
	E	0	0	0	300,410	0	0	1,026,814	373,617	0	0	126,939	0	0	0	0	1,827,780
	I	0	0	0	344,450	0	0	1,734,163	538,430	0	960	242,810	781	0	0	0	2,861,594
	S	0	0	0	24,956	0	0	75,613	61,492	0	119	7,377	108	0	0	0	169,665
	%	0.0	0.0	0.0	12.2	0.0	0.0	59.7	19.8	0.0	0.0	8.3	0.0	0.0	0.0	0.0	100.0
Branch	C	0	0	0	93,894	0	0	106,595	53,081	0	422	25,217	344	0	0	0	279,553
	E	0	2,472	0	288,562	454	0	82,426	62,984	0	0	14,402	0	0	0	0	451,300
	I	0	2,472	0	382,456	454	0	189,021	116,065	0	422	39,619	344	0	0	0	730,853
	S	0	0	0	25,255	0	0	6,291	10,754	0	30	883	27	0	0	0	43,240
	%	0.0	0.3	0.0	52.7	0.1	0.0	25.2	16.4	0.0	0.1	5.2	0.0	0.0	0.0	0.0	100.0
Naknek	C	0	0	0	167,596	0	396	2,714,595	107,302	0	6,880	413,193	3,732	0	0	0	3,413,694
	E	0	0	0	158,146	0	0	1,076,549	37,280	0	0	103,513	0	0	0	0	1,375,488
	I	0	0	0	325,742	0	396	3,791,144	144,582	0	6,880	516,706	3,732	0	0	0	4,789,182
	S	0	0	0	18,934	0	235	105,148	11,081	0	373	9,376	225	0	0	0	145,372
	%	0.0	0.0	0.0	7.0	0.0	0.0	79.0	3.2	0.0	0.1	10.7	0.1	0.0	0.0	0.0	100.0
Egegik	C	0	0	0	385,161	0	0	2,755,851	1,249,737	0	212	2,652,444	6,882	0	612	0	7,050,899
	E	0	0	0	81,960	4,612	0	324,541	258,386	0	0	359,151	3,022	0	466	0	1,032,138
	I	0	0	0	467,121	4,612	0	3,080,392	1,508,123	0	212	3,011,595	9,904	0	1,078	0	8,083,037
	S	0	0	0	30,846	0	0	102,527	139,728	0	15	67,147	778	342	0	0	341,383
	%	0.0	0.0	0.0	5.9	0.1	0.0	37.8	19.6	0.0	0.0	36.5	0.1	0.0	0.0	0.0	100.0
Ugashik	C	0	0	2,185	108,907	0	0	1,066,393	124,946	0	4,581	230,236	771	0	771	0	1,538,790
	E	598	0	2,391	107,379	0	0	444,612	44,576	0	1,197	37,667	0	0	0	0	638,420
	I	598	0	4,576	216,286	0	0	1,511,005	169,522	0	5,778	267,903	771	0	771	0	2,177,210
	S	161	0	35,868	14,329	0	0	50,522	15,782	0	411	6,007	61	0	0	0	123,141
	%	0.0	0.0	1.8	10.0	0.0	0.0	67.9	8.1	0.0	0.3	11.9	0.0	0.0	0.0	0.0	100.0
Wood	C	0	0	0	1,768,281	0	0	2,011,596	116,785	0	147	80,919	0	0	0	0	3,977,728
	E	2,854	0	0	769,565	0	0	498,526	19,387	0	1,427	8,267	0	0	0	0	1,300,026
	I	2,854	0	0	2,537,846	0	0	2,510,122	136,172	0	1,574	89,186	0	0	0	0	5,277,754
	S	770	0	0	167,584	0	0	83,546	12,617	0	111	1,989	0	0	0	0	266,617
	%	0.1	0.0	0.0	48.8	0.0	0.0	46.8	2.7	0.0	0.0	1.6	0.0	0.0	0.0	0.0	100.0
Igushik	C	0	0	0	114,132	0	0	1,184,027	12,314	0	960	23,746	0	0	0	0	1,335,179
	E	0	0	0	46,664	0	0	363,528	1,562	0	0	1,562	0	0	0	0	413,316
	I	0	0	0	160,796	0	0	1,547,555	13,876	0	960	25,308	0	0	0	0	1,748,495
	S	0	0	0	10,618	0	0	51,508	1,286	0	68	564	0	0	0	0	64,044
	%	0.0	0.0	0.0	9.5	0.0	0.0	88.2	0.8	0.0	0.1	1.4	0.0	0.0	0.0	0.0	100.0
Nuyakuk	E	0	250	250	98,725	0	0	28,743	750	0	250	500	0	0	0	0	129,468
Nush-Mul	C	0	0	0	327,559	0	0	652,417	26,700	0	2,211	45,414	0	0	0	0	1,054,301
	E	0	0	687	143,665	0	0	241,275	4,812	0	6,187	6,874	0	0	0	0	403,500
	I	0	0	687	471,224	0	0	893,692	31,512	0	8,398	52,288	0	0	0	0	1,457,801
	S	0	0	5,368	31,117	0	0	29,745	2,920	0	593	1,166	0	0	0	0	70,909
	%	0.0	0.0	0.4	32.9	0.0	0.0	60.4	2.3	0.0	0.6	3.5	0.0	0.0	0.0	0.0	100.0
Togiak	C	0	0	994	63,670	0	405	646,025	8,295	0	856	7,139	0	0	0	0	727,384
	E	0	0	0	18,252	0	0	331,689	2,030	0	0	274	0	0	0	0	352,245
	I	0	0	994	81,922	0	405	977,714	10,325	0	856	7,413	0	0	0	0	1,079,629
	S	0	0	7,767	5,410	0	312	32,542	957	0	61	165	0	0	0	0	47,214
	%	0.0	0.0	0.8	7.8	0.0	0.1	89.7	1.0	0.0	0.1	0.7	0.0	0.0	0.0	0.0	100.0
Summary	C	0	0	3,179	3,073,240	0	801	11,844,848	1,863,973	0	17,229	3,594,179	12,510	0	1,383	0	20,411,342
	E	3,452	2,472	3,078	1,914,603	5,066	0	4,389,960	804,634	0	8,811	658,649	3,022	0	466	0	7,794,213
	I	3,452	2,472	6,257	4,987,843	5,066	801	16,234,808	2,668,607	0	26,040	4,252,828	15,532	0	1,849	0	28,205,555
	S	931	0	49,003	329,049	0	547	537,442	256,617	0	1,781	94,674	1,199	342	0	0	1,271,585
	%	0.0	0.0	0.2	18.0	0.0	0.0	56.9	9.9	0.0	0.1	14.7	0.1	0.0	0.0	0.0	100.0

^a C = Catch, E = Escapement, I = Inshore Return, S = South Peninsula Catch, and % = Percent of Total Inshore Return. Egegik escapement includes King Salmon River drainage and Shosky Creek; Ugashik escapement includes King Salmon and Dog Salmon Rivers; Togiak catch is Togiak River section only and Togiak escapement includes the tower counts, and lower river and tributaries aerial survey estimate. Nuyakuk escapement is not totaled because it is a tributary of Nushagak. Nush-Mul = Nushagak-Mulchatna River drainage. The 2.4 age group South Peninsula Catch was allocated to Egegik District in the absence of a Bristol Bay 2.4 component.

Table 9. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch and escapement, Bristol Bay, 2000.

	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
Males													
Percent		0.00	0.01	7.93	0.02	0.00	28.25	5.07	0.03	8.17	0.04	0.01	49.53
Sample Size		3	8	1,912	7	1	7,186	1,224	12	1,915	11	3	12,282
Mean Length			574	475	333	602	574	513	597	575	513	566	552
Std. Error			8	1	8		0	1	8	1	38		0
Sample Size			8	1,653	6	1	7,094	1,158	12	1,890	11	3	11,836
Mean Weight			2.79	2.30		4.09	3.35	2.55	3.48	3.25			3.10
Std. Error			0.23	0.07			0.2	0.11		0.04			0.08
Sample Size			2	242		1	1,073	142	3	211			1,674
Females													
Percent	0.01	0.00	0.01	9.11	0.00	0.00	28.21	5.41	0.06	7.63	0.02		50.47
Sample Size	3	3	7	2,029	1	1	6,882	1,217	15	1,752	8		11,918
Mean Length	470		538	465		536	553	499	570	558	527		532
Std. Error	32		4	1			0	1	5	1	8		0
Sample Size	3		7	1,771		1	6,798	1,156	15	1,728	8		11,487
Mean Weight			2.78	2.15			2.74	2.08	3.23	2.77	1.77		2.58
Std. Error				0.13			0.02	0.05		0.03			0.01
Sample Size			1	215			961	121	2	207	1		1,508
Both Sexes													
Percent	0.01	0.01	0.02	17.05	0.02	0.00	56.45	10.48	0.09	15.80	0.06	0.01	100.00
Sample Size	3	6	15	3,941	8	2	14,068	2,441	27	3,667	19	3	24,200
Mean Length	470		555	470	318	586	564	506	580	567	518	566	542
Std. Error	32		6	1	8		0	1	5	1	28		0
Sample Size	3		15	3,424	6	2	13,892	2,314	27	3,618	19	3	23,323
Mean Weight			2.78	2.22		4.09	3.04	2.34	3.37	3.02	1.77		2.84
Std. Error			0.23	0.07			0.1	0.07		0.03			0.04
Sample Size			3	457		1	2,034	263	5	418	1		3,182

Table 10. Total returns, harvests, escapement and harvest rates for Bristol Bay fishing districts and river systems, 2000.

District	River System	Total Run	Harvests			Escapement	Inshore Return	Harvest Rate (%)	
			Inshore	S. Pen. ^a	Total			Total	Inshore
Naknek-Kvichak									
	Kvichak	3,031,259	1,033,814	169,665	1,203,479	1,827,780	2,861,594	40	36
	Branch	774,093	279,553	43,240	322,793	451,300	730,853	42	38
	Naknek	4,934,554	3,413,694	145,372	3,559,066	1,375,488	4,789,182	72	71
	All combined	8,739,906	4,727,061	358,277	5,085,338	3,654,568	8,381,629	58	56
Egegik		8,424,420	7,050,899	341,383	7,392,282	1,032,138	8,083,037	88	87
Ugashik		2,300,351	1,538,790	123,141	1,661,931	638,420	2,177,210	72	71
Nushagak									
	Wood	5,544,371	3,977,728	266,617	4,244,345	1,300,026	5,277,754	77	75
	Igushik	1,812,539	1,335,179	64,044	1,399,223	413,316	1,748,495	77	76
	Nush-Mul ^b	1,528,710	1,054,301	70,909	1,125,210	403,500	1,457,801	74	72
	All combined	8,885,620	6,367,208	401,570	6,768,778	2,116,842	8,484,050	76	75
Togiak		1,126,843	727,384	47,214	774,598	352,245	1,079,629	69	67
Bay-wide totals									
		29,477,140	20,411,342	1,271,585	21,682,927	7,794,213	28,205,555	74	72

^a The South Alaska Peninsula harvest refers to all sockeye salmon caught during June fisheries around Unimak and Shumagin Islands.

^b Nush-Mul = Nushagak-Mulchatna River drainage.

Table 11. Summary of age composition in the catch and escapement by district and river system for major age classes of Bristol Bay sockeye salmon, 2000.

		Percent of Total by Age Class											
		1.2			2.2			1.3			2.3		
District	River System	Catch	Esc.	Total ^a	Catch	Esc.	Total ^a	Catch	Esc.	Total ^a	Catch	Esc.	Total ^a
Naknek-Kvichak													
	Kvichak	4.3	16.4	12.0	15.9	20.4	18.8	68.4	56.2	60.6	11.2	6.9	8.5
	Branch	33.6	63.9	52.3	19.0	14.0	15.9	38.1	18.3	25.9	9.0	3.2	5.4
	Naknek	4.9	11.5	6.8	3.1	2.7	3.0	79.5	78.3	79.2	12.1	7.5	10.8
	All combined	6.5	20.4	12.6	6.9	13.0	9.5	74.6	59.8	68.2	11.7	6.7	9.5
Egegik		5.5	7.9	5.8	17.7	25.0	18.7	39.1	31.4	38.1	37.6	34.8	37.3
Ugashik		7.1	16.8	9.9	8.1	7.0	7.8	69.3	69.6	69.4	15.0	5.9	12.3
Nushagak													
	Wood	44.5	59.2	48.1	2.9	1.5	2.6	50.6	38.3	47.6	2.0	0.6	1.7
	Igushik	8.5	11.3	9.2	0.9	0.4	0.8	88.7	88.0	88.5	1.8	0.4	1.4
	Nush-Mul ^b	31.1	35.6	32.3	2.5	1.2	2.2	61.9	59.8	61.3	4.3	1.7	3.6
	All combined	34.7	45.3	37.4	2.4	1.2	2.1	60.4	52.1	58.4	2.4	0.8	0.7
Togiak		8.8	5.2	7.6	1.1	0.6	1.0	88.8	94.2	90.6	1.0	0.1	0.7
Bay-wide totals		15.1	24.6	17.7	9.1	10.3	9.5	58.0	56.3	57.6	17.6	8.5	15.1

^a The total column represents the age composition of the total inshore return (catch and escapement).

^b Nush-Mul = Nushagak-Mulchatna River drainage.

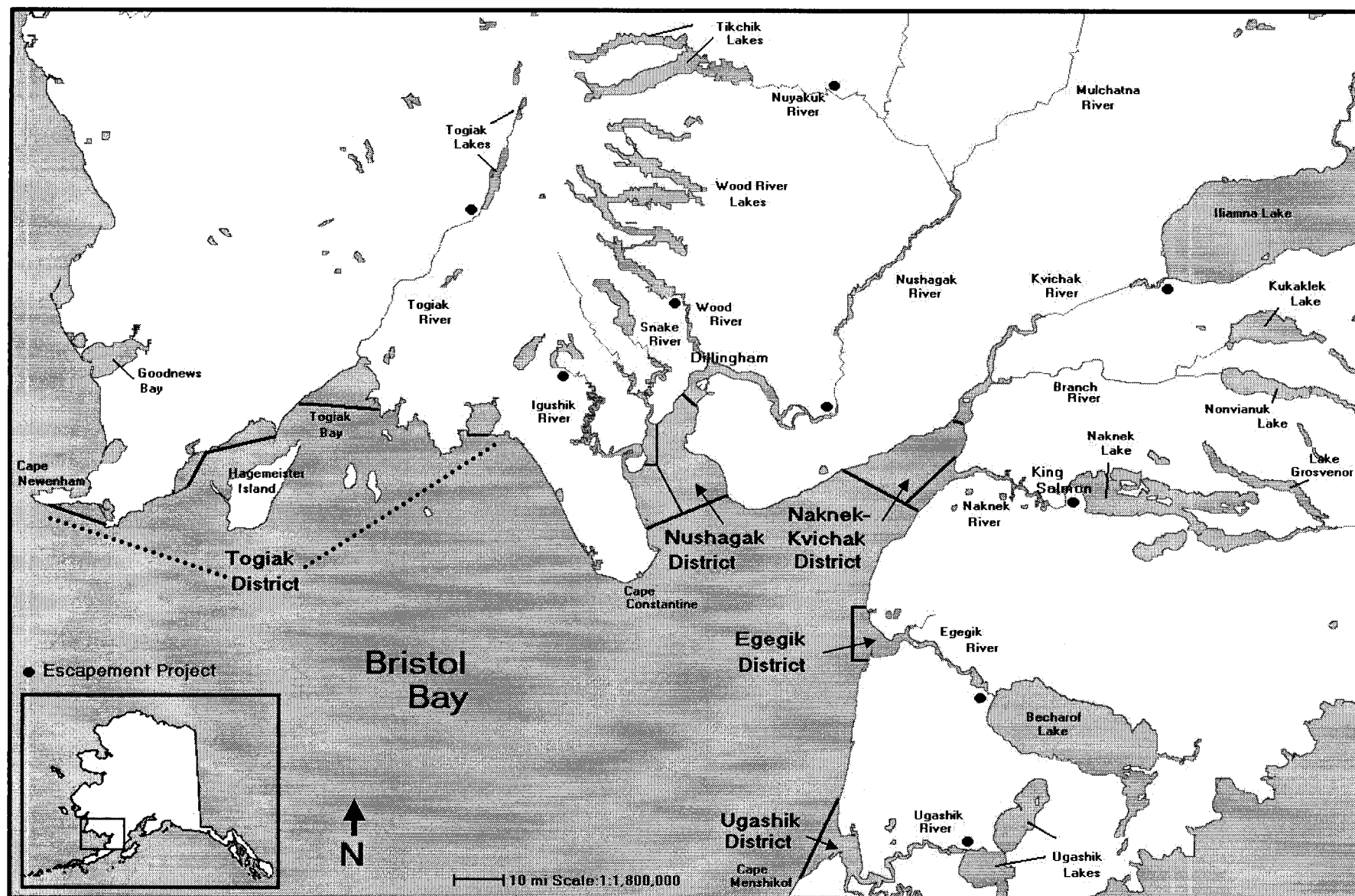


Figure 1. Bristol Bay major river systems and commercial fishing districts.

APPENDICES

Appendix A.1. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch, Naknek-Kvichak District, 1999.

	Age Group							
	0.2	1.2	1.3	2.2	1.4	2.3	2.4	Total ^a
<u>Sample Period 1: June 14 - 30</u>								
Males		86,614	16,946	30,754		8,159		142,473
Percent		30.53	5.97	10.84		2.88		50.22
Sample Size		138	27	49		13		227
Mean Length		529	582	544		601		543
Std. Error		3	5	5		13		2
Sample Size		138	27	49		13		227
Mean Weight		2.10	2.83	2.42		3.31		2.33
Std. Error		0.07	0.13	0.23		0.49		0.07
Sample Size		25	10	7		3		45
Females		67,157	20,712	38,286		15,063		141,218
Percent		23.67	7.30	13.50		5.31		49.78
Sample Size		107	33	61		24		225
Mean Length		527	569	540		577		542
Std. Error		3	5	4		10		2
Sample Size		107	33	61		24		225
Mean Weight		2.01	2.83	2.32		2.91		2.31
Std. Error		0.1	0.13	0.09		0.25		0.06
Sample Size		16	8	15		4		43
Both Sexes		153,771	37,658	69,040		23,222		283,691
Percent		54.2	13.27	24.34		8.19		100.00
Sample Size		245	60	110		37		452
Mean Length		528	575	542		585		542
Std. Error		2	3	3		8		2
Sample Size		245	60	110		37		452
Mean Weight		2.06	2.83	2.36		3.05		2.32
Std. Error		0.06	0.09	0.11		0.23		0.05
Sample Size		41	18	22		7		88
<u>Sample Period 2: July 1 - 4</u>								
Males		1,213,180	300,351	524,141		135,452		2,173,124
Percent		30.56	7.57	13.20		3.41		54.75
Sample Size		206	51	89		23		369
Mean Length		521	550	531		576		531
Std. Error		3	8	4		13		2
Sample Size		206	51	89		23		369
Mean Weight		2.10	2.85	2.27		3.17		2.31
Std. Error		0.08	0.21	0.12		0.51		0.07
Sample Size		34	11	16		4		65
Females		865,717	347,464	388,689		188,455	5889	1,796,214
Percent		21.81	8.75	9.79		4.75	0.15	45.25
Sample Size		147	59	66		32	1	305
Mean Length		512	567	517		565	601	530
Std. Error		3	5	4		5		2
Sample Size		147	59	66		32	1	305
Mean Weight		2.08	2.93	2.08		2.57		2.30
Std. Error		0.15	0.15	0.09		0.18		0.08
Sample Size		31	13	18		8		70
Both Sexes		2,078,897	647,815	912,830		323,907	5889	3,969,338
Percent		52.37	16.32	23		8.16	0.15	100.00
Sample Size		353	110	155		55	1	674
Mean Length		517	559	525		570	601	530
Std. Error		2	4	3		6		1
Sample Size		353	110	155		55	1	674
Mean Weight		2.09	2.89	2.19		2.82		2.3
Std. Error		0.08	0.13	0.08		0.24		0.05
Sample Size		65	24	34		12		135

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Appendix A.1. (Page 2 of 4)

	Age Group							
	0.2	1.2	1.3	2.2	1.4	2.3	2.4	Total ^a
<u>Sample Period 3: July 5 - 7</u>								
Males	5013	581,534	150,396	265,700		110,291		1,112,934
Percent	0.20	23.72	6.13	10.84		4.50		45.40
Sample Size	1	116	30	53		22		222
Mean Length	586	524	569	543		582		541
Std. Error		2	8	5		7		2
Sample Size	1	116	30	53		22		222
Mean Weight		2.02	3.20	2.34		3.52		2.41
Std. Error		0.05	0.23	0.17		0.37		0.07
Sample Size		23	7	8		2		40
Females		536,414	195,515	416,097		190,502		1,338,528
Percent		21.88	7.98	16.97		7.77		54.60
Sample Size		107	39	83		38		267
Mean Length		508	548	525		565		527
Std. Error		2	4	3		5		2
Sample Size		107	39	83		38		267
Mean Weight		1.95	2.40	2.15		2.85		2.21
Std. Error		0.06	0.22	0.06		0.23		0.05
Sample Size		24	5	17		4		50
Both Sexes	5013	1,117,948	345,911	681,797		300,793		2,451,462
Percent	0.20	45.60	14.11	27.81		12.27		100.00
Sample Size	1	223	69	136		60		489
Mean Length	586	516	557	532		571		533
Std. Error		2	4	2		4		1
Sample Size	1	223	69	136		60		489
Mean Weight		1.99	2.75	2.22		3.10		2.30
Std. Error		0.04	0.16	0.07		0.2		0.04
Sample Size		47	12	25		6		90
<u>Sample Period 4: July 8 - 9</u>								
Males		154,742	24,179	51,984	1209	24,179		256,293
Percent		28.51	4.45	9.58	0.22	4.45		47.22
Sample Size		128	20	43	1	20		212
Mean Length		518	565	541	632	589		534
Std. Error		2	11	4		10		2
Sample Size		128	20	43	1	20		212
Mean Weight		2.32	2.58	2.39	4.48	4.22		2.55
Std. Error		0.07	0.22	0.16		0.44		0.07
Sample Size		26	6	6	1	3		42
Females		164,414	20,552	68,909		32,641		286,516
Percent		30.29	3.79	12.69		6.01		52.78
Sample Size		136	17	57		27		237
Mean Length		504	558	517		570		519
Std. Error		2	6	3		6		2
Sample Size		136	17	57		27		237
Mean Weight		1.85	2.73	2.20		3.00		2.13
Std. Error		0.04	0.32	0.15		0.41		0.07
Sample Size		34	4	7		4		49
Both Sexes		319,156	44,731	120,893	1209	56,820		542,809
Percent		58.80	8.24	22.27	0.22	10.47		100.00
Sample Size		264	37	100	1	47		449
Mean Length		511	562	527	632	578		526
Std. Error		1	7	2		5		1
Sample Size		264	37	100	1	47		449
Mean Weight		2.08	2.65	2.28	4.48	3.52		2.33
Std. Error		0.04	0.19	0.11		0.3		0.05
Sample Size		60	10	13	1	7		91

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Appendix A.1. (Page 3 of 4)

	Age Group							
	0.2	1.2	1.3	2.2	1.4	2.3	2.4	Total ^a
<u>Sample Period 5: July 10 - 14</u>								
Males	332,286	57,921	48,776			30,485		469,468
Percent	40.37	7.04	5.93			3.70		57.04
Sample Size	109	19	16			10		154
Mean Length	549	598	559			616		560
Std. Error	2	8	7			8		2
Sample Size	109	19	16			10		154
Mean Weight	2.18	3.47	2.34			3.26		2.43
Std. Error	0.1	0.1	0.4			0.13		0.08
Sample Size	12	4	2			4		22
Females	228,639	36,582	64,018			21,339	3048	353,626
Percent	27.78	4.44	7.78			2.59	0.37	42.96
Sample Size	75	12	21			7	1	116
Mean Length	532	599	528			602	614	543
Std. Error	3	5	5			8		2
Sample Size	75	12	21			7	1	116
Mean Weight	1.87	2.67	1.84			2.64		1.99
Std. Error	0.05	0.21	0.04					0.04
Sample Size	12	2	6			1		21
Both Sexes	560,925	94,503	112,794			51,824	3048	823,094
Percent	68.15	11.48	13.70			6.30	0.37	100.00
Sample Size	184	31	37			17	1	270
Mean Length	542	598	541			610	614	553
Std. Error	2	5	4			6		2
Sample Size	184	31	37			17	1	270
Mean Weight	2.05	3.16	2.06			3.00		2.24
Std. Error	0.06	0.1	0.18			0.13		0.05
Sample Size	24	6	8			5		43
<u>Sample Period 6: July 15 - August 19</u>								
Males	378,922	65,583	51,009	7287		40,078		542,879
Percent	30.32	5.25	4.08	0.58		3.21		43.44
Sample Size	104	18	14	2		11		149
Mean Length	521	588	553	607		590		539
Std. Error	2	6	6	27		7		2
Sample Size	104	18	14	2		11		149
Mean Weight	2.18	3.08	2.23					2.3
Std. Error	0.07	0.37	0.2					0.08
Sample Size	28	2	2					32
Females	477,297	54,652	109,304	10930		54,652		706,835
Percent	38.19	4.37	8.75	0.87		4.37		56.56
Sample Size	131	15	30	3		15		194
Mean Length	501	557	514	587		570		514
Std. Error	2	7	4	14		4		1
Sample Size	131	15	30	3		15		194
Mean Weight	1.85	2.47	1.94	2.92		2.80		2.00
Std. Error	0.03	0.28	0.08			0.21		0.04
Sample Size	31	4	5	1		4		45
Both Sexes	856,219	120,235	160,313	18217		94,730		1,249,714
Percent	68.51	9.62	12.83	1.46		7.58		100.00
Sample Size	235	33	44	5		26		343
Mean Length	510	574	527	595		579		525
Std. Error	1	5	3	14		4		1
Sample Size	235	33	44	5		26		343
Mean Weight	2	2.8	2.03	2.92		2.8		2.13
Std. Error	0.04	0.24	0.08			0.21		0.04
Sample Size	59	6	7	1		4		77

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Appendix A.1. (Page 4 of 4)

	Age Group							
	0.2	1.2	1.3	2.2	1.4	2.3	2.4	Total ^a
<u>All Periods Combined:</u>								
Males	5013	2,747,278	615,376	972,364	8496	348,644		4,697,171
Percent	0.05	29.48	6.60	10.43	0.09	3.74		50.40
Sample Size	1	801	165	264	3	99		1333
Mean Length	586	525	565	538	610	585		537
Std. Error		1	4	2	27	6		1
Sample Size	1	801	165	264	3	99		1333
Mean Weight		2.12	3.01	2.3	4.48	3.39		2.36
Std. Error		0.04	0.12	0.08		0.26		0.04
Sample Size		148	40	41	1	16		246
Females		2,339,638	675,477	1,085,303	10930	502,652	8937	4,622,937
Percent		25.10	7.25	11.64	0.12	5.39	0.10	49.60
Sample Size		703	175	318	3	143	2	1344
Mean Length		511	562	521	587	568	605	527
Std. Error		1	3	2	14	3		1
Sample Size		703	175	318	3	143	2	1344
Mean Weight		1.96	2.72	2.09	2.92	2.74		2.19
Std. Error		0.06	0.1	0.04		0.12		0.04
Sample Size		148	36	68	1	25		278
Both Sexes	5013	5,086,916	1,290,853	2,057,667	19426	851,296	8937	9,320,108
Percent	0.05	54.58	13.85	22.08	0.21	9.13	0.10	100.00
Sample Size	1	1504	340	582	6	242	2	2677
Mean Length	586	518	563	529	597	575	605	532
Std. Error		1	3	1	14	3		1
Sample Size	1	1504	340	582	6	242	2	2677
Mean Weight		2.05	2.85	2.19	3.08	2.99		2.28
Std. Error		0.04	0.08	0.05		0.13		0.03
Sample Size		296	76	109	2	41		524

^a Total does not include Naknek River Special Harvest Area catch (132,864).

Appendix A.2. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch, Naknek River Special Harvest Area, Naknek-Kvichak District, 1999.

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
<u>Sample Period 1: July 14</u>						
Males	15,426	5,474	7,962	995	16,421	46,278
Percent	11.61	4.12	5.99	0.75	12.36	34.83
Sample Size	31	11	16	2	33	93
Mean Length	511	597	535	624	598	559
Std. Error	4	7	8	15	4	3
Sample Size	31	11	16	2	33	93
Mean Weight	2.06	3.62	2.24	3.72	3.30	2.75
Std. Error	0.08	0.19	0.08		0.11	0.05
Sample Size	3	4	2	1	11	21
Females	33,839	12,440	20,402		19,905	86,586
Percent	25.47	9.36	15.36		14.98	65.17
Sample Size	68	25	41		40	174
Mean Length	495	569	519		572	529
Std. Error	3	3	5		3	2
Sample Size	68	25	41		40	174
Mean Weight	1.78	2.74	1.94		2.74	2.18
Std. Error	0.08	0.1	0.14		0.07	0.05
Sample Size	17	8	12		13	50
Both Sexes	49,265	17,914	28,364	995	36,326	132,864
Percent	37.08	13.48	21.35	0.75	27.34	100.00
Sample Size	99	36	57	2	73	267
Mean Length	500	578	523	624	584	539
Std. Error	3	3	4	15	3	2
Sample Size	99	36	57	2	73	267
Mean Weight	1.87	3.01	2.02	3.72	2.99	2.38
Std. Error	0.06	0.09	0.1		0.06	0.04
Sample Size	20	12	14	1	24	71

Appendix A.3. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon escapement, Kvichak River, 1999.

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
<u>Sample Period 1: June 25 - July 2</u>						
Males	40,732	15,450	61,097		1,405	118,684
Percent	12.08	4.58	18.12		0.42	35.21
Sample Size	58	22	87		2	169
Mean Length	514	606	526		605	533
Std. Error	5	6	5		15	3
Sample Size	58	22	87		2	169
Females	70,228	28,091	115,875		4,214	218,408
Percent	20.83	8.33	34.37		1.25	64.79
Sample Size	100	40	165		6	311
Mean Length	511	584	513		584	523
Std. Error	3	4	2		9	2
Sample Size	100	40	165		6	311
Both Sexes	110,960	43,541	176,972		5,619	337,092
Percent	32.92	12.92	52.50		1.67	100.00
Sample Size	158	62	252		8	480
Mean Length	512	591	518		589	527
Std. Error	3	4	2		8	2
Sample Size	158	62	252		8	480
<u>Sample Period 2: July 3 - 5</u>						
Males	236,387	51,780	238,639		36,021	562,827
Percent	19.92	4.36	20.11		3.04	47.44
Sample Size	105	23	106		16	250
Mean Length	505	563	519		573	521
Std. Error	3	9	3		11	2
Sample Size	105	23	106		16	250
Females	211,623	72,042	283,665		56,283	623,613
Percent	17.84	6.07	23.91		4.74	52.56
Sample Size	94	32	126		25	277
Mean Length	492	549	508		550	511
Std. Error	3	6	3		6	2
Sample Size	94	32	125		25	276
Both Sexes	448,010	123,822	522,304		92,304	186,440
Percent	37.76	10.44	44.02		7.78	100.00
Sample Size	199	55	232		41	527
Mean Length	499	555	513		559	516
Std. Error	2	5	2		5	1
Sample Size	199	55	231		41	526

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	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
<u>Sample Period 3: July 6 - 8</u>						
Males	222,294	47,297	205,740		37,837	513,168
Percent	17.57	3.74	16.26		2.99	40.56
Sample Size	94	20	87		16	217
Mean Length	510	579	528		583	529
Std. Error	4	12	4		14	3
Sample Size	94	20	87		16	217
Females	305,063	44,932	385,467		16,554	752,016
Percent	24.11	3.55	30.47		1.31	59.44
Sample Size	129	19	163		7	318
Mean Length	493	560	508		556	506
Std. Error	2	10	2		20	2
Sample Size	129	19	163		7	318
Both Sexes	527,357	92,229	591,207		54,391	1,265,184
Percent	41.68	7.29	46.73		4.30	100.00
Sample Size	223	39	250		23	535
Mean Length	500	570	515		575	515
Std. Error	2	8	2		11	1
Sample Size	223	39	250		23	535
<u>Sample Period 4: July 9 - 12</u>						
Males	394,782	20,962	52,405	3,494		471,643
Percent	31.74	1.69	4.21	0.28		37.92
Sample Size	113	6	15	1		135
Mean Length	509	582	530	643		515
Std. Error	2	18	11			2
Sample Size	113	6	15	1		135
Females	663,794	27,949	73,367		6,987	772,097
Percent	53.37	2.25	5.90		0.56	62.08
Sample Size	190	8	21		2	221
Mean Length	486	562	502		621	492
Std. Error	2	13	8		30	2
Sample Size	190	8	21		2	221
Both Sexes	1,058,576	48,911	125,772	3,494	6,987	1,243,740
Percent	85.11	3.93	10.11	0.28	0.56	100.00
Sample Size	303	14	36	1	2	356
Mean Length	495	571	514	643	621	501
Std. Error	1	11	7		30	1
Sample Size	303	14	36	1	2	356

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	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
<u>Sample Period 5: July 13 - 23</u>						
Males	566,989	53,999	166,497		9,000	796,485
Percent	26.2	2.49	7.69		0.42	36.80
Sample Size	126	12	37		2	177
Mean Length	512	600	538		556	524
Std. Error	3	9	4		41	2
Sample Size	126	12	37		2	177
Females	1,003,480	44,999	305,994		13,500	367,973
Percent	46.36	2.08	14.14		0.62	63.20
Sample Size	223	10	68		3	304
Mean Length	495	547	512		534	501
Std. Error	2	15	3		18	2
Sample Size	223	10	68		3	304
Both Sexes	1,570,469	98,998	472,491		22,500	1,164,458
Percent	72.56	4.57	21.83		1.04	100.00
Sample Size	349	22	105		5	481
Mean Length	501	576	521		542	509
Std. Error	2	8	3		19	1
Sample Size	349	22	105		5	481
<u>All Periods Combined:</u>						
Males	1,461,184	189,488	724,378	3,494	84,263	2,462,807
Percent	23.58	3.06	11.69	0.06	1.36	39.74
Sample Size	496	83	332	1	36	948
Mean Length	510	583	527	643	576	523
Std. Error	1	5	2		9	1
Sample Size	496	83	332	1	36	948
Females	2,254,188	218,013	1,164,368		97,538	3,734,107
Percent	36.38	3.52	18.79		1.57	60.26
Sample Size	736	109	543		43	1431
Mean Length	492	557	509		555	503
Std. Error	1	5	1		6	1
Sample Size	736	109	542		43	1430
Both Sexes	3,715,372	407,501	1,888,746	3,494	181,801	6,196,914
Percent	59.96	6.58	30.48	0.06	2.93	100.00
Sample Size	1232	192	875	1	79	2,379
Mean Length	499	569	516	643	565	511
Std. Error	1	3	1		5	1
Sample Size	1232	192	874	1	79	2,378

Appendix A.4. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon escapement, Naknek River, 1999.

	Age Group						Total
	1.1	1.2	2.1	1.3	2.2	1.4	2.3
<u>Sample Period 1: June 24 - July 1</u>							
Males	137,867		26,430	38,574		16,430	219,301
Percent	38.45		7.37	10.76		4.58	61.16
Sample Size	193		37	54		23	307
Mean Length	474		559	473		577	492
Std. Error	3		7	4		9	2
Sample Size	193		37	54		23	307
Females	51,432		32,145	26,430	1429	27,859	139,295
Percent	14.34		8.96	7.37	0.40	7.77	38.84
Sample Size	72		45	37	2	39	195
Mean Length	480		556	486	589	560	516
Std. Error	4		4	6	15	5	2
Sample Size	72		45	37	2	39	195
Both Sexes	189,299		58,575	65,004	1,429	44,289	358,596
Percent	52.79		16.33	18.13	0.40	12.35	100.00
Sample Size	265		82	91	2	62	502
Mean Length	476		557	478	589	566	501
Std. Error	2		4	3	15	5	2
Sample Size	265		82	91	2	62	502
<u>Sample Period 2: July 2 - 4</u>							
Males	91,349		17,738	38,136	887	26,606	174,716
Percent	25.25		4.90	10.54	0.25	7.35	48.28
Sample Size	103		20	43	1	30	197
Mean Length	478		584	476	583	574	503
Std. Error	4		7	6		8	3
Sample Size	101		20	43	1	30	195
Females	90,462		34,588	27,493	887	33,702	187,132
Percent	25.00		9.56	7.60	0.25	9.31	51.72
Sample Size	102		39	31	1	38	211
Mean Length	467		561	488	586	564	505
Std. Error	3		5	6		4	2
Sample Size	101		38	31	1	38	209
Both Sexes	181,811		52,326	65,629	1,774	60,308	361,848
Percent	50.25		14.46	18.14	0.49	16.67	100.00
Sample Size	205		59	74	2	68	408
Mean Length	472		569	481	585	568	504
Std. Error	2		4	4		4	2
Sample Size	202		58	74	2	68	404

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Appendix A.4. (Page 2 of 2)

	Age Group							
	1.1	1.2	2.1	1.3	2.2	1.4	2.3	Total
<u>Sample Period 3: July 5 - 19</u>								
Males	923	242,852	923	35,089	48,016	2770	49,863	380,436
Percent	0.10	26.84	0.10	3.88	5.31	0.31	5.51	42.04
Sample Size	1	263	1	38	52	3	54	412
Mean Length	290	470	328	574	482	592	584	496
Std. Error		2		8	6	9	6	2
Sample Size	1	263	1	38	52	3	54	412
Females		328,727		62,790	79,411	923	52,633	524,484
Percent		36.33		6.94	8.78	0.10	5.82	57.96
Sample Size		356		68	86	1	57	568
Mean Length		470		554	486	561	563	492
Std. Error		1		4	3		4	1
Sample Size		355		68	86	1	57	567
Both Sexes	923	571,579	923	97,879	127,427	3693	102,496	904,920
Percent	0.10	63.16	0.10	10.82	14.08	0.41	11.33	100.00
Sample Size	1	619	1	106	138	4	111	980
Mean Length	290	470	328	561	484	584	573	494
Std. Error		1		4	3	9	4	1
Sample Size	1	618	1	106	138	4	111	979
<u>All Periods Combined:</u>								
Males	923	472,068	923	79,257	124,726	3,657	92,899	774,453
Percent	0.06	29.04	0.06	4.88	7.67	0.22	5.72	47.65
Sample Size	1	559	1	95	149	4	107	916
Mean Length	290	473	328	571	477	590	580	497
Std. Error		2		5	3	9	4	1
Sample Size	1	557	1	95	149	4	107	914
Females		470,621		129,523	133,334	3,239	114,194	850,911
Percent		28.95		7.97	8.20	0.20	7.03	52.35
Sample Size		530		152	154	4	134	974
Mean Length		471		557	486	580	563	499
Std. Error		1		3	3	15	2	1
Sample Size		528		151	154	4	134	971
Both Sexes	923	942,689	923	208,780	258,060	6,896	207,093	1,625,364
Percent	0.06	58.00	0.06	12.85	15.88	0.42	12.74	100.00
Sample Size	1	1089	1	247	303	8	241	1,890
Mean Length	290	472	328	562	482	585	570	498
Std. Error		1		2	2	8	2	1
Sample Size	1	1085	1	246	303	8	241	1,885

Appendix A.5. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch, Egegik District, 1999.

	Age Group							Total
	1.2	1.3	2.2	1.4	2.3	3.2	2.4	3.3
<u>Sample Period: 1 June 14 - 25</u>								
Males	14,029	2,878	19,244		4,497			360
Percent	23.64	4.85	32.42		7.58			0.61
Sample Size	78	16	107		25			2
Mean Length	530	610	532		596			561
Std. Error	3	5	3		7			37
Sample Size	78	16	107		25			2
Females	3,417	4,317	6,655		3,957			
Percent	5.76	7.27	11.21		6.67			
Sample Size	19	24	37		22			
Mean Length	533	579	523		573			
Std. Error	7	5	4		4			
Sample Size	19	24	37		22			
Both Sexes	17,446	7,195	25,899		8,454			360
Percent	29.39	12.12	43.63		14.24			0.61
Sample Size	97	40	144		47			2
Mean Length	531	592	530		585			561
Std. Error	3	4	3		4			37
Sample Size	97	40	144		47			2
<u>Sample Period: 2 June 26 - 30</u>								
Males	264,354	92,078	213,859		29,703			
Percent	20.46	7.13	16.55		2.30			
Sample Size	89	31	72		10			
Mean Length	525	585	536		589			
Std. Error	3	6	3		14			
Sample Size	89	31	72		10			
Mean Weight	2.14	3.27	2.32		3.86			
Std. Error	0.1	0.33	0.08		0.49			
Sample Size	9	5	16		2			
Females	294,055	106,930	240,592		50,495			
Percent	22.76	8.28	18.62		3.91			
Sample Size	99	36	81		17			
Mean Length	512	577	529		573			
Std. Error	2	5	3		7			
Sample Size	99	36	81		17			
Mean Weight	1.87	2.99	2.10		2.95			
Std. Error	0.04	0.15	0.07		0.11			
Sample Size	20	8	16		8			
Both Sexes	558,409	199,008	454,451		80,198			
Percent	43.22	15.40	35.17		6.21			
Sample Size	188	67	153		27			
Mean Length	518	581	533		579			
Std. Error	2	4	2		7			
Sample Size	188	67	153		27			
Mean Weight	2	3.12	2.2		3.29			
Std. Error	0.05	0.17	0.05		0.2			
Sample Size	29	13	32		10			

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	Age Group								
	1.2	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total
<u>Sample Period 3: July 1</u>									
Males	288,937	75,124	234,039		57,787				655,887
Percent	21.79	5.66	17.65		4.36				49.46
Sample Size	100	26	81		20				227
Mean Length	516	593	527		573				534
Std. Error	3	8	3		8				2
Sample Size	100	26	81		20				227
Mean Weight	2.30	3.48	2.61		2.65				2.58
Std. Error	0.09	0.33	0.09		0.24				0.07
Sample Size	17	2	10		3				32
Females	286,047	69,345	254,264		60,677				670,333
Percent	21.57	5.23	19.17		4.58				50.54
Sample Size	99	24	88		21				232
Mean Length	498	556	513		544				514
Std. Error	3	7	3		11				2
Sample Size	99	24	88		21				232
Mean Weight	1.92	2.39	1.97		2.56				2.05
Std. Error	0.08	0.15	0.07		0.23				0.05
Sample Size	25	9	22		5				61
Both Sexes	574,984	144,469	488,303		118,464				1,326,220
Percent	43.36	10.89	36.82		8.93				100.00
Sample Size	199	50	169		41				459
Mean Length	507	575	520		558				524
Std. Error	2	5	2		7				1
Sample Size	199	50	169		41				459
Mean Weight	2.11	2.96	2.28		2.60				2.31
Std. Error	0.06	0.19	0.06		0.17				0.04
Sample Size	42	11	32		8				93
<u>Sample Period 4: July 2 - 5</u>									
Males	434,012	158,157	415,621	3,678	161,835		3,678		1,176,981
Percent	20.52	7.48	19.65	0.17	7.65		0.17		55.65
Sample Size	118	43	113	1	44		1		320
Mean Length	523	577	532	630	583		577		542
Std. Error	2	6	2		5				2
Sample Size	118	43	113	1	44		1		320
Mean Weight	2.19	4.05	2.47		3.85				2.77
Std. Error	0.15	0.1	0.1						0.07
Sample Size	11	2	14		2				29
Females	342,061	128,732	323,670	3,678	136,088		3,678		937,907
Percent	16.17	6.09	15.30	0.17	6.43		0.17		44.35
Sample Size	93	35	88	1	37		1		255
Mean Length	511	560	521	578	577		510		531
Std. Error	2	5	2		3				1
Sample Size	93	35	88	1	37		1		255
Mean Weight	1.91	2.66	2.06		2.36				2.13
Std. Error	0.05	0.05	0.04		0.2				0.04
Sample Size	18	3	13		2				36
Both Sexes	776,073	286,889	739,291	7,356	297,923		7,356		2,114,888
Percent	36.70	13.57	34.96	0.35	14.09		0.35		100.00
Sample Size	211	78	201	2	81		2		575
Mean Length	518	569	527	604	580		544		537
Std. Error	2	4	2		3				1
Sample Size	211	78	201	2	81		2		575
Mean Weight	2.07	3.43	2.29		3.17				2.49
Std. Error	0.09	0.06	0.06		0.2				0.04
Sample Size	29	5	27		4				65

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	Age Group							Total
	1.2	1.3	2.2	1.4	2.3	3.2	2.4	3.3
<u>Sample Period 5: July 5 - 8</u>								
Males	120,840	44,520	165,361	3,180	44,520			378,421
Percent	14.62	5.38	20.00	0.38	5.38			45.77
Sample Size	76	28	104	2	28			238
Mean Length	531	597	541	632	606			553
Std. Error	3	7	2	11	5			2
Sample Size	76	28	104	2	28			238
Mean Weight	2.09	2.86	2.37		3.42			2.46
Std. Error	0.06	0.08	0.1		0.12			0.05
Sample Size	8	3	11		10			32
Females	155,820	33,390	201,931		52,470	3,180		448,381
Percent	18.85	4.04	24.42		6.35	0.38		54.23
Sample Size	98	21	127		33	2		282
Mean Length	523	581	532		592	508		539
Std. Error	2	5	2		4	6		1
Sample Size	98	21	127		33	2		282
Mean Weight	2.03		1.97		2.86			2.11
Std. Error	0.1		0.1					0.06
Sample Size	7		7		1			15
Both Sexes	276,660	77,910	367,292	3,180	96,990	3,180		826,802
Percent	33.46	9.42	44.42	0.38	11.73	0.38		100.00
Sample Size	174	49	231	2	61	2		520
Mean Length	526	590	536	632	599	508		546
Std. Error	2	4	1	11	3	6		1
Sample Size	174	49	231	2	61	2		520
Mean Weight	2.06	2.86	2.15		3.12			2.28
Std. Error	0.06	0.08	0.07		0.12			0.04
Sample Size	15	3	18		11			47
<u>Sample Period 6: July 9 - 11</u>								
Males	97,250	36,287	214,822		56,608	1,451	2,903	413,675
Percent	12.59	4.70	27.82		7.33	0.19	0.38	53.57
Sample Size	67	25	148		39	1	2	285
Mean Length	523	594	531		600	549	591	545
Std. Error	4	4	2		5		61	2
Sample Size	67	25	148		39	1	2	285
Mean Weight	2.34	3.47	2.21		3.52			2.54
Std. Error	0.14	0.15	0.07		0.22			0.06
Sample Size	16	3	34		6			59
Females	78,380	23,224	198,855		56,608		1,451	358,518
Percent	10.15	3.01	25.75		7.33		0.19	46.43
Sample Size	54	16	137		39		1	247
Mean Length	503	576	510		579		564	524
Std. Error	2	5	2		4			1
Sample Size	54	16	137		39		1	247
Mean Weight	1.86	3.06	1.89		2.75			2.10
Std. Error	0.07		0.06		0.1			0.04
Sample Size	14	1	24		8			47
Both Sexes	175,630	59,511	413,677		113,216	1,451	2,903	772,193
Percent	22.74	7.71	53.57		14.66	0.19	0.38	100.00
Sample Size	121	41	285		78	1	2	532
Mean Length	514	587	521		589	549	591	535
Std. Error	2	3	2		3		61	1
Sample Size	121	41	285		78	1	2	532
Mean Weight	2.13	3.31	2.06		3.14			2.33
Std. Error	0.08	0.15	0.05		0.12			0.04
Sample Size	30	4	58		14			106

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	Age Group								
	1.2	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total
<u>Sample Period 7: July 12 - August 25</u>									
Males	74,944	40,510	265,344		44,561		2,026	2,026	429,411
Percent	7.52	4.06	26.63		4.47		0.20	0.20	43.09
Sample Size	37	20	131		22		1	1	212
Mean Length	526	591	533		603		574	624	545
Std. Error	6	10	3		6				2
Sample Size	37	20	131		22		1	1	212
Mean Weight	2.30	2.80	2.37		3.49		2.87	3.49	2.52
Std. Error	0.18	0.24	0.12		0.29				0.09
Sample Size	9	6	27		6		1	1	50
Females	111,404	24,306	374,720		52,664		2,026	2,026	567,146
Percent	11.18	2.44	37.60		5.28		0.20	0.20	56.91
Sample Size	55	12	185		26		1	1	280
Mean Length	510	558	515		563		541	552	520
Std. Error	4	11	2		6				2
Sample Size	55	12	185		26		1	1	280
Mean Weight	1.84	2.52	1.78		2.49				1.89
Std. Error	0.14	0.21	0.04		0.19				0.04
Sample Size	14	7	33		5				59
Both Sexes	186,348	64,816	640,064		97,225		4,052	4,052	996,557
Percent	18.70	6.50	64.23		9.76		0.41	0.41	100.00
Sample Size	92	32	316		48		2	2	492
Mean Length	516	579	522		581		558	588	531
Std. Error	3	7	1		4				1
Sample Size	92	32	316		48		2	2	492
Mean Weight	2.02	2.70	2.02		2.95		2.87	3.49	2.16
Std. Error	0.11	0.17	0.06		0.17				0.05
Sample Size	23	13	60		11		1	1	109
<u>All Periods Combined:</u>									
Males	1,294,366	449,554	1,528,290	6,858	399,511	1,451	8,607	6,740	3,695,377
Percent	17.52	6.08	20.69	0.09	5.41	0.02	0.12	0.09	50.02
Sample Size	565	189	756	3	188	1	4	6	1,712
Mean Length	523	586	533	631	589	549	581	592	542
Std. Error	1	3	1	11	3		61	28	1
Sample Size	565	189	756	3	188	1	4	6	1,712
Mean Weight	2.21	3.51	2.40		3.54		2.87	3.49	2.60
Std. Error	0.06	0.1	0.04		0.12				0.03
Sample Size	70	21	112		29		1	1	234
Females	1,271,184	390,244	1,600,687	3,678	412,959	3,180	5,704	5,067	3,692,703
Percent	17.21	5.28	21.67	0.05	5.59	0.04	0.08	0.07	49.98
Sample Size	517	168	743	1	195	2	2	3	1,631
Mean Length	509	567	519	578	572	508	521	571	527
Std. Error	1	3	1		2	6			1
Sample Size	517	168	743	1	195	2	2	3	1,631
Mean Weight	1.91	2.72	1.95		2.6				2.09
Std. Error	0.03	0.06	0.02		0.09				0.02
Sample Size	98	28	115		29				270
Both Sexes	2,565,550	839,798	3,128,977	10,536	812,470	4,631	14,311	11,807	7,388,080
Percent	34.73	11.37	42.35	0.14	11.00	0.06	0.19	0.16	100.00
Sample Size	1,082	357	1,499	4	383	3	6	9	3,343
Mean Length	516	577	526	612	580	521	557	583	535
Std. Error	1	2	1	11	2	6	61	28	1
Sample Size	1,082	357	1,499	4	383	3	6	9	3,343
Mean Weight	2.06	3.17	2.17		3.06		2.87	3.49	2.34
Std. Error	0.03	0.06	0.02		0.07				0.02
Sample Size	168	49	227		58		1	1	504

Appendix A.6. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon escapement, Egegik River, 1999.

	Age Group							Total ^a
	1.1	1.2	2.1	1.3	2.2	2.3	2.4	3.3
<u>Sample Period 1: June 21 - July 3</u>								
Males	655	43,891	1,310	13,102	144,120	23,583		226,661
Percent	0.19	12.96	0.39	3.87	42.55	6.96		66.92
Sample Size	1	67	2	20	220	36		346
Mean Length	448	517	364	570	502	567		515
Std. Error		4	1	14	3	9		2
Sample Size	1	67	2	20	220	36		346
Females		17,032		8,516	66,165	19,653		112,021
Percent		5.03		2.51	19.54	5.80		33.08
Sample Size		26		13	101	30		171
Mean Length		496		544	505	567		518
Std. Error		6		16	3	6		3
Sample Size		26		13	101	30		171
Both Sexes	655	60,923	1,310	21,618	210,285	43,236		338,682
Percent	0.19	17.99	0.39	6.38	62.09	12.77		100.00
Sample Size	1	93	2	33	321	66		517
Mean Length	448	511	364	559	503	567		516
Std. Error		3	1	10	2	6		2
Sample Size	1	93	2	33	321	66		517
<u>Sample Period 2: July 4 - 8</u>								
Males		154,830		10,098	242,342	37,025		445,978
Percent		19.41		1.27	30.38	4.64		55.91
Sample Size		92		6	144	22		265
Mean Length		508		573	504	577		513
Std. Error		3		15	3	5		2
Sample Size		92		6	144	22		265
Females		97,610		30,293	173,343	48,805		351,734
Percent		12.24		3.80	21.73	6.12		44.09
Sample Size		58		18	103	29		209
Mean Length		492		573	500	564		513
Std. Error		3		3	3	4		2
Sample Size		58		18	103	29		209
Both Sexes		252,440		40,391	415,685	85,830		797,712
Percent		31.65		5.06	52.11	10.76		100.00
Sample Size		150		24	247	51		474
Mean Length		502		573	502	570		513
Std. Error		2		5	2	3		1
Sample Size		150		24	247	51		474

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	Age Group								
	1.1	1.2	2.1	1.3	2.2	2.3	3.2	3.3	Total ^a
<u>Sample Period 3: July 9 - 17</u>									
Males		57,665	2,454	24,539	142,323	14,723	1227		242,931
Percent		9.75	0.41	4.15	24.07	2.49	0.21		41.08
Sample Size		47	2	20	116	12	1		198
Mean Length		502	360	593	500	593	612		515
Std. Error		4	34	5	4	5			2
Sample Size		47	2	20	116	12	1		198
Females		98,154		13,496	217,166	19,631			348,447
Percent		16.60		2.28	36.72	3.32			58.92
Sample Size		80		11	177	16			284
Mean Length		484		561	493	565			497
Std. Error		2		11	2	5			1
Sample Size		80		11	177	15			283
Both Sexes		155,819	2,454	38,035	359,489	34,354	1,227		591,378
Percent		26.35	0.41	6.43	60.79	5.81	0.21		100.00
Sample Size		127	2	31	293	28	1		482
Mean Length		491	360	581	496	577	612		504
Std. Error		2	34	5	2	4			1
Sample Size		127	2	31	293	27	1		481
<u>All Periods Combined:</u>									
Males	655	256,386	3,764	47,739	528,785	75,331	1,227	1683	915,570
Percent	0.04	14.84	0.22	2.76	30.61	4.36	0.07	0.10	52.99
Sample Size	1	206	4	46	480	70	1	1	809
Mean Length	448	508	361	582	502	577	612	615	514
Std. Error		2	22	5	2	4			1
Sample Size	1	206	4	46	480	70	1	1	809
Females		212,796		52,305	456,674	88,089		2338	812,202
Percent		12.32		3.03	26.43	5.10		0.14	47.01
Sample Size		164		42	381	75		2	664
Mean Length		489		565	497	565		565	507
Std. Error		2		4	1	3			1
Sample Size		164		42	381	74		2	663
Both Sexes	655	469,182	3,764	100,044	985,459	163,420	1,227	4021	1,727,772
Percent	0.04	27.16	0.22	5.79	57.04	9.46	0.07	0.23	100.00
Sample Size	1	370	4	88	861	145	1	3	1473
Mean Length	448	499	361	573	500	570	612	586	511
Std. Error		1	22	3	1	2			1
Sample Size	1	370	4	88	861	144	1	3	1472

^a Total does not include King Salmon River escapement (625).

Appendix A.7. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch, Ugashik District, 1999.

	Age Group									
	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	3.3	Total
<u>Sample Period 1: June 14 - 23</u>										
Males		25,410		6,353	9,106		2,753	212		43,834
Percent		34.28		8.57	12.29		3.71	0.29		59.14
Sample Size		120		30	43		13	1		207
Mean Length		522		575	529		587	579		535
Std. Error		3		7	4		8			2
Sample Size		120		30	43		13	1		207
Mean Weight		2.33		2.92	2.52		3.62			2.54
Std. Error		0.07		0.16	0.12		0.29			0.06
Sample Size		27		6	7		3			43
Females		13,976		5,506	7,835	212	2,753			30,282
Percent		18.86		7.43	10.57	0.29	3.71			40.86
Sample Size		66		26	37	1	13			143
Mean Length		504		552	511	569	557			520
Std. Error		3		6	4		8			2
Sample Size		66		26	37	1	13			143
Mean Weight		1.91		2.61	2.07		2.65			2.15
Std. Error		0.15		0.21	0.09		0.16			0.09
Sample Size		11		4	7		2			24
Both Sexes		39,386		11,859	16,941	212	5,506	212		74,116
Percent		53.14		16.00	22.86	0.29	7.43	0.29		100.00
Sample Size		186		56	80	1	26	1		350
Mean Length		515		565	520	569	572	579		529
Std. Error		2		5	3		6			2
Sample Size		186		56	80	1	26	1		350
Mean Weight		2.18		2.78	2.31		3.14			2.38
Std. Error		0.07		0.13	0.08		0.17			0.05
Sample Size		38		10	14		5			67
<u>Sample Period 2: July 1 - 8</u>										
Males		121,270		8,344	25,589	556	4,450	556		160,765
Percent		43.08		2.96	9.09	0.20	1.58	0.20		57.11
Sample Size		218		15	46	1	8	1		289
Mean Length		533		595	527	624	586	585		537
Std. Error		2		6	4		15			1
Sample Size		218		15	46	1	8	1		289
Mean Weight		2.60		3.74	2.52		3.36			2.67
Std. Error		0.05		0.38	0.11		0.87			0.05
Sample Size		34		4	7		2			47
Females	1,113	78,436		15,576	20,582	556	4,450			120,713
Percent	0.40	27.87		5.53	7.31	0.20	1.58			42.89
Sample Size	2	141		28	37	1	8			217
Mean Length	565	512		560	518	625	570			522
Std. Error	3	2		6	4		8			2
Sample Size	2	141		28	37	1	8			217
Mean Weight		2.11		2.97	2.12		2.61			2.24
Std. Error		0.06		0.19	0.10		0.08			0.05
Sample Size		29		3	7		2			41
Both Sexes	1,113	199,706		23,920	46,171	1112	8,900	556		281,478
Percent	0.40	70.95		8.50	16.40	0.40	3.16	0.20		100.00
Sample Size	2	359		43	83	2	16	1		506
Mean Length	565	524		572	523	625	578	585		530
Std. Error	3	1		5	3		9			1
Sample Size	2	359		43	83	2	16	1		506
Mean Weight		2.41		3.24	2.34		2.99			2.49
Std. Error		0.04		0.18	0.08		0.44			0.04
Sample Size		63		7	14		4			88

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	Age Group								Total
	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	3.3
<u>Sample Period 3: July 9 - 13</u>									
Males	1,355	357,749		44,718	108,408	1,355	28,457		542,042
Percent	0.14	35.82		4.48	10.85	0.14	2.85		54.27
Sample Size	1	264		33	80	1	21		400
Mean Length	583	531		595	535	528	616		542
Std. Error		1		5	3		6		1
Sample Size	1	264		33	80	1	21		400
Mean Weight		2.23		3.24	2.44	2.26	3.85		2.44
Std. Error		0.05		0.15	0.06		0.24		0.04
Sample Size		57		9	21	1	5		93
Females	1,355	273,733		39,298	108,408	5,420	28,457		456,671
Percent	0.14	27.41		3.93	10.85	0.54	2.85		45.73
Sample Size	1	202		29	80	4	21		337
Mean Length	525	510		563	512	598	577		520
Std. Error		1		3	2	7	4		1
Sample Size	1	202		29	80	4	21		337
Mean Weight		1.96		2.47	1.95		3.00		2.07
Std. Error		0.03			0.05		0.01		0.02
Sample Size		46		1	17		3		67
Both Sexes	2,710	631,482		84,016	216,816	6,775	56,914		998,713
Percent	0.27	63.23		8.41	21.71	0.68	5.70		100.00
Sample Size	2	466		62	160	5	42		737
Mean Length	554	522		580	524	584	597		532
Std. Error		1		3	2	7	4		1
Sample Size	2	466		62	160	5	42		737
Mean Weight		2.11		2.88	2.19	2.26	3.43		2.27
Std. Error		0.03		0.15	0.04		0.12		0.02
Sample Size		103		10	38	1	8		160
<u>Sample Period 4: July 14 - August 25</u>									
Males		311,945		35,315	114,184	4,709	38,846	2,354	507,353
Percent		34.60		3.92	12.66	0.52	4.31	0.26	56.27
Sample Size		265		30	97	4	33	2	431
Mean Length		538		598	541	617	609	598	549
Std. Error		2		4	2	18	5	42	1
Sample Size		265		30	97	4	33	2	431
Mean Weight		2.29		3.02	2.32		3.24		2.42
Std. Error		0.05		0.19	0.06		0.14		0.04
Sample Size		53		7	22		6		88
Females	1,177	231,901	1,177	41,200	94,172	2,354	21,189		394,347
Percent	0.13	25.72	0.13	4.57	10.44	0.26	2.35		43.73
Sample Size	1	197	1	35	80	2	18		335
Mean Length	540	518	402	571	519	574	580		527
Std. Error		2		5	3	32	4		1
Sample Size	1	197	1	35	80	2	18		335
Mean Weight		1.94	0.84	2.74	1.94		2.64		2.06
Std. Error		0.03		0.05	0.07		0.06		0.03
Sample Size		43	1	7	17		3		71
Both Sexes	1,177	543,846	1,177	76,515	208,356	7,063	60,035	2,354	901,700
Percent	0.13	60.31	0.13	8.49	23.11	0.78	6.66	0.26	100.00
Sample Size	1	462	1	65	177	6	51	2	766
Mean Length	540	529	402	583	531	602	599	598	540
Std. Error		1		3	2	16	3	42	1
Sample Size	1	462	1	65	177	6	51	2	766
Mean Weight		2.14	0.84	2.87	2.15		3.03		2.26
Std. Error		0.03		0.09	0.04		0.09		0.02
Sample Size		96	1	14	39		9		159

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Appendix A.7. (Page 3 of 3)

	Age Group								Total
	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	3.3
<u>All Periods Combined:</u>									
Males	1,355	816,374		94,730	257,287	6,620	74,506	3,122	1,253,994
Percent	0.06	36.19		4.20	11.40	0.29	3.30	0.14	55.58
Sample Size	1	867		108	266	6	75	4	1327
Mean Length	583	534		595	537	599	609	594	544
Std. Error		1		3	2	18	3	42	1
Sample Size	1	867		108	266	6	75	4	1327
Mean Weight		2.31		3.18	2.4	2.26	3.49		2.47
Std. Error		0.03		0.11	0.04		0.13		0.02
Sample Size		171		26	57	1	16		271
Females	3,645	598,046	1,177	101,580	230,997	8,542	56,849		1,002,013
Percent	0.16	26.51	0.05	4.50	10.24	0.38	2.52		44.42
Sample Size	4	606	1	118	234	8	60		1032
Mean Length	542	513	402	565	516	592	577		523
Std. Error	3	1		2	2	11	3		1
Sample Size	4	606	1	118	234	8	60		1032
Mean Weight		1.97	0.84	2.66	1.97		2.82		2.09
Std. Error		0.02		0.06	0.04		0.02		0.02
Sample Size		129	1	15	48		10		203
Both Sexes	5,000	414,420	1,177	196,310	488,284	15,162	131,355	3,122	2,256,007
Percent	0.22	62.7	0.05	8.70	21.64	0.67	5.82	0.14	100.00
Sample Size	5	1473	1	226	500	14	135	4	2359
Mean Length	553	525	402	579	527	595	595	594	535
Std. Error	3	1		2	1	9	2	42	1
Sample Size	5	1473	1	226	500	14	135	4	2359
Mean Weight		2.17	0.84	2.91	2.19	2.26	3.20		2.30
Std. Error		0.02		0.07	0.03		0.07		0.02
Sample Size		300	1	41	105	1	26		474

Appendix A.8. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon escapement, Ugashik River, 1999.

	Age Group						Total ^a
	0.2	1.2	1.3	2.2	1.4	2.3	2.4
<u>Sample Period 1: July 7 - 14</u>							
Males	624,364	48,366	81,343	2198	21,985	2198	780,454
Percent	45.51	3.53	5.93	0.16	1.60	0.16	56.89
Sample Size	284	22	37	1	10	1	355
Mean Length	521	579	515	604	593	596	527
Std. Error	2	7	5		8		1
Sample Size	284	22	37	1	10	1	355
Females	441,891	43,969	68,152		32,977	4397	591,386
Percent	32.21	3.21	4.97		2.40	0.32	43.11
Sample Size	201	20	31		15	2	269
Mean Length	500	566	500		571	555	509
Std. Error	1	3	5		6	8	1
Sample Size	200	20	31		15	2	268
Both Sexes	1,066,255	92,335	149,495	2198	54,962	6595	1,371,840
Percent	77.72	6.73	10.90	0.16	4.01	0.48	100.00
Sample Size	485	42	68	1	25	3	624
Mean Length	512	573	508	604	579	568	519
Std. Error	1	4	4		5	8	1
Sample Size	484	42	68	1	25	3	623
<u>Sample Period 2: July 15 - 26</u>							
Males	359	121,217	12,911	20,083		3,945	158,515
Percent	0.13	43.33	4.62	7.18		1.41	56.67
Sample Size	1	338	36	56		11	442
Mean Length	532	514	560	528		564	521
Std. Error		1	6	3		16	1
Sample Size	1	337	36	56		11	441
Females		94,319	11,118	11,835		3,945	121,217
Percent		33.72	3.97	4.23		1.41	43.33
Sample Size		263	31	33		11	338
Mean Length		492	548	496		570	500
Std. Error		1	6	3		23	2
Sample Size		263	31	33		11	338
Both Sexes	359	215,536	24,029	31,918		7,890	279,732
Percent	0.13	77.05	8.59	11.41		2.82	100.00
Sample Size	1	601	67	89		22	780
Mean Length	532	505	555	517		567	512
Std. Error		1	4	2		14	1
Sample Size	1	600	67	89		22	779

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	Age Group							
	0.2	1.2	1.3	2.2	1.4	2.3	2.4	Total ^a
<u>All Periods Combined:</u>								
Males	359	745,581	61,277	101,426	2198	25,930	2198	938,969
Percent	0.02	45.14	3.71	6.14	0.13	1.57	0.13	56.85
Sample Size	1	622	58	93	1	21	1	797
Mean Length	532	520	575	518	604	588	596	526
Std. Error		1	5	4		7		1
Sample Size	1	621	58	93	1	21	1	796
Females		536,210	55,087	79,987		36,922	4397	712,603
Percent		32.47	3.34	4.84		2.24	0.27	43.15
Sample Size		464	51	64		26	2	607
Mean Length		499	562	500		571	555	508
Std. Error		1	3	4		6	8	1
Sample Size		463	51	64		26	2	606
Both Sexes	359	1,281,791	116,364	181,413	2198	62,852	6595	1,651,572
Percent	0.02	77.61	7.05	10.98	0.13	3.81	0.40	100.00
Sample Size	1	1086	109	157	1	47	3	1,404
Mean Length	532	511	569	510	604	578	568	518
Std. Error		1	3	3		4	8	1
Sample Size	1	1084	109	157	1	47	3	1,402

^a Total does not include escapement (10,470) to King Salmon and Dog Salmon rivers.

Appendix A.9. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch, Nushagak District, 1999.

	Age Group						
	1.2	1.3	2.2	1.4	2.3	2.4	Total ^a
<u>Sample Period 1: June 16 - July 3</u>							
Males	202,149	268,548	19182	13,280	19,182		522,341
Percent	22.80	30.28	2.16	1.50	2.16		58.90
Sample Size	137	182	13	9	13		354
Mean Length	516	568	519	617	559		547
Std. Error	2	2	5	8	11		2
Sample Size	137	182	13	9	13		354
Mean Weight	2.09	2.98	2.21		3.76		2.63
Std. Error	0.04	0.08	0.07		0.72		0.05
Sample Size	65	62	8		4		139
Females	84,106	239,038	11804	5902	23609		364,459
Percent	9.48	26.96	1.33	0.67	2.66		41.10
Sample Size	57	162	8	4	16		247
Mean Length	505	550	507	582	551		539
Std. Error	3	2	6	10	6		1
Sample Size	57	162	8	4	16		247
Mean Weight	2.01	2.70	2.01	2.99	2.51		2.51
Std. Error	0.13	0.07	0.14	0.4	0.08		0.05
Sample Size	24	54	4	2	7		91
Both Sexes	286,255	507,586	30986	19,182	42,791		886,800
Percent	32.28	57.24	3.49	2.16	4.83		100.00
Sample Size	194	344	21	13	29		601
Mean Length	513	560	514	606	555		544
Std. Error	2	2	4	6	6		1
Sample Size	194	344	21	13	29		601
Mean Weight	2.07	2.85	2.13	2.99	3.07		2.58
Std. Error	0.05	0.05	0.07	0.4	0.32		0.04
Sample Size	89	116	12	2	11		230
<u>Sample Period 2: July 4 - 7</u>							
Males	129,306	162,556	30,787	9,852	30,787		363,288
Percent	19.02	23.91	4.53	1.45	4.53		53.44
Sample Size	105	132	25	8	25		295
Mean Length	494	549	506	579	541		526
Std. Error	3	3	6	7	8		2
Sample Size	105	132	25	8	25		295
Mean Weight	2.20	2.84	2.00	3.44	2.68		2.54
Std. Error	0.12	0.11	0.11	0.04	0.27		0.07
Sample Size	18	33	8	2	8		69
Females	134,233	116,991	44,333	2,463	17,241	1231	316,492
Percent	19.75	17.21	6.52	0.36	2.54	0.18	46.56
Sample Size	109	95	36	2	14	1	257
Mean Length	484	528	487	552	516	503	503
Std. Error	2	3	4	4	7		2
Sample Size	109	95	36	2	14	1	257
Mean Weight	1.76	2.36	1.84	2.77	1.75		2
Std. Error	0.05	0.12	0.16		0.06		0.06
Sample Size	30	18	7	1	2		58
Both Sexes	263,539	279,547	75,120	12,315	48,028	1231	679,780
Percent	38.77	41.12	11.05	1.81	7.07	0.18	100.00
Sample Size	214	227	61	10	39	1	552
Mean Length	489	540	495	573	532	503	515
Std. Error	2	2	3	6	6		1
Sample Size	214	227	61	10	39	1	552
Mean Weight	1.98	2.64	1.91	3.31	2.35		2.29
Std. Error	0.06	0.08	0.1	0.04	0.17		0.05
Sample Size	48	51	15	3	10		127

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	Age Group						
	1.2	1.3	2.2	1.4	2.3	2.4	Total ^a
<u>Sample Period 3: July 8 - 10</u>							
Males	221,417	118,213	90,067	1876	39,404		470,977
Percent	27.31	14.58	11.11	0.23	4.86		58.10
Sample Size	118	63	48	1	21		251
Mean Length	506	569	520	645	578		531
Std. Error	2	4	3		4		2
Sample Size	118	63	48	1	21		251
Mean Weight	2.17	2.95	2.24		3.15		2.46
Std. Error	0.06	0.15	0.1		0.12		0.05
Sample Size	33	15	12		6		66
Females	163,247	97,573	60,045		18,764		339,629
Percent	20.14	12.04	7.41		2.31		41.90
Sample Size	87	52	32		10		181
Mean Length	488	536	504		545		508
Std. Error	3	3	5		6		2
Sample Size	87	52	32		10		181
Mean Weight	1.79	2.58	2.12		2.69		2.13
Std. Error	0.05	0.08	0.14		0.31		0.05
Sample Size	20	20	8		3		51
Both Sexes	384,664	215,786	150,112	1,876	58,168		810,606
Percent	47.45	26.62	18.52	0.23	7.18		100.00
Sample Size	205	115	80	1	31		432
Mean Length	498	554	513	645	568		521
Std. Error	2	3	3		3		1
Sample Size	205	115	80	1	31		432
Mean Weight	2.01	2.78	2.19		3.00		2.32
Std. Error	0.04	0.09	0.08		0.13		0.04
Sample Size	53	35	20		9		117
<u>Sample Period 4: July 11 - 27</u>							
Males	311,674	608,389	29,921	19,947	39,894		1,009,825
Percent	19.32	37.71	1.85	1.24	2.47		62.60
Sample Size	125	244	12	8	16		405
Mean Length	507	577	516	600	578		554
Std. Error	3	2	11	4	5		1
Sample Size	125	244	12	8	16		405
Mean Weight	2.11	3.37	2.66	3.77	3.39		2.97
Std. Error	0.07	0.06	0.47	0.19	0.11		0.04
Sample Size	32	64	3	5	10		114
Females	329,129	216,925	29,921	12,467	14,960		603,402
Percent	20.40	13.45	1.85	0.77	0.93		37.40
Sample Size	132	87	12	5	6		242
Mean Length	488	550	489	572	541		513
Std. Error	3	2	5	20	6		2
Sample Size	132	87	12	5	6		242
Mean Weight	1.84	2.84	1.89	3.68	2.46		2.26
Std. Error	0.05	0.07	0.11		0.12		0.04
Sample Size	39	31	5	1	3		79
Both Sexes	640,803	825,314	59,842	32,414	54,854		1,613,227
Percent	39.72	51.16	3.71	2.01	3.40		100.00
Sample Size	257	331	24	13	22		647
Mean Length	497	570	502	589	568		539
Std. Error	2	1	6	8	4		1
Sample Size	257	331	24	13	22		647
Mean Weight	1.97	3.23	2.28	3.74	3.14		2.70
Std. Error	0.05	0.04	0.24	0.19	0.09		0.03
Sample Size	71	95	8	6	13		193

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	Age Group						
	1.2	1.3	2.2	1.4	2.3	2.4	Total ^a
<u>All Periods Combined:</u>							
Males	864,546	1,157,706	169,957	44,955	129,267		2,366,431
Percent	21.67	29.01	4.26	1.13	3.24		59.30
Sample Size	485	621	98	26	75		1305
Mean Length	507	570	517	602	566		544
Std. Error	1	1	3	3	3		1
Sample Size	485	621	98	26	75		1305
Mean Weight	2.13	3.16	2.27	3.66	3.20		2.73
Std. Error	0.04	0.04	0.1	0.13	0.13		0.03
Sample Size	148	174	31	7	28		388
Females	710,715	670,527	146,103	20,832	74,574	1231	1,623,982
Percent	17.81	16.8	3.66	0.52	1.87	0.03	40.70
Sample Size	385	396	88	11	46	1	927
Mean Length	489	544	496	572	539	503	516
Std. Error	2	1	2	12	3		1
Sample Size	385	396	88	11	46	1	927
Mean Weight	1.83	2.67	1.98	3.38	2.37		2.24
Std. Error	0.03	0.04	0.08	0.4	0.09		0.02
Sample Size	113	123	24	4	15		279
Both Sexes	1,575,261	1,828,233	316,060	65,787	203,841	1231	3,990,413
Percent	39.48	45.82	7.92	1.65	5.11	0.03	100.00
Sample Size	870	1017	186	37	121	1	2232
Mean Length	499	561	507	593	557	503	532
Std. Error	1	1	2	5	2		1
Sample Size	870	1017	186	37	121	1	2232
Mean Weight	2.00	2.98	2.13	3.54	2.90		2.53
Std. Error	0.02	0.03	0.06	0.13	0.09		0.02
Sample Size	261	297	55	11	43		667

^a Total does not include Igushik Beach setnet catch (247,509) or Wood River Special Harvest Area (1,937,497).

Appendix A.10. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch, Wood River Special Harvest Area, Nushagak District, 1999.

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
<u>Sample Period 1: June 30 - July 2</u>						
Males	278,259	121,539	14393		1,599	415,790
Percent	35.73	15.61	1.85		0.21	53.39
Sample Size	174	76	9		1	260
Mean Length	502	561	509		567	520
Std. Error	2	4	9			2
Sample Size	174	76	9		1	260
Mean Weight	2.02	2.76				2.24
Std. Error	0.06	0.14				0.06
Sample Size	55	27				82
Females	203,098	145,526	11194		3198	363,016
Percent	26.08	18.69	1.44		0.41	46.61
Sample Size	127	91	7		2	227
Mean Length	490	538	496		535	510
Std. Error	2	3	10		30	2
Sample Size	127	91	7		2	227
Mean Weight	1.70	2.40	2.25		2.84	2.01
Std. Error	0.03	0.08				0.04
Sample Size	51	36	1		1	89
Both Sexes	481,357	267,065	25587		4,797	778,806
Percent	61.81	34.29	3.29		0.62	100.00
Sample Size	301	167	16		3	487
Mean Length	497	548	504		545	515
Std. Error	1	2	7		30	1
Sample Size	301	167	16		3	487
Mean Weight	1.88	2.56	2.25		2.84	2.13
Std. Error	0.04	0.08				0.03
Sample Size	106	63	1		1	171
<u>Sample Period 2: July 3 - 5</u>						
Males	113,776	72,955	15,633	1,737	7,817	211,918
Percent	29.11	18.67	4.00	0.44	2.00	54.22
Sample Size	131	84	18	2	9	244
Mean Length	503	564	503	549	535	526
Std. Error	2	3	6	48	17	2
Sample Size	131	83	18	2	9	243
Mean Weight	1.99	2.85	2.06	2.42	2.85	2.33
Std. Error	0.07	0.14	0.15		0.4	0.06
Sample Size	32	21	8	1	5	67
Females	84,245	58,191	18,239		18,239	178,914
Percent	21.56	14.89	4.67		4.67	45.78
Sample Size	97	67	21		21	206
Mean Length	487	543	480		532	509
Std. Error	2	4	4		6	2
Sample Size	97	67	21		21	206
Mean Weight	1.79	2.69	1.69		2.43	2.14
Std. Error	0.07	0.15	0.08		0.37	0.07
Sample Size	25	11	5		2	43
Both Sexes	198,021	131,146	33,872	1,737	26,056	390,832
Percent	50.67	33.56	8.67	0.44	6.67	100.00
Sample Size	228	151	39	2	30	450
Mean Length	496	555	491	549	533	518
Std. Error	1	2	4	48	7	1
Sample Size	228	150	39	2	30	449
Mean Weight	1.90	2.78	1.86	2.42	2.56	2.24
Std. Error	0.05	0.1	0.08		0.29	0.05
Sample Size	57	32	13	1	7	110

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Appendix A.10. (Page 2 of 3)

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
<u>Sample Period 3: July 6 - 8</u>						
Males	137,774	58,097	32,368	830	4,150	233,219
Percent	31.62	13.33	7.43	0.19	0.95	53.52
Sample Size	166	70	39	1	5	281
Mean Length	501	566	502	637	537	518
Std. Error	2	3	3		12	1
Sample Size	166	70	39	1	5	281
Mean Weight	1.93	2.99	1.92	4.34	3.55	2.23
Std. Error	0.06	0.11	0.09			0.05
Sample Size	36	19	11	1	1	68
Females	140,262	30,709	24,899		6,640	202,510
Percent	32.19	7.05	5.71		1.52	46.48
Sample Size	169	37	30		8	244
Mean Length	480	538	489		532	492
Std. Error	2	3	3		13	1
Sample Size	169	37	30		8	244
Mean Weight	1.66	2.40	1.77		2.38	1.81
Std. Error	0.02	0.06	0.08		0.04	0.02
Sample Size	47	13	5		2	67
Both Sexes	278,036	88,806	57,267	830	10,790	435,729
Percent	63.81	20.38	13.14	0.19	2.48	100.00
Sample Size	335	107	69	1	13	525
Mean Length	490	556	496	637	534	506
Std. Error	1	2	2		9	1
Sample Size	335	107	69	1	13	525
Mean Weight	1.79	2.79	1.85	4.34	2.83	2.03
Std. Error	0.03	0.08	0.06		0.04	0.03
Sample Size	83	32	16	1	3	135
<u>Sample Period 4: July 9 - 10</u>						
Males	6,338	1,494	951	45		8,828
Percent	31.11	7.33	4.67	0.22		43.33
Sample Size	140	33	21	1		195
Mean Length	505	559	524	614		517
Std. Error	2	5	6			2
Sample Size	140	33	21	1		195
Mean Weight	2.14	2.93	2.32			2.29
Std. Error	0.05	0.15	0.1			0.04
Sample Size	43	10	6			59
Females	7,561	2,264	1,494		226	11,545
Percent	37.11	11.11	7.33		1.11	56.67
Sample Size	167	50	33		5	255
Mean Length	488	542	496		570	501
Std. Error	2	3	3		17	1
Sample Size	167	50	33		5	255
Mean Weight	1.79	2.47	1.98		3.36	1.98
Std. Error	0.03	0.09	0.14		0.2	0.03
Sample Size	43	17	3		2	65
Both Sexes	13,899	3,758	2,445	45	226	20,373
Percent	68.22	18.45	12.00	0.22	1.11	100.00
Sample Size	307	83	54	1	5	450
Mean Length	496	549	507	614	570	508
Std. Error	1	2	3		17	1
Sample Size	307	83	54	1	5	450
Mean Weight	1.95	2.65	2.11		3.36	2.11
Std. Error	0.03	0.08	0.09		0.2	0.03
Sample Size	86	27	9		2	124

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	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
<u>Sample Period 5: July 11 - 27</u>						
Males	68,417	37,383	11,285		7,759	124,844
Percent	21.95	11.99	3.62		2.49	40.05
Sample Size	97	53	16		11	177
Mean Length	493	568	489		557	519
Std. Error	3	3	4		8	2
Sample Size	97	53	16		11	177
Mean Weight	1.19	3.02	1.34		2.83	1.85
Std. Error	0.16	0.18	0.4		0.16	0.11
Sample Size	27	20	4		5	56
Females	143,183	23,981	16,928		2821	186,913
Percent	45.93	7.69	5.43		0.90	59.95
Sample Size	203	34	24		4	265
Mean Length	481	537	482		532	489
Std. Error	1	5	3		18	1
Sample Size	203	34	24		4	265
Mean Weight	1.25	2.30	1.42			1.40
Std. Error	0.1	0.34	0.21			0.09
Sample Size	50	2	7			59
Both Sexes	211,600	61,364	28,213		10,580	311,757
Percent	67.87	19.68	9.05		3.39	100.00
Sample Size	300	87	40		15	442
Mean Length	485	556	484		551	501
Std. Error	1	3	2		7	1
Sample Size	300	87	40		15	442
Mean Weight	1.23	2.74	1.39		2.83	1.58
Std. Error	0.08	0.17	0.20		0.16	0.07
Sample Size	77	22	11		5	115
<u>All Periods Combined:</u>						
Males	604,564	291,468	74,630	2,612	21,325	994,599
Percent	31.2	15.04	3.85	0.13	1.10	51.33
Sample Size	708	316	103	4	26	1157
Mean Length	501	564	502	578	546	520
Std. Error	1	2	3	48	8	1
Sample Size	708	315	103	4	26	1156
Mean Weight	1.90	2.86	1.85	3.04	2.99	2.21
Std. Error	0.04	0.07	0.10		0.22	0.03
Sample Size	193	97	29	2	11	332
Females	578,349	260,671	72,754		31124	942,898
Percent	29.85	13.45	3.76		1.61	48.67
Sample Size	763	279	115		40	1197
Mean Length	485	539	487		533	502
Std. Error	1	2	2		6	1
Sample Size	763	279	115		40	1197
Mean Weight	1.59	2.46	1.75		2.47	1.87
Std. Error	0.03	0.06	0.07		0.27	0.03
Sample Size	216	79	21		7	323
Both Sexes	1,182,913	552,139	147,384	2,612	52,449	1,937,497
Percent	61.05	28.5	7.61	0.13	2.71	100.00
Sample Size	1471	595	218	4	66	2354
Mean Length	493	552	494	578	538	511
Std. Error	1	1	2	48	5	1
Sample Size	1471	594	218	4	66	2353
Mean Weight	1.75	2.67	1.80	3.04	2.68	2.04
Std. Error	0.02	0.05	0.06		0.19	0.02
Sample Size	409	176	50	2	18	655

Appendix A.11. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch, Igushik Beach setnet fishery, Nushagak District, 1999.

	Age Group				
	1.2	1.3	2.2	2.3	Total
<u>Sample period 1: June 16 - July 7</u>					
Males	17,493	23,973			41,466
Percent	18.88	25.87			44.76
Sample Size	81	111			192
Mean Length	528	583			560
Std. Error	4	3			2
Sample Size	81	111			192
Females	21,813	28,507	432	432	51,184
Percent	23.54	30.77	0.47	0.47	55.24
Sample Size	101	132	2	2	237
Mean Length	501	549	495	545	528
Std. Error	2	2	13	6	2
Sample Size	101	132	2	2	237
Both Sexes	39,306	52,480	432	432	92,650
Percent	42.42	56.64	0.47	0.47	100.00
Sample Size	182	243	2	2	429
Mean Length	513	564	495	545	542
Std. Error	2	2	13	6	1
Sample Size	182	243	2	2	429
<u>Sample period 2: July 8 - 21</u>					
Males	39,433	24,548	4178	522	68,681
Percent	25.46	15.85	2.70	0.34	44.35
Sample Size	151	94	16	2	263
Mean Length	525	572	528	583	543
Std. Error	3	3	6	6	2
Sample Size	151	94	16	2	263
Females	39,694	42,306	3,917	261	86,178
Percent	25.63	27.32	2.53	0.17	55.65
Sample Size	152	162	15	1	330
Mean Length	495	544	481	508	519
Std. Error	2	2	5		1
Sample Size	152	162	15	1	330
Both Sexes	79,127	66,854	8,095	783	154,859
Percent	51.10	43.17	5.23	0.51	100.00
Sample Size	303	256	31	3	593
Mean Length	510	555	505	558	529
Std. Error	2	2	4	6	1
Sample Size	303	256	31	3	593

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	Age Group				
	1.2	1.3	2.2	2.3	Total
<u>All Periods Combined:</u>					
Males	56,926	48,521	4,178	522	110,147
Percent	23.00	19.60	1.69	0.21	44.50
Sample Size	232	205	16	2	455
Mean Length	526	577	528	583	549
Std. Error	2	2	6	6	2
Sample Size	232	205	16	2	455
Females	61,507	70,813	4,349	693	137,362
Percent	24.85	28.61	1.76	0.28	55.50
Sample Size	253	294	17	3	567
Mean Length	497	546	483	531	522
Std. Error	2	1	5	6	1
Sample Size	253	294	17	3	567
Both Sexes	118,433	119,334	8,527	1,215	247,509
Percent	47.85	48.21	3.45	0.49	100.00
Sample Size	485	499	33	5	1022
Mean Length	511	559	505	553	534
Std. Error	2	1	4	4	1
Sample Size	485	499	33	5	1022

Appendix A.12. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon escapement, Wood River, 1999.

	Age Group				
	1.2	1.3	2.2	2.3	Total
<u>Sample Period 1: June 23 - July 3</u>					
Males	138,770	69,385	14,678		222,833
Percent	26.40	13.20	2.79		42.39
Sample Size	104	52	11		167
Mean Length	516	578	528		536
Std. Error	3	4	8		2
Sample Size	104	52	11		167
Females	190,809	97,406	14,678		302,893
Percent	36.29	18.53	2.79		57.61
Sample Size	143	73	11		227
Mean Length	493	548	503		511
Std. Error	2	4	8		2
Sample Size	143	73	11		227
Both Sexes	329,579	166,791	29,356		525,726
Percent	62.69	31.73	5.58		100.00
Sample Size	247	125	22		394
Mean Length	502	561	516		522
Std. Error	2	3	6		1
Sample Size	247	125	22		394
<u>Sample Period 2: July 4 - 8</u>					
Males	85,868	97,654	1,684	3367	188,573
Percent	12.59	14.32	0.25	0.49	27.65
Sample Size	51	58	1	2	112
Mean Length	524	584	505	591	556
Std. Error	6	5		2	4
Sample Size	51	58	1	2	112
Females	370,412	112,807	8,418	1,684	493,321
Percent	54.32	16.54	1.23	0.25	72.35
Sample Size	220	67	5	1	293
Mean Length	489	539	476	460	500
Std. Error	2	6	6		2
Sample Size	219	67	5	1	292
Both Sexes	456,280	210,461	10,102	5,051	681,894
Percent	66.91	30.86	1.48	0.74	100.00
Sample Size	271	125	6	3	405
Mean Length	495	560	481	547	515
Std. Error	2	4	6	2	2
Sample Size	270	125	6	3	404

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	Age Group				
	1.2	1.3	2.2	2.3	Total
<u>Sample Period 3: July 9 - 23</u>					
Males	32,376	33,955		1,579	67,910
Percent	10.62	11.14		0.52	22.28
Sample Size	41	43		2	86
Mean Length	496	571		566	535
Std. Error	4	4		15	3
Sample Size	41	43		2	86
Females	211,627	17,372	7,107	790	236,896
Percent	69.43	5.70	2.33	0.26	77.72
Sample Size	268	22	9	1	300
Mean Length	475	540	474	509	480
Std. Error	1	10	5		1
Sample Size	268	22	9	1	300
Both Sexes	244,003	51,327	7,107	2,369	304,806
Percent	80.05	16.84	2.33	0.78	100.00
Sample Size	309	65	9	3	386
Mean Length	478	561	474	547	492
Std. Error	1	4	5	15	1
Sample Size	309	65	9	3	386
<u>All Periods Combined:</u>					
Males	257,014	200,994	16,362	4,946	479,316
Percent	16.99	13.29	1.08	0.33	31.69
Sample Size	196	153	12	4	365
Mean Length	516	580	526	583	544
Std. Error	2	3	8	5	2
Sample Size	196	153	12	4	365
Females	772,848	227,585	30,203	2,474	1,033,110
Percent	51.10	15.05	2.00	0.16	68.31
Sample Size	631	162	25	2	820
Mean Length	486	543	489	476	498
Std. Error	1	3	4		1
Sample Size	630	162	25	2	819
Both Sexes	1,029,862	428,579	46,565	7,420	1,512,426
Percent	68.09	28.34	3.08	0.49	100.00
Sample Size	827	315	37	6	1,185
Mean Length	493	560	502	547	513
Std. Error	1	2	4	5	1
Sample Size	826	315	37	6	1,184

Appendix A.13. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon escapement in Igushik River, 1999.

	Age Group				
	1.2	1.3	2.2	2.3	Total
<u>Sample Period 1: June 30 - July 7</u>					
Males	43,931	60,203			104,134
Percent	18.88	25.87			44.76
Sample Size	81	111			192
Mean Length	528	583			560
Std. Error	4	3			2
Sample Size	81	111			192
Females	54,779	71,591	1,085	1,085	128,540
Percent	23.54	30.77	0.47	0.47	55.24
Sample Size	101	132	2	2	237
Mean Length	501	549	495	545	528
Std. Error	2	2	13	6	2
Sample Size	101	132	2	2	237
Both Sexes	98,710	131,794	1,085	1,085	232,674
Percent	42.42	56.64	0.47	0.47	100.00
Sample Size	182	243	2	2	429
Mean Length	513	564	495	545	542
Std. Error	2	2	13	6	1
Sample Size	182	243	2	2	429
<u>Sample Period 2: July 8 - 22</u>					
Males	54,203	33,742	5,743	718	94,406
Percent	25.46	15.85	2.70	0.34	44.35
Sample Size	151	94	16	2	263
Mean Length	525	572	528	583	543
Std. Error	3	3	6	6	2
Sample Size	151	94	16	2	263
Females	54,562	58,151	5,384	359	118,456
Percent	25.63	27.32	2.53	0.17	55.65
Sample Size	152	162	15	1	330
Mean Length	495	544	481	508	519
Std. Error	2	2	5		1
Sample Size	152	162	15	1	330
Both Sexes	108,765	91,893	11,127	1,077	212,862
Percent	51.10	43.17	5.23	0.51	100.00
Sample Size	303	256	31	3	593
Mean Length	510	555	505	558	529
Std. Error	2	2	4	6	1
Sample Size	303	256	31	3	593

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	Age Group				
	1.2	1.3	2.2	2.3	Total
<u>All Periods Combined:</u>					
Males	98,134	93,945	5,743	718	198,540
Percent	22.03	21.09	1.29	0.16	44.56
Sample Size	232	205	16	2	455
Mean Length	526	579	528	583	551
Std. Error	2	2	6	6	2
Sample Size	232	205	16	2	455
Females	109,341	129,742	6,469	1,444	246,996
Percent	24.54	29.12	1.45	0.32	55.44
Sample Size	253	294	17	3	567
Mean Length	498	547	484	535	523
Std. Error	2	1	5	6	1
Sample Size	253	294	17	3	567
Both Sexes	207,475	223,687	12,212	2,162	445,536
Percent	46.57	50.21	2.74	0.49	100.00
Sample Size	485	499	33	5	1022
Mean Length	511	560	504	551	536
Std. Error	1	1	4	4	1
Sample Size	485	499	33	5	1022

Appendix A.14. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon escapement, Nushagak River, 1999.

	Age Group							
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total
<u>Sample Period 1: June 9 - July 4</u>								
Males	3028	14,385		43,533		8,706	757	70,409
Percent	2.07	9.82		29.72		5.94	0.52	48.06
Sample Size	8	38		115		23	2	186
Mean Length	555	453		575		623	616	556
Std. Error	22	8		4		6	2	3
Sample Size	8	37		115		23	2	185
Females	3,028	2,650	379	62,459		6,814	757	76,087
Percent	2.07	1.81	0.26	42.64		4.65	0.52	51.94
Sample Size	8	7	1	165		18	2	201
Mean Length	550	493	554	552		594	552	554
Std. Error	7	18		2		6	7	2
Sample Size	8	7	1	165		18	2	201
Both Sexes	6,056	17,035	379	105,992		15,520	1514	146,496
Percent	4.13	11.63	0.26	72.35		10.59	1.03	100.00
Sample Size	16	45	1	280		41	4	387
Mean Length	552	459	554	562		610	584	555
Std. Error	11	8		2		4	4	2
Sample Size	16	44	1	280		41	4	386
<u>Sample Period 2: July 5 - August 25</u>								
Males		23,365	1,230	48,576		20,906		94,077
Percent		14.13	0.74	29.37		12.64		56.88
Sample Size		38	2	79		34		153
Mean Length		432	589	585		611		553
Std. Error		7	8	3		13		4
Sample Size		38	2	79		34		153
Females		6,764		47,960	1230	13,527	1845	71,326
Percent		4.09		29.00	0.74	8.18	1.12	43.12
Sample Size		11		78	2	22	3	116
Mean Length		479		546	523	563	552	542
Std. Error		17		3	39	6	22	3
Sample Size		11		76	2	22	3	114
Both Sexes		30,129	1,230	96,536	1230	34,433	1,845	165,403
Percent		18.22	0.74	58.36	0.74	20.82	1.12	100.00
Sample Size		49	2	157	2	56	3	269
Mean Length		442	589	566	523	592	552	548
Std. Error		7	8	2	39	8	22	2
Sample Size		49	2	155	2	56	3	267

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	Age Group							
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total
<u>All Periods Combined:</u>								
Males	3,028	37,750	1,230	92,109		29,612	757	164,486
Percent	0.97	12.1	0.39	29.53		9.49	0.24	52.74
Sample Size	8	76	2	194		57	2	339
Mean Length	555	440	589	581		615	616	554
Std. Error	22	5	8	3		9	2	3
Sample Size	8	75	2	194		57	2	338
Females	3,028	9,414	379	110,419	1230	20,341	2,602	147,413
Percent	0.97	3.02	0.12	35.4	0.39	6.52	0.83	47.26
Sample Size	8	18	1	243	2	40	5	317
Mean Length	550	483	554	549	523	574	552	548
Std. Error	7	13		2	39	4	15	2
Sample Size	8	18	1	241	2	40	5	315
Both Sexes	6,056	47,164	1,609	202,528	1230	49,953	3,359	311,899
Percent	1.94	15.12	0.52	64.93	0.39	16.02	1.08	100.00
Sample Size	16	94	3	437	2	97	7	656
Mean Length	552	448	581	564	523	598	566	551
Std. Error	11	5	8	2	39	6	12	2
Sample Size	16	93	3	435	2	97	7	653

Appendix A.15. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon escapement, Nuyakuk River, 1999.

	Age Group							
	0.2	0.3	1.2	1.3	2.2	1.4	2.3	Total
<u>Sample period 1: July 4 - 26</u>								
Males	308	924	4,928	20,329		1540	1232	29,261
Percent	0.38	1.14	6.08	25.10		1.90	1.52	36.12
Sample Size	1	3	16	66		5	4	95
Mean Length	407	630	459	589		602	606	568
Std. Error		9	15	3		9	5	3
Sample Size	1	3	16	66		5	4	95
Females	308	1,540	10,164	36,037	616	2,464	616	51,745
Percent	0.38	1.90	12.55	44.49	0.76	3.04	0.76	63.88
Sample Size	1	5	33	117	2	8	2	168
Mean Length	565	547	483	557	500	593	575	544
Std. Error		16	8	3	15	8	13	2
Sample Size	1	5	33	117	2	8	2	168
Both Sexes	616	2,464	15,092	56,366	616	4,004	1848	81,006
Percent	0.76	3.04	18.63	69.58	0.76	4.94	2.28	100.00
Sample Size	2	8	49	183	2	13	6	263
Mean Length	486	578	475	569	500	596	596	552
Std. Error		10	7	2	15	6	5	2
Sample Size	2	8	49	183	2	13	6	263

Appendix A.16. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch, Togiak River Section, Togiak District, 1999.

	Age Group						
	0.3	1.2	1.3	2.2	1.4	2.3	Total
<u>Sample Period 1: June 15 - July 7</u>							
Males	109	10752	17,594	543	543		29,541
Percent	0.23	23.08	37.76	1.17	1.17		63.40
Sample Size	1	99	162	5	5		272
Mean Length	586	543	582	568	596		568
Std. Error		3	2	8	14		2
Sample Size	1	99	162	5	5		272
Mean Weight		2.58	3.17		3.66		2.96
Std. Error		0.16	0.17		0.74		0.12
Sample Size		12	26		2		40
Females	109	5322	11,186		217	217	17,051
Percent	0.23	11.42	24.01		0.47	0.47	36.60
Sample Size	1	49	103		2	2	157
Mean Length	586	526	560		557	555	550
Std. Error		4	2		6	14	2
Sample Size	1	48	103		2	2	156
Mean Weight		2.18	2.82				2.61
Std. Error		0.12	0.1				0.08
Sample Size		9	12				21
Both Sexes	218	16,074	28,780	543	760	217	46,592
Percent	0.47	34.50	61.77	1.17	1.63	0.47	100.00
Sample Size	2	148	265	5	7	2	429
Mean Length	586	537	574	568	585	555	561
Std. Error		2	2	8	10	14	1
Sample Size	2	147	265	5	7	2	428
Mean Weight		2.45	3.03		3.66		2.83
Std. Error		0.11	0.11		0.74		0.08
Sample Size		21	38		2		61
<u>Sample Period 2: July 12 - 17</u>							
Males	1105	35,922	37,304	1105	1105	553	77,094
Percent	0.93	30.30	31.47	0.93	0.93	0.47	65.03
Sample Size	4	130	135	4	4	2	279
Mean Length	603	542	582	547	605	581	564
Std. Error	12	2	2	14	22	13	2
Sample Size	4	130	135	4	4	2	279
Mean Weight	3.91	2.51	3.21		3.39		2.89
Std. Error		0.05	0.08		0.83		0.05
Sample Size	1	36	38		2		77
Females	1105	14,093	23,764	829	1105	553	41,449
Percent	0.93	11.89	20.05	0.70	0.93	0.47	34.97
Sample Size	4	51	86	3	4	2	150
Mean Length	566	528	563	535	564	567	551
Std. Error	7	3	2	11	14	18	2
Sample Size	4	50	86	3	4	2	149
Mean Weight	3.17	2.14	2.80				2.57
Std. Error		0.11	0.09				0.07
Sample Size	1	7	17				25
Both Sexes	2210	50,015	61,068	1934	2210	1,106	118,543
Percent	1.86	42.19	51.52	1.63	1.86	0.93	100.00
Sample Size	8	181	221	7	8	4	429
Mean Length	584	538	575	542	584	574	559
Std. Error	7	2	2	9	13	11	1
Sample Size	8	180	221	7	8	4	428
Mean Weight	3.54	2.41	3.05		3.39		2.78
Std. Error		0.05	0.06		0.83		0.04
Sample Size	2	43	55		2		102

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	Age Group						
	0.3	1.2	1.3	2.2	1.4	2.3	Total
<u>Sample Period 3: July 19 - August 25</u>							
Males	892	70,950	34,806	12048		5,355	124,051
Percent	0.49	39.07	19.16	6.63		2.95	68.30
Sample Size	2	159	78	27		12	278
Mean Length	553	544	584	545		569	556
Std. Error	32	2	3	4		7	2
Sample Size	2	159	78	27		12	278
Mean Weight	1.99	2.55	3.19	2.54		2.99	2.74
Std. Error		0.06	0.13	0.11		0.25	0.05
Sample Size	1	35	19	10		5	70
Females	892	26,328	18,741	3570	446	7,586	57,563
Percent	0.49	14.50	10.32	1.97	0.25	4.18	31.70
Sample Size	2	59	42	8	1	17	129
Mean Length	588	532	571	527	533	561	549
Std. Error	10	3	3	5		5	2
Sample Size	2	59	42	8	1	17	129
Mean Weight		2.30	2.74	2.41		2.63	2.50
Std. Error		0.08	0.12	0.01		0.1	0.06
Sample Size		17	8	2		4	31
Both Sexes	1,784	97,278	53,547	15618	446	12,941	181,614
Percent	0.98	53.56	29.48	8.60	0.25	7.13	100.00
Sample Size	4	218	120	35	1	29	407
Mean Length	570	541	579	541	533	564	554
Std. Error	17	2	2	3		4	1
Sample Size	4	218	120	35	1	29	407
Mean Weight	1.99	2.48	3.03	2.51		2.78	2.67
Std. Error		0.05	0.09	0.08		0.12	0.04
Sample Size	1	52	27	12		9	101
<u>All Periods Combined:</u>							
Males	2106	117,624	89,704	13696	1648	5,908	230,686
Percent	0.61	33.92	25.87	3.95	0.48	1.70	66.53
Sample Size	7	388	375	36	9	14	829
Mean Length	581	543	583	546	602	570	560
Std. Error	16	1	2	4	15	7	1
Sample Size	7	388	375	36	9	14	829
Mean Weight	3.05	2.54	3.19	2.54	3.48	2.99	2.82
Std. Error		0.04	0.07	0.11	0.61	0.25	0.04
Sample Size	2	83	83	10	4	5	187
Females	2,106	45,743	53,691	4399	1768	8,356	116,063
Percent	0.61	13.19	15.48	1.27	0.51	2.41	33.47
Sample Size	7	159	231	11	7	21	436
Mean Length	576	531	565	528	555	562	550
Std. Error	6	2	1	5	11	5	1
Sample Size	7	157	231	11	7	21	434
Mean Weight	3.17	2.24	2.78	2.41		2.63	2.54
Std. Error		0.06	0.06	0.01		0.1	0.04
Sample Size	1	33	37	2		4	77
Both Sexes	4,212	163,367	143,395	18095	3416	14,264	346,749
Percent	1.21	47.11	41.35	5.22	0.99	4.11	100.00
Sample Size	14	547	606	47	16	35	1,265
Mean Length	578	540	576	542	578	565	557
Std. Error	8	1	1	3	10	4	1
Sample Size	14	545	606	47	16	35	1,263
Mean Weight	3.09	2.46	3.04	2.51	3.48	2.78	2.73
Std. Error		0.03	0.05	0.08	0.61	0.12	0.03
Sample Size	3	116	120	12	4	9	264

Appendix A.17. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch, Kulukak Section, Togiak District, 1999.

	Age Group						Total
	0.3	1.2	1.3	2.2	1.4	2.3	2.4
<u>Sample period: June 15 - July 21</u>							
Males	64	11,193	12,610	643	386	836	25,732
Percent	0.17	28.95	32.62	1.66	1	2.16	66.56
Sample Size	1	174	196	10	6	13	400
Mean Length	578	550	585	540	600	577	568
Std. Error		2	2	8	13	10	2
Sample Size	1	174	196	10	6	13	400
Mean Weight		2.49	3.01	2.12	3.91	3.68	2.8
Std. Error		0.09	0.08	0.13		0.31	0.06
Sample Size		39	52	3	1	4	99
Females	64	2,573	9,200	193	257	579	12,930
Percent	0.17	6.66	23.8	0.5	0.66	1.5	33.44
Sample Size	1	40	143	3	4	9	201
Mean Length	548	533	561	534	580	555	555
Std. Error		4	2	15	6	10	2
Sample Size	1	40	143	3	4	9	201
Mean Weight	2.61	2.51	2.79		2.88	3.15	2.75
Std. Error		0.13	0.05			3.29	0.04
Sample Size	1	7	28		1	1	39
Both Sexes	128	13,766	21,810	836	643	1,415	38,662
Percent	0.33	35.61	56.41	2.16	1.66	3.66	100
Sample Size	2	214	339	13	10	22	601
Mean Length	563	547	575	539	592	568	564
Std. Error		2	1	7	8	7	1
Sample Size	2	214	339	13	10	22	601
Mean Weight	2.61	2.49	2.92	2.12	3.5	3.46	2.78
Std. Error		0.07	0.05	0.13		0.31	0.04
Sample Size	1	46	80	3	2	5	138

Appendix A.18. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon escapement, Togiak River, 1999.

	Age Group							
	1.1	0.3	1.2	1.3	2.2	1.4	2.3	Total ^a
<u>Sample period 1: July 5 - 19</u>								
Males	135		22,081	2,693	539		135	25,583
Percent	0.25		41.31	5.04	1.01		0.25	47.86
Sample Size	1		164	20	4		1	190
Mean Length	550		524	564	520		590	529
Std. Error			2	13	11			2
Sample Size	1		162	20	4		1	188
Females	269		23,967	3,231	269	135		27,871
Percent	0.50		44.84	6.04	0.50	0.25		52.14
Sample Size	2		178	24	2	1		207
Mean Length	496		494	542	488	489		500
Std. Error	54		2	6	13			2
Sample Size	2		177	24	2	1		206
Both Sexes	404		46,048	5,924	808	135	135	53,454
Percent	0.76		86.15	11.08	1.51	0.25	0.25	100.00
Sample Size	3		342	44	6	1	1	397
Mean Length	514		509	552	509	489	590	514
Std. Error	54		2	7	8			2
Sample Size	3		339	44	6	1	1	394
<u>Sample period 2: July 20 - August 4</u>								
Males	206	206	36,821	4,114	2,263	206	206	44022
Percent	0.20	0.20	35.94	4.02	2.21	0.20	0.20	42.97
Sample Size	1	1	179	20	11	1	1	214
Mean Length	470	345	510	568	496	690	640	515
Std. Error			2	8	12			2
Sample Size	1	1	179	20	10	1	1	213
Females			48,547	3,086	6,583		206	58422
Percent			47.39	3.01	6.43		0.20	57.03
Sample Size			236	15	32		1	284
Mean Length			475	533	475		592	479
Std. Error			2	8	4			2
Sample Size			236	15	32		1	284
Both Sexes	206	206	85,368	7,200	8,846	206	412	102444
Percent	0.20	0.20	83.33	7.03	8.63	0.20	0.40	100.00
Sample Size	1	1	415	35	43	1	2	498
Mean Length	470	345	490	553	481	690	616	494
Std. Error			2	6	4			1
Sample Size	1	1	415	35	42	1	2	497

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	Age Group							
	1.1	0.3	1.2	1.3	2.2	1.4	2.3	Total ^a
<u>All Periods Combined:</u>								
Males	341	206	58,902	6,807	2,802	206	341	69,605
Percent	0.22	0.13	37.78	4.37	1.80	0.13	0.22	44.65
Sample Size	2	1	343	40	15	1	2	404
Mean Length	502	345	515	566	501	690	620	520
Std. Error			2	7	10			2
Sample Size	2	1	341	40	14	1	2	401
Females	269		72,514	6,317	6,852	135	206	86,293
Percent	0.17		46.51	4.05	4.40	0.09	0.13	55.35
Sample Size	2		414	39	34	1	1	491
Mean Length	496		481	538	476	489	592	485
Std. Error	54		2	5	4			1
Sample Size	2		413	39	34	1	1	490
Both Sexes	610	206	131,416	13,124	9,654	341	547	155,898
Percent	0.39	0.13	84.30	8.42	6.19	0.22	0.35	100.00
Sample Size	4	1	757	79	49	2	3	895
Mean Length	499	345	497	553	483	610	610	501
Std. Error	54		1	4	4			1
Sample Size	4	1	754	79	48	2	3	891

^a Total does not include (40,238) sockeye salmon counted in the tributaries and mainstem Togiak River, below the counting towers.

Appendix A.19. Age and size (length in mm and weight in kg) composition of chinook salmon commercial catch, Nushagak District, 1999.

	Age Group					Total
	1.1	1.2	1.3	1.4	1.5	
<u>Sample Period: June 1 - July 31</u>						
Both Sexes	51	2,249	3,109	5,408	76	10,893
Percent	0.47	20.65	28.54	49.65	0.70	100.00
Sample Size	2	89	123	214	3	431
Mean Length	462	559	757	852	900	763
Std. Error	53	8	9	9	56	5
Sample Size	2	89	123	214	3	431
Mean Weight	1.10	4.00	14.72	14.06	11.98	12.09
Std. Error		0.49	2.67	1.55	2.65	1.09
Sample Size	1	28	54	118	3	204

Appendix A.20. Age and size (length in mm and weight in kg) composition of chinook salmon escapement, Nushagak River, 1999.

	Age Group						Total
	1.1	1.2	1.3	1.4	2.3	1.5	
<u>ALL Periods Combined:</u>							
Both Sexes	426	9,107	19,943	32,244	46	565	62,331
Percent	0.68	14.61	32.00	51.73	0.07	0.91	100.00
Sample Size	9	192	420	678	1	12	1,312
Mean Length	442	540	752	849	625	898	770
Std. Error	8	4	3	2		22	2
Sample Size	9	184	407	664	1	12	1,277

Appendix A.21. Age and size (length in mm and weight in kg) composition of chinook salmon commercial catch, Togiak River Section, Togiak District, 1999.

	Age Group				Total
	1.2	1.3	1.4	1.5	
<u>Sample Period: June 15 - August 25</u>					
Both Sexes	1,556	4,743	4,418	100	10,817
Percent	14.38	43.85	40.84	0.92	100.00
Sample Size	62	189	176	4	431
Mean Length	658	785	854	822	795
Std. Error	11	6	5	54	4
Sample Size	62	189	176	4	431
Mean Weight	4.63	7.74	10.43	5.00	8.38
Std. Error	0.47	0.37	0.43		0.25
Sample Size	16	58	46	1	121

Appendix A.22. Age, sex, and size (length in mm and weight in kg) composition of chum salmon commercial catch, Nushagak District, 1999.

	Age Group				
	0.3	0.4	1.3	0.5	Total
<u>Sample Period: June 16 - July 27</u>					
Males	44,490	25,261	377	1,131	71,259
Percent	26.05	14.79	0.22	0.66	41.72
Sample Size	118	67	1	3	189
Mean Length	584	593	572	635	588
Std. Error	2	4		12	2
Sample Size	118	67	1	3	189
Mean Weight	3.60	3.54			3.58
Std. Error	0.2	0.38			0.19
Sample Size	12	5			17
Females	70,882	28,654			99,536
Percent	41.50	16.78			58.28
Sample Size	188	76			264
Mean Length	567	572			568
Std. Error	2	3			2
Sample Size	188	76			264
Mean Weight	2.88	2.86			2.87
Std. Error	0.06	0.09			0.05
Sample Size	33	11			44
Both Sexes	115,372	53,915	377	1,131	170,795
Percent	67.55	31.57	0.22	0.66	100.00
Sample Size	306	143	1	3	453
Mean Length	573	582	572	635	576
Std. Error	1	2		12	1
Sample Size	306	143	1	3	453
Mean Weight	3.16	3.18			3.16
Std. Error	0.09	0.19			0.08
Sample Size	45	16			61

Appendix A.23. Age, sex, and size (length in mm and weight in kg) composition of chum salmon escapement, Nushagak River, 1999.

	Age Group			Total
	0.3	0.4	0.5	
<u>Sample Period: June 9 - August 5</u>				
Males	57,842	41,428	1,563	100,833
Percent	23.87	17.10	0.65	41.61
Sample Size	74	53	2	129
Mean Length	592	613	587	600
Std. Error	3	4	7	3
Sample Size	74	53	2	129
Females	89,890	50,807	782	141,479
Percent	37.10	20.97	0.32	58.39
Sample Size	115	65	1	181
Mean Length	568	578	660	572
Std. Error	2	3		2
Sample Size	115	64	1	180
Both Sexes	147,732	92,235	2,345	242,312
Percent	60.97	38.06	0.97	100.00
Sample Size	189	118	3	310
Mean Length	577	594	611	584
Std. Error	2	3	7	2
Sample Size	189	117	3	309

Appendix A.24. Age, sex, and size (length in mm and weight in kg) composition of chum salmon commercial catch, Togiak River Section, Togiak District, 1999.

	Age Group				
	0.2	0.3	0.4	0.5	Total
<u>Sample Period: June 15 - August 25</u>					
Males	770	46,952	15,834	550	64,106
Percent	0.78	47.34	15.96	0.55	64.63
Sample Size	7	427	144	5	583
Mean Length	578	593	599	602	594
Std. Error	12	1	3	21	1
Sample Size	7	427	144	5	583
Mean Weight	2.99	3.31	3.48		3.35
Std. Error	0.38	0.06	0.21		0.07
Sample Size	3	80	21		104
Females	330	27,270	6,817	660	35,077
Percent	0.33	27.49	6.87	0.67	35.37
Sample Size	3	248	62	6	319
Mean Length	556	582	592	589	584
Std. Error	6	2	6	12	2
Sample Size	3	247	62	6	318
Mean Weight		2.93	3.03		2.95
Std. Error		0.05	0.1		0.04
Sample Size		60	8		68
Both Sexes	1,100	74,222	22,651	1,210	99,183
Percent	1.11	74.83	22.84	1.22	100.00
Sample Size	10	675	206	11	902
Mean Length	572	589	597	595	590
Std. Error	8	1	3	12	1
Sample Size	10	674	206	11	901
Mean Weight	2.99	3.17	3.34		3.21
Std. Error	0.38	0.04	0.15		0.05
Sample Size	3	140	29		172

Appendix A.25. Age, sex, and size (length in mm and weight in kg) composition of coho salmon escapement, Nushagak River, 1999.

	Age Group			
	1.1	2.1	3.1	Total
<u>Sample Period: July 10 - August 25</u>				
Males	1,491	16,215	2,609	20,315
Percent	4.28	46.52	7.49	58.29
Sample Size	8	87	14	109
Mean Length	517	539	534	536
Std. Error	16	5	17	5
Sample Size	8	87	14	109
Females	1,305	11,928	1,305	14,538
Percent	3.74	34.22	3.74	41.71
Sample Size	7	64	7	78
Mean Length	524	559	571	557
Std. Error	16	4	10	4
Sample Size	7	64	7	78
Both Sexes	2,796	28,143	3,914	34,853
Percent	8.02	80.75	11.23	100.00
Sample Size	15	151	21	187
Mean Length	520	547	547	545
Std. Error	11	4	12	3
Sample Size	15	151	21	187

Appendix B.1. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch, Naknek-Kvichak District, 2000.

	Age Group						
	1.2	1.3	2.2	1.4	2.3	3.2	Total ^a
<u>Sample Period 1: June 9 - June 22</u>							
Males	9,639	169,114	16,649	876	14,020		210,298
Percent	2.05	35.94	3.54	0.19	2.98		44.69
Sample Size	11	193	19	1	16		240
Mean Length	509	577	523	580	564		569
Std. Error	8	2	7		9		2
Sample Size	11	192	19	1	16		239
Mean Weight	2.12	3.23	2.39		2.63		3.07
Std. Error	0.11	0.08	0.09		0.62		0.08
Sample Size	7	66	7		5		85
Females	5,257	217,308	13,144	876	23,659		260,244
Percent	1.12	46.18	2.79	0.19	5.03		55.31
Sample Size	6	248	15	1	27		297
Mean Length	500	560	511	573	562		557
Std. Error	10	2	7		5		1
Sample Size	6	248	15	1	27		297
Mean Weight	1.93	2.76	2.60		2.85		2.74
Std. Error	0.07	0.04	0.39		0.13		0.04
Sample Size	2	104	7		15		128
Both Sexes	14,896	386,422	29,793	1,752	37,679		470,542
Percent	3.17	82.12	6.33	0.37	8.01		100.00
Sample Size	17	441	34	2	43		537
Mean Length	506	568	518	577	563		562
Std. Error	6	1	5		5		1
Sample Size	17	440	34	2	43		536
Mean Weight	2.05	2.97	2.48		2.77		2.89
Std. Error	0.08	0.04	0.18		0.25		0.04
Sample Size	9	170	14		20		213
<u>Sample Period 2: June 23 - June 24</u>							
Males	6,696	62,405	6,696	268	3,750		79,815
Percent	3.92	36.58	3.92	0.16	2.20		46.78
Sample Size	25	233	25	1	14		298
Mean Length	521	577	530	592	590		569
Std. Error	6	2	4		7		2
Sample Size	25	232	25	1	14		297
Mean Weight	2.57	3.17	2.51	3.93	2.98		3.06
Std. Error	0.13	0.06	0.05		0.23		0.05
Sample Size	7	76	11	1	7		102
Females	3,482	75,261	5,357		6,696		90,796
Percent	2.04	44.11	3.14		3.92		53.22
Sample Size	13	281	20		25		339
Mean Length	499	562	510		568		557
Std. Error	13	1	5		5		1
Sample Size	13	281	20		25		339
Mean Weight	2.11	2.85	2.14		2.94		2.79
Std. Error	0.06	0.05	0.1		0.14		0.04
Sample Size	4	100	4		13		121
Both Sexes	10,178	137,666	12,053	268	10,446		170,611
Percent	5.97	80.69	7.06	0.16	6.12		100.00
Sample Size	38	514	45	1	39		637
Mean Length	513	569	521	592	576		563
Std. Error	6	1	3		4		1
Sample Size	38	513	45	1	39		636
Mean Weight	2.41	3.00	2.35	3.93	2.95		2.91
Std. Error	0.09	0.04	0.05		0.12		0.03
Sample Size	11	176	15	1	20		223

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Appendix B.1. (Page 2 of 3)

	Age Group						
	1.2	1.3	2.2	1.4	2.3	3.2	Total ^a
<u>Sample Period 3: June 25 - June 26</u>							
Males	31,010	257,775	39,732		27,134	969	356,620
Percent	5.34	44.41	6.84		4.67	0.17	61.44
Sample Size	32	266	41		28	1	368
Mean Length	525	565	528		566	509	558
Std. Error	6	2	5		4		2
Sample Size	32	265	41		28	1	367
Mean Weight	2.52	3.14	2.57		3.20		3.03
Std. Error	0.12	0.04	0.1		0.13		0.03
Sample Size	22	161	31		14		228
Females	12,598	162,805	27,134		21,320		223,857
Percent	2.17	28.05	4.67		3.67		38.56
Sample Size	13	168	28		22		231
Mean Length	504	553	500		552		543
Std. Error	11	2	6		5		2
Sample Size	13	168	28		22		231
Mean Weight	2.00	2.84	2.24		2.66		2.70
Std. Error	0.14	0.04	0.09		0.16		0.03
Sample Size	8	89	18		9		124
Both Sexes	43,608	420,580	66,866		48,454	969	580,477
Percent	7.51	72.45	11.52		8.35	0.17	100.00
Sample Size	45	434	69		50	1	599
Mean Length	519	560	517		560	509	552
Std. Error	5	1	4		3		1
Sample Size	45	433	69		50	1	598
Mean Weight	2.37	3.02	2.44		2.96		2.90
Std. Error	0.09	0.03	0.07		0.1		0.02
Sample Size	30	250	49		23		352
<u>Sample Period 4: June 27</u>							
Males	6,908	73,863	13,285		6,377		100,433
Percent	3.54	37.87	6.81		3.27		51.50
Sample Size	13	139	25		12		189
Mean Length	511	573	530		595		565
Std. Error	6	2	5		9		2
Sample Size	13	139	25		12		189
Females	5,314	71,205	9,034		9,034		94,587
Percent	2.72	36.51	4.63		4.63		48.50
Sample Size	10	134	17		17		178
Mean Length	507	551	513		560		546
Std. Error	8	4	7		5		3
Sample Size	10	134	17		17		178
Both Sexes	12,222	145,068	22,319		15,411		195,020
Percent	6.27	74.39	11.44		7.90		100.00
Sample Size	23	273	42		29		367
Mean Length	509	562	523		574		555
Std. Error	5	2	4		5		2
Sample Size	23	273	42		29		367

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Appendix B.1. (Page 3 of 3)

	Age Group						
	1.2	1.3	2.2	1.4	2.3	3.2	Total ^a
<u>Sample Period: 5: June 28 - August 23</u>							
Males	101,175	809,396	112,015		158,989	3,613	185,188
Percent	4.38	35.05	4.85		6.89	0.16	51.33
Sample Size	28	224	31		44	1	328
Mean Length	507	565	522		562	537	555
Std. Error	5	2	4		3		1
Sample Size	28	224	31		44	1	328
Mean Weight		3.03	2.31		2.96		2.95
Std. Error		0.11	0.09		0.15		0.08
Sample Size		31	2		6		39
Females	46,974	813,010	133,695	3,613	126,468		123,760
Percent	2.03	35.21	5.79	0.16	5.48		48.67
Sample Size	13	225	37	1	35		311
Mean Length	501	547	505	569	547		540
Std. Error	8	1	4		3		1
Sample Size	13	225	37	1	35		311
Mean Weight	2.63	2.58			2.59		2.58
Std. Error	0.49	0.05			0.13		0.05
Sample Size	2	28			2		32
Both Sexes	148,149	1,622,406	245,710	3,613	285,457	3,613	308,948
Percent	6.42	70.27	10.64	0.16	12.36	0.16	100.00
Sample Size	41	449	68	1	79	1	639
Mean Length	505	556	513	569	555	537	548
Std. Error	4	1	3		2		1
Sample Size	41	449	68	1	79	1	639
Mean Weight	2.63	2.8	2.31		2.80		2.77
Std. Error	0.49	0.06	0.09		0.1		0.05
Sample Size	2	59	2		8		71
<u>All Periods Combined:</u>							
Males	155,428	1,372,553	188,377	1,144	210,270	4,582	1,932,354
Percent	4.17	36.84	5.06	0.03	5.64	0.12	51.87
Sample Size	109	1,055	141	2	114	2	1,423
Mean Length	511	567	524	583	564	531	558
Std. Error	4	1	3		3		1
Sample Size	109	1,052	141	2	114	2	1,420
Mean Weight	2.45	3.08	2.38	3.93	2.97		2.98
Std. Error	0.08	0.07	0.06		0.12		0.05
Sample Size	36	334	51	1	32		454
Females	73,625	1,339,589	188,364	4,489	187,177		1,793,244
Percent	1.98	35.96	5.06	0.12	5.02		48.13
Sample Size	55	1,056	117	2	126		1,356
Mean Length	502	551	505	570	551		544
Std. Error	5	1	3		2		1
Sample Size	55	1,056	117	2	126		1,356
Mean Weight	2.43	2.66	2.33		2.65		2.64
Std. Error	0.34	0.03	0.13		0.1		0.03
Sample Size	16	321	29		39		405
Both Sexes	229,053	2,712,142	376,741	5,633	397,447	4,582	3,725,598
Percent	6.15	72.8	10.11	0.15	10.67	0.12	100.00
Sample Size	164	2,111	258	4	240	2	2,779
Mean Length	508	559	515	572	558	531	551
Std. Error	3	1	2		2		1
Sample Size	164	2,108	258	4	240	2	2,776
Mean Weight	2.44	2.87	2.37	3.93	2.82		2.82
Std. Error	0.2	0.04	0.06		0.08		0.03
Sample Size	52	655	80	1	71		859

^a Total does not include Naknek River Special Harvest Area catch (1,001,463).

Appendix B.2. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch, Naknek River Special Harvest Area, Naknek-Kvichak District, 2000.

	Age Group						
	1.2	0.4	1.3	2.2	1.4	2.3	Total
<u>Sample Period 1: July 3 - June 8</u>							
Males	14,531		199,070	11,625	1,453	53,764	280,443
Percent	3.33		45.67	2.67	0.33	12.33	64.33
Sample Size	10		137	8	1	37	193
Mean Length	519		573	534	613	566	568
Std. Error	9		2	9		4	2
Sample Size	10		137	8	1	37	193
Mean Weight	2.46		3.38	2.76		3.51	3.33
Std. Error			0.12	0.16		0.26	0.1
Sample Size	1		20	2		5	28
Females	11,625		107,526	11,625		24,702	155,478
Percent	2.67		24.67	2.67		5.67	35.67
Sample Size	8		74	8		17	107
Mean Length	490		552	505		556	545
Std. Error	10		3	9		5	3
Sample Size	8		74	8		17	107
Mean Weight	1.77		2.87	2.27		2.68	2.71
Std. Error	0.01		0.09	0.1			0.06
Sample Size	2		9	6		1	18
Both Sexes	26,156		306,596	23,250	1,453	78,466	435,921
Percent	6.00		70.33	5.33	0.33	18.00	100.00
Sample Size	18		211	16	1	54	300
Mean Length	506		566	519	613	563	559
Std. Error	7		2	6		3	1
Sample Size	18		211	16	1	54	300
Mean Weight	2.15		3.20	2.52		3.25	3.11
Std. Error	0.01		0.08	0.09		0.26	0.07
Sample Size	3		29	8		6	46
<u>Sample Period 2: July 9 - July 13</u>							
Males	19,871		147,988	5,229		19,348	192,436
Percent	5.66		42.18	1.49		5.51	54.84
Sample Size	38		283	10		37	368
Mean Length	510		565	536		564	559
Std. Error	5		2	6		5	1
Sample Size	38		283	10		37	368
Mean Weight	1.79		3.30			3.50	3.16
Std. Error	0.29		0.1				0.08
Sample Size	3		39			1	43
Females	15,688		111,382	9,936		21,440	158,446
Percent	4.47		31.74	2.83		6.11	45.16
Sample Size	30		213	19		41	303
Mean Length	492		545	512		550	538
Std. Error	5		2	6		4	1
Sample Size	30		213	19		41	303
Mean Weight	1.95		2.64	2.16		2.80	2.56
Std. Error	0.15		0.06	0.13		0.11	0.05
Sample Size	5		35	3		6	49
Both Sexes	35,559		259,370	15,165		40,788	350,882
Percent	10.13		73.92	4.32		11.62	100.00
Sample Size	68		496	29		78	671
Mean Length	502		556	520		557	549
Std. Error	4		1	4		3	1
Sample Size	68		496	29		78	671
Mean Weight	1.86		3.02	2.16		3.13	2.89
Std. Error	0.18		0.06	0.13		0.11	0.05
Sample Size	8		74	3		7	92

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	Age Group						
	1.2	0.4	1.3	2.2	1.4	2.3	Total
<u>Sample Period 3: July 14 - July 27</u>							
Males	8,198		79,244	5,162	304	18,521	111,429
Percent	3.82		36.92	2.40	0.14	8.63	51.91
Sample Size	27		261	17	1	61	367
Mean Length	484		558	511	558	566	552
Std. Error	7		2	9		3	2
Sample Size	27		261	17	1	61	367
Mean Weight	1.83		3.69	2.60		3.71	3.51
Std. Error	0.41		0.19	0.2		0.24	0.15
Sample Size	3		24	2		3	32
Females	10,019	304	76,816	5,162		10,930	103,231
Percent	4.67	0.14	35.78	2.40		5.09	48.09
Sample Size	33	1	253	17		36	340
Mean Length	489	555	537	505		547	532
Std. Error	5		2	7		4	1
Sample Size	33	1	253	17		36	340
Mean Weight	2.51		3.08	2.31		2.47	2.92
Std. Error	0.21		0.11	0.01		0.13	0.09
Sample Size	4		25	2		2	33
Both Sexes	18,217	304	156,060	10,324	304	29,451	214,660
Percent	8.49	0.14	72.7	4.81	0.14	13.72	100.00
Sample Size	60	1	514	34	1	97	707
Mean Length	487	555	548	508	558	559	542
Std. Error	4		1	5		2	1
Sample Size	60	1	514	34	1	97	707
Mean Weight	2.20		3.39	2.46		3.25	3.22
Std. Error	0.22		0.11	0.1		0.16	0.09
Sample Size	7		49	4		5	65
<u>All Periods Combined:</u>							
Males	42,600		426,302	22,016	1,757	91,633	584,308
Percent	4.25		42.57	2.20	0.18	9.15	58.35
Sample Size	75		681	35	2	135	928
Mean Length	508		568	529	603	566	562
Std. Error	4		1	5		3	1
Sample Size	75		681	35	2	135	928
Mean Weight	2.03		3.41	2.71		3.55	3.31
Std. Error	0.24		0.07	0.13		0.2	0.06
Sample Size	7		83	4		9	103
Females	37,332	304	295,724	26,723		57,072	417,155
Percent	3.73	0.03	29.53	2.67		5.70	41.65
Sample Size	71	1	540	44		94	750
Mean Length	490	555	546	508		552	539
Std. Error	4		1	5		3	1
Sample Size	71	1	540	44		94	750
Mean Weight	2.04		2.84	2.24		2.68	2.71
Std. Error	0.09		0.05	0.07		0.09	0.04
Sample Size	11		69	11		9	100
Both Sexes	79,932	304	722,026	48,739	1,757	148,705	1,001,463
Percent	7.98	0.03	72.10	4.87	0.18	14.85	100.00
Sample Size	146	1	1,221	79	2	229	1,678
Mean Length	500	555	559	517	603	560	552
Std. Error	3		1	3		2	1
Sample Size	146	1	1,221	79	2	229	1,678
Mean Weight	2.03		3.18	2.42		3.22	3.06
Std. Error	0.11		0.05	0.06		0.14	0.04
Sample Size	18		152	15		18	203

Appendix B.3. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon escapement, Kvichak River, 2000.

	Age Group				
	1.2	1.3	2.2	2.3	Total
<u>Sample Period 1: June 23 - July 3</u>					
Males	22,590	122,632	54,862	12,909	212,993
Percent	3.72	20.21	9.04	2.13	35.11
Sample Size	14	76	34	8	132
Mean Length	541	579	524	603	562
Std. Error	12	3	5	15	3
Sample Size	14	76	34	8	132
Females	45,180	237,198	88,747	22,590	393,715
Percent	7.45	39.10	14.63	3.72	64.89
Sample Size	28	147	55	14	244
Mean Length	502	559	507	574	542
Std. Error	5	2	4	7	2
Sample Size	28	147	55	14	244
Both Sexes	67,770	359,830	143,609	35,499	606,708
Percent	11.17	59.31	23.67	5.85	100.00
Sample Size	42	223	89	22	376
Mean Length	515	566	514	585	549
Std. Error	5	2	3	7	1
Sample Size	42	223	89	22	376
<u>Sample Period 2: July 3 - 10</u>					
Males	16,111	53,936	16,811	9,106	95,964
Percent	6.13	20.53	6.40	3.47	36.53
Sample Size	23	77	24	13	137
Mean Length	532	586	532	573	566
Std. Error	5	3	7	8	2
Sample Size	23	77	24	13	137
Females	25,217	92,460	32,922	16,111	166,710
Percent	9.60	35.20	12.53	6.13	63.47
Sample Size	36	132	47	23	238
Mean Length	506	564	516	567	546
Std. Error	4	2	4	7	2
Sample Size	36	132	47	23	238
Both Sexes	41,328	146,396	49,733	25,217	262,674
Percent	15.73	55.73	18.93	9.60	100.00
Sample Size	59	209	71	36	375
Mean Length	516	572	522	569	554
Std. Error	3	2	3	5	1
Sample Size	59	209	71	36	375

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	Age Group				
	1.2	1.3	2.2	2.3	Total
<u>Sample Period 3: July 11 - 23</u>					
Males	44,149	182,113	53,347	23,914	303,523
Percent	4.61	19.00	5.57	2.50	31.67
Sample Size	24	99	29	13	165
Mean Length	529	585	539	578	568
Std. Error	7	3	5	6	2
Sample Size	24	99	29	13	165
Females	147,163	338,475	126,928	42,309	654,875
Percent	15.36	35.32	13.24	4.41	68.33
Sample Size	80	184	69	23	356
Mean Length	522	567	527	574	550
Std. Error	3	2	4	7	2
Sample Size	80	184	69	23	356
Both Sexes	191,312	520,588	180,275	66,223	958,398
Percent	19.96	54.32	18.81	6.91	100.00
Sample Size	104	283	98	36	521
Mean Length	524	574	530	575	556
Std. Error	3	2	3	5	1
Sample Size	104	283	98	36	521
<u>All Periods Combined:</u>					
Males	82,850	358,681	125,020	45,929	612,480
Percent	4.53	19.62	6.84	2.51	33.51
Sample Size	61	252	87	34	434
Mean Length	533	583	531	584	566
Std. Error	5	2	3	5	1
Sample Size	61	252	87	34	434
Females	217,560	668,133	248,597	81,010	1,215,300
Percent	11.90	36.55	13.60	4.43	66.49
Sample Size	144	463	171	60	838
Mean Length	516	564	518	573	547
Std. Error	2	1	2	4	1
Sample Size	144	463	171	60	838
Both Sexes	300,410	1,026,814	373,617	126,939	1,827,780
Percent	16.44	56.18	20.44	6.94	100.00
Sample Size	205	715	258	94	1,272
Mean Length	521	571	523	577	553
Std. Error	2	1	2	3	1
Sample Size	205	715	258	94	1,272

Appendix B.4. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon escapement, Naknek River, 2000.

	Age Group				Total
	1.2	1.3	2.2	2.3	
<u>Sample Period 1: June 21 - July 2</u>					
Males	50,869	160,746	17,295	14,243	243,153
Percent	10.62	33.55	3.61	2.97	50.74
Sample Size	50	158	17	14	239
Mean Length	451	581	484	589	548
Std. Error	6	3	13	7	2
Sample Size	50	158	17	14	239
Females	25,434	194,318	4,070	12,209	236,031
Percent	5.31	40.55	0.85	2.55	49.26
Sample Size	25	191	4	12	232
Mean Length	454	562	483	567	549
Std. Error	6	2	10	6	2
Sample Size	25	191	4	12	232
Both Sexes	76,303	355,064	21,365	26,452	479,184
Percent	15.92	74.10	4.46	5.52	100.00
Sample Size	75	349	21	26	471
Mean Length	452	571	483	579	548
Std. Error	5	2	11	5	1
Sample Size	75	349	21	26	471
<u>Sample Period 2: July 3 - 8</u>					
Males	18,667	61,682	2,435	9,334	92,118
Percent	9.96	32.90	1.30	4.98	49.13
Sample Size	46	152	6	23	227
Mean Length	451	578	458	581	549
Std. Error	5	2	10	8	2
Sample Size	46	152	6	23	227
Females	15,826	62,900	4,870	11,768	95,364
Percent	8.44	33.55	2.60	6.28	50.87
Sample Size	39	155	12	29	235
Mean Length	458	550	495	553	532
Std. Error	6	2	11	4	2
Sample Size	39	155	12	29	235
Both Sexes	34,493	124,582	7,305	21,102	187,482
Percent	18.40	66.45	3.90	11.26	100.00
Sample Size	85	307	18	52	462
Mean Length	454	563	483	565	540
Std. Error	4	2	8	4	1
Sample Size	85	307	18	52	462

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Appendix B.4. (Page 2 of 2)

	Age Group				
	1.2	1.3	2.2	2.3	Total
<u>Sample Period 3: July 9 - 17</u>					
Males	30,132	256,841	4,305	15,783	307,061
Percent	4.25	36.23	0.61	2.23	43.32
Sample Size	21	179	3	11	214
Mean Length	473	576	481	585	565
Std. Error	9	2	3	8	2
Sample Size	21	179	3	11	214
Females	17,218	340,062	4,305	40,176	401,761
Percent	2.43	47.98	0.61	5.67	56.68
Sample Size	12	237	3	28	280
Mean Length	499	555	499	565	553
Std. Error	10	2	6	4	1
Sample Size	12	236	3	28	279
Both Sexes	47,350	596,903	8,610	55,959	708,822
Percent	6.68	84.21	1.21	7.89	100.00
Sample Size	33	416	6	39	494
Mean Length	482	564	490	571	558
Std. Error	7	1	3	4	1
Sample Size	33	415	6	39	493
<u>All Periods Combined:</u>					
Males	99,668	479,269	24,035	39,360	642,332
Percent	7.25	34.84	1.75	2.86	46.70
Sample Size	117	489	26	48	680
Mean Length	458	578	481	586	556
Std. Error	4	2	9	5	1
Sample Size	117	489	26	48	680
Females	58,478	597,280	13,245	64,153	733,156
Percent	4.25	43.42	0.96	4.66	53.30
Sample Size	76	583	19	69	747
Mean Length	468	557	493	563	549
Std. Error	4	1	5	3	1
Sample Size	76	582	19	69	746
Both Sexes	158,146	1,076,549	37,280	103,513	1,375,488
Percent	11.50	78.27	2.71	7.53	100.00
Sample Size	193	1,072	45	117	1,427
Mean Length	462	566	485	572	552
Std. Error	3	1	6	3	1
Sample Size	193	1,071	45	117	1,426

Appendix B.5. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch, Egegik District, 2000.

	Age Group							Total
	1.2	1.3	2.2	1.4	2.3	3.2	3.3	
<u>Sample Period 1: June 12 - June 20</u>								
Males	11,629	57,531	29,378		30,602	612	612	130,364
Percent	4.09	20.26	10.34		10.78	0.22	0.22	45.91
Sample Size	19	94	48		50	1	1	213
Mean Length	513	572	521		575	531	572	556
Std. Error	4	3	3		4			2
Sample Size	19	94	48		50	1	1	213
Mean Weight	1.78	3.21	2.38		3.17			2.88
Std. Error		0.11	0.11		0.65			0.16
Sample Size	1	8	4		2			15
Females	6,120	70,385	28,766		48,351			153,622
Percent	2.16	24.78	10.13		17.03			54.09
Sample Size	10	115	47		79			251
Mean Length	498	561	515		559			549
Std. Error	5	2	3		2			1
Sample Size	10	115	47		79			251
Mean Weight	1.88	2.59	1.94		2.52			2.42
Std. Error	0.08	0.07	0.11		0.08			0.05
Sample Size	2	13	5		10			30
Both Sexes	17,749	127,916	58,144		78,953	612	612	283,986
Percent	6.25	45.04	20.47		27.80	0.22	0.22	100.00
Sample Size	29	209	95		129	1	1	464
Mean Length	507	566	518		566	531	572	552
Std. Error	3	2	2		2			1
Sample Size	29	209	95		129	1	1	464
Mean Weight	1.81	2.87	2.16		2.77			2.63
Std. Error	0.08	0.06	0.08		0.26			0.08
Sample Size	3	21	9		12			45
<u>Sample Period 2: June 21 - June 26</u>								
Males	56,598	357,696	156,210		244,502			815,006
Percent	3.24	20.49	8.95		14.01			46.69
Sample Size	25	158	69		108			360
Mean Length	522	578	530		579			565
Std. Error	7	2	4		2			1
Sample Size	25	158	69		108			360
Mean Weight	2.22	3.03	2.64		3.38			3.00
Std. Error		0.13	0.43		0.18			0.11
Sample Size	1	14	4		10			29
Females	40,750	414,296	167,529		305,627	2,264		930,466
Percent	2.33	23.74	9.60		17.51	0.13		53.31
Sample Size	18	183	74		135	1		411
Mean Length	506	566	515		569	512		555
Std. Error	9	2	3		2			1
Sample Size	18	183	74		135	1		411
Mean Weight	2.04	2.79	1.93		2.76			2.59
Std. Error	0.07	0.08	0.06		0.08			0.05
Sample Size	6	29	16		11			62
Both Sexes	97,348	771,992	323,739		550,129	2,264		1,745,472
Percent	5.58	44.23	18.55		31.52	0.13		100.00
Sample Size	43	341	143		243	1		771
Mean Length	515	572	522		574	512		560
Std. Error	6	1	2		1			1
Sample Size	43	341	143		243	1		771
Mean Weight	2.14	2.90	2.27		3.04			2.78
Std. Error	0.07	0.08	0.21		0.09			0.06
Sample Size	7	43	20		21			91

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	Age Group						Total
	1.2	1.3	2.2	1.4	2.3	3.2	3.3
<u>Sample Period 3: June 27 - June 30</u>							
Males	112,868	698,371	183,411		514,961		1,509,611
Percent	4.62	28.61	7.51		21.10		61.85
Sample Size	32	198	52		146		428
Mean Length	511	569	527		575		562
Std. Error	6	2	3		2		1
Sample Size	32	198	52		146		428
Mean Weight	2.81	3.34	2.64		3.35		3.22
Std. Error	0.66	0.1	0.14		0.08		0.08
Sample Size	2	22	9		27		60
Females	31,744	447,946	116,395		335,077		931,162
Percent	1.30	18.35	4.77		13.73		38.15
Sample Size	9	127	33		95		264
Mean Length	508	554	508		557		548
Std. Error	6	2	4		2		1
Sample Size	9	127	33		95		264
Mean Weight	2.37	2.92	2.07		2.83		2.76
Std. Error		0.14	0.13		0.08		0.07
Sample Size	1	9	5		17		32
Both Sexes	144,612	1,146,317	299,806		850,038		2,440,773
Percent	5.92	46.97	12.28		34.83		100.00
Sample Size	41	325	85		241		692
Mean Length	510	563	520		568		556
Std. Error	5	1	3		1		1
Sample Size	41	325	85		241		692
Mean Weight	2.71	3.18	2.42		3.15		3.04
Std. Error	0.66	0.08	0.1		0.06		0.05
Sample Size	3	31	14		44		92
<u>Sample Period 4: July 1 - July 3</u>							
Males	8,150	54,829	18,523		68,908		150,410
Percent	3.03	20.39	6.89		25.62		55.92
Sample Size	11	74	25		93		203
Mean Length	508	573	524		571		563
Std. Error	8	2	6		2		2
Sample Size	11	74	25		93		203
Mean Weight	2.39	3.49	2.48		3.28		3.21
Std. Error	0.14	0.19			0.15		0.1
Sample Size	3	7	1		12		23
Females	8,150	42,974	17,782		49,644		118,550
Percent	3.03	15.98	6.61		18.46		44.08
Sample Size	11	58	24		67		160
Mean Length	499	551	510		556		543
Std. Error	7	3	5		2		2
Sample Size	11	58	24		67		160
Mean Weight	1.93	2.72	2.11		2.97		2.68
Std. Error	0.06	0.09	0.12		0.09		0.05
Sample Size	2	10	3		9		24
Both Sexes	16,300	97,803	36,305		118,552		268,960
Percent	6.06	36.36	13.50		44.08		100.00
Sample Size	22	132	49		160		363
Mean Length	503	564	517		565		554
Std. Error	5	2	4		2		1
Sample Size	22	132	49		160		363
Mean Weight	2.16	3.15	2.30		3.15		2.98
Std. Error	0.08	0.11	0.12		0.1		0.06
Sample Size	5	17	4		21		47

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	Age Group						Total
	1.2	1.3	2.2	1.4	2.3	3.2	3.3
<u>Sample Period 5: July 4 - July 5</u>							
Males	17,103	126,137	109,034		267,240		519,514
Percent	1.50	11.09	9.59		23.50		45.68
Sample Size	8	59	51		125		243
Mean Length	505	586	529		579		568
Std. Error	9	3	5		2		2
Sample Size	8	59	51		125		243
Mean Weight		3.78	2.41		3.24		3.2
Std. Error		0.09	0.29		0.09		0.08
Sample Size		4	6		15		25
Females	25,655	185,999	147,516		258,689		617,859
Percent	2.26	16.35	12.97		22.74		54.32
Sample Size	12	87	69		121		289
Mean Length	509	564	512		557		546
Std. Error	5	2	3		2		1
Sample Size	12	87	69		121		289
Mean Weight	2.08	2.84	2.04		2.96		2.67
Std. Error	0.1	0.09	0.09		0.09		0.05
Sample Size	3	14	11		16		44
Both Sexes	42,758	312,136	256,550		525,929		1,137,373
Percent	3.76	27.44	22.56		46.24		100.00
Sample Size	20	146	120		246		532
Mean Length	508	573	519		568		556
Std. Error	5	2	3		2		1
Sample Size	20	146	120		246		532
Mean Weight	2.08	3.22	2.2		3.1		2.9
Std. Error	0.1	0.07	0.13		0.06		0.05
Sample Size	3	18	17		31		69
<u>Sample Period 6: July 6 - July 8</u>							
Males	17,897	61,147	36,539		69,350		184,933
Percent	5.12	17.48	10.45		19.83		52.88
Sample Size	24	82	49		93		248
Mean Length	506	572	521		576		557
Std. Error	6	3	4		3		2
Sample Size	21	77	45		86		229
Mean Weight	2.44	30.09	2.58		3.33		11.94
Std. Error	0.17	16.3	0.23		0.19		5.39
Sample Size	5	5	5		6		21
Females	10,440	49,962	43,251		60,401	746	164,800
Percent	2.99	14.29	12.37		17.27	0.21	47.12
Sample Size	14	67	58		81	1	221
Mean Length	488	549	505		556	540	536
Std. Error	3	3	3		3		2
Sample Size	12	62	55		73	1	203
Mean Weight	1.80	2.63	2.00		2.66		2.42
Std. Error		0.33	0.08		0.07		0.11
Sample Size	1	3	7		15		26
Both Sexes	28,337	111,109	79,790		129,751	746	349,733
Percent	8.10	31.77	22.81		37.10	0.21	100.00
Sample Size	38	149	107		174	1	469
Mean Length	499	561	512		567	540	547
Std. Error	4	2	2		2		1
Sample Size	33	139	100		159	1	432
Mean Weight	2.2	17.74	2.27		3.02		7.47
Std. Error	0.17	8.97	0.11		0.11		2.86
Sample Size	6	8	12		21		47

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	Age Group							
	1.2	1.3	2.2	1.4	2.3	3.2	3.3	Total
<u>Sample Period 7: July 9 - July 10</u>								
Males	12,081	26,908	22,515		36,794			98,298
Percent	5.18	11.53	9.65		15.77			42.12
Sample Size	22	49	41		67			179
Mean Length	502	580	528		580			558
Std. Error	6	3	5		3			2
Sample Size	22	49	41		67			179
Mean Weight	2.05	5.43	4.71		3.21			4.02
Std. Error	0.18	2.15	2.22		0.13			0.78
Sample Size	2	9	9		10			30
Females	10,434	36,244	23,613		64,799			135,090
Percent	4.47	15.53	10.12		27.76			57.88
Sample Size	19	66	43		118			246
Mean Length	502	557	512		560			546
Std. Error	4	3	3		2			1
Sample Size	19	66	43		118			246
Mean Weight	2.15	2.81	2.22		2.70			2.60
Std. Error	0.1	0.18	0.16		0.06			0.06
Sample Size	3	6	6		28			43
Both Sexes	22,515	63,152	46,128		101,593			233,388
Percent	9.65	27.06	19.76		43.53			100.00
Sample Size	41	115	84		185			425
Mean Length	502	567	520		567			552
Std. Error	4	2	3		2			1
Sample Size	41	115	84		185			425
Mean Weight	2.10	3.93	3.44		2.88			3.20
Std. Error	0.11	0.92	1.09		0.06			0.33
Sample Size	5	15	15		38			73
<u>Sample Period 8: July 11 - July 12</u>								
Males	4,521	53,342	59,671		101,258	904		219,696
Percent	1.19	14.08	15.75		26.73	0.24		58.00
Sample Size	5	59	66		112	1		243
Mean Length	525	569	535		578	500		563
Std. Error	27	3	3		2			2
Sample Size	5	59	66		112	1		243
Mean Weight		3.04	3.08		3.59			3.31
Std. Error		0.17	0.62		0.2			0.2
Sample Size		7	3		10			20
Females	2,712	22,603	49,726		83,177	904		159,122
Percent	0.72	5.97	13.13		21.96	0.24		42.00
Sample Size	3	25	55		92	1		176
Mean Length	501	561	516		556	574		543
Std. Error	8	4	3		2			2
Sample Size	3	25	55		92	1		176
Mean Weight	2.13	3.02	1.89		2.92	1.77		2.59
Std. Error								
Sample Size	1	1	1		1	1		5
Both Sexes	7,233	75,945	109,397		184,435	1,808		378,818
Percent	1.91	20.05	28.88		48.69	0.48		100.00
Sample Size	8	84	121		204	2		419
Mean Length	516	567	527		568	537		555
Std. Error	17	3	2		2			1
Sample Size	8	84	121		204	2		419
Mean Weight	2.13	3.03	2.54		3.29	1.77		3
Std. Error		0.17	0.62		0.2			0.11
Sample Size	1	8	4		11	1		25

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	Age Group						Total
	1.2	1.3	2.2	1.4	2.3	3.2	
<u>Sample Period 9: July 13 - July 15</u>							
Males	4,037	24,012	10,625	212	37,824	637	77,347
Percent	3.44	20.43	9.04	0.18	32.19	0.54	65.82
Sample Size	19	113	50	1	178	3	364
Mean Length	513	568	529	596	572	541	562
Std. Error	7	3	4		2	8	1
Sample Size	19	113	50	1	178	3	364
Mean Weight	2.74	4.37	3.36	3.36	4.59		4.25
Std. Error		0.35	0.22		0.19		0.15
Sample Size	1	8	10	1	25		45
Females	2,125	8,287	6,800		22,524	425	40,161
Percent	1.81	7.05	5.79		19.17	0.36	34.18
Sample Size	10	39	32		106	2	189
Mean Length	506	548	517		548	513	540
Std. Error	10	4	5		2	2	2
Sample Size	10	39	31		105	2	187
Mean Weight		2.26	3.05		3.12		2.92
Std. Error		0.49	0.22		0.18		0.16
Sample Size		3	4		10		17
Both Sexes	6,162	32,299	17,425	212	60,348	1,062	117,508
Percent	5.24	27.49	14.83	0.18	51.36	0.90	100.00
Sample Size	29	152	82	1	284	5	553
Mean Length	511	563	525	596	563	530	554
Std. Error	6	2	3		1	5	1
Sample Size	29	152	81	1	283	5	551
Mean Weight	2.74	3.83	3.24	3.36	4.04		3.81
Std. Error		0.29	0.16		0.14		0.11
Sample Size	1	11	14	1	35		62
<u>Sample Period 10: July 16 - August 25</u>							
Males	976	12,691	12,496		34,753		60,916
Percent	1.03	13.37	13.17		36.63		64.20
Sample Size	5	65	64		178		312
Mean Length	544	569	536		569		562
Std. Error	9	3	4		2		1
Sample Size	5	65	58		173		301
Mean Weight		2.74	2.54		3.10		2.91
Std. Error			0.14		0.12		0.07
Sample Size		1	7		17		25
Females	1,171	4,491	9,957		17,963	390	33,972
Percent	1.23	4.73	10.49		18.93	0.41	35.80
Sample Size	6	23	51		92	2	174
Mean Length	516	555	521		556	523	544
Std. Error	13	6	3		2	18	2
Sample Size	6	22	50		90	2	170
Mean Weight		3.18	2.20		2.83		2.68
Std. Error			0.13		0.07		0.05
Sample Size		1	9		6		16
Both Sexes	2,147	17,182	22,453		52,716	390	94,888
Percent	2.26	18.11	23.66		55.56	0.41	100.00
Sample Size	11	88	115		270	2	486
Mean Length	528	566	529		565	523	555
Std. Error	8	3	3		1	18	1
Sample Size	11	87	108		263	2	471
Mean Weight		2.86	2.39		3.01		2.83
Std. Error			0.1		0.08		0.05
Sample Size		2	16		23		41

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	Age Group							
	1.2	1.3	2.2	1.4	2.3	3.2	3.3	Total
<u>All Periods Combined:</u>								
Males	245,860	1,472,664	638,402	212	1,406,192	2,153	612	3,766,095
Percent	3.49	20.89	9.05	0.00	19.94	0.03	0.01	53.41
Sample Size	170	951	515	1	1,150	5	1	2,793
Mean Length	513	573	528	596	577	521	572	563
Std. Error	3	1	2		1	8		1
Sample Size	167	946	505	1	1,138	5	1	2,763
Mean Weight	2.52	4.45	2.70	3.36	3.37			3.63
Std. Error	0.49	0.69	0.16		0.05			0.27
Sample Size	15	85	58	1	134			293
Females	139,301	1,283,187	611,335		1,246,252	4,729		3,284,804
Percent	1.98	18.20	8.67		17.68	0.07		46.59
Sample Size	112	790	486		986	7		2,381
Mean Length	505	559	512		560	529		548
Std. Error	3	1	1		1	8		1
Sample Size	110	784	481		975	7		2,357
Mean Weight	2.10	2.83	2.02		2.83	1.77		2.65
Std. Error	0.04	0.06	0.04		0.04			0.03
Sample Size	19	89	67		123	1		299
Both Sexes	385,161	2,755,851	1,249,737	212	2,652,444	6,882	612	7,050,899
Percent	5.46	39.09	17.72	0.00	37.62	0.10	0.01	100.00
Sample Size	282	1,741	1,001	1	2,136	12	1	5,174
Mean Length	510	567	520	596	569	527	572	556
Std. Error	2	1	1		1	6		0
Sample Size	277	1,730	986	1	2,113	12	1	5,120
Mean Weight	2.36	3.70	2.37	3.36	3.11	1.77		3.17
Std. Error	0.31	0.37	0.09		0.03			0.14
Sample Size	34	174	125	1	257	1		592

Appendix B.6. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon escapement, Egegik River, 2000.

	Age Group						Total
	1.2	2.1	1.3	2.2	2.3	3.2	
<u>Sample Period 1: June 19 - 26</u>							
Males	27,110	797	68,574	39,868	51,031	1,595	188,975
Percent	7.85	0.23	19.86	11.55	14.78	0.46	54.73
Sample Size	34	1	86	50	64	2	237
Mean Length	483	350	586	503	586	468	552
Std. Error	8		2	6	4	53	2
Sample Size	34	1	86	50	64	2	237
Females	9,568		54,221	32,692	59,802		156,283
Percent	2.77		15.70	9.47	17.32		45.27
Sample Size	12		68	41	75		196
Mean Length	479		564	502	567		547
Std. Error	9		2	4	3		2
Sample Size	12		68	41	75		196
Both Sexes	36,678	797	122,795	72,560	110,833	1,595	345,258
Percent	10.62	0.23	35.57	21.02	32.10	0.46	100.00
Sample Size	46	1	154	91	139	2	433
Mean Length	482	350	577	502	576	468	550
Std. Error	6		2	4	2	53	1
Sample Size	46	1	154	91	139	2	433
<u>Sample Period 2: June 27 - July 8</u>							
Males	13,450	2,882	78,781	62,448	72,055	961	230,577
Percent	3.01	0.65	17.63	13.98	16.13	0.22	51.61
Sample Size	14	3	82	65	75	1	240
Mean Length	509	357	589	519	595	468	564
Std. Error	16	8	3	6	3		2
Sample Size	14	3	82	65	75	1	240
Females	20,175		74,937	41,312	79,741		216,165
Percent	4.52		16.77	9.25	17.85		48.39
Sample Size	21		78	43	83		225
Mean Length	490		572	501	571		550
Std. Error	7		3	5	3		2
Sample Size	21		78	43	83		225
Both Sexes	33,625	2,882	153,718	103,760	151,796	961	446,742
Percent	7.53	0.65	34.41	23.23	33.98	0.22	100.00
Sample Size	35	3	160	108	158	1	465
Mean Length	498	357	581	512	582	468	557
Std. Error	8	8	2	4	2		1
Sample Size	35	3	160	108	158	1	465

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Appendix B.6. (Page 2 of 2)

	Age Group							
	1.2	2.1	1.3	2.2	2.3	3.2	3.3	Total
<u>Sample Period 3: July 9 - 17</u>								
Males	5,595	933	27,045	36,370	56,421		466	126,830
Percent	2.33	0.39	11.26	15.15	23.50		0.19	52.82
Sample Size	12	2	58	78	121		1	272
Mean Length	516	324	590	533	589		602	568
Std. Error	7	23	3	4	2			2
Sample Size	12	2	58	78	121		1	272
Females	6,062		20,983	45,696	40,101	466		113,308
Percent	2.52		8.74	19.03	16.70	0.19		47.18
Sample Size	13		45	98	86	1		243
Mean Length	490		561	506	565	506		536
Std. Error	5		3	3	2			2
Sample Size	13		45	98	86	1		243
Both Sexes	11,657	933	48,028	82,066	96,522	466	466	240,138
Percent	4.85	0.39	20.00	34.17	40.19	0.19	0.19	100.00
Sample Size	25	2	103	176	207	1	1	515
Mean Length	502	324	577	518	579	506	602	553
Std. Error	4	23	2	2	2			1
Sample Size	25	2	103	176	207	1	1	515
<u>All Periods Combined:</u>								
Males	46,155	4,612	174,400	138,686	179,507	2,556	466	546,382
Percent	4.47	0.45	16.90	13.44	17.39	0.25	0.05	52.94
Sample Size	60	6	226	193	260	3	1	749
Mean Length	494	349	588	518	590	468	602	561
Std. Error	7	8	2	3	2	53		1
Sample Size	60	6	226	193	260	3	1	749
Females	35,805		150,141	119,700	179,644	466		485,756
Percent	3.47		14.55	11.60	17.41	0.05		47.06
Sample Size	46		191	182	244	1		664
Mean Length	487		568	503	568	506		546
Std. Error	5		2	2	2			1
Sample Size	46		191	182	244	1		664
Both Sexes	81,960	4,612	324,541	258,386	359,151	3,022	466	1,032,138
Percent	7.94	0.45	31.44	25.03	34.80	0.29	0.05	100.00
Sample Size	106	6	417	375	504	4	1	1,413
Mean Length	491	349	579	511	579	474	602	554
Std. Error	4	8	1	2	1	53		1
Sample Size	106	6	417	375	504	4	1	1,413

Appendix B.7. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch, Ugashik District, 2000.

	Age Group								
	0.3	1.2	1.3	2.2	1.4	2.3	3.2	3.3	Total
<u>Sample Period 1: June 12 - 26</u>									
Males	215	2,793	22,560	1,504		4,297			31,369
Percent	0.26	3.39	27.34	1.82		5.21			38.02
Sample Size	1	13	105	7		20			146
Mean Length	579	502	581	524		579			571
Std. Error		8	3	9		5			2
Sample Size	1	13	105	7		20			146
Mean Weight		1.99	3.42	2.45		3.16			3.21
Std. Error		0.03	0.16			0.13			0.12
Sample Size		3	9	1		4			17
Females	645	3,223	41,467	2,363		3,438			51,136
Percent	0.78	3.91	50.26	2.86		4.17			61.98
Sample Size	3	15	193	11		16			238
Mean Length	523	504	562	516		557			556
Std. Error	4	10	2	5		4			1
Sample Size	3	15	193	11		16			238
Mean Weight		2.24	2.73	2.26		2.73			2.68
Std. Error			0.06	0.37					0.06
Sample Size		1	25	2		1			29
Both Sexes	860	6,016	64,027	3,867		7,735			82,505
Percent	1.04	7.29	77.60	4.69		9.38			100.00
Sample Size	4	28	298	18		36			384
Mean Length	537	503	569	519		569			561
Std. Error	4	6	1	5		3			1
Sample Size	4	28	298	18		36			384
Mean Weight		2.12	2.97	2.33		2.97			2.88
Std. Error		0.03	0.07	0.37		0.13			0.06
Sample Size		4	34	3		5			46
<u>Sample Period 2: June 27 - 30</u>									
Males		17,023	100,891	20,760	415	39,443			178,532
Percent		5.80	34.37	7.07	0.14	13.44			60.82
Sample Size		41	243	50	1	95			430
Mean Length		509	569	523	563	570			558
Std. Error		4	2	3		2			1
Sample Size		41	243	50	1	95			430
Mean Weight		2.48	3.47	2.56		3.36			3.24
Std. Error		0.09	0.14	0.12		0.15			0.09
Sample Size		7	17	8		12			44
Females	415	2,906	79,717	8,719		23,251			115,008
Percent	0.14	0.99	27.16	2.97		7.92			39.18
Sample Size	1	7	192	21		56			277
Mean Length	559	511	556	509		557			552
Std. Error		16	2	4		3			1
Sample Size	1	7	192	21		56			277
Mean Weight	2.78	2.22	2.95	2.04		2.73			2.82
Std. Error			0.07	0.15		0.11			0.05
Sample Size	1	1	22	2		10			36
Both Sexes	415	19,929	180,608	29,479	415	62,694			293,540
Percent	0.14	6.79	61.53	10.04	0.14	21.36			100.00
Sample Size	1	48	435	71	1	151			707
Mean Length	559	509	563	519	563	565			555
Std. Error		4	1	3		2			1
Sample Size	1	48	435	71	1	151			707
Mean Weight	2.78	2.44	3.24	2.41		3.13			3.08
Std. Error		0.09	0.08	0.1		0.1			0.06
Sample Size	1	8	39	10		22			80

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	Age Group								
	0.3	1.2	1.3	2.2	1.4	2.3	3.2	3.3	Total
<u>Sample Period 3: July 1 - 3</u>									
Males		20,332	133,079	8,317		15,711			177,439
Percent		6.21	40.68	2.54		4.80			54.24
Sample Size		22	144	9		17			192
Mean Length		523	579	526		573			570
Std. Error		4	2	5		8			2
Sample Size		22	144	9		17			192
Mean Weight		2.47	3.26	2.38		3.04			3.11
Std. Error		0.18	0.1	0.26		0.72			0.1
Sample Size		2	18	2		3			25
Females	924	7,393	121,990	6,469	924	12,014			149,714
Percent	0.28	2.26	37.29	1.98	0.28	3.67			45.76
Sample Size	1	8	132	7	1	13			162
Mean Length	543	502	559	504	589	541			552
Std. Error		5	2	6		7			2
Sample Size	1	8	132	7	1	13			162
Mean Weight		2.00	2.97	2.08		2.52			2.85
Std. Error			0.09			0.19			0.07
Sample Size		1	11	1		5			18
Both Sexes	924	27,725	255,069	14,786	924	27,725			327,153
Percent	0.28	8.47	77.97	4.52	0.28	8.47			100.00
Sample Size	1	30	276	16	1	30			354
Mean Length	543	517	570	516	589	560			562
Std. Error		3	1	4		5			1
Sample Size	1	30	276	16	1	30			354
Mean Weight		2.34	3.12	2.25		2.81			2.99
Std. Error		0.18	0.07	0.26		0.42			0.07
Sample Size		3	29	3		8			43
<u>Sample Period 4: July 4 - 13</u>									
Males		27,704	172,686	29,551	923	30,474			261,338
Percent		5.73	35.69	6.11	0.19	6.30			54.01
Sample Size		30	187	32	1	33			283
Mean Length		508	580	532	617	578			567
Std. Error		6	2	4		5			1
Sample Size		30	187	32	1	33			283
Mean Weight		2.42	3.22	2.68		3.83			3.14
Std. Error		0.23	0.15	0.35		0.27			0.11
Sample Size		4	18	2		7			31
Females		15,699	145,905	22,163		38,785			222,552
Percent		3.24	30.15	4.58		8.02			45.99
Sample Size		17	158	24		42			241
Mean Length		506	561	511		561			552
Std. Error		5	2	4		3			1
Sample Size		17	158	24		42			241
Mean Weight		10.96	2.95	2.97		2.71			3.48
Std. Error		8.58	0.08	0.85		0.14			0.61
Sample Size		4	19	2		11			36
Both Sexes		43,403	318,591	51,714	923	69,259			483,890
Percent		8.97	65.84	10.69	0.19	14.31			100.00
Sample Size		47	345	56	1	75			524
Mean Length		507	572	523	617	568			560
Std. Error		4	1	3		3			1
Sample Size		47	345	56	1	75			524
Mean Weight		5.51	3.10	2.80		3.20			3.30
Std. Error		3.11	0.09	0.41		0.14			0.29
Sample Size		8	37	4		18			67

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	Age Group								
	0.3	1.2	1.3	2.2	1.4	2.3	3.2	3.3	Total
<u>Sample Period 5: July 14 - August 15</u>									
Males		5,435	150,619	13,975	1,553	34,161	776	776	207,295
Percent		1.55	42.83	3.97	0.44	9.71	0.22	0.22	58.94
Sample Size		7	194	18	2	44	1	1	267
Mean Length		515	576	517	573	579	537	540	570
Std. Error		10	2	6	6	3			1
Sample Size		7	194	18	2	44	1	1	267
Mean Weight		2.51	3.45	2.22	3.38	3.72			3.39
Std. Error		0.08	0.1	0.18		0.17			0.08
Sample Size		2	22	2	1	3			30
Females		6,211	97,825	10,869	776	28,726			144,407
Percent		1.77	27.81	3.09	0.22	8.17			41.06
Sample Size		8	126	14	1	37			186
Mean Length		505	557	523	568	559			553
Std. Error		6	2	6		3			1
Sample Size		8	126	14	1	37			186
Mean Weight		1.98	2.82		3.59	2.63			2.74
Std. Error			0.09			0.13			0.07
Sample Size		1	11		1	2			15
Both Sexes		11,646	248,444	24,844	2,329	62,887	776	776	351,702
Percent		3.31	70.64	7.06	0.66	17.88	0.22	0.22	100.00
Sample Size		15	320	32	3	81	1	1	453
Mean Length		510	568	520	571	570	537	540	563
Std. Error		6	1	4	6	2			1
Sample Size		15	320	32	3	81	1	1	453
Mean Weight		2.23	3.20	2.22	3.45	3.22			3.13
Std. Error		0.08	0.07	0.18		0.11			0.06
Sample Size		3	33	2	2	5			45
<u>All Periods Combined:</u>									
Males	215	73,287	579,835	74,107	2,891	124,086	776	776	855,973
Percent	0.01	4.76	37.68	4.82	0.19	8.06	0.05	0.05	55.63
Sample Size	1	113	873	116	4	209	1	1	1,318
Mean Length	579	513	577	526	586	575	537	540	567
Std. Error		3	1	2	6	2			1
Sample Size	1	113	873	116	4	209	1	1	1,318
Mean Weight		2.44	3.34	2.52	3.38	3.53			3.22
Std. Error		0.1	0.06	0.15		0.13			0.05
Sample Size		18	84	15	1	29			147
Females	1,984	35,432	486,904	50,583	1,700	106,214			682,817
Percent	0.13	2.30	31.64	3.29	0.11	6.90			44.37
Sample Size	5	55	801	77	2	164			1,104
Mean Length	540	505	559	513	579	557			553
Std. Error	4	3	1	2		2			1
Sample Size	5	55	801	77	2	164			1,104
Mean Weight	2.78	6.01	2.91	2.58	3.59	2.67			3.02
Std. Error		8.58	0.04	0.57		0.07			0.21
Sample Size	1	8	88	7	1	29			134
Both Sexes	2,199	108,719	1,066,739	124,690	4,591	230,300	776	776	1,538,790
Percent	0.14	7.07	69.32	8.10	0.30	14.97	0.05	0.05	100.00
Sample Size	6	168	1,674	193	6	373	1	1	2,422
Mean Length	544	510	569	521	583	567	537	540	560
Std. Error	4	2	1	2	6	1			0
Sample Size	6	168	1,674	193	6	373	1	1	2,422
Mean Weight	2.78	3.60	3.14	2.54	3.45	3.13			3.13
Std. Error		1.52	0.04	0.21		0.08			0.09
Sample Size	1	26	172	22	2	58			281

Appendix B.8. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon escapement, Ugashik River, 2000.

	Age Group						Total ^a	
	0.2	0.3	1.2	1.3	2.2	1.4		2.3
<u>Sample Period 1: July 3 - 11</u>								
Males			18,598	72,621	7,971		2,214	101,404
Percent			9.57	37.36	4.10		1.14	52.16
Sample Size			42	164	18		5	229
Mean Length			515	597	524		587	576
Std. Error			5	2	8		14	2
Sample Size			42	164	18		5	229
Females			16,384	68,192	5,757		2,657	92,990
Percent			8.43	35.08	2.96		1.37	47.84
Sample Size			37	154	13		6	210
Mean Length			489	566	498		549	548
Std. Error			4	2	5		7	2
Sample Size			37	154	13		6	210
Both Sexes			34,982	140,813	13,728		4,871	194,394
Percent			18.00	72.44	7.06		2.51	100.00
Sample Size			79	318	31		11	439
Mean Length			503	582	513		566	563
Std. Error			4	1	5		8	1
Sample Size			79	318	31		11	439
<u>Sample Period 2: July 12 - 17</u>								
Males			20,805	43,923	4,238		2,697	71,663
Percent			14.44	30.48	2.94		1.87	49.73
Sample Size			54	114	11		7	186
Mean Length			499	595	536		604	564
Std. Error			6	2	4		6	2
Sample Size			54	114	11		7	186
Females			15,411	49,701	5,009		2,312	72,433
Percent			10.69	34.49	3.48		1.60	50.27
Sample Size			40	129	13		6	188
Mean Length			490	566	504		563	546
Std. Error			5	2	4		6	2
Sample Size			40	129	13		6	188
Both Sexes			36,216	93,624	9,247		5,009	144,096
Percent			25.13	64.97	6.42		3.48	100.00
Sample Size			94	243	24		13	374
Mean Length			495	580	519		585	555
Std. Error			4	1	3		4	1
Sample Size			94	243	24		13	374

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Appendix B.8. (Page 2 of 2)

	Age Group							
	0.2	0.3	1.2	1.3	2.2	1.4	2.3	Total ^a
<u>Sample Period 3: July 18 - 28</u>								
Males		1,742	13,932	92,882	8,127	581	11,610	128,874
Percent		0.62	4.95	32.99	2.89	0.21	4.12	45.77
Sample Size		3	24	160	14	1	20	222
Mean Length		570	515	595	528	629	584	581
Std. Error		9	11	2	7		4	2
Sample Size		3	24	159	14	1	20	221
Females	581	581	19,157	104,492	12,191	581	15,093	152,676
Percent	0.21	0.21	6.80	37.11	4.33	0.21	5.36	54.23
Sample Size	1	1	33	180	21	1	26	263
Mean Length	504	561	493	562	506	582	558	549
Std. Error			5	2	6		5	1
Sample Size	1	1	33	179	21	1	26	262
Both Sexes	581	2,323	33,089	197,374	20,318	1,162	26,703	281,550
Percent	0.21	0.83	11.75	70.10	7.22	0.41	9.48	100.00
Sample Size	1	4	57	340	35	2	46	485
Mean Length	504	568	502	578	515	606	569	563
Std. Error		9	5	1	5		3	1
Sample Size	1	4	57	338	35	2	46	483
<u>All Periods Combined:</u>								
Males		1,742	53,335	209,426	20,336	581	16,521	301,941
Percent		0.28	8.60	33.78	3.28	0.09	2.66	48.70
Sample Size		3	120	438	43	1	32	637
Mean Length		570	509	596	528	629	588	575
Std. Error		9	4	1	4		4	1
Sample Size		3	120	437	43	1	32	636
Females	581	581	50,952	222,385	22,957	581	20,062	318,099
Percent	0.09	0.09	8.22	35.87	3.70	0.09	3.24	51.30
Sample Size	1	1	110	463	47	1	38	661
Mean Length	504	561	490	565	504	582	557	548
Std. Error			3	1	4		4	1
Sample Size	1	1	110	462	47	1	38	660
Both Sexes	581	2,323	104,287	431,811	43,293	1,162	36,583	620,040
Percent	0.09	0.37	16.82	69.64	6.98	0.19	5.90	100.00
Sample Size	1	4	230	901	90	2	70	1,298
Mean Length	504	568	500	580	515	606	571	561
Std. Error		9	3	1	3		3	1
Sample Size	1	4	230	899	90	2	70	1,296

^a Total does not include (18,380) escapement to King Salmon and Dog Salmon rivers.

Appendix B.9. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch, Nushagak District, 2000.

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
<u>Sample Period 1: June 21 - July 1</u>						
Males	193,081	613,899	9,902		14,852	831,734
Percent	9.80	31.16	0.50		0.75	42.21
Sample Size	39	124	2		3	168
Mean Length	515	576	499		567	560
Std. Error	4	2	8		15	2
Sample Size	39	124	2		3	168
Mean Weight	2.33	3.39	2.06		3.15	3.12
Std. Error	0.08	0.05	0.1		0.11	0.04
Sample Size	33	120	2		3	158
Females	292,097	792,128	34,656		19,803	1,138,684
Percent	14.82	40.20	1.76		1.01	57.79
Sample Size	59	160	7		4	230
Mean Length	499	551	513		547	536
Std. Error	3	2	7		6	2
Sample Size	59	160	7		4	230
Mean Weight	2.01	2.76	2.12		2.61	2.55
Std. Error	0.05	0.03	0.3		0.06	0.03
Sample Size	51	152	5		3	211
Both Sexes	485,178	1,406,027	44,558		34,655	1,970,418
Percent	24.62	71.36	2.26		1.76	100.00
Sample Size	98	284	9		7	398
Mean Length	505	562	510		555	547
Std. Error	3	1	6		7	1
Sample Size	98	284	9		7	398
Mean Weight	2.14	3.04	2.11		2.84	2.79
Std. Error	0.04	0.03	0.23		0.06	0.02
Sample Size	84	272	7		6	369
<u>Sample Period 2: July 2 - 4</u>						
Males	189,053	286,502	7,796		3,898	487,249
Percent	20.64	31.28	0.85		0.43	53.19
Sample Size	97	147	4		2	250
Mean Length	504	577	519		560	548
Std. Error	3	3	15		18	2
Sample Size	97	147	4		2	250
Mean Weight	2.04	3.09	2.18			2.66
Std. Error	0.07	0.12	0.3			0.08
Sample Size	12	17	2			31
Females	196,849	220,236	7,796		3,898	428,779
Percent	21.49	24.04	0.85		0.43	46.81
Sample Size	101	113	4		2	220
Mean Length	494	549	491		534	522
Std. Error	2	2	12		23	2
Sample Size	101	113	4		2	220
Mean Weight	1.80	2.40				2.12
Std. Error	0.04	0.13				0.07
Sample Size	27	11				38
Both Sexes	385,902	506,738	15,592		7,796	916,028
Percent	42.13	55.32	1.70		0.85	100.00
Sample Size	198	260	8		4	470
Mean Length	499	565	505		547	536
Std. Error	2	2	9		15	1
Sample Size	198	260	8		4	470
Mean Weight	1.92	2.79	2.18			2.41
Std. Error	0.04	0.09	0.3			0.05
Sample Size	39	28	2			69

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	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
<u>Sample Period 3: July 5 - 6</u>						
Males	125,493	213,731	15,687		17,648	372,559
Percent	18.55	31.59	2.32		2.61	55.07
Sample Size	64	109	8		9	190
Mean Length	521	580	538		589	559
Std. Error	3	3	8		10	2
Sample Size	63	109	8		9	189
Mean Weight	2.39	3.25	2.65		3.90	2.97
Std. Error	0.09	0.09	0.22		0.14	0.06
Sample Size	17	32	4		4	57
Females	92,159	182,357	17,648		11,765	303,929
Percent	13.62	26.96	2.61		1.74	44.93
Sample Size	47	93	9		6	155
Mean Length	508	556	507		545	538
Std. Error	4	3	6		5	2
Sample Size	47	93	9		6	155
Mean Weight	2.04	2.68	1.99		2.55	2.44
Std. Error	0.08	0.07	0.12		0.05	0.05
Sample Size	11	19	4		3	37
Both Sexes	217,652	396,088	33,335		29,413	676,488
Percent	32.17	58.55	4.93		4.35	100.00
Sample Size	111	202	17		15	345
Mean Length	516	569	521		571	550
Std. Error	2	2	5		6	1
Sample Size	110	202	17		15	344
Mean Weight	2.24	2.99	2.30		3.36	2.73
Std. Error	0.06	0.06	0.12		0.09	0.04
Sample Size	28	51	8		7	94
<u>Sample Period 4: July 7 - 9</u>						
Males	164,724	142,526	11,682		4,673	323,605
Percent	26.86	23.24	1.90		0.76	52.76
Sample Size	141	122	10		4	277
Mean Length	513	569	517		566	539
Std. Error	2	3	6		9	2
Sample Size	140	122	10		4	276
Mean Weight	2.25	3.15	2.47			2.66
Std. Error	0.08	0.11	0.16			0.07
Sample Size	35	42	5			82
Females	146,031	123,834	11,682		8,178	289,725
Percent	23.81	20.19	1.90		1.33	47.24
Sample Size	125	106	10		7	248
Mean Length	498	539	508		532	517
Std. Error	3	3	10		11	2
Sample Size	125	106	10		7	248
Mean Weight	1.90	2.54	2.03		2.51	2.20
Std. Error	0.05	0.1	0.1			0.05
Sample Size	30	22	5		1	58
Both Sexes	310,755	266,360	23,364		12,851	613,330
Percent	50.67	43.43	3.81		2.10	100.00
Sample Size	266	228	20		11	525
Mean Length	506	555	512		545	528
Std. Error	2	2	6		8	1
Sample Size	265	228	20		11	524
Mean Weight	2.09	2.87	2.25		2.51	2.44
Std. Error	0.05	0.08	0.09			0.04
Sample Size	65	64	10		1	140

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	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
<u>Sample Period 5: July 10 - 12</u>						
Males	54,004	101,579			4,500	160,083
Percent	18.58	34.96			1.55	55.09
Sample Size	84	158			7	249
Mean Length	517	584			593	561
Std. Error	3	2			4	1
Sample Size	84	158			7	249
Mean Weight	2.23	3.54			3.61	3.10
Std. Error	0.08	0.08			0.16	0.06
Sample Size	22	53			4	79
Females	48,861	72,005	1,929	643	7,072	130,510
Percent	16.81	24.78	0.66	0.22	2.43	44.91
Sample Size	76	112	3	1	11	203
Mean Length	498	551	508	567	547	531
Std. Error	3	2	5		6	2
Sample Size	76	112	3	1	11	203
Mean Weight	1.99	2.75	1.98		2.41	2.43
Std. Error	0.07	0.05	0.13		0.05	0.04
Sample Size	24	47	2		5	78
Both Sexes	102,865	173,584	1,929	643	11,572	290,593
Percent	35.40	59.73	0.66	0.22	3.98	100.00
Sample Size	160	270	3	1	18	452
Mean Length	508	570	508	567	565	548
Std. Error	2	1	5		4	1
Sample Size	160	270	3	1	18	452
Mean Weight	2.12	3.21	1.98		2.88	2.80
Std. Error	0.05	0.05	0.13		0.07	0.04
Sample Size	46	100	2		9	157
<u>Sample Period 6: July 13 - August 20</u>						
Males	102,067	136,375	2,573	1,715	6,862	249,592
Percent	25.11	33.54	0.63	0.42	1.69	61.39
Sample Size	119	159	3	2	8	291
Mean Length	507	579	554	605	576	549
Std. Error	2	2	11	20	5	1
Sample Size	119	159	3	2	8	291
Mean Weight	2.14	3.34	2.74		3.21	2.84
Std. Error	0.06	0.06	0.2		0.08	0.04
Sample Size	37	49	2		2	90
Females	72,905	75,477	4,289		4,289	156,960
Percent	17.93	18.57	1.05		1.05	38.61
Sample Size	85	88	5		5	183
Mean Length	493	549	487		545	521
Std. Error	2	2	6		12	2
Sample Size	85	88	5		5	183
Mean Weight	1.90	2.67	1.59		2.30	2.27
Std. Error	0.07	0.09				0.05
Sample Size	20	19	1		1	41
Both Sexes	174,972	211,852	6,862	1,715	11,151	406,552
Percent	43.04	52.11	1.69	0.42	2.74	100.00
Sample Size	204	247	8	2	13	474
Mean Length	501	568	512	605	564	538
Std. Error	2	1	6	20	6	1
Sample Size	204	247	8	2	13	474
Mean Weight	2.04	3.10	2.02		2.86	2.62
Std. Error	0.04	0.05	0.2		0.08	0.03
Sample Size	57	68	3		3	131

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	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
<u>All Periods Combined:</u>						
Males	828,422	1,494,612	47,640	1,715	52,433	2,424,822
Percent	17.00	30.67	0.98	0.04	1.08	49.76
Sample Size	544	819	27	2	33	1,425
Mean Length	512	577	522	605	577	554
Std. Error	1	1	4	20	6	1
Sample Size	542	819	27	2	33	1,423
Mean Weight	2.23	3.30	2.41		3.51	2.92
Std. Error	0.03	0.04	0.1		0.07	0.03
Sample Size	156	313	15		13	497
Females	848,902	1,466,037	78,000	643	55,005	2,448,587
Percent	17.42	30.08	1.60	0.01	1.13	50.24
Sample Size	493	672	38	1	35	1,239
Mean Length	498	550	507	567	543	531
Std. Error	1	1	4		4	1
Sample Size	493	672	38	1	35	1,239
Mean Weight	1.94	2.67	2.04		2.53	2.39
Std. Error	0.02	0.03	0.16		0.04	0.02
Sample Size	163	270	17		13	463
Both Sexes	1,677,324	2,960,649	125,640	2,358	107,438	4,873,409
Percent	34.42	60.75	2.58	0.05	2.20	100.00
Sample Size	1,037	1,491	65	3	68	2,664
Mean Length	505	564	513	594	560	542
Std. Error	1	1	3	20	3	1
Sample Size	1,035	1,491	65	3	68	2,662
Mean Weight	2.08	2.99	2.19		2.98	2.65
Std. Error	0.02	0.02	0.1		0.04	0.02
Sample Size	319	583	32		26	960

^a Total does not include Igushik Beach setnet catch (247,744) or Wood River Special Harvest Area (1,246,055).

Appendix B.10. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch, Wood River Special Harvest Area, Nushagak District, 2000.

	Age Group				
	1.2	1.3	2.2	2.3	Total
<u>Sample Period 1: June 26 - July 8</u>					
Males	179,920	257,769	8,650	12,110	458,449
Percent	17.16	24.59	0.83	1.16	43.73
Sample Size	104	149	5	7	265
Mean Length	523	561	528	533	545
Std. Error	3	3	12	19	2
Sample Size	104	148	5	7	264
Mean Weight	2.45	2.95	2.26	2.21	2.72
Std. Error	0.07	0.07	0.25	0.38	0.05
Sample Size	66	111	3	5	185
Females	231,820	335,619	12,110	10,380	589,929
Percent	22.11	32.01	1.16	0.99	56.27
Sample Size	134	194	7	6	341
Mean Length	514	543	494	560	531
Std. Error	3	2	6	7	2
Sample Size	134	192	7	6	339
Mean Weight	2.18	2.50	1.89	2.76	2.37
Std. Error	0.05	0.03	0.11	0.16	0.03
Sample Size	95	152	4	4	255
Both Sexes	411,740	593,388	20,760	22,490	1,048,378
Percent	39.27	56.60	1.98	2.15	100.00
Sample Size	238	343	12	13	606
Mean Length	518	551	508	546	537
Std. Error	2	2	6	11	1
Sample Size	238	340	12	13	603
Mean Weight	2.30	2.70	2.04	2.46	2.52
Std. Error	0.04	0.04	0.12	0.22	0.03
Sample Size	161	263	7	9	440
<u>Sample Period 2: July 13 - 20</u>					
Males	50,568	49,419	2,299	3,448	105,734
Percent	25.58	25.00	1.16	1.74	53.49
Sample Size	88	86	4	6	184
Mean Length	505	578	513	589	542
Std. Error	3	2	8	6	2
Sample Size	88	85	4	6	183
Mean Weight	2.22	3.46	2.35		2.82
Std. Error	0.07	0.1			0.06
Sample Size	19	27	1		47
Females	54,016	33,329	2,299	2,299	91,943
Percent	27.33	16.86	1.16	1.16	46.51
Sample Size	94	58	4	4	160
Mean Length	483	544	485	533	506
Std. Error	2	2	5	11	2
Sample Size	94	58	4	4	160
Mean Weight	1.71	2.59	1.63	2.70	2.05
Std. Error	0.05	0.05			0.04
Sample Size	23	19	1	1	44
Both Sexes	104,584	82,748	4,598	5,747	197,677
Percent	52.91	41.86	2.33	2.91	100.00
Sample Size	182	144	8	10	344
Mean Length	494	564	499	567	525
Std. Error	2	2	5	5	1
Sample Size	182	143	8	10	343
Mean Weight	1.96	3.11	1.99	2.70	2.46
Std. Error	0.04	0.06			0.03
Sample Size	42	46	2	1	91

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	Age Group				
	1.2	1.3	2.2	2.3	Total
<u>All Periods Combined:</u>					
Males	230,488	307,188	10,949	15,558	564,183
Percent	18.5	24.65	0.88	1.25	45.28
Sample Size	192	235	9	13	449
Mean Length	519	564	524	546	544
Std. Error	3	3	9	15	2
Sample Size	192	233	9	13	447
Mean Weight	2.40	3.03	2.28	2.21	2.74
Std. Error	0.05	0.06	0.25	0.38	0.04
Sample Size	85	138	4	5	232
Females	285,836	368,948	14,409	12,679	681,872
Percent	22.94	29.61	1.16	1.02	54.72
Sample Size	228	252	11	10	501
Mean Length	508	543	493	555	527
Std. Error	2	2	5	6	1
Sample Size	228	250	11	10	499
Mean Weight	2.09	2.51	1.85	2.75	2.32
Std. Error	0.04	0.03	0.11	0.16	0.02
Sample Size	118	171	5	5	299
Both Sexes	516,324	676,136	25,358	28,237	1,246,055
Percent	41.44	54.26	2.04	2.27	100.00
Sample Size	420	487	20	23	950
Mean Length	513	552	506	550	535
Std. Error	2	2	5	8	1
Sample Size	420	483	20	23	946
Mean Weight	2.23	2.75	2.03	2.49	2.51
Std. Error	0.03	0.03	0.12	0.22	0.02
Sample Size	203	309	9	10	531

Appendix B.11. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch, Igushik Beach setnet fishery, Nushagak District, 2000.

	Age Group					
	1.2	1.3	2.2	1.4	2.3	Total
<u>Sample period: June 21 - August 11</u>						
Males	8,642	119,071	2,881	960	10,563	142,117
Percent	3.49	48.06	1.16	0.39	4.26	57.36
Sample Size	9	124	3	1	11	148
Mean Length	525	588	525	606	589	583
Std. Error	12	2	20		6	2
Sample Size	9	123	3	1	11	147
Mean Weight	2.05	3.50		3.76	3.49	3.41
Std. Error	0.12	0.08			0.16	0.07
Sample Size	3	30		1	4	38
Females	7,682	92,184	1,920		3,841	105,627
Percent	3.10	37.21	0.77		1.55	42.64
Sample Size	8	96	2		4	110
Mean Length	506	553	512		541	549
Std. Error	11	2	4		5	2
Sample Size	8	96	2		4	110
Mean Weight	3.27	2.73	2.16		2.79	2.76
Std. Error		0.05				0.04
Sample Size	1	26	1		1	29
Both Sexes	16,324	211,255	4,801	960	14,404	247,744
Percent	6.59	85.27	1.94	0.39	5.81	100.00
Sample Size	17	220	5	1	15	258
Mean Length	516	573	520	606	576	569
Std. Error	8	2	12		4	1
Sample Size	17	219	5	1	15	257
Mean Weight	2.62	3.16	2.16	3.76	3.30	3.13
Std. Error	0.12	0.05			0.16	0.04
Sample Size	4	56	1	1	5	67

Appendix B.12. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon escapement, Wood River, 2000.

	Age Group						
	0.2	1.2	1.3	2.2	1.4	2.3	Total
<u>Sample Period 1: June 22 - July 6</u>							
Males		90,837	129,218	1,279		2,559	223,893
Percent		14.40	20.49	0.20		0.41	35.50
Sample Size		71	101	1		2	175
Mean Length		518	590	550		620	561
Std. Error		5	3			10	3
Sample Size		71	101	1		2	175
Females		289,142	113,865	3,838			406,845
Percent		45.84	18.05	0.61			64.50
Sample Size		226	89	3			318
Mean Length		486	555	507			506
Std. Error		2	3	7			2
Sample Size		225	89	3			317
Both Sexes		379,979	243,083	5,117		2,559	630,738
Percent		60.24	38.54	0.81		0.41	100.00
Sample Size		297	190	4		2	493
Mean Length		494	573	518		620	525
Std. Error		2	2	7		10	1
Sample Size		296	190	4		2	492
<u>Sample Period 2: July 7 - 21</u>							
Males		74,207	154,122	2,854		2,854	234,037
Percent		11.09	23.03	0.43		0.43	34.97
Sample Size		52	108	2		2	164
Mean Length		520	588	530		590	566
Std. Error		3	3			10	2
Sample Size		52	108	2		2	164
Females	2,854	315,379	101,321	11,416	1,427	2,854	435,251
Percent	0.43	47.12	15.14	1.71	0.21	0.43	65.03
Sample Size	2	221	71	8	1	2	305
Mean Length	463	485	544	483	555	533	499
Std. Error	32	2	4	12		8	2
Sample Size	2	221	71	8	1	2	305
Both Sexes	2,854	389,586	255,443	14,270	1,427	5,708	669,288
Percent	0.43	58.21	38.17	2.13	0.21	0.85	100.00
Sample Size	2	273	179	10	1	4	469
Mean Length	463	492	571	493	555	561	523
Std. Error	32	1	2	12		6	1
Sample Size	2	273	179	10	1	4	469

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Appendix B.12. (Page 2 of 2)

	Age Group						Total
	0.2	1.2	1.3	2.2	1.4	2.3	
<u>All Periods Combined:</u>							
Males		165,044	283,340	4,133		5,413	457,930
Percent		12.70	21.79	0.32		0.42	35.22
Sample Size		123	209	3		4	339
Mean Length		519	589	536		604	563
Std. Error		3	2			7	2
Sample Size		123	209	3		4	339
Females	2,854	604,521	215,186	15,254	1,427	2,854	842,096
Percent	0.22	46.50	16.55	1.17	0.11	0.22	64.78
Sample Size	2	447	160	11	1	2	623
Mean Length	463	486	550	489	555	533	502
Std. Error	32	1	3	9		8	1
Sample Size	2	446	160	11	1	2	622
Both Sexes	2,854	769,565	498,526	19,387	1,427	8,267	1,300,026
Percent	0.22	59.20	38.35	1.49	0.11	0.64	100.00
Sample Size	2	570	369	14	1	6	962
Mean Length	463	493	572	499	555	579	524
Std. Error	32	1	2	9		5	1
Sample Size	2	569	369	14	1	6	961

Appendix B.13. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon escapement, Igushik River, 2000.

	Age Group				Total
	1.2	1.3	2.2	2.3	
<u>Sample Period 1: June 24 - July 4</u>					
Males	15,408	96,682		770	112,860
Percent	7.69	48.27		0.38	56.35
Sample Size	40	251		2	293
Mean Length	523	587		576	579
Std. Error	4	2		4	2
Sample Size	40	251		2	293
Females	15,022	71,646	770		87,438
Percent	7.50	35.77	0.38		43.65
Sample Size	39	186	2		227
Mean Length	506	550	495		542
Std. Error	5	1	1		1
Sample Size	39	186	2		227
Both Sexes	30,430	168,328	770	770	200,298
Percent	15.19	84.04	0.38	0.38	100.00
Sample Size	79	437	2	2	520
Mean Length	514	572	495	576	563
Std. Error	3	1	1	4	1
Sample Size	79	437	2	2	520
<u>Sample Period 2: July 5 - 22</u>					
Males	6,335	111,656	396	396	118,783
Percent	2.97	52.42	0.19	0.19	55.76
Sample Size	16	282	1	1	300
Mean Length	541	591	512	580	588
Std. Error	14	2			2
Sample Size	16	281	1	1	299
Females	9,899	83,544	396	396	94,235
Percent	4.65	39.22	0.19	0.19	44.24
Sample Size	25	211	1	1	238
Mean Length	503	555	503	547	550
Std. Error	6	2			2
Sample Size	25	211	1	1	238
Both Sexes	16,234	195,200	792	792	213,018
Percent	7.62	91.64	0.37	0.37	100.00
Sample Size	41	493	2	2	538
Mean Length	518	576	508	564	571
Std. Error	7	1			1
Sample Size	41	492	2	2	537

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Appendix B.13. (Page 2 of 2)

	Age Group				
	1.2	1.3	2.2	2.3	Total
<u>All Periods Combined:</u>					
Males	21,743	208,338	396	1,166	231,643
Percent	5.26	50.41	0.10	0.28	56.05
Sample Size	56	533	1	3	593
Mean Length	528	589	512	577	583
Std. Error	5	1		4	1
Sample Size	56	532	1	3	592
Females	24,921	155,190	1,166	396	181,673
Percent	6.03	37.55	0.28	0.10	43.95
Sample Size	64	397	3	1	465
Mean Length	505	553	498	547	546
Std. Error	4	1	1		1
Sample Size	64	397	3	1	465
Both Sexes	46,664	363,528	1,562	1,562	413,316
Percent	11.29	87.95	0.38	0.38	100.00
Sample Size	120	930	4	4	1,058
Mean Length	515	574	501	569	567
Std. Error	3	1	1	4	1
Sample Size	120	929	4	4	1,057

Appendix B.14. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon escapement, Nushagak River, 2000.

	Age Group						
	0.3	1.2	1.3	2.2	1.4	2.3	Total
<u>Sample period: June 10 - August 5</u>							
Males		81,112	127,168	2,750	1,375	4,124	216,529
Percent		20.10	31.52	0.68	0.34	1.02	53.66
Sample Size		118	185	4	2	6	315
Mean Length		515	570	512	608	594	549
Std. Error		4	3	30	4	15	2
Sample Size		118	181	4	2	6	311
Females	687	62,553	114,107	2,062	4,812	2,750	186,971
Percent	0.17	15.50	28.28	0.51	1.19	0.68	46.34
Sample Size	1	91	166	3	7	4	272
Mean Length	514	487	548	492	575	572	528
Std. Error		4	2	24	5	6	2
Sample Size	1	91	166	3	7	4	272
Both Sexes	687	143,665	241,275	4,812	6,187	6,874	403,500
Percent	0.17	35.60	59.8	1.19	1.53	1.70	100.00
Sample Size	1	209	351	7	9	10	587
Mean Length	514	503	560	503	583	585	539
Std. Error		3	2	20	4	9	1
Sample Size	1	209	347	7	9	10	583

Appendix B.15. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon escapement, Nuyakuk River, 2000.

	Age Group							Total
	1.1	0.3	1.2	1.3	2.2	1.4	2.3	
<u>Sample period: June 30 - July 24</u>								
Males			33,491	12,747	250	250		46,738
Percent			25.87	9.85	0.19	0.19		36.10
Sample Size			134	51	1	1		187
Mean Length			529	587	502	630		545
Std. Error			3	7				3
Sample Size			131	50	1	1		183
Females	250	250	65,234	15,996	500		500	82,730
Percent	0.19	0.19	50.39	12.36	0.39		0.39	63.90
Sample Size	1	1	261	64	2		2	331
Mean Length	308	570	501	549	489		566	510
Std. Error			2	4	9		8	1
Sample Size	1	1	258	60	2		2	324
Both Sexes	250	250	98,725	28,743	750	250	500	129,468
Percent	0.19	0.19	76.25	22.20	0.58	0.19	0.39	100.00
Sample Size	1	1	395	115	3	1	2	518
Mean Length	308	570	510	566	493	630	566	523
Std. Error			1	4	9		8	1
Sample Size	1	1	389	110	3	1	2	507

Appendix B.16. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch, Togiak River Section, Togiak District, 2000.

	Age Group						Total
	0.3	1.2	0.4	1.3	2.2	1.4	2.3
<u>Sample Period 1: June 19 - July 1</u>							
Males	201	704		22,012	101		101
Percent	0.63	2.20		68.65	0.31		0.31
Sample Size	2	7		219	1		1
Mean Length	576	553		591	509		601
Std. Error	18	8		2			
Sample Size	2	7		219	1		1
Mean Weight	2.79	2.76		3.32	1.96		3.35
Std. Error	0.23	0.22		0.05			
Sample Size	2	4		111	1		1
Females		302	101	8,342			201
Percent		0.94	0.31	26.02			0.63
Sample Size		3	1	83			2
Mean Length		510	536	572			563
Std. Error		9		2			4
Sample Size		3	1	83			2
Mean Weight		1.83		2.79			2.67
Std. Error		0.11		0.04			0.15
Sample Size		2		56			2
Both Sexes	201	1,006	101	30,354	101		302
Percent	0.63	3.14	0.31	94.66	0.31		0.94
Sample Size	2	10	1	302	1		3
Mean Length	576	540	536	585	509		576
Std. Error	18	6		1			4
Sample Size	2	10	1	302	1		3
Mean Weight	2.79	2.48		3.17	1.96		2.90
Std. Error	0.23	0.16		0.04			0.15
Sample Size	2	6		167	1		3
<u>Sample Period 2: July 3 - July 8</u>							
Males	304	2,126	304	63,485			608
Percent	0.23	1.64	0.23	49.06			0.47
Sample Size	1	7	1	209			2
Mean Length	596	553	602	600			622
Std. Error		6		2			40
Sample Size	1	7	1	209			2
Mean Weight		2.45	4.09	3.57			3.17
Std. Error		0.01		0.07			
Sample Size		2	1	52			1
Females		1,215		60,144			1,215
Percent		0.94		46.48			0.94
Sample Size		4		198			4
Mean Length		518		575			554
Std. Error		8		1			4
Sample Size		4		198			4
Mean Weight				2.93			2.78
Std. Error				0.05			
Sample Size				47			1
Both Sexes	304	3,341	304	123,629			1,823
Percent	0.23	2.58	0.23	95.54			1.41
Sample Size	1	11	1	407			6
Mean Length	596	540	602	588			577
Std. Error		5		1			14
Sample Size	1	11	1	407			6
Mean Weight		2.45	4.09	3.26			2.91
Std. Error		0.01		0.04			
Sample Size		2	1	99			2

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	Age Group							
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total
<u>Sample Period 3: July 9 - July 16</u>								
Males	489	9,292		82,158	2,445		2,445	96,829
Percent	0.24	4.60		40.68	1.21		1.21	47.94
Sample Size	1	19		168	5		5	198
Mean Length	574	544		597	569		603	591
Std. Error		5		2	6		9	2
Sample Size	1	19		168	5		5	198
Mean Weight		2.85		3.42	3.07		4.05	3.37
Std. Error		0.16		0.08				0.07
Sample Size		5		44	1		1	51
Females		6,357		97,319	1,467			105,143
Percent		3.15		48.18	0.73			52.06
Sample Size		13		199	3			215
Mean Length		529		573	527			570
Std. Error		6		2	11			2
Sample Size		13		199	3			215
Mean Weight		2.85		3.04	2.09			3.02
Std. Error				0.06				0.05
Sample Size		1		54	1			56
Both Sexes	489	15,649		179,477	3,912		2,445	201,972
Percent	0.24	7.75		88.86	1.94		1.21	100.00
Sample Size	1	32		367	8		5	413
Mean Length	574	538		584	553		603	580
Std. Error		4		1	6		9	1
Sample Size	1	32		367	8		5	413
Mean Weight		2.85		3.21	2.70		4.05	3.19
Std. Error		0.16		0.05				0.04
Sample Size		6		98	2		1	107
<u>Sample Period 4: July 17 - August 15</u>								
Males		21,409		154,141	1,713			177,263
Percent		5.88		42.35	0.47			48.71
Sample Size		25		180	2			207
Mean Length		544		600	558			593
Std. Error		4		2	11			2
Sample Size		25		180	2			207
Mean Weight		2.95		3.92	2.81			3.79
Std. Error		0.09		0.11				0.09
Sample Size		6		50	1			57
Females		22,265		158,424	2,569	856	2,569	186,683
Percent		6.12		43.53	0.71	0.24	0.71	51.29
Sample Size		26		185	3	1	3	218
Mean Length		520		572	533	549	582	565
Std. Error		4		2	4		5	2
Sample Size		26		185	3	1	3	218
Mean Weight		2.25		3.01		2.67		2.92
Std. Error		0.06		0.07				0.06
Sample Size		6		36		1		43
Both Sexes		43,674		312,565	4,282	856	2,569	363,946
Percent		12.00		85.88	1.18	0.24	0.71	100.00
Sample Size		51		365	5	1	3	425
Mean Length		532		586	543	549	582	579
Std. Error		3		1	5		5	1
Sample Size		51		365	5	1	3	425
Mean Weight		2.59		3.46	2.81	2.67		3.35
Std. Error		0.05		0.06				0.05
Sample Size		12		86	1	1		100

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	Age Group							Total
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	
<u>All Periods Combined:</u>								
Males	994	33,531	304	321,796	4,259		3,154	364,038
Percent	0.14	4.61	0.04	44.24	0.59		0.43	50.05
Sample Size	4	58	1	776	8		8	855
Mean Length	581	545	602	599	563		607	593
Std. Error	18	3		1	6		11	1
Sample Size	4	58	1	776	8		8	855
Mean Weight	2.79	2.89	4.09	3.68	2.94		3.86	3.60
Std. Error	0.23	0.07		0.06				0.05
Sample Size	2	17	1	257	3		3	283
Females		30,139	101	324,229	4,036	856	3,985	363,346
Percent		4.14	0.01	44.57	0.55	0.12	0.55	49.95
Sample Size		46	1	665	6	1	9	728
Mean Length		522	536	573	531	549	572	568
Std. Error		3		1	5		4	1
Sample Size		46	1	665	6	1	9	728
Mean Weight		2.38		3.00	2.09	2.67	2.76	2.94
Std. Error		0.06		0.04			0.15	0.03
Sample Size		9		193	1	1	3	207
Both Sexes	994	63,670	405	646,025	8,295	856	7,139	727,384
Percent	0.14	8.75	0.06	88.81	1.14	0.12	0.98	100.00
Sample Size	4	104	2	1,441	14	1	17	1,583
Mean Length	581	534	586	586	547	549	588	581
Std. Error	18	2		1	4		5	1
Sample Size	4	104	2	1,441	14	1	17	1,583
Mean Weight	2.79	2.65	4.09	3.34	2.72	2.67	3.52	3.28
Std. Error	0.23	0.05		0.03			0.15	0.03
Sample Size	2	26	1	450	4	1	6	490

Appendix B.17. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon commercial catch, Kulukak Section, Togiak District, 2000.

	Age Group						
	0.3	1.2	1.3	2.2	1.4	2.3	Total
<u>Sample period: June 19 - July 26</u>							
Males	223	1,116	41,728	223	223	446	43,959
Percent	0.33	1.65	61.72	0.33	0.33	0.66	65.02
Sample Size	1	5	187	1	1	2	197
Mean Length	575	544	598	575	574	603	596
Std. Error		6	2			4	2
Sample Size	1	5	187	1	1	2	197
Mean Weight			3.52	3.05			3.52
Std. Error			0.12				0.12
Sample Size			26	1			27
Females		669	22,761			223	23,653
Percent		0.99	33.66			0.33	34.98
Sample Size		3	102			1	106
Mean Length		548	571			561	571
Std. Error		25	2				2
Sample Size		3	102			1	106
Mean Weight			2.69			2.75	2.69
Std. Error			0.07				0.07
Sample Size			15			1	16
Both Sexes	223	1,785	64,489	223	223	669	67,612
Percent	0.33	2.64	95.38	0.33	0.33	0.99	100.00
Sample Size	1	8	289	1	1	3	303
Mean Length	575	546	588	575	574	589	587
Std. Error		10	1			4	1
Sample Size	1	8	289	1	1	3	303
Mean Weight			3.23	3.05		2.75	3.22
Std. Error			0.08				0.08
Sample Size			41	1		1	43

Appendix B.18. Age, sex, and size (length in mm and weight in kg) composition of sockeye salmon escapement, Togiak River, 2000.

	Age Group				
	1.2	1.3	2.2	2.3	Total ^a
<u>Sample Period 1: July 4 - 22</u>					
Males	3,583	101,749	1,433		106,765
Percent	1.35	38.38	0.54		40.27
Sample Size	5	142	2		149
Mean Length	552	604	566		601
Std. Error	6	2	13		2
Sample Size	5	140	2		147
Females	9,315	149,042			158,357
Percent	3.51	56.22			59.73
Sample Size	13	208			221
Mean Length	497	561			558
Std. Error	6	2			2
Sample Size	12	207			219
Both Sexes	12,898	250,791	1,433		265,122
Percent	4.86	94.59	0.54		100.00
Sample Size	18	350	2		370
Mean Length	512	579	566		575
Std. Error	4	1	13		1
Sample Size	17	347	2		366
<u>Sample Period 2: July 23 - August 1</u>					
Males	484	19,732	242	121	20,579
Percent	1.03	42.12	0.52	0.26	43.93
Sample Size	4	163	2	1	170
Mean Length	533	600	563	570	597
Std. Error	9	2	18		2
Sample Size	4	162	2	1	169
Females	2,784	23,243	121	121	26,269
Percent	5.94	49.61	0.26	0.26	56.07
Sample Size	23	192	1	1	217
Mean Length	484	556	535	560	549
Std. Error	6	2			2
Sample Size	23	192	1	1	217
Both Sexes	3,268	42,975	363	242	46,848
Percent	6.98	91.73	0.77	0.52	100.00
Sample Size	27	355	3	2	387
Mean Length	491	576	553	565	570
Std. Error	6	1	18		1
Sample Size	27	354	3	2	386

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	Age Group				
	1.2	1.3	2.2	2.3	Total ^a
<u>All Periods Combined:</u>					
Males	4,067	121,481	1,675	121	127,344
Percent	1.30	38.94	0.54	0.04	40.82
Sample Size	9	305	4	1	319
Mean Length	550	603	565	570	601
Std. Error	6	2	11		2
Sample Size	9	302	4	1	316
Females	12,099	172,285	121	121	184,626
Percent	3.88	55.22	0.04	0.04	59.18
Sample Size	36	400	1	1	438
Mean Length	494	561	535	560	556
Std. Error	5	2			2
Sample Size	35	399	1	1	436
Both Sexes	16,166	293,766	1,796	242	311,970
Percent	5.18	94.16	0.58	0.08	100.00
Sample Size	45	705	5	2	757
Mean Length	508	578	563	565	575
Std. Error	4	1	11		1
Sample Size	44	701	5	2	752

^a Total does not include (40,275) sockeye salmon counted in the tributaries and mainstem Togiak River, below the counting towers.

Appendix B.19. Age and size (length in mm and weight in kg) composition of chinook salmon commercial catch, Nushagak District, 2000.

	Age Group ^a					Total
	1.1	1.2	1.3	1.4	1.5	
<u>Sample period: June 10 - August 5</u>						
Both Sexes	45	2,742	3,739	5,189	340	12,055
Percent	0.37	22.75	31.02	43.04	2.82	100.00
Sample Size	2	121	165	229	15	532
Mean Length	469	535	701	844	905	730
Std. Error	10	5	7	5	13	3
Sample Size	2	120	164	227	14	527

^a Used Nushagak escapement samples in absence of samples from commercial catch.

Appendix B.20. Age and size (length in mm and weight in kg) composition of chinook salmon escapement, Nushagak River, 2000.

	Age Group					Total
	1.1	1.2	1.3	1.4	1.5	
<u>Sample period: June 10 - August 5</u>						
Both Sexes	212	12,821	17,483	24,266	1,590	56,372
Percent	0.38	22.74	31.01	43.05	2.82	100.00
Sample Size	2	121	165	229	15	532
Mean Length	469	535	701	844	905	730
Std. Error	10	5	7	5	13	3
Sample Size	2	120	164	227	14	527

Appendix B.21. Age and size (length in mm and weight in kg) composition of chinook salmon commercial catch, Togiak River Section, Togiak District, 2000.

	Age Group				
	1.2	1.3	1.4	1.5	Total
<u>Sample period: June 19 - August 15</u>					
Both Sexes	259	4,572	2,362	61	7,254
Percent	3.57	63.03	32.56	0.84	100.00
Sample Size	17	300	155	4	476
Mean Length	572	754	866	865	785
Std. Error	23	4	5	30	3
Sample Size	17	300	155	4	476
Mean Weight	5.98	7.53	12.17	11.75	9.01
Std. Error	0.17	0.17	1.29		0.44
Sample Size	4	145	71	1	221

Appendix B.22. Age, sex, and size (length in mm and weight in kg) composition of chum salmon commercial catch, Nushagak District, 2000.

	Age Group			
	0.2	0.3	0.4	Total
<u>Sample period: June 21 - August 15</u>				
Males	5,911	21,494	8,597	36,002
Percent	5.16	18.78	7.51	31.46
Sample Size	11	40	16	67
Mean Length	570	598	631	602
Std. Error	10	5	9	4
Sample Size	11	40	16	67
Mean Weight	3.52	3.69	4.21	3.79
Std. Error	0.22	0.13	0.25	0.1
Sample Size	4	21	9	34
Females	6,448	52,660	19,344	78,452
Percent	5.63	46.01	16.90	68.54
Sample Size	12	98	36	146
Mean Length	554	574	584	575
Std. Error	6	2	5	2
Sample Size	12	98	36	146
Mean Weight	3.01	2.98	3.23	3.04
Std. Error	0.18	0.05	0.11	0.05
Sample Size	5	52	24	81
Both Sexes	12,359	74,154	27,941	114,454
Percent	10.80	64.79	24.41	100.00
Sample Size	23	138	52	213
Mean Length	561	581	598	583
Std. Error	6	2	5	2
Sample Size	23	138	52	213
Mean Weight	3.25	3.19	3.53	3.28
Std. Error	0.14	0.05	0.11	0.05
Sample Size	9	73	33	115

Appendix B.23. Age, sex, and size (length in mm and weight in kg) composition of chum salmon escapement, Nushagak River, 2000.

	Age Group			Total
	0.3	0.4	0.5	
<u>Sample period: June 10 - August 17</u>				
Males	1,703	40,864	28,946	71,513
Percent	1.21	28.92	20.48	50.60
Sample Size	1	24	17	42
Mean Length	592	592	635	609
Std. Error		6	8	5
Sample Size	1	24	17	42
Females	1,703	40,865	27,243	69,811
Percent	1.21	28.92	19.28	49.40
Sample Size	1	24	16	41
Mean Length	532	559	600	574
Std. Error		9	10	6
Sample Size	1	24	16	41
Both Sexes	3,406	81,729	56,189	141,324
Percent	2.41	57.83	39.76	100.00
Sample Size	2	48	33	83
Mean Length	562	575	618	592
Std. Error		5	6	4
Sample Size	2	48	33	83

Appendix B.24. Age, sex, and size (length in mm and weight in kg) composition of chum salmon commercial catch, Togiak River Section, Togiak District, 2000.

	Age Group				
	0.2	0.3	0.4	0.5	Total
<u>Sample period: June 19 - August 15</u>					
Males	642	40,910	12,193		53,745
Percent	0.49	31.25	9.31		41.05
Sample Size	4	255	76		335
Mean Length	564	612	629		616
Std. Error	12	2	3		2
Sample Size	4	255	76		335
Mean Weight	3.22	3.57	3.76		3.61
Std. Error	0.44	0.07	0.18		0.07
Sample Size	2	77	19		98
Females	1,123	60,643	15,241	160	77,167
Percent	0.86	46.32	11.64	0.12	58.95
Sample Size	7	378	95	1	481
Mean Length	559	589	595	611	590
Std. Error	15	1	3		1
Sample Size	7	378	95	1	481
Mean Weight	2.57	3.18	3.21	3.55	3.18
Std. Error	0.31	0.03	0.1		0.03
Sample Size	3	126	26	1	156
Both Sexes	1,765	101,553	27,434	160	130,912
Percent	1.35	77.57	20.96	0.12	100.00
Sample Size	11	633	171	1	816
Mean Length	561	598	610	611	600
Std. Error	10	1	2		1
Sample Size	11	633	171	1	816
Mean Weight	2.81	3.34	3.45	3.55	3.35
Std. Error	0.25	0.04	0.1		0.03
Sample Size	5	203	45	1	254

Appendix B.25. Age, sex, and size (length in mm and weight in kg) composition of coho salmon escapement, Nushagak River, 2000.

	Age Group			
	1.1	2.1	3.1	Total
<u>Sample period: July 4 - August 17</u>				
Males	6,564	88,977	729	96,270
Percent	3.80	51.48	0.42	55.70
Sample Size	9	122	1	132
Mean Length	547	555	635	555
Std. Error	9	5		4
Sample Size	9	122	1	132
Females	8,023	66,368	2,188	76,579
Percent	4.64	38.40	1.27	44.30
Sample Size	11	91	3	105
Mean Length	550	567	579	565
Std. Error	16	4	25	4
Sample Size	11	91	3	105
Both Sexes	14,587	155,345	2,917	172,849
Percent	8.44	89.87	1.69	100.00
Sample Size	20	213	4	237
Mean Length	549	560	593	559
Std. Error	10	3	25	3
Sample Size	20	213	4	237

Appendix C.1. Kvichak River sockeye salmon escapement and return by brood year including estimated interception catch (in thousands), 1950 - 1997.

Brood Year	Return by Age Class																	Total Recruits Per Spawner
	Escapement	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	0 ^a	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0	248	0	0	0	0	248 ^c	
1951	0 ^a	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0	221	3,377	0	0	983	0	1	0	0	4,582 ^c	
1952	0 ^a	0 ^b	0 ^b	0	9,954	0	0	6,681	2,956	0	0	654	1	0	1	0	20,248 ^c	
1953	0 ^a	0	0	0	91	0	0	62	365	0	0	60	0	0	0	16	593	
1954	0 ^a	0	0	0	81	17	0	29	643	0	0	0	0	0	29	0	799	
1955	0 ^a	0	0	0	251	14	0	100	589	0	0	531	20	0	0	0	1,504	
1956	9,443	0	14	0	24,273	0	0	6,968	6,472	0	0	1,308	0	0	0	0	39,036	4.1
1957	2,843	8	0	0	243	0	0	244	3,333	0	2	259	0	0	2	0	4,091	1.4
1958	535	0	0	0	76	0	0	48	135	0	0	26	0	0	3	0	289	0.5
1959	680	0	0	0	212	1	0	117	206	0	0	11	0	0	0	0	547	0.8
1960	14,630	0	0	1	1,314	134	0	563	46,746	0	0	6,485	10	0	6	0	55,259	3.8
1961	3,706	1	0	0	334	0	0	190	2,293	0	0	679	5	0	0	0	3,503	0.9
1962	2,581	0	0	0	104	2	0	152	4,675	0	0	408	12	0	4	0	5,357	2.1
1963	339	0	0	0	49	3	0	50	639	0	0	366	3	0	9	0	1,120	3.3
1964	957	0	8	0	2,232	105	0	407	2,341	0	0	647	8	0	3	0	5,751	6.0
1965	24,326	0	25	0	9,853	484	0	471	32,951	0	0	1,239	2	0	1	0	45,026	1.9
1966	3,775	4	11	6	497	11	0	1,086	4,262	0	0	385	0	1	0	0	6,262	1.7
1967	3,216	0	0	5	349	2	0	272	812	0	0	86	0	0	0	0	1,527	0.5
1968	2,557	0	0	0	293	0	0	34	77	0	5	132	0	0	2	0	543	0.2
1969	8,394	0	0	1	129	7	0	321	4,221	0	0	595	19	0	11	0	5,304	0.6
1970	13,935	0	1	0	43	40	0	13	14,463	6	0	848	412	0	7	0	15,834	1.1
1971	2,387	0	0	0	244	18	0	93	2,169	0	0	303	2	0	0	0	2,829	1.2
1972	1,010	0	0	0	255	1	0	159	1,206	0	22	297	0	0	0	0	1,941	1.9
1973	227	0	0	2	576	2	2	1,028	274	0	3	543	28	0	0	0	2,457	10.8
1974	4,434	0	9	1	6,328	309	0	2,009	16,725	0	8	763	23	0	5	0	26,179	5.9
1975	13,140	0	5	0	5,683	302	0	1,232	30,263	0	0	599	2	0	0	0	38,087	2.9
1976	1,965	0	5	11	5,298	43	0	826	4,115	0	4	273	0	0	0	0	10,575	5.4
1977	1,341	11	43	6	1,934	2	0	935	208	0	0	99	0	0	0	0	3,238	2.4
1978	4,149	0	0	0	1,835	16	0	1,157	1,318	0	0	817	11	0	6	0	5,160	1.2
1979	11,218	1	57	3	18,331	73	0	2,234	17,931	0	0	3,512	0	0	0	0	42,142	3.8
1980	17,505	0	2	5	2,889	20	0	1,641	8,076	0	2	413	0	0	0	0	13,048	0.7
1981	1,754	0	0	12	789	0	0	231	931	0	0	167	0	0	0	0	2,129	1.2
1982	1,135	25	0	2	445	1	0	544	524	0	6	139	0	0	0	0	1,685	1.5
1983	3,570	0	1	5	8,596	3	0	3,010	1,195	0	5	573	0	2	1	0	13,392	3.8
1984	10,491	0	0	4	2,532	44	1	1,924	16,952	0	0	2,483	8	0	2	0	23,949	2.3
1985	7,211	4	7	30	1,024	29	0	1,282	13,465	0	2	1,560	1	15	2	0	17,419	2.4
1986	1,179	10	0	27	688	0	1	1,079	1,390	0	25	1,332	2	0	4	0	4,557	3.9
1987	6,066	29	4	69	4,179	31	4	2,519	4,499	0	5	700	4	0	2	0	12,044	2.0
1988	4,065	11	5	19	2,503	19	1	2,470	4,385	0	5	557	11	0	6	0	9,991	2.5
1989	8,318	29	2	54	2,147	117	2	1,678	18,826	0	2	3,316	13	1	0	0	26,187	3.1
1990	6,970	6	8	11	1,541	83	0	1,192	21,105	0	0	1,162	0	1	0	0	25,109	3.6
1991	4,223	0	1	4	2,688	2	0	1,232	699	0	6	170	0	0	0	0	4,802	1.1
1992	4,726	2	0	13	429	2	0	226	567	0	0	175	0	0	6	0	1,420	0.3
1993	4,025	0	1	1	852	1	4	890	624	0	8	574	0	0	0	0 ^c	2,955 ^c	0.7 ^c
1994	8,338	0	3	0	1,811	29	0	1,204	3,777	0	1	250	1	0 ^c	0 ^c	0 ^c	7,076 ^c	0.8 ^c
1995	10,039	0	17	0	7,736	0	0	1,810	600	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	10,163 ^c	1.0 ^c
1996	1,451	4	0	0	369	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	373 ^c	0.3 ^c
1997	1,504	0	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0.0 ^c

^a Escapement not available.

^b Younger age groups not available.

^c Incomplete returns from brood year escapement.

Appendix C.2. Branch River sockeye salmon escapement and return by brood year including estimated interception catch (in thousands), 1950 - 1997.

Brood Year	Escapement	Return by Age Class																Total Recruits Per Spawner
		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	0 ^a	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0	262	0	0	0	0	262 ^c	
1951	0 ^a	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0	294	343	0	0	43	0	0	0	0	681 ^c	
1952	0 ^a	0 ^b	0 ^b	0	383	0	0	295	131	0	0	115	0	0	1	0	925 ^c	
1953	0 ^a	0	0	0	5	0	0	11	64	0	0	0	0	0	0	0	80	
1954	0 ^a	0	0	0	14	3	0	109	392	0	0	141	0	0	1	0	660	
1955	0 ^a	0	0	0	788	0	0	237	26	0	0	44	0	0	0	0	1,095	
1956	784	5	0	0	1,885	0	0	459	0	0	0	38	3	0	0	0	2,390	3.0
1957	127	0	0	0	5	0	0	23	43	0	0	13	0	0	1	0	85	0.7
1958	95	0	0	0	43	0	0	26	27	0	0	52	0	0	0	0	147	1.5
1959	825	0	0	0	302	0	0	265	122	0	0	76	1	0	2	0	768	0.9
1960	1,241	0	0	0	105	0	0	185	135	0	0	31	0	0	0	0	456	0.4
1961	90	0	10	1	89	1	0	185	7	0	0	0	0	0	0	0	292	3.2
1962	91	0	19	0	129	0	0	91	3	0	0	19	1	0	0	0	262	2.9
1963	203	0	0	0	199	1	0	140	34	0	0	1	0	0	0	0	376	1.9
1964	249	0	5	0	100	2	0	98	113	0	0	17	0	0	0	0	336	1.3
1965	175	0	6	0	104	1	0	161	10	0	0	17	0	0	0	0	299	1.7
1966	174	0	13	0	282	0	0	262	12	0	0	11	0	0	0	0	581	3.3
1967	203	0	9	8	291	1	0	51	46	0	0	7	0	0	0	0	413	2.0
1968	194	3	5	0	127	0	0	40	2	0	0	3	0	0	0	0	180	0.9
1969	182	0	0	0	4	1	0	54	105	0	0	25	0	0	0	0	190	1.0
1970	177	0	0	0	73	0	0	71	6	0	0	2	0	0	0	0	152	0.9
1971	187	0	2	0	26	0	0	28	31	0	0	37	0	0	2	0	126	0.7
1972	151	0	1	0	91	0	0	17	7	0	0	14	0	0	0	0	130	0.9
1973	35	0	0	0	97	1	0	130	18	0	0	2	0	0	0	0	248	7.1
1974	215	0	4	0	292	5	0	18	128	0	0	8	0	0	0	0	456	2.1
1975	100	0	15	0	415	0	0	340	3	0	1	1	0	0	0	0	775	7.8
1976	82	0	26	0	211	0	0	168	20	0	0	55	0	0	0	0	481	5.9
1977	100	0	27	0	141	1	0	700	0	0	4	9	0	0	0	0	881	8.8
1978	229	0	1	0	102	0	0	68	39	0	0	147	0	0	0	0	358	1.6
1979	294	0	3	2	459	2	0	297	32	0	0	3	0	0	0	0	799	2.7
1980	298	0	0	0	103	0	0	211	13	0	2	9	0	1	0	0	339	1.1
1981	82	0	0	0	55	0	0	171	53	0	2	11	0	0	0	0	291	3.5
1982	239	0	0	0	172	0	0	142	4	0	0	3	0	0	0	0	322	1.3
1983	96	0	0	0	148	0	0	131	33	0	0	3	0	0	0	0	316	3.3
1984	215	0	1	0	159	0	0	146	42	0	0	23	0	0	0	0	372	1.7
1985	118	0	3	0	357	0	0	113	92	0	0	8	0	0	0	0	574	4.9
1986	230	0	1	0	344	0	0	267	193	0	0	8	0	0	0	0	813	3.5
1987	154	0	0	0	158	0	0	170	172	0	3	80	0	0	0	0	583	3.8
1988	195	0	1	0	154	0	0	148	279	0	0	43	0	0	0	0	625	3.2
1989	197	0	5	0	354	2	0	172	178	0	0	16	0	0	0	0	727	3.7
1990	169	0	2	0	262	0	0	124	330	0	0	237	0	0	0	0	955	5.7
1991	278	0	0	0	200	4	0	220	165	0	0	0	0	0	0	0	588	2.1
1992	225	0	2	0	98	0	0	73	65	0	0	10	0	0	1	0	248	1.1
1993	348	0	4	0	127	0	0	161	83	0	2	47	0	0	0	0 ^c	424 ^c	1.2 ^c
1994	243	0	1	0	162	2	0	273	40	0	0	41	0	0 ^c	0 ^c	0 ^c	519 ^c	2.1 ^c
1995	216	0	4	0	711	0	0	195	127	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	1,037 ^c	4.8 ^c
1996	307	0	3	0	408	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	411 ^c	1.3 ^c
1997	218	0	2	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	2 ^c	0.0 ^c

^a Escapement not available.

^b Younger age groups not available.

^c Incomplete returns from brood year escapement.

Appendix C.3. Naknek River sockeye salmon escapement and return by brood year including estimated interception catch (in thousands), 1950 - 1997.

Brood Year	Escapement	Return by Age Class																Total Recruits Per Spawner
		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	0 ^a	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0	1,093	0	2	5	0	1,100 ^c	
1951	0 ^a	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0	1,295	688	0	0	1,250	0	1	0	0	3,234 ^c	
1952	0 ^a	0 ^b	0 ^b	0	79	0	0	1,199	108	0	7	176	1	0	2	0	1,571 ^c	
1953	0 ^a	0	0	0	24	0	0	135	177	3	0	206	42	0	1	1	589	
1954	0 ^a	0	0	0	85	19	0	302	2,129	0	0	587	0	13	3	0	3,137	
1955	0 ^a	0	0	0	720	1	0	820	214	0	0	88	2	4	2	0	1,851	
1956	1,773	0	1	0	473	0	0	1,701	3	0	17	304	0	0	0	0	2,501	1.4
1957	635	0	0	0	53	2	0	329	505	0	1	674	5	0	3	0	1,571	2.5
1958	278	0	0	0	112	4	0	211	539	0	0	168	3	0	2	0	1,040	3.7
1959	2,232	0	0	0	349	7	0	351	742	0	0	705	0	0	0	0	2,155	1.0
1960	828	0	1	1	1,408	9	0	625	696	0	0	1,278	1	1	2	0	4,023	4.9
1961	351	0	0	0	239	3	0	744	315	0	3	640	0	0	8	0	1,953	5.6
1962	723	0	0	0	76	4	0	230	351	0	2	397	13	0	1	0	1,074	1.5
1963	905	0	0	0	136	8	0	390	833	0	0	627	7	0	1	0	2,003	2.2
1964	1,350	0	1	0	447	24	0	264	1,135	0	0	177	11	0	1	0	2,061	1.5
1965	718	0	5	0	540	44	0	360	732	0	0	437	1	0	1	0	2,121	3.0
1966	1,016	1	4	0	728	2	0	2,304	167	0	1	630	0	1	0	0	3,837	3.8
1967	756	0	0	2	326	6	0	625	401	0	0	356	0	1	0	0	1,716	2.3
1968	1,023	0	3	0	152	0	0	234	83	0	0	269	2	0	2	0	745	0.7
1969	1,331	0	0	0	47	3	0	307	976	0	0	1,211	5	0	3	0	2,552	1.9
1970	733	0	1	0	154	19	0	318	1,845	0	0	370	12	0	0	0	2,718	3.7
1971	936	0	1	0	397	24	0	559	1,428	0	0	1,844	3	9	8	0	4,274	4.6
1972	587	0	3	0	245	3	0	241	161	0	3	599	9	0	1	0	1,264	2.2
1973	357	0	0	0	494	0	0	618	524	0	0	598	0	0	0	0	2,235	6.3
1974	1,241	0	2	0	232	3	0	228	1,026	0	1	783	5	0	5	0	2,285	1.8
1975	2,027	0	1	0	425	11	0	1,746	1,393	0	0	1,641	1	8	0	0	5,226	2.6
1976	1,321	0	4	0	1,084	3	0	4,048	1,575	0	21	1,491	0	28	1	0	8,256	6.2
1977	1,086	2	10	7	635	0	0	2,272	95	0	64	401	0	1	5	0	3,493	3.2
1978	813	0	1	0	331	4	0	1,695	1,121	0	11	530	2	0	0	0	3,694	4.5
1979	925	0	4	1	2,438	4	0	973	792	0	9	408	4	0	3	0	4,637	5.0
1980	2,645	0	1	1	723	14	0	1,505	1,192	0	9	828	0	2	0	0	4,274	1.6
1981	1,796	0	4	0	782	9	0	2,568	473	0	12	937	0	3	0	0	4,788	2.7
1982	1,156	0	3	3	185	0	0	1,172	191	0	23	457	0	9	0	0	2,043	1.8
1983	888	0	0	1	163	7	0	484	336	0	5	480	0	0	1	0	1,477	1.7
1984	1,242	0	1	0	469	23	0	911	1,214	0	21	1,828	5	1	4	0	4,477	3.6
1985	1,850	0	2	6	656	20	1	3,533	1,293	0	44	1,441	0	28	10	0	7,033	3.8
1986	1,978	0	3	6	1,981	6	1	7,167	1,276	0	367	2,817	1	38	2	0	13,666	6.9
1987	1,062	3	0	12	336	4	1	1,251	565	0	95	3,225	2	12	0	0	5,505	5.2
1988	1,038	0	0	0	273	13	0	796	516	0	37	544	2	2	1	0	2,183	2.1
1989	1,162	0	1	0	226	5	0	930	1,154	0	0	566	4	0	1	0	2,888	2.5
1990	2,093	0	0	0	405	46	0	1,236	1,345	0	12	1,316	3	12	0	0	4,375	2.1
1991	3,579	1	13	0	546	1	0	5,209	250	0	45	343	0	1	0	0	6,408	1.8
1992	1,607	0	0	16	268	1	0	552	250	1	10	379	5	2	0	0	1,483	0.9
1993	1,536	0	0	2	293	12	0	1,390	473	0	23	692	0	0	0	0 ^c	2,884 ^c	1.9 ^c
1994	991	0	6	0	503	15	0	631	553	0	7	526	4	0 ^c	0 ^c	0 ^c	2,245 ^c	2.3 ^c
1995	1,111	0	9	0	2,067	1	1	3,896	156	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	6,129 ^c	5.5 ^c
1996	1,078	1	1	0	345	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	347 ^c	0.3 ^c
1997	1,026	0	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0.0 ^c

^a Escapement not available.

^b Younger age groups not available.

^c Incomplete returns from brood year escapement.

Appendix C.4. Egegik River sockeye salmon escapement and return by brood year including estimated interception catch (in thousands), 1949 - 1997.

Brood Year	Escapement	Return by Age Class																Total Recruits Per Spawner
		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	0 ^a	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0	0	0	0	14	0	14 ^c	
1950	0 ^a	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0	0	0	0	0	274	70	4	23	0	371 ^c	
1951	0 ^a	0 ^b	0 ^b	0	0	0	0	325	1,018	0	1	1,301	2	0	6	0	2,654 ^c	
1952	0 ^a	0	0	0	623	0	0	446	241	0	1	295	19	2	5	0	1,633	
1953	0 ^a	0	0	0	26	0	0	39	435	2	0	337	254	0	12	0	1,104	
1954	0 ^a	0	0	0	11	4	0	13	1,190	0	0	641	87	0	46	0	1,990	
1955	0 ^a	0	1	0	20	0	0	163	672	0	0	396	6	1	6	0	1,265	
1956	1,104	0	6	0	2,025	0	0	3,190	925	0	2	685	1	0	12	0	6,846	6.2
1957	391	0	0	0	37	0	0	43	1,096	0	0	927	70	0	62	0	2,236	5.7
1958	246	0	0	0	42	2	0	73	817	0	0	308	16	0	3	0	1,263	5.1
1959	1,072	0	0	0	73	2	0	164	1,037	0	0	467	14	0	24	0	1,783	1.7
1960	1,799	8	0	0	447	21	0	328	4,447	0	1	2,560	49	0	50	0	7,912	4.4
1961	702	0	0	3	82	0	0	229	446	0	1	791	28	0	10	0	1,591	2.3
1962	1,027	0	0	0	22	0	0	69	950	0	0	375	28	0	30	0	1,475	1.4
1963	998	0	0	1	16	2	0	112	538	1	1	506	74	0	7	0	1,258	1.3
1964	850	0	1	0	126	6	0	69	1,454	1	0	242	73	0	12	0	1,983	2.3
1965	1,445	0	0	0	104	35	0	72	2,016	0	4	845	6	2	20	0	3,103	2.1
1966	804	0	0	1	249	0	0	752	600	0	2	890	7	0	10	0	2,511	3.1
1967	637	0	0	2	60	2	0	257	665	0	0	622	1	1	2	0	1,613	2.5
1968	339	0	0	0	41	0	0	56	87	0	0	258	3	5	9	0	458	1.4
1969	1,016	0	0	0	12	1	0	111	1,096	0	0	1,141	279	2	113	0	2,756	2.7
1970	920	0	0	0	59	0	0	89	796	0	1	175	95	0	25	0	1,240	1.3
1971	634	0	0	0	45	2	0	109	1,477	0	0	970	74	1	55	0	2,732	4.3
1972	546	0	0	1	57	2	0	61	1,508	0	0	1,264	48	0	18	0	2,959	5.4
1973	329	0	0	0	76	0	0	135	578	0	0	851	35	0	4	0	1,679	5.1
1974	1,276	0	0	0	131	18	0	99	2,224	0	0	496	54	0	3	0	3,025	2.4
1975	1,174	0	0	0	148	9	0	241	2,449	2	0	797	14	2	1	0	3,663	3.1
1976	509	1	1	2	612	59	0	789	3,003	0	4	846	0	0	0	0	5,317	10.4
1977	693	0	2	0	823	1	0	1,969	688	0	14	655	52	0	13	0	4,217	6.1
1978	896	0	0	2	398	6	0	510	6,071	0	0	2,184	25	4	8	0	9,208	10.3
1979	1,032	0	3	0	712	9	3	520	3,036	0	4	1,659	0	0	0	0	5,947	5.8
1980	1,061	0	1	13	803	26	0	2,225	4,576	0	6	917	7	0	0	0	8,576	8.1
1981	695	0	0	6	544	64	0	953	3,284	0	11	1,438	9	0	7	0	6,317	9.1
1982	1,035	2	2	4	988	12	0	1,874	1,796	0	9	1,638	11	2	2	0	6,340	6.1
1983	792	0	3	0	1,748	7	1	2,763	3,235	0	7	2,822	21	23	16	0	10,646	13.4
1984	1,165	0	1	8	608	85	0	978	6,539	3	10	5,029	215	13	39	0	13,527	11.6
1985	1,095	4	0	9	567	32	0	1,404	4,358	0	9	1,262	8	0	18	0	7,672	7.0
1986	1,152	0	2	14	1,850	10	0	3,733	3,912	0	92	4,515	86	83	34	0	14,331	12.4
1987	1,274	2	0	9	886	66	0	4,561	8,863	3	101	11,239	133	31	57	0	25,952	20.4
1988	1,613	0	1	0	413	62	0	1,278	11,061	0	4	5,650	261	3	152	0	18,885	11.7
1989	1,612	1	0	6	513	34	0	456	6,063	1	6	3,979	170	1	31	0	11,260	7.0
1990	2,192	0	0	2	403	66	0	867	9,598	1	3	4,721	21	28	30	0	15,740	7.2
1991	2,787	4	1	3	1,397	20	2	3,939	3,113	0	47	2,607	19	2	9	0	11,163	4.0
1992	1,946	5	0	32	335	54	3	1,117	4,963	2	4	3,099	53	16	17	0	9,701	5.0
1993	1,517	0	2	10	497	31	0	573	880	0	11	992	6	0	1	0 ^c	3,003 ^c	2.0 ^c
1994	1,898	1	8	0	368	65	0	982	4,228	0	0	3,079	11	0 ^c	0 ^c	0 ^c	8,783 ^c	4.6 ^c
1995	1,267	0	7	0	3,151	4	0	3,183	1,648	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	7,993 ^c	6.3 ^c
1996	1,076	0	1	0	498	5	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	503 ^c	0.5 ^c
1997	1,104	0	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0.0 ^c

^a Escapement not available.

^b Younger age groups not available.

^c Incomplete returns from brood year escapement.

Appendix C.5. Ugashik River sockeye salmon escapement and return by brood year including estimated interception catch (in thousands), 1949 - 1997.

Brood Year	Escapement	Return by Age Class																Total Recruits Per Spawner
		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	0 ^a	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0	0	0	0	2	0	2 ^c	
1950	0 ^a	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0	0	0	0	1	45	0	0	3	0	49 ^c	
1951	0 ^a	0 ^b	0 ^b	0	0	0	1	47	174	0	2	118	1	0	0	0	342 ^c	
1952	0 ^a	0	0	1	508	0	0	391	209	0	0	78	2	0	0	0	1,189	
1953	0 ^a	0	0	0	216	0	0	249	420	0	0	216	7	0	0	0	1,108	
1954	0 ^a	0	0	0	24	3	0	28	395	0	0	61	0	0	0	0	511	
1955	0 ^a	0	0	1	17	1	0	33	118	0	0	7	0	0	0	0	177	
1956	425	1	12	0	3,165	0	0	837	80	0	2	35	0	0	0	0	4,132	9.7
1957	215	0	0	1	35	0	0	105	354	0	2	100	4	0	2	0	603	2.8
1958	280	0	0	0	63	0	0	105	444	0	0	66	0	0	0	0	679	2.4
1959	219	0	0	0	18	0	0	38	310	0	0	132	0	0	1	0	498	2.3
1960	2,304	0	0	0	674	11	0	296	1,563	0	0	487	0	0	0	0	3,032	1.3
1961	349	0	0	3	240	2	0	500	247	0	1	120	0	0	0	0	1,113	3.2
1962	255	0	0	2	77	2	0	130	185	0	0	27	0	0	0	0	424	1.7
1963	388	0	0	0	13	0	0	21	91	0	0	23	0	0	0	0	148	0.4
1964	473	0	0	0	31	9	0	16	245	0	0	18	0	0	2	0	324	0.7
1965	997	0	0	0	86	2	0	38	249	0	1	162	1	0	0	0	538	0.5
1966	704	1	0	2	723	0	0	1,478	90	0	0	21	0	0	0	0	2,315	3.3
1967	239	0	0	0	56	0	0	50	44	0	0	34	0	0	0	0	184	0.8
1968	71	0	0	0	14	0	0	7	15	0	0	3	0	0	0	0	40	0.6
1969	160	0	0	0	4	0	0	5	53	0	0	26	2	0	2	0	92	0.6
1970	735	0	0	0	4	1	0	2	256	0	1	28	2	0	1	0	295	0.4
1971	530	0	0	0	178	0	0	236	290	0	0	130	0	0	1	0	835	1.6
1972	79	0	0	0	35	0	0	58	119	0	0	41	2	0	3	0	258	3.3
1973	39	0	0	1	16	0	0	8	17	0	0	46	4	0	0	0	92	2.4
1974	62	0	0	0	13	10	0	15	602	0	0	83	2	0	0	0	724	11.7
1975	429	0	3	0	1,484	4	0	575	1,721	0	0	325	2	1	0	0	4,116	9.6
1976	356	0	0	2	2,027	58	0	1,527	1,248	0	7	437	0	0	3	0	5,309	14.9
1977	202	0	2	18	585	0	0	1,614	266	0	10	186	6	1	4	0	2,693	13.3
1978	82	0	0	5	247	7	0	413	863	0	6	523	1	0	0	0	2,064	25.2
1979	1,707	0	20	0	3,076	8	0	851	1,471	0	14	562	0	5	0	0	6,006	3.5
1980	3,335	0	1	13	1,183	39	0	2,309	3,371	0	10	850	3	2	0	0	7,782	2.3
1981	1,328	0	2	10	1,603	4	0	2,632	2,278	0	4	933	1	1	0	0	7,468	5.6
1982	1,186	0	1	15	423	1	1	713	606	0	9	737	0	2	0	0	2,508	2.1
1983	1,001	0	0	10	650	6	1	342	632	0	3	319	1	1	0	0	1,965	2.0
1984	1,270	0	0	5	472	55	0	568	3,635	0	13	709	3	0	4	0	5,464	4.3
1985	1,006	2	1	6	508	2	0	721	978	0	4	469	0	5	0	0	2,696	2.7
1986	1,016	5	1	46	503	1	0	2,427	1,874	0	71	1,750	4	15	0	0	6,697	6.6
1987	687	7	1	9	828	11	0	1,626	1,875	0	25	2,310	10	20	24	0	6,744	9.8
1988	654	1	2	1	463	27	0	692	2,144	0	37	2,252	22	3	7	0	5,651	8.6
1989	1,713	3	7	7	694	14	0	391	2,479	0	12	955	6	1	4	0	4,573	2.7
1990	749	0	1	13	345	15	2	709	2,302	0	2	1,218	2	2	0	0	4,609	6.2
1991	2,482	1	6	0	2,034	1	0	3,167	597	0	14	326	0	4	0	0	6,151	2.5
1992	2,195	6	3	49	191	4	1	597	1,013	0	1	827	0	10	1	0	2,701	1.2
1993	1,413	1	2	2	265	7	0	352	241	0	17	198	0	0	1	0 ^c	1,087 ^c	0.8 ^c
1994	1,095	0	12	4	333	12	0	327	689	0	6	274	1	0 ^c	0 ^c	0 ^c	1,658 ^c	1.5 ^c
1995	1,321	3	18	7	2,808	1	0	1,562	185	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	4,583 ^c	3.5 ^c
1996	692	0	0	40	231	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	271 ^c	0.4 ^c
1997	618	1	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	1 ^c	0.0 ^c

^a Escapement not available.

^b Younger age groups not available.

^c Incomplete returns from brood year escapement.

Appendix C.6. Wood River sockeye salmon escapement and return by brood year including estimated interception catch (in thousands), 1950 - 1997.

Brood Year	Escapement	Return by Age Class																Total	Total Recruits Per Spawner
		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	0 ^a	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	1	57	0	0	0	0	58 ^c		
1951	0 ^a	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0	456	290	0	3	54	0	0	1	0	803 ^c		
1952	0 ^a	0 ^b	0 ^b	0	690	0	0	558	29	0	2	34	0	0	0	0	1,314 ^c		
1953	0 ^a	0	0	0	301	0	0	331	139	0	2	34	0	0	1	0	809		
1954	0 ^a	0	0	0	1,237	0	0	140	1,085	0	1	66	0	0	0	0	2,529		
1955	0 ^a	0	0	0	2,407	0	0	833	401	0	5	143	0	0	0	0	3,789		
1956	773	0	0	48	774	0	0	627	24	0	0	0	0	0	0	0	1,472	1.9	
1957	289	0	0	21	136	0	0	257	35	0	0	0	0	0	0	0	449	1.6	
1958	960	0	1	0	2,145	1	0	389	75	0	0	32	0	0	0	0	2,643	2.8	
1959	2,209	0	0	1	979	10	0	398	359	0	1	55	0	0	2	0	1,805	0.8	
1960	1,016	0	6	0	1,474	0	0	1,039	106	0	2	105	1	0	0	0	2,732	2.7	
1961	461	0	0	10	255	0	0	1,183	24	0	2	20	0	1	1	0	1,495	3.2	
1962	874	1	2	0	992	1	2	340	116	0	6	43	0	0	0	0	1,503	1.7	
1963	721	0	0	0	536	1	0	769	76	0	0	46	0	0	0	0	1,427	2.0	
1964	1,076	0	1	6	452	0	0	347	338	0	0	74	0	0	2	0	1,219	1.1	
1965	675	2	1	8	472	1	0	999	90	0	0	213	0	0	1	0	1,787	2.6	
1966	1,209	0	7	29	974	0	0	988	46	0	7	69	0	0	1	0	2,122	1.8	
1967	516	0	3	21	642	0	0	269	75	0	2	80	0	0	0	0	1,090	2.1	
1968	649	0	1	0	514	0	0	565	5	0	4	19	0	0	0	0	1,108	1.7	
1969	604	0	0	4	57	0	0	445	201	0	10	116	0	0	0	0	834	1.4	
1970	1,162	0	2	0	1,539	0	0	1,002	231	0	0	26	0	0	0	0	2,799	2.4	
1971	851	3	0	18	456	0	0	576	198	0	1	49	0	0	0	0	1,301	1.5	
1972	431	2	1	22	779	0	0	631	32	0	20	27	0	0	0	0	1,514	3.5	
1973	330	1	1	0	213	0	0	1,148	74	0	3	44	0	0	0	0	1,484	4.5	
1974	1,709	0	3	6	2,956	4	0	1,698	421	0	5	71	0	0	0	0	5,164	3.0	
1975	1,270	13	47	12	1,592	2	0	1,977	406	0	2	734	0	0	0	0	4,784	3.8	
1976	817	0	3	0	2,278	3	0	2,589	572	0	10	265	0	0	0	0	5,721	7.0	
1977	562	0	20	0	1,029	0	0	2,173	40	0	0	26	2	0	0	0	3,289	5.9	
1978	2,267	0	0	0	1,364	3	0	1,029	784	0	12	96	0	0	0	0	3,288	1.5	
1979	1,706	0	10	0	2,643	0	0	1,491	24	0	1	13	0	0	0	0	4,182	2.5	
1980	2,969	0	0	0	453	0	0	978	72	0	1	101	0	0	0	0	1,606	0.5	
1981	1,233	0	0	0	626	0	0	1,137	60	0	0	86	0	0	0	0	1,909	1.5	
1982	976	0	4	0	522	0	0	765	121	0	12	14	0	0	0	0	1,438	1.5	
1983	1,361	0	1	5	1,940	0	2	1,154	15	0	2	75	0	0	0	0	3,194	2.3	
1984	1,003	0	0	0	586	0	2	1,340	32	0	15	23	0	0	0	0	1,998	2.0	
1985	939	8	3	15	1,127	0	1	1,390	29	0	2	12	0	1	0	0	2,587	2.8	
1986	819	7	2	25	1,179	0	1	1,970	70	0	12	64	0	0	0	0	3,330	4.1	
1987	1,337	25	0	30	1,334	0	14	756	98	0	8	92	0	1	0	0	2,360	1.8	
1988	867	4	1	8	1,613	0	3	1,425	90	0	15	34	0	0	0	0	3,193	3.7	
1989	1,186	1	4	16	2,293	0	0	1,922	13	0	2	39	0	0	0	0	4,288	3.6	
1990	1,069	10	1	10	1,104	1	3	1,208	286	0	2	169	0	0	0	0	2,794	2.6	
1991	1,160	0	12	9	2,633	0	0	2,466	54	0	65	71	0	0	0	0	5,312	4.6	
1992	1,286	10	1	57	2,398	0	2	1,674	90	0	0	49	0	0	1	0	4,283	3.3	
1993	1,176	14	0	3	1,715	0	9	1,161	129	0	3	191	0	0	0	0 ^c	3,225 ^c	2.7 ^c	
1994	1,472	0	10	0	2,747	1	0	1,993	448	0	2	91	0	0 ^c	0 ^c	0 ^c	5,292 ^c	3.6 ^c	
1995	1,482	1	5	0	3,524	0	0	2,594	149	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	6,273 ^c	4.2 ^c	
1996	1,650	0	0	0	2,705	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	2,705 ^c	1.6 ^c	
1997	1,512	4	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	4 ^c	0.0 ^c	

^a Escapement not available.

^b Younger age groups not available.

^c Incomplete returns from brood year escapement.

Appendix C.7. Igushik River sockeye salmon escapement and return by brood year including estimated interception catch (in thousands), 1950 - 1997.

Brood Year	Escapement	Return by Age Class																Total Recruits Per Spawner
		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	0 ^a	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	1	78	0	0	0	0	78 ^c	
1951	0 ^a	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0	615	62	0	1	29	0	0	2	0	709 ^c	
1952	0 ^a	0 ^b	0 ^b	0	147	0	0	303	9	0	5	73	0	0	0	0	538 ^c	
1953	0 ^a	0	0	0	98	0	0	1	20	0	3	65	0	0	1	0	187	
1954	0 ^a	0	0	0	175	0	0	269	204	0	0	113	0	1	0	0	763	
1955	0 ^a	0	0	0	454	0	0	781	113	0	0	94	0	0	0	0	1,443	
1956	400	0	0	0	169	0	0	523	12	0	3	36	0	0	0	0	743	1.9
1957	130	0	0	0	2	0	0	35	19	0	0	20	0	0	0	0	76	0.6
1958	107	0	0	0	14	0	0	71	20	0	0	28	0	0	0	0	133	1.2
1959	644	0	0	0	101	0	0	155	93	0	0	22	0	0	0	0	372	0.6
1960	495	0	0	1	61	0	0	310	44	0	0	57	0	0	0	0	474	1.0
1961	294	0	0	1	33	0	1	364	20	0	0	17	0	0	0	0	437	1.5
1962	16	0	0	8	20	0	0	280	9	0	0	9	0	0	0	0	327	20.4
1963	92	0	0	3	254	0	0	190	36	0	0	25	0	0	0	0	508	5.5
1964	129	0	0	1	162	0	0	585	133	0	0	49	0	0	0	0	930	7.2
1965	181	0	0	0	371	0	0	436	203	0	0	80	0	0	0	0	1,089	6.0
1966	206	0	0	0	66	0	0	383	6	0	0	15	0	0	0	0	470	2.3
1967	282	0	0	3	57	0	0	90	13	0	0	12	0	0	0	0	175	0.6
1968	195	0	0	0	43	0	0	120	0	0	2	10	0	0	0	0	176	0.9
1969	512	0	0	0	1	0	0	131	301	0	2	103	0	0	0	0	536	1.0
1970	371	0	0	1	26	0	0	170	41	0	0	71	0	0	0	0	309	0.8
1971	211	0	0	1	48	0	0	164	60	0	0	30	0	0	0	0	303	1.4
1972	60	0	0	4	89	0	0	109	6	0	8	13	0	0	0	0	229	3.8
1973	60	0	0	0	19	0	0	650	25	0	2	29	0	0	0	0	725	12.1
1974	359	0	0	7	441	1	0	750	346	0	4	25	0	0	0	0	1,574	4.4
1975	241	0	0	0	783	0	0	2,556	137	0	2	503	0	0	0	0	3,981	16.5
1976	186	0	0	0	551	3	0	1,411	194	0	20	215	0	0	0	0	2,394	12.9
1977	96	0	0	6	294	0	0	1,689	9	0	8	9	0	0	0	0	2,015	21.0
1978	536	0	0	0	96	0	0	330	84	0	1	15	0	0	0	0	527	1.0
1979	860	0	0	0	422	0	0	406	13	0	0	5	0	0	0	0	847	1.0
1980	1,988	0	0	0	20	0	0	271	25	0	0	56	0	0	0	0	373	0.2
1981	591	0	0	0	188	0	0	779	8	0	1	49	0	0	0	0	1,025	1.7
1982	424	0	0	7	57	0	0	434	9	0	2	10	0	0	0	0	518	1.2
1983	180	1	0	0	151	0	0	353	8	0	2	29	0	0	0	0	544	3.0
1984	185	0	0	0	41	0	0	641	56	0	5	36	0	1	0	0	781	4.2
1985	212	0	0	7	515	0	0	938	86	0	7	79	0	1	0	0	1,633	7.7
1986	308	3	0	14	236	0	1	2,231	27	0	15	30	0	0	0	0	2,557	8.3
1987	169	2	0	11	158	0	0	587	7	0	12	29	0	0	0	0	804	4.8
1988	170	0	0	1	189	0	1	1,056	41	0	3	36	0	0	0	0	1,327	7.8
1989	462	0	0	15	508	0	0	1,119	59	0	7	53	0	0	0	0	1,760	3.8
1990	366	1	0	3	159	0	0	1,429	183	0	4	146	0	0	0	0	1,925	5.3
1991	756	0	0	1	318	0	0	1,314	3	0	5	20	0	0	0	0	1,661	2.2
1992	305	0	0	3	44	0	0	148	8	0	0	26	0	0	0	0	230	0.8
1993	406	0	0	1	132	0	2	316	20	0	0	35	0	0	0	0 ^c	505 ^c	1.2 ^c
1994	446	0	0	0	238	0	0	846	92	0	1	26	0	0 ^c	0 ^c	0 ^c	1,203 ^c	2.7 ^c
1995	473	0	0	0	653	0	0	1,599	15	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	2,268 ^c	4.8 ^c
1996	401	0	0	0	171	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	171 ^c	0.4 ^c
1997	128	0	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0.0 ^c

^a Escapement not available.

^b Younger age groups not available.

^c Incomplete returns from brood year escapement.

Appendix C.8. Nushagak River sockeye salmon escapement and return by brood year including estimated interception catch (in thousands), 1974 - 1997.

		Return by Age Class															Total		
																	Recruits	Per	
Brood																			Spawner
Year	Escapemen	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		
1974	185	a	a	a	a	a	a	a	a	a	a	a	a	a	a	0	0 ^b		
1975	752	a	a	a	a	a	a	a	a	a	a	a	a	1	0	0	1 ^b		
1976	470	a	a	a	a	a	a	a	a	a	38	281	0	0	0	0	319 ^b		
1977	553	a	a	a	a	a	67	1,946	3	0	134	11	1	0	0	0	2,162 ^b		
1978	664	a	a	436	100	0	149	779	20	0	1	6	0	1	0	0	1,491	2.2	
1979	499	18	1	466	494	0	16	854	6	0	42	5	0	0	0	0	1,902	3.8	
1980	3,317	19	0	447	84	0	67	344	162	0	4	156	0	0	0	0	1,284	0.4	
1981	1,012	9	0	137	170	0	14	1,476	2	0	86	32	0	0	0	0	1,926	1.9	
1982	601	35	0	351	164	0	49	894	2	0	62	7	0	0	0	0	1,563	2.6	
1983	404	100	0	608	114	0	122	553	6	0	16	3	0	0	0	0	1,521	3.8	
1984	593	10	0	226	51	0	32	566	2	0	20	6	0	0	0	0	912	1.5	
1985	498	68	0	510	64	0	62	612	6	0	13	16	0	1	0	0	1,351	2.7	
1986	990	68	0	837	114	0	58	676	0	0	182	64	0	0	0	0	1,999	2.0	
1987	388	140	0	933	36	0	253	535	36	0	101	10	0	1	0	0	2,047	5.3	
1988	483	68	0	546	214	0	120	1,426	12	0	62	8	0	0	0	0	2,457	5.1	
1989	513	68	0	483	124	0	35	703	1	0	18	4	0	0	0	0	1,436	2.8	
1990	680	53	0	761	36	0	104	253	18	0	11	7	0	4	0	0	1,247	1.8	
1991	493	10	1	137	172	0	6	1,010	3	0	131	19	0	0	0	0	1,491	3.0	
1992	695	85	0	496	228	0	11	650	9	0	63	11	0	0	0	0	1,551	2.2	
1993	715	43	0	43	63	0	2	803	1	0	119	49	0	0	0	0 ^b	1,124 ^b	1.6 ^b	
1994	509	0	0	55	81	0	2	665	6	0	9	53	0	0 ^b	0 ^b	0 ^b	872 ^b	1.7 ^b	
1995	281	5	1	8	143	0	0	923	34	0	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	1,115 ^b	4.0 ^b	
1996	504	0	0	6	502	0	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	508 ^b	1.0 ^b	
1997	373	0	0	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0.0 ^b	

^a Younger age groups not available.

^b Incomplete returns from brood year escapement.

Appendix C.9. Togiak River sockeye salmon escapement and return by brood year including estimated interception catch (in thousands), 1950 - 1997.

Brood Year	Escapement	Return by Age Class																Total Recruits Per Spawner
		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	0 ^a	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0	28	0	0	0	0	28 ^c	
1951	0 ^a	0 ^b	0 ^b	0 ^b	0 ^b	0 ^b	0	98	53	0	0	9	0	0	0	0	160 ^c	
1952	0 ^a	0 ^b	0 ^b	0	152	0	0	58	9	0	0	6	0	0	0	0	225 ^c	
1953	0 ^a	0	0	1	31	0	0	84	8	0	0	16	0	0	0	0	141	
1954	0 ^a	0	0	0	20	0	0	146	12	0	0	17	2	0	0	0	196	
1955	0 ^a	0	0	0	136	0	0	190	9	0	1	38	0	0	0	0	373	
1956	225	0	0	4	114	0	0	306	22	0	1	13	0	0	0	0	461	2.0
1957	25	2	0	5	48	0	0	70	20	0	0	36	1	0	0	0	182	7.3
1958	72	0	1	2	68	0	0	115	59	0	0	25	0	0	0	0	270	3.8
1959	210	0	0	0	141	0	0	92	56	0	0	7	0	0	0	0	296	1.4
1960	163	0	0	2	191	0	0	274	22	0	0	52	0	0	0	0	541	3.3
1961	122	1	0	3	85	0	0	216	15	0	1	19	0	0	0	0	340	2.8
1962	62	0	0	7	48	0	0	102	4	0	0	8	0	0	0	0	170	2.7
1963	116	0	0	2	43	0	0	65	18	0	0	24	0	0	0	0	152	1.3
1964	105	0	0	1	43	0	0	84	41	0	0	6	0	0	0	0	175	1.7
1965	96	0	0	2	154	0	0	181	31	0	0	37	0	0	0	0	406	4.2
1966	104	1	0	6	200	0	0	419	4	0	1	9	0	0	0	0	642	6.2
1967	81	1	0	6	18	0	0	99	16	0	1	40	0	0	0	0	181	2.2
1968	50	0	0	1	49	0	0	190	6	0	3	13	0	0	0	0	263	5.3
1969	117	0	0	5	28	0	0	142	25	0	3	13	0	0	0	0	216	1.8
1970	203	0	0	1	54	0	0	226	55	0	1	70	0	0	0	0	408	2.0
1971	200	0	0	4	106	0	0	317	62	0	1	68	0	0	0	0	558	2.8
1972	79	0	0	2	93	0	0	150	21	0	2	34	0	0	0	0	304	3.8
1973	107	1	0	10	151	0	0	442	18	0	1	31	0	0	0	0	654	6.1
1974	104	0	0	2	271	0	0	307	73	0	3	45	0	1	0	0	704	6.8
1975	181	1	0	7	195	0	0	848	87	0	2	59	0	0	0	0	1,200	6.6
1976	189	0	0	1	189	0	0	558	142	0	4	175	0	0	0	0	1,069	5.7
1977	163	0	0	5	232	0	0	617	14	0	4	14	0	0	0	0	884	5.4
1978	306	0	0	12	149	0	0	430	65	0	1	25	0	0	0	0	682	2.2
1979	198	1	0	1	270	0	0	293	12	0	2	5	0	0	0	0	583	2.9
1980	527	0	0	5	45	0	1	224	10	0	0	19	0	0	0	0	305	0.6
1981	307	2	0	11	53	0	0	245	15	0	1	16	0	0	0	0	345	1.1
1982	289	0	0	16	109	0	0	255	14	0	5	26	0	0	0	0	425	1.5
1983	213	1	0	3	285	0	2	924	9	0	2	21	0	0	0	0	1,246	5.8
1984	151	0	0	14	21	0	0	109	4	0	1	17	0	0	0	0	167	1.1
1985	153	0	0	7	35	0	0	194	35	0	1	77	0	1	0	0	351	2.3
1986	203	0	0	18	77	0	1	445	83	0	14	121	0	0	0	0	760	3.7
1987	278	0	0	7	190	0	1	575	31	0	7	81	0	0	0	0	892	3.2
1988	309	1	0	9	111	0	3	403	34	0	3	53	0	0	0	0	616	2.0
1989	104	0	0	36	132	0	1	328	7	0	1	41	0	0	0	0	548	5.3
1990	166	1	0	23	101	0	1	460	75	0	5	37	0	0	0	0	705	4.2
1991	254	1	3	3	189	0	1	429	28	0	8	29	0	0	0	0	690	2.7
1992	210	1	0	35	50	0	1	124	33	0	1	30	0	0	0	0	275	1.3
1993	189	0	0	4	64	0	0	229	6	0	4	15	0	0	0	0 ^c	323 ^c	1.7 ^c
1994	174	1	0	3	43	0	0	167	31	0	1	8	0	0 ^c	0 ^c	0 ^c	254 ^c	1.5 ^c
1995	211	0	1	6	341	0	1	1,010	11	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	1,370 ^c	6.5 ^c
1996	187	1	0	9	87	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	97 ^c	0.5 ^c
1997	152	0	0	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0 ^c	0.0 ^c

^a Escapement not available.

^b Younger age groups not available.

^c Incomplete returns from brood year escapement.

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