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Catch and Escapement Statistics for Copper River, Bering River, and Prince William Sound Salmon, 1988

by

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and

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State of Alaska Walter J. Hickel, Governor

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ABSTRACT

This report presents 1988 catch and escapement statistics for all salmon species in the Copper River, Bering River, and Prince William Sound areas. This information is intended for use as a reference for management of the salmon resource in this area. Catch information was compiled from commercial fish ticket summaries, subsistence and personal use fish permits, and a postal survey of sport fishermen. Escapement data were taken from reported aerial and ground survey results, side-scanning sonar counts, and weir counts. Stratified systematic samples of age, sex, length, and weight were collected from salmon catches and escapements for each select species, gear type, and fishing district.

Commercial, subsistence, personal use, and sport fishermen harvested 15,059,341 salmon in the Copper River, Bering River, and Prince William Sound areas in 1988. Pink salmon (*Oncorhynchus gorbuscha*) were the most numerous species in the combined catch from Prince William Sound, and more than half of those were hatchery returns. The escapement index for this area was 2,162,759 salmon. Temporal variations in age composition of the catch were observed for sockeye salmon (*O. nerka*) and chinook salmon (*O. tshawytscha*) in the Copper River District, sockeye salmon in the Southwestern District, and chum salmon (*O. keta*) in the Eastern, Northern, and Coghill Districts.

KEY WORDS: Salmon, ***Oncorhynchus***, Copper River, Bering River, Prince William Sound, catch, escapement, age, length, sex, and weight

INTRODUCTION

The Prince William Sound Management Area is divided into 11 commercial fishing districts that encompass coastal waters and associated inland watersheds of the Gulf of Alaska between Cape Suckling and Cape Fairfield (Figure 1). The Copper River District (212) and the Bering River District (200) lie to the east of Hook Point, Hinchinbrook Island and have historically been treated as a discrete area: the Copper/Bering River (Figure 2). Prince William Sound proper lies to the west of Hook Point and includes the Eastern (221), Northern (222), Unakwik (222-50), Coghill (223), Northwestern (224), Eshamy (225), Southwestern (226), Montague (227), and Southeastern (228) Districts. Commercial catches dominate salmon harvests in all districts, but subsistence, personal use, and sport fisheries also occur.

In the Copper and Bering River Districts drift gill nets are the only legal commercial fishing gear type. Sockeye salmon (*Oncorhynchus nerka*), coho salmon (*O. kisutch*), and chinook salmon (*O. tshawytscha*) are the predominant species in the catch in the Copper River District. In the Bering River District sockeye and coho salmon predominate the catch; pink salmon (*O. gorbuscha*) and chum salmon (*O. keta*) catches are considered incidental.

An upper Copper River subsistence fish wheel fishery extends from Chitina to Slana (Figure 3.), and a personal use dip net and fish wheel fishery is restricted to a few miles of the river near Chitina. Both subsistence and personal use fisheries harvest significant numbers of sockeye salmon and lesser numbers of chinook and coho salmon. Subsistence fishing is also permitted in the commercial fishing areas, but catches are generally very small.

The Copper and Bering Rivers support small sport fisheries. Sport fishermen on the upper Copper River primarily catch wild stock sockeye and chinook salmon. In 1988 the upriver sport fishermen also had an opportunity to harvest hatchery-reared sockeye salmon that were surplus to the Gulkana Hatchery facilities brood stock needs. On the small coastal streams in the Copper River delta and tributaries of the Bering River, sport fishermen generally target wild stock coho salmon and sockeye salmon.

Sockeye salmon wild stocks that escape the commercial fisheries in the Copper and Bering River Districts are destined for tributaries and lakes in the upper Copper River, small coastal streams in the Copper River delta, or tributaries of the Bering River (ADF&G 1962). Coho salmon spawn primarily in the coastal streams, and chinook salmon spawn exclusively in the upper Copper River (ADF&G 1964; Thompson 1964). Hatchery returns of sockeye salmon to the Copper River originate from the Gulkana I or Gulkana II facilities located on the Gulkana River in the upper Copper River drainage. These streamside sockeye salmon incubation facilities are owned and operated by the Alaska Department of Fish and Game (ADF&G), Division of Fisheries Rehabilitation, Enhancement and Development (FRED).

In Prince William Sound proper purse seine fisheries are permitted in all districts, with the exception of the Eshamy District (225), where concurrent

drift and set gill net fisheries are permitted. In addition, drift gill net fisheries occur in the Coghill District (223) and the Unakwik District (222-50).

Pink and chum salmon are predominantly taken by the purse seine fisheries with significant incidental catches of sockeye salmon. Total harvest by the gill net fisheries is much smaller than that taken in the purse seine fisheries. Although gill net fisheries have traditionally targeted sockeye salmon, the catch of pink and chum salmon have increased congruently with increased hatchery production of these species. Historically, harvest of chinook and coho salmon in Prince William Sound has been incidental. However, a number of drift gill net and purse seine fishermen are now beginning to target a late run of coho salmon which began returning to the Esther Island Hatchery in 1987. In future years coho salmon catches can also be expected to increase in the Valdez Arm and Port Valdez areas as the Solomon Gulch Hatchery returns increase.

Sport fishery harvest in the Prince William Sound areas is small compared to the commercial harvest. Pink and coho salmon are the predominant species harvested in the sport fishery in Prince William Sound. Most are caught in salt water near the ports of Valdez, Whittier, and Cordova. There is also considerable effort for sockeye salmon in Coghill River and Eshamy Lagoon.

Pink and chum salmon wild stocks spawn in many small coastal streams on the mainland and islands throughout Prince William Sound. In addition, there are five hatcheries in Prince William Sound that also rear pink and chum salmon (Figure 1). Three are operated by private, non-profit corporations: the Solomon Gulch Hatchery is operated by the Valdez Fishery Development Association (VFDA), and the Prince William Sound Aquaculture Corporation (PWSAC) operates the Esther Island and Armin F. Koernig (AFK) Hatcheries. The Cannery Creek and Main Bay Hatcheries are owned by the state of Alaska. In 1988 the Cannery Creek Hatchery was operated by a joint-venture agreement between the FRED Division and PWSAC until July 1, 1988, at which time the hatchery was contracted to PWSAC for operation (Holland 1989). The Main Bay Hatchery is operated by the FRED Division. Chum salmon will continue to return to the Main Bay terminal harvest area for the next few years from past hatchery releases; however, this facility has recently stopped rearing chum salmon and is now raising sockeye salmon instead.

Most of the sockeye escapements in Prince William Sound occur in Coghill Lake and Eshamy Lake. However, a few other spawning areas exist, most notably Cowpen and Miners lakes in the Unakwik District.

Adequate management of these resources requires knowledge of certain fundamental characteristics of each contributing population or stock. To maintain stocks at levels capable of producing optimal yield, it is necessary to assess (1) the magnitude of the harvests, (2) the magnitude of the spawning escapements, and (3) the age, sex, and size composition of the run.

ADF&G maintains resource monitoring programs to collect these data for both the fisheries and the contributing spawning populations in the Copper/Bering River and Prince William Sound areas. The purpose of these programs is to present the baseline population statistics for the 1988 inshore return of salmon to the Copper/Bering River and Prince William Sound areas. Catch and escapement information in this report, which can also be found in Schultz et al. (1988) and Brady et al. 1990), is integrated with age, sex, and size data obtained in 1988.

This report builds upon the data base established by Sharr and Peckham (1988), Sharr et al. (1988), and Crawford and Simpson (1989). Abundance and age composition are summarized by species for each sampled fishery and escapement.

METHODS

Enumeration of Catches

Commercial salmon catches and fishing effort by fishing period and district (or subdistrict) were tabulated from information supplied by fishermen and processors through salmon sales reported on sales receipts or "fish tickets" (Schultz et al. 1988). The dollar value of each landing is a function of ex-vessel price and weight of the landing. Processors often estimated the number of fish caught in landings by dividing landing weight by an estimated mean weight of fish by species. Because there is variance associated with estimates of mean weight, there is also variance associated with estimates of numbers caught. Because mean weight and corresponding variance were not reported on fish tickets, estimated numbers caught were treated as counts without variance for this report.

A definition of terms that are commonly used in the discussion of commercial salmon catches in Prince William Sound are as follows:

Commercial Fishery Catch - all salmon that are caught and sold by the commercial fishing fleet, regardless of gear type, and excluding.

Other Commercial Catch - all salmon that are caught and sold by private non-profit hatcheries to pay for their operating expenses.

Total Commercial Catch - all salmon that are caught and sold by the commercial fishing fleet and the private non-profit hatcheries combined.

Catch in subsistence and personal use fisheries were summed from all catches recorded on returned fishery permits as of May 1989. These catch figures are preliminary and may differ slightly from final published figures.

All sport fishery catches were estimated from postal surveys. The estimates were checked and validated with creel census data from selected fisheries (Mills 1989).

Enumeration of Escapements

Salmon stocks of the Copper/Bering River and Prince William Sound areas for which escapement data were available were grouped into runs according to major spawning areas. In the Copper/Bering area there are two runs: (1) the upriver run which includes all stocks of sockeye and chinook salmon which spawn in the upper Copper

River watershed upstream of Miles Lake, and (2) the delta/Bering run, which includes all stocks of sockeye and coho salmon that spawn in coastal lakes and streams of the Copper River delta and Bering River watersheds. In Prince William Sound the numerous pink and chum salmon stocks were grouped by district. Sockeye salmon escapement to Coghill Lake was enumerated at Coghill weir. In 1988 the operation of the Eshamy weir was resumed to estimate the sockeye salmon escapement to Eshamy Lake.

The upriver escapement of sockeye salmon in the Copper/Bering River area was estimated using hydroacoustic (side-scanning sonar) equipment near Miles Lake (Figure 2). Escapement to Long Lake was included in this upriver escapement estimate and enumerated by weir counts. The relative contributions of many other stocks which contribute to the total upper Copper River escapement were indexed by periodic aerial surveys.

The estimate of the delta/Bering River component of the Copper/Bering escapement of sockeye and coho salmon was based on peak counts obtained from periodic aerial surveys of selected spawning areas. Aerial survey results represent indices of the relative abundance of escapements between stocks and years. These data were used to make escapement estimates because no other data were available.

Description of Sampling Procedures

Fish were sampled to determine their age, sex, and size (length). One scale was collected from each sampled sockeye, chum, and coho salmon, and three scales were collected from each sampled chinook salmon. Pink salmon were not sampled. Scales were taken from the left side of the body two rows above the lateral line in an area transacted by a diagonal running from the posterior base of the dorsal fin to the anterior base of the anal fin (INPFC 1963). Scales were mounted on gum cards, and impressions were made in cellulose acetate (Clutter and Whitesel 1956). Scale growth patterns on the acetate impressions were examined to determine the age of each fish sampled. Whenever marine growth zones on scales were resorbed, marine age was determined using the Peterson method of length frequency analysis (Tesch 1970). Length was measured from the middle of the eye to the fork of the tail. Sex was determined by inspection of the morphological characteristics of live fish, or when possible, by gonadal inspection of dead fish.

Sampling Catches

Catches were grouped into those which occur in the commercial fisheries of the Copper/Bering River and Prince William Sound areas and those which occur in the subsistence and personal use fisheries on the upper Copper River. Sport fish catches were not sampled.

Commercial Fisheries

Age and sex composition of the season's catch for each combination of species, gear, and fishing district were estimated with stratified systematic sampling programs according to Cochran (1977). Each sampling stratum is a combination of contiguous fishing periods grouped so that all strata will have similar catches; dates for strata were selected before the season began according to catch trends from past years. The number of strata was selected according to the rapidity of change in age composition as estimated in previous years; catches for which there were no valid estimates of age and sex composition in previous years were divided into three or four strata to expose moderate time trends. Whenever possible, one sample was taken in the middle of each stratum with sufficient numbers of fish to simultaneously estimate the proportion of each major age class in the catch within ±5 percentage points of the true proportion 90% of the time. However, there were a few instances in 1988 when less than the desired number of strata were sampled because the samples were not available.

Whenever possible, the sample for each stratum was taken within a single day. Fish in each sample were selected systematically from canneries without regard to tender vessel or subdistrict of capture. Sharr (1983) found no differences in age composition among tender loads from subdistricts within District 212 in 1982. In 1985 the area east of Kayak Island in the Bering River District (Subdistrict 30) was closed to fishing by the Board of Fisheries. All catches sampled in this district since then have been from one or the other or both of the two Subdistricts 10 and 20 to the west of Kayak Island.

Age compositions were estimated with procedures outlined in Cochran (1977) for stratified sampling programs as follows:

$$C_{tj} = C_t P_{tj} \qquad (1)$$

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

$$C_j = \sum_{t=1}^{T} C_{tj} \qquad (3)$$

$$V[C_j] = \sum_{t=1}^{T} V[C_{tj}] \qquad (4)$$

where

C_t = the number of fish caught during stratum t,
P_{tj} = the fraction of the sample taken during stratum t that is age j,
N_t = the sample size during stratum t,
C_{tj} = the estimated number of fish of age j caught during stratum t,
T = the number of strata, and

C_j = the estimate of the number of fish of age j caught during the season.

The correction factor for finite populations was not included in the above equations because sample sizes were small compared to catches.

Subsistence and Personal Use Fisheries

An estimate of the age and sex composition of sockeye salmon in the Copper River subsistence and personal use fisheries was obtained using a stratified systematic sampling program. Because there were no demonstrable differences in age composition between gear types, fish wheel and dip net fisheries samples were pooled. Age, sex, and size samples collected from these fisheries were assumed to be representative of both upriver catch and escapement. Therefore, sampling strata were selected using commercial catch projections by fishing period and migratory timing data for important upriver stocks (Merritt and Roberson 1983). The same equations used for estimating numbers of fish by age in commercial catches were also used to estimate subsistence and personal use catch by age. Age, size, and sex composition of chinook and coho salmon were not estimated from these fisheries because of the low number harvested.

Sampling Escapements

Sockeye salmon escapement samples were collected from the upper Copper River, delta/Bering River coastal drainage, and the Coghill and Eshamy Lake runs in Prince William Sound. Methods of sample collection varied by area. When stratified sampling data was obtained, the same equations were applied to estimate the number of fish in the escapement by age as in the commercial catch; escapement was substituted for catch.

Copper/Bering River Area

Age, sex, and size composition estimates from the Copper River subsistence and personal use fisheries were applied to sonar counts from Miles Lake. Temporal strata in the sonar-estimated escapement were developed to conform to strata used with subsistence and personal use fisheries. However, dates were shifted to account for fish travel time between Miles Lake and Chitina. Mean travel times in days were approximated from a linear regression of travel rate versus date as calculated from tagging data (Merritt and Roberson 1983).

Neither comprehensive enumeration studies nor detailed stratified sampling programs on all coastal salmon streams in Copper River delta and throughout the Bering River watershed are possible due to logistical, manpower, and fiscal constraints. Consequently, aerial survey techniques and simple systematic sampling programs were used to estimate escapement by sex and age to these areas as follows:

$$E_j = A_m Q_j \quad (5)$$

$$V[E_j] = (A_m)^2 \frac{Q_j(1-Q_j)}{N-1} \quad (6)$$

where

E_j = the season escapement of fish of age j,
A_m = the peak number counted on the spawning grounds during aerial surveys,
Q_j = the estimate of the portion of the escapement of age j pooled over one or two sampling trips to the spawning grounds, and
N = the number of fish sampled in all sampling trips to the spawning grounds.

Because total escapement abundance to these areas was not available, peak aerial spawning ground counts were used to expand age proportions into rough estimates of numbers by age.

Prince William Sound

Stratified systematic sampling programs and weir counts were used respectively, to estimate the age, sex, and size composition of sockeye salmon escapements to Coghill and Eshamy Lakes. Age, sex, and size composition estimates were not made for chum salmon.

RESULTS

Detailed information for each fishery is presented in the appendices. Age, sex, and size data are also detailed.

Copper/Bering Rivers

The commercial, subsistence, personal use, and sport fisheries in the Copper River District (212) and the Bering River District (200) share geographic proximity, occur simultaneously, and are all directed at stocks of sockeye, coho, and chinook salmon returning to the Copper/Bering River area. Detailed age, sex, and length data for commercial, subsistence and personal use catches, as well as upriver and coastal escapements in the Copper/Bering River area are presented in Appendices A, B, C, and D, respectively. Mean length data for salmon which returned to the Copper/Bering River area can be found in Appendix G. Appendix G also contains mean length data for Coghill, Unakwik, and Eshamy sockeye salmon. Average weights of commercially caught fish are presented in Appendix H.

Sockeye Salmon

In the Copper River District, 576,950 sockeye salmon were commercially harvested in 1988 (Table 1). Percent age composition was 57.3% age 1.3, 20.3% age 1.2, 9.9% age 2.3, 8.7% age 0.3, and 3.8% other ages (Table 2). Sockeye catches peaked between 23 and 31 May with the largest single period catch (67,029 fish) made during the 30 to 31 May fishery opening (Table 3). Catches dropped sharply during the following week, increased again during the week ending 18 June, leveled off during early-to-mid July, and declined steadily through late July and August (Figure 4). The fraction of the catch aged 1.3 increased from 41.0% in mid-May to 70.5% in early June, then declined to 56.2% in July (Figure 5). Fish aged 2.3 declined from 39.7% in mid-May to 0.2% by mid-June and did not change thereafter. Conversely, fish aged 1.2 were only 1.9% of the catch in mid-May but increased steadily to a high of 39.7% in mid-July. Through the season the fraction of the catch aged 0.3 varied from a high of 17.2% in late May to 4.3% in mid-September. An insignificant subsistence drift gill net salmon harvest occurred in the Copper River District concurrent with the commercial fishery (Brady et al. 1988).

The Bering River District sockeye fishery began later (20 June versus 16 May) than the Copper River District in 1988 (Table 3). It was also shorter in duration, yielding a much smaller catch (Figure 4). Before 1986 the largest sockeye salmon harvest in this district occurred east of Kayak Island in Subdistrict 200-30. As a result of action taken by the Board of Fisheries in response to stock interception concerns, this subdistrict has been closed to fishing since 1985. In 1988 the total 7,152 sockeye salmon harvest came from the nearshore waters west of Kayak Island in the Controller Bay, Bering River, and Katalla areas. The catch was composed of 61.3% fish aged 1.3; 24.9% fish aged 1.2; 11.2% fish aged 0.3; with the small remainder distributed among several age groups (Table 2). Because only one catch sample was obtained for the Bering River in 1988, temporal changes in age composition could not be evaluated. Sockeye salmon catches in this district were insignificant after 28 June.

The subsistence and personal use fisheries on the upper Copper River began on 1 June. A total of 58,572 sockeye salmon were captured (Table 4); 33.0% were taken with fish wheels and 67.0% with dip nets. Changes in catch magnitude and age composition were similar to those observed in the Copper River commercial fishery (Figure 6). Peak catches occurred in June. Fish aged 1.3 were predominant with age-2.3, age-0.3, and age-1.2 fish present in similar proportions relative to the commercial catch. Temporal changes in age composition were also similar to those observed in the commercial catch.

All of the 3,038 sockeye salmon harvested by sport fishermen in the upper Copper River were caught in the Gulkana and Klutina Rivers (Table 5). The sport harvest of sockeye salmon in coastal areas of the Copper River District was not reported in 1988; however, the local biologist estimated that several hundred fish were probably caught in a few of the easily accessible coastal streams. No age or sex data were obtained.

An estimated 488,398 sockeye salmon passed the Miles Lake sonar site (Table 6, Figure 7). Temporal trends in the upriver escapement magnitude (Figure 8) paralleled similar trends in the commercial catch in the Copper River District

(Figure 4) and in the upriver subsistence and personal use fisheries (Figure 6). Escapement spanned the period from late May to early August with strongly skewed components toward the early part of the run. Peak daily counts of 8,946 to 15,442 fish occurred from 24 May through 29 May, and from 8 June through 13 June (Appendix C.1). Counts fluctuated randomly from mid-June through mid-July between 3,304 to 8,499 fish and then decreased steadily thereafter. Escapement age composition (Table 7; Figures 7 and 8) was based on scale samples collected from upriver subsistence and personal use fisheries. Within corresponding time-lagged strata for the fishery and for the escapement, the age group proportions were identical (Figures 6 and 8). Despite strata being weighted differently for these two samples, the season total age compositions were also almost identical (Appendices B and C).

Aerial survey data for the Copper River delta and Bering River spawning areas provided an estimate of their relative importance, but the combined escapement index of 53,315 sockeye salmon to the delta and 13,330 sockeye salmon to the Bering River drainage (Table 6, Appendix D.1) represents some unknown fraction of the actual escapement to those areas. Escapement to the upper Copper River, the Copper River delta, and the Bering River areas were all dominated by fish aged 1.3 (53.2%, 50.9%, and 51.2%, respectively). Fish aged 1.2, 0.3, and 0.2 were also significant in the Copper River delta escapement (38.1%, 5.0%, and 4.8%, respectively). Very few fish aged 2.3 were observed in coastal escapements (Table 7, Figure 7). Other age groups that were present in significant numbers in the Bering River area escapements were ages 1.2 and 0.3 (38.7% and 6.3%, respectively).

Chinook Salmon

Most of the 30,741 chinook salmon caught in the Copper River District in 1988 were harvested between 16 May and 17 June (Table 8). Percent age composition of the total catch was: 68.4% age 1.4, 21.7% age 1.3, and the remaining 9.9% were mostly ages 2.4 and 2.3 (Table 9). Fish aged 1.4 were most numerous in the catch in mid-May (74.7%) and declined steadily to 61.7% in mid-June (Figure 9). Conversely, the fraction of the catch aged 1.3 rose from 15.1% in mid-May to 28.8% in mid-June. The other age groups fluctuated little throughout the season.

A total of 3,412 chinook salmon were caught in the upper Copper River subsistence and personal use fisheries (Table 4). Most of these chinook salmon (80%) were captured using dip nets, and the remainder were taken by fish wheels. No information is available on the age composition of chinook salmon from the subsistence and personal use fisheries.

Mills (1989) estimated a sport fish catch of 1,562 chinook salmon from the upper Copper River drainage (Table 5). Most of these fish were captured in the Gulkana River drainage. The age composition of a relatively small sample of chinook salmon carcasses from the Gulkana and Klutina Rivers was largely age 1.3 (81.6% and 36.7%, respectively) and age 1.4 (8.7% and 25.7%, respectively; Appendix B.3). The mean length of an age-1.3 chinook salmon was 926 mm on the Gulkana River and 922 mm on the Klutina River (Appendix B.4).

Aerial surveys of the 1988 chinook salmon escapement in the upper Copper River District (Appendix C.3) indicate that the relative escapement index was above average for this area. The 1988 index was 2,330 compared to an average index of 2,073 (K. Roberson, Alaska Department of Fish and Game, Glennallen, personal communication).

Coho Salmon

Most of the 1988 coho salmon in the Copper River District were taken from mid-August through early September (Table 10, Figure 10). Before August, coho salmon were captured incidentally in the sockeye salmon fishery; during August the fishery targeted on coho salmon. Of the 315,568 coho salmon caught in the Copper River District 63.8% were age 1.1 and 35.6% were age 2.1 (Table 11). A gradual shift in the dominant age class was observed over the course of the season, age-1.1 fish predominated early in the run, and age-2.1 fish predominated later in the run. Age-3.1 fish consistently composed less than 3.0% of the catch throughout 1988.

The 1988 Bering River District coho salmon catch (86,539 fish) occurred almost exclusively in the Katalla and Controller Bay areas (Table 10; Figure 10). Age composition of Bering and Copper River coho salmon catches were similar, except that the portion of Bering River fish age 2.1 was higher early in the season, and the percentage of Bering River fish age 1.1 was greater later in the season (Figure 11; Appendix A.12).

ADF&G estimated a subsistence and personal use catch of 752 coho salmon in the Copper/Bering River area (Table 4). Sport fishermen harvested 1,201 coho salmon from Eyak River and an unknown number from a few easily accessible coastal streams on the Copper River delta (Table 5). No age and sex composition data are available for these fisheries.

No aerial escapement estimates were made for coho salmon in the upper Copper River drainage in 1988 (Appendix C.3). Traditionally, aerial survey counts of coho salmon escapements to the upper Copper River are quite low. Aerial survey data for the Copper River delta and Bering River spawning areas (Appendix D.1) provided an estimate of their relative importance, but the combined relative escapement index of 27,930 fish to the delta and 11,415 fish to the Bering River drainage (Table 6) represent an unknown fraction of actual escapements to those areas. No age and sex composition data are available for coho salmon escapement to the Copper/Bering River area.

Prince William Sound

Fisheries in the nine fishing districts in Prince William Sound (Districts 221-228 and the Unakwik District) share geographic proximity, occur simultaneously, and are directed at salmon stocks of Prince William Sound origin. Chinook salmon are incidental in Prince William Sound catches and are not discussed in the text. More detailed data on the age, sex, and size of salmon catches and escapements in Prince William Sound are presented in Appendices E and

F. Mean length and weight data for salmon returning to Prince William Sound are presented in Appendices G and H.

Sockeye Salmon

A total of 183,349 sockeye salmon were commercially harvested in Prince William Sound in 1988 (Table 12). The gill net catch of 160,072 sockeye salmon included 82,294 fish from the Coghill District, 69,189 fish from the Eshamy District, and 8,589 fish from the Unakwik District.

The Coghill District sockeye catch occurred from late June to mid July and peaked in early July (Table 12; Figure 12). The catch was 65.6% age 1.3, 31.2% age 1.2, 1.9% age 1.4, and 1.3% other age groups (Table 13). The age composition of sockeye salmon from the Coghill District varied little throughout the season (Figure 13).

In the Eshamy District 69,189 sockeye were caught between early July and mid-August (Table 12, Figure 12). A fishery for sockeye salmon occurred in the Eshamy District in 1988 because of adequate parent-year escapements to Eshamy Lake in 1984. However, the 1988 sockeye salmon catch was largely incidental to the harvest of surplus Main Bay Hatchery pink and chum salmon in the Main Bay Subdistrict. The sockeye salmon caught in the Eshamy District were 74.3% age 1.2, 21.5% age 1.3, 2.1% age 2.2, and 2.1% other ages. Age-1.2 fish were the predominate age throughout the run. Age-1.3 fish were more abundant during the early part of the run and were less numerous thereafter.

The Unakwik District sockeye salmon harvest was much smaller than in the Coghill District, but catches in both districts peaked between late June and early July (Table 12; Figure 12). The age composition of the sockeye salmon catch from Unakwik were 82.4% age 1.3, 16.3% age 1.2, and 1.3% other age groups (Table 13).

The purse seine catch of 23,394 sockeye salmon in Prince William Sound began in late June, peaked in mid-August, and decreased steadily through early September (Table 12; Figure 12). Approximately 48% of the sockeye salmon purse seine harvest occurred in the Southwestern District, 24% in the Northern District, 17% in the Eastern District, 7% in the Coghill District, and the remainder in the other districts. The age composition of the catch from the Southwestern District was similar to the age composition of the gill net catch in the Eshamy District in August (Figure 13). Fish aged 1.2 predominated (about 94%), followed by age 1.3 and age 2.2. The age composition of earlier run sockeye salmon in the Coghill District were 65.6% age 1.3 and 31.2% age 1.2; in the Unakwik District it was 82.4% age 1.3 and 16.3% age 1.2 (Table 13).
An estimated 4,783 sockeye salmon were caught in the Prince William Sound area sport fishery (Table 5). The reported catch of sockeye salmon in the subsistence fishery was 51 fish (Table 4). Age and sex composition data were not available for these small fisheries.

A total of 72,023 sockeye salmon were counted by ADF&G through the Coghill weir (Table 6; Appendix F.1). Escapement through the weir was bimodal (Figure 14). Only 1,229 fish were passed between 14 June and 23 June, and daily passage rates

ranged from 0 to 400 fish. The bulk of the 1988 escapement (84%) passed through the weir between 24 June and 11 July. The peak daily weir count was on 29 June when 15,014 sockeye salmon were counted. A second, weaker pulse (9,262 fish) was observed between 18 and 27 July.

The percent age composition of the sockeye salmon escapement through the Coghill weir was estimated as 59.7% age 1.2, 37.5% age 1.3, with the remaining 2.8% primarily age 1.4 (Table 14). The percent age composition in late June was 70.2% age-1.2 and 26.9% age-1.3 fish. From early to mid-July the percent age composition of these two age groups were almost equal. In early July the percent age composition was 50.7% age-1.2 and 48.5% age-1.3 fish, and in mid-July there were 48.6% age-1.2 and 45.2% age-1.3 fish (Figure 14).

The escapement through Eshamy weir of 31,741 sockeye salmon (Table 6) occurred later than the escapement at Coghill weir, and it was more prolonged (Figure 15, Appendix F.2). The age composition of the escapement was 94.7% fish aged 1.2, and the remainder were fish aged 1.3, 2.2, 1.1, and 0.2. There was no temporal variation in the age structure. The age composition of sockeye salmon from the Eshamy weir closely resemble the age composition of sockeye salmon from the commercial purse seine harvest in the Southwestern District in early August (Figure 13 and 15, respectively).

Other sockeye salmon runs in Prince William Sound are much smaller by comparison, and escapement information was gathered by aerial surveillance (See Appendix F.3).

Coho Salmon

In 1988 the purse seine fishery in Prince William Sound harvested 27,939 coho salmon and the gill net fishery harvested 42,384 (Table 1). The largest purse seine catch occurred in the Coghill (57%), Southwestern (27%), and Eastern (16%) Districts. Drift gill netters in the Coghill District accounted for 41,307 coho salmon with the majority of those fish probably originating from Esther Island Hatchery. Coho catches peaked between late August and early September and declined thereafter (Schultz et al. 1988). No age or sex composition data are available for these catches.

In recent years the sport fishery in Prince William Sound has increasingly targeted on coho salmon. Mills (1989) estimated that 19,262 coho salmon were caught by sport fishermen in 1988 (Table 5). A portion of this catch can probably be attributed to successful returns of hatchery reared coho salmon released at Whittier, Valdez, and Cordova in 1987 (Holland 1988). Holland (1989) estimated that sport fishermen harvested over 5,000 coho salmon at Cordova and 1,000 coho salmon at Whittier that were a product of the FRED Division smolt-stocking program in Prince William Sound. The reported subsistence catch of coho salmon was only 7 fish (Table 4).

Chum Salmon

Of the 1,832,332 chum salmon harvested in Prince William Sound (Table 1), 63% were caught by purse seine fishermen and the remainder by gill net fishermen. Seventy-one percent of the purse seine catch came from the Eastern District, and most of the remainder came from the Northern and Southwestern Districts (Table 15). Catches peaked earliest in the Eastern and Northern Districts and latest in the Southwestern District (Figure 16).

Purse seine catches in all districts were predominantly 5-year-old fish (67.7%) and the remainder were mostly 4-year-old fish (30.5%) (Table 16). In the Southwestern District there were no notable changes in the age composition through time (Figure 17). However, in the Eastern District there was a gradual temporal decline in 5-year-old fish with a corresponding increase in 4-year-old fish. In the Northern District 5-year-old fish comprised most of the catch in early July (80.1%) while 4 and 5-year-olds comprised major portions of the catch in August (44.1% and 53.1% respectively).

Fifty-three percent of the Prince William Sound gill net chum salmon catch occurred in the Coghill District (Table 15). This was attributed to a strong wild stock performance and good returns to the Esther and Main Bay hatcheries. Age composition of the Coghill District gill net catch was similar to that observed in purse seine catches in adjacent districts (Table 16). Five-year-old fish comprised 61.5% of the catch with the remainder predominantly 4-year-olds. The percent age composition of the 5-year-olds decreased over time, and the percent age composition of the 4-year-olds increased as the run progressed (Figure 18). For the second year in a row, the age composition of the last sampling stratum showed a slight increase in the number of 3-year-olds. It is likely that an unknown number of the younger aged fish were returning to Esther Island Hatchery (L.R. Peltz, Alaska Department of Fish and Game, Cordova, personal communication).

The Eshamy District gill net fisheries (drift and set gill net) targeted on pink and chum salmon returning to the Main Bay Hatchery. Because the Main Bay Hatchery was switched from chum to sockeye salmon production, there were no broodstock requirements for returning chum salmon; therefore, all Main Bay chum returns were available for harvest by the commercial fishery. The gill net fisheries in the Eshamy District caught 299,637 chum salmon (Table 15). Sixty-nine percent of the catch was harvested by drift gill net and 31% by set gill net. The chum salmon gill net catch peaked in this district in late June and early July at the same time as the Coghill District. Age composition of the Eshamy District commercial chum salmon harvest was very similar to the Coghill District chum salmon: 56.5% were 5-year-olds, 40.3% were 4-year-olds, 1.8% were 6-year-olds, and 1.5% were 3-year-olds (Table 16). The percent age composition of 4-year-old fish increased over time and the percent age composition of the 5-year-old fish decreased over time (Figure 19).

Hatcheries in Prince William Sound contributed an estimated 524,894 chum salmon (29%) to the total commercial harvest and 482,200 chum salmon (27%) to the commercial fishery harvest in 1988 (Table 17; Brady et al. 1990). The estimated 1988 cost recovery harvest of chum salmon for private non-profit hatcheries in Prince William Sound was 42,694 fish or 8% of the total commercial harvest. The

cost recovery harvests of chum salmon were taken incidentally to the cost recovery harvest of pink salmon, and no age or sex composition data are available for these catches.

Subsistence harvest of chum salmon was very small and the estimated sport fishery catch totaled 7,237 fish (Table 5). Most of the sport harvest occurred in salt water near Valdez and Whittier.

Pink Salmon

A total of 11,820,121 pink salmon were harvested in Prince William Sound in 1988 (Table 1). The commercial fisheries harvested 82% of these fish with the remaining 18% taken in the cost recovery harvests of three private non-profit hatcheries and one state hatchery. Approximately 8,918,000 pink salmon taken within the commercial fisheries originated from hatcheries (Table 18; Brady et al. 1988). Hatchery-produced pink salmon were 75% of the total commercial harvest, or 10,585,238 fish. This was the third consecutive year that hatchery fish comprised more than 50% of the total commercial pink salmon harvest in Prince William Sound.

The purse seine fishery accounted for nearly 66% (7,785,729 fish) of the total commercial fisheries pink salmon harvest (Table 1), with approximately 46% coming from the Southwestern District.

The pink salmon escapement goal for the Southwestern District was met representing approximately 13% of the escapement index for Prince William Sound wild stocks (Figure 20). The Southwestern District encompasses an entrance to Prince William Sound known to be a migratory pathway used by wild pink salmon stocks as well as hatchery stocks returning to other districts (McCurdy 1983). Furthermore, the AFK Hatchery, located in the middle of the district (Figure 1), made the largest contribution (59%; Table 18) to the hatchery component of the Prince William Sound area commercial fisheries in 1988. Peak catches in the Southwestern District coincides with the peak returns to the AFK hatchery in mid-to-late August. Consequently, the large catches relative to the escapement in the Southwestern District in 1988 can be attributable to the interception of wild stocks destined to other areas in the sound, as well as hatchery contributions.

Pink salmon returns to the other hatcheries in the sound also contributed substantially to catches in their respective districts. The Coghill District pink salmon catch (1,600,481) was the second largest among purse seine fisheries (Table 19; Figure 21). Large commercial catches during mid-and-late August are conjectured to have been predominately hatchery fish because these catches coincided with timing of Esther Hatchery stock returns (Brady et al. 1988). Catches in the Eastern District peaked during the second and third week of July (Figure 21). In this instance, the pink salmon catch was largely incidental to the exceptionally strong return of wild stock chum salmon in the Eastern and Northern Districts. More than 37% of the wild stock pink salmon escapement index in Prince William Sound occurred in the Eastern District (Figure 20).

The Prince William Sound gill net harvest of 1,843,671 pink salmon was smaller than the purse seine harvest of 7,793,114 fish (Table 1). The Coghill drift gill net fishery accounted for 71% of the gill net catch, and 10% was taken in the set gill net fishery in the Main Bay Subdistrict of the Eshamy District (Table 19). The Eshamy fishery targeted on pink salmon returns to Main Bay Hatchery (Figure 1).

Subsistence harvest of pink salmon was very low. An estimated 31,215 pink salmon were caught by sport fishermen (Table 5) and most taken in salt water near Valdez and Whittier.

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Table 1. Commercial catches by fishery, district, and species in the Copper/Bering River (C/BR) and Prince William Sound (PWS) areas, 1988. Based on final fish ticket summaries.

Fisheries/Districts/Subdistricts	District or Subdistrict Code	Catch by Species (Nos. of Fish)				
		Chinook	Sockeye	Coho	Pink	Chum
C/BR Drift Gill Net Fisheries:						
Bering River	200	19	7,152	86,539	23	181
Copper River	212	30,741	576,950	315,568	2,775	11,022
Total		30,760	584,102	402,107	2,798	11,203
PWS Drift Gill Net Fisheries:						
Unakwik	222-50	15	8,589	0	281	1,504
Coghill	223	501	82,294	41,307	1,314,061	346,388
Eshamy	225	94	50,868	794	348,873	206,060
Total		610	141,751	42,101	1,663,215	553,952
PWS Set Gill Net Fisheries:						
Eshamy	225	100	18,321	283	180,456	93,577
Total		100	18,321	283	180,456	93,577
PWS Purse Seine Fisheries:						
Eastern	221	103	3,893	4,358	477,848	812,753
Northern	222	64	5,690	136	228,618	199,487
Unakwik	222-50	0	667	7	57,844	23,860
Coghill	223	63	1,623	15,787	1,600,481	11,755
Northwestern	224	18	359	19	7,738	14,083
Southwestern	226	77	11,120	7,632	5,418,809	80,888
Montague	227	0	0	0	0	0
Southeastern	228	1	48	0	1,776	2,479
Total		326	23,400	27,939	7,793,114	1,145,305
PWS Hatchery Sales Harvests:						
Solomon Gulch	221-61	0	69	6,110	726,357	1,747
Cannery Creek	222-21	0	0	0	66,049	0
Esther	223-41	0	0	0	528,298	10,022
Armin F. Koernig	226-62	0	0	0	846,213	27,729
Total		0	69	6,110	2,166,917	39,498
Combined PWS Fisheries Totals		1,036	183,541	76,433	11,803,702	1,832,332
Combined C/BR and PWS Fisheries Totals		31,796	767,643	478,540	11,806,500	1,843,535

Table 2. Estimated age composition of sockeye salmon in the 1988 Copper/Bering River commercial drift gill net catches. Based on age composition data from systematic, stratified catch sampling programs and catch data from final fish ticket summaries.

			Percent of Catch by Brood Year and Age Group										
			1985		1984			1983			1982		1981
Districts	Sample Size	Total Catch	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4
Copper River	5,596	576,950	0.8	0.0	8.7	20.3	0.0	0.2	57.3	1.7	1.0	9.9	0.1
Bering River	740	7,152	0.9	0.0	11.2	24.9	0.0	0.4	61.3	0.2	1.1	0.0	0.0

Table 3. Commercial sockeye salmon catch and effort in 1988 by district and fishing period for the Copper/Bering River area. Based on final fish ticket summaries.

	Fishing			Copper River		Bering River [a]	
Week	Period	Dates	Hours	Effort [b]	Catch	Effort [b]	Catch
21	1	05/16-05/17	24	440	22,871	Closed	
22 [c]	2	05/23-05/24	24	473	66,931	Closed	
22	3	05/26-05/28	36	497	64,936	Closed	
23	4	05/30-05/31	36	497	67,029	Closed	
23	5	06/02-06/03	12	481	32,541	Closed	
24	6	06/09-06/10	24	498	42,129	Closed	
25	7	06/13-06/14	24	479	45,465	Closed	
25	8	06/16-06/17	24	433	44,479	Closed	
26	9	06/20-06/21	24	270	27,427	37	5,519
26	10	06/23-06/24	24	293	32,525	16	1,078
27	11	06/27-06/28	24	86	11,719	3	499
27	12	06/30-07/01	24	195	14,304	3	15
28	13	07/04-07/05	24	44	10,788	0	0
28	14	07/07-07/08	24	118	18,739	0	0
29	15	07/11-07/12	24	115	19,465	0	0
29	16	07/14-07/15	24	205	16,186	0	0
30	17	07/18-07/19	24	193	14,507	0	0
30	18	07/21-07/22	24	212	11,071	0	0
31	19	07/25-07/26	24	115	3,819	0	0
31	20	07/28-07/29	24	101	2,631	0	0
32	21	08/01-08/02	24	133	1,680	9	6
32	22	08/04-08/05	24	50	1,156	0	0
33	23	08/08-08/10	48	200	2,276	3	7
34	24	08/15-08/18	72	204	1,114	5	4
35	25	08/22-08/25	72	235	746	53	9
36	26	08/29-09/01	72	306	368	94	6
37	27	09/05-09/08	72	294	38	120	9
38 [d]	28	09/12-09/13	24	221	10	58	0
Total				520	576,950	158	7,152

[a] Includes only the waters west of Kayak Island. Waters to the east of Kayak Island are closed to commercial fishing.

[b] Number of permits reporting catches.

[c] From 0700 May 23 until 0001 August 01 only drift gill nets with less than six inch mesh was allowed.

[d] All waters of Little Softuk was closed north of the entrance to Little Softuk at 60 12.9 N. latitude.

Table 4. Subsistence and personal use catches in 1988 by fishery and species for the Copper/Bering River (C/BR) and Prince William Sound (PWS) areas. Preliminary data based on incomplete permit returns.

Fisheries	Species			
	Chinook	Sockeye	Coho	Other [a]
C/BR Subsistence Fisheries:				
Upper Copper River - Dip Net [b]	53	1,768	38	1
Upper Copper River - Fish Wheel [b]	619	17,993	207	136
C/BR Drift Gill Net	62	227	42	113 [c]
Total	734	19,988	287	250 [c]
C/BR Personal Use Fisheries:				
Upper Copper River - Dip Net [b]	2,688	37,341	439	24
Upper Copper River - Fish Wheel [b]	35	1,192	11	0
Total	2,723	38,533	450	24
C/BR Subsistence and Personal Use Fisheries Total:	3,457	58,521	737	274 [c]
PWS Subsistence Fisheries:				
Purse Seine	0	0	0	0
Drift Gill Net	2	51	7	19 [d]
Set Gill Net	0	0	0	0
Total	2	51	7	19 [d]
C/BR and PWS Subsistence and Personal Use Fisheries Total:	3,459	58,572	744	293 [a]

[a] Includes trout, whitefish, and other miscellaneous species.

[b] Data reported through March 22, 1989 (K. Roberson, Alaska Department of Fish and Game, Glennallen, personal communication). The text and Appendix B1 refer to data reported through May 1989.

[c] Other species caught in Copper/Bering River drift gill nets: 4 chum salmon, 87 Dolly Varden, 15 whitefish, and 7 cutthroat trout.

[d] Species composition not available.

Table 5. Sport fish harvests and effort by fishery and species in the Copper River Basin, Copper River Delta/ Bering River (CD/BR) and Prince William Sound (PWS) areas, 1988 (Data provided by Mills, 1988).

Fisheries	Anglers	Trips	Days Fished	Sport Fish Harvest by Species				
				Chinook	Sockeye	Coho	Pink	Chum
Upper Copper River: [a]								
Gulkana River Float Fishing -								
(Paxson to Sourdough)	2,754	1,640	3,438	313	437	0	0	0
(Sourdough to Highway)	1,949	1,609	1,949	152	127	0	0	0
(Other)	5,786	5,260	5,912	568	1,055	0	0	0
Klutina River - Boat	990	650	1,983	227	473	73	0	0
- Bank	3,032	3,403	4,111	256	946	200	0	0
Other Streams	3,190	3,375	4,107	37	0	18	0	0
Tolsona and Moose Lakes	1,207	835	1,207	9	0	0	0	0
Van (Silver) Lake	1,114	1,330	1,601	0	0	0	0	0
Paxson Lake	3,372	3,311	4,038	0	0	0	0	0
Summit Lake (near Paxson)	1,918	1,640	2,001	0	0	0	0	0
Other Lakes	4,336	4,057	6,752	0	0	0	0	0
Total	29,648 [b]	27,110	37,099	1,562	3,038	291	0	0
CD/BR and PWS - Freshwater								
Eyak River	990	1,361	1,492	0	0	1,201	0	0
Other Streams	2,476	3,839	3,760	0	1,310	3,037	200	0
Other Lakes	1,177	1,115	1,352	0	255	127	55	0
Total	3,682 [b]	6,315	6,604	0	1,565	4,365	255	0
CD/BR and PWS - Saltwater								
Valdez Bay - Boat	10,829	17,017	29,923	170	891	6,457	10,659	3,674
- Shoreline	2,816	4,363	4,766	0	200	1,510	3,038	18
- Shoreline/Road System	10,551	12,190	16,407	57	491	2,274	13,079	509
Passage Canal (Whittier) - Boat	4,301	8,044	9,568	123	291	728	1,019	1,637
Orca Inlet - Boat	1,083	2,537	2,310	9	0	691	164	236
Other - Boat	3,966	9,904	11,204	56	1,309	1,455	1,619	1,091
Other - Shoreline	1,857	4,116	4,189	28	36	1,782	1,637	72
Total	28,929 [b]	58,171	78,367	443	3,218	14,897	31,215	7,237
CD/BR and PWS - Total	32,611 [b]	64,486	84,971	443	4,783	19,262	31,470	7,237
Upper Copper River, CD/BR, and PWS - Total	62,259 [b]	91,596	122,070	2,005	7,821	19,553	31,470	7,237

[a] Includes drainages of the Copper River upstream from a line between the south bank of Haley Creek and the south bank of Canyon Creek in Wood Canyon. In the past, sport fish harvest data from Lake Louise and Susitna Lake have also been presented in this report. This year these lakes have not been included because they are not in the Copper River drainage. Lake Louise and Susitna Lake are actually in the Susitna River/Cook Inlet drainage.

[b] Angler totals may not equal sum of sites due to some anglers fishing at more than one site.

Table 6. Salmon escapement and escapement indices by species and district in the Copper/Bering River and Prince William Sound areas, 1988.

Area: Districts	Statistical Area	Escapement by Species				
		Chinook	Sockeye	Coho	Pink	Chum
Copper/Bering River:						
Copper River -	212					
Upper Copper River [a]		b	488,398	b	b	b
Copper River Delta [c]			53,315	27,930	0	0
Bering River	200		13,330	11,415	0	0
Total			555,043	39,345	0	0
Prince William Sound:						
Eastern	221	d	e	d	364,200 f	258,920 f
Northern	222	d	e	d	145,440 f	78,000 f
Coghill	223	d	72,023	d	41,176 f	39,380 f
Northwestern	224	d	e	d	74,890 f	42,940 f
Eshamy	225	d	31,741	d	490 f	0 f
Southwestern	226	d	e	d	126,710 f	2,360 f
Montague	227	d	e	d	68,610 f	501 f
Southeastern	228	d	e	d	153,560 f	67,430 f
Total			103,764		975,076 f	489,531 f

[a] Estimated from hydroacoustical and test fishing data from the Miles Lake sonar project (Appendix C).

[b] The Miles Lake sonar project escapement estimate was for all species; however, the most abundant specie was sockeye salmon (Appendix C.1). Because the estimate of the portion of the escapement of other salmon species was not precisely known, the counts of chinook, coho, pink, and chum salmon were included in the estimate for sockeye salmon. Based on aerial survey data, the escapement of pink, coho and chum salmon to the Upper Copper River was was very small. The 1988 aerial surveys of salmon index streams indicate the chinook salmon escapement was strong.

[c] Based on periodic aerial surveys of salmon streams (Appendix D.1 and D.16).

[d] Numerically insignificant and no estimates available.

[e] The only available estimate was from a weir operated below Coghill and Eshamy Lakes. Other less important sockeye salmon escapements were infrequently assessed by aerial surveys (Appendix F.3).

[f] Based on adjusted aerial estimates of regularly surveyed streams (Appendix F.4 and F.5).

Table 7. Estimated age composition of Copper River and Bering River sockeye salmon escapements, 1988.

System	Location	Sample Size	Total Escapement	Percent of Escapement by Brood Year and Age Group										
				1986	1985		1984		1983			1982		1981
				0.1	0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4
Copper River:														
Upper Copper River	Miles Lake Sonar [a]	2,942	488,398	0.0	1.1	0.0	8.1	32.1	0.1	53.2	1.8	0.5	3.1	0.1
Copper River Delta	Eyak Lake - S. Beach	542	3,600	0.0	0.0	0.0	0.2	14.2	0.0	84.6	0.4	0.2	0.4	0.0
	- Middle Arm	580	2,650	0.0	1.6	0.0	8.8	42.4	0.7	45.6	0.6	0.2	0.0	0.0
	- Hatchery Ck	97	2,100	0.0	18.6	1.0	5.1	46.4	0.0	26.9	0.0	2.0	0.0	0.0
	McKinley Lake	609	9,700	0.0	3.9	0.2	2.8	39.4	0.0	53.5	0.0	0.2	0.0	0.0
	27-Mile Slough	696	2,105	0.0	22.4	0.7	7.8	45.3	0.3	23.0	0.1	0.4	0.0	0.0
	Ragged Point Lake	562	2,060	0.5	12.5	0.9	13.2	53.8	0.0	18.2	0.9	0.0	0.0	0.0
	Martin Lake	625	6,440	0.0	1.7	1.1	1.3	86.3	0.0	8.6	0.8	0.0	0.2	0.0
	Little Martin Lake	575	2,200	0.0	0.2	0.3	0.0	71.0	0.0	28.3	0.2	0.0	0.0	0.0
	Tokun Lake	606	10,975	0.0	0.2	0.0	0.0	10.2	0.0	89.1	0.2	0.0	0.3	0.0
	Martin River Slough	641	3,115	0.2	24.8	0.6	33.2	19.7	0.0	20.9	0.3	0.3	0.0	0.0
	39-Mile Creek	586	3,620	0.0	2.2	0.7	7.8	40.1	0.4	48.3	0.2	0.0	0.3	0.0
	Delta Combined	6,119	48,565	0.0	4.8	0.4	5.0	38.1	0.1	50.9	0.3	0.2	0.2	t [b]
Bering River:	Bering Lake	610	10,900	0.0	1.7	1.5	6.7	37.2	0.0	52.9	0.0	0.0	0.0	0.0
	Shepherd Creek	0	950											
	Kushtaka Lake	682	480	0.0	0.4	2.7	0.7	58.1	0.0	30.2	6.4	0.0	1.5	0.0
	Bering River Combined	1,292	12,330	0.0	1.6	1.6	6.3	38.7	0.0	51.2	0.5	0.0	0.1	0.0

[a] The samples from the subsistence and personal use fisheries at Chitina were used to estimate age composition of the upriver escapement enumerated at Miles Lake.

[b] Trace (t) percentages were <0.05%, whereas percentages between 0.05% and 0.09% were rounded up to 0.1%. The fractions shown do not add to 100% until the fractions less than 0.05% are included.

Table 8. Commercial 1988 chinook salmon catch and effort by district and fishing period for the Copper/Bering River area. Based on final fish ticket summaries.

	Fishing			Copper River		Bering River [a]	
Week	Period	Dates	Hours	Effort [b]	Catch	Effort [b]	Catch
21	1	05/16-05/17	24	440	6,841	Closed	
22 [c]	2	05/23-05/24	24	473	5,622	Closed	
22	3	05/26-05/28	36	497	5,379	Closed	
23	4	05/30-05/31	36	497	4,725	Closed	
23	5	06/02-06/03	12	481	2,224	Closed	
24	6	06/09-06/10	24	498	2,210	Closed	
25	7	06/13-06/14	24	479	1,514	Closed	
25	8	06/16-06/17	24	433	1,273	Closed	
26	9	06/20-06/21	24	270	467	37	11
26	10	06/23-06/24	24	293	282	16	4
27	11	06/27-06/28	24	86	63	3	0
27	12	06/30-07/01	24	195	48	3	0
28	13	07/04-07/05	24	44	20	0	0
28	14	07/07-07/08	24	118	10	0	0
29	15	07/11-07/12	24	115	6	0	0
29	16	07/14-07/15	24	205	9	0	0
30	17	07/18-07/19	24	193	5	0	0
30	18	07/21-07/22	24	212	7	0	0
31	19	07/25-07/26	24	115	6	0	0
31	20	07/28-07/29	24	101	5	0	0
32	21	08/01-08/02	24	133	5	9	0
32	22	08/04-08/05	24	50	2	0	0
33	23	08/08-08/10	48	200	5	3	0
34	24	08/15-08/18	72	204	5	5	0
35	25	08/22-08/25	72	235	5	53	3
36	26	08/29-09/01	72	306	1	94	1
37	27	09/05-09/08	72	294	2	120	0
38 [d]	28	09/12-09/13	24	221	0	58	0
Total				520	30,741	158	19

[a] Includes only the waters west of Kayak Island. Waters to the east of Kayak Island are closed to commercial fishing.

[b] Number of permits reporting catches.

[c] From 0700 hours May 23 until 0001 hours August 01 only drift gill nets with less than six inch mesh was allowed.

[d] All waters of Little Softuk was closed north of the entrance to Little Softuk at 60 12.9 N. latitude.

Table 9. Estimated 1988 age composition of Copper/Bering River area chinook salmon commercial drift gill net catches. Based on data from a systematic, stratified sampling program and the final fish ticket summary.

				Percent of Catch by Brood Year and Age Group								
				1984		1983			1982		1981	
District	Statistical Area	Sample Size	Total Catch	0.3	1.2	0.4	1.3	2.2	1.4	2.3	1.5	2.4
Copper River	212	2,099	30,741 [a]	0.0	2.0	0.0	21.7	0.0	68.4	3.2	0.2	4.5

[a] An additional 19 chinook salmon were caught incidentally in the Bering River District sockeye salmon fishery in 1988.

Table 10. Commercial coho salmon catch and effort in 1988 by district and fishing period for the Copper/Bering River area. Based on the final fish ticket summary.

	Fishing			Copper River		Bering River [a]	
Week	Period	Dates	Hours	Effort [b]	Catch	Effort [b]	Catch
21	1	05/16-05/17	24	440	0	Closed	
22 [c]	2	05/23-05/24	24	473	16	Closed	
22	3	05/26-05/28	36	497	2	Closed	
23	4	05/30-05/31	36	497	3	Closed	
23	5	06/02-06/03	12	481	1	Closed	
24	6	06/09-06/10	24	498	10	Closed	
25	7	06/13-06/14	24	479	9	Closed	
25	8	06/16-06/17	24	433	54	Closed	
26	9	06/20-06/21	24	270	147	37	0
26	10	06/23-06/24	24	293	63	16	0
27	11	06/27-06/28	24	86	4	3	0
27	12	06/30-07/01	24	195	33	3	1
28	13	07/04-07/05	24	44	1	0	0
28	14	07/07-07/08	24	118	204	0	0
29	15	07/11-07/12	24	115	63	0	0
29	16	07/14-07/15	24	205	112	0	0
30	17	07/18-07/19	24	193	170	0	0
30	18	07/21-07/22	24	212	543	0	0
31	19	07/25-07/26	24	115	682	0	0
31	20	07/28-07/29	24	101	1,881	0	0
32	21	08/01-08/02	24	133	2,534	9	607
32	22	08/04-08/05	24	50	4,514	0	0
33	23	08/08-08/10	48	200	21,101	3	108
34	24	08/15-08/18	72	204	57,533	5	1,706
35	25	08/22-08/25	72	235	91,486	53	16,776
36	26	08/29-09/01	72	306	55,195	94	30,438
37	27	09/05-09/08	72	294	60,351	120	30,072
38 [d]	28	09/12-09/13	24	221	18,856	58	6,831
TOTAL				520	315,568	158	86,539

[a] Includes only the waters west of Kayak Island. Waters to the east of Kayak Island are closed to commercial fishing.

[b] Number of permits reporting catches.

[c] From 0700 hours May 23 until 0001 hours August 01 only drift gill nets with less than 6 inch mesh was allowed.

[d] All waters of Little Softuk was closed north of the entrance to Little Softuk at 60 12.9 N. latitude.

Table 11. Estimated age composition of Copper/Bering River area coho salmon in 1988 commercial drift gill net catches. Based on data from a systematic, stratified sampling program and the final fish ticket summaries.

				Percent of Catch by Brood Year and Age Group				
				1986	1985	1984	1983	1982
District	Statistical Area	Sample Size	Total Catch	0.1	1.1	2.1	3.1	4.1
Bering River	200	1,267	86,539	0.0	63.8	35.6	0.6	0.0
Copper River	212	1,877	315,568	0.0	50.3	47.2	2.5	0.0

Table 12. Commercial sockeye salmon catch and effort in 1988 by district and fishing period for the Prince William Sound area. Catch data are from the final fish ticket summaries.

		Gill Net Fisheries									Purse Seine Fisheries			
		Coghill Drift Gill Net			Unakwik Drift Gill Net			Eshamy Drift & Set Gill Net			General Purse Seine			Total PWS Catch
Week	Dates	Hours	Effort [a]	Catch	Hours	Effort [a]	Catch	Hours	Effort [a]	Catch	Hours	Effort [a]	Catch	
26	6/19-6/25	48	147	7,447	48	0	0	156	102	2,249	CLOSED			9,696
27	6/26-7/02	48	264	11,232	48	17	4,309	168	137	5,005	12	195	2,083	22,629
28	7/03-7/09	168	309	42,779	48	16	3,082	168	104	8,694	111	239	5,039	59,594
29	7/10-7/16	168	69	14,333	60	15	1,192	168	124	13,744	168	238	3,050	32,319
30	7/17-7/23	24	0	0	0	0	0	93	187	8,948	24			8,948
31	7/24-7/30	0	0	0	0	0	0	60	235	10,427	6	162	25	10,452
32	7/31-8/06	24	254	1,218	24	1	6	60	80	5,939	24	253	2,057	9,220
33	8/07-8/13	111	220	2,752	0	0	0	60	150	7,245	87	248	3,738	13,735
34	8/14-8/20	168	167	1,490	0	0	0	84	44	4,812	168	249	4,444	10,746
35	8/21-8/27	168	115	649	0	0	0	84	40	2,126	168	216	2,315	5,090
36	8/28-9/03	168	48	136	0	0	0	0	0	0	168	101	641	777
37	9/04-9/10	168	40	141	0	0	0	0	0	0	168	19	2	143
38	9/11-9/17	168	37	110	0	0	0	0	0	0	168	0	0	0
39	9/18-9/24	168	19	7	0	0	0	0	0	0	168	0	0	0
	Total	1,599	440	82,294	228	35	8,589	1,101	358	69,189	1,440	255	23,394	183,349

[a] Number of permits reporting catches.

Table 13. Estimated age composition of the commercial sockeye salmon catches in the 1988 gill net and purse seine fisheries in Prince William Sound. Based on age composition data from systematic, stratified sampling programs in each fishery and catch data from final fish ticket summaries.

				Percent of Catch by Brood Year and Age Group									
				1985		1984			1983		1982		1981
Fishery/District	Statistical Area	Sample Size	Total Catch	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4
Drift Gill Net:													
Unakwik	222-50	578	9,256	0.0	0.0	0.6	16.3	0.0	82.4	0.2	0.5	0.0	0.0
Coghill	223	1,128	83,954	0.0	0.0	0.4	31.2	0.0	65.6	0.4	1.9	0.5	0.0
Drift and Set Gill Net:													
Eshamy	225	1,797	69,189	0.6	0.1	0.4	74.3	0.0	21.5	2.1	0.6	0.4	0.0
Purse Seine:													
Southwestern District	226	545	11,120	0.0	0.2	0.2	93.9	0.0	3.5	2.2	0.0	0.0	0.0

Table 14. Estimated age composition of sockeye salmon in 1988 escapements in Prince William Sound. Based on age composition data from systematic, stratified sampling of the daily escapement through weirs located on the outlet stream from each of these lakes.

			Percent of Escapement by Brood Year and Age Group										
			1986	1985		1984		1983			1982		1981
Sampling Location	Sample Size	Total Escapement	0.1	0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	1.5
Coghill Lake	1,902	72,023	0.0	0.2	0.0	0.2	59.7	0.1	37.5	0.2	1.7	0.3	0.1
Eshamy Lake	1,741	31,741	0.0	0.2	1.0	0.0	94.7	0.0	2.4	1.7	0.0	0.0	0.0

Table 15. Weekly commercial catches of chum salmon in 1988 by gear type and district in Prince William Sound. Catch data are from the final fish ticket summaries. Blank spaces indicated closed fishing periods.

Week		Fisheries												
		Drift Gill Net			Set Gill Net	Purse Seine								Total PWS Catch
No.	Dates	Unakwik	Coghill	Eshamy	Eshamy	Eastern	Northern	Unakwik	Coghill	Northwestern	Southwestern	Montague	Southeastern	
26	6/19-6/25	0	131,785	53,731	44,286			0	0					229,802
27	6/26-7/02	746	93,195	53,097	25,254	151,235	66,437	1,981	0					391,945
28	7/03-7/09	521	87,133	28,682	10,264	314,079	84,469	3,815	653					529,616
29	7/10-7/16	82	8,787	27,548	5,912	147,265	20,879	5,281	0	14,083			2,479	232,316
30	7/17-7/23			19,023	2,870									21,893
31	7/24-7/30			17,168	2,036	13,001								32,205
32	7/31-8/06	155	4,198	3,155	680	105,183	27,702	12,783	1,232		9,901			164,989
33	8/07-8/13		10,002	1,793	588	62,273			3,927		26,403			104,986
34	8/14-8/20		6,166	1,464	900	16,689			3,289		26,678			55,186
35	8/21-8/27		2,836	399	787	3,028			2,359		11,656			21,065
36	8/28-9/03		1,460						231		4,215			5,906
37	9/04-9/10		656						64		167			887
38	9/11-9/17		152						0		0			152
39	9/18-9/24		18						0		0			18
	Total	1,504	346,388	206,060	93,577	812,753	199,487	23,860	11,755	14,083	79,020	0	2,479	1,790,966

Table 16. Estimated age composition of chum salmon in the 1988 commercial catches in the Prince William Sound purse seine and gill net fisheries. Based on age composition data from systematic, stratified sampling programs in each district and final catch data.

				Percent of Catch by Brood Year and Age Group [a]					
				1986	1985	1984	1983	1982	1981
Fishery/District	Statistical Area	Sample Size	Total Catch	0.1	0.2	0.3	0.4	0.5	0.6
Purse Seine:									
Eastern	221	1,788	812,753	0.0	0.6	29.2	69.2	1.0	0.0
Northern	222	830	199,487	0.0	0.7	21.4	76.3	1.6	0.0
Northwestern	223	388	14,083	0.0	0.8	37.9	59.4	1.6	0.3
Southwestern	226	807	80,888	0.0	1.5	64.1	34.1	0.3	0.0
Southeastern	228	393	2,479	0.0	0.3	49.1	49.6	1.0	0.0
Total		4,206	1,109,690	0.0	0.7	30.5	67.7	1.1	t
Gill Net:									
Unakwik	222-50	NA	NA	NA	NA	NA	NA	NA	NA
Coghill	223	1,602	368,516	0.0	0.3	37.4	61.5	0.7	0.0
Eshamy	225	777	299,637	0.0	1.5	40.3	56.5	1.8	0.0
Total		2,379	668,153	0.0	0.8	38.7	59.3	1.2	0.0

[a] Trace (t) percentages were <0.05% whereas percentages between 0.05% and 0.09% were round up to 0.1%. The fractions shown do not add up to 100% until the fractions less than 0.05% are included.

Table 17. Estimated hatchery contributions of chum salmon to the common property commercial fisheries, hatchery cost recovery harvests, and hatchery brood stock escapements in Prince William Sound, 1988.

	Estimated 1988			
Hatchery	Commercial Fishery Catch /a	Cost Recovery Sales Harvest/b	Broodstock Escapement	Total Return
Solomon Gulch	6,900	0	2,125	9,025
Armin F. Koernig	73,000	31,772	14,452	119,224
Esther Island	200,000	10,922	88,827	299,749
Cannery Creek	2,300	0	2,874	5,174
Main Bay	200,000	0	0	200,000
Total	482,200	42,694	108,278	633,172 c

a Estimates of the common property catch of chum salmon from hatcheries in Prince William Sound were based on commercial catch as reported on fish tickets (Brady et al. In Press).

b These data were obtained from private non-profit hatchery annual reports (PWSAC 1988, VFDA 1988). Does not include carcass sales. Because of this, the estimated cost recovery sales harvest figures presented in this table differ from the Prince William Sound hatchery sales harvest totals derived from fish ticket summaries in Table 1.

c Total chum salmon returns are considered minimum estimates due to limited baseline data.

Table 18. Estimated hatchery contributions of pink salmon to the common property commercial fisheries, hatchery cost recovery harvests, and hatchery brood stock escapements in Prince William Sound, 1988.

		Estimated 1988			
Hatchery	1987 Fry Release	Commercial Fishery Catch	Cost Recovery Sales Harvest b	Broodstock Escapement	Total Return
Solomon Gulch	59,700,000	370,000	544,832	212,164	1,126,996
Armin F. Koernig	116,100,000	5,148,000	678,578	281,660	6,108,238
Esther Island	75,900,000	3,200,000	443,828	222,790	3,866,618
Cannery Creek	42,600,000	100,000	0	127,688	227,688
Main Bay	-	100,000	-	-	100,000
Total	294,300,000	8,918,000	1,667,238	844,302	11,429,540

a Estimates of the common property catch of pink salmon from hatcheries in Prince William Sound were based on commercial catch as reported on fish tickets (Brady et al. 1988).

b These data were obtained from private non-profit hatchery annual reports (PWSAC 1988, VFDA 1988). Does not include carcass sales. Because of this, the estimated cost recovery sales harvest figures presented in this table differ from the Prince William Sound hatchery sales harvest totals derived from fish ticket summaries in Table 1.

Table 19. Weekly commercial catches of pink salmon in 1988 by gear type and district in Prince William Sound. Catch data are from final fish ticket summaries. Blank spaces indicate closed fishing periods.

Week		Fisheries												
		Drift Gill Net			Set Gill Net	Purse Seine								Total PWS Catch
No.	Dates	Unakwik	Coghill	Eshamy	Eshamy	Eastern	Northern	Unakwik	Coghill	Northwestern	Southwestern	Montague	Southeastern	
26	6/19-6/25	0	122	268	84		closed	0	0					474
27	6/26-7/02	54	4,859	2,897	782	151,235	21,909	508	0					182,244
28	7/03-7/09	23	6,409	7,250	2,686	314,079	27,273	1,122	347					359,189
29	7/10-7/16	41	797	34,823	7,112	147,265	18,497	3,568	0	7,738			1,776	221,617
30	7/17-7/23			51,185	10,767									61,952
31	7/24-7/30			108,251	18,136	13,001								139,388
32	7/31-8/06	163	82,158	32,163	14,231	105,183	160,939	52,646	37,486		195,256			680,225
33	8/07-8/13		427,462	43,328	22,051	62,273			397,931		1,306,146			2,259,191
34	8/14-8/20		485,288	52,578	64,857	16,689			790,750		2,353,236			3,763,398
35	8/21-8/27		197,047	16,130	39,750	3,028			267,895		1,175,410			1,699,260
36	8/28-9/03		97,068						94,769		371,204			563,041
37	9/04-9/10		12,333						11,303		10,172			33,808
38	9/11-9/17		512						0		0			512
39	9/18-9/24		6						0		0			6
Total		281	1,314,061	348,873	180,456	812,753	228,618	57,844	1,600,481	7,738	5,411,424	0	1,776	9,964,305

FIGURES

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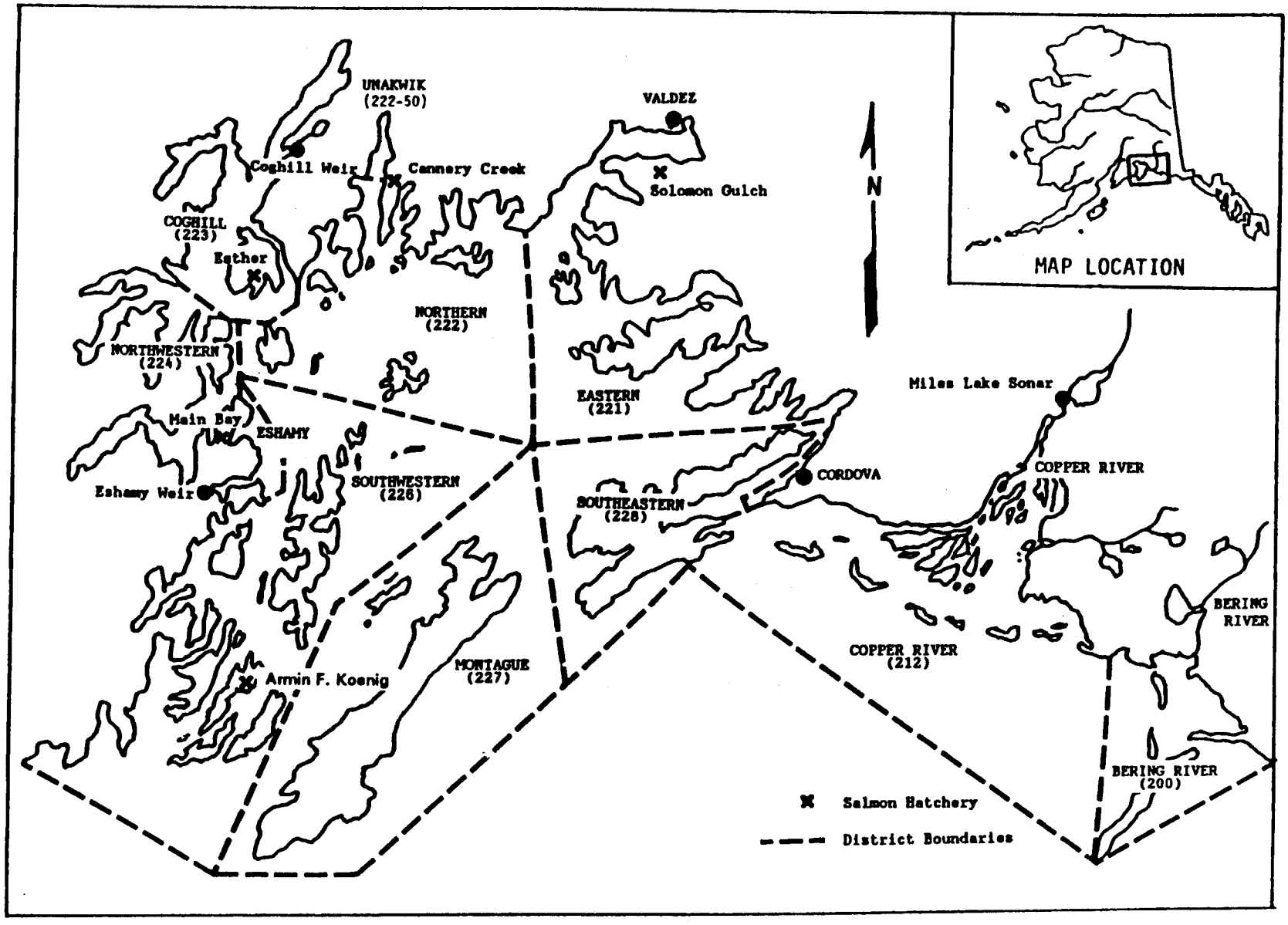


Figure 1. Map of the Prince William Sound area showing commerical fishing districts, salmon hatcheries, weir locations and the Miles Lake sonar site.

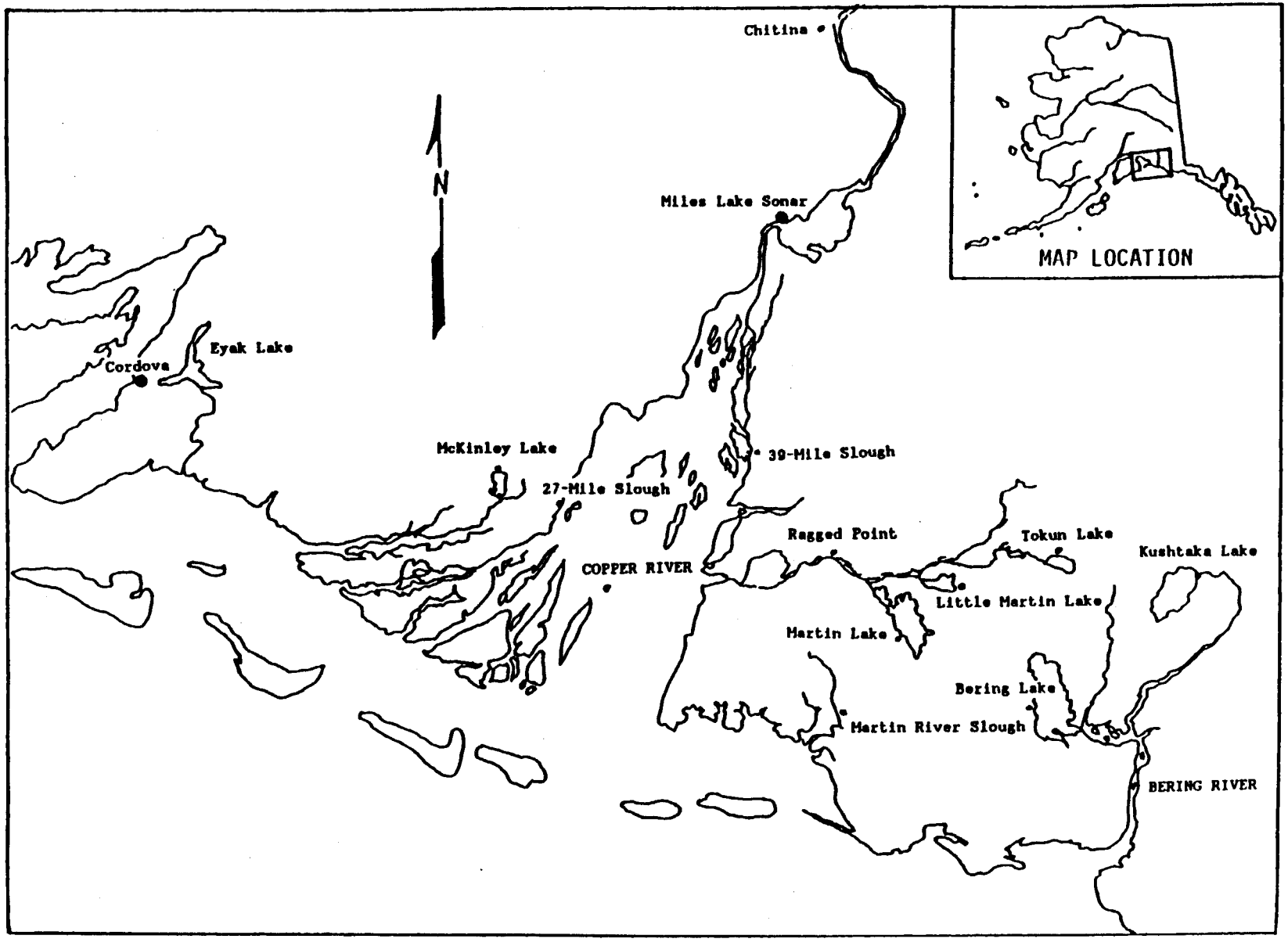


Figure 2. The Copper/Bering River area and the major coastal spawning areas that contribute to the commercial salmon fisheries.

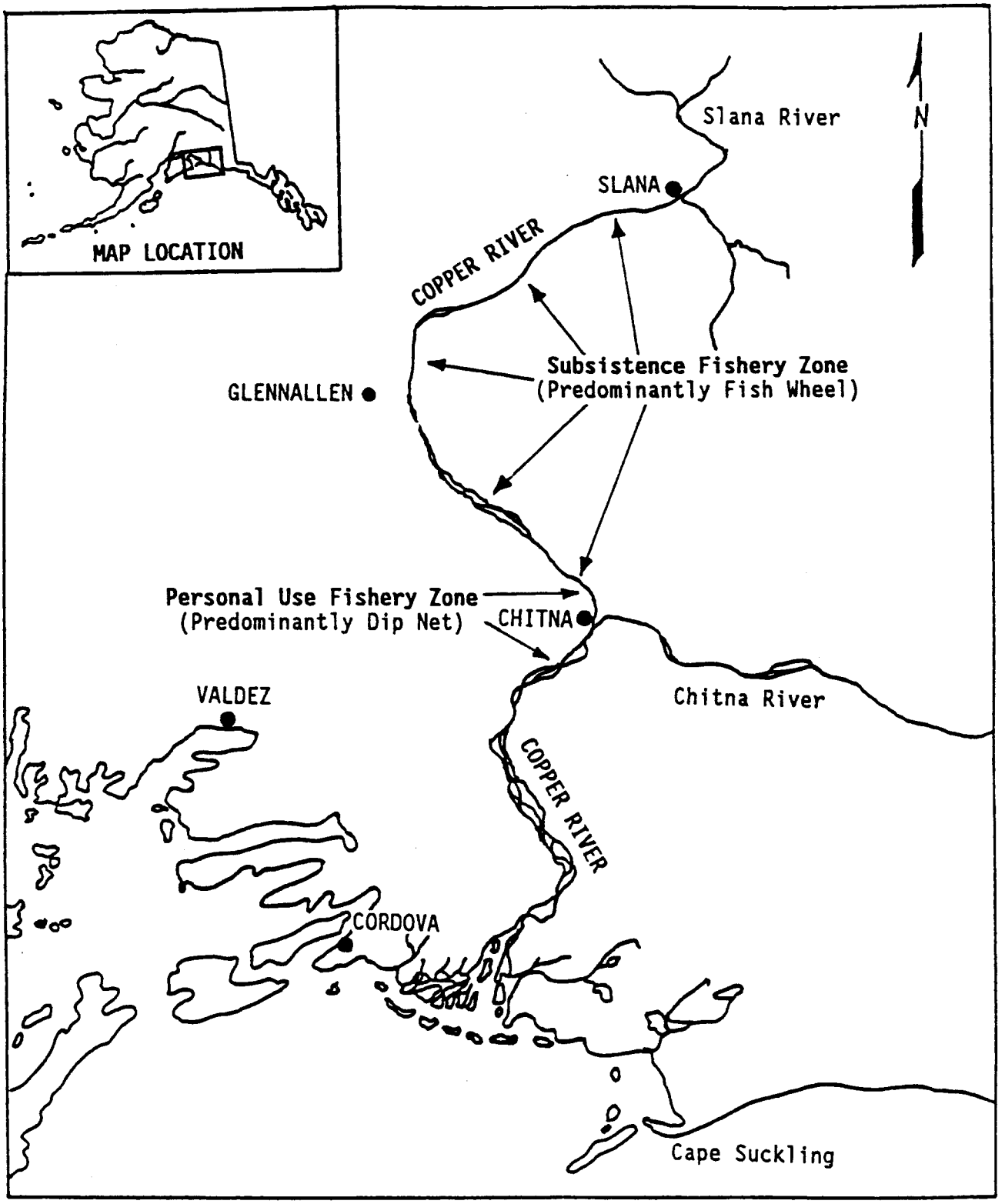
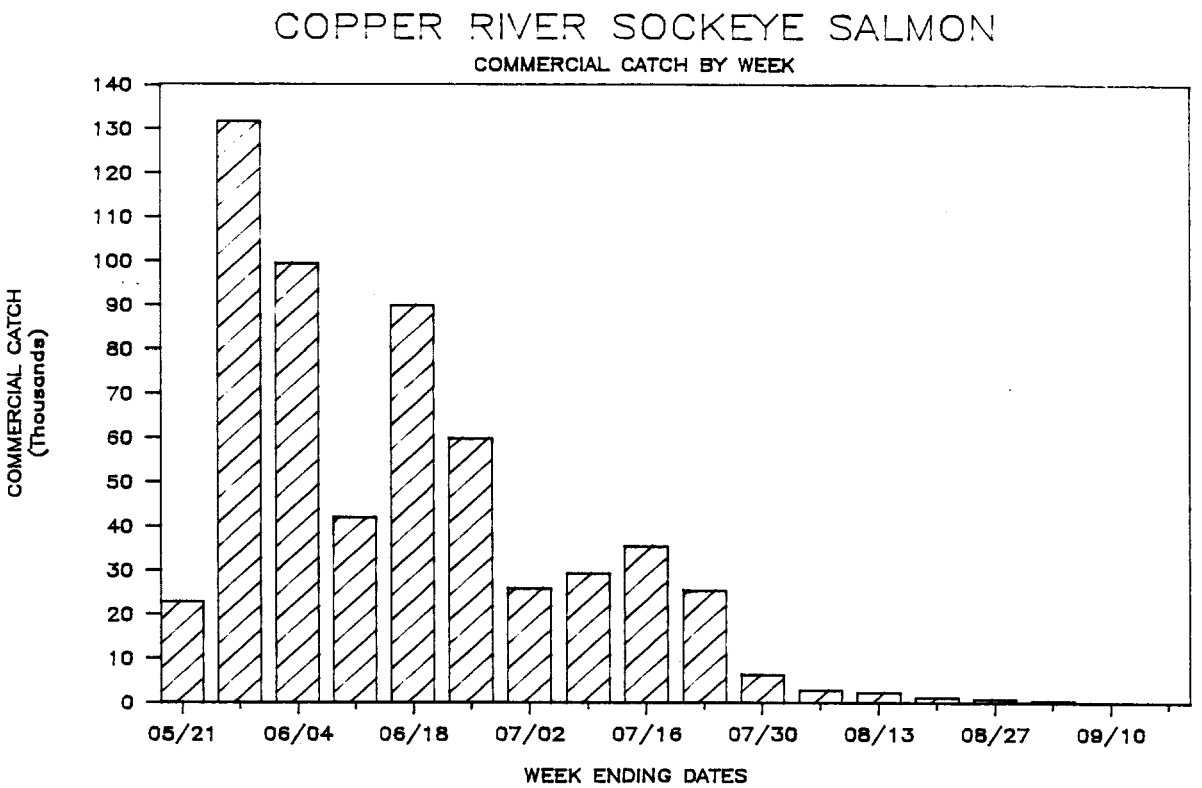


Figure 3. The location of the personal use fishery near Chitna and the subsistence fishery that extends from Chitna to Slana along the upper Copper River.



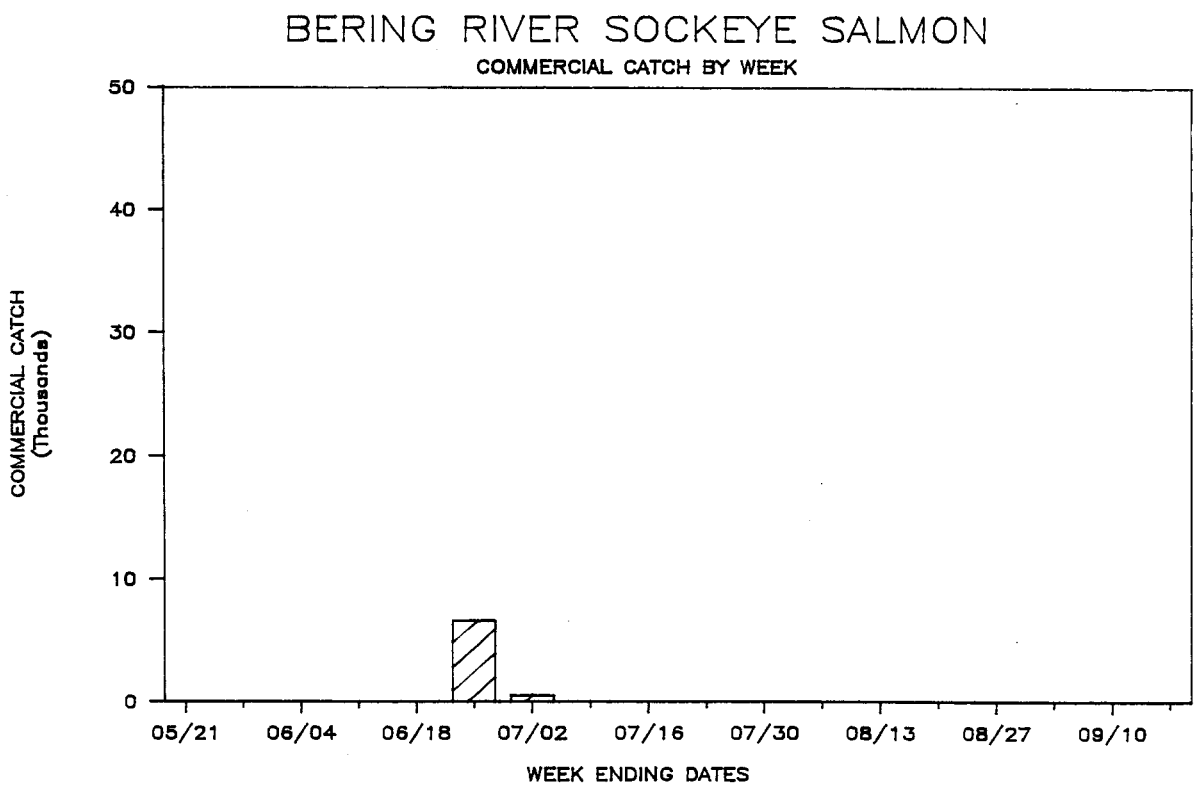
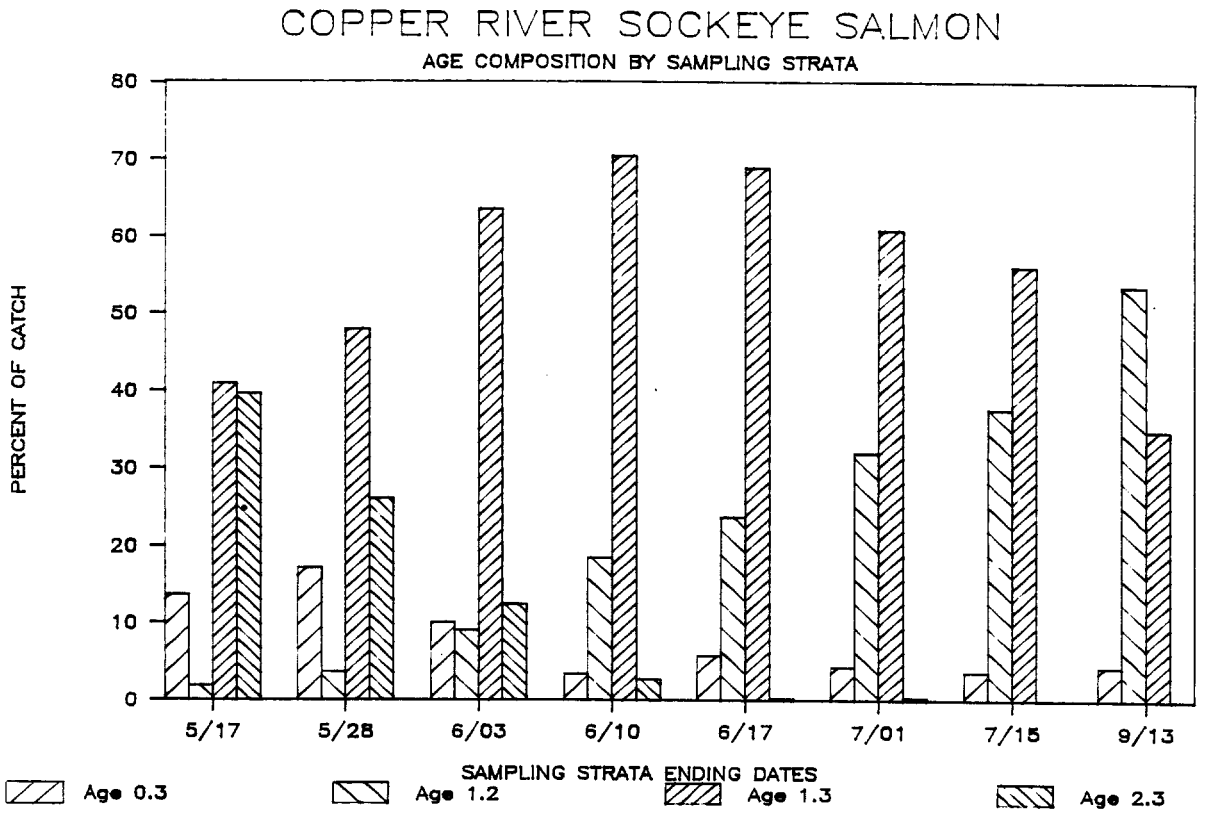


Figure 4. Weekly sockeye salmon commercial catches from the drift gill net fisheries of the Copper River and Bering River districts, 1988.



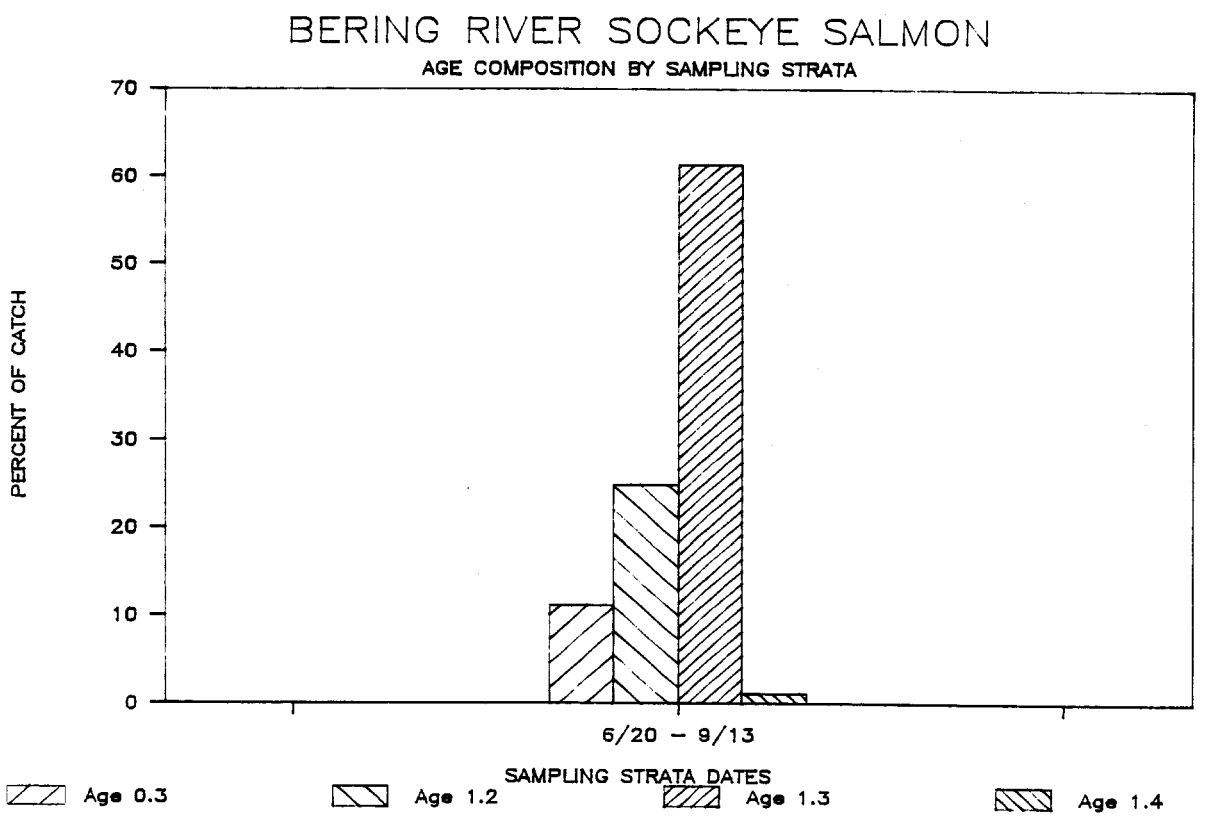
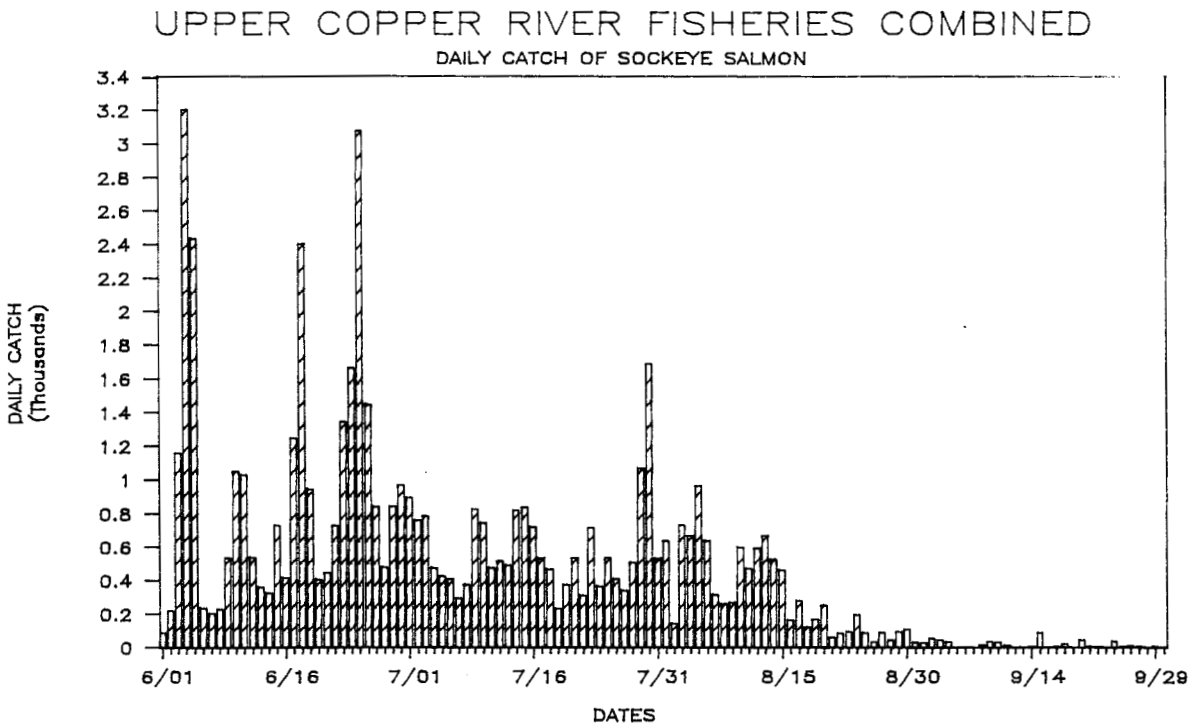


Figure 5. Temporally stratified age composition of sockeye salmon from the drift gill net fisheries in the Copper River and Bering River districts, 1988.



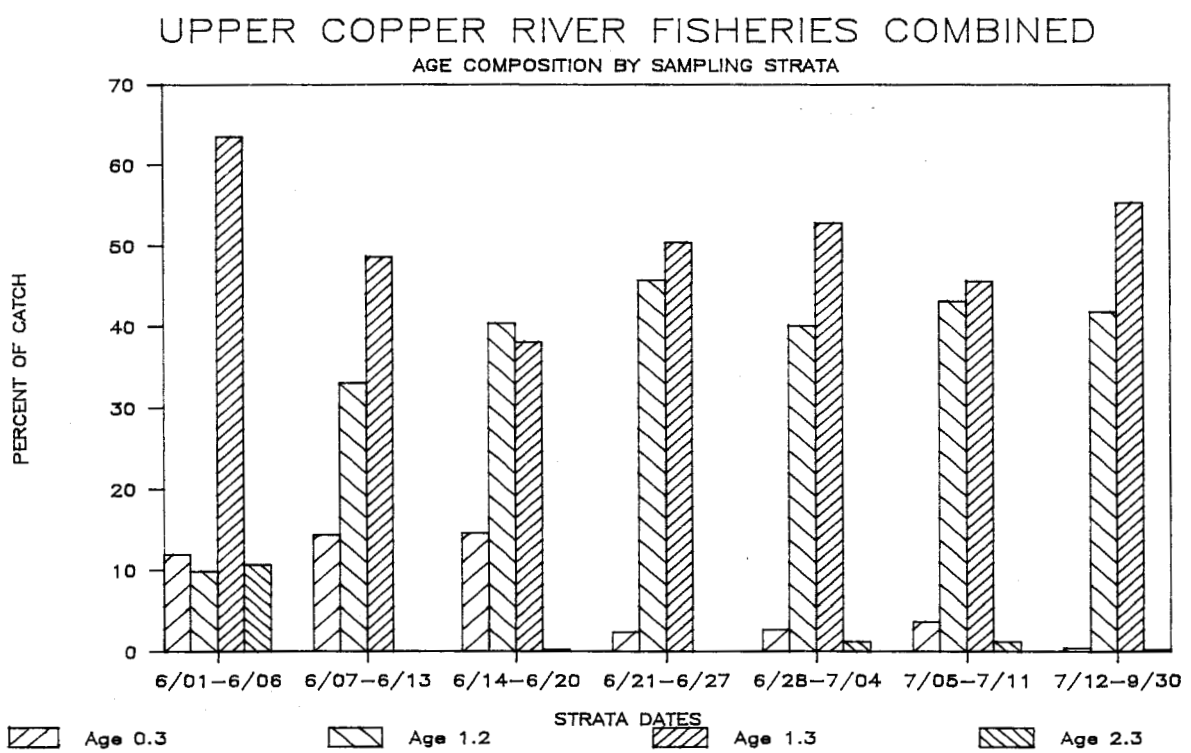
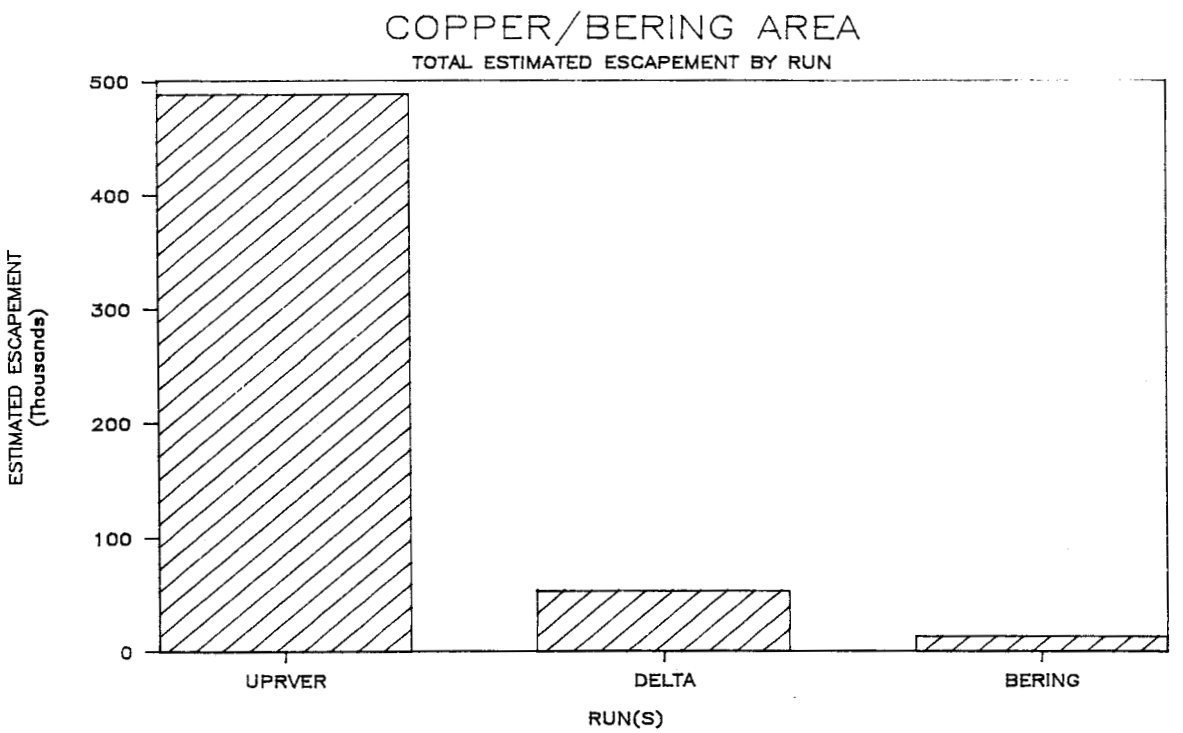


Figure 6. Daily sockeye salmon catch in the combined subsistence and personal use fisheries on the upper Copper River and the temporally stratified age composition of those catches, 1988.



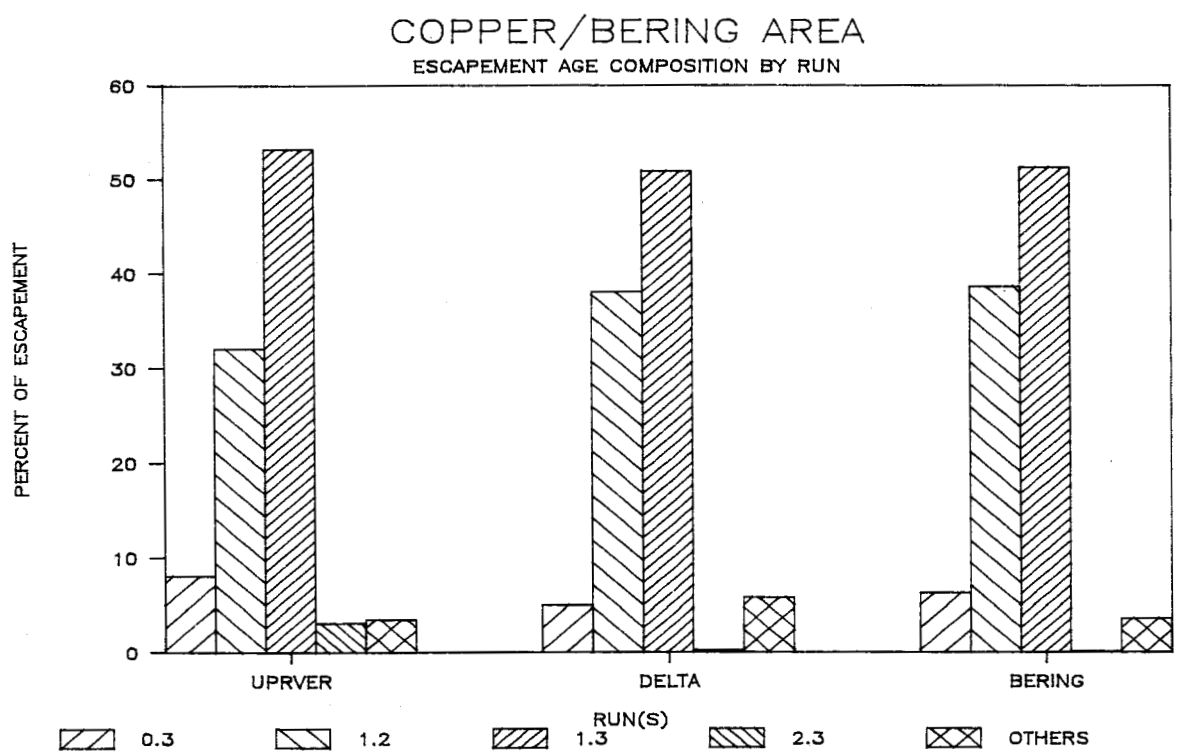
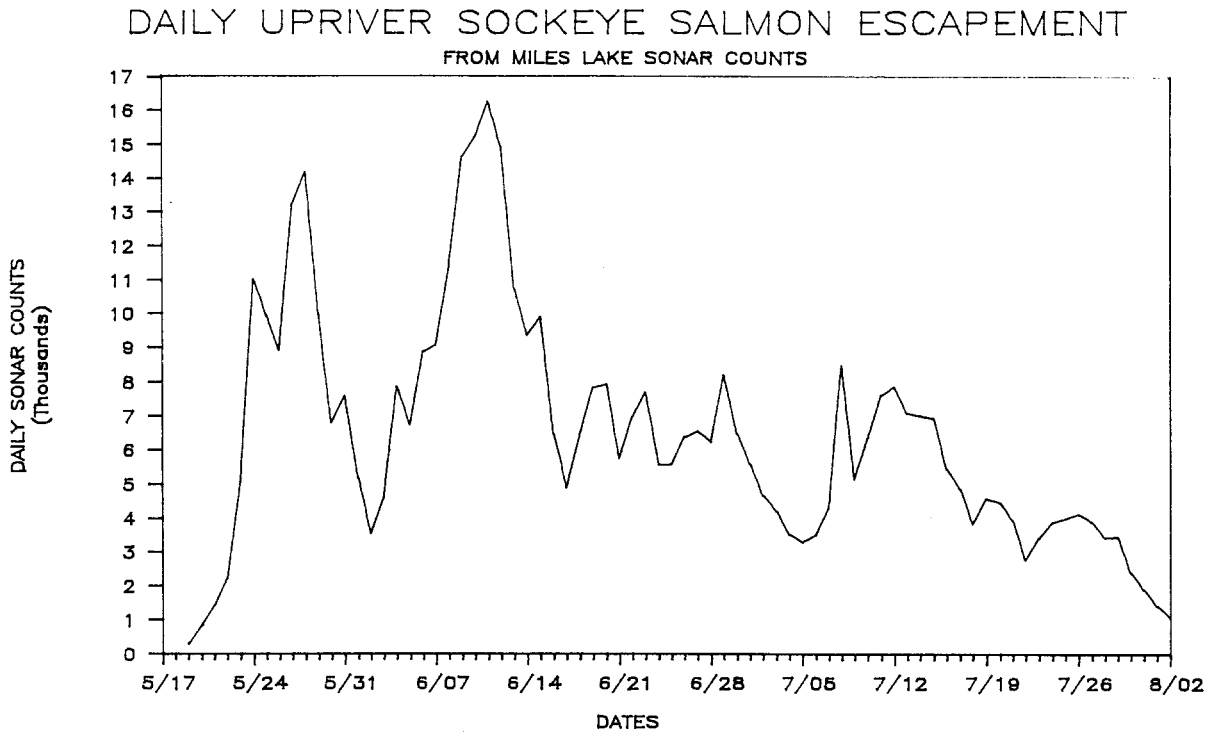


Figure 7. Sockeye salmon escapement to the upper Copper River, Copper River delta, and Bering River and the estimated age composition of those escapements, 1988. The upriver escapement is from hydroacoustic enumeration at the Miles Lake sonar project and the coastal escapements are based on data from periodic aerial surveys.



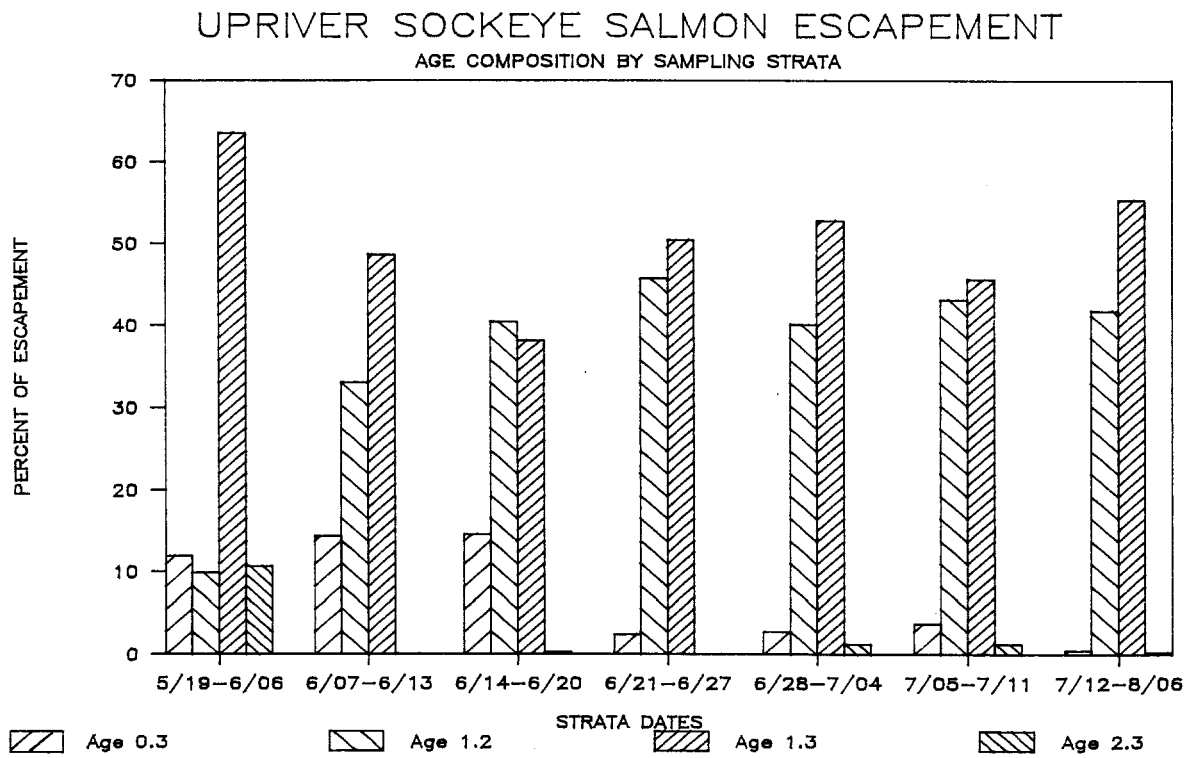
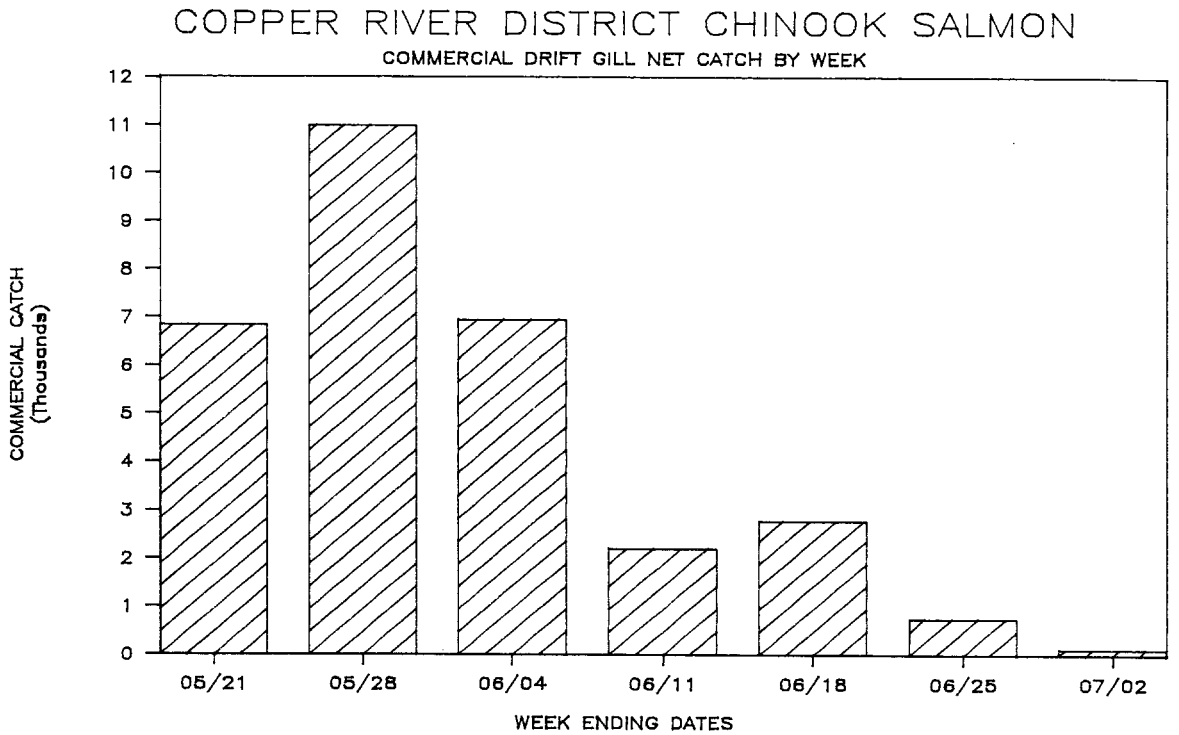


Figure 8. Daily counts of the sockeye salmon escapement to the upper Copper River past the Miles Lake sonar project and the temporally stratified age composition of that escapement, 1988.



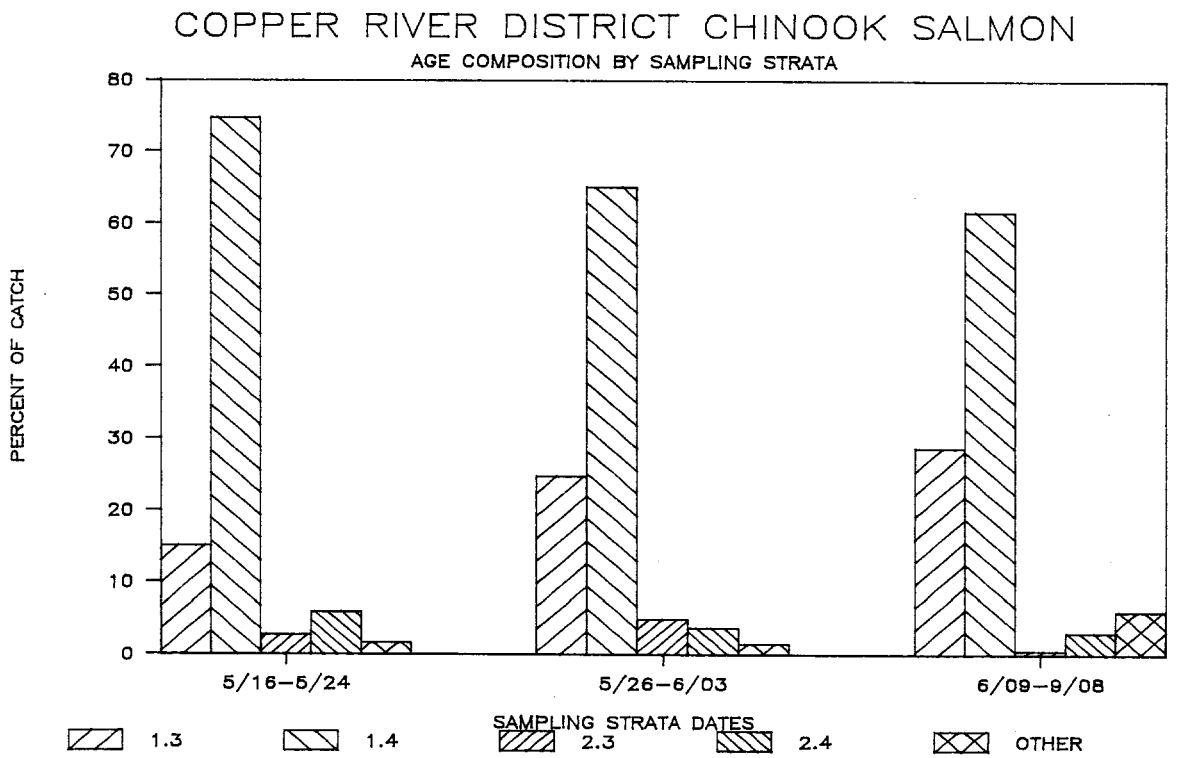
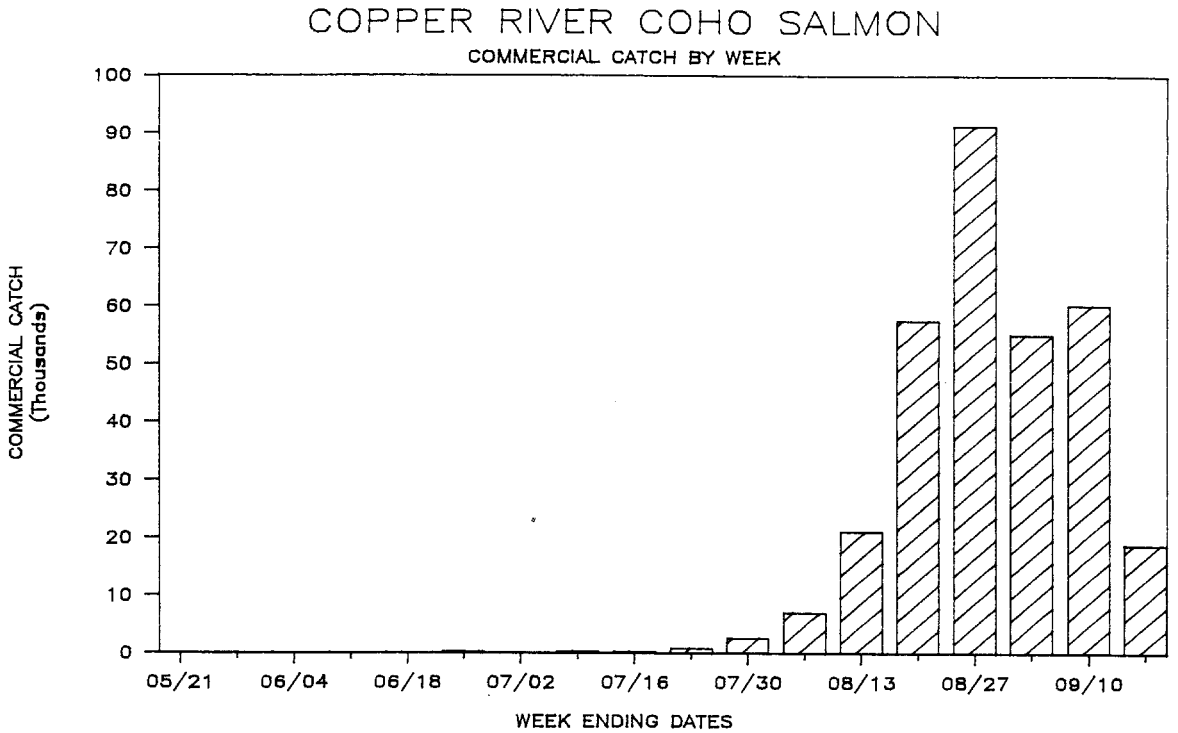


Figure 9. Weekly commercial chinook salmon catches from the Copper River District drift gill net fishery and the temporally stratified age composition of those catches, 1988.



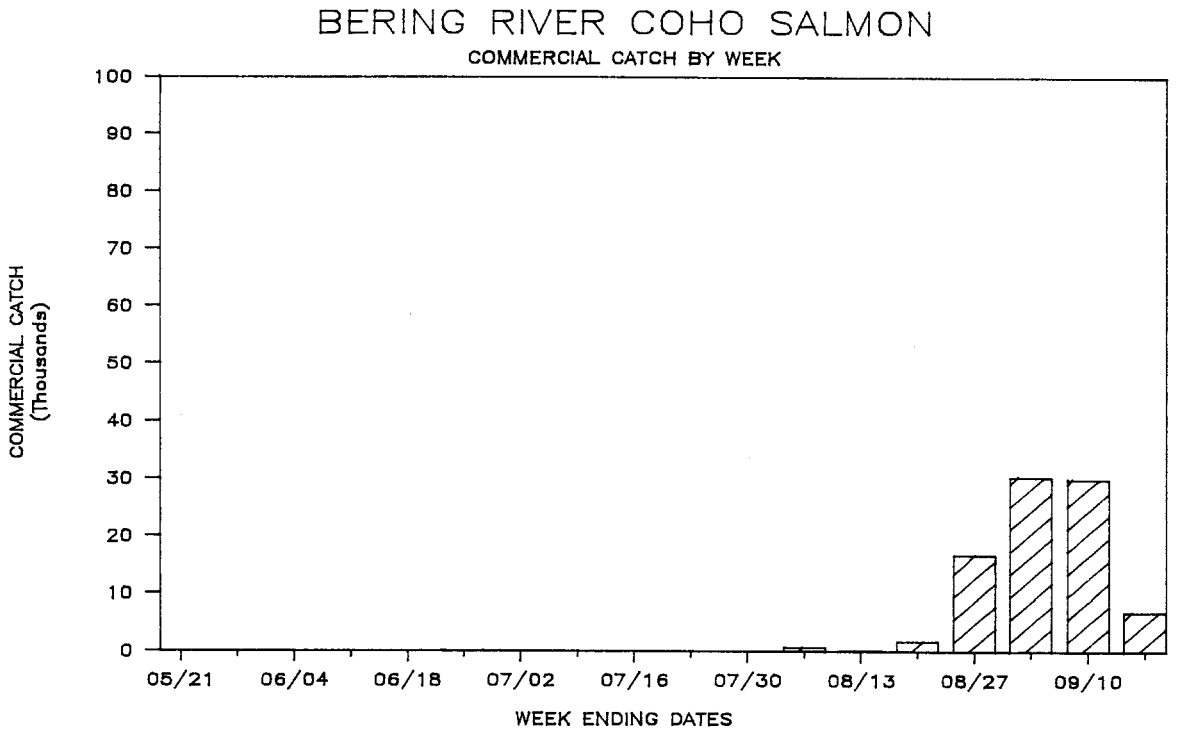
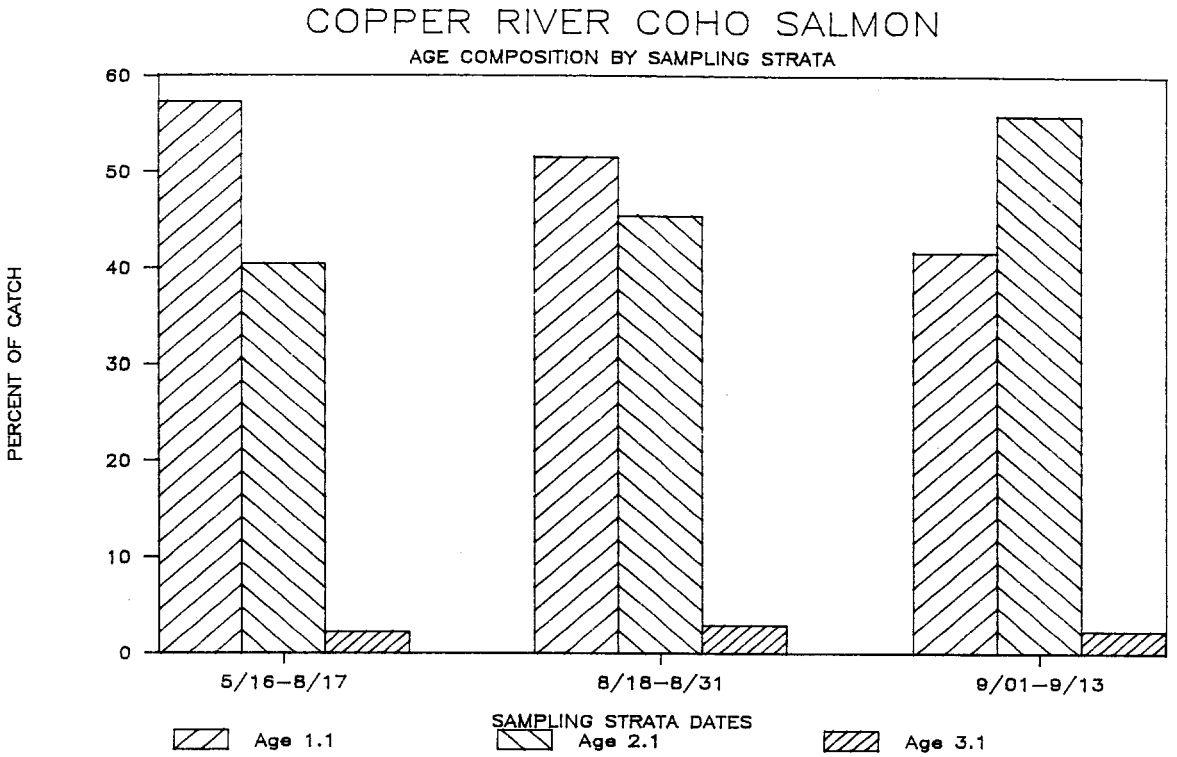


Figure 10. Weekly commercial coho salmon catches from the drift gill net fisheries of the Copper River and Bering River Districts, 1988.



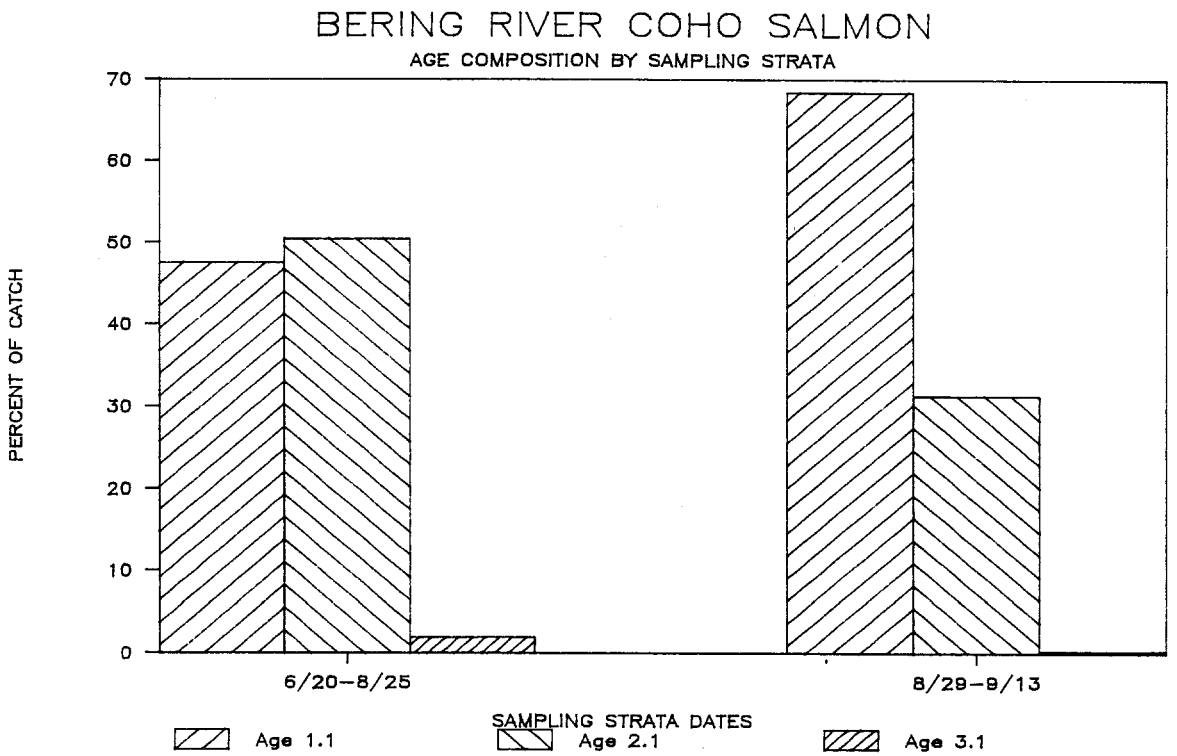


Figure 11. Temporally stratified age composition of coho salmon from the drift gill net fisheries in the Copper River and Bering River Districts, 1988.

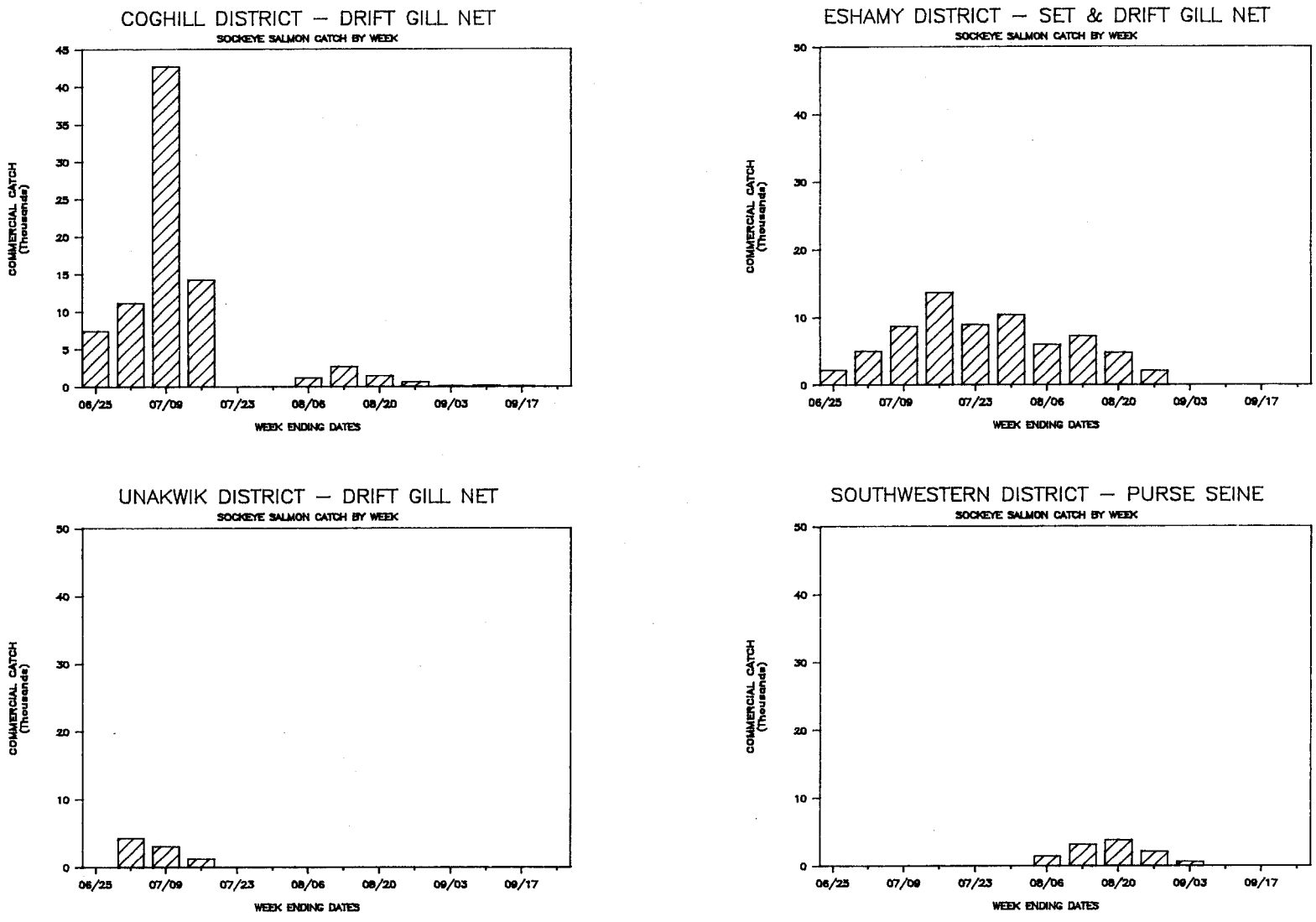


Figure 12. Weekly commercial sockeye salmon catches from the Coghill, Unakwik and Eshamy gill net fisheries and from the Southwestern District purse seine fisheries of Prince William Sound, 1988.

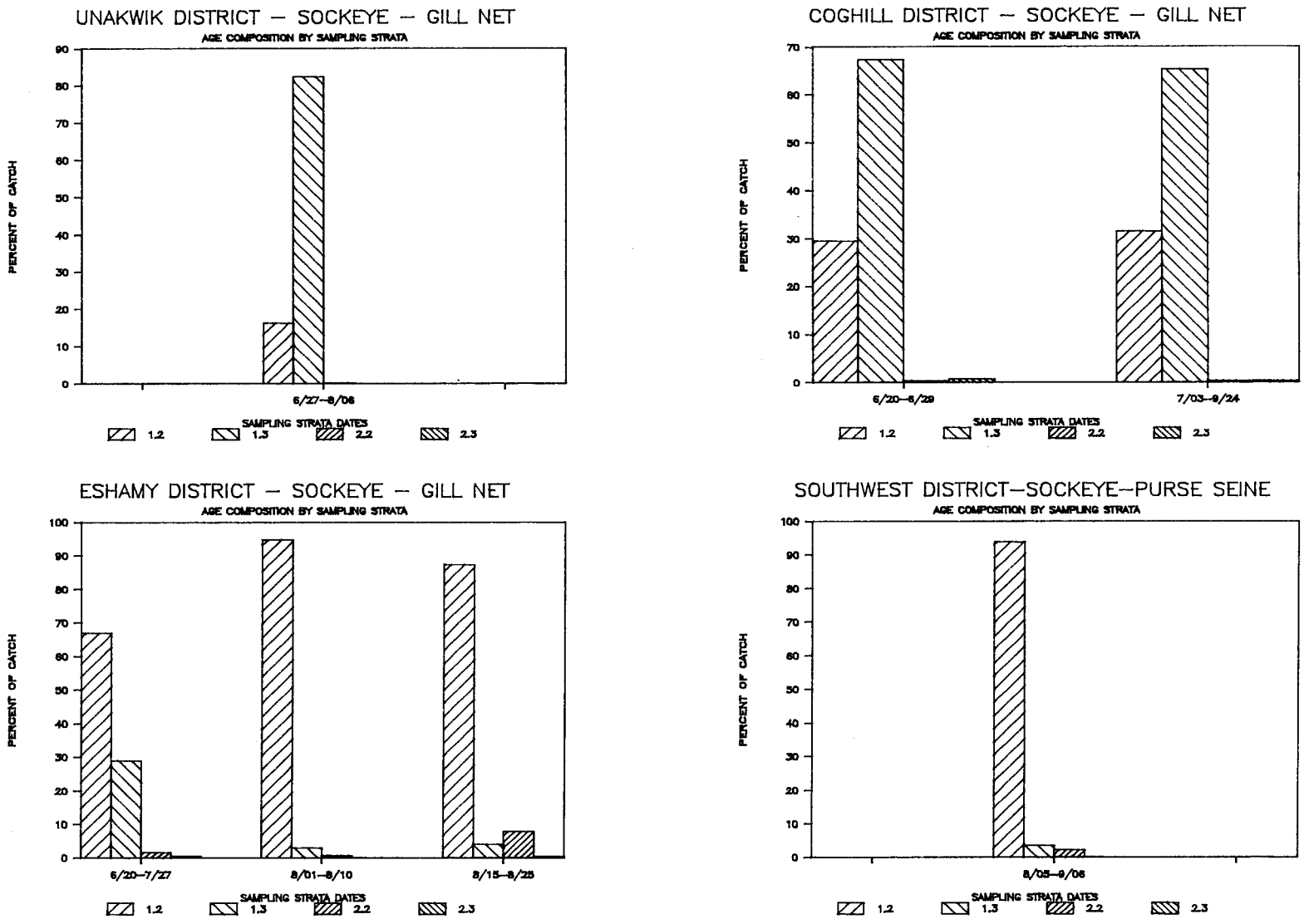
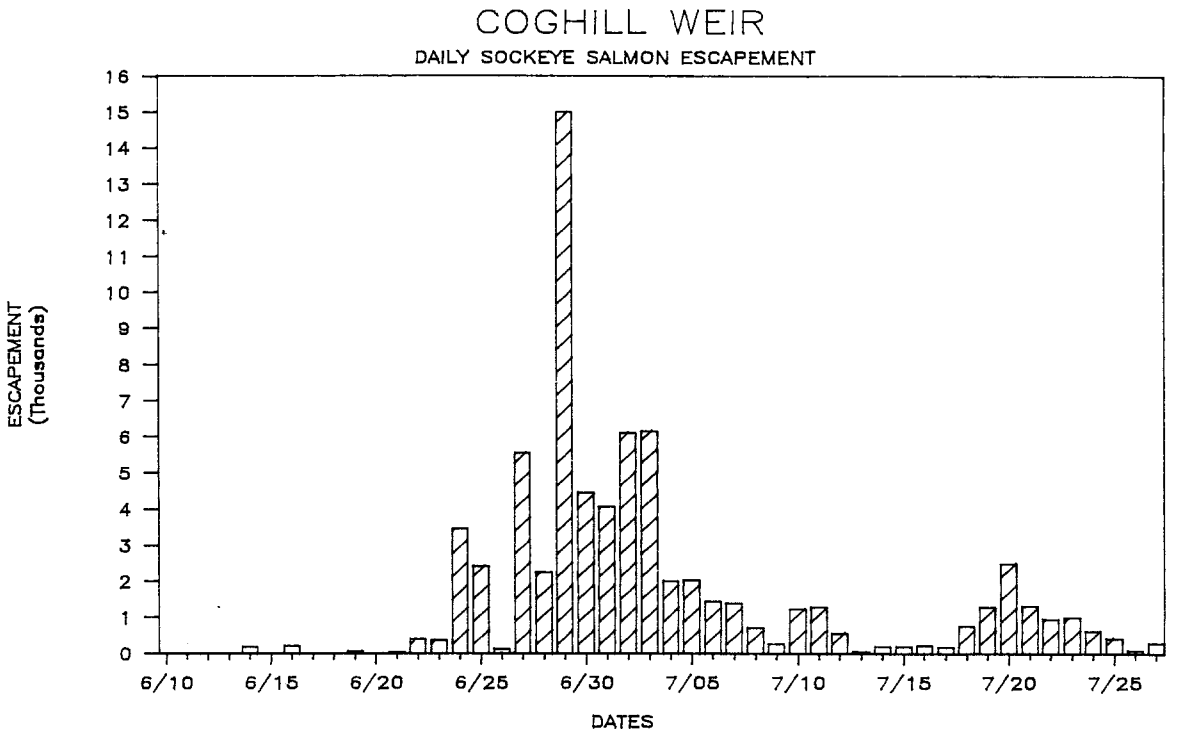


Figure 13. Temporally stratified age composition of commercial sockeye salmon catches from the Coghill and Unakwik gill net fisheries and from the Southwestern District purse seine fishery, Prince William Sound, 1988.



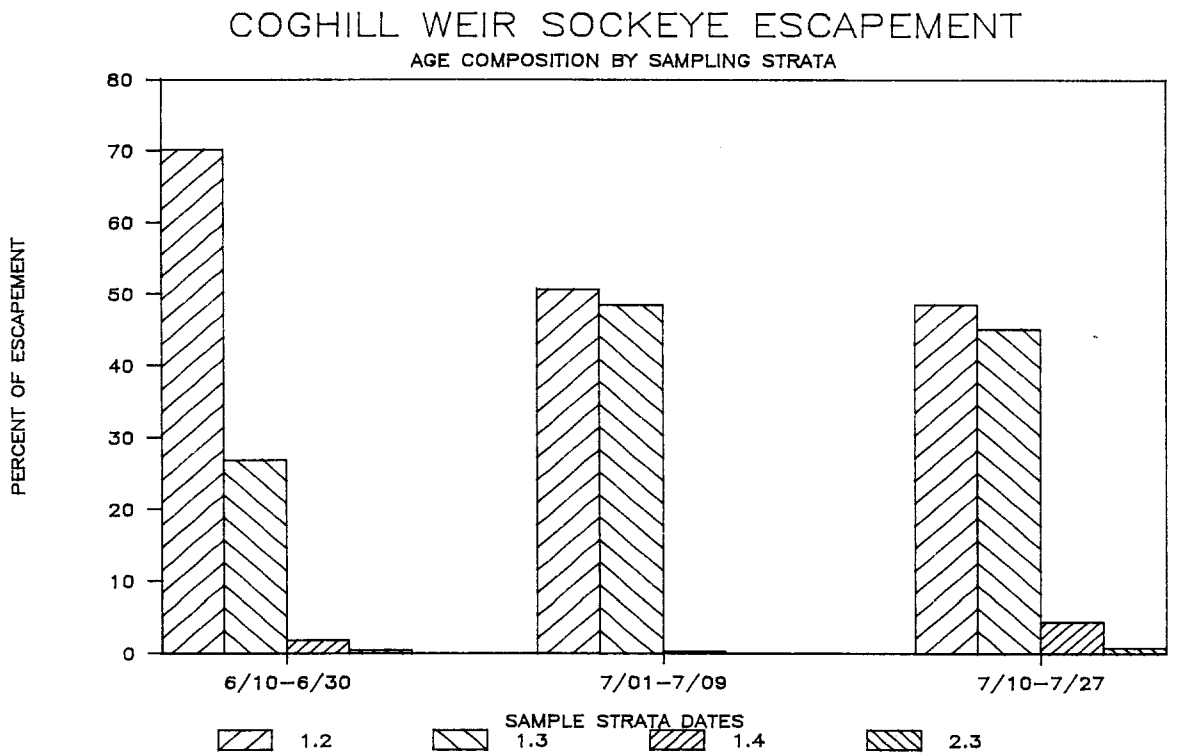
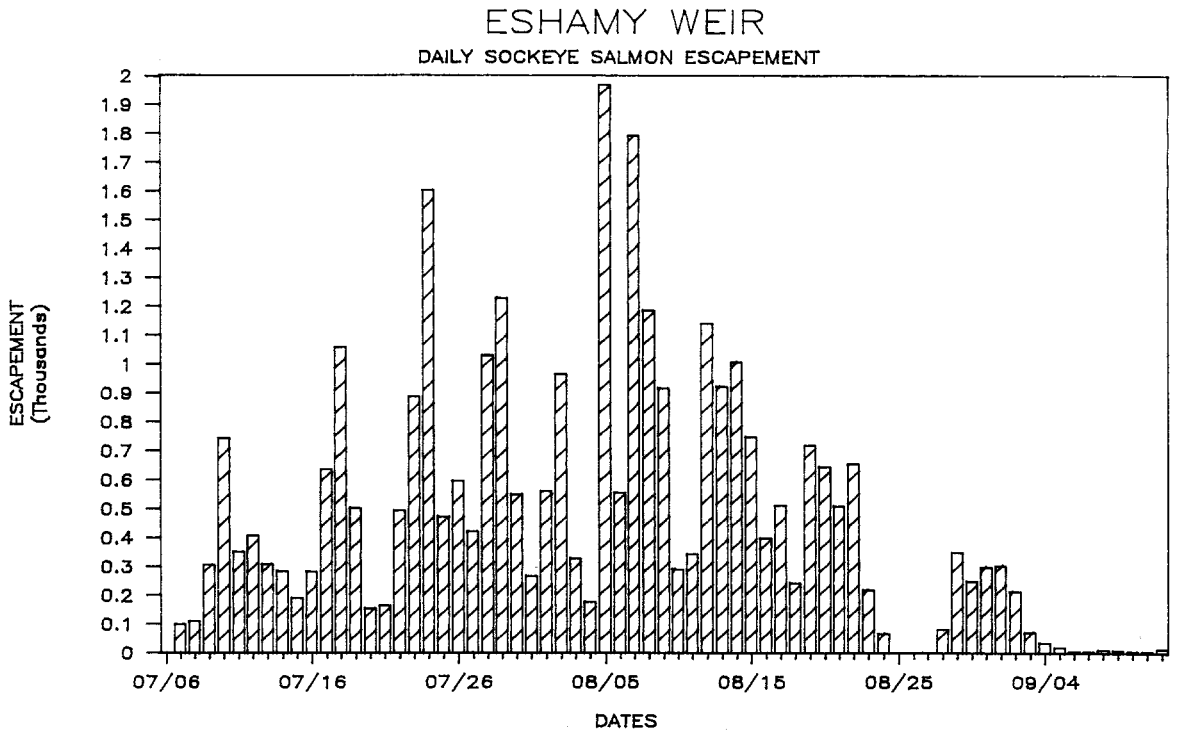


Figure 14. Daily sockeye salmon escapement through the weir below Coghill Lake and the temporally stratified age composition of that escapement, Prince William Sound, 1988.



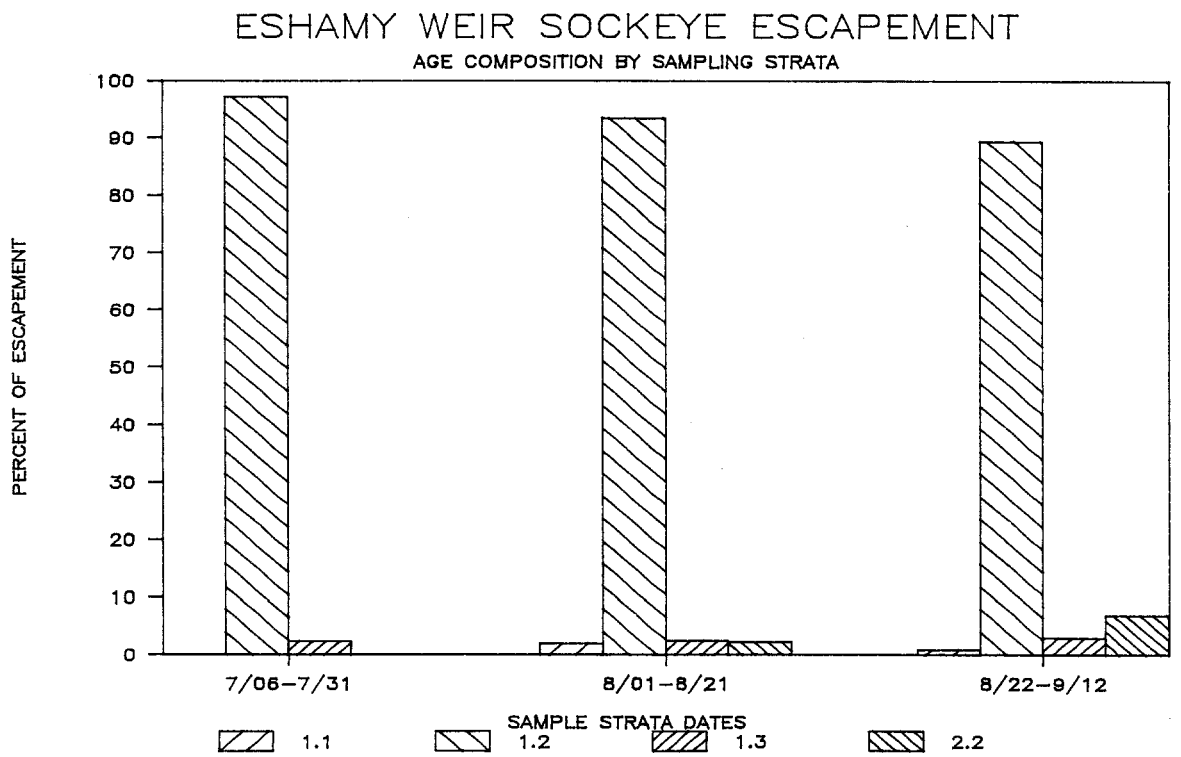


Figure 15. Daily sockeye salmon escapement through the weir at the head of Eshamy Lagoon and the temporally stratified age composition of that escapement, Prince William Sound, 1988.

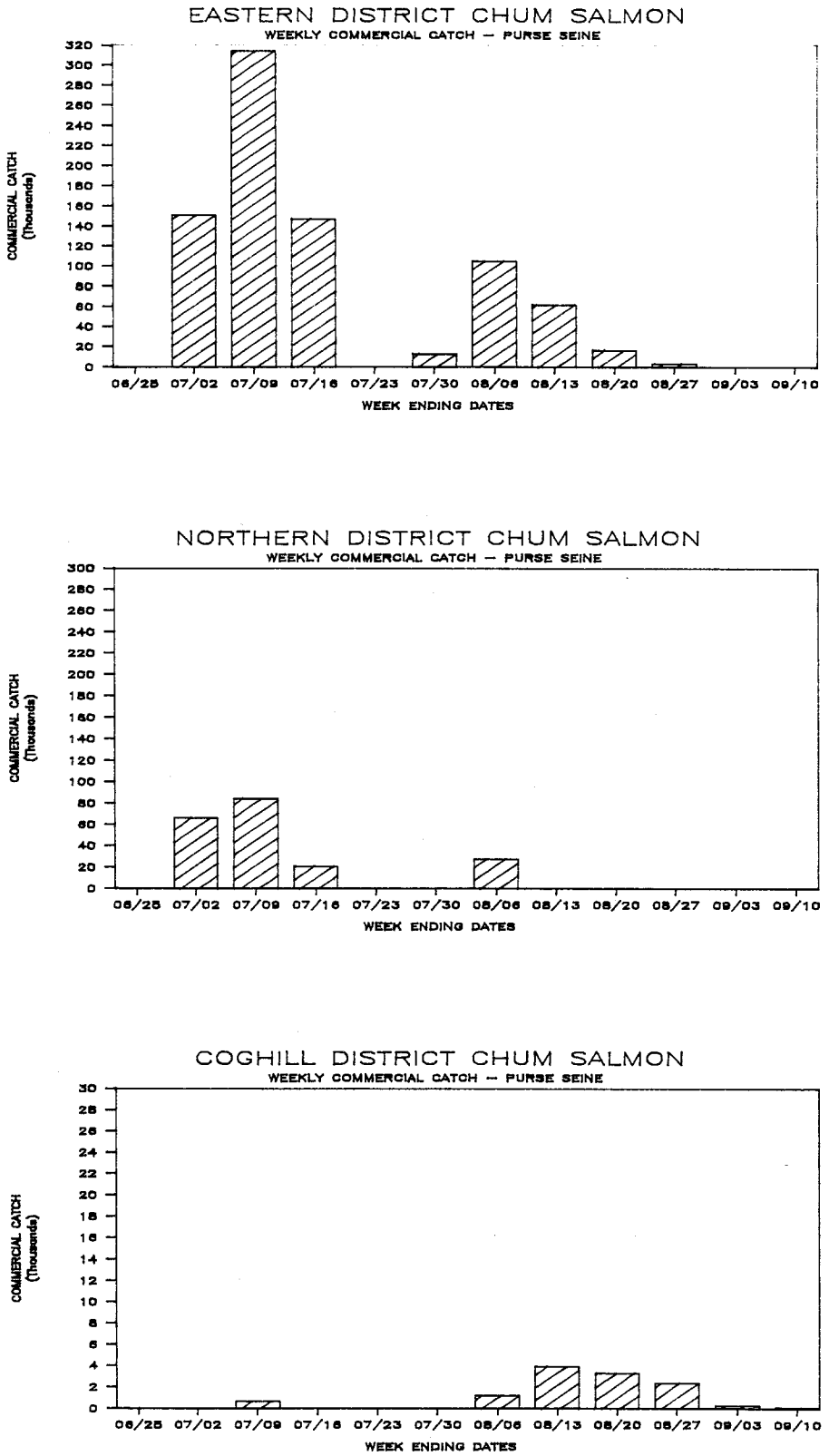
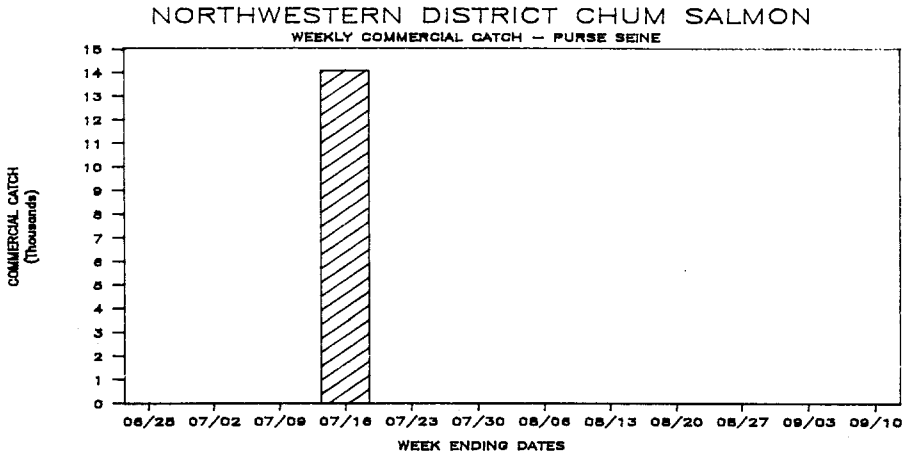
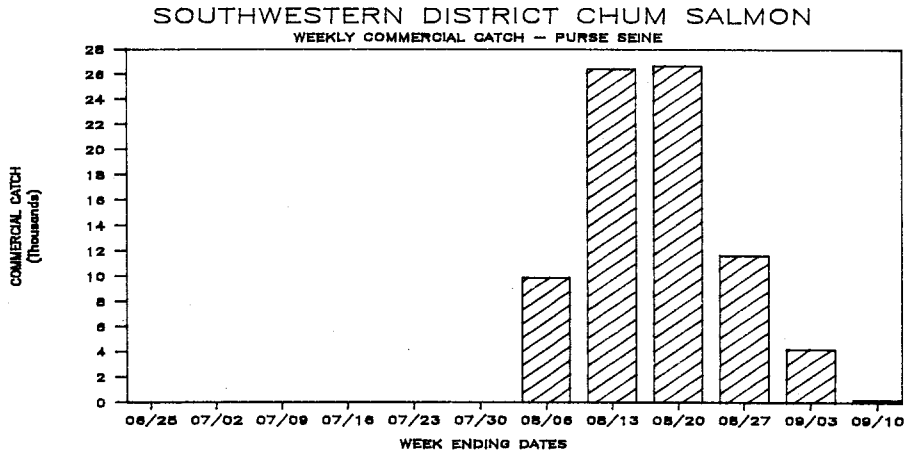


Figure 16. Weekly commercial chum salmon catches from the six most important purse seine districts, Prince William Sound, 1988.





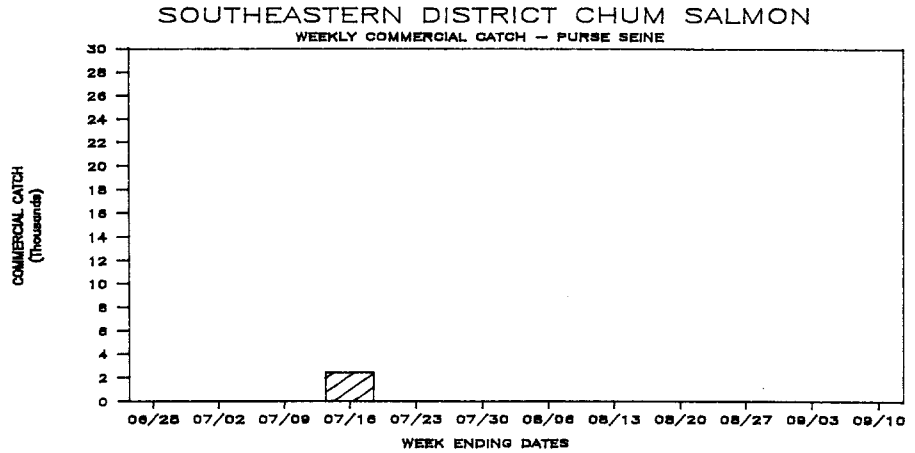


Figure 16. (page 2 of 2)

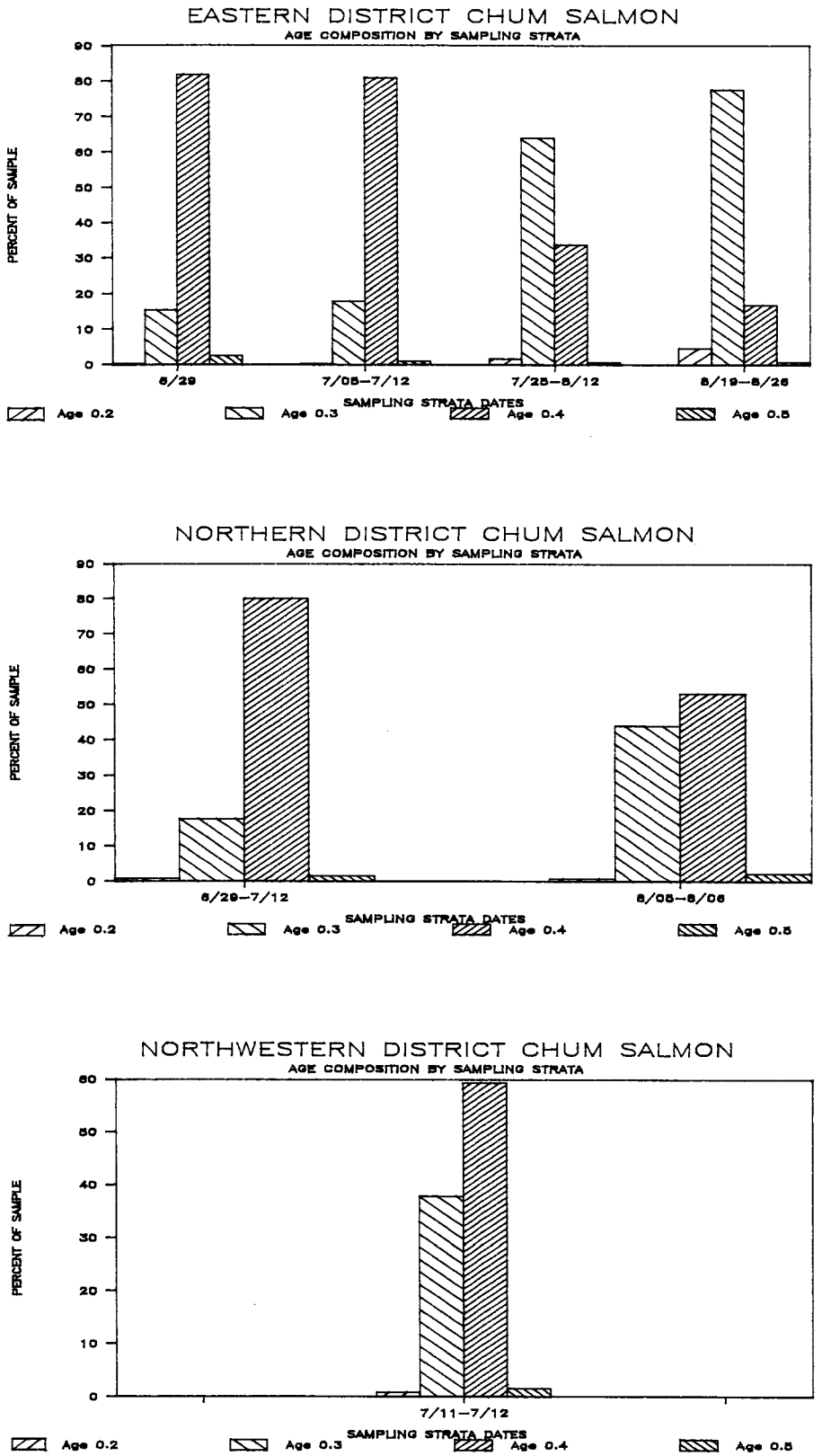
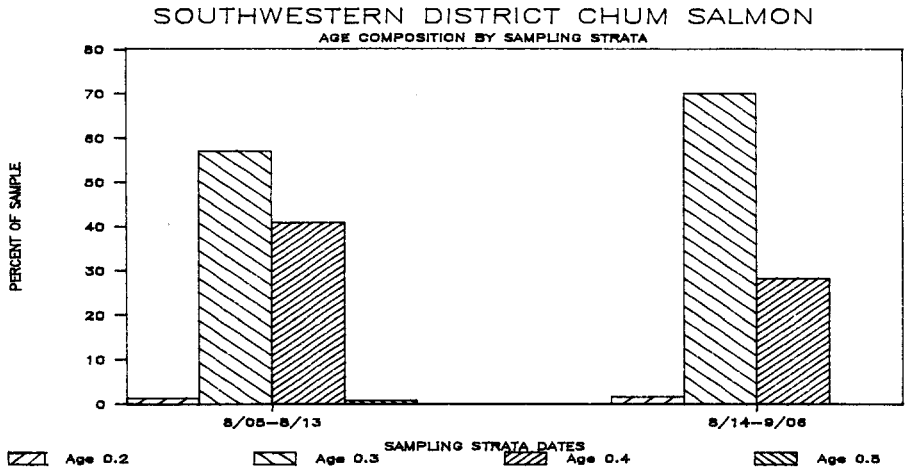


Figure 17. Temporally stratified age composition of chum salmon from five of the most important purse seine districts, Prince William Sound, 1988.



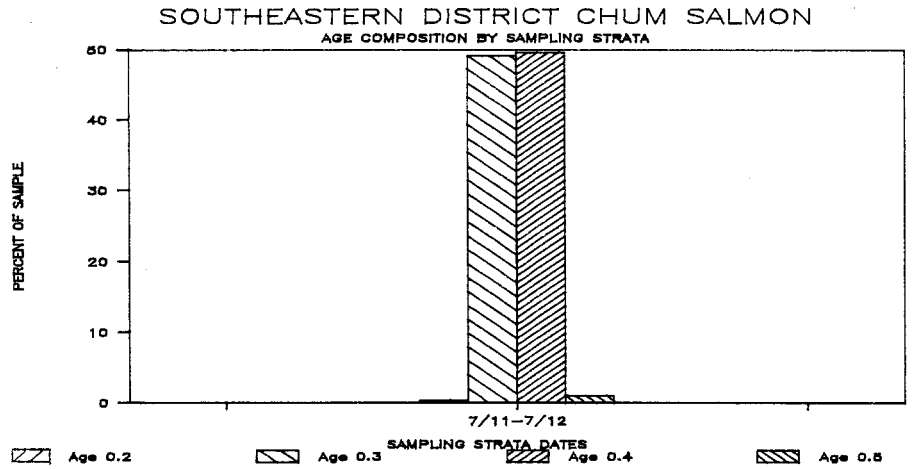
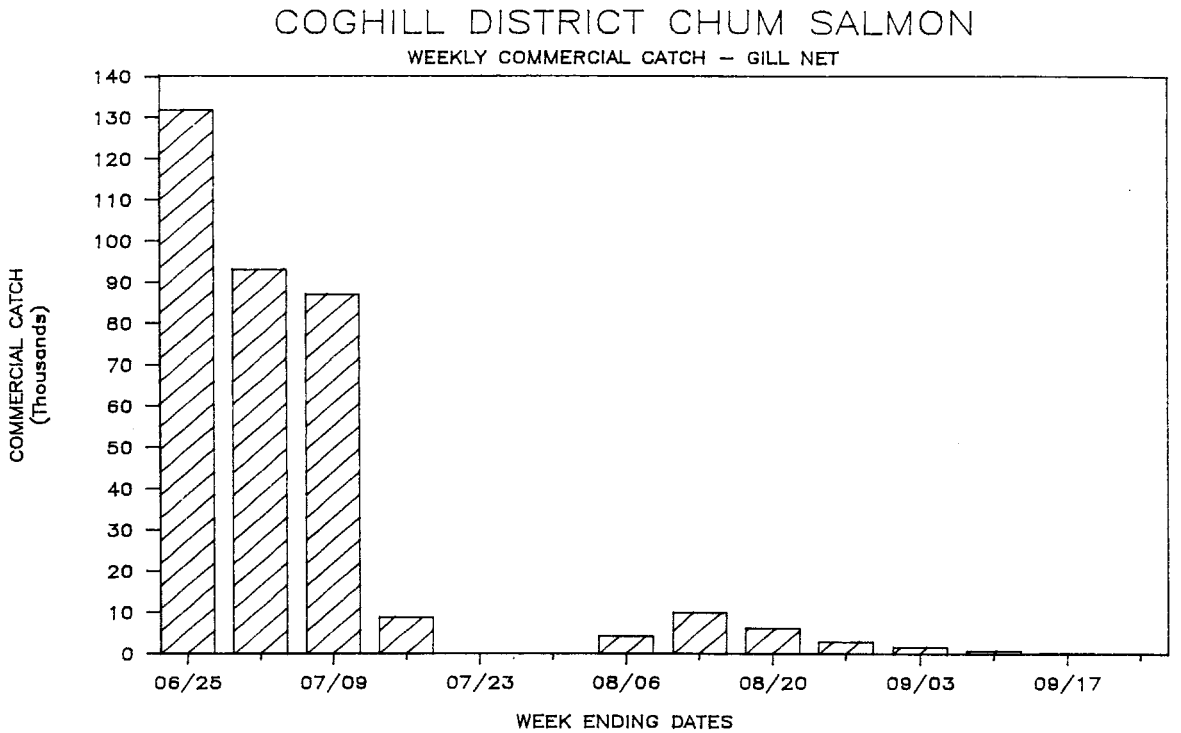


Figure 17. (page 2 of 2)



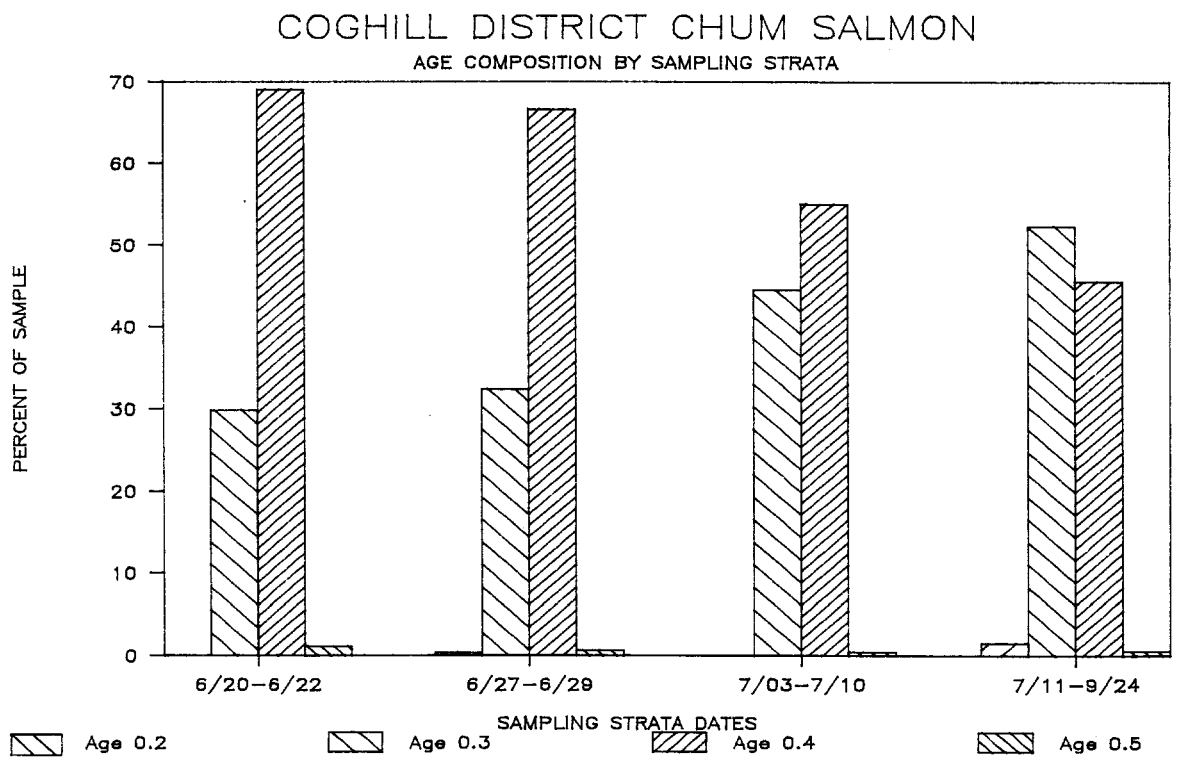
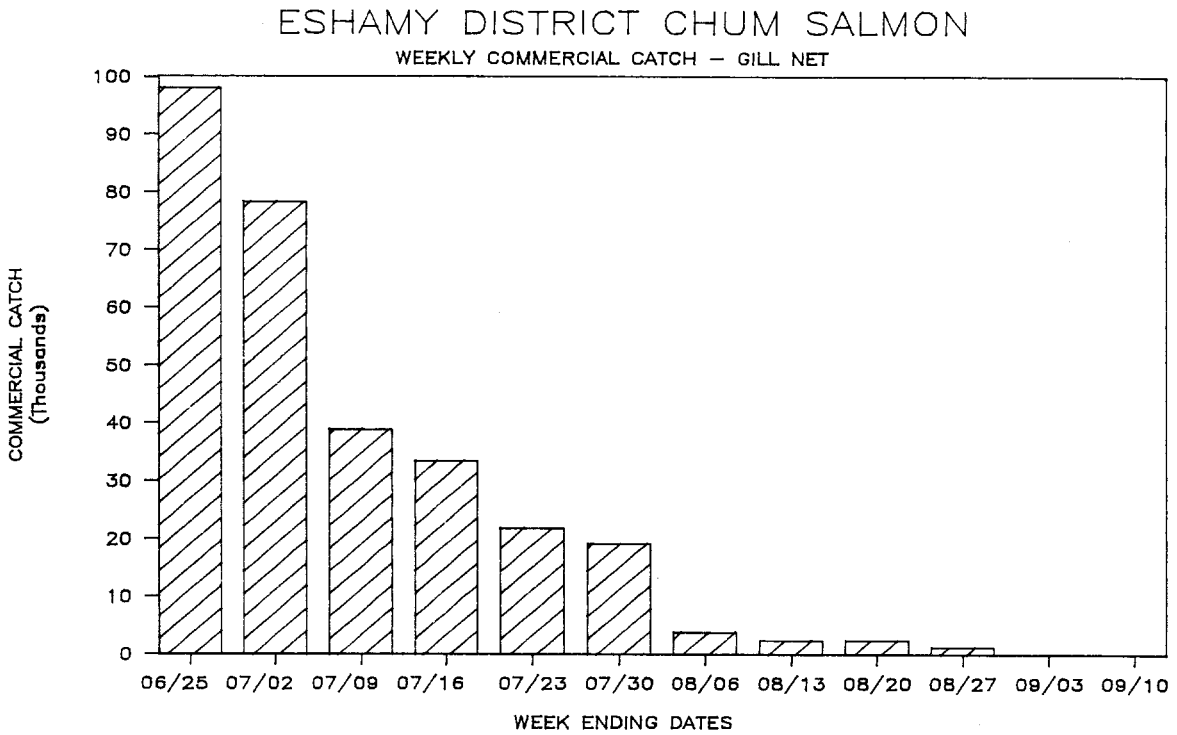


Figure 18. Weekly commercial chum salmon catches from the Coghill District gill net fishery and the temporally stratified age composition from that district, Prince William Sound, 1988.



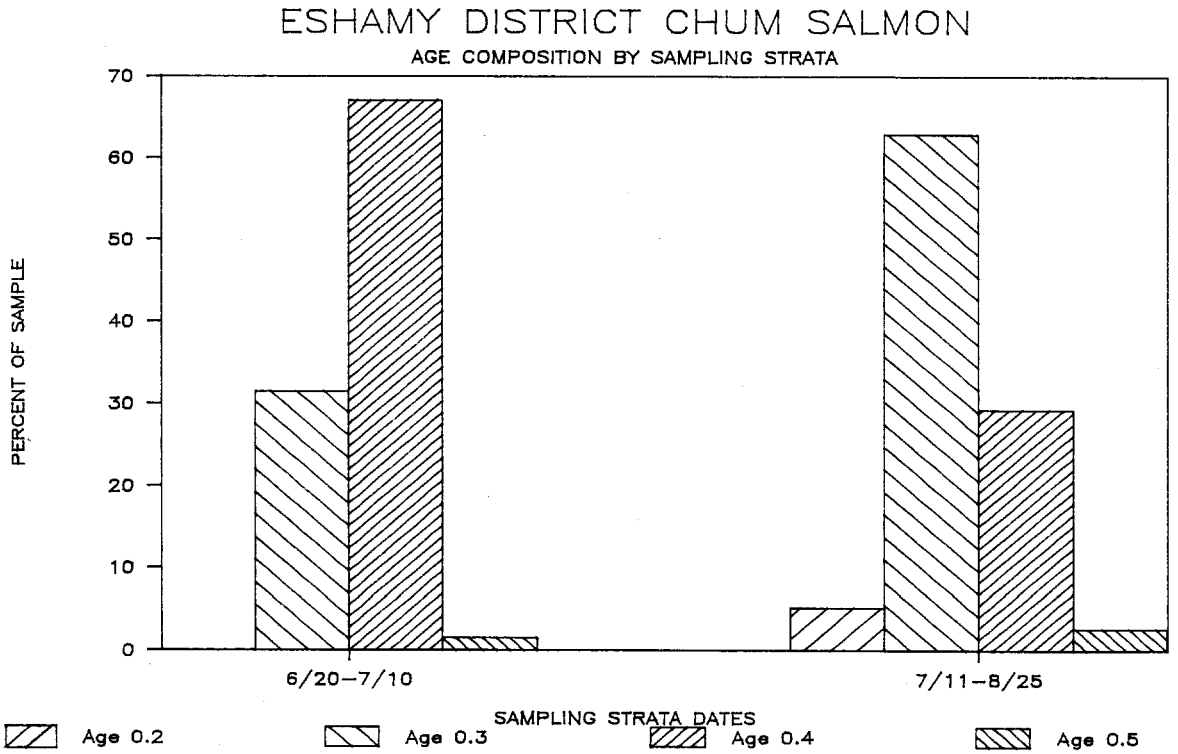
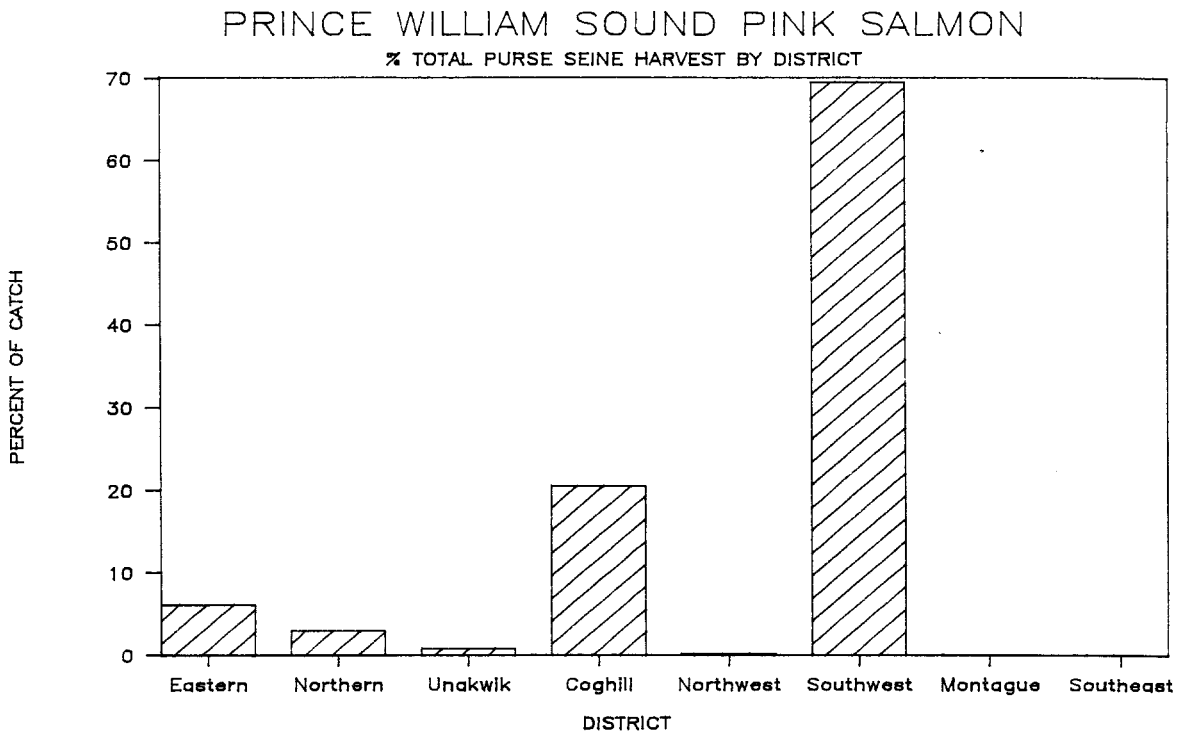


Figure 19. Weekly commercial chum salmon catches from the Eshamy District gill net fisheries combined and the temporally stratified age composition from that district, Prince William Sound, 1988.



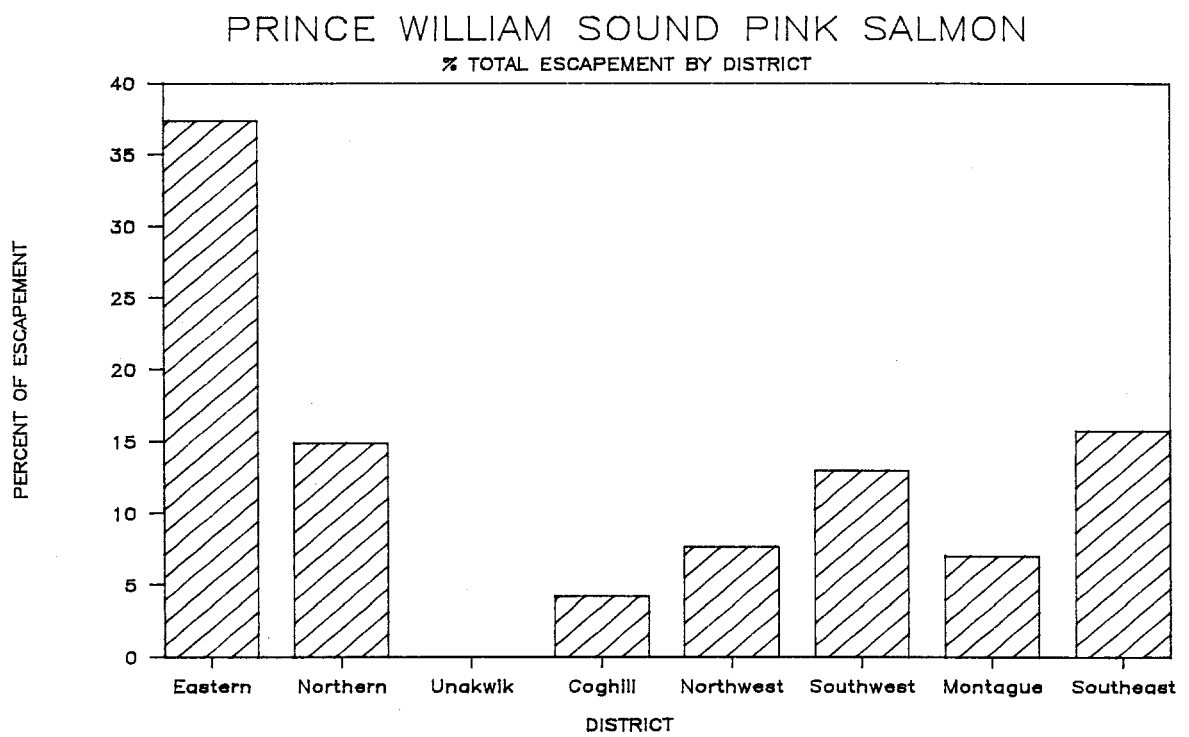
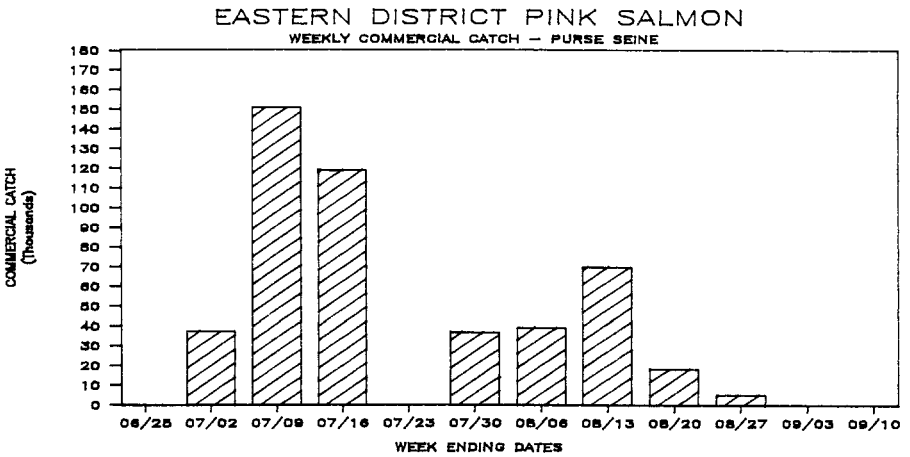
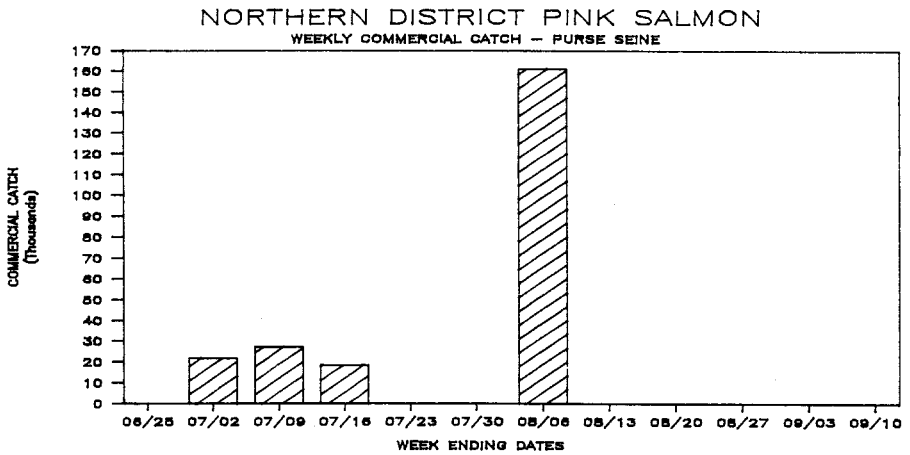


Figure 20. Percent of the total Prince William Sound commercial pink salmon purse seine catch and the percent of wild stock pink salmon escapements which occurred in the six most important purse seine districts, Prince William Sound, 1988.





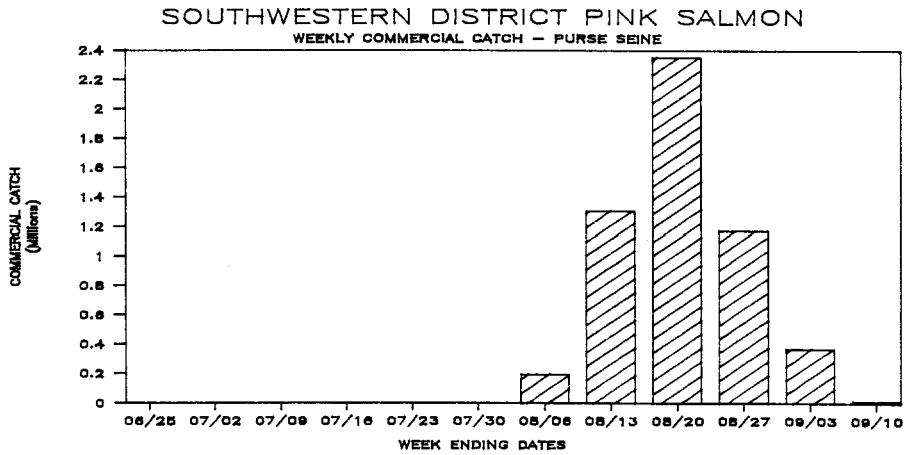
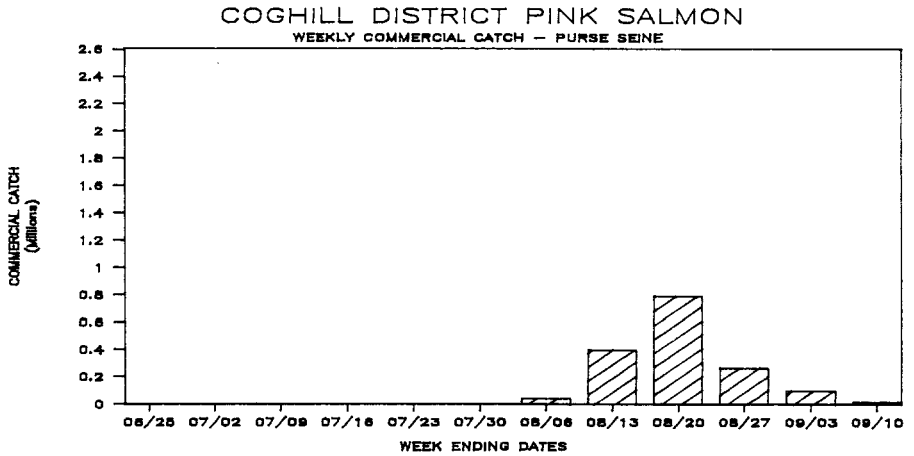
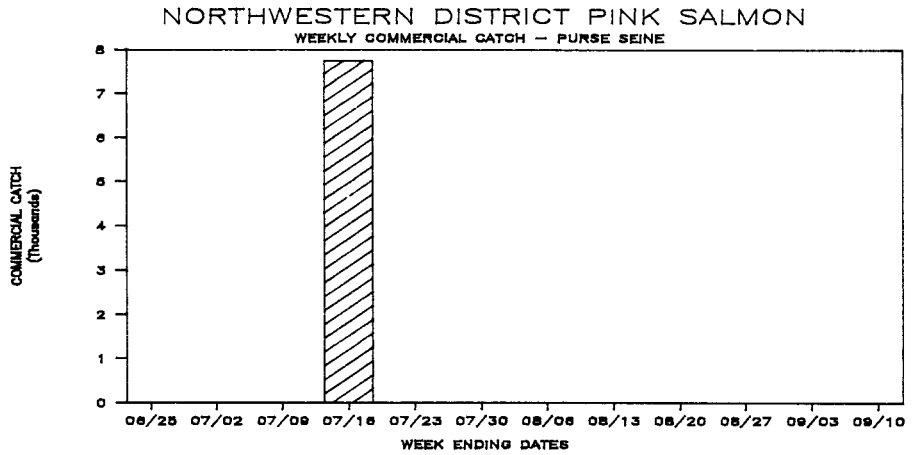
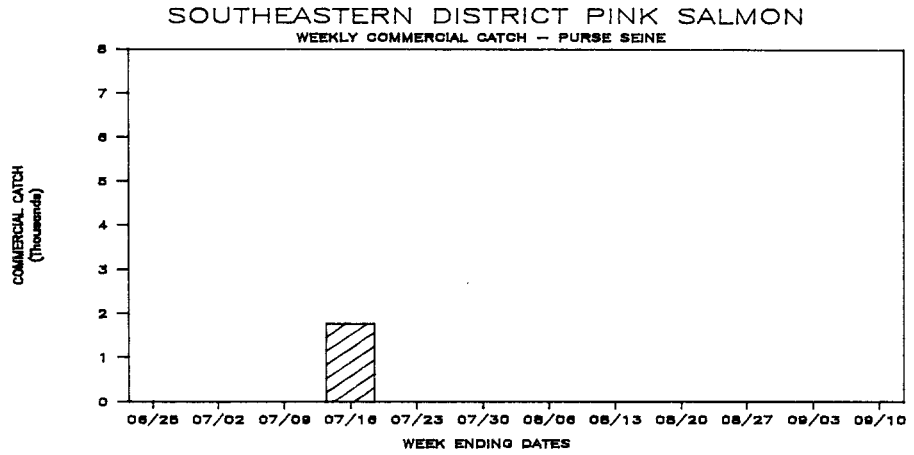


Figure 21. Weekly commercial pink salmon catches from the six most important purse seine districts, Prince William Sound, 1988.







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APPENDIX A

Age and Sex Data for
Commercial Salmon Catches from the
Copper River and Bering Rivers
(Districts 212 and 200)

Appendix A.1. Temporally stratified age and sex composition of the commercial chinook salmon catch in the Copper River District drift gill net fishery, 1988.

		Brood Year and Age Group											
		1985		1984		1983			1982		1981		
		0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	1.5	2.4	Total
Stratum Dates:	5/16 - 5/24												
Sample Dates:	5/17												
Sample Size:	562												
Female	Percent of Sample	0.0	0.0	0.0	1.0	0.0	10.8	0.0	33.1	1.6	0.0	2.7	49.2
	Number in Catch	0	0	0	124	0	1,346	0	4,125	199	0	337	6,131
Male	Percent of Sample	0.0	0.0	0.0	0.4	0.0	4.3	0.0	41.6	1.1	0.2	3.2	50.8
	Number in Catch	0	0	0	50	0	536	0	5,185	137	25	399	6,332
Total	Percent of Sample	0.0	0.0	0.0	1.4	0.0	15.1	0.0	74.7	2.7	0.2	5.9	100.0
	Number in Catch	0	0	0	174	0	1,882	0	9,310	337	25	735	12,463
	Standard Error	0	0	0	62	0	188	0	229	85	24	124	
Stratum Dates:	5/26 - 6/03												
Sample Dates:	5/28												
Sample Size:	596												
Female	Percent of Sample	0.0	0.0	0.0	0.7	0.0	9.1	0.0	21.1	2.0	0.0	2.0	34.9
	Number in Catch	0	0	0	86	0	1,122	0	2,601	247	0	247	4,303
Male	Percent of Sample	0.0	0.0	0.0	0.8	0.0	15.7	0.0	44.0	2.9	0.0	1.7	65.1
	Number in Catch	0	0	0	99	0	1,935	0	5,423	358	0	210	8,025
Total	Percent of Sample	0.0	0.0	0.0	1.5	0.0	24.8	0.0	65.1	4.9	0.0	3.7	100.0
	Number in Catch	0	0	0	185	0	3,057	0	8,024	605	0	457	12,328
	Standard Error	0	0	0	61	0	218	0	241	109	0	95	
Stratum Dates:	6/09 - 9/08												
Sample Dates:	6/11												
Sample Size:	594												
Female	Percent of Sample	0.0	0.0	0.0	0.7	0.0	10.6	0.0	28.2	0.3	0.3	1.0	41.1
	Number in Catch	0	0	0	42	0	631	0	1,678	18	18	60	2,447
Male	Percent of Sample	0.2	0.2	0.2	3.8	0.2	18.2	0.2	33.5	0.2	0.2	2.0	58.9
	Number in Catch	12	12	12	226	12	1,083	12	1,991	12	12	119	3,503
Total	Percent of Sample	0.2	0.2	0.2	4.5	0.2	28.8	0.2	61.7	0.5	0.5	3.0	100.0
	Number in Catch	12	12	12	268	12	1,714	12	3,669	30	30	179	5,950
	Standard Error	11	11	11	51	11	111	11	119	17	17	42	

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

		Brood Year and Age Group											
		1985		1984		1983			1982		1981		
		0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	1.5	2.4	Total
Strata Combined:	5/16 - 9/08												
Sample Dates:	5/17 - 6/11												
Sample Size:	1,752												
Female	Percent of Sample	0.0	0.0	0.0	0.8	0.0	10.1	0.0	27.3	1.5	0.1	2.1	41.9
	Number in Catch	0	0	0	252	0	3,099	0	8,404	464	18	644	12,881
Male	Percent of Sample	0.0	0.0	0.0	1.2	0.0	11.6	0.0	41.0	1.6	0.1	2.4	58.1
	Number in Catch	12	12	12	375	12	3,554	12	12,599	507	37	728	17,860
Total	Percent of Sample	0.0	0.0	0.0	2.0	0.0	21.6	0.0	68.3	3.2	0.2	4.5	100.0
	Number in Catch	12	12	12	627	12	6,653	12	21,003	972	55	1,371	30,741
	Standard Error	11	11	11	101	11	309	11	353	140	29	162	

Appendix A.2. Temporally stratified age and sex composition of the commercial sockeye salmon catch in the Copper River District drift gill net fishery, 1988.

		Brood Year and Age Group											
		1985		1984			1983			1982		1981	
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4	Total
Stratum Dates:	5/16 - 5/17												
Sample Dates:	5/16 - 5/17												
Sample Size:	567												
Female	Percent of Sample	0.0	0.0	4.9	0.5	0.0	0.4	19.8	0.2	0.4	19.4	0.2	45.8
	Number in Catch	0	0	1,121	114	0	91	4,523	46	91	4,432	46	10,464
Male	Percent of Sample	0.0	0.0	8.8	1.4	0.0	0.0	21.2	0.7	1.4	20.3	0.4	54.2
	Number in Catch	0	0	2,013	320	0	0	4,866	160	320	4,637	91	12,407
Total	Percent of Sample	0.0	0.0	13.7	1.9	0.0	0.4	41.0	0.9	1.8	39.7	0.6	100.0
	Number in Catch	0	0	3,134	434	0	91	9,389	206	411	9,069	137	22,871
	Standard Error	0	0	331	131	0	61	473	91	128	470	74	
Stratum Dates:	5/23 - 5/28												
Sample Dates:	5/24												
Sample Size:	583												
Female	Percent of Sample	0.0	0.0	7.9	1.0	0.0	0.0	25.9	1.0	0.9	16.0	0.0	52.7
	Number in Catch	0	0	10,417	1,319	0	0	34,153	1,319	1,187	21,099	0	69,494
Male	Percent of Sample	0.2	0.0	9.3	2.7	0.0	0.0	22.1	1.7	0.9	10.2	0.2	47.3
	Number in Catch	264	0	12,264	3,560	0	0	29,143	2,241	1,187	13,450	264	62,373
Total	Percent of Sample	0.2	0.0	17.2	3.7	0.0	0.0	48.0	2.7	1.8	26.2	0.2	100.0
	Number in Catch	264	0	22,681	4,879	0	0	63,296	3,560	2,374	34,549	264	131,867
	Standard Error	244	0	2,063	1,032	0	0	2,731	886	727	2,404	244	
Stratum Dates:	5/30 - 6/03												
Sample Dates:	5/30 - 6/01												
Sample Size:	594												
Female	Percent of Sample	0.0	0.0	4.9	3.2	0.0	0.3	34.1	1.3	0.2	6.9	0.0	50.9
	Number in Catch	0	0	4,879	3,186	0	299	33,953	1,294	199	6,870	0	50,680
Male	Percent of Sample	0.3	0.0	5.2	5.9	0.0	0.2	29.5	1.7	0.7	5.6	0.0	49.1
	Number in Catch	299	0	5,178	5,875	0	199	29,373	1,693	697	5,576	0	48,890
Total	Percent of Sample	0.3	0.0	10.1	9.1	0.0	0.5	63.6	3.0	0.9	12.5	0.0	100.0
	Number in Catch	299	0	10,057	9,061	0	498	63,326	2,987	896	12,446	0	99,570
	Standard Error	224	0	1,232	1,176	0	288	1,967	698	386	1,352	0	

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

		Brood Year and Age Group											
		1985		1984			1983			1982		1981	
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4	Total
Stratum Dates:	6/09 - 6/10												
Sample Dates:	6/11												
Sample Size:	589												
Female	Percent of Sample	0.0	0.0	1.9	8.1	0.0	0.0	27.8	2.2	0.0	1.5	0.0	41.5
	Number in Catch	0	0	800	3,412	0	0	11,712	927	0	632	0	17,483
Male	Percent of Sample	0.3	0.0	1.5	10.4	0.0	0.0	42.7	1.4	1.0	1.2	0.0	58.5
	Number in Catch	126	0	632	4,381	0	0	17,990	590	421	506	0	24,646
Total	Percent of Sample	0.3	0.0	3.4	18.5	0.0	0.0	70.5	3.6	1.0	2.7	0.0	100.0
	Number in Catch	126	0	1,432	7,793	0	0	29,702	1,517	421	1,138	0	42,129
	Standard Error	95	0	315	675	0	0	792	324	173	282	0	
Stratum Dates:	6/13 - 6/17												
Sample Dates:	6/18												
Sample Size:	596												
Female	Percent of Sample	0.0	0.0	3.1	10.4	0.0	0.0	41.1	0.5	0.2	0.2	0.0	55.5
	Number in Catch	0	0	2,788	9,354	0	0	36,968	450	180	180	0	49,920
Male	Percent of Sample	0.3	0.0	2.7	13.4	0.0	0.0	27.9	0.0	0.2	0.0	0.0	44.5
	Number in Catch	270	0	2,428	12,052	0	0	25,094	0	180	0	0	40,024
Total	Percent of Sample	0.3	0.0	5.8	23.8	0.0	0.0	69.0	0.5	0.4	0.2	0.0	100.0
	Number in Catch	270	0	5,216	21,406	0	0	62,062	450	360	180	0	89,944
	Standard Error	202	0	862	1,570	0	0	1,705	260	233	165	0	
Stratum Dates:	6/20 - 7/01												
Sample Dates:	6/25												
Sample Size:	606												
Female	Percent of Sample	0.3	0.0	1.8	13.0	0.0	0.0	31.4	0.2	0.7	0.3	0.0	47.7
	Number in Catch	258	0	1,548	11,177	0	0	26,995	172	602	258	0	41,010
Male	Percent of Sample	0.8	0.0	2.5	19.1	0.0	0.2	29.5	0.2	0.0	0.0	0.0	52.3
	Number in Catch	688	0	2,149	16,421	0	172	25,363	172	0	0	0	44,965
Total	Percent of Sample	1.1	0.0	4.3	32.1	0.0	0.2	60.9	0.4	0.7	0.3	0.0	100.0
	Number in Catch	946	0	3,697	27,598	0	172	52,358	344	602	258	0	85,975
	Standard Error	365	0	709	1,632	0	156	1,706	221	291	191	0	

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

		Brood Year and Age Group											
		1985		1984			1983			1982		1981	
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4	Total
Stratum Dates:	7/04 - 7/15												
Sample Dates:	7/12												
Sample Size:	624												
Female	Percent of Sample	0.8	0.0	2.7	18.7	0.0	0.0	31.0	0.2	0.2	0.0	0.0	53.6
	Number in Catch	521	0	1,760	12,188	0	0	20,206	130	130	0	0	34,935
Male	Percent of Sample	0.2	0.2	1.0	19.0	0.0	0.2	25.2	0.2	0.4	0.0	0.0	46.4
	Number in Catch	130	130	652	12,384	0	130	16,426	130	261	0	0	30,243
Total	Percent of Sample	1.0	0.2	3.7	37.7	0.0	0.2	56.2	0.4	0.6	0.0	0.0	100.0
	Number in Catch	651	130	2,412	24,572	0	130	36,632	260	391	0	0	65,178
	Standard Error	260	117	493	1,266	0	117	1,296	165	202	0	0	
Stratum Dates:	7/18 - 9/13												
Sample Dates:	7/29 - 7/30												
Sample Size:	899												
Female	Percent of Sample	2.8	0.0	2.1	28.1	0.0	0.0	17.9	0.6	0.1	0.0	0.0	51.6
	Number in Catch	1,104	0	828	11,077	0	0	7,055	236	39	0	0	20,339
Male	Percent of Sample	2.2	0.2	2.2	25.6	0.2	0.0	17.1	0.7	0.2	0.0	0.0	48.4
	Number in Catch	867	79	867	10,090	79	0	6,740	276	79	0	0	19,077
Total	Percent of Sample	5.0	0.2	4.3	53.7	0.2	0.0	35.0	1.3	0.3	0.0	0.0	100.0
	Number in Catch	1,971	79	1,695	21,167	79	0	13,795	512	118	0	0	39,416
	Standard Error	287	59	267	656	59	0	627	149	72	0	0	
Strata Combined:	5/16 - 9/13												
Sample Dates:	5/16 - 7/30												
Sample Size:	5,058												
Female	Percent of Sample	0.3	0.0	4.2	9.0	0.0	0.1	30.4	0.8	0.4	5.8	0.0	51.0
	Number in Catch	1,883	0	24,141	51,827	0	390	175,565	4,574	2,428	33,471	46	294,325
Male	Percent of Sample	0.5	0.0	4.5	11.3	0.0	0.1	26.9	0.9	0.5	4.2	0.1	49.0
	Number in Catch	2,644	209	26,183	65,083	79	501	154,995	5,262	3,145	24,169	355	282,625
Total	Percent of Sample	0.8	0.0	8.7	20.3	0.0	0.2	57.3	1.7	1.0	10.0	0.1	100.0
	Number in Catch	4,527	209	50,324	116,910	79	891	330,560	9,836	5,573	57,640	401	576,950
	Standard Error	665	131	2,746	3,175	59	353	4,480	1,245	953	2,823	255	

Appendix A.3. Estimated age and sex composition of the commercial sockeye salmon catch in the Bering River District drift gill net fishery, 1988.

		Brood Year and Age Group							
		1985	1984		1983			1982	
		0.2	0.3	1.2	0.4	1.3	2.2	1.4	Total
Sample Dates:	6/21								
Sample Size:	696								
Female	Percent of Sample	0.3	5.2	9.8	0.1	35.2	0.1	0.4	51.1
	Number in Catch	21	372	701	7	2,518	7	29	3,655
Male	Percent of Sample	0.6	6.0	15.1	0.3	26.1	0.1	0.7	48.9
	Number in Catch	43	429	1,080	21	1,867	7	50	3,497
Total	Percent of Sample	0.9	11.2	24.9	0.4	61.3	0.2	1.1	100.0
	Number in Catch	64	801	1,781	28	4,385	14	79	7,152
	Standard Error	26	86	117	17	132	12	28	

Appendix A.4. Temporally stratified age and sex composition of the commercial coho salmon catch from the Copper River District drift gill net fishery, 1988.

		Brood Year and Age Group					
		1986	1985	1984	1983	1982	
		0.1	1.1	2.1	3.1	4.1	Total
Stratum Dates:	5/16 - 8/17						
Sample Dates:	8/10						
Sample Size:	454						
Female	Percent of Sample	0.0	7.0	3.7	0.4	0.0	11.1
	Number in Catch	0	5,837	3,085	334	0	9,256
Male	Percent of Sample	0.0	50.3	36.8	1.8	0.0	88.9
	Number in Catch	0	41,946	30,688	1,501	0	74,135
Total	Percent of Sample	0.0	57.3	40.5	2.2	0.0	100.0
	Number in Catch	0	47,783	33,773	1,835	0	83,391
	Standard Error	0	1,938	1,923	575	0	
Stratum Dates:	8/18 - 8/31						
Sample Dates:	8/24						
Sample Size:	446						
Female	Percent of Sample	0.0	21.7	21.1	2.0	0.0	44.8
	Number in Catch	0	30,816	29,964	2,840	0	63,620
Male	Percent of Sample	0.0	29.9	24.4	0.9	0.0	55.2
	Number in Catch	0	42,460	34,650	1,278	0	78,388
Total	Percent of Sample	0.0	51.6	45.5	2.9	0.0	100.0
	Number in Catch	0	73,276	64,614	4,118	0	142,008
	Standard Error	0	3,364	3,352	1,130	0	
Stratum Dates:	9/01 - 9/13						
Sample Dates:	9/08						
Sample Size:	398						
Female	Percent of Sample	0.0	20.3	24.6	0.8	0.0	45.7
	Number in Catch	0	18,304	22,182	721	0	41,207
Male	Percent of Sample	0.0	21.4	31.4	1.5	0.0	54.3
	Number in Catch	0	19,296	28,313	1,353	0	48,962
Total	Percent of Sample	0.0	41.7	56.0	2.3	0.0	100.0
	Number in Catch	0	37,600	50,495	2,074	0	90,169
	Standard Error	0	2,231	2,246	678	0	
Strata Combined:	5/16 - 9/13						
Sample Dates:	8/10 - 9/08						
Sample Size:	1298						
Female	Percent of Sample	0.0	17.4	17.5	1.2	0.0	36.1
	Number in Catch	0	54,957	55,231	3,895	0	114,083
Male	Percent of Sample	0.0	32.9	29.7	1.3	0.0	63.9
	Number in Catch	0	103,702	93,651	4,132	0	201,485
Total	Percent of Sample	0.0	50.3	47.2	2.5	0.0	100.0
	Number in Catch	0	158,660	148,882	8,027	0	315,568
	Standard Error	0	4,478	4,470	1,438	0	

Appendix A.5. Estimated age and sex composition of the commercial coho salmon catch in the Bering River District drift gill net fishery, 1988.

		Brood Year and Age Group 1985 1.1	1984 2.1	1983 3.1	Total
Stratum Dates:	6/20 - 8/26				
Sample Dates:	8/26				
Sample Size:	420				
Female	Percent of Sample	23.3	23.1	1.2	47.6
	Number in Catch	4,473	4,435	231	9,139
Male	Percent of Sample	24.3	27.4	0.7	52.4
	Number in Catch	4,665	5,260	134	10,059
Total	Percent of Sample	47.6	50.5	1.9	100.0
	Number in Catch	9,138	9,695	365	19,198
	Standard Error	468	469	128	
Stratum Dates:	8/27 - 9/13				
Sample Dates:	9/13				
Sample Size:	433				
Female	Percent of Sample	38.6	15.7	0.0	54.3
	Number in Catch	25,993	10,573	0	36,566
Male	Percent of Sample	29.8	15.7	0.2	45.7
	Number in Catch	20,067	10,573	135	30,775
Total	Percent of Sample	68.4	31.4	0.2	100.0
	Number in Catch	46,060	21,146	135	67,341
	Standard Error	1,506	1,504	145	
Stratum Combined:	6/20 - 9/13				
Sample Dates:	8/26 - 9/13				
Sample Size:	853				
Female	Percent of Sample	35.2	17.3	0.3	52.8
	Number in Catch	30,466	15,008	231	45,705
Male	Percent of Sample	28.6	18.3	0.3	47.2
	Number in Catch	24,732	15,833	269	40,834
Total	Percent of Sample	63.8	35.6	0.6	100.0
	Number in Catch	55,198	30,841	500	86,539
	Standard Error	1,577	1,575	491	

APPENDIX B

Subsistence, Personal Use, and Sport Fish Salmon Catches
from Upper Copper River.

Appendix B.1. Daily catches of sockeye, chinook, and coho salmon in the subsistence and personal use fisheries on the Upper Copper River, 1988. Preliminary catch data from approximately 59% of the subsistence fishery permits issued and approximately 93% of the personal use fishery permits issued. This table does not include catches reported with erroneous or missing dates.

	Personal Use Catch						Subsistence Catch						Combined Catches					
	Sockeye		Chinook		Coho		Sockeye		Chinook		Coho		Sockeye		Chinook		Coho	
Date	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
6/ 1	0	0	0	0	0	0	89	89	1	1	0	0	89	89	1	1	0	0
6/ 2	9	9	1	1	0	0	212	301	27	28	0	0	221	310	28	29	0	0
6/ 3	877	886	94	95	0	0	287	588	14	42	0	0	1164	1474	108	137	0	0
6/ 4	3108	3994	250	345	1	1	100	688	13	55	0	0	3208	4682	263	400	1	1
6/ 5	2167	6161	294	639	0	1	274	962	6	61	0	0	2441	7123	300	700	0	1
6/ 6	37	6198	1	640	0	1	202	1164	7	68	0	0	239	7362	8	708	0	1
6/ 7	2	6200	0	640	0	1	207	1371	9	77	0	0	209	7571	9	717	0	1
6/ 8	1	6201	4	644	0	1	232	1603	15	92	0	0	233	7804	19	736	0	1
6/ 9	146	6347	6	650	0	1	392	1995	16	108	0	0	538	8342	22	758	0	1
6/10	577	6924	103	753	0	1	478	2473	21	129	0	0	1055	9397	124	882	0	1
6/11	710	7634	174	927	0	1	325	2798	12	141	0	0	1035	10432	186	1068	0	1
6/12	311	7945	108	1035	0	1	232	3030	4	145	0	0	543	10975	112	1180	0	1
6/13	6	7951	0	1035	0	1	356	3386	31	176	0	0	362	11337	31	1211	0	1
6/14	15	7966	1	1036	0	1	316	3702	19	195	0	0	331	11668	20	1231	0	1
6/15	140	8106	28	1064	0	1	596	4298	29	224	0	0	736	12404	57	1288	0	1
6/16	339	8445	31	1095	0	1	84	4382	4	228	0	0	423	12827	35	1323	0	1
6/17	943	9388	97	1192	0	1	309	4691	10	238	0	0	1252	14079	107	1430	0	1
6/18	1976	11364	281	1473	0	1	432	5123	20	258	0	0	2408	16487	301	1731	0	1
6/19	700	12064	143	1616	0	1	249	5372	4	262	0	0	949	17436	147	1878	0	1
6/20	17	12081	1	1617	0	1	393	5765	15	277	0	0	410	17846	16	1894	0	1
6/21	28	12109	2	1619	0	1	424	6189	24	301	0	0	452	18298	26	1920	0	1
6/22	483	12592	37	1656	0	1	250	6439	13	314	0	0	733	19031	50	1970	0	1
6/23	1043	13635	65	1721	0	1	305	6744	22	336	0	0	1348	20379	87	2057	0	1
6/24	1396	15031	106	1827	0	1	275	7019	17	353	0	0	1671	22050	123	2180	0	1
6/25	2680	17711	150	1977	0	1	402	7421	17	370	15	15	3082	25132	167	2347	15	16
6/26	1243	18954	84	2061	0	1	209	7630	10	380	0	15	1452	26584	94	2441	0	16
6/27	231	19185	12	2073	0	1	613	8243	23	403	0	15	844	27428	35	2476	0	16
6/28	0	19185	0	2073	0	1	484	8727	17	420	0	15	484	27912	17	2493	0	16
6/29	523	19708	31	2104	1	2	326	9053	11	431	0	15	849	28761	42	2535	1	17
6/30	715	20423	45	2149	0	2	260	9313	9	440	0	15	975	29736	54	2589	0	17

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Appendix B.1. (p.2 of 4)

	Personal Use Catch						Subsistence Catch						Combined Catches					
	Sockeye		Chinook		Coho		Sockeye		Chinook		Coho		Sockeye		Chinook		Coho	
Date	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
7/ 1	663	21086	44	2193	0	2	236	9549	3	443	0	15	899	30635	47	2636	0	17
7/ 2	447	21533	44	2237	0	2	317	9866	12	455	0	15	764	31399	56	2692	0	17
7/ 3	380	21913	48	2285	0	2	409	10275	4	459	0	15	789	32188	52	2744	0	17
7/ 4	236	22149	21	2306	0	2	243	10518	11	470	1	16	479	32667	32	2776	1	18
7/ 5	76	22225	12	2318	0	2	354	10872	12	482	14	30	430	33097	24	2800	14	32
7/ 6	105	22330	7	2325	0	2	310	11182	7	489	0	30	415	33512	14	2814	0	32
7/ 7	223	22553	11	2336	0	2	74	11256	5	494	0	30	297	33809	16	2830	0	32
7/ 8	233	22786	17	2353	0	2	145	11401	7	501	0	30	378	34187	24	2854	0	32
7/ 9	613	23399	44	2397	0	2	218	11619	11	512	0	30	831	35018	55	2909	0	32
7/10	567	23966	30	2427	0	2	181	11800	7	519	0	30	748	35766	37	2946	0	32
7/11	397	24363	14	2441	0	2	82	11882	6	525	0	30	479	36245	20	2966	0	32
7/12	484	24847	21	2462	0	2	35	11917	3	528	0	30	519	36764	24	2990	0	32
7/13	384	25231	15	2477	0	2	111	12028	3	531	0	30	495	37259	18	3008	0	32
7/14	680	25911	20	2497	0	2	144	12172	3	534	0	30	824	38083	23	3031	0	32
7/15	622	26533	29	2526	0	2	220	12392	13	547	0	30	842	38925	42	3073	0	32
7/16	597	27130	21	2547	0	2	126	12518	6	553	0	30	723	39648	27	3100	0	32
7/17	380	27510	16	2563	0	2	157	12675	6	559	0	30	537	40185	22	3122	0	32
7/18	146	27656	7	2570	0	2	323	12998	11	570	0	30	469	40654	18	3140	0	32
7/19	78	27734	2	2572	0	2	156	13154	8	578	0	30	234	40888	10	3150	0	32
7/20	63	27797	2	2574	0	2	313	13467	13	591	0	30	376	41264	15	3165	0	32
7/21	195	27992	3	2577	0	2	345	13812	21	612	0	30	540	41804	24	3189	0	32
7/22	251	28243	4	2581	0	2	62	13874	0	612	0	30	313	42117	4	3193	0	32
7/23	327	28570	15	2596	0	2	393	14267	12	624	0	30	720	42837	27	3220	0	32
7/24	310	28880	20	2616	0	2	58	14325	0	624	0	30	368	43205	20	3240	0	32
7/25	278	29158	7	2623	0	2	261	14586	15	639	0	30	539	43744	22	3262	0	32
7/26	205	29363	3	2626	0	2	209	14795	5	644	0	30	414	44158	8	3270	0	32
7/27	141	29504	3	2629	0	2	203	14998	1	645	0	30	344	44502	4	3274	0	32
7/28	192	29696	5	2634	0	2	319	15317	3	648	0	30	511	45013	8	3282	0	32
7/29	830	30526	9	2643	2	4	242	15559	4	652	0	30	1072	46085	13	3295	2	34
7/30	1202	31728	6	2649	0	4	491	16050	0	652	0	30	1693	47778	6	3301	0	34
7/31	417	32145	1	2650	0	4	118	16168	2	654	0	30	535	48313	3	3304	0	34

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Appendix B.1. (p. 3 of 4)

	Personal Use Catch						Subsistence Catch						Combined Catches					
	Sockeye		Chinook		Coho		Sockeye		Chinook		Coho		Sockeye		Chinook		Coho	
Date	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
8/ 1	391	32536	2	2652	0	4	251	16419	1	655	0	30	642	48955	3	3307	0	34
8/ 2	110	32646	5	2657	1	5	36	16455	5	660	0	30	146	49101	10	3317	1	35
8/ 3	387	33033	6	2663	1	6	346	16801	2	662	0	30	733	49834	8	3325	1	36
8/ 4	464	33497	8	2671	2	8	209	17010	1	663	0	30	673	50507	9	3334	2	38
8/ 5	812	34309	2	2673	0	8	157	17167	1	664	0	30	969	51476	3	3337	0	38
8/ 6	629	34938	1	2674	3	11	13	17180	0	664	0	30	642	52118	1	3338	3	41
8/ 7	276	35214	1	2675	0	11	41	17221	0	664	0	30	317	52435	1	3339	0	41
8/ 8	130	35344	0	2675	0	11	131	17352	0	664	0	30	261	52696	0	3339	0	41
8/ 9	155	35499	0	2675	3	14	117	17469	3	667	0	30	272	52968	3	3342	3	44
8/10	269	35768	1	2676	17	31	333	17802	1	668	0	30	602	53570	2	3344	17	61
8/11	323	36091	0	2676	3	34	153	17955	0	668	0	30	476	54046	0	3344	3	64
8/12	183	36274	1	2677	0	34	414	18369	7	675	12	42	597	54643	8	3352	12	76
8/13	536	36810	3	2680	8	42	136	18505	2	677	0	42	672	55315	5	3357	8	84
8/14	468	37278	2	2682	12	54	62	18567	0	677	0	42	530	55845	2	3359	12	96
8/15	184	37462	1	2683	0	54	280	18847	1	678	0	42	464	56309	2	3361	0	96
8/16	72	37534	0	2683	0	54	95	18942	0	678	0	42	167	56476	0	3361	0	96
8/17	130	37664	0	2683	2	56	151	19093	0	678	0	42	281	56757	0	3361	2	98
8/18	67	37731	0	2683	9	65	55	19148	0	678	0	42	122	56879	0	3361	9	107
8/19	66	37797	1	2684	9	74	105	19253	0	678	0	42	171	57050	1	3362	9	116
8/20	134	37931	1	2685	13	87	121	19374	4	682	0	42	255	57305	5	3367	13	129
8/21	8	37939	0	2685	2	89	53	19427	0	682	1	43	61	57366	0	3367	3	132
8/22	40	37979	1	2686	0	89	46	19473	4	686	2	45	86	57452	5	3372	2	134
8/23	59	38038	6	2692	11	100	35	19508	0	686	1	46	94	57546	6	3378	12	146
8/24	49	38087	1	2693	0	100	148	19656	2	688	0	46	197	57743	3	3381	0	146
8/25	74	38161	1	2694	15	115	16	19672	0	688	0	46	90	57833	1	3382	15	161
8/26	13	38174	3	2697	11	126	20	19692	0	688	0	46	33	57866	3	3385	11	172
8/27	9	38183	0	2697	19	145	80	19772	0	688	0	46	89	57955	0	3385	19	191
8/28	23	38206	1	2698	12	157	19	19791	0	688	0	46	42	57997	1	3386	12	203
8/29	12	38218	0	2698	1	158	82	19873	0	688	35	81	94	58091	0	3386	36	239
8/30	51	38269	0	2698	0	158	58	19931	0	688	0	81	109	58200	0	3386	0	239
8/31	19	38288	0	2698	0	158	14	19945	0	688	0	81	33	58233	0	3386	0	239

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Appendix B.1. (p. 4 of 4)

	Personal Use Catch						Subsistence Catch						Combined Catches					
	Sockeye		Chinook		Coho		Sockeye		Chinook		Coho		Sockeye		Chinook		Coho	
Date	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
9/ 1	10	38298	0	2698	22	180	17	19962	0	688	0	81	27	58260	0	3386	22	261
9/ 2	43	38341	0	2698	90	270	10	19972	0	688	1	82	53	58313	0	3386	91	352
9/ 3	42	38383	3	2701	48	318	0	19972	0	688	0	82	42	58355	3	3389	48	400
9/ 4	32	38415	5	2706	33	351	0	19972	0	688	0	82	32	58387	5	3394	33	433
9/ 5	2	38417	0	2706	8	359	0	19972	0	688	0	82	2	58389	0	3394	8	441
9/ 6	2	38419	0	2706	4	363	0	19972	0	688	0	82	2	58391	0	3394	4	445
9/ 7	2	38421	1	2707	4	367	0	19972	0	688	0	82	2	58393	1	3395	4	449
9/ 8	15	38436	0	2707	0	367	0	19972	0	688	0	82	15	58408	0	3395	0	449
9/ 9	35	38471	9	2716	23	390	0	19972	0	688	0	82	35	58443	9	3404	23	472
9/10	28	38499	4	2720	24	414	0	19972	0	688	0	82	28	58471	4	3408	24	496
9/11	14	38513	0	2720	6	420	0	19972	0	688	0	82	14	58485	0	3408	6	502
9/12	1	38514	0	2720	5	425	0	19972	0	688	0	82	1	58486	0	3408	5	507
9/13	1	38515	0	2720	6	431	0	19972	0	688	0	82	1	58487	0	3408	6	513
9/14	5	38520	0	2720	1	432	0	19972	0	688	0	82	5	58492	0	3408	1	514
9/15	1	38521	3	2723	6	438	89	20061	1	689	99	181	90	58582	4	3412	105	619
9/16	2	38523	0	2723	4	442	0	20061	0	689	63	244	2	58584	0	3412	67	686
9/17	0	38523	0	2723	0	442	5	20066	0	689	3	247	5	58589	0	3412	3	689
9/18	0	38523	0	2723	0	442	19	20085	0	689	8	255	19	58608	0	3412	8	697
9/19	0	38523	0	2723	0	442	0	20085	0	689	0	255	0	58608	0	3412	0	697
9/20	0	38523	0	2723	0	442	43	20128	0	689	0	255	43	58651	0	3412	0	697
9/21	0	38523	0	2723	0	442	8	20136	0	689	0	255	8	58659	0	3412	0	697
9/22	0	38523	0	2723	0	442	6	20142	0	689	1	256	6	58665	0	3412	1	698
9/23	0	38523	0	2723	0	442	0	20142	0	689	0	256	0	58665	0	3412	0	698
9/24	0	38523	0	2723	0	442	36	20178	0	689	0	256	36	58701	0	3412	0	698
9/25	0	38523	0	2723	0	442	5	20183	0	689	4	260	5	58706	0	3412	4	702
9/26	10	38533	0	2723	8	450	0	20183	0	689	0	260	10	58716	0	3412	8	710
9/27	0	38533	0	2723	0	450	7	20190	0	689	0	260	7	58723	0	3412	0	710
9/28	0	38533	0	2723	0	450	0	20190	0	689	0	260	0	58723	0	3412	0	710
9/29	0	38533	0	2723	0	450	5	20195	0	689	0	260	5	58728	0	3412	0	710
9/30	0	38533	0	2723	0	450	0	20195	0	689	0	260	0	58728	0	3412	0	710
Total	38533		2723		450		20195		689		260		58728		3412		710	

Appendix B.2. Temporally stratified age and sex composition of the sockeye salmon catches in the subsistence and personal use fisheries on the Upper Copper River, 1988.

		Brood Year and Age Group										
		1985		1984		1983			1982		1981	
		0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
Stratum Dates:	6/01 - 6/06											
Sample Dates:	6/03 - 6/05											
Sample Size:	488											
Female	Percent of Sample	0.0	0.0	5.4	3.7	0.0	29.6	0.6	0.4	6.4	0.0	46.1
	Number in Catch	0	0	398	272	0	2,179	44	29	471	0	3,393
Male	Percent of Sample	0.2	0.0	6.6	6.2	0.0	33.9	1.9	0.6	4.3	0.2	53.9
	Number in Catch	15	0	486	456	0	2,496	140	44	317	15	3,969
Total	Percent of Sample	0.2	0.0	12.0	9.9	0.0	63.5	2.5	1.0	10.7	0.2	100.0
	Number in Catch	15	0	884	728	0	4,675	184	73	788	15	7,362
	Standard Error	15	0	108	100	0	161	52	33	103	15	
Stratum Dates:	6/07 - 6/14											
Sample Dates:	6/08 - 6/14											
Sample Size:	292											
Female	Percent of Sample	0.3	0.0	5.8	14.8	0.0	19.7	0.3	0.3	0.0	0.0	41.2
	Number in Catch	12	0	231	588	0	783	12	12	0	0	1,638
Male	Percent of Sample	1.7	0.0	8.6	18.3	0.3	29.0	0.3	0.3	0.0	0.3	58.8
	Number in Catch	68	0	342	727	12	1,152	12	12	0	12	2,337
Total	Percent of Sample	2.0	0.0	14.4	33.1	0.3	48.7	0.6	0.6	0.0	0.3	100.0
	Number in Catch	80	0	573	1,315	12	1,935	24	24	0	12	3,975
	Standard Error	33	0	82	110	13	116	18	18	0	13	

-Continued-

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

		Brood Year and Age Group										
		1985		1984		1983			1982		1981	
		0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
Stratum Dates:	6/15 - 6/20											
Sample Dates:	6/16 - 6/20											
Sample Size:	543											
Female	Percent of Sample	2.0	0.0	6.5	16.6	0.0	15.7	0.0	0.2	0.0	0.0	41.0
	Number in Catch	130	0	423	1,080	0	1,022	0	13	0	0	2,668
Male	Percent of Sample	3.3	0.0	8.1	23.9	0.0	22.5	0.4	0.6	0.2	0.0	59.0
	Number in Catch	215	0	527	1,556	0	1,465	26	39	13	0	3,841
Total	Percent of Sample	5.3	0.0	14.6	40.5	0.0	38.2	0.4	0.8	0.2	0.0	100.0
	Number in Catch	345	0	950	2,636	0	2,487	26	52	13	0	6,509
	Standard Error	63	0	99	137	0	136	18	25	12	0	
Stratum Dates:	6/21 - 6/27											
Sample Dates:	6/23 - 6/25											
Sample Size:	541											
Female	Percent of Sample	0.4	0.0	0.9	27.6	0.0	25.8	0.0	0.0	0.0	0.0	54.7
	Number in Catch	38	0	86	2,645	0	2,472	0	0	0	0	5,241
Male	Percent of Sample	0.7	0.0	1.5	18.2	0.0	24.7	0.0	0.2	0.0	0.0	45.3
	Number in Catch	67	0	144	1,744	0	2,367	0	19	0	0	4,341
Total	Percent of Sample	1.1	0.0	2.4	45.8	0.0	50.5	0.0	0.2	0.0	0.0	100.0
	Number in Catch	105	0	230	4,389	0	4,839	0	19	0	0	9,582
	Standard Error	43	0	63	205	0	206	0	18	0	0	

-Continued-

Appendix B.2. (p.3 of 4)

		Brood Year and Age Group										
		1985		1984		1983			1982		1981	
		0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
Stratum Dates:	6/28 - 7/04											
Sample Dates:	6/29 - 7/03											
Sample Size:	574											
Female	Percent of Sample	0.0	0.2	1.7	24.8	0.0	25.7	0.7	0.2	0.3	0.0	53.6
	Number in Catch	0	10	89	1,299	0	1,347	37	10	16	0	2,808
Male	Percent of Sample	0.9	0.0	1.0	15.4	0.0	27.2	0.5	0.5	0.9	0.0	46.4
	Number in Catch	47	0	52	807	0	1,426	26	26	47	0	2,431
Total	Percent of Sample	0.9	0.2	2.7	40.2	0.0	52.9	1.2	0.7	1.2	0.0	100.0
	Number in Catch	47	10	141	2,106	0	2,773	63	36	63	0	5,239
	Standard Error	21	10	35	107	0	109	24	18	24	0	
Stratum Dates:	7/05 - 7/11											
Sample Dates:	7/09 - 7/10											
Sample Size:	81											
Female	Percent of Sample	0.0	0.0	2.5	32.1	0.0	22.2	6.2	0.0	1.2	0.0	64.2
	Number in Catch	0	0	89	1,149	0	794	222	0	43	0	2,297
Male	Percent of Sample	0.0	0.0	1.2	11.1	0.0	23.5	0.0	0.0	0.0	0.0	35.8
	Number in Catch	0	0	43	397	0	841	0	0	0	0	1,281
Total	Percent of Sample	0.0	0.0	3.7	43.2	0.0	45.7	6.2	0.0	1.2	0.0	100.0
	Number in Catch	0	0	132	1,546	0	1,635	222	0	43	0	3,578
	Standard Error	0	0	76	198	0	199	96	0	44	0	

-Continued-

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

		Brood Year and Age Group										
		1985		1984		1983			1982		1981	
		0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
Stratum Dates:	7/12 - 9/30											
Sample Dates:	7/14 - 8/06											
Sample Size:	423											
Female	Percent of Sample	0.0	0.0	0.2	21.3	0.0	21.0	0.7	0.0	0.2	0.0	43.4
	Number in Catch	0	0	45	4,789	0	4,721	157	0	45	0	9,757
Male	Percent of Sample	0.2	0.0	0.2	20.6	0.0	34.4	1.2	0.0	0.0	0.0	56.6
	Number in Catch	45	0	45	4,631	0	7,735	270	0	0	0	12,726
Total	Percent of Sample	0.2	0.0	0.4	41.9	0.0	55.4	1.9	0.0	0.2	0.0	100.0
	Number in Catch	45	0	90	9,420	0	12,456	427	0	45	0	22,483
	Standard Error	49	0	69	540	0	544	149	0	49	0	
Strata Combined:	6/01 - 9/30											
Sample Dates:	6/03 - 8/06											
Sample Size:	2942											
Female	Percent of Sample	0.3	0.0	2.3	20.1	0.0	22.7	0.8	0.1	1.0	0.0	47.3
	Number in Catch	180	10	1,361	11,822	0	13,318	472	64	575	0	27,802
Male	Percent of Sample	0.8	0.0	2.8	17.6	0.0	29.8	0.8	0.2	0.6	0.0	52.7
	Number in Catch	457	0	1,639	10,318	12	17,482	474	140	377	27	30,926
Total	Percent of Sample	1.1	0.0	5.1	37.7	0.0	52.4	1.6	0.3	1.6	0.0	100.0
	Number in Catch	637	10	3,000	22,140	12	30,800	946	204	952	27	58,728
	Standard Error	99	10	210	652	13	669	189	52	125	20	

Appendix B.3. Age and sex composition of chinook salmon carcass samples from tributaries in the upper Copper River, 1988. Samples collected by ADF&G/Sport Fish Division/Region II.

		1984	1983		1982		1981	
		1.2	1.3	2.2	1.4	2.3	2.4	Total
Gulkana River								
Stratum Dates:	8/06 - 8/11							
Sample Dates:	8/06, 8/08-8/11							
Sample Size:	185							
Female	Percent of Sample	3.8	42.1	0.0	6.5	1.1	0.0	53.5
	Number in Sample	7	78	0	12	2	0	99
Male	Percent of Sample	3.2	39.5	0.0	2.2	1.6	0.0	46.5
	Number in Sample	6	73	0	4	3	0	86
Total	Percent of Sample	7.0	81.6	0.0	8.7	2.7	0.0	100.0
	Number in Sample	13	151	0	16	5	0	185
	Standard Error	3	5	0	4	2	0	
Klutina River								
Stratum Dates:	7/01 - 8/21							
Sample Dates:	7/01-7/02, 7/04, 7/09-7/10, 7/12-7/13, 7/22-7/23, 7/27-8/02, 8/06-8/09, 8/12-8/14, 8/21							
Sample Size:	82							
Female	Percent of Sample	2.4	13.4	1.2	18.4	6.1	9.7	51.2
	Number in Sample	2	11	1	15	5	8	42
Male	Percent of Sample	3.6	23.3	1.2	7.3	8.5	4.9	48.8
	Number in Sample	3	19	1	6	7	4	40
Total	Percent of Sample	6.0	36.7	2.4	25.7	14.6	14.6	100.0
	Number in Sample	5	30	2	21	12	12	82
	Standard Error	2	4	1	4	3	3	

Appendix B.4. Mean lengths by sex and age of chinook salmon carcass samples from tributaries in the upper Copper River, 1988. Samples collected by ADF&G/Sport Fish Division/Region II.

		1984	1983		1982		1981	
		1.2	1.3	2.2	1.4	2.3	2.4	Total
Gulkana River								
Stratum Dates:	8/06 - 8/11							
Sample Dates:	8/06, 8/08-8/11							
Sample Size:	185							
Female	Mean Length (mm)	821	894	0	890	895	0	888
	Number in Sample	7	78	0	12	2	0	99
Male	Mean Length (mm)	865	960	0	976	927	0	953
	Number in Sample	6	73	0	4	3	0	86
Total	Mean Length (mm)	842	926	0	912	914	0	918
	Number in Sample	13	151	0	16	5	0	185
	Standard Error	16	5	0	15	26	0	
Klutina River								
Stratum Dates:	7/01 - 8/21							
Sample Dates:	7/01-7/02, 7/04, 7/09-7/10, 7/12-7/13, 7/22-7/23, 7/27-8/02, 8/06-8/09, 8/12-8/14, 8/21							
Sample Size:	82							
Female	Mean Length (mm)	640	922	796	930	879	940	904
	Number in Sample	2	11	1	15	5	8	42
Male	Mean Length (mm)	930	927	871	985	892	955	931
	Number in Sample	3	19	1	6	7	4	40
Total	Mean Length (mm)	814	922	834	946	887	945	917
	Number in Sample	5	30	2	21	12	12	82
	Standard Error	26	11	42	13	17	17	

APPENDIX C

Salmon Escapements to the Upper Copper River.

Appendix C.1. Daily Copper River salmon escapement estimates at the Miles Lake sonar project, 1988.

Date	North Bank	South Bank	Total Daily	Cumulative Total
17-May				
18-May				
19-May		313 a	313	313
20-May		877 b	877	1,190
21-May		1,440 c	1,440	2,630
22-May		2,256 d	2,256	4,886
23-May		5,078	5,078	9,964
24-May		11,033	11,033	20,997
25-May		9,979	9,979	30,976
26-May		8,946	8,946	39,922
27-May		13,247	13,247	53,169
28-May	345 e	13,856	14,201	67,370
29-May	513	9,509	10,022	77,392
30-May	381	6,425	6,806	84,198
31-May	821	6,765	7,586	91,784
01-Jun	498	4,707	5,205	96,989
02-Jun	378	3,180	3,558	100,547
03-Jun	239	4,387 f	4,626	105,173
04-Jun	741	7,136	7,877	113,050
05-Jun	469	6,286	6,755	119,805
06-Jun	394	8,501	8,895	128,700
07-Jun	163	8,933	9,096	137,796
08-Jun	223	11,099	11,322	149,118
09-Jun	537	14,104	14,641	163,759
10-Jun	624	14,592	15,216	178,975
11-Jun	833	15,422	16,255	195,230
12-Jun	983	13,976	14,959	210,189
13-Jun	732	10,019	10,751	220,940
14-Jun	811	8,571	9,382	230,322
15-Jun	542	9,368	9,910	240,232
16-Jun	421	6,063	6,484	246,716
17-Jun	384	4,526	4,910	251,626
18-Jun	698	5,771	6,469	258,095
19-Jun	454	7,401	7,855	265,950
20-Jun	372	7,580	7,952	273,902
21-Jun	507	5,263	5,770	279,672
22-Jun	386	6,599	6,985	286,657
23-Jun	409	7,290	7,699	294,356
24-Jun	410	5,172	5,582	299,938
25-Jun	265	5,332	5,597	305,535
26-Jun	369	6,009	6,378	311,913
27-Jun	268	6,291	6,559	318,472
28-Jun	196	6,063	6,259	324,731
29-Jun	127	8,093	8,220	332,951
30-Jun	242	6,255	6,497	339,448
01-Jul	155	5,447	5,602	345,050
02-Jul	108	4,572	4,680	349,730
03-Jul	166	4,056	4,222	353,952
04-Jul	178	3,354	3,532	357,484
05-Jul	151	3,153	3,304	360,788
06-Jul	177	3,333	3,510	364,298
07-Jul	81	4,243	4,324	368,622
08-Jul	194	8,305	8,499	377,121
09-Jul	181	4,986	5,167	382,288
10-Jul	254	6,093	6,347	388,635
11-Jul	329	7,291	7,620	396,255
12-Jul	301	7,580	7,881	404,136
13-Jul	325	6,762	7,087	411,223
14-Jul	248	6,764	7,012	418,235
15-Jul	248	6,676	6,924	425,159

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Appendix C.1. (p. 2 of 2)

Date	North Bank	South Bank	Total Daily	Cumulative Total
16-Jul	202	5,255	5,457	430,616
17-Jul	247	4,630	4,877	435,493
18-Jul	121	3,736	3,857	439,350
19-Jul	170	4,413	4,583	443,933
20-Jul	178	4,305	4,483	448,416
21-Jul	154	3,810	3,964	452,380
22-Jul	114	2,683	2,797	455,177
23-Jul	149	3,280	3,429	458,606
24-Jul	88	3,812	3,900	462,506
25-Jul	41 g	3,982	4,023	466,529
26-Jul		4,142	4,142	470,671
27-Jul		3,920	3,920	474,591
28-Jul		3,452	3,452	478,043
29-Jul		3,476	3,476	481,519
30-Jul		2,423	2,423	483,942
31-Jul		1,920	1,920	485,862
01-Aug		1,438	1,438	487,300
02-Aug		1,098 h	1,098	488,398
Total	20,295	468,103	488,398	

a Artifical substrate was operational from 1600 to 2400 and counted 125 fish. Estimated 313 fish for daily count based on the observed passage rate during operation.
b Ice took out south bank counter at 0100. No counts were obtained. Estimated daily count of 877 fish is average of 19 May and 21 May daily estimates.
c Continued ice problems. Obtained two scope counts useing tripod method. Estimated daily count of 1,440 fish from observed passage rate of scope counts.
d Redeployed artifical substrate. Operational from 1900 to 2400. Daily estimate of 2,256 fish based on the average passage rate observed during operation.
e Artifical substrate was operational from 1200 to 2400 and counted 189 fish. Estimated 349 fish for daily count based on the observed passage rate during operation.
f South bank operating off permanent substrate.
g Last day of operation, north bank.
h Last day of operation, south bank.

Appendix C.2. Sockeye salmon escapement through the Long Lake Weir, 1988. Data collected by Cliff Collins and family of Long Lake, Alaska.

Date	Escapement Daily	Escapement Cumulative	Date	Escapement Daily	Escapement Cumulativ
07/23	0	0	08/24	138	4,317
07/24	0	0	08/25	207	4,524
07/25	0	0	08/26	1,111	5,635
07/26	0	0	08/27	0	5,635
07/27	0	0	08/28	300	5,935
07/28	0	0	08/29	0	5,935
07/29	0	0	08/30	411	6,346
07/30	0	0	08/31	218	6,564
07/31	0	0	09/01	1	6,565
08/01	0	0	09/02	224	6,789
08/02	0	0	09/03	38	6,827
08/03	0	0	09/04	354	7,181
08/04	0	0	09/05	10	7,191
08/05	0	0	09/06	19	7,210
08/06	115	115	09/07	0	7,210
08/07	342	457	09/08	24	7,234
08/08	337	794	09/09	28	7,262
08/09	210	1,004	09/10	51	7,313
08/10	22	1,026	09/11	21	7,334
08/11	97	1,123	09/12	0	7,334
08/12	559	1,682	09/13	0	7,334
08/13	105	1,787	09/14	10	7,344
08/14	108	1,895	09/15	7	7,351
08/15	281	2,176	09/16	6	7,357
08/16	7	2,183	09/17	38	7,395
08/17	233	2,416	09/18	10	7,405
08/18	618	3,034	09/19	2	7,407
08/19	159	3,193	09/20	28	7,435
08/20	103	3,296	09/21	73	7,508
08/21	731	4,027	09/22	15	7,523
08/22	56	4,083	09/23	0	7,523
08/23	96	4,179	09/24	0	7,523
				Total	7,523

Appendix C.3. Aerial escapement estimates by date and location for sockeye and chinook salmon returning to the upper Copper River drainage, 1988. For all locations where two or more aerial surveys were flown during the season, the peak count and its corresponding date are presented. Counts are either the numbers of live fish, the numbers of dead fish, or both.

Location		Sockeye		Chinook	
No.	Name	Date	Count	Date	Count
1390	Tiekel Lake	8/15	28		
	Tonsina River				
1833	Dust Creek			7/27	11
1835	Bernard Creek	7/27	10	7/27	18
1860	Little Tonsina River			7/27	75
1900	Tonsina Lake	10/21	640		
	Grayling Creek			7/27	161
	Klutina River				
2460	Manker Creek			7/27	115
2500	Klutina Lake	8/15	220		
2520	Mahlo Creek	7/27	3,900	7/27	8
2542	Island Lake	8/15	1,550		
2545	1884 Lake	8/15	75		
2580	St. Anne Creek	7/27	6,100	7/27	62
	Tazlina River				
2900	Tazlina Lake	7/27	49		
2920	Kiana Creek	7/27	25	7/27	249
2970	Mendeltna Creek	8/15	1,550	8/15	17
2975	Upper Mendeltna Creek	6/29	1,250		
	Gulkana River				
	Mouth to West Fork				
3300	Confluence - Swede Lake			8/09	100
3400	West Fork - Upper	7/20	100	7/20	170
3430	Dog Creek	9/02	150		
3440	Crosswind Lake	9/26	625		
3470	Keg Creek	7/20	360		
3490	Victor Creek	7/20	1,075		
3500	West Fork to Middle Fork	7/12	2,150	8/09	450
	Middle Fork				
3640	Dickey Lake	7/12	1		
3650	Dickey Lake - Swede Lake			7/12	95
3670	Swede Lake	8/09	170		
3680	Swede Lake - H. Hollow Ck	7/20	300	7/20	88
3690	Hungry Hollow Creek			7/20	73

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Location		Sockeye		Chinook	
No.	Name	Date	Count	Date	Count
	East Fork				
3710	Paxson Lake - Outlet	8/09	3200	7/28	85
3750	Paxson Lake	8/09			
3790	Paxson Lake Inlet	9/02	9,500		
3810	Mud Creek and Paxson Lake	7/20	6,350		
3820	Mud Creek	8/09	150		
3830	Mud Lake	7/12,7/20	0		
3840	Mud Creek to Summit Lake	9/14	15,400		
3870	Fish Lake	8/09	6,700		
3900	Summit Lake	9/14	300		
3950	Gunn Creek	9/26	10,500		
3955	Gunn Lake Creek	8/09	450		
	Gakona River				
4230	Spring Creek			7/28	71
4269	Alder Creek	7/20	65		
	Chistochina River				
4700	East Fork			7/20	684
4720	Eagle Creek	7/20	45	7/20	17
	Slana River				
5420	Bad Crossing #1	7/20	400		
5430	Bad Crossing #2	7/20	1,675		
5450	Mentasta Lake	7/20	4,300		
5460	Fish Creek	7/20	650		
5440	Bone Creek	7/20	825	7/20	5
5475	Suslositna Lake	7/28	300		
5490	Suslota Lake	7/28,8/10	550		
5495	Smith Creek	8/10	0	8/10	0
5498	Natat Creek	8/10	0	8/10	0
5200	Indian River	7/28	0	7/28,8/10	0
5410	Ahtell Creek	7/28	0	7/28	0
	Tanada Creek				
5640	Tanada Lake Outlet	9/27	1,725		
5650	Tanada Lake	9/14	2,100		

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Location		Sockeye		Chinook	
No.	Name	Date	Count	Date	Count
	Copper Creek				
5850	Copper Lake	9/27	1		
	Lakina River				
7360	Long Lake	9/29	1,125		
	Tana River				
7732	Tana River Clear Channels	8/15	1,960		
7734	Tana Lake Inlet	8/15	70		
7736	West Fork Channels	8/15	4		
8345	Swan Lake #1	8/15	75		
8350	Swan Lake #2	8/15	0		
8355	Swan Lake #3	8/15	200		
8360	Swan Lake #4	8/15	15		
8370	Unnamed Tributary	8/15	35		
	Bremner River				
8410	Peninsula Lake	8/15	325		
8420	Steamboat Lake	8/15	950		
8460	Salmon Creek	8/15	700		
8480	Price Creek	8/15	0		
8510	Unnamed Creek #1	8/15	28		
8520	Unnamed Creek #2	8/15	0		
	Totals		91,001		2,554

Appendix C.4. Estimated age and sex composition of the Upper Copper River sockeye salmon escapement past the Miles Lake Sonar Project, 1988. Estimated from fish sampled in the upriver subsistence and personal use fisheries at Chitna.

		Brood Year and Age Group										
		1985		1984		1983			1982		1981	
		0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
Stratum Dates:	5/19 - 6/06											
Sample Dates:	6/03 - 6/05											
Sample Size:	488											
Female	Percent of Sample	0.0	0.0	5.4	3.7	0.0	29.6	0.6	0.4	6.4	0.0	46.1
	Number in Escapement	0	0	6,950	4,762	0	38,096	772	515	8,237	0	59,332
Male	Percent of Sample	0.2	0.0	6.6	6.2	0.0	33.9	1.9	0.6	4.3	0.2	53.9
	Number in Escapement	257	0	8,494	7,979	0	43,630	2,445	772	5,534	257	69,368
Total	Percent of Sample	0.2	0.0	12.0	9.9	0.0	63.5	2.5	1.0	10.7	0.2	100.0
	Number in Escapement	257	0	15,444	12,741	0	81,726	3,217	1,287	13,771	257	128,700
	Standard Error	261	0	1,895	1,742	0	2,808	911	580	1,803	261	
Stratum Dates:	6/07 - 6/13											
Sample Dates:	6/08 - 6/13											
Sample Size:	292											
Female	Percent of Sample	0.3	0.0	5.8	14.8	0.0	19.7	0.3	0.3	0.0	0.0	41.2
	Number in Escapement	277	0	5,350	13,652	0	18,170	277	277	0	0	38,003
Male	Percent of Sample	1.7	0.0	8.6	18.3	0.3	29.0	0.3	0.3	0.0	0.3	58.8
	Number in Escapement	1,568	0	7,933	16,880	277	26,748	277	277	0	277	54,237
Total	Percent of Sample	2.0	0.0	14.4	33.1	0.3	48.7	0.6	0.6	0.0	0.3	100.0
	Number in Escapement	1,845	0	13,283	30,532	277	44,918	554	554	0	277	92,240
	Standard Error	757	0	1,898	2,544	296	2,703	418	418	0	296	
Stratum Dates:	6/14 - 6/20											
Sample Dates:	6/16 - 6/20											
Sample Size:	543											
Female	Percent of Sample	2.0	0.0	6.5	16.6	0.0	15.7	0.0	0.2	0.0	0.0	41.0
	Number in Escapement	900	0	2,926	7,472	0	7,067	0	90	0	0	18,455
Male	Percent of Sample	3.3	0.0	8.1	23.9	0.0	22.5	0.4	0.6	0.2	0.0	59.0
	Number in Escapement	1,485	0	3,646	10,757	0	10,127	180	270	90	0	26,555
Total	Percent of Sample	5.3	0.0	14.6	40.5	0.0	38.2	0.4	0.8	0.2	0.0	100.0
	Number in Escapement	2,385	0	6,572	18,229	0	17,194	180	360	90	0	45,010
	Standard Error	433	0	683	949	0	939	122	172	86	0	

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Appendix C.4. (p.2 of 3)

		Brood Year and Age Group										
		1985		1984		1983			1982		1981	
		0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
Stratum Dates:	6/21 - 6/27											
Sample Dates:	6/23 - 6/25											
Sample Size:	541											
Female	Percent of Sample	0.4	0.0	0.9	27.6	0.0	25.8	0.0	0.0	0.0	0.0	54.7
	Number in Escapement	210	0	473	14,496	0	13,551	0	0	0	0	28,730
Male	Percent of Sample	0.7	0.0	1.5	18.2	0.0	24.7	0.0	0.2	0.0	0.0	45.3
	Number in Escapement	368	0	788	9,559	0	12,972	0	105	0	0	23,792
Total	Percent of Sample	1.1	0.0	2.4	45.8	0.0	50.5	0.0	0.2	0.0	0.0	100.0
	Number in Escapement	578	0	1,261	24,055	0	26,523	0	105	0	0	52,522
	Standard Error	236	0	346	1,126	0	1,130	0	101	0	0	
Stratum Dates:	6/28 - 7/04											
Sample Dates:	6/29 - 7/03											
Sample Size:	574											
Female	Percent of Sample	0.0	0.0	1.7	24.8	0.0	25.7	0.7	0.2	0.3	0.0	53.4
	Number in Escapement	0	0	663	9,675	0	10,027	273	78	117	0	20,833
Male	Percent of Sample	0.9	0.2	1.0	15.4	0.0	27.2	0.5	0.5	0.9	0.0	46.6
	Number in Escapement	351	78	390	6,008	0	10,611	195	195	351	0	18,179
Total	Percent of Sample	0.9	0.2	2.7	40.2	0.0	52.9	1.2	0.7	1.2	0.0	100.0
	Number in Escapement	351	78	1,053	15,683	0	20,638	468	273	468	0	39,012
	Standard Error	154	73	264	799	0	814	177	136	177	0	
Stratum Dates:	7/05 - 7/11											
Sample Dates:	7/09 - 7/10											
Sample Size:	81											
Female	Percent of Sample	0.0	0.0	2.5	32.1	0.0	22.2	6.2	0.0	1.2	0.0	64.2
	Number in Escapement	0	0	969	12,446	0	8,607	2,404	0	465	0	24,891
Male	Percent of Sample	0.0	0.0	1.2	11.1	0.0	23.5	0.0	0.0	0.0	0.0	35.8
	Number in Escapement	0	0	465	4,304	0	9,111	0	0	0	0	13,880
Total	Percent of Sample	0.0	0.0	3.7	43.2	0.0	45.7	6.2	0.0	1.2	0.0	100.0
	Number in Escapement	0	0	1,434	16,750	0	17,718	2,404	0	465	0	38,771
	Standard Error	0	0	818	2,147	0	2,159	1,045	0	472	0	

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Appendix C.4. (p.3 of 3)

		Brood Year and Age Group										
		1985		1984		1983			1982		1981	
		0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
Stratum Dates:	7/12 - 8/06											
Sample Dates:	7/14 - 8/06											
Sample Size:	423											
Female	Percent of Sample	0.0	0.0	0.2	21.3	0.0	21.0	0.7	0.0	0.2	0.0	43.4
	Number in Escapement	0	0	184	19,626	0	19,350	645	0	184	0	39,989
Male	Percent of Sample	0.2	0.0	0.2	20.6	0.0	34.4	1.2	0.0	0.0	0.0	56.6
	Number in Escapement	184	0	184	18,981	0	31,699	1,106	0	0	0	52,154
Total	Percent of Sample	0.2	0.0	0.4	41.9	0.0	55.4	1.9	0.0	0.2	0.0	100.0
	Number in Escapement	184	0	368	38,607	0	51,049	1,751	0	184	0	92,143
	Standard Error	200	0	283	2,213	0	2,230	612	0	200	0	
Strata Combined:	5/19 - 8/06											
Sample Dates:	6/03 - 8/06											
Sample Size:	2942											
Female	Percent of Sample	0.3	0.0	3.6	16.8	0.0	23.5	0.9	0.2	1.8	0.0	47.2
	Number in Escapement	1,387	0	17,515	82,129	0	114,868	4,371	960	9,003	0	230,233
Male	Percent of Sample	0.9	0.0	4.5	15.2	0.1	29.7	0.9	0.3	1.2	0.1	52.8
	Number in Escapement	4,213	78	21,900	74,468	277	144,898	4,203	1,619	5,975	534	258,165
Total	Percent of Sample	1.1	0.0	8.1	32.1	0.1	53.2	1.8	0.5	3.1	0.1	100.0
	Number in Escapement	5,600	78	39,415	156,597	277	259,766	8,574	2,579	14,978	534	488,398
	Standard Error	974	73	2,933	4,672	296	5,258	1,587	755	1,885	394	

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APPENDIX D

Salmon Escapements to Coastal Streams
of the Copper River Delta and the Bering River.

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Appendix D.1. Aerial escapement indices for sockeye salmon returning to the Copper River Delta and the Bering River by date and location, 1988. a

Copper River Delta System/Drainage	Survey Site	Aerial Escapement Indices by Survey Date										
		09 Jun	14 Jun	22 Jun	25 Jun	31 Jun	7 Jul	15 Jul	21 Jul	28 Jul	5-6 Aug	14 Aug
Eyak River	Eyak River		0	NS	0	200	50	50	0	0 +	0	0
	West Shore Beaches	30	30	NS	45	80 +	450	800	1,560	2,400	3,600 *	2,900
	Middle Arm Beaches d	180	170	NS	550 *	180	80	250	175	250	1,400 +	2,100 *
	North Shore Beaches	0	0	NS	0	0	0	0	0	20 +	NC	NC
	Hatchery Creek Delta d	0	0	NS	50	350	400 *	120	200	0	400	250
	Hatchery Creek d	0	20	NS	0	0	300 *	150	330	450	70	40
	Power Creek Delta	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NC
	Power Creek	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ibek Creek	Ibek Creek	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0 *
Alganik Slough	Alganik Slough	NS	0	NS	NS	NS	0	NS	NS	NS	NS	NS
	McKinley Lake	NS	0	0	NS	2,000	4,600	NS	9,700 *	3,100	NS	1,000
	Salmon Creek - West Fork	NS	NS	NS	NS	0	0	NS	100 *	NS	NS	2,200
	Salmon Creek - East Fork	NS	NS	NS	NS	0	0	NS	0 *	NS	NS	50
26/27 Mile Creek	26/27 Mile Creek	0	250	250	600	1,600	2,105 *	NS	1,600	1,050 +	520 +	1,400
39 Mile Ceek	39 Mile Ceek	NS	0	0	NS	0	1,000	NS	1,000	3,620 *	720	2,300
Goat Mountain Creek	Goat Mountain Creek	NS	0	NS	NS	0	0	NS	150	220 *	NC	100 +
Pleasant Creek	Pleasant Creek	NS	20	NS	460 *	125 +	300	NS	10 +	10 +	0	0
Martin River	Martin River - Lower	70	44	NS	20	120	500	NS	160	160	NS	0
	Ragged Point River	NS	NS	NS	30	100	250	NS	1,050	1,350	NS	1,000
	Ragged Point Lake Outlet	NS	NS	NS	NS	NS	0	NS	0	0	NS	100
	Ragged Point Lake	NS	NS	NS	NS	NS	NS	NS	0	0	NS	400
	Martin River - Upper	105	330	NS	670	210	1,100	NS	850	400	NS	350
	Martin Lake Outlet	0	0	NS	710	120	400 *	NS	100	250	NS	0
	Martin Lake d	0	570	NS	650	4,800	5,300 *	NS	1,250	150	NS	150
	Martin Lake Feeders	0	0	NS	0	120	140 *	NS	3,500	3,100	NS	200
	Pothole River	NS	0	NS	0	35	540	NS	100	140	NS	50 *
	Pothole Lake Outlet	NS	NS	NS	0	0	0	NS	0	10	NS	0 *
	Pothole Lake	NS	NS	NS	0	0	100	NS	0	50	NS	1,700 *
	Little Martin Lake Outlet	0	0	NS	0	0	30	NS	50	0	NS	0
	Little Martin Lake	NS	60	NS	30	0	500	NS	850	1,200	NS	1,100
	Tokun Springs	NS	0	NS	0	0	0	NS	0	50 *	NS	0
	Tokun River d	30	0	NS	90	100	250 *	NS	450	320	NS	10
	Tokun Lake Outlet d	0	50	NS	400	300 +	300 *	NS	0	0	NS	0
	Tokun Lake d	NS	600	NS	3,400	100 +	4,000 + *	NS	2,400	2,900	NS	3,500
Martin River Slough	Martin River Slough	0	0	NS	1,800	2,900	3,115 *	NS	1,150	300	NS	70
Copper River Delta Aerial Survey Daily Totals		415	2,144	250	9,505	13,440	25,810	1,370	26,735	21,500	6,710	20,970

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Appendix D.1. (p. 2 of 4)

Copper River Delta System/Drainage	Survey Site	Aerial Escapement Indices by Survey Date									Estimated Escapement	
		19 Aug	28 Aug	6 Sep	9 Sep	15 Sep	22 Sep	27 Sep	16 Oct	31 Oct	Site b	System c
Eyak River	Eyak River	0	NS	NS	NS	NS	NC	NS	NS	NS	0	8,350
	West Shore Beaches	2,275	NS	0	0	1,200	NC	1,000	100	0	3,600	
	Middle Arm Beaches d	1,500	NS	650	NS	1,200	600 +	700	100	10	2,650	
	North Shore Beaches	180	NS	NC	NS	525 *	NC	300	100	0	525	
	Hatchery Creek Delta d	250	NS	0	NS	75 *	0	0	0	0	475	
	Hatchery Creek d	45	NS	220	NS	450 *	90	270	0	0	750	
	Power Creek Delta	NS	NS	NS	NS	NS	NS	0	0	NS	0	
	Power Creek	NS	NS	NS	NS	NS	NS	0	0	NS	350	
Ibek Creek	Ibek Creek	0	0	0	0	0	0	0	0	0	0	0
Alganik Slough	Alganik Slough	NS	NS	NS	NS	NS	NC	NS	NS	NS	NS	9,800
	McKinley Lake	475	0	0	100	350	0	0	0	0	9,700	
	Salmon Creek - West Fork	900	1,000	50 +	NS	300 +	100 +	40	0	0	100	
	Salmon Creek - East Fork	30	0	0	NS	0	0	25	0	0	0	
26/27 Mile Creek	26/27 Mile Creek	850	700 +	250	350	300	120	30	0	0	2,105	2,105
39 Mile Ceek	39 Mile Ceek	1,320	1,400 SP	700 SP	950 SP	1,300 SP	500	600	0	0	3,620	3,620
Goat Mountain Creek	Goat Mountain Creek	0	0	0	NS	0	0	0	0	0	220	220
Pleasant Creek	Pleasant Creek	0	0	0	NS	0	0	0	0	0	460	460
Martin River	Martin River - Lower	0	NC	0 *	0	0	0	0	0	0	0	0
	Ragged Point River	600	0	0 *	NS	0	0	0	0	0	0	2,060
	Ragged Point Lake Outlet	60	150	60 *	NS	100	100	0	0	0	60	
	Ragged Point Lake	500	1,650	2,000 *	NS	1,500	1,700	1,300	0	100	2,000	
	Martin River - Upper	270	200	0	0	0	0	0	0	0	0	0
	Martin Lake Outlet	0	50	50	0	0	0	0	0	0	400	6,440
	Martin Lake d	0	50	0	0	400	500 +	600 + *	600	0	5,900	
	Martin Lake Feeders	10	0	0	NS	0	0	0	0	0	140	
	Pothole River	0	50	0	NS	0	0	0	0	0	50	2,785
	Pothole Lake Outlet	0	100	0	NS	0	0	35 *	0	0	35	
	Pothole Lake	300 +	1,200	600	NS	1,000	650 +	1,000 *	700	900	2,700	
	Little Martin Lake Outlet	0	0 *	0	NS	5	0	0	0	0	0	2,200
	Little Martin Lake	300	2,200 *	520	NS	1,100	400	700	0	0	2,200	
	Tokun Springs	0	0	10	NS	0	0	0	0	0	50	12,160
	Tokun River d	160 *	100	0	NS	0	0	0 *	0	0	410	
	Tokun Lake Outlet d	0 *	0	0	NS	0	0	0 *	0	0	300	
	Tokun Lake d	4,400 *	2,600	620	NS	900 +	1,050	3,000 + *	300	70	11,400	
Martin River Slough	Martin River Slough	0	0	0	NS	0	0	0	NS	0	3,115	3,115
Copper River Delta Aerial Survey Daily Totals		14,425	11,450	5,730	1,400	10,705	5,810	9,600	1,900	1,080		53,315

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Appendix D.1. (p. 3 of 4)

Copper River Delta System/Drainage	Survey Site	Aerial Escapement Indices by Survey Date										
		09 Jun	14 Jun	22 Jun	25 Jun	31 Jun	7 Jul	15 Jul	21 Jul	28 Jul	5-6 Aug	14 Aug
Bering River	Bering River	0	470	NS	100	50	1,700	NS	400 *	200	NS	0
	Bering Lake	0	60	NS	700	4,900 +	9,700	NS	9,000 *	4,200 +	NS	450
	Dick Creek	0	0	NS	0	0	0	NS	2,050 *	4,100 +	NS	1,670
	Shepherd Creek - Lagoon	0	0	NS	0	450	200	NS	300 *	0	NS	10
	Shepherd Creek	NS	NS	NS	NS	NS	0	NS	500 *	600 +	NS	150
	Carbon Creek	NS	NS	NS	NS	NS	0	NS	150 *	120	NS	NS
	Maxwell Creek	NS	NS	NS	NS	NS	NS	NS	0 *	0	NS	NS
	Trout Creek	NS	NS	NS	NS	NS	NS	NS	0	0 *	NS	NS
	Clear Creek	NS	NS	NS	NS	NS	NS	NS	0	100 *	NS	NS
	Kushtaka Lake	NS	NS	NS	NS	NS	0	NS	0	10 +	NS	180 *
	Shokum Creek	NS	NS	NS	NS	NS	0	NS	0	20 +	NS	300 *
Katalla River	Katalla River	0	0	NS	0	40	300	NS	150	350 *	NS	150
Bering River Area Total		0	530	0	800	5,440	11,900	0	12,550	9,700	0	2,910
Copper River Delta/Bering River Area Total		415	2,674	250	10,305	18,880	37,710	1,370	39,285	31,200	6,710	23,880

Appendix D.1. (p. 4 of 4)

Copper River Delta System/Drainage	Survey Site	Aerial Escapement Indices by Survey Date									Estimated Escapement	
		19 Aug	28 Aug	6 Sep	9 Sep	15 Sep	22 Sep	27 Sep	16 Oct	31 Oct	Site b/	System c/
Bering River	Bering River	0	NC	NC	NS	0	NC	NC	NS	0	400	11,450
	Bering Lake	215	100	0	NS	0	NC	0	NS	0	9,000	
	Dick Creek	120	0	0	NS	60 +	25	50	NS	0	2,050	
	Shepherd Creek - Lagoon	0	NS	0	NS	0	0	0	NS	0	300	950
	Shepherd Creek	NS	NS	NS	NS	NS	NS	NS	NS	NS	500	
	Carbon Creek	NS	NS	NS	NS	NS	NS	NS	NS	NS	150	
	Maxwell Creek	NS	NS	NS	NS	NS	NS	NS	NS	NS	0	
	Trout Creek	NS	NS	0	NS	0	NS	NS	NS	NS	0	0
	Clear Creek	NS	NS	0	NS	0	NS	NS	NS	NS	100	100
	Kushtaka Lake	70	NS	10	NS	0	NS	NS	NS	NS	180	480
	Shokum Creek	30	NS	0	NS	0	NS	NS	NS	NS	300	
Katalla River	Katalla River	15	NS	0	NS	0	NC	0	NS	0	350	350
Bering River Area Total		450	100	10	0	60	25	50	0	0		13,330
Copper River Delta/Bering River Area Total		14,875	11,550	5,740	1,400	10,765	5,835	9,650	1,900	1,080		66,645

a The survey sites represent most of the known sockeye salmon spawning locations in the Copper River Delta and Bering River drainages. Weather permitting, the sites are surveyed weekly. The surveys provide information about the relative strength of escapements among years and within a year, time trends for spawning sites and the relative escapement strength among sites. The indices are not intended to provide and actual estimate of escapement for the coastal stocks but they have been used for that purpose in the absence of any other escapement estimating method. The abbreviations used in the table have the following meanings: NS = no survey, NC = surveyed but no count do to poor conditions, and SP = Possible species confusion. The + sign after some counts indicates that the count is the minimun estimates of fish seen in less than ideal conditions. The * symbol indicates that this survey count was used as the peak survey for the site without duplication of counts for survey sites along migratory corridors (see footnote b).

b The escapement estimate for each site is the asterisked aerial survey estimate. Where the survey site is a terminal spawning area the peak count is used, however, if the site is a schooling area for migratory fish bound for sites further upstream the count which minimizes possible duplicate counts across dates selected.

c The sum of the estimates by site within a system.

d These sites typically have very protracted run timing or two temporally segregated spawning populations at the same site. Aerial counts from more than one date may be asterisked and used in the escapement estimate if the surveyor indicated that these counts represented different fish.

Appendix D.2 Estimated age and sex composition in the combined and to both combined, 1988. a

		Brood Year and Age Group										
		1986	1985		1984		1983			1982		
		0.1	0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total
Copper River Delta Escapements:												
Sample Dates:	6/16 - 8/17											
Sample Size:	6119											
Female	Percent of Sample	0.0	0.3	0.0	2.8	11.1	0.0	30.2	0.1	0.1	0.0	44.7
	Number in Escapement	0	141	0	1,369	5,390	21	14,656	40	62	20	21,699
Male	Percent of Sample	0.0	4.5	0.4	2.1	27.0	0.0	20.7	0.2	0.0	0.1	55.3
	Number in Escapement	16	2,206	212	1,044	13,123	18	10,076	106	12	53	26,866
Total	Percent of Sample	0.0	4.8	0.4	5.0	38.1	0.1	50.9	0.3	0.2	0.2	100.0
	Number in Escapement	16	2,347	212	2,413	18,513	39	24,732	146	74	73	48,565
	Standard Error	8	122	45	115	299	13	297	37	27	31	
Bering River Escapements:												
Sample Dates:	7/09 - 8/08											
Sample Size:	1292											
Female	Percent of Sample	0.0	0.7	0.0	3.4	18.8	0.0	25.6	0.3	0.0	0.0	48.8
	Number in Escapement	0	83	1	416	2,316	0	3,151	42	0	3	6,012
Male	Percent of Sample	0.0	0.9	1.6	2.9	19.9	0.0	25.7	0.1	0.0	0.1	51.2
	Number in Escapement	0	116	195	358	2,454	0	3,171	14	0	10	6,318
Total	Percent of Sample	0.0	1.6	1.6	6.3	38.7	0.0	51.3	0.5	0.0	0.1	100.0
	Number in Escapement	0	199	196	774	4,770	0	6,322	56	0	13	12,330
	Standard Error	0	60	57	116	225	0	232	8	0	4	
Combined Delta and Bering Escapements												
Sample Dates:	6/16 - 8/17											
Sample Size:	7411											
Female	Percent of Sample	0.0	0.4	0.0	2.9	12.7	0.0	29.2	0.1	0.1	0.0	45.5
	Number in Escapement	0	224	1	1,785	7,706	21	17,807	82	62	23	27,711
Male	Percent of Sample	0.0	3.8	0.7	2.3	25.6	0.0	21.8	0.2	0.0	0.1	54.5
	Number in Escapement	16	2,322	407	1,402	15,577	18	13,247	120	12	63	33,184
Total	Percent of Sample	0.0	4.2	0.7	5.2	38.2	0.1	51.0	0.3	0.1	0.1	100.0
	Number in Escapement	16	2,546	408	3,187	23,283	39	31,054	202	74	86	60,895
	Standard Error	8	136	72	163	374	13	377	38	27	32	

a Based on a pool of escapements by age and sex for key spawning areas in the Copper River Delta and Bering River watersheds (Appendix D.3 - D.15).

Appendix D.3. Estimated age and sex composition of the sockeye salmon escapement to the south beaches of Eyak Lake, 1988. Based on aerial estimates of escapements to beach spawning sites on the west shore allocated by age and sex composition data from fish captured in a beach seine set on the south shore.

		Brood Year and Age Group						
		1984		1983		1982		
		0.3	1.2	1.3	2.2	1.4	2.3	Total
Stratum Dates:	6/09 - 10/16							
Sample Dates:	7/20 - 7/22							
Sample Size:	542							
Female	Percent of Sample	0.2	5.2	47.1	0.2	0.2	0.2	53.1
	Number in Escapement	7	187	1,697	7	7	7	1,912
Male	Percent of Sample	0.0	9.0	37.5	0.2	0.0	0.2	46.9
	Number in Escapement	0	324	1,350	7	0	7	1,688
Total	Percent of Sample	0.2	14.2	84.6	0.4	0.2	0.4	100.0
	Number in Escapement	7	511	3,047	14	7	14	3,600
	Standard Error	7	54	56	10	7	10	

Appendix D.4. Estimated age and sex composition of the sockeye salmon escapement to Hatchery Creek at Eyak Lake, 1988. Bases on aerial estimates of escapements to both stream and beach spawning sites allocated by age and sex composition data from fish captured in a beach seine in the vicinity of Hatchery Creek Delta.

		Brood Year and Age Group						
		1985		1984		1983	1982	
		0.2	1.1	0.3	1.2	1.3	1.4	Total
Stratum Dates:	7/08 - 9/27							
Sample Dates:	7/08							
Sample Size:	97							
Female	Percent of Sample	3.1	0.0	4.1	5.2	17.6	1.0	31.0
	Number in Escapement	38	0	50	64	216	12	380
Male	Percent of Sample	15.5	1.0	1.0	41.2	9.3	1.0	69.0
	Number in Escapement	190	12	12	505	114	12	845
Total	Percent of Sample	18.6	1.0	5.1	46.4	26.9	2.0	100.0
	Number in Escapement	228	12	62	569	330	24	1,225
	Standard Error	49	12	28	62	55	18	

Appendix D.5. Estimated age and sex composition of the sockeye salmon escapement to the middle arm of Eyak Lake, 1988. Based on the aerial estimate of escapement to beach spawning sites allocated by age and sex composition data from fish captured in a beach seine set in the middle arm of the lake.

		Brood Year and Age Group							
		1985	1984		1983			1982	
		0.2	0.3	1.2	0.4	1.3	2.2	1.4	Total
Stratum Dates:	6/09 - 7/07								
Sample Dates:	6/16								
Sample Size:	204								
Female	Percent of Sample	1.0	9.3	2.5	1.5	39.1	0.0	1.0	54.4
	Number in Escapement	6	51	13	8	214	0	6	298
Male	Percent of Sample	0.5	11.8	1.0	2.0	30.3	0.0	0.0	45.6
	Number in Escapement	3	65	6	11	167	0	0	252
Total	Percent of Sample	1.5	21.1	3.5	3.5	69.4	0.0	1.0	100.0
	Number in Escapement	9	116	19	19	381	0	6	550
	Standard Error	5	16	7	7	18	0	4	
Stratum Dates:	7/07 - 10/31								
Sample Dates:	8/17								
Sample Size:	376								
Female	Percent of Sample	0.0	2.7	12.2	0.0	16.0	0.3	0.0	31.2
	Number in Escapement	0	57	256	0	336	6	0	655
Male	Percent of Sample	1.6	2.9	40.4	0.0	23.4	0.5	0.0	68.8
	Number in Escapement	34	61	848	0	491	11	0	1,445
Total	Percent of Sample	1.6	5.6	52.6	0.0	39.4	0.8	0.0	100.0
	Number in Escapement	34	118	1,104	0	827	17	0	2,100
	Standard Error	14	25	54	0	53	10	0	
Strata Combined:	6/09 - 10/31								
Sample Dates:	6/16 and 8/17								
Sample Size:	580								
Female	Percent of Sample	0.2	4.1	10.2	0.3	20.8	0.2	0.2	36.0
	Number in Escapement	6	108	269	8	550	6	6	953
Male	Percent of Sample	1.4	4.8	32.2	0.4	24.8	0.4	0.0	64.0
	Number in Escapement	37	126	854	11	658	11	0	1,697
Total	Percent of Sample	1.6	8.9	42.4	0.7	45.6	0.6	0.2	100.0
	Number in Escapement	43	234	1,123	19	1,208	17	6	2,650
	Standard Error	14	29	55	7	56	10	4	

Appendix D.6. Estimated age and sex composition of the sockeye salmon escapement to McKinley Lake, 1988. Based on aerial estimates of escapements to both stream and beach spawning sites allocated by age and sex composition data from fish captured in a beach seine at the mouth of Salmon Creek.

		Brood Year and Age Group						
		1985		1984		1983	1982	
		0.2	1.1	0.3	1.2	1.3	1.4	Total
Stratum Dates:	6/31 - 9/27							
Sample Dates:	7/14							
Sample Size:	609							
Female	Percent of Sample	0.0	0.0	1.5	4.6	33.3	0.2	39.6
	Number in Escapement	0	0	147	451	3,263	20	3,881
Male	Percent of Sample	3.9	0.2	1.3	34.8	20.2	0.0	60.4
	Number in Escapement	382	20	127	3,410	1,980	0	5,919
Total	Percent of Sample	3.9	0.2	2.8	39.4	53.5	0.2	100.0
	Number in Escapement	382	20	274	3,861	5,243	20	9,800
	Standard Error	77	18	66	194	198	18	

Appendix D.7 Estimated age and sex composition of the sockeye salmon escapement to Twenty-Seven Mile Slough, 1988. Based on the aerial estimate of escapement allocated by age and sex composition data from fish captured in a beach seine at the lower end of the slough complex immediately upstream of the confluence with Pete Dahl Slough.

		Brood Year and Age Group								
		1985		1984		1983			1982	
		0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	Total
Stratum Dates:	6/14 - 9/27									
Sample Dates:	7/01									
Sample Size:	696									
Female	Percent of Sample	0.6	0.0	5.5	6.3	0.3	18.4	0.0	0.4	31.5
	Number in Escapement	13	0	116	133	6	387	0	8	663
Male	Percent of Sample	21.8	0.7	2.3	39.0	0.0	4.6	0.1	0.0	68.5
	Number in Escapement	459	15	48	821	0	97	2	0	1,442
Total	Percent of Sample	22.4	0.7	7.8	45.3	0.3	23.0	0.1	0.4	100.0
	Number in Escapement	472	15	164	954	6	484	2	8	2,105
	Standard Error	33	7	21	40	4	34	3	5	

Appendix D.8. Estimated age and sex composition of the sockeye salmon escapement to Thirty-Nine Mile Creek, 1988. Based on aerial estimates allocated by age and sex composition data from fish captured in a beach seine.

		Brood Year and Age Group								
		1985		1984		1983			1982	
		0.2	1.1	0.3	1.2	0.4	1.3	2.2	2.3	Total
Stratum Dates:	7/07 - 9/27									
Sample Dates:	7/22 and 7/25									
Sample Size:	586									
Female	Percent of Sample	0.0	0.0	4.9	12.6	0.2	30.7	0.0	0.0	48.4
	Number in Escapement	0	0	177	456	7	1,112	0	0	1,752
Male	Percent of Sample	2.2	0.7	2.9	27.5	0.2	17.6	0.2	0.3	51.6
	Number in Escapement	80	25	105	996	7	637	7	11	1,868
Total	Percent of Sample	2.2	0.7	7.8	40.1	0.4	48.3	0.2	0.3	100.0
	Number in Escapement	80	25	282	1,452	14	1,749	7	11	3,620
	Standard Error	22	12	40	73	9	75	7	8	

a/ Based on aerial estimates allocated by age and sex composition data from fish captured in a beach seine.

Appendix D.9. Estimated age and sex composition of the sockeye salmon escape to Ragged Point Lake, 1988. Based on the aerial estimate of escapement to the lake allocated by age and sex composition data from fish captured in a beach seine at the lower reaches of Ragged Point River.

		Brood Year and Age Group							
		1986	1985		1984		1983		
		0.1	0.2	1.1	0.3	1.2	1.3	2.2	Total
Stratum Dates:	6/25 - 10/31								
Sample Dates:	7/21								
Sample Size:	562								
Female	Percent of Sample	0.0	1.8	0.0	9.6	24.7	11.6	0.4	48.1
	Number in Escapement	0	37	0	198	509	239	8	991
Male	Percent of Sample	0.5	10.7	0.9	3.6	29.1	6.6	0.5	51.9
	Number in Escapement	10	220	19	74	600	136	10	1,069
Total	Percent of Sample	0.5	12.5	0.9	13.2	53.8	18.2	0.9	100.0
	Number in Escapement	10	257	19	272	1,109	375	18	2,060
	Standard Error	6	29	8	29	43	34	8	

Appendix D.10 Estimated age and sex composition of the sockeye salmon escapement to Martin Lake, 1988. Based on aerial estimates of escapements to both stream and beach spawning sites allocated by age and sex composition data from fish captured in a beach seine on the west shore of the lake.

		Brood Year and Age Group							
		1985		1984		1983		1982	
		0.2	1.1	0.3	1.2	1.3	2.2	2.3	Total
Stratum Dates:	6/14 - 10/16								
Sample Dates:	7/16								
Sample Size:	625								
Female	Percent of Sample	0.3	0.0	1.0	27.7	7.5	0.3	0.2	37.0
	Number in Escapement	19	0	64	1,784	483	19	13	2,382
Male	Percent of Sample	1.4	1.1	0.3	58.6	1.1	0.5	0.0	63.0
	Number in Escapement	90	71	19	3,775	71	32	0	4,058
Total	Percent of Sample	1.7	1.1	1.3	86.3	8.6	0.8	0.2	100.0
	Number in Escapement	109	71	83	5,559	554	51	13	6,440
	Standard Error	33	27	29	89	72	23	12	

Appendix D.11. Estimated age and sex composition of sockeye salmon escapement to Little Martin Lake, 1988. Based on the aerial estimate of escapement allocated by age and sex composition data from fish captured in a beach seine at several locations at the lake.

		Brood Year and Age Group					
		1985		1984	1983		
		0.2	1.1	1.2	1.3	2.2	Total
Stratum Dates:	6/14 - 9/27						
Sample Dates:	7/25 - 7/26						
Sample Size:	575						
Female	Percent of Sample	0.0	0.0	30.6	20.3	0.0	50.9
	Number in Escapement	0	0	673	447	0	1,120
Male	Percent of Sample	0.2	0.3	40.4	8.0	0.2	49.1
	Number in Escapement	4	7	889	176	4	1,080
Total	Percent of Sample	0.2	0.3	71.0	28.3	0.2	100.0
	Number in Escapement	4	7	1,562	623	4	2,200
	Standard Error	4	5	42	41	4	

Appendix D.12. Estimated age and sex composition of the sockeye salmon escapement to Tokun Lake, 1988. Based on the aerial estimate of escapement allocated by age and sex composition data from fish captured in a beach seine in the vicinity of Tokun Creek Delta.

		Brood Year and Age Group					
		1985	1984	1983		1982	
		1.1	1.2	1.3	2.2	2.3	Total
Stratum Dates:	6/14 - 10/31						
Sample Dates:	8/03 - 8/04						
Sample Size:	606						
Female	Percent of Sample	0.0	6.4	50.2	0.0	0.0	56.6
	Number in Escapement	0	752	5,898	0	0	6,650
Male	Percent of Sample	0.2	3.8	38.9	0.2	0.3	43.4
	Number in Escapement	24	447	4,570	24	35	5,100
Total	Percent of Sample	0.2	10.2	89.1	0.2	0.3	100.0
	Number in Escapement	24	1,199	10,468	24	35	11,750
	Standard Error	21	145	149	21	26	

Appendix D.13. Estimated age and sex composition of the sockeye salmon escapement to Martin River Slough, 1988. Based on the aerial estimate of escapement allocated by age and sex composition data from fish captured in a beach seine in the middle of the slough drainage approximately 3 miles upstream of Bennet Rock.

		Brood Year and Age Group								
		1986	1985		1984		1983		1982	
		0.1	0.2	1.1	0.3	1.2	1.3	2.2	1.4	Total
Stratum Dates:	6/25 - 8/14									
Sample Dates:	7/07 - 7/08									
Sample Size:	641									
Female	Percent of Sample	0.0	0.9	0.0	16.1	3.6	11.7	0.0	0.3	32.6
	Number in Escapement	0	28	0	502	112	364	0	9	1,015
Male	Percent of Sample	0.2	23.9	0.6	17.1	16.1	9.2	0.3	0.0	67.4
	Number in Escapement	6	744	19	533	502	287	9	0	2,100
Total	Percent of Sample	0.2	24.8	0.6	33.2	19.7	20.9	0.3	0.3	100.0
	Number in Escapement	6	772	19	1,035	614	651	9	9	3,115
	Standard Error	6	53	10	58	49	50	7	7	

Appendix D.14. Estimated age and sex composition of the sockeye salmon escapement to Bering Lake, 1988. Based on aerial estimates of escapements to both stream and beach spawning sites allocated by age and sex composition data from fish captured in a beach seine in the vicinity of the Dick Creek Delta.

		Brood Year and Age Group					
		1985		1984		1983	
		0.2	1.1	0.3	1.2	1.3	Total
Stratum Dates:	6/14-8/28						
Sample Dates:	7/09-7/10						
Sample Size:	610						
Female	Percent of Sample	0.7	0.0	3.6	17.9	26.5	48.7
	Number in Escapement	80	0	412	2,049	3,034	5,575
Male	Percent of Sample	1.0	1.5	3.1	19.3	26.4	51.3
	Number in Escapement	115	172	355	2,210	3,023	5,875
Total	Percent of Sample	1.7	1.5	6.7	37.2	52.9	100.0
	Number in Escapement	195	172	767	4,259	6,057	11,450
	Standard Error	60	56	116	224	232	

Appendix D.15. Estimated age and sex composition of the sockeye salmon escapement to Kushtaka Lake, 1988. Based on fish captured in a beach seine at the mouth of Shokum Creek and in the spring area at the northwestern corner of the lake. The aerial estimate of the escapement to this glacial system was 480 fish (Appendix D.1).

		Brood Year and Age Group							
		1985		1984		1983		1982	
		0.2	1.1	0.3	1.2	1.3	2.2	2.3	Total
Stratum Dates:	7/28-9/06								
Sample Dates:	8/08								
Sample Size:	880								
Female	Percent of Sample	0.3	0.1	0.4	30.3	13.3	4.8	0.3	49.5
	Number in Escapement	3	1	4	267	117	42	3	437
Male	Percent of Sample	0.1	2.6	0.3	27.8	16.9	1.6	1.2	50.5
	Number in Escapement	1	23	3	244	148	14	10	443
Total	Percent of Sample	0.4	2.7	0.7	58.1	30.2	6.4	1.5	100.0
	Number in Escapement	4	24	7	511	265	56	13	880
	Standard Error	2	5	3	17	15	8	4	

Appendix D.16. Aerial escapement indices by date and location for coho salmon returning to the Copper River Delta and the Bering River, 1988. a

Copper River Delta System/Drainage	Survey Site	Aerial Escapement Indices by Survey Date										
		09 Jun	14 Jun	22 Jun	25 Jun	31 Jun	7 Jul	15 Jul	21 Jul	28 Jul	5-6 Aug	14 Aug
Eyak River	Eyak River	NS	0	NS	0	0	0	0	0	0	0	700
	West Shore Beaches	0	0	NS	0	0	0	0	0	0	0	0
	Middle Arm Beaches	0	0	NS	0	0	0	0	0	0	0	300
	North Shore Beaches	0	0	NS	0	0	0	0	0	0	NC	NC
	Hatchery Creek Delta	0	0	NS	0	0	0	0	0	0	NS	0
	Hatchery Creek	0	0	NS	0	0	0	0	0	0	NS	0
	Power Creek Delta	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NC
	Power Creek	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ibek Creek	Ibek Creek	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0
Scott River	Scott River	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	50
	Elsner Lake	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0
	Scott Lake	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	700 *
Alganik Slough	Alganik Slough	NS	0	NS	NS	NS	0	NS	NS	NS	NS	NS
	18/20 Mile Creeks	NS	NS	NS	NS	NS	NS	NS	NS	NS	0	0
	McKinley Lake	NS	0	0	NS	0	0	NS	0	0	NS	0
	Salmon Creek - West Fork	NS	NS	NS	NS	0	0	NS	0	NS	NS	0
	Salmon Creek - East Fork	NS	NS	NS	NS	0	0	NS	0	NS	NS	0
26/27 Mile Creek	26/27 Mile Creek	0	0	0	0	0	0	NS	0	0	0	40
39 Mile Ceek	39 Mile Ceek	NS	0	0	NS	0	0	NS	0	0	0	0
Goat Mountain Creek	Goat Mountain Creek	NS	0	NS	NS	0	0	NS	0	0	NC	60
Pleasant Creek	Pleasant Creek	NS	0	NS	0	0	0	NS	0	0	0	0
Martin River	Martin River - Lower	0	0	NS	0	0	0	NS	0	0	NS	85
	Ragged Point River	NS	NS	NS	0	0	0	NS	0	0	NS	0
	Ragged Point Lake Outlet	NS	NS	NS	NS	NS	0	NS	0	0	NS	0
	Ragged Point Lake	NS	NS	NS	NS	NS	NS	NS	0	0	NS	0
	Martin River - Upper	0	0	NS	0	0	0	NS	0	0	NS	450
	Martin Lake Outlet	0	0	NS	0	0	0	NS	0	0	NS	0
	Martin Lake	0	0	NS	0	0	0	NS	0	0	NS	100
	Martin Lake Feeders	0	0	NS	0	0	0	NS	0	0	NS	0
	Pothole River	NS	0	NS	0	0	0	NS	0	0	NS	0
	Pothole Lake Outlet	NS	NS	NS	0	0	0	NS	0	0	NS	0
	Pothole Lake	NS	NS	NS	0	0	0	NS	0	0	NS	100
	Little Martin Lake Outlet	0	0	NS	0	0	0	NS	0	0	NS	0
	Little Martin Lake	NS	0	NS	0	0	0	NS	0	0	NS	0
	Tokun Springs	0	0	NS	0	0	0	NS	0	0	NS	0
	Tokun River	NS	0	NS	0	0	0	NS	0	0	NS	70
	Tokun Lake Outlet	0	0	NS	0	0	0	NS	0	0	NS	0
	Tokun Lake	0	0	NS	0	0	0	NS	0	0	NS	0
Martin River Slough	Martin River Slough	0	0	NS	0	0	0	NS	0	0	NS	0
Copper River Delta Aerial Survey Daily Totals		0	0	0	0	0	0	0	0	0	0	2,655

-Continued-

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Copper River Delta System/Drainage	Survey Site	Aerial Escapement Indices by Survey Date									Estimated Escapement	
		19 Aug	28 Aug	6 Sep	9 Sep	15 Sep	22 Sep	27 Sep	16 Oct	31 Oct	Site b	System c
Eyak River	Eyak River	300	NS	NS	NS	NS *	NC	NS	NS	NS	0	3,700
	West Shore Beaches	0	NS	350 +	1,400	3,050 *	NC	1,470	900	350	3,050	
	Middle Arm Beaches	0	NS	200 *	NS	150	60	50	0	0	200	
	North Shore Beaches	0	NS	NC	NS	0	NC	30	25	0	0	
	Hatchery Creek Delta	0	NS	50 *	NS SP	0	0	20	20	50	50	
	Hatchery Creek	0	NS	50 *	NS SP	0	0	0	40	15	50	
	Power Creek Delta	NS	NS	NS	NS	NS	NS	75	0	NS	0	
	Power Creek	NS	NS	NS	NS	NS	NS	130	350 +	NS	350	
Ibek Creek	Ibek Creek	0	26	100 +	700 +	550	520	510 +	2,400 + *	1,800 +	2,400	2,400
Scott River	Scott River	30	0	10 +	100	15	40 +	190	0	360 *	360	1,060
	Elsner Lake	NS	0	0	0	0	0	0	0	0	0	
	Scott Lake	150 +	150 +	0	300	250	20 +	200 +	100 +	0	700	
Alganik Slough	Alganik Slough	NS	NS	NS	NS	NS	NC	NS	NS *	NS	NS	3,170
	18/20 Mile Creeks	0	70 +	110	400	925 +	640 +	810 +	1,075 + *	520	1,075	
	McKinley Lake	0	100 +	175	200 +	75	170	320	200	170 *	170	
	Salmon Creek - West Fork	0	100	30	NS	0	0	60	100 *	0	100	
	Salmon Creek - East Fork	0	50	25	NS	0	10	75	1,500 +	1,825 *	1,825	
26/27 Mile Creek	26/27 Mile Creek	40	50 +	40	100	60	40 +	60	70	105 *	105	105
39 Mile Ceek	39 Mile Ceek	120 SP	100 SP	100	500	700 SP	690	1,390 *	170	165	1,390	1,390
Goat Mountain Creek	Goat Mountain Creek	400	550 +	725	NS	1,500 *	1,000 +	1,200 +	300 +	500	1,500	1,500
Pleasant Creek	Pleasant Creek	0	0	0	NS	5	110 *	50 +	0	0	110	110
Martin River	Martin River - Lower	350	NC	250 +	250	1,150	240	15	0 *	0	0	0
	Ragged Point River	0	110	0	NS	75	50	80	380 *	140	380	1,080
	Ragged Point Lake Outlet	0	0	0	NS	0	0	0	0 *	2	0	
	Ragged Point Lake	0	0	200	NS	0	0	0	700 *	0	700	
	Martin River - Upper	450	2,700 +	980 +	1,400 +	2,600	200 +	3,400 + *	650	600	3,400	3,400
	Martin Lake Outlet	0	0	0	0	0	0 *	0	0	0	0	145
	Martin Lake	20	0	50	0	0	105 *	20	0	100	105	
	Martin Lake Feeders	0	0	10	NS	20	40 *	80	10	0	40	
	Pothole River	60	300 *	0	NS	100	0	0	25	125	300	350
	Pothole Lake Outlet	0	50 *	0	NS	0	0	0	0	700	50	
	Pothole Lake	NC	0 *	0	NS	0 +	0	0	0	0	0	
	Little Martin Lake Outlet	0	370	620	NS	2,400	4,300 *	3,900	2,500	300	4,300	4,500
	Little Martin Lake	0	0	40	NS	200 *	0	0	0	0	200	
	Tokun Springs	0	120	75	NS	30	100	310 *	25	100	310	910
	Tokun River	0	60	10	NS	80	280	600 *	200	180 +	600	
	Tokun Lake Outlet	0	0	0	NS	0	0	0 *	0	0	0	
	Tokun Lake	0	0	0	NS	0	0	0 *	0	0	0	
Martin River Slough	Martin River Slough	100	720	3,185	NS	3,440	4,110 *	2,950 +	NS	145 +	4,110	4,110
Copper River Delta Aerial Survey Daily Totals		2,020	5,626	7,385	5,350	17,375	12,725	17,995	11,740	8,252		27,930

-Continued-

Appendix D.16. (p. 3 of 4)

Copper River Delta System/Drainage	Survey Site	Aerial Escapement Indices by Survey Date										
		09 Jun	14 Jun	22 Jun	25 Jun	31 Jun	7 Jul	15 Jul	21 Jul	28 Jul	5-6 Aug	14 Aug
Bering River	Bering River	0	0	NS	0	0	0	NS	0	0	NS	1,000
	Bering Lake	0	0	NS	0	0	0	NS	0	0	NS	0
	Dick Creek	0	0	NS	0	0	0	NS	0	0	NS	0
	Shepherd Creek - Lagoon	0	0	NS	0	0	0	NS	0	0	NS	0
	Shepherd Creek	NS	NS	NS	NS	NS	0	NS	0	0	NS	0
	Carbon Creek	NS	NS	NS	NS	NS	0	NS	0	0	NS	NS
	Maxwell Creek	NS	NS	NS	NS	NS	NS	NS	0	0	NS	NS
	Trout Creek	NS	NS	NS	NS	NS	NS	NS	0	0	NS	NS
	Clear Creek	NS	NS	NS	NS	NS	NS	NS	0	0	NS	NS
	Kushtaka Lake	NS	NS	NS	NS	NS	0	NS	0	0	NS	0
	Shokum Creek	NS	NS	NS	NS	NS	0	NS	0	0	NS	0
Katalla River	Katalla River	0	0	NS	0	0	0	NS	0	0	NS	300
Nichawak R.	Nichawak R.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0
Controller Bay	Controller Bay Streams	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0
Bering River Area Total		0	0	0	0	0	0	0	0	0	0	1,300
Copper River Delta/Bering River Area Total		0	0	0	0	0	0	0	0	0	0	3,955

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Copper River Delta System/Drainage	Survey Site	Aerial Escapement Indices by Survey Date									Estimated Escapement	
		19 Aug	28 Aug	6 Sep	9 Sep	15 Sep	26 Sep	27 Sep	16 Oct	31 Oct	Site b/	System c/
Bering River	Bering River	0	NC	NC	NS	0	NC	NC	NS	0	0	2,455
	Bering Lake	0	2,350 + *	NC	NS	775	NC	2,005	NS	905	2,350	
	Dick Creek	0	105 *	130	NS	180	60	250	NS	5	105	
	Shepherd Creek - Lagoon	0	NS	70 + *	NS	0	20	0	NS	0	70	70
	Shepherd Creek	0	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	Carbon Creek	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	Maxwell Creek	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	Trout Creek	NS	NS	NS	NS	0 *	NS	NS	NS	NS	0	0
	Clear Creek	NS	NS	NS	NS	0 *	NS	NS	NS	NS	0	0
	Kushtaka Lake	0	NS	0	NS	0 *	NS	NS	NS	NS	0	0
	Shokum Creek	0	NS	0	NS	0 *	NS	NS	NS	NS	0	0
Katalla River	Katalla River	0	NS	560 *	NS	200 +	NC	100	NS	15	560	560
Nichawak R.	Nichawak R.	15	300 +	570 +	NS	780	3,125	3,670 + *	NS	50	3,670	3,670
Controller Bay	Controller Bay Streams	0	200 +	1,370 +	NS	3,325 +	4,660 + *	3,270 +	NS	120	4,660	4,660
Bering River Area Total		15	2,955	2,700	0	5,260	7,865	9,295	0	1,095		11,415
Copper River Delta/Bering River Area Total		2,035	8,581	10,085	5,350	22,635	20,590	27,290	11,740	9,347		39,345

a The survey sites represent most of the known sockeye salmon spawning locations in the Copper River Delta and Bering River drainages. Weather permitting, the sites are surveyed weekly. The surveys provide information about the relative strength of escapements among years and within a year, time trends for spawning sites and the relative escapement strength among sites. The indices are not intended to provide an actual estimate of escapement for the coastal stocks but they have been used for that purpose in the absence of any other escapement estimating method. The abbreviations used in the table have the following meanings: NS = No Survey, NC = Surveyed but no count do to poor conditions, and SP = Possible species confusion. The + sign after some counts indicates that the count is the minimun estimate of fish seen in less than ideal conditions. The * symbol indicates that this survey count was used as the peak survey for the site without duplication of counts for sites along migratory corridors (see footnote b).

b The escapement estimate for each site is the asterisked aerial survey estimate. Where the survey site is a terminal spawning area the peak count is used, however, if the site is a schooling area for migratory fish bound for sites further upstream the count which minimizes possible duplicate counts across dates is selected.

c The sum of the estimates by site within a system.

APPENDIX E

Age and Sex Data for Commercial Salmon Catches
from Prince William Sound)
(Districts 221-228)

Appendix E.1. Estimated age and sex composition of the commercial sockeye salmon harvest in the Unakwik District, Prince William Sound, 1988. Drift gill net (93%) and purse seine (7%) catches combined.

		Brood Year and Age Group					
		1984		1983		1982	
		0.3	1.2	1.3	2.2	1.4	Total
Sample Date:	7/14						
Sample Size:	578						
Female	Percent of Sample	0.3	6.6	46.4	0.2	0.3	53.8
	Number in Catch	28	611	4,294	19	28	4,980
Male	Percent of Sample	0.3	9.7	36.0	0.0	0.2	46.2
	Number in Catch	28	898	3,331	0	19	4,276
Total	Percent of Sample	0.6	16.3	82.4	0.2	0.5	100.0
	Number in Catch	56	1,509	7,625	19	47	9,256
	Standard Error	30	142	147	17	27	

Appendix E.2. Temporally stratified age and sex composition of the commercial sockeye salmon harvest in the Coghill District, Prince William Sound, 1988. Drift gillnet (98%) and purse seine (2%) catches combined.

		Brood Year and Age Group							
		1984		1983		1982		1981	
		0.3	1.2	1.3	2.2	1.4	2.3	2.4	Total
Stratum Dates:	6/20 - 6/29								
Sample Dates:	6/21 - 6/22								
Sample Size:	577								
Female	Percent of Sample	0.2	12.3	44.9	0.2	1.2	0.5	0.0	59.3
	Number in Catch	37	2,298	8,391	37	224	93	0	11,080
Male	Percent of Sample	0.0	17.3	22.4	0.2	0.3	0.3	0.2	40.7
	Number in Catch	0	3,233	4,187	37	56	56	37	7,606
Total	Percent of Sample	0.2	29.6	67.3	0.4	1.5	0.8	0.2	100.0
	Number in Catch	37	5,531	12,578	74	280	149	37	18,686
	Standard Error	35	355	365	49	95	69	35	
Stratum Dates:	7/03 - 9/24								
Sample Dates:	7/06 - 7/07								
Sample Size:	551								
Female	Percent of Sample	0.2	16.5	36.2	0.4	0.5	0.4	0.0	54.2
	Number in Catch	131	10,769	23,627	261	326	261	0	35,375
Male	Percent of Sample	0.2	15.1	29.0	0.0	1.5	0.0	0.0	45.8
	Number in Catch	131	9,855	18,928	0	979	0	0	29,893
Total	Percent of Sample	0.4	31.6	65.2	0.4	2.0	0.4	0.0	100.0
	Number in Catch	262	20,624	42,555	261	1,305	261	0	65,268
	Standard Error	176	1,294	1,326	176	390	176	0	
Strata Combined:	6/20 - 9/24								
Sample Dates:	6/21 - 7/06								
Sample Size:	1128								
Female	Percent of Sample	0.2	15.6	38.1	0.4	0.7	0.4	0.0	55.3
	Number in Catch	168	13,067	32,018	298	550	354	0	46,455
Male	Percent of Sample	0.2	15.6	27.5	0.0	1.2	0.1	0.0	44.7
	Number in Catch	131	13,088	23,115	37	1,035	56	37	37,499
Total	Percent of Sample	0.4	31.2	65.7	0.4	1.9	0.5	0.0	100.0
	Number in Catch	299	26,155	55,133	335	1,585	410	37	83,954
	Standard Error	179	1,342	1,375	182	401	189	35	

Appendix E.3. Temporally stratified age and sex composition of the commercial sockeye salmon harvest in the Eshamy District, drift and set gill net gear combined, Prince William Sound, 1988. Drift gill net (74%) and set gill net (26%) catches combined.

		Brood Year and Age Group								
		1985		1984		1983		1982		
		0.2	1.1	0.3	1.2	1.3	2.2	1.4	2.3	Total
Stratum Dates:	6/20 - 7/27 a									
Sample Dates:	7/19 - 7/20									
Sample Size:	628									
Female	Percent of Sample	0.3	0.0	0.4	35.5	13.7	1.0	0.2	0.5	51.6
	Number in Catch	147	0	196	17,420	6,722	491	98	245	25,319
Male	Percent of Sample	0.2	0.0	0.2	31.5	15.3	0.6	0.6	0.0	48.4
	Number in Catch	98	0	98	15,457	7,507	294	294	0	23,748
Total	Percent of Sample	0.5	0.0	0.6	67.0	29.0	1.6	0.8	0.5	100.0
	Number in Catch	245	0	294	32,877	14,229	785	392	245	49,067
	Standard Error	138	0	151	921	889	246	175	138	
Stratum Dates:	8/01 - 8/10									
Sample Dates:	8/03 - 8/04									
Sample Size:	598									
Female	Percent of Sample	0.5	0.0	0.0	47.6	1.5	0.7	0.0	0.0	50.3
	Number in Catch	66	0	0	6,276	198	92	0	0	6,632
Male	Percent of Sample	0.8	0.2	0.0	47.2	1.5	0.0	0.0	0.0	49.7
	Number in Catch	105	26	0	6,223	198	0	0	0	6,552
Total	Percent of Sample	1.3	0.2	0.0	94.8	3.0	0.7	0.0	0.0	100.0
	Number in Catch	171	26	0	12,499	396	92	0	0	13,184
	Standard Error	61	24	0	120	92	45	0	0	
Stratum Dates:	8/15 - 8/27									
Sample Dates:	8/18 - 8/27									
Sample Size:	571									
Female	Percent of Sample	0.0	0.2	0.0	43.7	2.2	3.5	0.0	0.0	49.6
	Number in Catch	0	14	0	3,031	153	243	0	0	3,441
Male	Percent of Sample	0.0	0.2	0.0	43.6	1.8	4.4	0.0	0.4	50.4
	Number in Catch	0	14	0	3,025	125	305	0	28	3,497
Total	Percent of Sample	0.0	0.4	0.0	87.3	4.0	7.9	0.0	0.4	100.0
	Number in Catch	0	28	0	6,056	278	548	0	28	6,938
	Standard Error	0	18	0	97	57	78	0	18	
Strata Combined:	6/20 - 8/25									
Sample Dates:	7/19 - 8/27									
Sample Size:	1,797									
Female	Percent of Sample	0.3	0.0	0.3	38.6	10.2	1.2	0.1	0.4	51.2
	Number in Catch	213	14	196	26,727	7,073	826	98	245	35,392
Male	Percent of Sample	0.3	0.1	0.1	35.7	11.3	0.9	0.4	0.0	48.8
	Number in Catch	203	40	98	24,705	7,830	599	294	28	33,797
Total	Percent of Sample	0.6	0.1	0.4	74.3	21.5	2.1	0.6	0.4	100.0
	Number in Catch	416	54	294	51,432	14,903	1,425	392	273	69,189
	Standard Error	151	30	151	934	896	262	175	139	

a The first sampling strata includes 15,948 sockeye salmon that were caught in the Eshamy District prior to July 10. Since there were no significant returns of sockeye salmon to the Eshamy weir before July 10 th, we believe that these early sockeye catches were intercepted fish that were bound to other areas in Prince William Sound. These intercepted fish make up 33% of the catch in the first sampling strata.

Appendix E.4. Estimated age and sex composition of the commercial sockeye salmon harvest in the Southwestern District purse seine fishery, Prince William Sound, 1988.

		Brood Year and Age Group					
		1985	1984		1983		
		1.1	0.3	1.2	1.3	2.2	Total
Sample Dates:	8/11 - 8/19						
Sample Size:	545						
Female	Percent of Sample	0.0	0.0	50.1	2.0	0.9	53.0
	Number in Catch	0	0	5,568	222	100	5,890
Male	Percent of Sample	0.2	0.2	43.8	1.5	1.3	47.0
	Number in Catch	22	22	4,868	167	145	5,224
Total	Percent of Sample	0.2	0.2	93.9	3.5	2.2	100.0
	Number in Catch	22	22	10,436	389	245	11,114
	Standard Error	21	21	114	88	70	

Appendix E.5. Temporally stratified age and sex composition of the commercial chum salmon harvest in the Eastern District purse seine fishery, Prince William Sound, 1988.

		Brood Year and Age Group				
		1985	1984	1983	1982	
		0.2	0.3	0.4	0.5	Total
Stratum Dates:	6/29 - 7/04					
Sample Dates:	6/30					
Sample Size:	425					
Female	Percent of Sample	0.2	8.5	50.1	0.9	59.7
	Number in Catch	302	12,855	75,769	1,361	90,287
Male	Percent of Sample	0.0	7.1	31.8	1.4	40.3
	Number in Catch	0	10,738	48,093	2,117	60,948
Total	Percent of Sample	0.2	15.5	81.9	2.4	100.0
	Number in Catch	302	23,593	123,862	3,478	151,235
	Standard Error	328	2,658	2,828	1,124	
Stratum Dates:	7/05-7/12					
Sample Dates:	7/11					
Sample Size:	518					
Female	Percent of Sample	0.2	11.0	45.6	0.2	57.0
	Number in Catch	923	50,748	210,372	923	262,966
Male	Percent of Sample	0.0	6.9	35.5	0.6	43.0
	Number in Catch	0	31,833	163,777	2,768	198,378
Total	Percent of Sample	0.2	17.9	81.1	0.8	100.0
	Number in Catch	923	82,581	374,149	3,691	461,344
	Standard Error	906	7,778	7,944	1,808	
Stratum Dates:	7/25-8/12					
Sample Dates:	8/06					
Sample Size:	436					
Female	Percent of Sample	0.5	34.2	17.7	0.2	52.6
	Number in Catch	902	61,717	31,941	361	94,921
Male	Percent of Sample	1.1	29.8	16.3	0.2	47.4
	Number in Catch	1,985	53,776	29,414	361	85,536
Total	Percent of Sample	1.6	64.0	33.9	0.5	100.0
	Number in Catch	2,887	115,493	61,355	722	180,457
	Standard Error	1,086	4,153	4,096	610	
Stratum Dates:	8/19-8/26					
Sample Dates:	8/20					
Sample Size:	409					
Female	Percent of Sample	2	48	9	1	59
	Number in Catch	335	9,503	1,696	138	11,672
Male	Percent of Sample	2.9	29.6	8.3	0.0	40.8
	Number in Catch	572	5,836	1,637	0	8,045
Total	Percent of Sample	4.6	77.8	16.9	0.7	100.0
	Number in Catch	907	15,339	3,333	138	19,717
	Standard Error	204	406	366	81	
Strata Combined:	6/29-8/26					
Sample Dates:	6/30-8/20					
Sample Size:	1,788					
Female	Percent of Sample	0.3	16.6	39.3	0.3	56.6
	Number in Catch	2,462	134,823	319,778	2,783	459,846
Male	Percent of Sample	0.3	12.6	29.9	0.6	43.4
	Number in Catch	2,557	102,183	242,921	5,246	352,907
Total	Percent of Sample	0.6	29.2	69.2	1.0	100.0
	Number in Catch	5,019	237,006	562,699	8,029	812,753
	Standard Error	1,466	9,218	9,381	2,216	

Appendix E.6. Temporally stratified age and sex composition of the commercial chum salmon harvest in the Northern District purse seine fishery, Prince William Sound, 1988.

		Brood Year and Age Group				
		1985	1984	1983	1982	
		0.2	0.3	0.4	0.5	Total
Stratum Dates:	6/29-7/12					
Sample Dates:	6/30					
Sample Size:	401					
Female	Percent of Sample	0.2	10.7	42.4	1.0	54.3
	Number in Catch	344	18,381	72,836	1,718	93,279
Male	Percent of Sample	0.5	7.0	37.7	0.5	45.7
	Number in Catch	859	12,025	64,763	859	78,506
Total	Percent of Sample	0.7	17.7	80.0	1.5	99.9
	Number in Catch	1,203	30,406	137,599	2,577	171,785
	Standard Error	716	3,278	3,436	1,044	
Stratum Dates:	8/05-8/07					
Sample Dates:	8/07					
Sample Size:	429					
Female	Percent of Sample	0.5	30.3	28.4	1.2	60.4
	Number in Catch	139	8,395	7,867	332	16,733
Male	Percent of Sample	0.2	13.8	24.7	0.9	39.6
	Number in Catch	55	3,823	6,842	249	10,969
Total	Percent of Sample	0.7	44.1	53.1	2.1	100.0
	Number in Catch	194	12,218	14,709	581	27,702
	Standard Error	112	665	668	192	
Strata Combined:	6/29-8/07					
Sample Dates:	6/30-8/07					
Sample Size:	830					
Female	Percent of Sample	0.2	13.4	40.5	1.0	55.1
	Number in Catch	483	26,776	80,703	2,050	110,012
Male	Percent of Sample	0.5	7.9	35.9	0.6	44.9
	Number in Catch	914	15,848	71,605	1,108	89,475
Total	Percent of Sample	0.7	21.4	76.3	1.6	100.0
	Number in Catch	1,397	42,624	152,308	3,158	199,487
	Standard Error	725	3,345	3,500	1,062	

Appendix E.7. Temporally stratified age and sex composition of the commercial chum salmon harvest in the Coghill District, all gear types combined, Prince William Sound, 1988.

		Brood Year and Age Group				
		1985	1984	1983	1982	
		0.2	0.3	0.4	0.5	Total
Stratum Dates:	6/20-6/22					
Sample Dates:	6/21-6/22					
Sample Size:	391					
Female	Percent of Sample	0.0	21.5	45.2	0.8	67.5
	Number in Catch	0	28,375	59,653	1,056	89,084
Male	Percent of Sample	0.0	8.4	23.8	0.3	32.5
	Number in Catch	0	11,086	31,411	396	42,893
Total	Percent of Sample	0.0	29.9	69.0	1.1	100.0
	Number in Catch	0	39,461	91,064	1,452	131,977
	Standard Error	0	3,060	3,091	697	
Stratum Dates:	6/27-6/29					
Sample Dates:	6/28					
Sample Size:	393					
Female	Percent of Sample	0.3	23.6	47.5	0.3	71.7
	Number in Catch	280	21,994	44,267	280	66,821
Male	Percent of Sample	0.0	8.9	19.1	0.3	28.3
	Number in Catch	0	8,294	17,800	280	26,374
Total	Percent of Sample	0.3	32.5	66.6	0.6	100.0
	Number in Catch	280	30,288	62,067	560	93,195
	Standard Error	257	2,205	2,220	364	
Stratum Dates:	7/03-7/10					
Sample Dates:	7/06					
Sample Size:	421					
Female	Percent of Sample	0.0	30.6	37.4	0.2	68.2
	Number in Catch	0	26,956	32,947	176	60,079
Male	Percent of Sample	0.0	14.0	17.6	0.2	31.8
	Number in Catch	0	12,333	15,504	176	28,013
Total	Percent of Sample	0.0	44.6	55.0	0.4	100.0
	Number in Catch	0	39,289	48,451	352	88,092
	Standard Error	0	2,137	2,138	271	
Stratum Dates:	7/11-9/24					
Sample Dates:	7/11					
Sample Size:	397					
Female	Percent of Sample	1.2	33.8	20.4	0.0	55.4
	Number in Catch	663	18,675	11,271	0	30,609
Male	Percent of Sample	0.3	18.6	25.2	0.5	44.6
	Number in Catch	166	10,277	13,924	276	24,643
Total	Percent of Sample	1.5	52.4	45.6	0.5	100.0
	Number in Catch	829	28,952	25,195	276	55,252
	Standard Error	337	1,387	1,383	196	

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Appendix E.7. (p.2 of 2)

		Brood Year and Age Group				
		1985	1984	1983	1982	
		0.2	0.3	0.4	0.5	Total
Strata Combined:	6/20-9/24					
Sample Dates:	6/21-7/11					
Sample Size:	1,602					
Female	Percent of Sample	0.3	26.1	40.2	0.4	66.9
	Number in Catch	943	96,000	148,138	1,512	246,593
Male	Percent of Sample	0.0	11.4	21.3	0.3	33.1
	Number in Catch	166	41,990	78,639	1,128	121,923
Total	Percent of Sample	0.3	37.4	61.5	0.7	100.0
	Number in Catch	1,109	137,990	226,777	2,640	368,516
	Standard Error	424	4,551	4,579	854	

Appendix E.8. Estimated age and sex composition of the commercial chum salmon harvest in the Northwestern District purse seine fishery, Prince William Sound, 1988.

		Brood Year and Age Group					
		1985	1984	1983	1982	1981	
		0.2	0.3	0.4	0.5	0.6	Total
Sample Date:	7/13						
Sample Size:	388						
Female	Percent of Sample	0.5	20.9	29.3	0.8	0.3	51.8
	Number in Catch	70	2,943	4,126	113	42	7,294
Male	Percent of Sample	0.3	17.0	30.1	0.8	0.0	48.2
	Number in Catch	43	2,394	4,239	113	0	6,789
Total	Percent of Sample	0.8	37.9	59.4	1.6	0.3	100.0
	Number in Catch	113	5,337	8,365	226	42	14,083
	Standard Error	64	347	352	90	39	

Appendix E.9. Temporally stratified age and sex composition of the commercial chum salmon harvest in the Eshamy District, drift and set gill net gear combined, Prince William Sound, 1988.

		Brood Year and Age Group				
		1985	1984	1983	1982	
		0.2	0.3	0.4	0.5	Total
Stratum Dates:	6/20-7/10					
Sample Dates:	6/22					
Sample Size:	394					
Female	Percent of Sample	0.0	17.5	35.6	0.3	53.4
	Number in Catch	0	37,794	76,884	648	115,326
Male	Percent of Sample	0.0	14.0	31.4	1.2	46.6
	Number in Catch	0	30,236	67,814	2,592	100,642
Total	Percent of Sample	0.0	31.5	67.0	1.5	100.0
	Number in Catch	0	68,030	144,698	3,240	215,968
	Standard Error	0	5,061	5,123	1,324	
Stratum Dates:	7/11-8/25					
Sample Dates:	8/04					
Sample Size:	383					
Female	Percent of Sample	4.4	44.4	17.0	1.3	67.1
	Number in Catch	3,681	37,149	14,224	1,088	56,142
Male	Percent of Sample	0.8	18.5	12.3	1.3	32.9
	Number in Catch	669	15,479	10,291	1,088	27,527
Total	Percent of Sample	5.2	62.9	29.3	2.6	100.0
	Number in Catch	4,350	52,628	24,515	2,176	83,669
	Standard Error	950	2,068	1,948	681	
Strata Combined:	6/20-8/25					
Sample Dates:	6/22-8/04					
Sample Size:	777					
Female	Percent of Sample	1.2	25.0	30.4	0.6	57.2
	Number in Catch	3,681	74,943	91,108	1,736	171,468
Male	Percent of Sample	0.2	15.3	26.1	1.2	42.8
	Number in Catch	669	45,715	78,105	3,680	128,169
Total	Percent of Sample	1.4	40.3	56.5	1.8	100.0
	Number in Catch	4,350	120,658	169,213	5,416	299,637
	Standard Error	950	5,467	5,481	1,489	

Appendix E.10. Temporally stratified age and sex composition of the commercial chum salmon harvest in the Southwestern District purse seine fishery, Prince William Sound, 1988.

		Brood Year and Age Group				
		1985	1984	1983	1982	
		0.2	0.3	0.4	0.5	Total
Stratum Dates:	8/05-8/13					
Sample Dates:	8/06					
Sample Size:	447					
Female	Percent of Sample	0.4	27.5	21.7	0.7	50.3
	Number in Catch	145	9,983	7,878	254	18,260
Male	Percent of Sample	0.9	29.6	19.2	0.0	49.7
	Number in Catch	327	10,745	6,970	0	18,042
Total	Percent of Sample	1.3	57.1	40.9	0.7	100.0
	Number in Catch	472	20,728	14,848	254	36,302
	Standard Error	195	851	845	143	
Stratum Dates:	8/14-9/06					
Sample Dates:	8/16					
Sample Size:	360					
Female	Percent of Sample	0.8	37.6	14.4	0.0	52.8
	Number in Catch	342	16,062	6,151	0	22,555
Male	Percent of Sample	0.8	32.5	13.9	0.0	47.2
	Number in Catch	342	13,883	5,938	0	20,163
Total	Percent of Sample	1.6	70.1	28.3	0.0	100.0
	Number in Catch	684	29,945	12,089	0	42,718
	Standard Error	283	1,032	1,016	0	
Strata Combined:	8/05-9/06					
Sample Dates:	8/06-8/16					
Sample Size:	807					
Female	Percent of Sample	0.6	33.0	17.8	0.3	51.7
	Number in Catch	487	26,045	14,029	254	40,815
Male	Percent of Sample	0.8	31.2	16.3	0.0	48.3
	Number in Catch	669	24,628	12,908	0	38,205
Total	Percent of Sample	1.5	64.1	34.1	0.3	100.0
	Number in Catch	1,156	50,673	26,937	254	79,020
	Standard Error	343	1,338	1,321	143	

Appendix E.11. Estimated age and sex composition of the commercial chum salmon harvest in the Southeastern District purse seine fishery, Prince William Sound, 1988.

		Brood Year and Age Group				
		1985	1984	1983	1982	
		0.2	0.3	0.4	0.5	Total
Sample Date:	7/13 a					
Sample Size:	393					
Female	Percent of Sample	0.3	34.1	32.0	0.5	66.9
	Number in Catch	7	845	794	12	1,658
Male	Percent of Sample	0.0	15.0	17.6	0.5	33.1
	Number in Catch	0	372	437	12	821
Total	Percent of Sample	0.3	49.1	49.6	1.0	100.0
	Number in Catch	7	1,217	1,231	24	2,479
	Standard Error	7	63	63	12	

a The Southeastern District only had one commercial fishing opener in 1988 from July 11 through July 12. During the remainder of the season this district was closed to commercial fishing.

Appendix E.12. Estimated age and sex composition of the commercial coho salmon harvest in the Coghill District, drift gill net and purse seine gear combined, 1988.

		Brood Year and Age Group			
		1985	1984	1983	
		1.1	2.1	3.1	Total
Sample Dates:	8/13-8/18				
Sample Size:	319				
Female	Percent of Sample	15.0	5.3	0.0	20.3
	Number in Catch	8,578	3,031	0	11,609
Male	Percent of Sample.	63.4	15.7	0.6	79.7
	Number in Catch	36,255	8,978	343	45,576
Total	Percent of Sample	78.4	21.0	0.6	100.0
	Number in Catch	44,833	12,009	343	57,185
	Standard Error	1,150	1,138	216	

APPENDIX F

Salmon Escapements to Coastal Streams in Prince William Sound.

Appendix F.1. Daily escapement counts of sockeye, pink, chum, and chinook salmon through the weir below Coghill Lake, 1988.

	Daily Escapement							
	Sockeye		Pink		Chum		Chinook	
Date	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
06/10	0	0	0	0	0	0	0	0
06/11	0	0	0	0	0	0	0	0
06/12	0	0	0	0	0	0	0	0
06/13	0	0	0	0	0	0	0	0
06/14	178	178	0	0	0	0	0	0
06/15	0	178	0	0	0	0	0	0
06/16	208	386	0	0	0	0	0	0
06/17	0	386	0	0	0	0	0	0
06/18	0	386	0	0	0	0	0	0
06/19	60	446	0	0	0	0	0	0
06/20	0	446	0	0	0	0	0	0
06/21	25	471	0	0	0	0	0	0
06/22	400	871	0	0	0	0	0	0
06/23	358	1,229	0	0	0	0	0	0
06/24	3477	4,706	0	0	0	0	0	0
06/25	2438	7,144	0	0	0	0	0	0
06/26	127	7,271	0	0	0	0	0	0
06/27	5562	12,833	0	0	0	0	0	0
06/28	2264	15,097	0	0	0	0	0	0
06/29	15014	30,111	0	0	0	0	0	0
06/30	4478	34,589	0	0	0	0	0	0
07/01	4090	38,679	0	0	3	3	0	0
07/02	6119	44,798	0	0	16	19	0	0
07/03	6166	50,964	0	0	16	35	0	0
07/04	2011	52,975	0	0	1	36	0	0
07/05	2045	55,020	0	0	3	39	1	1
07/06	1446	56,466	0	0	0	39	1	2
07/07	1403	57,869	0	0	0	39	0	2
07/08	719	58,588	0	0	4	43	0	2
07/09	270	58,858	0	0	2	45	0	2
07/10	1244	60,102	0	0	4	49	1	3
07/11	1299	61,401	0	0	4	53	3	6
07/12	569	61,970	0	0	5	58	0	6
07/13	51	62,021	0	0	3	61	0	6
07/14	188	62,209	2	2	1	62	0	6
07/15	180	62,389	0	2	5	67	0	6
07/16	212	62,601	0	2	5	72	0	6
07/17	160	62,761	1	3	6	78	0	6
07/18	756	63,517	18	21	9	87	0	6
07/19	1295	64,812	35	56	17	104	0	6
07/20	2508	67,320	88	144	69	173	0	6
07/21	1317	68,637	64	208	62	235	2	8
07/22	960	69,597	61	269	47	282	0	8
07/23	1018	70,615	77	346	43	325	3	11
07/24	622	71,237	33	379	13	338	3	14
07/25	418	71,655	27	406	9	347	1	15
07/26	82	71,737	0	406	6	353	0	15
07/27	286	72,023	23	429	14	367	1	16
Totals		72,023		429		367		16

Appendix F.2. Daily escapement counts of sockeye, pink, coho, chinook, and chum salmon through the weir at the head of Eshamy Lagoon, 1988.

	Daily Escapement									
	Sockeye		Pink		Coho		Chinook		Chum	
Date	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
07/06	0	0	0	0	0	0	1	1	0	0
07/07	100	100	0	0	0	0	0	1	0	0
07/08	111	211	0	0	0	0	0	1	0	0
07/09	307	518	0	0	0	0	0	1	0	0
07/10	745	1,263	0	0	0	0	0	1	0	0
07/11	353	1,616	1	1	0	0	0	1	0	0
07/12	410	2,026	0	1	0	0	0	1	0	0
07/13	309	2,335	1	2	0	0	0	1	0	0
07/14	285	2,620	3	5	0	0	0	1	0	0
07/15	191	2,811	13	18	0	0	0	1	0	0
07/16	284	3,095	13	31	0	0	0	1	0	0
07/17	637	3,732	16	47	0	0	0	1	0	0
07/18	1061	4,793	29	76	0	0	0	1	0	0
07/19	504	5,297	5	81	0	0	0	1	0	0
07/20	155	5,452	6	87	0	0	0	1	0	0
07/21	166	5,618	7	94	0	0	0	1	0	0
07/22	496	6,114	10	104	0	0	1	2	0	0
07/23	890	7,004	6	110	0	0	0	2	0	0
07/24	1606	8,610	13	123	0	0	0	2	0	0
07/25	474	9,084	15	138	0	0	0	2	0	0
07/26	598	9,682	14	152	0	0	0	2	0	0
07/27	424	10,106	8	160	0	0	0	2	0	0
07/28	1030	11,136	18	178	0	0	0	2	0	0
07/29	1230	12,366	51	229	0	0	0	2	0	0
07/30	551	12,917	28	257	0	0	0	2	0	0
07/31	267	13,184	18	275	0	0	0	2	0	0
08/01	562	13,746	23	298	0	0	0	2	0	0
08/02	967	14,713	44	342	0	0	0	2	0	0
08/03	329	15,042	14	356	0	0	0	2	0	0
08/04	178	15,220	8	364	0	0	0	2	0	0
08/05	1969	17,189	86	450	0	0	0	2	0	0
08/06	556	17,745	22	472	0	0	0	2	0	0
08/07	1794	19,539	43	515	0	0	0	2	0	0
08/08	1187	20,726	53	568	0	0	0	2	0	0
08/09	918	21,644	37	605	0	0	0	2	0	0
08/10	291	21,935	22	627	1	1	0	2	0	0
08/11	345	22,280	25	652	0	1	0	2	0	0

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Appendix F.2. (page 2 of 2)

	Daily Escapement									
	Sockeye		Pink		Coho		Chinook		Chum	
Date	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
08/12	1140	23,420	31	683	0	1	0	2	0	0
08/13	924	24,344	59	742	0	1	0	2	0	0
08/14	1009	25,353	55	797	0	1	0	2	0	0
08/15	749	26,102	39	836	0	1	0	2	0	0
08/16	399	26,501	31	867	2	3	0	2	0	0
08/17	513	27,014	47	914	0	3	0	2	0	0
08/18	243	27,257	40	954	0	3	0	2	0	0
08/19	719	27,976	28	982	10	13	0	2	0	0
08/20	646	28,622	17	999	0	13	0	2	0	0
08/21	510	29,132	17	1,016	1	14	0	2	0	0
08/22	656	29,788	28	1,044	0	14	0	2	0	0
08/23	219	30,007	24	1,068	2	16	0	2	0	0
08/24	66	30,073	11	1,079	1	17	0	2	0	0
08/25	0	30,073	0	1,079	0	17	0	2	0	0
08/26	0	30,073	0	1,079	0	17	0	2	0	0
08/27	0	30,073	0	1,079	0	17	0	2	0	0
08/28	81	30,154	4	1,083	0	17	0	2	0	0
08/29	349	30,503	19	1,102	0	17	0	2	0	0
08/30	250	30,753	19	1,121	4	21	0	2	0	0
08/31	299	31,052	20	1,141	6	27	0	2	0	0
09/01	304	31,356	4	1,145	13	40	0	2	0	0
09/02	213	31,569	19	1,164	0	40	0	2	0	0
09/03	72	31,641	5	1,169	0	40	0	2	1	1
09/04	35	31,676	6	1,175	1	41	0	2	0	1
09/05	18	31,694	6	1,181	2	43	0	2	0	1
09/06	4	31,698	14	1,195	1	44	0	2	0	1
09/07	3	31,701	5	1,200	0	44	0	2	0	1
09/08	10	31,711	1	1,201	2	46	0	2	0	1
09/09	8	31,719	1	1,202	0	46	0	2	0	1
09/10	4	31,723	2	1,204	1	47	0	2	0	1
09/11	5	31,728	1	1,205	0	47	0	2	0	1
09/12	13	31,741	0	1,205	1	48	0	2	0	1
Totals		31,741		1,205		48		2		1

Appendix F.3. Sockeye salmon aerial escapement indices from selected systems in Prince William Sound, 1988. Counts contained in this table are obtained in conjunction with the regular pink and chum aerial survey program. Many of these sockeye systems are difficult to survey by air and thus the counts do not necessarily represent total live abundance at a particular time.

Stream or Lake			Weekly Count (Week Ending Dates)												
			June	July					August				September		
No.	Name	Statistical Area	25	2	9	16	23	30	6	13	20	27	3	10	17
137	Robe River a	221-60													
218	Billy's Hole	222-10	300					800	700	500	300	100			
300	Red Lake	223-20				600	900	1100	1200	500	400				
322	Coghill River	223-30				3000									
454	Halferty Creek a	224-10													
461	Cochrane Creek	224-10												25	
476	Shrode Lake	224-30									500			300	200
608	Jackpot Lakes	226-20								150	400	500		50	50
630	Bainbridge	226-20						300	100	150	200	100		50	
702	Point Creek a	227-10													
747	Cabin Creek	227-20									50	100	200	50	
770	Udall Creek	227-20											10		
775	Pautzke Creek	227-20										10			
Total			300	0	0	3600	900	2200	2000	1300	1850	810	210	475	250

a No sockeye counts obtained in 1988.

Appendix F.4. Weekly aerial estimates of the escapement of pink salmon in Prince William Sound by district, statistical area, and stream, 1988. Counts are of live fish in streams. No survey is abbreviated 'NS'; '#' designates a ground survey.

Eastern District Stream No.	Name	Statistical Area	Week Ending Date 6/18	6/25	7/02	7/09	7/16	7/23	7/30	8/06	8/13	8/20	8/27	9/03	9/10	9/17	9/24	Total	Adjusted Total
2	Hartney Creek		NS	NS	NS	NS	0	NS	NS	50	700	900	900	700	400	NS	NS	3,650	1,490
5	Eccles Creek		NS	NS	NS	NS	0	NS	NS	0	200	400	700	400	300	NS	NS	2,000	920
8	Fleming Creek		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0	0
11	Humpy Creek		NS	NS	0	0	0	50	250	500	500	1,300	800	200	300	NS	NS	3,900	1,590
Orca Inlet		221-10	0	0	0	0	0	50	250	550	1,400	2,600	2,400	1,300	1,000	0	0	9,550	4,000
19	Twin Lakes Creek		NS	0	0	0	0	0	0	0	50	50	400	300	50	0	NS	850	400peak
20	Spring Creek		NS	0	0	0	0	0	750	150	220	300	300	250	300	NS	NS	2,270	1,360
21	Rogue Creek		NS	0	0	0	0	100	100	600	700	1,100	1,200	500	600	200	NS	5,100	2,100
23	Chase Creek		NS	0	0	0	0	0	0	200	150	3,500	NS	NS	600	700	NS	5,150	3,820
35	Koppen Creek		NS	0	0	200	1,000	200	500	500	4,000	17,000	15,000	16,000	21,000	15,000	NS	90,400	36,280
36	Sheep River		NS	0	0	0	0	0	500	0	1,000	10,000	8,000	10,000	10,000	8,500	NS	48,000	19,500
37	Allen Creek		NS	0	0	0	0	0	25	50	250	500	400	800	500	NS	NS	2,525	1,020
Simpson/Sheep		221-20	0	0	0	200	1,000	300	1,875	1,500	6,370	32,450	25,300	27,850	33,050	24,400	0	154,295	64,480
41	Pass Creek		NS	NS	0	0	0	0	100	100	100	400	500	100	50	NS	NS	1,350	600
45	Plateau Creek		NS	NS	0	0	0	0	0	0	0	0	0	10	100	NS	NS	110	100peak
46	Comfort Creek		NS	NS	0	0	0	300	200	250	500	600	1,600	2,500	3,500	0	NS	9,450	3,960
48	Beartrap River		NS	10	0	0	0	300	500	500	1,000	13,500	33,000	33,000	18,000	4,500	NS	104,310	41,730
49	Cataract Creek		NS	0	0	0	0	0	0	0	50	400	400	300	200	NS	NS	1,350	570
51	Olsen Creek		NS	50	0	0	500	0	300	400	4,000	10,000	16,000	20,000	8,500	2,800	NS	62,550	25,050
52	Control Creek		NS	0	400	400	500	200	500	600	1,000	3,000	6,500	11,000	6,000	1,000	NS	31,100	12,680
54	Carlsen Creek		NS	0	0	0	10	20	50	210	300	500	700	450	450	NS	NS	2,690	1,080
56	St. Matthews Creek		NS	0	0	0	50	200	500	250	500	2,000	5,500	8,000	4,500	2,200	NS	23,700	9,510
Gravina		221-30	0	60	400	400	1,060	1,020	2,150	2,310	7,450	30,400	64,200	75,360	41,300	10,500	0	236,610	95,280
71	Two Moon Creek		NS	NS	NS	NS	NS	NS	NS	20	NS	300	NS	NS	NS	NS	NS	320	300peak
73	Tundra Creek		NS	NS	NS	NS	NS	NS	NS	20	NS	300	NS	NS	NS	NS	NS	320	300peak
76	Irish Creek		NS	0	0	0	0	100	800	1,000	2,500	5,800	3,300	8,700	3,400	1,500	NS	27,100	10,900
80	Whalen Creek		NS	0	0	0	400	100	1,300	1,000	2,800	6,500	11,000	11,500	8,000	4,000	NS	46,600	18,880
83	Keta Creek		NS	0	0	0	150	0	400	350	800	1,500	1,800	1,500	2,900	4,200	NS	13,600	5,530
87	Sunny River		NS	0	0	0	0	0	0	100	500	500	NS		400	500	NS	2,000	1,220
88	Short Creek		NS	0	0	0	0	0	50	150	300	450	400	100	450	100	NS	2,000	830
89	Fish Creek		NS	0	50	0	0	0	1,500	500	2,500	12,000	12,500	18,000	14,000	16,000	NS	77,050	30,850
92	Shale Creek		NS	0	0	0	50	100	200	200	1,500	700	1,200	2,300	1,000	NS	NS	7,250	2,930
93	Kirkwood Creek		NS	0	0	0	100	0	200	200	300	400	1,200	1,300	600	NS	NS	4,300	1,780
94	Rock Creek		NS	0	0	0	0	0	0	50	300	1,000	500	2,000	1,500	NS	NS	5,350	2,170
99	Lagoon Creek		NS	NS	0	0	0	100	400	900	2,000	2,400	3,200	700	1,500	2,100	NS	13,300	5,380
Fidalgo		221-40	0	0	50	0	700	400	4,850	4,490	13,500	31,850	35,100	46,100	33,750	28,400	0	199,190	81,070

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Eastern District Stream No.	Name	Statistical Area	Week Ending Date 6/18	6/25	7/02	7/09	7/16	7/23	7/30	8/06	8/13	8/20	8/27	9/03	9/10	9/17	9/24	Total	Adjusted Total
106	Gladhough Creek		NS	NS	0	0	0	0	100	200	1,200	850	1,100	3,000	2,500	NS	NS	8,950	3,640
107	Black Creek		NS	NS	0	0	0	0	0	20	200	50	500	700	400	NS	NS	1,870	760
114	Turner Creek		NS	NS	0	0	0	0	0	0	50	200	200	150	400	NS	NS	1,000	430
115	Millard Creek		NS	0	0	0	0	200	800	1,500	2,400	8,500	5,500	6,000	5,600	3,800	NS	34,300	13,840
116	Duck River		NS	0	0	0	0	300	1,000	1,500	3,000	32,000	18,000	33,000	26,000	26,000	NS	140,800	56,500
117	Indian Creek		NS	0	0	0	200	300	500	1,500	3,500	4,500	7,000	5,000	3,800	900	NS	27,200	11,000
120	Donaldson Creek		NS	0	0	10	0	0	100	50	400	100	150	300	500	NS	NS	1,610	650
121	Levshakoff Creek		NS	0	0	0	0	0	100	100	700	500	600	700	400	NS	NS	3,100	1,300
122	No Name Creek		NS	0	0	0	0	0	0	0	0	50	0	0	0	NS	NS	50	50
123	Gregorieff Creek		NS	0	0	100	0	0	200	0	700	400	1,200	500	900	NS	NS	4,000	1,660
127	Naomoff River		NS	0	0	0	0	0	0	0	2,000	2,800	NS	NS	600	NS	NS	5,400	4,720
129	Vlasoff Creek		NS	0	0	0	0	0	100	1,400	2,000	1,500	800	300	3,000	1,200	NS	10,300	4,180
152	Twin Falls Creek		NS	0	0	0	0	100	0	400	500	1,000	200	0	500	700	NS	3,400	1,420
153	Stellar Creek		NS	0	0	0	100	400	1,000	500	1,700	4,500	2,000	2,000	4,000	2,500	NS	18,700	7,540
Valdez Arm		221-50	0	0	0	110	300	1,300	3,900	7,170	18,350	56,950	37,250	51,650	48,600	35,100	0	260,680	107,690
131	Gorge Creek - Port Valdez		NS	0	0	0	0	0	50	100	100	100	50	50	0	NS	NS	450	210
133	Sawmill Creek		NS	0	10	100	200	200	200	300	2,400	250	150	50	150	NS	NS	4,010	2,400peak
137	Lowe River		NS	NS	NS	NS	NS	NS	NS	NS	1,500	400	NS	NS	NS	NS	NS	1,900	1,660
143	Siwash Creek		NS	NS	0	0	10	200	2,200	2,800	6,100	1,700	200	50	20	NS	NS	13,280	6,100peak
145	Crooked Creek		NS	NS	0	0	0	200	NS	NS	500	150	200	0	0	NS	NS	1,050	940
148	Mineral Flats		NS	0	0	0	0	50	0	100	300	200	0	0	200	0	NS	850	370
Port Valdez		221-60	0	0	10	100	210	650	2,450	3,300	10,900	2,800	600	150	370	0	0	21,540	11,680
Eastern District TOTAL			0	60	460	810	3,270	3,720	15,475	19,320	57,970	157,050	164,850	202,410	158,070	98,400	0	881,865	364,200

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Northern District Stream No.	Name	Statistical Area	Week Ending Date 6/18	6/25	7/02	7/09	7/16	7/23	7/30	8/06	8/13	8/20	8/27	9/03	9/10	9/17	9/24	Total	Adjusted Total
204	Heather Bay		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0	0
208	Granite Cove		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0	0
209	Useless Creek		NS	0	0	0	0	0	0	0	100	0	0	0	0	NS	NS	100	100
210	Elf Creek		NS	0	0	0	0	0	0	0	100	0	0	0	0	NS	NS	100	100
213	Bench Mark Creek		NS	0	0	0	0	0	20	10	100	200	50	0	0	NS	NS	380	200peak
214	Long Creek		NS	0	0	0	0	0	1,200	0	0	100	400		200	NS	NS	1,900	1,600
216	Vanishing Creek		NS	0	0	0	0	50	150	200	1,700	4,000	18,000	11,000	8,000	700	NS	43,800	18,000peak
217	Spring Creek		NS	0	0	0	0	0	50	0	400	500	3,000	4,000	2,900	500	NS	11,350	4,570
218	Billy's Creek		NS	0	0	0	0	0	0	0	0	300	0	0	0	NS	NS	300	300
221	Eickelberg Creek		NS	NS	0	0	0	0	10	0	100	2,500	2,500	150	1,100	0	NS	6,360	2,550
Columbia/Long		222-10	0	0	0	0	0	50	1,430	210	2,500	7,600	23,950	15,150	12,200	1,200	0	64,290	27,420
224	Backyard Creek		NS	NS	0	0	0	0	10	50	700	1,400	1,200	600	200	NS	NS	4,160	1,670
227	Granite Creek		NS	NS	0	0	0	0	20	0	800	6,300	9,000	14,000	4,000	100	NS	34,220	14,000peak
229	Cedar Creek		NS	0	0	0	20	100	100	50	4,000	20,000	20,000	20,000	12,000	900	NS	77,170	30,880
232	Delta Creek		NS	0	0	0	0	0	0	0	100	100	200	0	0	NS	NS	400	220
233	Surplus Creek		NS	0	0	0	0	0	50	100	200	800	600	2,000	100	NS	NS	3,850	2,000peak
234	Wells River		NS	0	0	200	0	400	600	0	7,000	6,400	5,500		650	NS	NS	20,750	9,650
257	Complex Creek		NS	NS	NS	0	0	20	0	30	0	200	NS	100	100	10	NS	460	260
258	Williams Creek		NS	NS	NS	0	0	350	1,100	500	3,400	6,300	NS	2,200		0	NS	13,850	7,450
259	Jonah Creek		NS	NS	NS	0	0	0	0	2,000	0	0	NS	0	2,200	700	NS	4,900	3,160
263	Waterfall Creek		NS	NS	NS	0	0	0	0	50	200	100	NS	3,900	2,500	0	NS	6,750	3,900peak
264	Siwash River		NS	NS	NS	0	0	100	300	0	1,000	4,400	NS	100	3,700	800	NS	10,400	5,120
265	Unakwik Creek		NS	NS	NS	0	0	20	200	400	1,500	900	NS	3,600	1,200	NS	NS	7,820	4,040
Wells/Unakwik		222-20	0	0	0	200	20	990	2,380	3,180	18,900	46,900	36,500	46,500	26,650	2,510	0	184,730	82,350
273	Schoppe Creek		NS	NS	NS	0	0	100	250	400	4,000	4,500	NS	2,400	900	NS	NS	12,550	6,460
276	Black Bear Creek		NS	NS	NS	0	0	1,000	200	1,100	11,000	5,000	NS	3,000	1,100	NS	NS	22,400	11,160
277	Dead Creek		NS	NS	NS	0	0	0	0	50	100	500	NS	300	200	NS	NS	1,150	650
278	Comeback Creek		NS	NS	NS	0	0	50	20	100	100	200	NS	200	100	NS	NS	770	420
279	Canyon Creek		NS	NS	NS	0	0	600	600	400	4,500	3,500	NS	3,000	1,400	400	NS	14,400	7,420
282	Good Creek		NS	NS	NS	0	0	0	0	0	2,000	1,800	NS	2,700	1,000	0	NS	7,500	5,100
283	Bad Creek		NS	NS	NS	0	0	100	100	0	3,000	1,800	NS	2,400	800	0	NS	8,200	4,180
289	Derickson Creek		NS	NS	NS	0	0	0	0	50	100	200	NS	50	100	NS	NS	500	280
Eaglek		222-30	0	0	0	0	0	1,850	1,170	2,100	24,800	17,500	0	14,050	5,600	400	0	67,470	35,670
242	Cowpen Creek		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0	0
Unakwik District		222-50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Northern District TOTAL			0	0	0	200	20	2,890	4,980	5,490	46,200	72,000	60,450	75,700	44,450	4,110	0	316,490	145,440

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Coghill District Stream No.	Name	Statistical Area	6/18	6/25	7/02	7/09	7/16	7/23	7/30	8/06	8/13	8/20	8/27	9/03	9/10	9/17	9/24	Total	Adjusted Total
			Week Ending Date																
414	Harrison Creek		NS	NS	NS	0	0	0	200	0	200	800	NS	400	100	NS	NS	1,700	1,040
417	Hobo Creek		NS	NS	NS	0	0	0	20	0	100	50	NS	0	150	NS	NS	320	150
421	Mill Creek		NS	NS	NS	0	0	0	0	500	7,000	1,500	NS	2,000	1,500	300	NS	12,800	7,000peak
424	Old Creek		NS	NS	NS	0	0	0	40	0	200	400	NS	0	450	0	NS	1,090	540
425	Hummer Creek		NS	NS	NS	0	0	50	50	300	1,200	600	NS	600	2,500	450	NS	5,750	2,570
428	Pirate Creek		NS	NS	NS	0	0	0	0	0	100	200	NS	50	50	NS	NS	400	270
430	Meacham Creek		NS	NS	NS	0	0	500	700	2,000	2,800	2,200	NS	2,700	900	600	NS	12,400	6,240
432	Swanson Creek		NS	NS	NS	0	0	1,000	1,100	600	5,000	800	NS	3,700	2,500	400	NS	15,100	7,540
W. Port Wells		223-10	0	0	0	0	0	1,550	2,110	3,400	16,600	6,550	0	9,450	8,150	1,750	0	49,560	25,350
303	Triple Creek		NS	NS	NS	0	0	0	20	50	300	700	NS	NS	100	NS	NS	1,170	800
307	Village Creek		NS	NS	NS	0	0	0	0	50	100	200	NS	200	50	NS	NS	600	350
Esther Passage		223-20	0	0	0	0	0	0	20	100	400	900	0	200	150	0	0	1,770	1,150
310	Golden Lagoon		NS	NS	NS	0	0	0	0	0	150	200	NS	50	0	NS	NS	400	300
314	Avery River		NS	NS	NS	0	0	0	0	0	0	0	NS			NS	NS	0	0
322	Coghill River -	Below Weir	NS	NS	NS	0	0	0	200	1,000	12,000	14,000	NS			0	NS	27,200	14,000peak
3221	Coghill River -	Lake Count	0#	0#	0#	0#	3#	376#	NS	NS	NS	NS	NS	NS	NS	NS	NS	379	376peak
E. Port Wells		223-30	0	0	0	0	3	376	200	1,000	12,150	14,200	0	50	0	0	0	27,979	14,676
Coghill District TOTAL			0	0	0	0	3	1,926	2,330	4,500	29,150	21,650	0	9,700	8,300	1,750	0	79,309	41,176

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Appendix F.4. (p. 5 of 10)

Northwestern District Stream No.	Name	Statistical Area	Week Ending Date 6/18	6/25	7/02	7/09	7/16	7/23	7/30	8/06	8/13	8/20	8/27	9/03	9/10	9/17	9/24	Total	Adjusted Total
435	Logging Camp Creek		NS	NS	NS	0	0	0	0	0	NS	300	NS	900	100	NS	NS	1,300	1,030
450	Tebenkoff Creek		NS	NS	NS	0	0	100	0	0	NS	100	NS	2,000	500	NS	NS	2,700	2,000peak
451	Blackstone Creek		NS	NS	NS	0	0	0	300	700	1,800	1,400	NS	1,200	275	NS	NS	5,675	2,970
454	Halferty Creek		NS	NS	NS	0	0	0	0	700	NS	1,000	NS	350	400	NS	NS	2,450	2,220
455	Paulson Creek		NS	NS	NS	0	0	300	0	800	NS	700	NS	700	200	NS	NS	2,700	1,840
458	Parks Creek		NS	NS	NS	0	0	150	400	100	NS	1,000	NS	50	150	NS	NS	1,850	1,260
461	Cochrane Creek		NS	NS	NS	0	0	0	200	0	NS	350	NS	200	125	NS	NS	875	650
469	Wickett Creek		NS	NS	NS	NS	0	20	500	200	NS	600	NS	1,600	400	NS	NS	3,320	1,940
Passage/Cochrane		224-10	0	0	0	0	0	570	1,400	2,500	1,800	5,450	0	7,000	2,150	0	0	20,870	13,910
471	Narrows Creek		NS	NS	NS	0	0	0	NS	50	NS	50	NS	20	100	NS	NS	220	170
476	Shrode Creek		NS	NS	NS	NS	0	1,500	2,000	1,000	6,000	5,000	NS	12,900	8,000	1,000	NS	37,400	19,440
479	Culross Creek		NS	NS	NS	0	0	0	50	300	NS	300	NS	3,500	600	NS	NS	4,750	3,500peak
Culross Pass		224-30	0	0	0	0	0	1,500	2,050	1,350	6,000	5,350	0	16,420	8,700	1,000	0	42,370	23,110
480	Mink Creek		NS	NS	NS	100	0	300	1,000	500	6,000	6,000	NS	11,000	3,100	1,500	NS	29,500	15,260
484	E. Finger Creek		NS	NS	NS	0	0	50	500	300	2,000	700	NS	1,200	300	NS	NS	5,050	2,430
485	W. Finger Creek		NS	NS	NS	0	0	2,500	1,000	1,000	7,000	10,000	NS	3,200	600	NS	NS	25,300	14,260
493	Most Creek		NS	NS	NS	0	0	300	50	150	300	500	NS	300	0	NS	NS	1,600	980
495	Chimevisky Lagoon		NS	NS	NS	0	0	300	0	150	1,000	2,500	NS	1,500	500	NS	NS	5,950	3,360
498	McClure Creek		NS	NS	NS	0	0	0	200	200	900	300	NS	1,000	400	NS	NS	3,000	1,580
Nellie Juan		224-40	0	0	0	100	0	3,450	2,750	2,300	17,200	20,000	0	18,200	4,900	1,500	0	70,400	37,870
Northwestern District TOTAL			0	0	0	100	0	5,520	6,200	6,150	25,000	30,800	0	41,620	15,750	2,500	0	133,640	74,890

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Eshamy District Stream No.	Name	Statistical Area	6/18	6/25	7/02	7/09	7/16	7/23	7/30	8/06	8/13	8/20	8/27	9/03	9/10	9/17	9/24	Total	Adjusted Total
			Week Ending Date																
506	Loomis Creek		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0	0
507	Gunboat Creek		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0	0
508	North Shore - Eshamy Lagoon		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0	0
510	Elishansky Creek		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0	0
511	Eshamy - Below Weir		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0	0
5111	Eshamy River - Weir		NS	NS	NS	0#	18#	92#	147#	215#	270#	257#	80#	90#	35#	NS	NS	1,204	490
Eshamy		225-30	0	0	0	0	18	92	147	215	270	257	80	90	35	0	0	1,204	490
Eshamy District TOTAL			0	0	0	0	18	92	147	215	270	257	80	90	35	0	0	1,204	490

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Southwestern District Stream No.	Name	Statistical Area	6/18	6/25	7/02	7/09	7/16	7/23	7/30	8/06	8/13	8/20	8/27	9/03	9/10	9/17	9/24	Total	Adjusted Total
			Week Ending Date																
601	Paddy Creek		NS	NS	NS	NS	NS	50	200	700	900	1,100	4,000	3,000	750	NS	NS	10,700	4,310
602	Nacktan Creek		NS	NS	NS	NS	NS	0	0	900	500	1,700	5,000	2,000	400	NS	NS	10,500	5,000peak
603	Ewan Creek		NS	NS	NS	NS	NS	200	0	1,000	600	13,000	16,000	13,000	10,000	2,000	NS	55,800	22,440
604	Erb Creek		NS	NS	NS	NS	NS	0	400	1,300	1,500	1,200	2,000	1,500	500	NS	NS	8,400	3,600
608	Jackpot River		NS	NS	NS	NS	NS	0	0	500	500	3,600	7,100	5,700	3,200	500	NS	21,100	8,740
610	Kompkoff River		NS	NS	NS	NS	NS	0	0	0	100	400	100	200	100	NS	NS	900	420
611	Jackpot Bay - West Arm		NS	NS	NS	NS	NS	0	0	200	100	99#	150	50	50	NS	NS	649	380
612	Jackpot Bay - West Arm		NS	NS	NS	NS	NS	0	0	0	100	300	200	400	100	NS	NS	1,100	500
613	Jackson Creek		NS	NS	NS	NS	NS	3,200	4,500	0	800	1,400	6,000	1,100	600	150	NS	17,750	9,020
621	Totemoff Creek		NS	NS	NS	NS	NS	0	0	400	500	800	3,000	1,149#	1,000	100	NS	6,949	3,020
623	Brizgaloff Creek		NS	NS	NS	NS	NS	0	0	300	500	800	1,400	1,900	500	75	NS	5,475	2,370
630	Bainbridge Creek		NS	NS	NS	NS	NS	2,100	0	1,500	600	3,000	3,000	900	700	300	NS	12,100	6,100
632	Claw Creek		NS	NS	NS	NS	NS	300	400	468#	400	500	400	300	200	NS	NS	2,968	1,370
633	Pablo Creek		NS	NS	NS	NS	NS	0	500	300	700	1,000	2,500	1,000	450#	NS	NS	6,450	2,880
634	Whale Bay - B. Head - S. Arm		NS	NS	NS	NS	NS	0	0	600	0	50	100	100	50	NS	NS	900	720
636	Whale Creek		NS	NS	NS	NS	NS	0	400	0	1,150#	900	1,400	1,100	300	NS	NS	5,250	2,340
Chenega		226-20	0	0	0	0	0	5,850	6,400	8,168	8,950	29,849	52,350	33,399	18,900	3,125	0	166,991	73,210
682	Snug Harbor		NS	NS	NS	NS	NS	0	NS	NS	NS	NS	8,000	NS	NS	400	NS	8,400	16,320
Knight Island		226-30	0	0	0	0	0	0	0	0	0	0	8,000	0	0	400	0	8,400	16,320
655	Johnson Creek		NS	NS	NS	NS	NS	0	0	750	2,000	3,000	1,800	13,000	8,000	4,500	NS	33,050	13,670
656	Halverson Creek		NS	NS	NS	NS	NS	0	900	1,000	1,500	1,800	6,000	8,000	6,000	2,500	NS	27,700	11,620
665	Bjorne Creek		NS	NS	NS	NS	NS	0	100	100	100	50	700	600	500	NS	NS	2,150	920
666	O'Brien Creek		NS	NS	NS	NS	NS	0	300	500	300	900	2,000	1,200	800	NS	NS	6,000	2,580
670	Montgomery Creek		NS	NS	NS	NS	NS	NS	0	0	150	200	300	350	400	NS	NS	1,400	650
672	Latouche Island - S. Side		NS	NS	NS	NS	NS	0	0	100	100	100	100	100	50	NS	NS	550	280
673	Falls Creek		NS	NS	NS	NS	NS	0	0	292#	500	600	1,700	1,200	600	NS	NS	4,892	2,130
676	Horseshoe Creek		NS	NS	NS	NS	NS	0	100	0	400	271#	1,500	900	400	NS	NS	3,571	1,500peak
677	Hayden Creek		NS	NS	NS	NS	NS	0	0	0	300	300	1,000	1,631	900	NS	NS	4,131	1,830
Bainbridge/Latouche		226-40	0	0	0	0	0	0	1,400	2,742	5,350	7,221	15,100	26,981	17,650	7,000	0	83,444	35,180
653	Hogg Creek		NS	NS	NS	NS	NS	40#	400	400	800	400	1,500	1,100	300	NS	NS	4,940	2,000
Port Bainbridge		226-50	0	0	0	0	0	40	400	400	800	400	1,500	1,100	300	0	0	4,940	2,000
Southwestern District TOTAL			0	0	0	0	0	5,890	8,200	11,310	15,100	37,470	76,950	61,480	36,850	10,525	0	263,775	126,710

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Montague District Stream No.	Name	Statistical Area	6/18	6/25	7/02	7/09	7/16	7/23	7/30	8/06	8/13	8/20	8/27	9/03	9/10	9/17	9/24	Total	Adjusted Total
			Week Ending Date																
702	Point Creek		NS	NS	NS	NS	NS	0		0	100	0	200	600	400	NS	NS	1,300	600peak
703	Clam Beach Creek		NS	NS	NS	NS	NS	0	0	0	500	0	200	200	50	NS	NS	950	680
707	MacLeod Creek		NS	NS	NS	NS	NS	0	0	0	300	900	1,600	1,500	800	NS	NS	5,100	2,220
710	Manning Creek		NS	NS	NS	NS	NS	0	0	0	150	500	1,400	700	400	NS	NS	3,150	1,400peak
711	Quadra Creek		NS	NS	NS	NS	NS	0	100	50	350	800	2,400	1,500	900	NS	NS	6,100	2,500
717	Montague Island - West Shore		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	NS	NS	0	0
718	Montague Island - West Shore		NS	NS	NS	NS	NS	0	0	0	0	0	200	300	100	NS	NS	600	360
719	Montague Island - West Shore		NS	NS	NS	NS	NS	0	20	50	20	0	300	300	NS	NS	NS	690	300peak
722	Montague Is. - Glacier Str.		NS	NS	NS	NS	NS	0		NS	0	0	0	100	0	NS	NS	100	100
724	Montague Is. - Glacier Str.		NS	NS	NS	NS	NS	0		NS	0	0	0			NS	NS	0	0
725	Montague Island - West Shore		NS	NS	NS	NS	NS	0	0	NS	0	0	0	0	0	NS	NS	0	0
726	Montague Creek		NS	NS	NS	NS	NS	0	0	NS	0	0	1,000	700	200	NS	NS	1,900	1,360
S. Montague		227-10	0	0	0	0	0	0	120	100	1,420	2,200	7,300	5,900	2,850	0	0	19,890	9,520
738	Russell Creek		NS	NS	NS	NS	NS	0	0	0	50	0	0	150	50	NS	NS	250	150peak
739	Swamp Creek		NS	NS	NS	NS	NS	0	0	600	900	3,000	8,000	10,400	4,800	2,000	NS	29,700	12,240
740	Kelez Creek		NS	NS	NS	NS	NS	0	0	0	350	700	2,700	1,500	500	350	NS	6,100	2,700peak
741	Chalmers River		NS	NS	NS	NS	NS	0	0	0	650	1,000	1,900	1,400	1,100	500	NS	6,550	3,010
744	Wilby Creek		NS	NS	NS	NS	NS	0	0	100	680#	900	2,000	3,000	600	NS	NS	7,280	3,000peak
745	Wild Creek		NS	NS	NS	NS	NS	0	0	0	0	300	400	250	100	NS	NS	1,050	600
746	Schuman Creek		NS	NS	NS	NS	NS	0	0	0	300	700	1,300	1,100	500	NS	NS	3,900	1,740
747	Cabin Creek		NS	NS	NS	NS	NS	0	0	0	200	3,600	12,000	8,900	7,800	2,400	NS	34,900	14,080
748	Gilmour Creek		NS	NS	NS	NS	NS	0	0	0	200	100	1,200	1,600	320#	NS	NS	3,420	1,600peak
749	Shad Creek		NS	NS	NS	NS	NS	0	0	150	400	600	2,000	1,400	450	NS	NS	5,000	2,090
752	Stockdale Creek		NS	NS	NS	NS	NS	0	0	0	350	700	2,200	2,000	550	NS	NS	5,800	2,530
753	Stockdale Bay		NS	NS	NS	NS	NS	0	0	25	300	300	800	1,500	300	NS	NS	3,225	1,500peak
754	Dry Creek		NS	NS	NS	NS	NS	0	0	0	200	100	1,000	900	300	NS	NS	2,500	1,120
758	Rocky Bay - Head		NS	NS	NS	NS	NS	0	0	100	100	700	2,220#	2,500	1,600	NS	NS	7,220	2,950
759	Rocky Creek		NS	NS	NS	NS	NS	0	0	100	200	900	3,000	2,000	500	450	NS	7,150	3,000peak
766	Carr Creek		NS	NS	NS	NS	NS	0	0	0	0	50	0	0	0	NS	NS	50	50
770	Udall Creek		NS	NS	NS	NS	NS	0	0	0	100	0	300	20	50	NS	NS	470	300peak
771	McKernan Creek		NS	NS	NS	NS	NS	0	0	0	0	0	100	100	0	NS	NS	200	140
774	Rosswog Creek		NS	NS	NS	NS	NS	0	0	0	200	840#	1,800	1,000	500	NS	NS	4,340	1,860
775	Pautze Creek		NS	NS	NS	NS	NS	0	0	0	100	600	300	250	200	NS	NS	1,450	640
788	Green Creek		NS	NS	NS	NS	NS	0	NS	NS	150	400	3,000	NS	2,000	1,200	NS	6,750	3,790
N. Montague		227-20	0	0	0	0	0	0	0	1,075	5,430	15,490	46,220	39,970	22,220	6,900	0	137,305	59,090
Montague District TOTAL			0	0	0	0	0	0	120	1,175	6,850	17,690	53,520	45,870	25,070	6,900	0	157,195	68,610

-Continued-

Appendix F.4. (p. 9 of 10)

Southeastern District Stream No.	Name	Statistical Area	6/18	6/25	7/02	7/09	7/16	7/23	7/30	8/06	8/13	8/20	8/27	9/03	9/10	9/17	9/24	Total	Adjusted Total
			Week Ending Date																
863	Orca Creek		NS	NS	NS	0	0	0	0	900	700	1,600	2,300	1,100	900	NS	NS	7,500	3,540
S. Hawkins		228-10	0	0	0	0	0	0	0	900	700	1,600	2,300	1,100	900	0	0	7,500	3,540
833	Bates Creek		NS	NS	NS	0	0	NS	NS	0	100	100	250	200	200	NS	NS	850	400
834	Hardy Creek		NS	NS	NS	0	0	NS	NS	1,200	1,800	3,000	2,800	1,400	2,000	NS	NS	12,200	5,600
835	Scott Creek		NS	NS	NS	0	0	NS	NS	0	1,000	1,800	2,200	1,300	800	NS	NS	7,100	3,440
836	Dan's Creek		NS	NS	NS	0	0	NS	NS	800	400	400	1,100	500	500	NS	NS	3,700	1,960
837	Widgeon Creek		NS	NS	NS	0	0	NS	NS	150	100	50	400	50	0	NS	NS	750	400peak
839	Goose Creek		NS	NS	NS	0	0	NS	NS	300	1,200	500	700	300	1,200	NS	NS	4,200	1,860
Cutoff		228-20	0	0	0	0	0	0	0	2,450	4,600	5,850	7,450	3,750	4,700	0	0	28,800	13,660
844	Makaka Creek		NS	NS	NS	0	0	0	0	1,500	1,900	3,900	9,000	6,300	3,500	300	NS	26,400	11,460
847	Hawkins Creek		NS	NS	NS	0	0	0	0	300	3,000	3,400	7,000	6,600	4,000	400	NS	24,700	10,060
849	Rollins Creek		NS	NS	NS	0	0	0	100	100	1,000	1,400	2,500	1,800	400	NS	NS	7,300	2,980
850	Canoe Creek		NS	NS	NS	0	0	0	200	200	2,000	1,700	3,500	3,300	1,200	NS	NS	12,100	4,960
851	Zillesenoff Creek		NS	NS	NS	0	0	0	0	0	0	700	3,000	1,400	1,400	NS	NS	6,500	3,020
856	W. Lagoon Creek		NS	NS	NS	0	0	0	150	200	600	1,100	3,500	1,500	2,000	300	NS	9,350	3,830
857	E. Lagoon Creek		NS	NS	NS	0	0	0	100	100	1,400	1,000	1,500	1,300	300	NS	NS	5,700	2,340
858	N. Lagoon Creek		NS	NS	NS	0	0	0	100	100	1,800	1,700	500	300	300	NS	NS	4,800	1,980
861	Bernard Creek		NS	NS	NS	0	0	0	100	100	700	1,800	4,500	4,300	3,000	400	NS	14,900	6,020
862	Clamdiggers Creek		NS	NS	NS	0	0	0	0	900	400	400	1,000	500	300	NS	NS	3,500	1,940
N. Hawkins		228-30	0	0	0	0	0	0	750	3,500	12,800	17,100	36,000	27,300	16,400	1,400	0	115,250	48,590

-Continued-

Southeastern District (Continued) Stream No.	Name	Statistical Area	6/18	6/25	7/02	7/09	7/16	7/23	7/30	8/06	8/13	8/20	8/27	9/03	9/10	9/17	9/24	Total	Adjusted Total
			Week Ending Date																
827	Captain Creek		NS	NS	NS	0	0	NS	0	0	800	2,400	6,600	2,700	3,500	250	NS	16,250	6,980
828	Cook Creek		NS	NS	NS	0	0	NS	0	400	1,900	3,500	10,100	9,300	9,000	1,100	NS	35,300	14,360
829	King Creek		NS	NS	NS	0	0	NS	0	0	700	200	3,300	900	500	NS	NS	5,600	3,300peak
831	Double Creek		NS	NS	NS	0	0	NS	0	700	1,700	1,900	5,700	1,700	950	NS	NS	12,650	5,700peak
Double Bay		228-40	0	0	0	0	0	0	0	1,100	5,100	8,000	25,700	14,600	13,950	1,350	0	69,800	30,340
817	Deer Creek		NS	NS	NS	0	NS	0	200	500	1,000	900	2,900	2,400	1,100	NS	NS	9,000	3,720
818	Juania Creek		NS	NS	NS	0	NS	0	0	500	1,100	1,800	2,100	1,900	1,400	NS	NS	8,800	3,820
821	Brown Bear Creek		NS	NS	NS	300	NS	0	0	2,000	1,700	2,600	4,500	3,100	1,400	NS	NS	15,600	6,570
Johnstone		228-50	0	0	0	300	0	0	200	3,000	3,800	5,300	9,500	7,400	3,900	0	0	33,400	14,110
805	Port Etches - South Shore		NS	NS	NS	0	NS	0	0	0	0	50	100	0	0	0	NS	150	100peak
806	Dog Salmon Creek		NS	NS	NS	0	NS	0	0	0	1,000	1,300	4,500	4,500	2,500	1,300	NS	15,100	6,640
807	Beaver Creek		NS	NS	NS	0	NS	0	0	0	0	100	500	250	50	NS	NS	900	500peak
810	Garden Creek		NS	NS	NS	0	NS	0	0	200	1,300	900	2,400	1,800	800	NS	NS	7,400	3,080
811	Etches Creek		NS	NS	NS	0	NS	0	0	100	50	50	600	400		NS	NS	1,200	600peak
812	Nuchek Creek		NS	NS	NS	0	NS	0	0	300	1,500	3,600	5,000	6,000	2,200	1,300	NS	19,900	8,140
815	Constantine Creek		NS	NS	NS	0	NS	0	0	100	3,300	12,000	17,800	12,600	11,600	3,100	NS	60,500	24,260
Etches		228-60	0	0	0	0	0	0	0	700	7,150	18,000	30,900	25,550	17,150	5,700	0	105,150	43,320
Southeastern District TOTAL			0	0	0	300	0	0	950	11,650	34,150	55,850	111,850	79,700	57,000	8,450	0	359,900	153,560
TOTAL OF 8 DISTRICTS			0	60	460	1,410	3,311	20,038	38,402	59,810	214,690	392,767	467,700	516,570	345,525	132,635	0	2,193,378	975,076

Appendix F.5. Weekly aerial estimates of the escapement of chum salmon in Prince William Sound by district, statistical area, and stream, 1988. Counts are of live fish in streams. No survey is abbreviated 'NS'; '#' designates a ground survey; 'peak' is the unadjusted peak count.

Eastern District. Stream No.	Name	Statistical Area	Week Ending Date 6/18	6/25	7/02	7/09	7/16	7/23	7/30	8/06	8/13	8/20	8/27	9/03	9/10	9/17	9/24	Total	Adjusted Total
2	Hartney Creek		NS	NS	NS	NS	0	NS	NS	50	700	900	900	700	400	NS	NS	3,650	1,490
2	Hartney Creek		NS	NS	NS	NS	0	NS	NS	1,000	400	400	200	0	0	NS	NS	2,000	1,400
5	Eccles Creek		NS	NS	NS	NS	0	NS	NS	0	0	0	0	0	0	NS	NS	0	0
8	Fleming Creek		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0	0
11	Humpy Creek		NS	NS	0	0	0	0	0	0	0	0	0	0	0	NS	NS	0	0
Orca Inlet		221-10	0	0	0	0	0	0	0	1,000	400	400	200	0	0	0	0	2,000	1,400
20	Spring Creek		NS	0	0	0	0	0	50	30	0	0	0	0	0	NS	NS	80	60
21	Rogue Creek		NS	0	0	0	0	0	0	0	20	30	0	0	0	0	NS	50	30
23	Chase Creek		NS	0	150	1,100	5,000	9,000	7,800	6,200	1,600	2,500	NS	NS	1,000	100	NS	34,450	15,270
35	Koppen Creek		NS	0	800	4,000	12,000	13,900	6,600	3,400	200	1,000	0	0	0	0	NS	41,900	17,240
36	Sheep River		NS	0	15	300	2,100	3,100	3,000	2,200	1,500	2,000	500	500	0	0	NS	15,215	6,090
37	Allen Creek		NS	0	0	0	0	0	0	0	0	0	0	0	0	NS	NS	0	0
Simpson/Sheep		221-20	0	0	965	5,400	19,100	26,000	17,450	11,830	3,320	5,530	500	500	1,000	100	0	91,695	38,690
41	Pass Creek		NS	NS	0	0	0	0	0	0	0	0	0	0	0	NS	NS	0	0
46	Comfort Creek		NS	NS	0	50	600	300	500	250	0	0	0	0	0	0	NS	1,700	710
48	Beartrap River		NS	300	1,600	10,000	24,000	27,000	27,000	12,000	14,000	1,000	500	0	0	0	NS	117,400	47,140
49	Cataract Creek		NS	0	0	0	0	0	0	0	0	0	0	0	0	NS	NS	0	0
51	Olsen Creek		NS	400	3,400	8,000	31,000	27,000	11,000	7,000	6,000	500	500	0	0	300	NS	95,100	38,280
52	Control Creek		NS	10	100	2,200	5,500	4,300	700	1,000	300	0	0	0	0	0	NS	14,110	5,650
54	Carlsen Creek		NS	0	0	0	0	0	0	10	50	0	0	0	0	NS	NS	60	50peak
56	St. Matthews Creek		NS	0	0	0	500	1,500	700	750	600	0	0	0	0	0	NS	4,050	1,920
Gravina		221-30	0	710	5,100	20,250	61,600	60,100	39,900	21,010	20,950	1,500	1,000	0	0	300	0	232,420	93,750
76	Irish Creek		NS	0	0	0	0	0	0	100	50	0	0	0	0	0	NS	150	120
80	Whalen Creek		NS	0	0	20	400	1,200	1,300	1,000	500	300	0	0	0	0	NS	4,720	1,900
83	Keta Creek		NS	0	0	0	150	200	100	50	100	100	500	500	300	500	NS	2,500	1,090
87	Sunny River		NS	0	0	0	0	50	250	1,400	2,200	8,800	NS		4,500	7,500	NS	24,700	15,230
88	Short Creek		NS	0	0	0	0	0	0	20	50	0	0	0	0	0	NS	70	50peak
89	Fish Creek		NS	0	150	800	4,500	3,200	5,100	3,000	1,500	2,000	0	0	0	0	NS	20,250	8,190
92	Shale Creek		NS	0	0	0	0	100	0	50	100	0	0	0	0	NS	NS	250	160
93	Kirkwood Creek		NS	0	0	0	800	1,900	700	100	200	0	100	0	200	NS	NS	4,000	2,080
94	Rock Creek		NS	0	0	0	0	0	0	0	0	0	0	0	0	NS	NS	0	0
99	Lagoon Creek		NS	NS	50	200	800	1,200	1,500	1,100	1,400	800	500	1,400	1,700	0	NS	10,650	4,290
Fidalgo		221-40	0	0	200	1,020	6,650	7,850	8,950	6,820	6,100	12,000	1,100	1,900	6,700	8,000	0	67,290	33,110

-Continued-

Eastern District Stream No.	Name	Statistical Area	6/18	6/25	7/02	7/09	7/16	7/23	7/30	8/06	8/13	8/20	8/27	9/03	9/10	9/17	9/24	Total	Adjusted Total
			Week Ending Date																
114	Turner Creek		NS	NS	0	0	0	0	0	0	0	0	0	0	0	NS	NS	0	0
115	Millard Creek		NS	0	0	0	0	0	100	0	0	0	0	0	0	0	NS	100	100
116	Duck River		NS	0	0	0	900	5,500	10,000	4,000	5,000	4,000	3,000	500	500	0	NS	33,400	13,900
117	Indian Creek		NS	0	900	2,100	12,000	9,000	8,500	2,500	1,000	200	0	0	0	0	NS	36,200	15,020
120	Donaldson Creek		NS	0	0	0	200	250	100	50	0	0	0	0	0	NS	NS	600	360
121	Levshakoff Creek		NS	0	0	200	1,700	2,100	500	400	200	100	0	0	0	NS	NS	5,200	2,200
122	No Name Creek		NS	0	0	0	0	50	0	50	0	0	0	0	0	NS	NS	100	70
123	Gregorieff Creek		NS	0	200	300	1,700	2,500	1,300	420	300	100	0	0	0	NS	NS	6,820	2,850
127	Naomoff River		NS	0	100	200	4,200	6,100	6,200	5,300	3,800	2,500	NS	NS	300	NS	NS	28,700	12,660
129	Vlasoff Creek		NS	0	0	0	400	1,200	1,200	1,400	1,900	1,700	2,500	1,000	1,600	200	NS	13,100	5,480
152	Twin Falls Creek		NS	0	0	0	500	800	1,000	1,900	2,300	1,300	1,500	900	2,100	1,500	NS	13,800	5,820
153	Stellar Creek		NS	0	50	900	7,000	7,800	14,000	5,000	2,500	500	1,800	1,000	1,400	200	NS	42,150	16,890
Valdez Arm		221-50	0	0	1,250	3,700	28,600	35,300	42,900	21,020	17,000	10,400	8,800	3,400	5,900	1,900	0	180,170	75,350
131	Gorge Creek - Port Valdez		NS	0	10	200	700	2,600	1,200	300	500	150	0	0	0	NS	NS	5,660	2,600peak
133	Sawmill Creek		NS	10	100	400	2,700	3,000	1,800	900	200	100	50	0	0	NS	NS	9,260	3,710
137	Lowe River		NS	NS	NS	NS	NS	NS	NS	NS	0	0	NS	NS	NS	NS	NS	0	0
143	Siwash Creek		NS	NS	0	0	0	200	0	0	0	0	0	0	0	NS	NS	200	200
145	Crooked Creek		NS	NS	0	0	0	100	NS	NS	1,300	750	800	800	1,000	NS	NS	4,750	2,580
148	Mineral Flats		NS	0	0	0	150	550	2,600	2,000	3,100	2,200	2,300	2,600	3,000	100	NS	18,600	7,530
Port Valdez		221-60	0	10	110	600	3,550	6,450	5,600	3,200	5,100	3,200	3,150	3,400	4,000	100	0	38,470	16,620
Eastern District TOTAL			0	720	7,625	30,970	119,500	135,700	114,800	64,880	52,870	33,030	14,750	9,200	17,600	10,400	0	612,045	258,920

-Continued-

Northern District Stream No.	Name	Statistical Area	6/18	6/25	7/02	7/09	7/16	7/23	7/30	8/06	8/13	8/20	8/27	9/03	9/10	9/17	9/24	Total	Adjusted Total
			Week Ending Date																Adjusted
208	Granite Cove		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0	0
213	Bench Mark Creek		NS	0	0	0	0	0	0	0	0	0	0	0	0	NS	NS	0	0
214	Long Creek		NS	0	80	1,700	7,000	6,300	2,500	4,000	2,400	1,200	50		0	NS	NS	25,230	10,140
216	Vanishing Creek		NS	0	0	0	100	200	250	1,200	2,000	5,000	0	0	200	0	NS	8,950	5,000peak
217	Spring Creek		NS	0	0	0	100	20	50	400	800	1,000	0	0	100	0	NS	2,470	1,050
218	Billy's Creek		NS	0	0	0	0	0	0	0	0	0	0	0	0	NS	NS	0	0
221	Eickelberg Creek		NS	NS	0	0	0	0	0	0	100	0	0	0	0	0	NS	100	100
Columbia/Long		222-10	0	0	80	1,700	7,200	6,520	2,800	5,600	5,300	7,200	50	0	300	0	0	36,750	16,290
224	Backyard Creek		NS	NS	0	0	0	0	0	0	0	0	0	0	0	NS	NS	0	0
227	Granite Creek		NS	NS	0	0	0	0	0	0	0	0	0	0	0	0	NS	0	0
229	Cedar Creek		NS	0	0	0	0	900	200	250	0	0	0	0	0	0	NS	1,350	1,080
232	Delta Creek		NS	0	0	0	0	0	0	0	0	0	0	0	0	NS	NS	0	0
233	Surplus Creek		NS	0	0	0	0	0	0	0	0	0	0	0	0	NS	NS	0	0
234	Wells River		NS	0	600	8,000	24,000	38,400	20,000	16,500	3,000	1,000	0		0	NS	NS	111,500	44,960
257	Complex Creek		NS	NS	NS	0	0	0	50	0	100	0	NS	10	0	0	NS	160	100
258	Williams Creek		NS	NS	NS	0	0	350	1,100	0	3,500	1,000	NS	0		0	NS	5,950	3,500peak
259	Jonah Creek		NS	NS	NS	0	20	0	0	500	0	0	NS	0	0	0	NS	520	500peak
263	Waterfall Creek		NS	NS	NS	0	0	0	0	0	0	0	NS	500	0	0	NS	500	500
264	Siwash River		NS	NS	NS	0	0	300	600	800	4,000	4,300	NS	0	0	100	NS	10,100	5,080
265	Unakwik Creek		NS	NS	NS	0	0	0	0	0	0	0	NS	0	0	NS	NS	0	0
Wells/Unakwik		222-20	0	0	600	8,000	24,020	39,950	21,950	18,050	10,600	6,300	0	510	0	100	0	130,080	55,720
273	Schoppe Creek		NS	NS	NS	0	0	0	50	400	0	400	NS	0	0	NS	NS	850	400peak
276	Black Bear Creek		NS	NS	NS	0	150	400	0	500	0	300	NS	0	0	NS	NS	1,350	630
277	Dead Creek		NS	NS	NS	0	0	0	0	0	0	0	NS	0	0	NS	NS	0	0
278	Comeback Creek		NS	NS	NS	0	0	0	80	0	0	0	NS	0	0	NS	NS	80	80
279	Canyon Creek		NS	NS	NS	0	0	500	500	900	500	500	NS	800	0	0	NS	3,700	2,040
282	Good Creek		NS	NS	NS	0	100	500	1,000	500	500	500	NS	100	0	0	NS	3,200	1,460
283	Bad Creek		NS	NS	NS	0	300	500	600	500	800	300	NS	0	0	0	NS	3,000	1,380
Eaglek		222-30	0	0	0	0	550	1,900	2,230	2,800	1,800	2,000	0	900	0	0	0	12,180	5,990
242	Cowpen Creek		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0	0
Unakwik District		222-50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Northern District TOTAL			0	0	680	9,700	31,770	48,370	26,980	26,450	17,700	15,500	50	1,410	300	100	0	179,010	78,000

-Continued-

Coghill District Stream No.	Name	Statistical Area	6/18	6/25	7/02	7/09	7/16	7/23	7/30	8/06	8/13	8/20	8/27	9/03	9/10	9/17	9/24	Total	Adjusted Total
			Week Ending Date																
414	Harrison Creek		NS	NS	NS	0	0	0	0	100	400	500	NS	0	0	NS	NS	1,000	500peak
417	Hobo Creek		NS	NS	NS	0	0	0	0	0	0	50	NS	0	0	NS	NS	50	50
421	Mill Creek		NS	NS	NS	0	200	1,800	2,200	4,000	7,000	6,000	NS	1,000	200	100	NS	22,500	10,520
424	Old Creek		NS	NS	NS	0	0	0	60	200	700	500	NS	0	0	10	NS	1,470	720
425	Hummer Creek		NS	NS	NS	0	0	50	350	2,700	1,100	2,000	NS	600	0	50	NS	6,850	3,290
428	Pirate Creek		NS	NS	NS	0	0	0	0	0	0	0	NS	0	0	NS	NS	0	0
430	Meacham Creek		NS	NS	NS	0	0	100	400	500	400	200	NS	0	0	0	NS	1,600	700
432	Swanson Creek		NS	NS	NS	0	700	2,700	1,700	4,000	2,000	6,000	NS	1,800	100	400	NS	19,400	9,740
W. Port Wells		223-10	0	0	0	0	900	4,650	4,710	11,500	11,600	15,250	0	3,400	300	560	0	52,870	25,520
303	Triple Creek		NS	NS	NS	0	0	0	0	0	0	0	NS	NS	0	NS	NS	0	0
307	Village Creek		NS	NS	NS	0	0	0	0	0	0	0	NS	0	0	NS	NS	0	0
Esther Passage		223-20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Golden Lagoon		NS	NS	NS	0	0	0	0	0	0	0	NS	0	0	NS	NS	0	0
314	Avery River		NS	NS	NS	0	0	0	0	0	0	0	NS			NS	NS	0	0
322	Coghill River - Below Weir		NS	NS	NS	0	0	2,000	2,000	7,000	10,000	10,000	NS			0	NS	31,000	13,600
3221	Coghill River - Lake Count		0#	0#	35#	14#	29#	260#	NS	NS	NS	NS	NS	NS	NS	NS	NS	338	260peak
E. Port Wells		223-30	0	0	35	14	29	2,260	2,000	7,000	10,000	10,000	0	0	0	0	0	31,338	13,860
Coghill District TOTAL			0	0	35	14	929	6,910	6,710	18,500	21,600	25,250	0	3,400	300	560	0	84,208	39,380

-Continued-

Northwestern District Stream No.	Name	Statistical Area	6/18	6/25	7/02	7/09	7/16	7/23	7/30	8/06	8/13	8/20	8/27	9/03	9/10	9/17	9/24	Total	Adjusted Total
			Week Ending Date																
435	Logging Camp Creek		NS	NS	NS	0	0	0	0	0	NS	0	NS	0	0	NS	NS	0	0
450	Tebenkoff Creek		NS	NS	NS	0	300	1,500	2,100	2,400	NS	600	NS	100	0	NS	NS	7,000	3,720
451	Blackstone Creek		NS	NS	NS	0	0	100	400	600	300	50	NS	0	0	NS	NS	1,450	640
454	Halferty Creek		NS	NS	NS	900	4,500	5,700	6,000	6,300	NS	1,700	NS	350	0	NS	NS	25,450	12,730
455	Paulson Creek		NS	NS	NS	500	2,200	3,000	3,000	2,000	NS	500	NS	0	0	NS	NS	11,200	5,280
458	Parks Creek		NS	NS	NS	150	600	1,400	400	1,900	NS	300	NS	0	0	NS	NS	4,750	2,430
461	Cochrane Creek		NS	NS	NS	0	0	50	0	300	NS	50	NS	0	0	NS	NS	400	300peak
469	Wickett Creek		NS	NS	NS	NS	10	20	100	500	NS	50	NS	0	0	NS	NS	680	500peak
Passage/Cochrane		224-10	0	0	0	1,550	7,610	11,770	12,000	14,000	300	3,250	0	450	0	0	0	50,930	25,600
471	Narrows Creek		NS	NS	NS	0	0	0	NS	0	NS	0	NS	0	0	NS	NS	0	0
476	Shrode Creek		NS	NS	NS	NS	300	1,500	0	800	2,000	1,000	NS	0	0	1,000	NS	6,600	3,020
479	Culross Creek		NS	NS	NS	0	0	0	0	100	NS	0	NS	0	0	NS	NS	100	100
Culross Pass		224-30	0	0	0	0	300	1,500	0	900	2,000	1,000	0	0	0	1,000	0	6,700	3,120
480	Mink Creek		NS	NS	NS	0	700	1,700	1,000	3,500	600	500	NS	0	0	0	NS	8,000	3,620
484	E. Finger Creek		NS	NS	NS	0	200	500	500	1,000	300	400	NS	0	0	NS	NS	2,900	1,280
485	W. Finger Creek		NS	NS	NS	0	700	1,000	1,000	7,000	2,000	500	NS	0	0	NS	NS	12,200	7,000peak
493	Most Creek		NS	NS	NS	0	100	0	0	50	0	0	NS	0	0	NS	NS	150	120
495	Chimevisky Lagoon		NS	NS	NS	50	500	500	0	800	2,000	300	NS	0	0	NS	NS	4,150	2,000peak
498	McClure Creek		NS	NS	NS	0	0	0	200	0	0	0	NS	0	0	NS	NS	200	200
Nellie Juan		224-40	0	0	0	50	2,200	3,700	2,700	12,350	4,900	1,700	0	0	0	0	0	27,600	14,220
Northwestern District TOTAL			0	0	0	1,600	10,110	16,970	14,700	27,250	7,200	5,950	0	450	0	1,000	0	85,230	42,940

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Appendix F.5. (p. 6 of 9)

Eshamy District Stream No.	Name	Statistical Area	Week Ending Date 6/18	6/25	7/02	7/09	7/16	7/23	7/30	8/06	8/13	8/20	8/27	9/03	9/10	9/17	9/24	Total	Adjusted Total
506	Loomis Creek		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0	0
508	North Shore - Eshamy Lagoon		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0	0
510	Elishansky Creek		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0	0
Eshamy		225-30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Eshamy District TOTAL			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

-Continued-

Southwestern District Stream No.	Name	Statistical Area	6/18	6/25	7/02	7/09	7/16	7/23	7/30	8/06	8/13	8/20	8/27	9/03	9/10	9/17	9/24	Total	Adjusted Total
			Week Ending Date																
601	Paddy Creek		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	NS	NS	0	0
603	Ewan Creek		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	0	NS	0	0
604	Erb Creek		NS	NS	NS	NS	NS	0	50	0	0	0	0	0	0	NS	NS	50	50
608	Jackpot River		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	0	NS	0	0
610	Kompkoff River		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	NS	NS	0	0
611	Jackpot Bay - West Arm		NS	NS	NS	NS	NS	0	0	0	0	5#	0	0	0	NS	NS	5	5peak
612	Jackpot Bay - West Arm		NS	NS	NS	NS	NS	170#	200	300	300	50	0	0	0	NS	NS	1,020	510
613	Jackson Creek		NS	NS	NS	NS	NS	0	0	0	400	400	0	0	0	0	NS	800	560
621	Totemoff Creek		NS	NS	NS	NS	NS	0	0	0	0	0	0	0#	0	0	NS	0	0
623	Brizgaloff Creek		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	0	NS	0	0
630	Bainbridge Creek		NS	NS	NS	NS	NS	0	0	0	600	300	0	0	0	0	NS	900	720
632	Claw Creek		NS	NS	NS	NS	NS	0	0	0#	0	0	0	0	0	NS	NS	0	0
633	Pablo Creek		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0#	NS	NS	0	0
634	Whale Bay - B. Head - S. Arm		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	NS	NS	0	0
636	Whale Creek		NS	NS	NS	NS	NS	0	0	0	5#	0	0	0	0	NS	NS	5	5peak
Chenega		226-20	0	0	0	0	0	170	250	300	1,305	755	0	0	0	0	0	2,780	1,850
655	Johnson Creek		NS	NS	NS	NS	NS	0	0	0	100	0	0	0	0	0	NS	100	100
656	Halverson Creek		NS	NS	NS	NS	NS	0	0	0	100	0	19#	0	0	0	NS	119	110
666	O'Brien Creek		NS	NS	NS	NS	NS	0	0	0	0	0	300	0	0	NS	NS	300	300
670	Montgomery Creek		NS	NS	NS	NS	NS	NS	0	0	0	0	0	0	0	NS	NS	0	0
676	Horseshoe Creek		NS	NS	NS	NS	NS	0	0	0	0	0#	0	0	0	NS	NS	0	0
Bainbridge/Latouche		226-40	0	0	0	0	0	0	0	0	200	0	319	0	0	0	0	519	510
Southwestern District TOTAL			0	0	0	0	0	170	250	300	1,505	755	319	0	0	0	0	3,299	2,360

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Montague District Stream No.	Name	Statistical Area	6/18	6/25	7/02	7/09	7/16	7/23	7/30	8/06	8/13	8/20	8/27	9/03	9/10	9/17	9/24	Total	Adjusted Total
			Week Ending Date																
702	Point Creek		NS	NS	NS	NS	NS	0		0	0	0	0	0	0	NS	NS	0	0
707	MacLeod Creek		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	NS	NS	0	0
710	Hanning Creek		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	NS	NS	0	0
711	Quadra Creek		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	NS	NS	0	0
717	Montague Island - West Shore		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	NS	NS	0	0
726	Montague Creek		NS	NS	NS	NS	NS	0	0	NS	0	0	0	0	0	NS	NS	0	0
S. Montague		227-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
738	Russell Creek		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	NS	NS	0	0
739	Swamp Creek		NS	NS	NS	NS	NS	0	0	0	0	0	300	0	0	0	NS	300	300
740	Kelez Creek		NS	NS	NS	NS	NS	0	0	0	0	0	200	0	0	0	NS	200	200
741	Chalmers River		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	0	NS	0	0
744	Wilby Creek		NS	NS	NS	NS	NS	0	0	0	0#	0	0	0	0	NS	NS	0	0
745	Wild Creek		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	NS	NS	0	0
746	Schuman Creek		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	NS	NS	0	0
747	Cabin Creek		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	0	NS	0	0
748	Gilmour Creek		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0#	NS	NS	0	0
749	Shad Creek		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	NS	NS	0	0
752	Stockdale Creek		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	NS	NS	0	0
770	Udall Creek		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	NS	NS	0	0
774	Rosswog Creek		NS	NS	NS	NS	NS	0	0	0	0	1#	0	0	0	NS	NS	1	1peak
775	Pautze Creek		NS	NS	NS	NS	NS	0	0	0	0	0	0	0	0	NS	NS	0	0
N. Montague		227-20	0	0	0	0	0	0	0	0	0	1	500	0	0	0	0	501	501
Montague District TOTAL			0	0	0	0	0	0	0	0	0	1	500	0	0	0	0	501	501

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Southeastern District Stream No.	Name	Statistical Area	6/18	6/25	7/02	7/09	7/16	7/23	7/30	8/06	8/13	8/20	8/27	9/03	9/10	9/17	9/24	Total	Adjusted Total
			Week Ending Date																
833	Bates Creek		NS	NS	NS	0	0	NS	NS	0	0	0	0	0	0	NS	NS	0	0
834	Hardy Creek		NS	NS	NS	0	0	NS	NS	0	0	0	0	0	0	NS	NS	0	0
835	Scott Creek		NS	NS	NS	0	0	NS	NS	0	0	100	0	0	0	NS	NS	100	100
836	Dan's Creek		NS	NS	NS	0	0	NS	NS	0	0	0	0	0	0	NS	NS	0	0
837	Widgeon Creek		NS	NS	NS	0	0	NS	NS	10	0	0	0	0	0	NS	NS	10	10
839	Goose Creek		NS	NS	NS	0	0	NS	NS	10	0	0	0	0	0	NS	NS	10	10
Cutoff		228-20	0	0	0	0	0	0	0	20	0	100	0	0	0	0	0	120	120
844	Makaka Creek		NS	NS	NS	0	0	0	0	0	0	0	0	0	0	0	NS	0	0
847	Hawkins Creek		NS	NS	NS	0	0	0	0	0	0	0	0	0	0	0	NS	0	0
849	Rollins Creek		NS	NS	NS	0	0	0	0	0	0	0	0	0	0	NS	NS	0	0
850	Canoe Creek		NS	NS	NS	0	0	0	200	200	200	100	0	0	0	NS	NS	700	400
851	Zillesenoff Creek		NS	NS	NS	0	0	0	0	0	0	0	0	0	0	NS	NS	0	0
861	Bernard Creek		NS	NS	NS	0	0	0	0	0	0	100	0	0	0	0	NS	100	100
N. Hawkins		228-30	0	0	0	0	0	0	200	200	200	200	0	0	0	0	0	800	500
827	Captain Creek		NS	NS	NS	0	0	NS	0	100	0	200	0	0	0	0	NS	300	200peak
828	Cook Creek		NS	NS	NS	0	3,600	NS	3,000	3,000	800	0	0	0	0	0	NS	10,400	8,720
829	King Creek		NS	NS	NS	0	0	NS	0	0	0	0	0	0	0	NS	NS	0	0
831	Double Creek		NS	NS	NS	0	0	NS	1,200	1,300	600	300	0	0	0	NS	NS	3,400	2,080
Double Bay		228-40	0	0	0	0	3,600	0	4,200	4,400	1,400	500	0	0	0	0	0	14,100	11,000
817	Deer Creek		NS	NS	NS	0	NS	0	500	100	50	0	0	0	0	NS	NS	650	560
818	Juania Creek		NS	NS	NS	0	NS	0	100	50	0	0	0	0	0	NS	NS	150	120
821	Brown Bear Creek		NS	NS	NS	2,200	NS	13,000	3,000	1,000	400	100	0	0	0	NS	NS	19,700	13,000peak
Johnstone		228-50	0	0	0	2,200	0	13,000	3,600	1,150	450	100	0	0	0	0	0	20,500	13,680
806	Dog Salmon Creek		NS	NS	NS	0	NS	0	700	400	200	0	0	0	0	0	NS	1,300	940
807	Beaver Creek		NS	NS	NS	0	NS	0	0	0	0	0	0	0	0	NS	NS	0	0
810	Garden Creek		NS	NS	NS	0	NS	0	300	300	100	0	0	0	0	NS	NS	700	460
811	Etches Creek		NS	NS	NS	0	NS	0	0	0	0	0	50	0		NS	NS	50	50
812	Nuchek Creek		NS	NS	NS	0	NS	200	2,800	3,300	500	200	0	0	0	0	NS	7,000	3,300peak
815	Constantine Creek		NS	NS	NS	1,800	NS	37,000	19,000	9,000	2,000	700	500	0	0	0	NS	70,000	37,380
Etches		228-60	0	0	0	1,800	0	37,200	22,800	13,000	2,800	900	550	0	0	0	0	79,050	42,130
Southeastern District TOTAL			0	0	0	4,000	3,600	50,200	30,800	18,770	4,850	1,800	550	0	0	0	0	114,570	67,430
TOTAL OF 8 DISTRICTS			0	720	8,340	46,284	165,909	258,320	194,240	156,150	105,725	82,286	16,169	14,460	18,200	12,060	0	1,078,863	489,531

Appendix F.6. Temporally stratified age and sex composition of the sockeye salmon escapement through the Coghill Lake weir, 1988.

		Brood Year and Age Group											
		1986	1985		1984		1983			1982		1981	
		0.1	0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	1.5	Total
Stratum Dates:	6/10-6/30												
Sample Dates:	6/22-6/24												
Sample Size:	625												
Female	Percent of Sample	0.0	0.0	0.0	0.0	12.8	0.0	13.7	0.0	0.5	0.2	0.0	27.2
	Number in Escapement	0	0	0	0	4,427	0	4,739	0	173	69	0	9,408
Male	Percent of Sample	0.0	0.3	0.0	0.0	57.4	0.0	13.2	0.2	1.3	0.2	0.2	72.8
	Number in Escapement	0	104	0	0	19,854	0	4,566	69	450	69	69	25,181
Total	Percent of Sample	0.0	0.3	0.0	0.0	70.2	0.0	26.9	0.2	1.8	0.4	0.2	100.0
	Number in Escapement	0	104	0	0	24,281	0	9,305	69	623	138	69	34,589
	Standard Error	0	76	0	0	633	0	614	62	184	87	62	
Stratum Dates:	7/01-7/09												
Sample Date:	7/01												
Sample Size:	610												
Female	Percent of Sample	0.0	0.0	0.0	0.2	18.2	0.0	32.4	0.0	0.0	0.0	0.0	50.8
	Number in Escapement	0	0	0	49	4,417	0	7,863	0	0	0	0	12,329
Male	Percent of Sample	0.0	0.0	0.0	0.0	32.5	0.2	16.1	0.2	0.2	0.0	0.0	49.2
	Number in Escapement	0	0	0	0	7,886	49	3,907	49	49	0	0	11,940
Total	Percent of Sample	0.0	0.0	0.0	0.2	50.7	0.2	48.5	0.2	0.2	0.0	0.0	100.0
	Number in Escapement	0	0	0	49	12,303	49	11,770	49	49	0	0	24,269
	Standard Error	0	0	0	44	492	44	491	44	44	0	0	
Stratum Dates:	7/10-7/27												
Sample Dates:	7/14-7/18												
Sample Size:	667												
Female	Percent of Sample	0.1	0.1	0.0	0.4	26.3	0.0	17.7	0.0	0.3	0.6	0.0	45.5
	Number in Escapement	13	13	0	53	3,463	0	2,330	0	39	79	0	5,990
Male	Percent of Sample	0.0	0.3	0.1	0.1	22.3	0.0	27.5	0.0	4.1	0.1	0.0	54.5
	Number in Escapement	0	39	13	13	2,936	0	3,621	0	540	13	0	7,175
Total	Percent of Sample	0.1	0.4	0.1	0.5	48.6	0.0	45.2	0.0	4.4	0.7	0.0	100.0
	Number in Escapement	13	52	13	66	6,399	0	5,951	0	579	92	0	13,165
	Standard Error	16	32	16	36	255	0	254	0	105	43	0	

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Appendix F.6. (p. 2 of 2)

		Brood Year and Age Group											
		1986	1985		1984		1983			1982		1981	
		0.1	0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	1.5	Total
Strata Combined:	6/10-7/27												
Sample Dates:	6/22-7/18												
Sample Size:	1,902												
Female	Percent of Sample	0.0	0.0	0.0	0.1	17.1	0.0	20.7	0.0	0.3	0.2	0.0	38.5
	Number in Escapement	13	13	0	102	12,307	0	14,932	0	212	148	0	27,727
Male	Percent of Sample	0.0	0.2	0.0	0.0	42.6	0.1	16.8	0.2	1.4	0.1	0.1	61.5
	Number in Escapement	0	143	13	13	30,676	49	12,094	118	1,039	82	69	44,296
Total	Percent of Sample	0.0	0.2	0.0	0.2	59.7	0.1	37.5	0.2	1.7	0.3	0.1	100.0
	Number in Escapement	13	156	13	115	42,983	49	27,026	118	1,251	230	69	72,023
	Standard Error	16	82	16	57	841	44	826	76	216	97	62	

Appendix F.7. Temporally stratified age and sex composition of the sockeye salmon escapement through the weir at the head of Eshamy Lagoon, 1988.

		Brood Year and Age Group					
		1985		1984	1983		
		0.2	1.1	1.2	1.3	2.2	Total
Stratum Dates:	7/06-7/31						
Sample Dates:	7/15-7/17						
Sample Size:	611						
Female	Percent of Sample	0.5	0.0	53.5	1.6	0.0	55.6
	Number in Escapement	66	0	7,054	211	0	7,331
Male	Percent of Sample	0.0	0.0	43.7	0.7	0.0	44.4
	Number in Escapement	0	0	5,761	92	0	5,853
Total	Percent of Sample	0.5	0.0	97.2	2.3	0.0	100.0
	Number in Escapement	66	0	12,815	303	0	13,184
	Standard Error	38	0	88	80	0	
Stratum Dates:	8/01-8/21						
Sample Date	8/12						
Sample Size:	592						
Female	Percent of Sample	0.0	0.7	52.3	1.4	0.8	55.2
	Number in Escapement	0	112	8,341	223	128	8,804
Male	Percent of Sample	0.0	1.2	41.2	1.0	1.4	44.8
	Number in Escapement	0	191	6,571	159	223	7,144
Total	Percent of Sample	0.0	1.9	93.5	2.4	2.2	100.0
	Number in Escapement	0	303	14,912	382	351	15,948
	Standard Error	0	90	162	100	96	
Stratum Dates:	8/22-9/12						
Sample Dates:	8/30-9/01						
Sample Size:	538						
Female	Percent of Sample	0.0	0.2	36.1	0.9	2.2	39.4
	Number in Escapement	0	5	942	23	57	1,027
Male	Percent of Sample	0.0	0.6	53.3	2.0	4.7	60.6
	Number in Escapement	0	16	1,391	52	123	1,582
Total	Percent of Sample	0.0	0.8	89.4	2.9	6.9	100.0
	Number in Escapement	0	21	2,333	75	180	2,609
	Standard Error	0	10	35	19	29	
Strata Combined:	7/06-9/12						
Sample Dates:	7/15-9/01						
Sample Size:	1,741						
Female	Percent of Sample	0.2	0.4	51.5	1.4	0.6	54.1
	Number in Escapement	66	117	16,337	457	185	17,162
Male	Percent of Sample	0.0	0.7	43.2	1.0	1.1	45.9
	Number in Escapement	0	207	13,723	303	346	14,579
Total	Percent of Sample	0.2	1.0	94.7	2.4	1.7	100.0
	Number in Escapement	66	324	30,060	760	531	31,741
	Standard Error	38	90	187	130	100	

APPENDIX G

Mean Lengths by Sex and Age of Salmon
in the Commercial Catches and Escapements
of the Copper/Bering Rivers and Prince William Sound.

Appendix G.1. Mean length by sex and age of sockeye salmon from the commercial drift gill net catches in the Copper River and Bering River Districts, 1988.

		Brood Year and Age Group										
		1983		1984			1983			1982		1981
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4
Copper River - Sample Date: 5/17												
Females	Mean Length	0	0	548.4	522.3	0	610	556.2	470	554.5	539.9	563
	Std. Error	0	0	3.84	19.88	0	25	2.4	0	17.5	2.62	0
	Range	0- 0	0- 0	506- 581	495- 561	0- 0	585- 635	492- 613	470- 470	537- 572	454- 599	563-563
	Sample Size	0	0	28	3	0	2	112	1	2	110	1
Males	Mean Length	0	0	574	500	0	0	576.2	477.8	597.6	563.6	536
	Std. Error	0	0	3.45	14.44	0	0	2.44	17.25	14.73	2.83	26
	Range	0- 0	0- 0	530- 630	440- 566	0- 0	0- 0	489- 634	430- 508	530- 650	483- 627	510-562
	Sample Size	0	0	50	8	0	0	121	4	8	115	2
All Fish	Mean Length	0	0	564.8	506	0	610	567	476	589	552	545
	Std. Error	0	0	2.94	12	0	25	2	13	13	2	17.5
	Range	0- 0	0- 0	506- 630	440- 566	0- 0	585- 635	489- 634	430- 508	530- 650	454- 627	510-563
	Sample Size	0	0	78	11	0	2	233	5	10	225	3
Copper River - Sample Date: 5/24												
Females	Mean Length	0	0	549	507.8	0	0	552.6	483.8	573.8	534	0
	Std. Error	0	0	2.28	4.32	0	0	2.25	10.03	18.52	2.53	0
	Range	0- 0	0- 0	520- 583	493- 525	0- 0	0- 0	481- 625	437- 508	530- 631	466- 586	0- 0
	Sample Size	0	0	46	6	0	0	151	6	5	93	0
Males	Mean Length	492	0	572.1	498.6	0	0	577	478	603	565.4	582
	Std. Error	0	0	3.83	7.93	0	0	2.89	9.06	19.75	3.01	0
	Range	492- 492	0- 0	494- 638	445- 553	0- 0	0- 0	470- 650	432- 530	540- 655	505- 620	582- 582
	Sample Size	1	0	54	16	0	0	129	10	5	60	1
All Fish	Mean Length	492	0	562	501	0	0	564	480	588	546	582
	Std. Error	0	0	3	6	0	0	2	7	14	2	0
	Range	492- 492	0- 0	494- 638	445- 553	0- 0	0- 0	470- 650	432- 530	530- 655	466- 620	582- 582
	Sample Size	1	0	100	22	0	0	280	16	10	153	1

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Appendix G.1. (page 2 of 5)

		Brood Year and Age Group										
		1983		1984			1983			1982		1981
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4
Copper River - Sample Date: 6/01												
Females	Mean Length	0	0	546.7	493.9	0	597.5	555.5	494.3	601	537.3	0
	Std. Error	0	0	4.2	5.27	0	12.5	1.98	15.09	0	3.43	0
	Range	0- 0	0- 0	506- 604	431- 527	0- 0	585- 610	449- 622	450- 591	601- 601	483- 594	0- 0
	Sample Size	0	0	29	19	0	2	203	8	1	41	0
Males	Mean Length	467.5	0	563.5	494.8	0	593	584.8	496.2	608.8	560.3	0
	Std. Error	25.5	0	4.98	4.71	0	0	2.05	6.61	17.01	5.9	0
	Range	442- 493	0- 0	509- 633	434- 529	0- 0	593- 593	503- 644	455- 521	564- 643	477- 634	0- 0
	Sample Size	2	0	31	35	0	1	175	10	4	33	0
All Fish	Mean Length	467.5	0	555	495	0	596	569	495	607	548	0
	Std. Error	25.5	0	3	4	0	7	2	7	13	3	0
	Range	442- 493	0- 0	506- 633	431- 529	0- 0	585- 610	449- 644	450- 591	564- 643	477- 634	0- 0
	Sample Size	2	0	60	54	0	3	378	18	5	74	0
Copper River - Sample Date: 6/11												
Females	Mean Length	0	0	547.6	496.4	0	0	562.8	486.5	0	571.9	0
	Std. Error	0	0	4.79	3.84	0	0	1.97	2.62	0	7.24	0
	Range	0- 0	0- 0	524- 572	451- 602	0- 0	0- 0	478- 632	472- 501	0- 0	540- 601	0- 0
	Sample Size	0	0	11	48	0	0	164	13	0	9	0
Males	Mean Length	445	0	570.8	510.1	0	0	580.4	493.8	591.5	554.9	0
	Std. Error	50	0	9.39	3.89	0	0	1.93	13.88	7.68	11.69	0
	Range	395- 495	0- 0	535- 605	418- 614	0- 0	0- 0	472- 647	447- 569	564- 611	505- 587	0- 0
	Sample Size	2	0	9	61	0	0	251	8	6	7	0
All Fish	Mean Length	445	0	558	504	0	0	573	489	592	564	0
	Std. Error	50	0	6	3	0	0	1	5	8	7	0
	Range	395- 495	0- 0	524- 605	418- 614	0- 0	0- 0	472- 647	447- 569	564- 611	505- 601	0- 0
	Sample Size	2	0	20	109	0	0	415	21	6	16	0

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Appendix G.1. (page 3 of 5)

		Brood Year and Age Group																		
		1983			1984			1983			1982			1981						
		0.2		1.1	0.3		1.2	2.1	0.4		1.3	2.2	1.4		2.3	2.4				
Copper River - Sample Date: 6/18																				
Females	Mean Length		0		0	555.6		506.5	0	0		560.1	470.3	595		570	0			
	Std. Error		0		0	4.03		2.99	0	0		1.6	13.69	0		0	0			
	Range	0-	0	0-	0	513-	583	448- 574	0- 0	0-	0	437- 624	444- 490	595-	595	570-	570	0-	0	
	Sample Size		0		0	19		62	0	0		245	3	1		1	0			
Males	Mean Length		445.5		0	582.1		499	0	0		582.5	0	621		0	0			
	Std. Error		1.5		0	6.38		3.61	0	0		2.66	0	0		0	0			
	Range	444-	447	0-	0	518-	615	441- 621	0- 0	0-	0	455- 692	0- 0	621-	621	0-	0	0-	0	
	Sample Size		2		0	16		80	0	0		166	0	1		0	0			
All Fish	Mean Length		445.5		0	568		503	0	0		569	470	608		570	0			
	Std. Error		1.5		0	4		3	0	0		2	14	13		0	0			
	Range	444-	447	0-	0	513-	615	441- 630	0- 0	0-	0	437- 692	444- 490	595-	621	570-	570	0-	0	
	Sample Size		2		0	35		143	0	0		416	3	2		1	0			
Copper River - Sample Date: 6/25																				
Females	Mean Length		488.5		0	564.7		501.2	0	0		569.5	466	559.3		583	0			
	Std. Error		6.5		0	8.22		2.73	0	0		1.73	0	11.34		4	0			
	Range	482-	495	0-	0	508-	610	438- 586	0- 0	0-	0	487- 634	466- 466	530-	585	579-	587	0-	0	
	Sample Size		2		0	11		79	0	0		190	1	4		2	0			
Males	Mean Length		471		0	582.7		499.2	0	584		579.4	461	0		0	0			
	Std. Error		8.35		0	8.71		2.97	0	0		2.05	0	0		0	0			
	Range	442-	487	0-	0	515-	617	419- 570	0- 0	584-	584	494- 645	461- 461	0-	0	0-	0	0-	0	
	Sample Size		5		0	15		116	0	1		179	1	0		0	0			
All Fish	Mean Length		476		0	575		500	0	584		574	464	559		583	0			
	Std. Error		6.76		0	6		2	0	0		1	3	11		4	0			
	Range	442-	495	0-	0	508-	617	419- 586	0- 0	584-	584	487- 645	461- 466	530-	585	579-	587	0-	0	
	Sample Size		7		0	26		195	0	1		369	2	4		2	0			

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Appendix G.1. (page 4 of 5)

		Brood Year and Age Group										
		1983		1984			1983			1982		1981
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4
Copper River - Sample Date: 7/12												
Females	Mean Length	515.6	0	575	520.3	0	0	585	572	554	0	0
	Std. Error	5.77	0	4.19	2.42	0	0	1.68	0	0	0	0
	Range	504- 537	0- 0	549- 607	441- 597	0- 0	0- 0	507- 644	572- 572	554- 554	0- 0	0- 0
	Sample Size	5	0	17	117	0	0	194	1	1	0	0
Males	Mean Length	540	394	594	529.1	0	641	598.1	537	628.7	0	0
	Std. Error	0	0	7.45	3.1	0	0	2.21	0	17.33	0	0
	Range	540- 540	394- 394	568- 612	456- 627	0- 0	641- 641	505- 654	537- 537	598- 658	0- 0	0- 0
	Sample Size	1	1	6	119	0	1	157	1	3	0	0
All Fish	Mean Length	519.7	394	580	525	0	641	591	555	610	0	0
	Std. Error	6.22	0	4	2	0	0	1	18	22	0	0
	Range	504- 540	394- 394	549- 612	441- 627	0- 0	641- 641	505- 654	537- 572	554- 658	0- 0	0- 0
	Sample Size	6	1	23	236	0	1	351	2	4	0	0
Copper River - Sample Date: 7/30												
Females	Mean Length	512.2	0	580.4	521.8	0	0	582.4	504	0	0	0
	Std. Error	9.63	0	6.09	2.1	0	0	3.06	13	0	0	0
	Range	425- 549	0- 0	546- 605	465- 565	0- 0	0- 0	519- 625	491- 517	0- 0	0- 0	0- 0
	Sample Size	13	0	10	94	0	0	58	2	0	0	0
Males	Mean Length	490.6	0	597.9	533.5	357	0	601.9	544	588	0	0
	Std. Error	11.65	0	11.46	4.37	0	0	3.4	2	0	0	0
	Range	433- 535	0- 0	538- 649	423- 650	357- 357	0- 0	542- 665	542- 546	588- 588	0- 0	0- 0
	Sample Size	9	0	9	93	1	0	52	2	1	0	0
All Fish	Mean Length	503.4	0	589	528	357	0	592	524	588	0	0
	Std. Error	7.61	0	6	2	0	0	2	13	0	0	0
	Range	425- 549	0- 0	538- 649	423- 650	357- 357	0- 0	519- 665	491- 546	588- 588	0- 0	0- 0
	Sample Size	22	0	19	187	1	0	110	4	1	0	0

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		Brood Year and Age Group										
		1983		1984			1983			1982		1981
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4
Copper River - All Samples Combined												
Females	Mean Length	510.7	0	554.6	511.1	0	603.8	564.6	488.8	568.9	538.9	563
	Std. Error	6.56	0	1.65	1.26	0	11.97	0.76	4.85	8.07	1.65	0
	Range	425- 549	0- 0	506- 610	431- 602	0- 0	585- 635	437- 644	437- 591	530- 631	454- 601	563- 563
	Sample Size	20	0	171	428	0	4	1317	35	14	256	1
Males	Mean Length	478.1	477	574.7	512.9	357	606	583.6	491.4	602.7	563.3	551.3
	Std. Error	7.74	83	2.05	1.62	0	17.69	0.87	5.42	6.37	1.98	21.46
	Range	395- 540	394- 560	494- 649	418- 650	357- 357	584- 641	455- 692	430- 569	530- 658	477- 634	510- 582
	Sample Size	22	2	190	528	1	3	1230	36	28	215	3
All Fish	Mean Length	493.6	477	565	512	357	605	574	490	591	550	554
	Std. Error	5.66	83	1	1	0	9	1	4	6	1	15
	Range	395- 549	394- 560	494- 649	418- 650	357- 357	584- 641	437- 692	430- 591	530- 658	454- 634	510- 582
	Sample Size	42	2	361	958	1	7	2552	71	42	471	4
Bering River - 6/21												
Females	Mean Length	518.5	0	563.7	512.1	0	587	563	504	574.7	0	0
	Std. Error	18.5	0	3.08	2.51	0	0	1.33	0	4.98	0	0
	Range	500- 537	0- 0	514- 610	453- 557	0- 0	587- 587	501- 616	504- 504	567- 584	0- 0	0- 0
	Sample Size	2	0	36	68	0	1	244	1	3	0	0
Males	Mean Length	443.5	0	586.8	501.9	0	620	587.1	516	644	0	0
	Std. Error	3.88	0	3.44	3.39	0	29	2	0	9.15	0	0
	Range	438- 455	0- 0	520- 634	423- 600	0- 0	591- 649	510- 644	516- 516	622- 677	0- 0	0- 0
	Sample Size	4	0	42	105	0	2	182	1	5	0	0
All Fish	Mean Length	468.5	0	576	506	0	609	573	510	618	0	0
	Std. Error	16.7	0	3	2	0	20	1	6	14	0	0
	Range	438- 537	0- 0	514- 634	423- 600	0- 0	587- 649	501- 644	504- 516	567- 677	0- 0	0- 0
	Sample Size	6	0	78	173	0	3	426	2	8	0	0

Appendix G.2. Mean length by sex and age of chinook salmon from the commercial drift gill net catch in the Copper River District, 1988.

		Brood Year and Age Group																								
		1985						1984						1983						1982						1981		
		0.2			1.1			0.3			1.2			0.4			1.3			2.2			1.4			2.3			1.5			2.4
Sample Date: 5/17																																
Females	Mean Length			0			0			0			602.3			0			789.3			0			886.8			761.1			0			880.3
	Std. Error			0			0			0			10.46			0			7.16			0			3.72			15.14			0			17.32
	Range		0-	0		0-	0		0-	0			566- 641		0-	0			652-1016		0-	0			724-1006			667- 816		0-	0			725-1030
	Sample Size			0			0			0			6			0			61			0			186			9			0			15
Males	Mean Length			0			0			0			593			0			807			0			950.2			840.8			852			937.5
	Std. Error			0			0			0			2			0			11.55			0			3.91			28.87			0			12.45
	Range		0-	0		0-	0		0-	0			591- 595		0-	0			712- 901		0-	0			715-1110			715- 915		852-	852			823-1032
	Sample Size			0			0			0			2			0			24			0			234			6			1			18
All Fish	Mean Length			0			0			0			600			0			794			0			922			793			852			912
	Std. Error			0			0			0			7.82			0			6			0			3			18			0			11
	Range		0-	0		0-	0		0-	0			566- 641		0-	0			652-1016		0-	0			715-1110			667- 915		852-	852			725-1032
	Sample Size			0			0			0			8			0			85			0			420			15			1			33
Sample Date: 5/27																																
Females	Mean Length			0			0			0			662.3			0			803.3			0			896.2			804.3			0			885.7
	Std. Error			0			0			0			18.6			0			8.95			0			4.59			9.66			0			17.12
	Range		0-	0		0-	0		0-	0			624- 710		0-	0			580- 958		0-	0			770-1016			750- 852		0-	0			771- 965
	Sample Size			0			0			0			4			0			54			0			126			12			0			12
Males	Mean Length			0			0			0			607.6			0			830.1			0			944.1			822.4			0			941.2
	Std. Error			0			0			0			31.85			0			5.64			0			4.16			16.76			0			25.41
	Range		0-	0		0-	0		0-	0			500- 680		0-	0			696-1020		0-	0			739-1135			691- 995		0-	0			817-1097
	Sample Size			0			0			0			5			0			94			0			262			17			0			10
All Fish	Mean Length			0			0			0			631.9			0			820			0			929			815			0			911
	Std. Error			0			0			0			20.77			0			5			0			3			11			0			16
	Range		0-	0		0-	0		0-	0			500- 710		0-	0			580-1020		0-	0			739-1135			691- 995		0-	0			771-1097
	Sample Size			0			0			0			9			0			148			0			388			29			0			22

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		Brood Year and Age Group										
		1985		1984		1983			1982		1981	
		0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	1.5	2.4
Sample Date: 6/11												
Females	Mean Length	0	0	0	651.3	0	844	0	917.7	822	939	883.5
	Std. Error	0	0	0	30.63	0	6.75	0	3.65	72	44	33.33
	Range	0- 0	0- 0	0- 0	596- 738	0- 0	650- 933	0- 0	790-1060	750- 894	895- 983	720- 945
	Sample Size	0	0	0	4	0	63	0	168	2	2	6
Males	Mean Length	531	397	752	609.6	973	820.3	686	970.4	823	1035	955
	Std. Error	0	0	0	14.53	0	10.07	0	4.27	0	0	13.84
	Range	531- 531	397- 397	752- 752	508- 810	973- 973	498-1024	686- 686	810-1103	823- 823	1035-1035	830-1020
	Sample Size	1	1	1	23	1	108	1	199	1	1	12
All Fish	Mean Length	531	397	752	616	973	829	686	946	822	971	931
	Std. Error	0	0	0	13	0	7	0	3	42	41	16
	Range	531- 531	397- 397	752- 752	508- 810	973- 973	498-1024	686- 686	790-1103	750- 894	895-1035	720-1020
	Sample Size	1	1	1	27	1	171	1	367	3	3	18
All Samples Combined:												
Females	Mean Length	0	0	0	633.4	0	812.9	0	900.1	789	939	882.8
	Std. Error	0	0	0	12.64	0	4.69	0	2.35	10.06	44	11.32
	Range	0- 0	0- 0	0- 0	566- 738	0- 0	580-1016	0- 0	724-1060	667- 894	895- 983	720-1030
	Sample Size	0	0	0	14	0	178	0	480	23	2	33
Males	Mean Length	531	397	752	608.1	973	822.9	686	953.7	827	943.5	943.7
	Std. Error	0	0	0	12.11	0	5.49	0	2.42	13.65	91.5	9.24
	Range	531- 531	397- 397	752- 752	500- 810	973- 973	498-1024	686- 686	715-1135	691- 995	852-1035	817-1097
	Sample Size	1	1	1	30	1	226	1	695	24	2	40
All Fish	Mean Length	531	397	752	616	973	819	686	932	808	941	916
	Std. Error	0	0	0	9	0	4	0	2	9	41	8
	Range	531- 531	397- 397	752- 752	500- 810	973- 973	498-1024	686- 686	715-1135	667- 995	852-1035	720-1097
	Sample Size	1	1	1	44	1	404	1	1175	47	4	73

Appendix G.3. Mean length by sex and age of coho salmon from the commercial drift gill net catch in the Copper River District, 1988.

		Brood Year and Age Group		
		1985	1984	1983
		1.1	2.1	3.1
Sample Date: 8/10				
Females	Mean Length	618.1	635.6	650
	Std. Error	8.52	9.77	23
	Range	467- 690	513- 694	627- 673
	Sample Size	32	17	2
Males	Mean Length	587.8	621.5	588.6
	Std. Error	4.24	4.51	13
	Range	450- 718	443- 748	527- 642
	Sample Size	228	167	8
All Fish	Mean Length	591.5	623	601
	Std. Error	3.91	4	14
	Range	450- 718	443- 748	527- 673
	Sample Size	260	184	10
Sample Date: 8/24				
Females	Mean Length	657.5	673.7	653.5
	Std. Error	5.46	4.47	5.5
	Range	595- 708	615- 713	648- 659
	Sample Size	24	33	2
Males	Mean Length	629.2	631.4	631
	Std. Error	11.29	9.12	0
	Range	416- 724	492- 697	631- 631
	Sample Size	35	34	1
All Fish	Mean Length	640.7	652	646
	Std. Error	7.25	6	8
	Range	416- 724	492- 713	631- 659
	Sample Size	59	67	3
Sample Date: 9/08				
Females	Mean Length	660.5	679.7	671.3
	Std. Error	3.76	3.05	11.57
	Range	566- 782	604- 748	652- 692
	Sample Size	81	98	3
Males	Mean Length	656.1	680.8	699.8
	Std. Error	4.92	4.8	10.03
	Range	530- 743	334- 770	660- 730
	Sample Size	85	125	6
All Fish	Mean Length	658.3	680	690
	Std. Error	3.11	3	9
	Range	530- 782	334- 770	652- 730
	Sample Size	166	223	9
All Samples Combined:				
Females	Mean Length	650.1	673.3	660.1
	Std. Error	3.46	2.75	7.85
	Range	467- 782	513- 748	627- 692
	Sample Size	137	148	7
Males	Mean Length	608.7	645.3	635.9
	Std. Error	3.59	3.47	16.17
	Range	416- 743	334- 770	527- 730
	Sample Size	348	326	15
All Fish	Mean Length	620.4	654	644
	Std. Error	2.88	3	11
	Range	416- 782	334- 770	527- 730
	Sample Size	485	474	22

Appendix G.4. Mean length by sex and age of coho salmon from the commercial drift gill net catch in the Bering River District, 1988.

		Brood Year and Age Group		
		1985	1984	1983
		1.1	2.1	3.1
Sample Date: 8/26				
Females	Mean Length	631.7	657.9	657
	Std. Error	7.56	4.42	0
	Range	554- 688	598- 712	657- 657
	Sample Size	26	31	1
Males	Mean Length	605.1	638.6	695
	Std. Error	9.41	8.38	0
	Range	430- 678	494- 733	695- 695
	Sample Size	38	32	1
All Fish	Mean Length	615.9	648	676
	Std. Error	6.54	5	19
	Range	430- 688	494- 733	657- 695
	Sample Size	64	63	2
Sample Date: 9/13				
Females	Mean Length	658.2	675.5	0
	Std. Error	3.41	5.56	0
	Range	587- 718	609- 710	0- 0
	Sample Size	71	22	0
Males	Mean Length	655.6	676	0
	Std. Error	6.44	7.82	0
	Range	556- 715	578- 741	0- 0
	Sample Size	36	20	0
All Fish	Mean Length	657.3	676	0
	Std. Error	3.12	5	0
	Range	556- 718	578- 741	0- 0
	Sample Size	107	42	0
All Samples Combined:				
Females	Mean Length	651.1	665.2	657
	Std. Error	3.41	3.63	0
	Range	554- 718	598- 712	657- 657
	Sample Size	97	53	1
Males	Mean Length	629.7	653	695
	Std. Error	6.44	6.44	0
	Range	430- 715	494- 741	695- 695
	Sample Size	74	52	1
All Fish	Mean Length	641.8	659	676
	Std. Error	3.48	4	19
	Range	430- 718	494- 741	657- 695
	Sample Size	171	105	2

Appendix G.5. Mean length by sex and age of sockeye salmon from the dip net and fish wheel catches of the upper Copper River personal use and subsistence fisheries at Chitina, 1988.

		Brood Year and Age Group									
		1985		1984		1983			1982		1981
		0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4
Dip Net Catches (Sample Dates: 6/03-8/03)											
Females	Mean Length	533.1	0	536.5	494.3	0	550.1	496.9	555.8	527.8	0
	Std. Error	16.56	0	3.5	2.26	0	1.55	8.5	31.2	7.14	0
	Range	417- 615	0- 0	445- 593	400- 659	0- 0	446- 648	465- 530	485- 638	433- 590	0- 0
	Sample Size	14	0	69	301	0	477	8	5	30	0
Males	Mean Length	547.4	0	560.3	520.3	0	569.2	470.3	576.8	543.8	580
	Std. Error	12.42	0	3.45	2.54	0	1.56	13.65	10.04	10.3	0
	Range	404- 639	0- 0	476- 679	385- 650	0- 0	430- 656	378- 550	528- 626	446- 602	580- 580
	Sample Size	21	0	91	338	0	603	16	10	20	1
All Fish	Mean Length	541.7	0	550	508	0	561	479	570	532	580
	Std. Error	9.89	0	3	2	0	1	10	12	6	0
	Range	404- 639	0- 0	445- 679	385- 659	0- 0	430- 656	378- 550	485- 638	430- 602	580- 580
	Sample Size	35	0	161	643	0	1081	24	15	52	1
Fish Wheel Catches (Sample Dates: 6/04-8/06)											
Females	Mean Length	0	477	536.9	488.1	0	545.7	489.1	0	533.2	0
	Std. Error	0	0	4.72	2.32	0	2.35	5.92	0	7.58	0
	Range	0- 0	477- 477	495- 582	397- 604	0- 0	457- 649	469- 508	0- 0	513- 559	0- 0
	Sample Size	0	1	27	255	0	200	7	0	5	0
Males	Mean Length	513.3	0	551.9	510.5	577	566.2	475.5	539	542.2	506
	Std. Error	17.38	0	6.35	4.08	0	2.41	9.44	0	15.56	0
	Range	422- 604	0- 0	456- 620	417- 624	577- 577	468- 642	458- 496	539- 539	497- 587	506- 506
	Sample Size	13	0	26	155	1	215	4	1	6	1
All Fish	Mean Length	513.3	477	544	497	577	556	484	539	538	506
	Std. Error	17.38	0	4	2	0	2	5	0	9	0
	Range	422- 604	477- 477	456- 620	417- 624	577- 577	457- 649	458- 508	539- 539	497- 587	506- 506
	Sample Size	13	1	53	410	1	416	11	1	11	1

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Appendix G.5. (page 2 of 2)

		Brood Year and Age Group									
		1985		1984		1983			1982		1981
		0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4
Dip Net and Fish Wheel Catches Combined											
Females	Mean Length	533.1	477	536.6	491.4	0	548.8	493.3	555.8	528.6	0
	Std. Error	16.56	0	2.83	1.62	0	1.3	5.23	31.2	6.19	0
	Range	417- 615	477- 477	445- 593	397- 659	0- 0	446- 649	465- 530	485- 638	433- 590	0- 0
	Sample Size	14	1	96	556	0	677	15	5	35	0
Males	Mean Length	534.4	0	558.5	517.2	577	568.4	471.3	573.4	543.5	543
	Std. Error	10.4	0	3.04	2.17	0	1.31	10.99	9.71	8.55	37
	Range	404- 639	0- 0	456- 679	417- 650	577- 577	430- 656	378- 550	528- 626	446- 602	506- 580
	Sample Size	34	0	117	493	1	818	20	11	26	2
All Fish	Mean Length	534	477	548	504	577	560	481	568	533	543
	Std. Error	8.71	0	2	1	0	1	7	11	5	37
	Range	404- 639	477- 477	445- 679	417- 659	577- 577	430- 656	378- 550	485- 638	430- 602	506- 580
	Sample Size	48	1	214	1053	1	1495	35	16	63	2

Appendix G.6. Mean length by sex and age of sockeye salmon escapements to the Copper River delta and the Bering River drainage, 1988.

		Brood Year and Age Group									
		1986	1985		1984		1983			1982	
		0.1	0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3
Eyak Lake (Sample Dates: 6/16, 7/08, 7/20, 7/22 and 8/17)											
Females	Mean Length	0	502.6	0	555.1	500.7	590.7	557.9	522.5	576.7	531
	Std. Error	0	15.45	0	4.47	2.59	4.1	1	7.5	17.27	0
	Range	0- 0	449- 535	0- 0	495- 620	451- 582	583- 597	495- 647	515- 530	550- 609	531- 531
	Sample Size	0	5	0	34	84	3	413	2	3	1
Males	Mean Length	0	430.2	318	587.2	439	637.8	552.5	454	635	472
	Std. Error	0	4.93	0	4.43	1.5	7.36	2.39	2.08	0	0
	Range	0- 0	370- 487	318- 318	510- 641	327- 524	619- 653	432- 663	450- 457	635- 635	472- 472
	Sample Size	0	22	1	36	243	4	362	3	1	1
All Fish	Mean Length	0	443.6	318	572	455	618	555	481	591	502
	Std. Error	0	7.29	0	4	2	10	1	17	19	30
	Range	0- 0	370- 535	318- 318	495- 641	327- 582	583- 653	432- 663	450- 530	550- 635	472- 531
	Sample Size	0	27	1	70	327	7	775	5	4	2
McKinley Lake (Sample Date: 7/14)											
Females	Mean Length	0	0	0	565.2	493.5	564.8	0	0	553	0
	Std. Error	0	0	0	6.39	5.03	1.4	0	0	0	0
	Range	0- 0	0- 0	0- 0	540- 607	430- 523	505- 616	0- 0	0- 0	553- 553	0- 0
	Sample Size	0	0	0	9	28	203	0	0	1	0
Males	Mean Length	0	434.1	462	592.5	454.7	586.7	0	0	0	0
	Std. Error	0	4.24	0	11.57	1.36	3.18	0	0	0	0
	Range	0- 0	399- 490	462- 462	553- 654	340- 509	506- 645	0- 0	0- 0	0- 0	0- 0
	Sample Size	0	24	1	8	212	123	0	0	0	0
All Fish	Mean Length	0	434.1	462	578	459	573	0	0	553	0
	Std. Error	0	4.24	0	7	2	2	0	0	0	0
	Range	0- 0	399- 490	462- 462	540- 654	340- 523	505- 645	0- 0	0- 0	553- 553	0- 0
	Sample Size	0	24	1	17	240	326	0	0	1	0

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		Brood Year and Age Group									
		1986	1985		1984		1983			1982	
		0.1	0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3
Twenty-Seven Mile Slough (Sample Date: 7/01)											
Females	Mean Length	0	420.8	0	564.5	485	596	568.7	0	586.3	0
	Std. Error	0	8.44	0	3.52	6.15	1	1.83	0	16.76	0
	Range	0- 0	399- 440	0- 0	520- 603	414- 590	595- 597	512- 640	0- 0	561- 618	0- 0
	Sample Size	0	4	0	38	44	2	128	0	3	0
Males	Mean Length	0	435	318.4	566	441.7	0	576.1	447	0	0
	Std. Error	0	1.63	9.37	11.21	1.19	0	7.54	0	0	0
	Range	0- 0	379- 486	304- 354	495- 632	328- 497	0- 0	495- 654	447- 447	0- 0	0- 0
	Sample Size	0	152	5	16	271	0	32	1	0	0
All Fish	Mean Length	0	434.7	318	565	448	596	570	447	586	0
	Std. Error	0	1.61	9	4	2	1	2	0	17	0
	Range	0- 0	379- 486	304- 354	495- 632	328- 590	595- 597	495- 654	447- 447	561- 618	0- 0
	Sample Size	0	156	5	54	315	2	160	1	3	0
Thirty-Nine Mile Creek (Sample Dates: 7/22 and 7/25)											
Females	Mean Length	0	0	0	556.4	507.5	599	578	0	0	0
	Std. Error	0	0	0	5.52	2.24	0	1.63	0	0	0
	Range	0- 0	0- 0	0- 0	450- 606	449- 548	599- 599	502- 630	0- 0	0- 0	0- 0
	Sample Size	0	0	0	29	74	1	180	0	0	0
Males	Mean Length	0	433.6	311.8	595.2	451.7	518	587.3	462	0	583.5
	Std. Error	0	7.99	8.43	8.16	2.15	0	4.26	0	0	63.5
	Range	0- 0	401- 509	290- 330	492- 630	381- 603	518- 518	456- 665	462- 462	0- 0	520- 647
	Sample Size	0	13	4	17	161	1	103	1	0	2
All Fish	Mean Length	0	433.6	312	571	469	559	581	462	0	584
	Std. Error	0	7.99	8	5	2	41	2	0	0	64
	Range	0- 0	401- 509	290- 330	450- 630	381- 603	518- 599	456- 665	462- 462	0- 0	520- 647
	Sample Size	0	13	4	46	235	2	283	1	0	2

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		Brood Year and Age Group									
		1986	1985		1984		1983			1982	
		0.1	0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3
Ragged Point Lake (Sample Date: 7/21)											
Females	Mean Length	0	486	0	574.3	505.9	0	573.9	518.5	0	0
	Std. Error	0	11.49	0	2.81	1.63	0	2.37	1.5	0	0
	Range	0- 0	426- 548	0- 0	520- 640	459- 554	0- 0	512- 608	517- 520	0- 0	0- 0
	Sample Size	0	10	0	54	139	0	65	2	0	0
Males	Mean Length	307.3	452.7	311.6	601	476.8	0	605.2	461.3	0	0
	Std. Error	8.65	5.12	2.66	9.15	3.68	0	3.51	19.47	0	0
	Range	295- 324	396- 579	302- 317	446- 656	343- 563	0- 0	555- 650	438- 500	0- 0	0- 0
	Sample Size	3	60	5	20	164	0	37	3	0	0
All Fish	Mean Length	307.3	457	312	582	490	0	585	484	0	0
	Std. Error	8.65	5	3	3	2	0	2	18	0	0
	Range	295- 324	396- 579	302- 317	446- 656	343- 563	0- 0	512- 650	438- 520	0- 0	0- 0
	Sample Size	3	70	5	74	303	0	102	5	0	0
Little Martin Lake (Sample Dates: 7/25 and 7/26)											
Females	Mean Length	0	0	0	0	504.1	0	557.4	0	0	0
	Std. Error	0	0	0	0	1.66	0	1.48	0	0	0
	Range	0- 0	0- 0	0- 0	0- 0	404- 540	0- 0	515- 600	0- 0	0- 0	0- 0
	Sample Size	0	0	0	0	176	0	117	0	0	0
Males	Mean Length	0	418	326.5	0	444.5	0	549.6	430	0	0
	Std. Error	0	0	24.5	0	1.33	0	4.92	0	0	0
	Range	0- 0	418- 418	302- 351	0- 0	384- 498	0- 0	493- 608	430- 430	0- 0	0- 0
	Sample Size	0	1	2	0	232	0	46	1	0	0
All Fish	Mean Length	0	418	327	0	470	0	555	430	0	0
	Std. Error	0	0	25	0	2	0	2	0	0	0
	Range	0- 0	418- 418	302- 351	0- 0	384- 540	0- 0	493- 608	430- 430	0- 0	0- 0
	Sample Size	0	1	2	0	408	0	163	1	0	0

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		Brood Year and Age Group										
		1986	1985		1984		1983			1982	
		0.1	0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3
Martin Lake (Sample Date: 7/16)											
Females	Mean Length	0	497	0	545.5	490.8	0	549.5	503	0	542
	Std. Error	0	1	0	5.87	1.44	0	3.05	2	0	0
	Range	0- 0	496- 498	0- 0	525- 567	433- 561	0- 0	487- 610	501- 505	0- 0	542- 542
	Sample Size	0	2	0	6	173	0	47	2	0	1
Males	Mean Length	0	430.3	317.1	612	441.4	0	566.6	443	0	0
	Std. Error	0	4.62	9.2	8	1.02	0	10.37	4.51	0	0
	Range	0- 0	411- 457	298- 369	604- 620	384- 509	0- 0	537- 601	434- 448	0- 0	0- 0
	Sample Size	0	9	7	2	366	0	7	3	0	0
All Fish	Mean Length	0	442.5	317	562	457	0	552	467	0	542
	Std. Error	0	8.95	9	12	1	0	3	15	0	0
	Range	0- 0	411- 498	298- 369	525- 620	384- 561	0- 0	487- 610	434- 505	0- 0	542- 542
	Sample Size	0	11	7	8	539	0	54	5	0	1
Tokun Lake (Sample Dates: 8/03 and 8/04)											
Females	Mean Length	0	0	0	0	502.4	0	559.4	0	0	0
	Std. Error	0	0	0	0	2.52	0	1.14	0	0	0
	Range	0- 0	0- 0	0- 0	0- 0	462- 539	0- 0	484- 621	0- 0	0- 0	0- 0
	Sample Size	0	0	0	0	39	0	304	0	0	0
Males	Mean Length	0	0	294	0	481.7	0	591.9	519	0	564.5
	Std. Error	0	0	0	0	13.81	0	1.46	0	0	30.5
	Range	0- 0	0- 0	294- 294	0- 0	400- 616	0- 0	445- 644	519- 519	0- 0	534- 595
	Sample Size	0	0	1	0	23	0	236	1	0	2
All Fish	Mean Length	0	0	294	0	495	0	574	519	0	565
	Std. Error	0	0	0	0	5	0	1	0	0	31
	Range	0- 0	0- 0	294- 294	0- 0	400- 616	0- 0	445- 644	519- 519	0- 0	534- 595
	Sample Size	0	0	1	0	62	0	540	1	0	2

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		Brood Year and Age Group									
		1986	1985		1984		1983			1982	
		0.1	0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3
Martin River Slough (Sample Dates: 7/07 and 7/08)											
Females	Mean Length	0	510.8	0	554.6	491	0	561	0	567.5	0
	Std. Error	0	7.54	0	1.76	7.37	0	2.14	0	12.5	0
	Range	0- 0	475- 526	0- 0	480- 597	412- 580	0- 0	497- 608	0- 0	555- 580	0- 0
	Sample Size	0	6	0	103	23	0	75	0	2	0
Males	Mean Length	288	429.4	362	560.6	447	0	564.6	447.5	0	0
	Std. Error	0	2.17	29.23	3.88	2.12	0	5.17	22.5	0	0
	Range	288- 288	368- 585	294- 417	410- 637	390- 555	0- 0	425- 628	425- 470	0- 0	0- 0
	Sample Size	1	153	4	110	103	0	59	2	0	0
All Fish	Mean Length	288	432	362	558	455	0	563	448	568	0
	Std. Error	0	2	29	2	3	0	3	23	13	0
	Range	288- 288	368- 585	294- 417	410- 637	390- 580	0- 0	425- 628	425- 470	555- 580	0- 0
	Sample Size	1	159	4	213	126	0	134	2	2	0
Bering Lake (Sample Dates: 7/09 and 7/10)											
Females	Mean Length	0	522.8	0	557.7	496.5	0	557.4	0	0	0
	Std. Error	0	4.57	0	3.92	2.05	0	1.68	0	0	0
	Range	0- 0	515- 536	0- 0	534- 591	418- 575	0- 0	491- 618	0- 0	0- 0	0- 0
	Sample Size	0	4	0	22	109	0	162	0	0	0
Males	Mean Length	0	430.7	322.9	588.5	442.1	0	566.7	0	0	0
	Std. Error	0	8.12	4	5.89	2.94	0	3.04	0	0	0
	Range	0- 0	406- 456	301- 338	533- 643	312- 552	0- 0	484- 641	0- 0	0- 0	0- 0
	Sample Size	0	6	9	19	118	0	161	0	0	0
All Fish	Mean Length	0	467.5	323	572	468	0	562	0	0	0
	Std. Error	0	15.84	4	4	3	0	2	0	0	0
	Range	0- 0	406- 536	301- 338	533- 643	312- 575	0- 0	484- 641	0- 0	0- 0	0- 0
	Sample Size	0	10	9	41	227	0	323	0	0	0

-Continued-

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		Brood Year and Age Group										
		1986	1985		1984		1983			1982	
		0.1	0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3
Kushtaka Lake (Sample Date: 8/08)											
Females	Mean Length	0	469	455	517.3	459.4	0	530.2	465.6	0	542.5
	Std. Error	0	6	0	5.7	1.27	0	2.09	2.81	0	13.5
	Range	0- 0	463- 475	455- 455	506- 524	412- 499	0- 0	495- 580	436- 495	0- 0	529- 556
	Sample Size	0	2	1	3	206	0	91	33	0	2
Males	Mean Length	0	463	318.9	556	454.8	0	520.5	452.9	0	503.4
	Std. Error	0	0	5.14	15	1.21	0	2.24	5.51	0	6.19
	Range	0- 0	463- 463	300- 397	541- 571	407- 490	0- 0	483- 584	428- 481	0- 0	487- 536
	Sample Size	0	1	18	2	189	0	115	11	0	8
All Fish	Mean Length	0	467	326	533	457	0	525	463	0	511
	Std. Error	0	4	9	11	1	0	2	3	0	7
	Range	0- 0	463- 475	300- 455	506- 571	407- 499	0- 0	483- 584	428- 495	0- 0	487- 556
	Sample Size	0	3	19	5	395	0	206	44	0	10

Appendix G.7. Mean length by sex and age of sockeye salmon from the commercial drift gill net and purse seine catches in the Coghill and Unakwik Districts, Prince William Sound, 1988.

		Brood Year and Age Group						
		1984		1983		1982		1981
		0.3	1.2	1.3	2.2	1.4	2.3	2.4
Coghill District (Sample Date: 6/22)								
Females	Mean Length	579	508.6	576.2	517	574.1	569.3	0
	Std. Error	0	3.81	1.21	0	10.06	8.69	0
	Range	579- 579	418- 587	525- 631	517- 517	519- 601	555- 585	0- 0
	Sample Size	1	71	259	1	7	3	0
Males	Mean Length	0	514.1	594.4	520	614.5	590	607
	Std. Error	0	3.81	2.21	0	0.5	31	0
	Range	0- 0	421- 599	524- 643	520- 520	614- 615	559- 621	607- 607
	Sample Size	0	100	129	1	2	2	1
All Fish	Mean Length	579	512	582	519	583	578	607
	Std. Error	0	3	1	2	10	12	0
	Range	579- 579	418- 599	524- 643	517- 520	519- 615	555- 621	607- 607
	Sample Size	1	171	388	2	9	5	1
Coghill District (Sample Date: 7/06)								
Females	Mean Length	543	524.3	583	509	608	579.5	0
	Std. Error	0	2.48	1.63	22	14.11	6.5	0
	Range	543- 543	435- 592	495- 668	487- 531	591- 636	573- 586	0- 0
	Sample Size	1	91	200	2	3	2	0
Males	Mean Length	611	524.1	599.8	0	636.4	0	0
	Std. Error	0	4.31	2.54	0	7.23	0	0
	Range	611- 611	438- 606	458- 683	0- 0	605- 668	0- 0	0- 0
	Sample Size	1	83	160	0	8	0	0
All Fish	Mean Length	577	524	590	509	629	580	0
	Std. Error	34	2	2	22	7	7	0
	Range	543- 611	435- 606	458- 683	487- 531	591- 668	573- 586	0- 0
	Sample Size	2	174	360	2	11	2	0
Coghill District (All Samples Combined)								
Females	Mean Length	561	517.4	579.2	511.7	584.3	573.4	0
	Std. Error	18	2.25	1	12.98	9.34	5.75	0
	Range	543- 579	418- 592	495- 668	487- 531	519- 636	555- 586	0- 0
	Sample Size	2	162	459	3	10	5	0
Males	Mean Length	611	518.6	597.4	520	632	590	607
	Std. Error	0	2.87	1.72	0	6.4	31	0
	Range	611- 611	421- 606	458- 683	520- 520	605- 668	559- 621	607- 607
	Sample Size	1	183	289	1	10	2	1
All Fish	Mean Length	577.7	518	586	514	608	578	607
	Std. Error	19.64	2	1	9	8	8	0
	Range	543- 611	418- 606	458- 683	487- 531	519- 668	555- 621	607- 607
	Sample Size	3	345	748	4	20	7	1
Unakwik District (Sample Date: 7/14)								
Females	Mean Length	610	506.2	571.8	521	625	0	0
	Std. Error	0	2.96	1.56	0	24	0	0
	Range	610- 610	481- 535	514- 616	521- 521	601- 649	0- 0	0- 0
	Sample Size	1	25	197	1	2	0	0
Males	Mean Length	615.5	543.4	600.3	0	609	0	0
	Std. Error	20.5	6.8	2.03	0	0	0	0
	Range	595- 636	449- 623	534- 669	0- 0	609- 609	0- 0	0- 0
	Sample Size	2	32	147	0	1	0	0
All Fish	Mean Length	613.7	527	584	521	620	0	0
	Std. Error	11.98	5	1	0	15	0	0
	Range	595- 636	449- 623	514- 669	521- 521	601- 649	0- 0	0- 0
	Sample Size	3	57	344	1	3	0	0

Appendix G.8. Mean length by sex and age of sockeye salmon from the commercial drift and set gill net catches in the Eshamy District, Prince William Sound, 1988.

		Brood Year and Age Group						
		1985	1984		1983		1982	
		0.2	0.3	1.2	1.3	2.2	1.4	2.3
Sample Date: 7/20								
Females	Mean Length	584	584	566	584.7	536.8	611	594
	Std. Error	16	9	2.11	3.54	3.07	0	0
	Range	568- 600	575- 593	509- 624	532- 635	527- 545	611- 611	594- 594
	Sample Size	2	2	138	43	5	1	1
Males	Mean Length	0	603	583	613.4	590.5	570	0
	Std. Error	0	0	3.02	5.22	7.5	0	0
	Range	0- 0	603- 603	470- 645	558- 681	583- 598	570- 570	0- 0
	Sample Size	0	1	109	37	2	1	0
All Fish	Mean Length	584	590	574	598	552	591	594
	Std. Error	16	8	2	3	10	21	0
	Range	568- 600	575- 603	470- 645	532- 681	527- 598	570- 611	594- 594
	Sample Size	2	3	247	80	7	2	1
Sample Date: 8/04								
Females	Mean Length	0	0	567.5	560.3	572	0	0
	Std. Error	0	0	2.2	13.2	16	0	0
	Range	0- 0	0- 0	475- 622	534- 575	556- 588	0- 0	0- 0
	Sample Size	0	0	109	3	2	0	0
Males	Mean Length	0	0	580.5	652	0	0	0
	Std. Error	0	0	2.23	18.84	0	0	0
	Range	0- 0	0- 0	503- 648	603- 691	0- 0	0- 0	0- 0
	Sample Size	0	0	113	4	0	0	0
All Fish	Mean Length	0	0	574.1	613	572	0	0
	Std. Error	0	0	1.62	22	16	0	0
	Range	0- 0	0- 0	475- 648	534- 691	556- 588	0- 0	0- 0
	Sample Size	0	0	222	7	2	0	0
All Samples Combined								
Females	Mean Length	584	584	566.6	583.1	546.9	611	594
	Std. Error	16	9	1.52	3.5	7.67	0	0
	Range	568- 600	575- 593	475- 624	532- 635	527- 588	611- 611	594- 594
	Sample Size	2	2	247	46	7	1	1
Males	Mean Length	0	603	581.7	617.2	590.5	570	0
	Std. Error	0	0	1.86	5.29	7.5	0	0
	Range	0- 0	603- 603	470- 648	558- 691	583- 598	570- 570	0- 0
	Sample Size	0	1	222	41	2	1	0
All Fish	Mean Length	584	590	574	599	557	591	594
	Std. Error	16	8	1	4	9	21	0
	Range	568- 600	575- 603	470- 648	532- 691	527- 598	570- 611	594- 594
	Sample Size	2	3	469	87	9	2	1

Appendix G.9. Mean length by sex and age for sockeye salmon escapements through the weir below Coghill Lake, Prince William Sound, 1988.

		Brood Year and Age Groups										
		1986	1985		1984		1983			1982		1981
		0.1	0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	1.5
Sample Date: 6/24												
Females	Mean Length	0	0	0	0	472.3	0	566.8	0	590.7	562	0
	Std. Error	0	0	0	0	4	0	2.81	0	12.57	0	0
	Range	0- 0	0- 0	0- 0	0- 0	403- 572	0- 0	465- 662	0- 0	573- 615	562- 562	0- 0
	Sample Size	0	0	0	0	80	0	86	0	3	1	0
Males	Mean Length	0	455.5	0	0	466.3	0	592.5	480	611.9	588	612
	Std. Error	0	10.5	0	0	1.73	0	5.19	0	6.46	0	0
	Range	0- 0	445- 466	0- 0	0- 0	402- 615	0- 0	435- 662	480- 480	587- 638	588- 588	612- 612
	Sample Size	0	2	0	0	359	0	83	1	8	1	1
All Fish	Mean Length	0	455.5	0	0	467	0	579	480	606	575	612
	Std. Error	0	10.5	0	0	2	0	3	0	6	13	0
	Range	0- 0	445- 466	0- 0	0- 0	402- 615	0- 0	435- 662	480- 480	573- 638	562- 588	612- 612
	Sample Size	0	2	0	0	439	0	169	1	11	2	1
Sample Date: 7/03												
Females	Mean Length	0	0	0	563	494	0	569.1	0	0	0	0
	Std. Error	0	0	0	0	3.01	0	5.35	0	0	0	0
	Range	0- 0	0- 0	0- 0	563- 563	415- 589	0- 0	465-1571	0- 0	0- 0	0- 0	0- 0
	Sample Size	0	0	0	1	111	0	198	0	0	0	0
Males	Mean Length	0	0	0	0	468.6	630	588.7	439	637	0	0
	Std. Error	0	0	0	0	3.09	0	3.03	0	0	0	0
	Range	0- 0	0- 0	0- 0	0- 0	390- 669	630- 630	437- 666	439- 439	637- 637	0- 0	0- 0
	Sample Size	0	0	0	0	199	1	98	1	1	0	0
All Fish	Mean Length	0	0	0	563	478	630	576	439	637	0	0
	Std. Error	0	0	0	0	2	0	4	0	0	0	0
	Range	0- 0	0- 0	0- 0	563- 563	390- 669	630- 630	437-1571	439- 439	637- 637	0- 0	0- 0
	Sample Size	0	0	0	1	310	1	296	1	1	0	0

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		Brood Year and Age Groups										
		1986	1985		1984		1983			1982		1981
		0.1	0.2	1.1	0.3	1.2	0.4	1.3	2.2	1.4	2.3	1.5
Sample Date: 7/18												
Females	Mean Length	428	480	0	574.3	491.5	566.2	569.5	0	0	554.8	0
	Std. Error	0	0	0	22.7	2	2.88	3.5	0	0	19.19	0
	Range	428- 428	480- 480	0- 0	530- 605	410- 609	467- 637	566- 573	0- 0	0- 0	499- 582	0- 0
	Sample Size	1	1	0	3	175	118	2	0	0	4	0
Males	Mean Length	0	419.5	310	595	480.6	603	622.1	0	0	611	0
	Std. Error	0	29.5	0	0	4.86	2.09	3.75	0	0	0	0
	Range	0- 0	390- 449	310- 310	595- 595	408- 636	474- 674	579- 650	0- 0	0- 0	611- 611	0- 0
	Sample Size	0	2	1	1	148	183	27	0	0	1	0
All Fish	Mean Length	428	440	310	580	487	589	619	0	0	566	0
	Std. Error	0	26	0	17	2	2	4	0	0	19	0
	Range	428- 428	390- 480	310- 310	530- 605	408- 636	467- 674	566- 650	0- 0	0- 0	499- 611	0- 0
	Sample Size	1	3	1	4	323	301	29	0	0	5	0
All Samples Combined												
Females	Mean Length	428	480	0	571.5	488.1	0	567.8	0	582.2	556.2	0
	Std. Error	0	0	0	16.3	1.64	0	2.83	0	8.69	14.93	0
	Range	428- 428	480- 480	0- 0	530- 605	403- 609	0- 0	465-1571	0- 0	566- 615	499- 582	0- 0
	Sample Size	1	1	0	4	366	0	402	0	5	5	0
Males	Mean Length	0	437.5	310	595	470	630	596.8	459.5	620.3	599.5	612
	Std. Error	0	16.47	0	0	1.62	0	1.8	20.5	3.23	11.5	0
	Range	0- 0	390- 466	310- 310	595- 595	390- 669	630- 630	435- 674	439- 480	579- 650	588- 611	612- 612
	Sample Size	0	4	1	1	706	1	364	2	36	2	1
All Fish	Mean Length	428	446	310	576	476	630	582	460	616	569	612
	Std. Error	0	15	0	13	1	0	2	21	4	13	0
	Range	428- 428	390- 480	310- 310	530- 605	390- 669	630- 630	435-1571	439- 480	566- 650	499- 611	612- 612
	Sample Size	1	5	1	5	1072	1	766	2	41	7	1

Appendix G.10. Mean length by sex and age for sockeye salmon escapement through the weir below Eshamy Lake, Prince William Sound, 1988.

		Brood Year and Age Groups				
		1985		1984	1983	
		0.2	1.1	1.2	1.3	2.2
Sample Date: 7/17						
Females	Mean Length	561.3	0	551	555.4	0
	Std. Error	13.97	0	1.39	14.9	0
	Range	534- 580	0- 0	470- 620	450- 632	0- 0
	Sample Size	3	0	327	10	0
Males	Mean Length	0	0	578.3	601.8	0
	Std. Error	0	0	2.19	10.09	0
	Range	0- 0	0- 0	312- 661	585- 629	0- 0
	Sample Size	0	0	266	4	0
All Fish	Mean Length	561.3	0	563	569	0
	Std. Error	13.97	0	1	12	0
	Range	534- 580	0- 0	312- 661	450- 632	0- 0
	Sample Size	3	0	593	14	0
Sample Date: 8/12						
Females	Mean Length	0	523.8	559.2	576.9	564.4
	Std. Error	0	29.11	1.33	13.57	12.82
	Range	0- 0	440- 570	490- 640	512- 635	531-610
	Sample Size	0	4	310	8	5
Males	Mean Length	0	522	585.4	600.2	592.6
	Std. Error	0	36.79	1.54	15.61	5.28
	Range	0- 0	405- 615	519- 670	560- 655	575-622
	Sample Size	0	7	244	6	8
All Fish	Mean Length	0	522.6	571	587	581.8
	Std. Error	0	24.68	1	10	6.84
	Range	0- 0	405- 615	490- 670	512- 655	531-622
	Sample Size	0	11	554	14	13

-Continued-

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		Brood Year and Age Groups				
		1985		1984	1983	
		0.2	1.1	1.2	1.3	2.2
Sample Date: 9/01						
Females	Mean Length	0	545	569.9	596.2	575.3
	Std. Error	0	0	1.76	16.17	8.96
	Range	0- 0	545- 545	498- 640	535- 626	522-618
	Sample Size	0	1	194	5	12
Males	Mean Length	0	541.7	593.4	626.1	602.6
	Std. Error	0	60.85	1.75	9.17	4.12
	Range	0- 0	420- 605	460- 695	575- 690	570-654
	Sample Size	0	3	287	11	25
All Fish	Mean Length	0	542.5	584	617	593.8
	Std. Error	0	43.04	1	9	4.49
	Range	0- 0	420- 605	460- 695	535- 690	522-654
	Sample Size	0	4	481	16	37
All Samples Combined						
Females	Mean Length	561.3	528	558.4	571.1	572.1
	Std. Error	13.97	22.95	0.88	9.04	7.25
	Range	534- 580	440- 570	470- 640	450-635	522- 618
	Sample Size	3	5	831	23	17
Males	Mean Length	0	527.9	585.9	614	600.2
	Std. Error	0	29.79	1.1	7.1	3.42
	Range	0- 0	405- 615	312- 695	560-690	570- 654
	Sample Size	0	10	797	21	33
All Fish	Mean Length	561.3	528	572	592	591
	Std. Error	13.97	21	1	7	4
	Range	534- 580	405- 615	312- 695	450-690	522- 654
	Sample Size	3	15	1628	44	50

APPENDIX H

Average Weights of Salmon in the
Copper/Bering Rivers and Prince William Sound
Commercial Catch.

Appendix H.1. Average salmon weights from the commercial gill net and purse seine fisheries in the Copper/Bering and Prince William Sound areas, 1988. Based on information provided by the fish processing industry on fish tickets. a

	Average Weight (in pounds)				
Area and Fishery	Chinook	Sockeye	Coho	Pink	Chum
Copper/Bering Drift Gill Net	26.77	6.00	9.79	4.09	7.30
Prince William Sound Drift Gill Net	26.49	6.13	9.76	3.78	9.85
Prince William Sound Set Gill Net	15.20	6.48	7.95	3.56	8.80
Prince William Sound Purse Seine	11.43	6.47	8.34	3.47	8.44

a Typically during each fishing period a portion of each delivery to a tender boat is counted into a brail, weighed, and the average weight is computed by dividing the net weight of the brail load by the number of fish. This average weight is used to estimate the number of fish in the total delivery. The average weight in this table is based on the total weight of the catch by species, gear type, and fishery from the fish ticket summaries divided by the total number of fish by species, gear type, and fishery as reported on fish tickets.

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