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CATCH AND ESCAPEMENT STATISTICS FOR COPPER RIVER, BERING RIVER, AND PRINCE WILLIAM SOUND SOCKEYE, CHINOOK, COHO, AND CHUM SALMON, 1983

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February 1985

ALASKA DEPARTMENT OF FISH AND GAME
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Don W. Collinsworth
Commissioner

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ABSTRACT

Abundance, age, sex, and size data are summarized for 1983 returns of sockeye *(Oncorhynchus nerka)*, chinook *(O. tshawytscha)*, and coho salmon *(O. kisutch)* to the Copper and Bering River Districts, and 1983 returns of sockeye and chum salmon *(O. keta)* to the fishing districts of Prince William Sound. Age and sex compositions of the catches for each combination of species, gear, and district were estimated with stratified, systematic sampling programs. Age, sex, and size composition of the subsistence catches of sockeye salmon on the Upper Copper River were similarly estimated. The age and sex composition of the sockeye salmon escapement to the Upper Copper River was estimated from sonar counts and subsistence fishery sample data. Weir counts and samples were used to apportion sockeye salmon in escapements of one significant Upper Copper River run not intercepted by the subsistence fishery, one Copper River Delta run, and two important Prince William Sound runs. The age, sex, and size composition of 11 other Copper River Delta and Bering River escapements were estimated from aerial survey data and spawning ground samples. Catches of sockeye salmon in the Copper River District gillnet fishery were predominately fish aged 1.3, 2.3, and 1.2. Catches in the Bering River District were predominately fish aged 1.3 and 1.2. In the Copper River District catches of fish aged 2.3 were highest early in the season and in both districts fish aged 1.3 were prevalent throughout the season while catches of fish aged 1.2 were highest later in the season. The age and sex compositions to the composition of the commercial catches in the Copper River District and exhibited similar temporal trends. Coastal escapements of sockeye salmon to the Copper River Delta and Bering River were predominantly fish aged 1.3 and 1.2 Fish aged 0.3 were present in small but significant numbers in catches from both districts, particularly catches southeast of Kayak Island, and in some of the coastal escapements. Chinook salmon catches were predominately fish aged 1.3 and 1.4. The portions of fish aged 1.3 to 1.4 were equal initially but the ratio of the two groups increased through the season. Coho salmon catches in the Copper River and Bering River District were predominately fish aged 1.2 and 1.1. Sockeye salmon in the gillnet fisheries of Prince William Sound were predominately fish aged 1.3 and 1.2 as were the escapements to Coghill and Eshamy Lakes. Sockeye salmon aged 2.2 were present in small but significant numbers in the combined Prince William Sound purse seine catches and in the escapement to Eshamy Lake. Chum salmon catches in the purse seine and gillnet fisheries in Prince William Sound were predominately fish aged 0.3 and 0.4. Gillnet catches had a higher portion of older fish than purse seine catches. The portion of younger fish in the purse seine catches increased through the season and this temporal trend was exhibited in the seaward districts earlier than in the inshore districts.

KEY WORDS: Sockeye, chinook, coho, chum salmon, Prince William Sound, Copper River, Bering River, age classification, harvest statistics.

INTRODUCTION

The Copper River and Bering River commercial fishing districts (District 212 and 200, respectively - Figure 1) had drift gillnet fisheries for sockeye *(Oncorhynchus nerka)*, coho *(O. kisutch)*, and chinook *(O. tshawytscha)* salmon. In District 212, fishing occurred most often in five intertidal channels off the mouth of the Copper River; fishing effort in District 200 was heaviest in Katalla and Controller Bays and southeast of Kayak Island during good weather. Most fishermen used nylon monofilament nets with 13 to 20 cm (5 to 8 inches) stretch mesh. In large Copper River and its tributaries in the Upper Copper River Basin, and the numerous, small coastal streams in the Copper River Delta and Bering River watersheds contribute salmon to fisheries in Districts 212 and 200.

Besides the commercial ocean fishery in District 200 and 212, there was a large subsistence fishery for sockeye and chinook salmon on the Copper River from Chitina to Slana, Alaska (Figure 2). The fishery is upstream of Miles Lake where escapement from the commercial fishery is counted with a side-scan sonar. Gear was restricted to fishwheels and dipnets.

The Prince William Sound commercial fishing districts (221 through 228 - Figure 3) had purse seine fisheries for pink *(O. gorbuscha)* and chum *(O. keta)* salmon in the Eastern, Northern, Coghill, Northwestern, Southwestern, Montague, and Southeastern Districts (221, 222, 223, 224, 226, 227, and 228, respectively). There were drift gillnet fisheries for sockeye, chum, and pink salmon in Unakwik, Coghill, and Eshamy Districts (222, 223, and 225, respectively); the Eshamy District had a set gillnet fishery as well. Unlike Districts 212 and 200, there is no large, inland river issuing into the fishing districts of Prince William Sound; only coastal streams flow into the Sound.

Current Alaska Department of Fish and Game (ADF&G) programs for gathering catch and escapement information on salmon returning to Prince William Sound and to the Copper and Bering Rivers include: (1) reporting weekly catches from each subdistrict within Districts 200, 212, 221-228, and daily subsistence harvests on the Upper Copper River; (2) estimating the age, sex, and size compositions of the commercial and of the subsistence catch for most fishing periods; (3) estimating the escapement to the Upper Copper River with sonar; (4) counting escapements through weirs on streams issuing from Long, Tokun, Eshamy, and Coghill Lakes; (5) estimating the age, sex, and size composition of escapements through sampling fish on their spawning grounds; and (6) obtaining indices of the sizes of escapements, through aerial surveys and stream walks, to other streams in the Copper River Delta, the Bering River drainage, around the perimeter of Prince William Sound, and at selected spawning sites in the Upper Copper River.

This report contains statistics that were gathered in 1983 through some of the above programs and describe commercial and subsistence salmon harvests, counted escapements, and some indexed escapements for four species of salmon passing through Districts 200, 212, and 221-228.

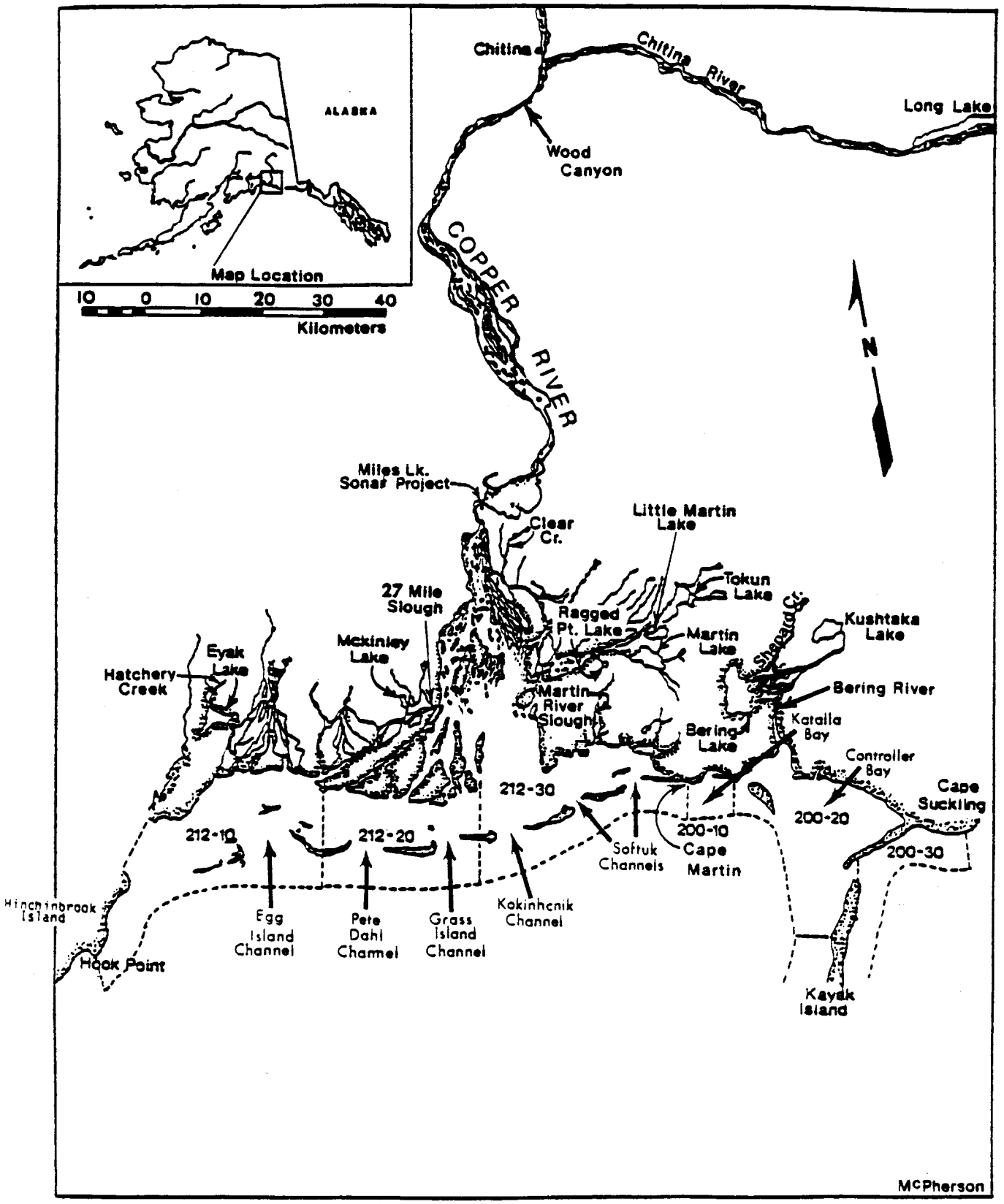

Figure 1. The Copper River and Bering River commercial fishing districts, major spawning areas for stocks which contribute to the Copper River Delta and Bering River escapements, and other sites of interest.

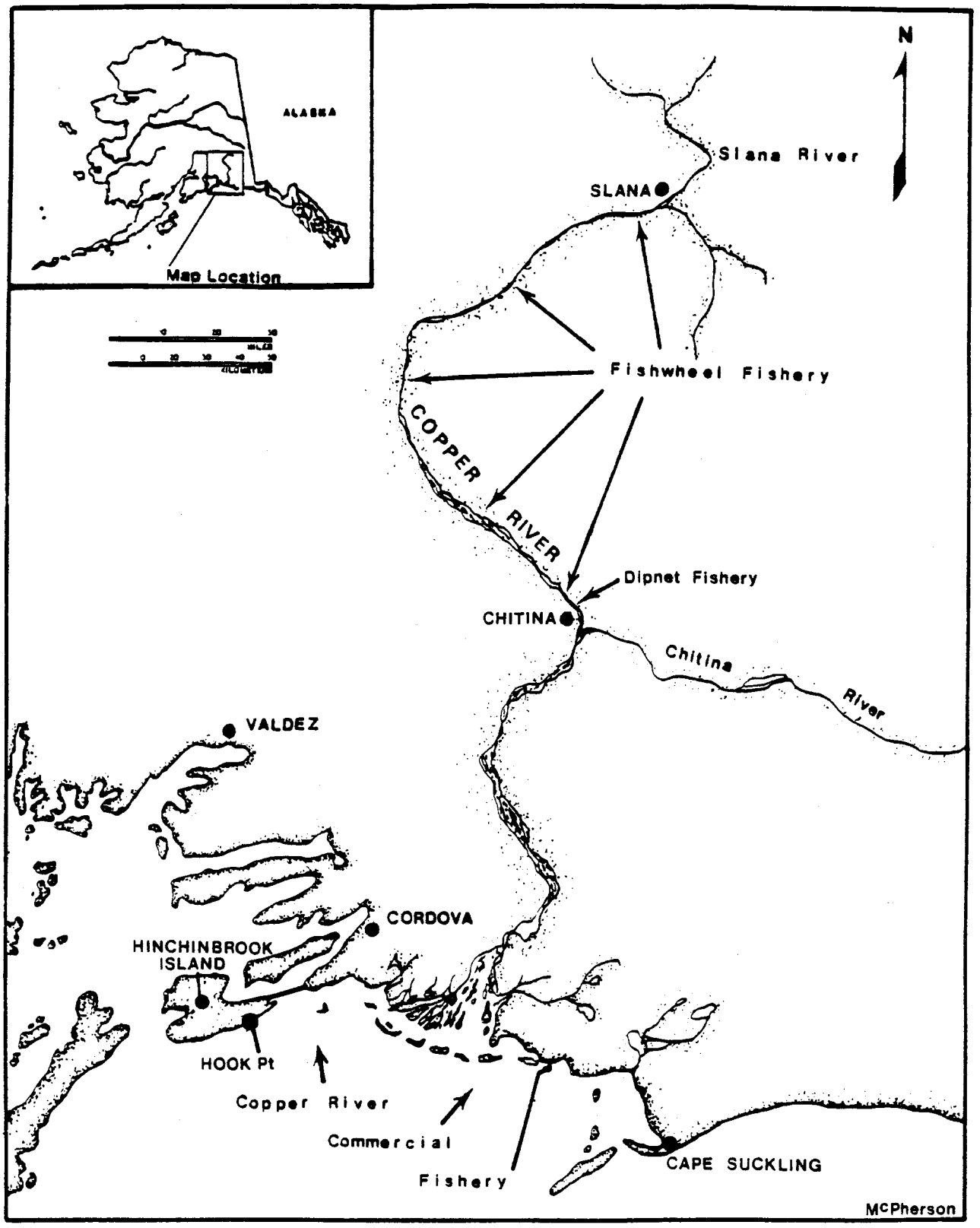

Figure 2. The Copper River drainage showing the location of the subsistence dipnet fishery at Chitina, and the subsistence fishwheel fishery which extends from Chitina to Slana along the Upper Copper River.

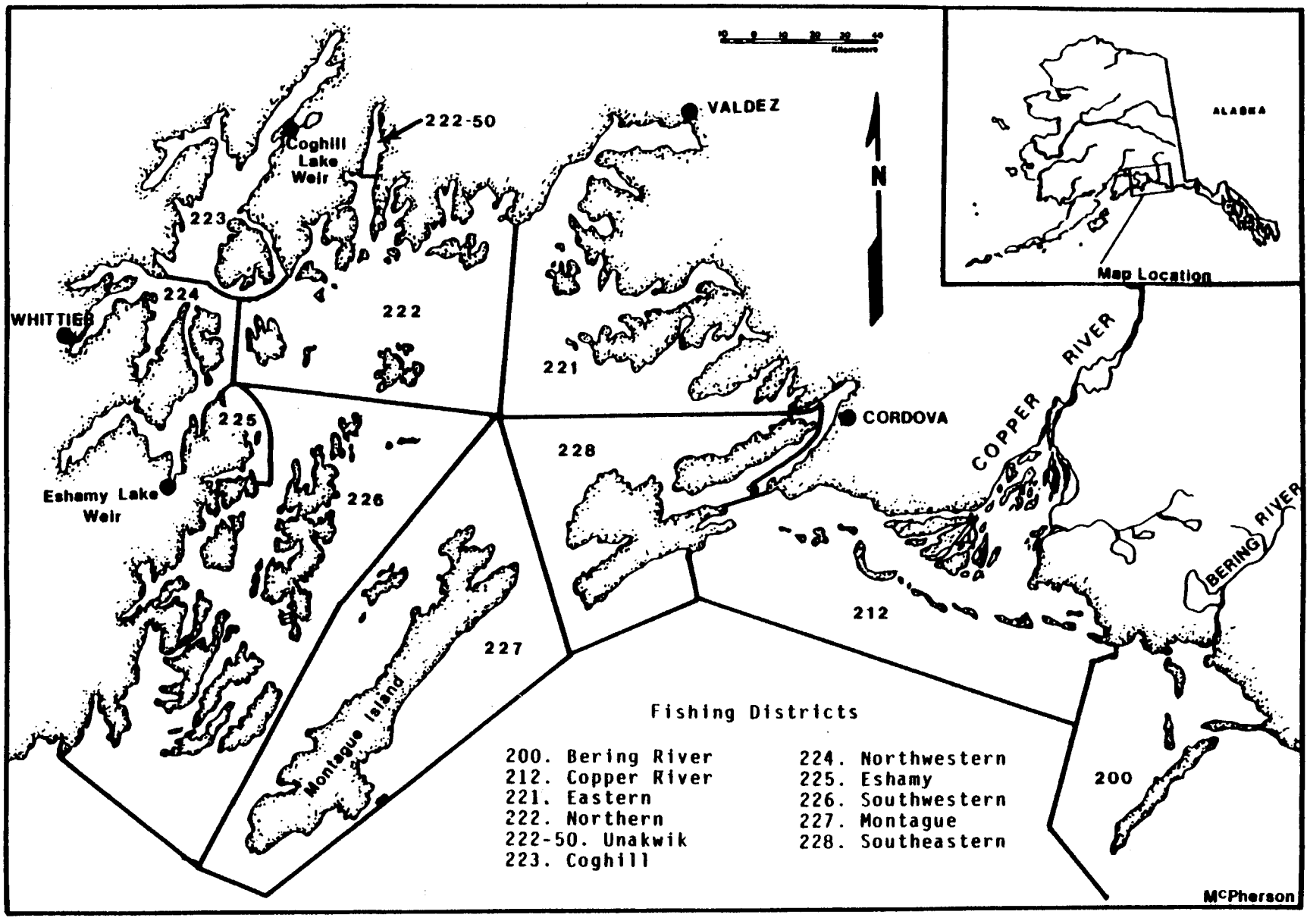

Figure 3. Prince William Sound commercial fishing districts, major spawning areas, and other sites of interest.

METHODS

Sampled Runs

For the sake of convenience, the salmon stocks of the Copper River and Prince William Sound areas were grouped into runs according to the major spawning areas (Table 1). The Upper Copper River run of sockeye salmon represents the major stocks spawning above Wood Canyon (Figure 1) and has early, middle, and late components (Merritt and Roberson 1983), all of which were exploited in subsistence fisheries in 1983 except the stock(s) originating in Long Lake and minor stocks in the Chitina drainage. All runs returning to Prince William Sound and to the Copper and Bering Rivers were exposed to the commercial fisheries in 1983. There are other spawning areas in the Chitina drainage and in drainages between Wood Canyon and Miles Lake which are not exploited into the subsistence fishery but these stocks are minor and are not included in this report.

Catches

Catches by fishing period and by fishing district (or subdistrict) were tabulated from information supplied by fishermen and processors through sales reported on fish tickets. Fish ticket tabulations used in this report may differ slightly from other published catch figures. Because the dollar value of each landing is a function ex-vessel price and weight of the landing, processors did not count fish in each sale, but estimated the number caught in each landing by dividing landing weight by an estimated mean weight of fish. Because there is some variance associated with the estimates of mean weight, there is some variance in subsequent estimates of numbers caught. However, because the mean weight and its variance were not reported on fish tickets in 1983, estimated numbers caught were treated as counts without variance for this report.

Catch in the subsistence fishery is the sum of catches recorded on returned fishery permits and a prorated value for unreturned permits (Ken Roberson, ADF&G, Glenallen, AK, personal communication).

Escapements

Escapements of the various runs were estimated or indexed as noted in Table 1. The escapement of Upper Copper River sockeye salmon was estimated by subtracting the counts at Long Lake and the catches in the subsistence fisheries from the counts made downriver at the sonar site near Miles Lake (Figure 1). For estimates of escapements to the early, middle, and late components of the Upper Copper River run, the sonar counts were lagged to account for time of passage of fish upstream to the subsistence fishery. Mean lag times were approximated from a linear regression of travel rate against date calculated from tagging data (Merritt and Roberson 1983). Based on information from the same study, Long Lake counts were subtracted from the lagged sonar estimates for the late portion of the run. The indices of escapement of coho and sockeye salmon gained through aerial surveys are peak counts from among several surveys of each spawning area, and are therefore relative measures of escapement, not complete counts.

Table 1. The sampled runs of sockeye, coho, chum, and chinook salmon exploited in Districts 200, 212, and 221-228 by the location of their spawning grounds. All escapements not estimated with sonar (s) or with a weir (w) were indexed through aerial surveys or through stream walks.

Sockeye Salmon	Coho Salmon	Chinook Salmon	Chum Salmon
Copper River	Copper River	Copper River	Prince William Sound
Upper Copper River (s)	Bering River		
Long Lake (w)			
Copper River Delta			
Eyak Lake			
McKinley Lake			
Tokun Lake (w)			
27-Mile Slough			
39-Mile Creek			
Martin Lake			
Martin River Slough			
Little Martin Lake			
Ragged Point Lake			
Bering River			
Shepard Creek			
Kushtaka Lake			
Bering Lake			
Prince William Sound			
Coghill Lake (w)			
Eshamy Lake (w)			

Measurements

Fish were sampled to determine their age and sex and to measure their length. One scale was collected from each sampled sockeye, chum, and coho salmon, and three scales were collected from each sampled chinook salmon. Scales were taken from the left side of the body two rows above the lateral line on the diagonal scale row 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 made in cellulose acetate (Clutter and Whitsel 1956). A few otoliths were taken on the spawning ground from carcasses. Whenever marine growth zones on scales had been resorbed and no otoliths had been taken, 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 morphology of live fish and of the anatomy of dead ones.

Sampling Catches

This section details catch sampling methods. Catches are 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 fisheries on the Upper Copper River.

Commercial Fisheries:

Age and sex compositions 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 so grouped 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 for previous years; for those combinations where good estimates of age and sex composition for past years are not available, three or four strata were used to expose moderate time trends. Whenever possible, one sample was taken in the middle of each stratum with sufficient numbers of fish taken to simultaneously estimate the true proportion of each major age class in the catch within ± 5 percentage points 90% of the time. Whenever possible, the sample for each stratum was taken within a single day. The fish for each sample were selected systematically in the canneries without regard to tender or subdistrict of capture, with some exceptions. Sharr (1983) shows no differences in age composition among the tender loads from subdistricts within District 212 in 1982; in 1983, subdistrict of capture within District 212 was noted to determine the persistence of Sharr's (1983) findings. Also, subdistricts of capture were noted within District 200 (northwest or southeast of Kayak Island).

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

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

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

where C_t is the number of fish caught during stratum t, P_{tj} is the fraction of the sample taken during stratum t that is age j, N_t is the sample size during stratum t, C_{tj} is the estimated number of fish of age j caught during stratum t, T is the number of strata, and $C_{\cdot j}$ is the estimate of the number of fish of age j caught during the season. The correction factor for finite populations were not included in the above equations because samples sizes were small relative to catches.

Subsistence Fisheries:

Age and sex composition of the season's catch of sockeye salmon in the subsistence fishery on the Copper River was estimated with a stratified systematic sampling program where strata are based on the dates of the early, middle, and late escapements from the commercial fishing districts. The aforementioned equations were used. Because scales were obtained from the subsistence fishery with no reference as to how fish were caught, no distinction was made on age compositions by gear. Also, because few chinook and coho salmon were caught, age, size, and sex compositions of these catches were not estimated.

Sampling Escapements

This section details the various methods used to sample salmon escapements. Only sockeye salmon escapements were sampled and sampling methods varied among escapements to the Upper Copper River, escapements to the Copper River Delta and Bering River coastal drainages, and escapements in Prince William Sound.

Upper Copper River:

Estimated age, sex, and size compositions of the catch from the subsistence fishery on the Copper River were used in a stratified systematic sampling program as estimates of these statistics for most of the escapement to the Upper Copper River. The sonar counts from Miles Lake for the early, middle, and late portions of the run were used in place of catch in the aforementioned equations to expand sample information into a seasonal estimate. Information from the single visit to Long Lake to sample the rest of the upriver escapement was expanded by the counts at the weir. Because of its isolation, Long Lake was visited but once.

Copper River Delta and Bering River:

The logistics of visiting numerous, isolated watersheds in the coastal areas around the Copper River Delta and around the Bering River watershed precluded frequent visits, direct counting of escapements, and stratified sampling programs to estimate age, sex, and size composition. However, information from the visits that were made and from aerial surveys were used in simple systematic sampling programs:

$$E_{\cdot j} = A_m Q_{\cdot j} \qquad V[E_{\cdot j}] = (A_m)^2 \frac{Q_{\cdot j}(1-Q_{\cdot j})}{N_{\cdot} - 1}$$

where $E_{\cdot j}$ is the season's escapement of fish of age j, A_m is the peak number counted on the spawning grounds during aerial surveys, $Q_{\cdot j}$ is the estimate of the portion of the escapement of age j pooled over one or two sampling trips to the spawning grounds, and $N_{\cdot}$ is the number of fish sampled in all sampling trips to the spawning grounds. Because counts of escapements to these areas are not

available, the peak counts of fish on the spawning grounds from aerial surveys were used to expand age proportions into crude estimates of numbers by age. Like for Long Lake upriver, estimates of age, sex, and size compositions of the escapement to Tokun Lake were estimated with information from a single sampling visit and the counts of sockeye salmon through a weir. Age, sex, and size compositions of escapements of chinook and coho salmon were not estimated.

Prince William Sound:

Stratified systematic sampling programs and counts through weirs were used to estimate the age, sex, and size compositions of escapements of sockeye salmon to Coghill and to Eshamy Rivers. The aforementioned equations were used, only escapement counts were used instead of catches. Age, sex, and size compositions for escapements of chum salmon were not estimated.

RESULTS

Copper-Bering Rivers

This section details salmon catch and escapement data in the Copper River District (212) and the Bering River District (200). The commercial and subsistence fisheries in these districts share geographic proximity, occur simultaneously, and are all directed at stocks of sockeye, chinook, and coho salmon returning to the Copper/Bering River area.

Sockeye Salmon:

Of the 633,010 sockeye salmon caught in District 212, almost 400,000 were aged 1.3[1] with fish aged 1.2, 2.3, and 0.3 making up most of the remainder (Table 2). Catches rose abruptly after the first fishing period on 16 May, then tapered off gradually through June and July (Figure 4). Ages 1.3 and 2.3 dominated the early statistics; the catch of the latter age declined by early June when an influx of age 1.2 sockeye salmon occurred that waned in late June (Figure 5). No significant differences in the estimated age compositions were found among catches from subdistricts in Districts 212, a situation which is a repeat of the findings for catches made in 1982 as reported in Sharr (1983).

Although the fishery in District 200 began later (12 June), it had many of the same characteristics as the fishery to the west. Of the almost 179,273 sockeye salmon in the catch (Table 2), 2/3 were age 1.3; almost 1/6 were age 1.2. Unlike the catches in the Copper River District, the catches here rose gradually to a peak near 1 July then declined gradually (Figure 4). Also, the age composition did not change significantly through the season in District 200 as it did in District 212. About 82% of the catch from the Bering River District came from southeast of Kayak Island in Subdistrict 30, far seaward of the coastal streams.

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[1] European Formula - Number of freshwater annuli - decimal - Number of saltwater annuli. Total age is the sum of the two numbers + 1.

Table 2. Estimated catch by age[1] of coho, chinook, and sockeye salmon in Districts 200 (Bering River) and 212 (Copper River), 1983.

COHO SALMON

	Age Group				
District	3.1	2.1	1.1	Other	Total
200	15,432	76,953	24,611	623	117,669
212	20,834	148,525	64,619	265	234,243

CHINOOK SALMON

	Age Group				
District	1.4	1.3	1.2	Other	Total
212	15,979	31,897	1,930	215	50,021

SOCKEYE SALMON

	Age Group						
District	2.3	1.3	2.2	0.3	1.2	Other	Total
200	10,153	119,743	4,187	4,358	29,489	1,343	179,273
212	85,123	392,805	9,325	42,200	101,179	2,378	633,010

[1] European Formula - Number of freshwater annuli - decimal - Number of saltwater annuli. Total age is the sum of the two numbers + 1.

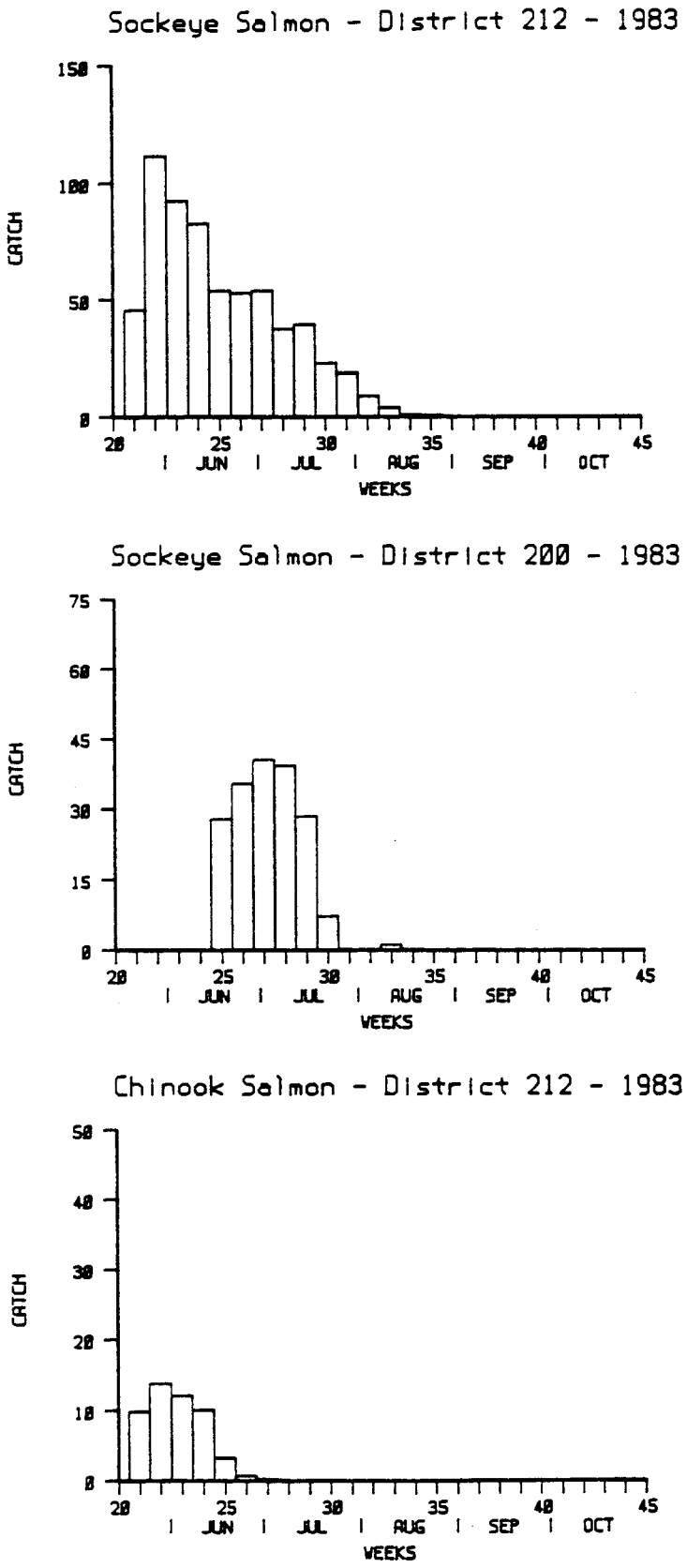

Figure 4. Weekly catches (in thousands) of sockeye and chinook salmon in Copper River (212) and Bering River (200) commercial fishing districts, 1983.

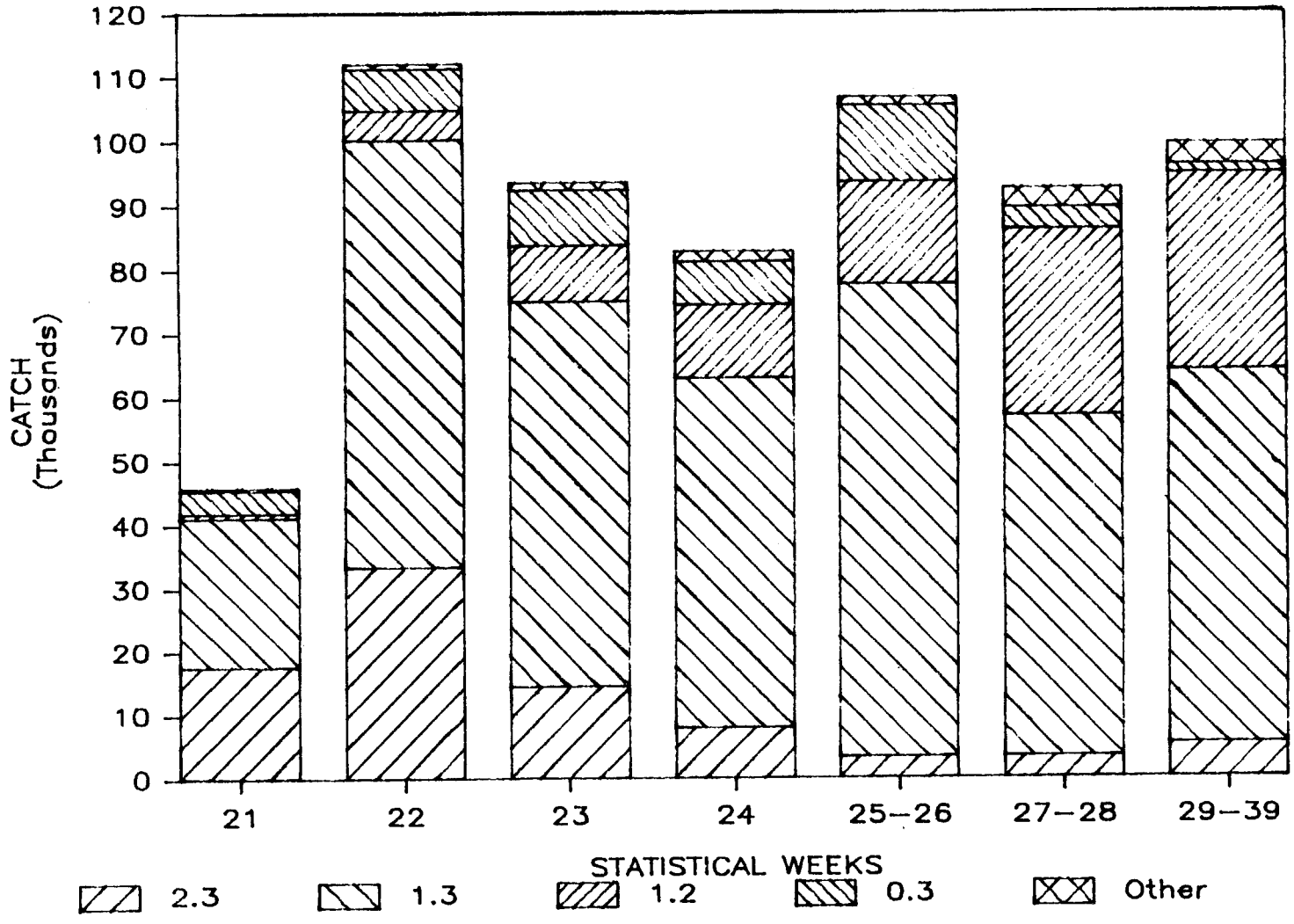

Figure 5. Weekly catches (in thousands) of sockeye salmon in District 212 (Copper River), by age class, 1983.

Of the 110,798 sockeye salmon caught in the subsistence fishery on the Copper River (Table 3), most were taken with dipnets and most were age 1.3 (Table 4). Expansions of subsistence catches by lagged counts of salmon passing the Miles Lake sonar station show an escapement of 545,724 sockeye salmon (Table 4) from the subsistence fishery (= counts - subsistence catches - counts at Long Lake weir). The age composition of the subsistence catches (and by implication that of the escapement) changed through the season with the same basic pattern as did the catches from District 212 at the mouth of the river: age 2.3 salmon early, age 1.2 late, and age 1.3 dominant throughout.

The fractions of age 1.2 and age 1.3 sockeye salmon are complementary in all but two of the numerous runs to the coastal streams in the Copper River Delta and near the Bering River (Table 5). Kushtaka Lake with an escapement that was 43% age 2.3 and Martin River Slough with many sockeye salmon age 0.3 are exceptions. Many other coastal streams had small, but significant escapements of age 0.3 fish. Because most of the escapements to the coastal streams were indexed with aerial surveys (only the escapement to Tokun Lake was counted), no estimate of total escapement to the coastal streams is available.

Chinook Salmon:

Most of the 50,021 chinook salmon caught in District 212 (Table 2) were caught in the first 4 weeks of the season from 16 May to 14 July (Figure 4). Although age 1.3 dominated the season's catch, the age composition in 1983 was split almost evenly between ages 1.3 and 1.4 during the first week.

A total of 5,941 chinook salmon were caught in the subsistence fishery at Chitina, 78% of which were caught with dipnets (Table 3). No information on the age composition of this catch is available.

Although there were some aerial surveys on the escapements of chinook salmon from District 212, there is no information on their age composition.

There are no economically important runs of chinook salmon passing through District 200.

Coho Salmon:

Unlike the pattern in chinook and sockeye salmon fisheries in District 212, most coho salmon were caught late in the season (Figure 6). Before August, coho salmon were caught incidentally to the fishery for sockeye salmon; after August, the fishery targeted on coho salmon. Almost 64% of the 234,243 catch of coho salmon were age 2.1 (Table 2). The age composition changed insignificantly over the season from that presented in Table 2.

In District 200, coho salmon were caught almost exclusively southeast of Kayak Island in Subdistrict 30 early in the season, but later were caught exclusively northwest of Kayak Island in Subdistricts 10 and 20 (Figure 6). Those coho salmon caught northwest of Kayak Island had an age composition not significantly different than those caught in District 212 to the west at about the same time (Table 6). However, those coho salmon caught early in the season southeast of Kayak Island had a significantly larger fraction of age 1.1 fish than all coho salmon caught later (Table 6). Of the almost 118,000 coho salmon caught in District 200, about 77% were harvested late in the season from Subdistricts 10 and 20.

Table 3. Estimated catch of salmon in the subsistence fishery (Chitina through Slana) by species and by gear, 1983. Estimates are numbers reported on permits returned to Alaska Department of Fish and Game plus an amount prorated for the unreturned permits (Roberson 1984).

Gear	Sockeye Salmon	Chinook Salmon	Coho Salmon	Other Species	Total Catch
Fishwheel	38,184	1,293	468	23	39,968
Dipnet	72,614	4,648	1,390	108	78,760
TOTAL	110,798	5,941	1,858	131	118,728

Table 4. Estimated escapement by age of sockeye salmon up the Copper River through the subsistence fishery beginning at Chitina and through the weir below Long Lake, 1983.

	Age Group						
	2.3	1.3	2.2	0.3	1.2	Other	Total
Fishery	51,179	300,021	20,835	23,188	147,009	3,492	545,724
Long Lake	1,133	10,915	3,682	0	12,273	94	28,133

Table 5. Estimated percentage of sockeye salmon escapements to watersheds in the Copper River Delta and to the Bering River area by age group, 1983.

Escapement	Age Group 2.3	1.3	2.2	0.3	1.2	Other
Tokun Lake	0	84	tr[1]	tr	15	tr[1]
Shepard Creek	1	72	0	11	16	1
Bering Lake	0	68	tr	9	21	2
Eyak Lake	0	61	tr	4	32	3
McKinley Lake	3	61	tr	4	31	1
27-Mile Slough	tr	47	1	5	43	4
Martin Lake	0	46	tr	2	50	2
Martin R. Slough	1	37	1	24	28	9
Ragged Point Lake	2	33	4	13	46	2
39-Mile Creek	1	32	3	2	59	3
Kushtaka Lake	43	22	10	0	25	tr
Little Martin Lake	0	9	tr	tr	65	26

[1] tr = trace

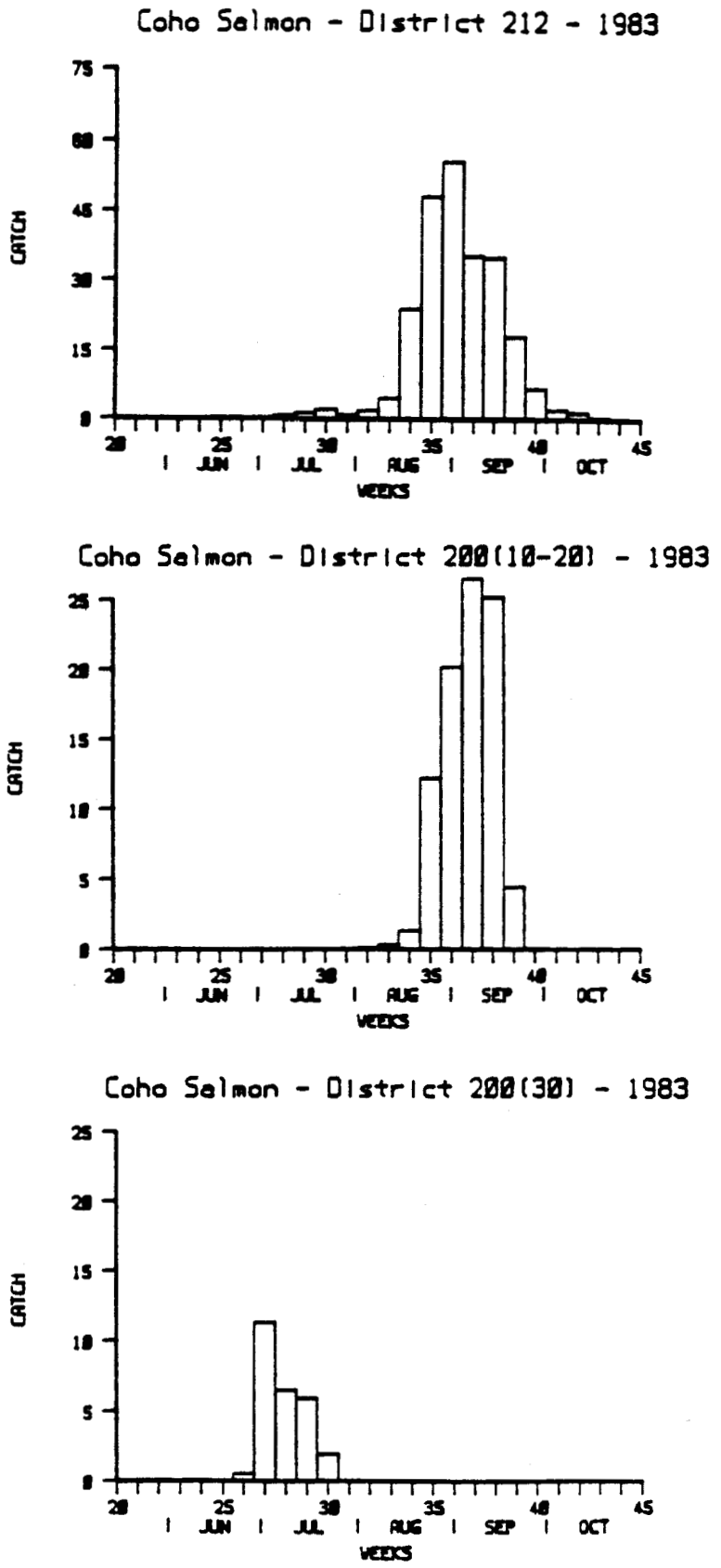

Figure 6. Weekly catches (in thousands) of coho salmon in Copper River (212) and Bering River (200) commercial fishing districts, 1983.

Table 6. Estimated percentages by age of coho salmon catches made southeast of Kayak Island (District 200, Subdistrict 30), northeast of Kayak Island (District 200, Subdistrict 10 and 20), and in the Copper River fishery (District 212), 1983.

Fishery	Dates	Age Group 1.1	2.1	3.1
Southeast Kayak I. District 200	6/12 - 7/30	35	58	7
Northwest Kayak I. District 200	8/08 - 10/01	17	68	15
Copper River District 212	7/30 - 10/15	9	63	28

Other than the almost 2,000 coho salmon caught in the subsistence fishery on the Copper River (3/4 in dipnets - Table 3), no direct estimate of the magnitude of escapements of coho salmon are available, nor is information available on the age composition of these escapements. There were some aerial surveys of escapements of coho salmon to the Copper River Delta and to the Bering River watersheds.

Prince William Sound

This section details sockeye salmon catch and escapement data and chum salmon catch data from the eight fishing districts in Prince William Sound (Districts 221-228). The fisheries in these districts share geographic proximity, occur simultaneously and are directed at salmon stocks of Prince William Sound origin.

Sockeye Salmon:

The purse seine fleet caught fewer sockeye salmon (39,000) than did the gillnet fisheries and caught them farther south in the Sound. Approximately 53,000 sockeye salmon were caught in gillnets, 72% of which came from the Coghill District (District 223); an estimated 74% of this catch was age 1.3 (Table 7). Of the catch made with purse seines, 79% came from the Southwestern District; and unlike the catches in gillnets, age 1.3 and age 1.2 fish were caught in purse seines with almost equal frequency (Table 8). The estimated age compositions shown in Table 8 show no significant changes throughout the season for catches made with both types of gear.

Over 10,000 sockeye salmon were counted passing through the weir into Eshamy Lake of which 58% and 33% were estimated to have been age 1.2 and 2.2, respectively; over 38,000 were counted swimming up the Coghill River of which 60% and 34% were estimated to have been age 1.3 and 1.2, respectively. No information on the escapement from the Unakwik gillnet fishery is available.

Chum Salmon:

More chum salmon were caught in Prince William Sound with purse seines than with gillnets (789,704 fish versus 234,435 fish - Table 7). Chum salmon caught in gillnets were predominantly five-year-old fish (59%) while those caught in purse seines were predominantly four-year-old fish (66%) (Table 8). About 97% of the gillnet-caught chum salmon came from the gillnet fishery in the Coghill District; the estimated age composition of these fish changed little until late in the season when four-year-old fish were predominant (Table 9). The Coghill District was opened to fishing several weeks before other districts to the south and to the east. About 72% of seine-caught chum salmon came from the more northerly districts (221 and 222). As the chum salmon migrated through the Sound, the estimated age compositions of the catches changed from a near even split between 0.3 and 0.4 aged fish to a near 70:20 split; this trend was almost complete in the south when the fisheries opened in the Southern and Southeastern Districts while it had just started in the more northern (Northern and Eastern) and more northwestern (Coghill and Northwestern) districts (Table 9). No information on the escapements of chum salmon is available.

Table 7. Estimated catch by age of sockeye and chum salmon by the gillnet and purse seine fisheries in Prince William Sound (Districts 221-228), 1983.

SOCKEYE SALMON

Gear	Age Group 2.3	1.3	2.2	1.2	Other	Total
Gillnet	1,932	38,037	1,848	8,388	1,066	51,271
Purse Seine	2,310	15,079	4,986	14,836	1,951	38,712

CHUM SALMON

Gear	Age Group 0.4	0.3	Other	Total
Gillnet[1]	137,813	88,839	7,783	234,435
Purse Seine	197,133	524,187	65,021	789,704

[1] Catches from the Coghill District (223) only.

Table 8. Estimated percent of catches of sockeye and chum salmon by age in gillnet and purse seine fisheries in Prince William Sound (Districts 221-228), 1983.

SOCKEYE SALMON

	Age Group				
Gear	2.3	1.3	2.2	1.2	Other
Gillnet	4	74	4	16	2
Purse Seine	6	39	14	38	3

CHUM SALMON

	Age Group		
Gear	0.4	0.3	Other
Gillnet	59	38	3
Purse Seine	25	66	9

Table 9. Estimated percentages of the catch of five-year-old (aged 0.4) and four-year-old (aged 0.3) chum salmon from the general purse seine districts (and one gillnet district, 223) in Prince William Sound, 1983. More northern, more southern, and more northwestern refer to relative positions of the districts in the Sound.

Week	Dates	More Northwestern District				More Northern Districts				More Southern Districts			
		223		224		221		222		226		228	
		Age Group		Age Group		Age Group		Age Group		Age Group		Age Group	
		0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.3
30	7/18-22	63	34					41	53			49	45
31	7/25-29	60	38	18	77	27	61	29	58	18	79	18	79
32	8/01-05	39	55	8	89			28	63	12	82	15	80
33	8/08-12							23	73	18	73		
34	8/15-19							18	67				
35	8/22-26												

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Debbie Hicks of the Stock Biology Group helped sample, Doug McBride helped sample analyze data, and build tables, Virginia Burton helped sample and provided essential clerical assistance.

LITERATURE CITED

Clutter, R. and L. Whitesel. 1956. Collection and interpretation of sockeye salmon scales. Bull. Int. Pac. Salmon Fish. Comm., No. 9. 159 pp.

Cochran, W. 1977. Sampling Techniques, 3rd ed. John Wiley & Sons, Inc. New York. 428 pp.

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

Merritt, M. and K. Roberson. 1983. Migratory timing of upper Copper River sockeye salmon *(Oncorhynchus nerka)* stocks, and its management implications to the commercial fishery. Alaska Dept. of Fish and Game, Info. Leaf. No. 225. 39 pp.

Sharr, S. 1983. Catch and escapement statistics for Copper and Bering River sockeye *(Oncorhynchus nerka)*, chinook *(O. tshawytscha)*, and coho salmon *(O. kisutch)*, 1982. Alaska Dept. of Fish and Game, Tech. Data Rep. No. 98. 45 pp.

Tesch, F. 1970. Age and growth, p. 98-126. In Methods for assessment of fish production in fresh waters. W.E. Ricker (ed.). IBP Handbook No. 3. Blackwell Scientific Publications, Oxford and Edinburgh.

APPENDIX A

Catches from Copper-Bering Rivers (Districts 200, 212)

Appendix Table A1. Sockeye, chinook, and coho salmon commercial catches and effort in the Copper River District (212), 1983.

Statistical Week	Period Dates	Time (Hrs)	Effort (Boats)	Sockeye		Chinook		Coho	
				Period Catch	Week Catch	Period Catch	Week Catch	Period Catch	Week Catch
21	5/16-5/17	36	380	45,850	45,850	9,822	9,822		
22	5/23-5/24	36	466	112,061	112,061	13,919	13,919		
23	5/30-5/31	36	486	93,373	93,393	12,200	12,200		
24	6/06-6/08	48	482	82,820	82,820	10,010	10,010	15	15
25	6/12-6/15	60	324	53,736	53,736	3,190	3,190	6	6
26	6/20-6/21	36	116	29,675		384		11	
	6/23-6/25	36	140	23,307	52,982	201	585	116	127
27	6/27-6/29	48	137	32,409		112		369	
	6/30-7/02	36	133	22,115	54,524	51	163	213	582
28	7/04-7/06	48	166	26,270		40		806	
	7/07-7/09	36	141	11,701	37,971	20	60	302	1,108
29	7/11-7/13	48	163	25,884		30	1,418		
	7/14-7/16	36	143	13,896	39,780	15	45	488	1,906
30	7/18-7/20	48	55	15,506		11		218	
	7/21-7/23	36	72	7,154	22,660	1	12	415	669
31	7/25-7/27	48	60	9,955		4		982	
	7/28-7/30	36	52	8,752	18,707	3	7	581	1,563
32	8/01-8/03	48	71	8,389		1		3,237	
	8/04-8/06	36	65	626	9,015		1	1,048	4,285
33	8/08-8/11	84	240	3,711	3,711			23,459	23,459
34	8/15-8/18	84	255	4,847	4,847	3	3	47,479	47,479
35	8/22-8/25	84	292	757	757	4	4	54,864	54,864
36	8/29-9/01	84	258	176	176			34,852	34,852
37	9/05-9/08	84	231	19	19			34,507	34,507
38	9/12-9/15	84	135	2	2			17,603	17,603
39	9/19-9/22	84	98	1	1			6,277	6,277
40	9/26-9/29	84	31					1,728	1,728
41	10/03-10/06	84	15					1,081	1,081
42	10/10-10/13	84	7					132	132
TOTAL				633,010		50,021			234,243

Appendix Table A2. Sockeye and coho salmon commercial catches and effort in the Bering River District (200), 1983.

Statistical Week	Period Dates	Time (Hrs)	Effort (Boats)	Sockeye				Coho			
				Areas 10&20 [1]	Area 30 [2]	Period Catch	Week Catch	Areas 10&20 [1]	Area 30 [2]	Period Catch	Week Catch
25	6/12-6/15	60	104	17,753	10,039	27,792	27,792	9	17	26	26
26	6/20-6/21	36	57	4,938	12,339	17,277			123	123	
	6/23-6/25	36	62	4,472	13,501	17,973	35,250	328	418	746	869
27	6/27-6/29	48	67	2,756	25,282	28,038		364	7,935	8,299	
	6/30-7/02	36	75	1,741	10,727	12,468	40,506	563	3,387	3,950	12,249
28	7/04-7/06	48	71		26,882	26,882			4,086	4,086	
	7/07-7/09	36	64		12,438	12,438	39,320		2,380	2,380	6,466
29	7/11-7/13	48	72		16,286	16,286			3,921	3,921	
	7/14-7/16	36	49		11,990	11,990	28,276		1,941	1,941	5,862
30	7/18-7/20	48	30		6,642	6,642			1,714	1,714	
	7/21-7/23	36	9		405	405	7,047		180	180	1,894
31	7/25-7/27	48	2		60	60			1	1	
	7/28-7/30	36					60				1
32	8/01-8/03	48	2	77				132		132	
	8/04-8/06	36	2			77					
33	8/08-8/11	84	2	11		11	11	321		321	321
34	8/15-8/18	84	8	902		902	902	1,326		1,326	1,326
35	8/22-8/25	48	21	24		24	24	12,259		12,259	12,259
36	8/29-9/01	84	66	7		7	7	20,178		20,178	20,178
37	9/05-9/08	84	87					26,510		26,510	26,510
38	9/12-9/15	84	63				1	25,176		25,176	25,176
39	9/19-9/22	84	40	1		1	1	4,360		4,360	4,360
40	9/26-9/29	84	4					40		40	40
TOTAL				32,682	146,591		179,273	91,566	26,103		117,669

[1] Subdistricts 10 and 20 are the areas west of Kayak Island including Controller Bay and Katalla Bay.

[2] Subdistrict 30 is the area east of Kayak Island.

Appendix Table A3. Estimated age and sex composition of the commercial catch of sockeye salmon in District 212, 1983.

		Brood Year and Age Group								
		1977		1978		1979			1980	
		1.4	2.3	1.3	2.2	0.3	1.2	2.1	0.2	Total
Week(s) 21: 15 May - 21 May Sample Dates: 16 May - 17 May Sample Size: 1,068										
Males	Percent of Sample	0.1	19.0	23.7	0.3	4.6	0.9	0.0	0.0	48.6
	Number in Catch	43	8,715	10,904	129	2,104	429	0	0	22,324
Females	Percent of Sample	0.0	19.2	27.6	0.5	3.4	0.7	0.0	0.0	51.4
	Number in Catch	0	8,801	12,665	214	1,545	301	0	0	23,526
Sexes	Percent of Sample	0.1	38.2	51.3	0.8	8.0	1.6	0.0	0.0	100.0
Combined	Number in Catch	43	17,516	23,569	343	3,649	730	0	0	45,850
	Standard Error	43	682	702	121	380	177	0	0	
Week(s) 22: 22 May - 28 May Sample Dates: 23 May - 24 May Sample Size: 1,105										
Males	Percent of Sample	0.0	12.4	25.8	0.1	3.4	2.3	0.0	0.0	44.0
	Number in Catch	0	13,894	28,903	101	3,752	2,637	0	0	49,287
Females	Percent of Sample	0.0	17.2	34.0	0.6	2.5	1.7	0.0	0.0	56.0
	Number in Catch	0	19,268	38,131	710	2,738	1,927	0	0	62,774
Sexes	Percent of Sample	0.0	29.6	59.8	0.7	5.9	4.0	0.0	0.0	100.0
Combined	Number in Catch	0	33,162	67,034	811	6,490	4,564	0	0	112,061
	Standard Error	0	1,539	1,653	286	788	666	0	0	
Week(s) 23: 29 May - 04 Jun Sample Dates: 30 May - 31 May Sample Size: 838										
Males	Percent of Sample	0.0	6.1	24.5	0.1	4.2	3.7	0.0	0.2	38.8
	Number in Catch	0	5,677	22,820	111	3,896	3,451	0	223	36,178
Females	Percent of Sample	0.1	9.4	40.3	0.5	5.1	5.6	0.0	0.2	61.2
	Number in Catch	111	8,794	37,623	445	4,787	5,232	0	223	57,215
Sexes	Percent of Sample	0.1	15.5	64.8	0.6	9.3	9.3	0.0	0.4	100.0
Combined	Number in Catch	111	14,471	60,443	556	8,683	8,683	0	446	93,393
	Standard Error	111	1,167	1,541	248	936	936	0	221	

-Continued-

Appendix Table A3. Estimated age and sex composition of the commercial catch of sockeye salmon in District 212, 1983 (continued).

		Brood Year and Age Group								
		1977		1978		1979			1980	
		1.4	2.3	1.3	2.2	0.3	1.2	2.1	0.2	Total
Week(s) 24: 05 Jun - 11 Jun Sample Dates: 06 Jun - 08 Jun Sample Size: 799										
Males	Percent of Sample	0.0	4.1	29.1	0.9	3.5	8.0	0.0	0.3	45.9
	Number in Catch	0	3,420	24,152	726	2,902	6,634	0	207	38,041
Females	Percent of Sample	0.0	5.5	37.3	0.8	4.6	5.8	0.0	0.1	54.1
	Number in Catch	0	4,561	30,889	622	3,835	4,768	0	104	44,779
Sexes	Percent of Sample	0.0	9.6	66.4	1.7	8.1	13.8	0.0	0.4	100.0
Combined	Number in Catch	0	7,981	55,041	1,348	6,737	11,402	0	311	82,820
	Standard Error	0	865	1,383	371	801	1,010	0	179	
Week(s) 25-26: 12 Jun - 25 Jun Sample Dates: 20 Jun - 21 Jun Sample Size: 678										
Males	Percent of Sample	0.6	1.2	28.6	0.3	3.5	9.6	0.0	0.0	43.8
	Number in Catch	630	1,259	30,536	315	3,778	10,231	0	0	46,749
Females	Percent of Sample	0.0	1.9	41.0	0.3	7.7	5.3	0.0	0.0	56.2
	Number in Catch	0	2,046	43,758	315	8,184	5,666	0	0	59,969
Sexes	Percent of Sample	0.6	3.1	69.6	0.6	11.2	14.9	0.0	0.0	100.0
Combined	Number in Catch	630	3,305	74,294	630	11,962	15,897	0	0	106,718
	Standard Error	314	710	1,885	314	1,293	1,459	0	0	
Week(s) 27-28: 26 Jun - 09 Jul Sample Dates: 04 Jul - 06 Jul Sample SIze: 609										
Males	Percent of Sample	0.0	1.3	25.9	1.6	0.7	17.1	0.0	0.0	46.6
	Number in Catch	0	1,215	23,997	1,519	608	15,796	0	0	43,134
Females	Percent of Sample	0.5	2.3	32.0	1.2	3.0	14.4	0.0	0.0	53.4
	Number in Catch	455	2,126	29,617	1,063	2,734	13,365	0	0	49,361
Sexes	Percent of Sample	0.5	3.6	57.9	2.8	3.7	31.5	0.0	0.0	100.0
Combined	Number in Catch	455	3,341	53,614	2,582	3,342	29,161	0	0	92,495
	Standard Error	262	699	1,850	617	699	1,742	0	0	

-Continued-

Appendix Table A3. Estimated age and sex composition of the commercial catches of sockeye salmon in Districts 212, 1983 (continued).

		Brood Year and Age Group								
		1977		1978		1979			1980	
		1.4	2.3	1.3	2.2	0.3	1.2	2.1	0.2	Total
Week(s) 29-39: 11 July - 24 Sept. Sample Dates: 07 July - 20 July Sample Size: 522										
Males	Percent of Sample	0.0	2.1	29.5	1.1	0.6	15.7	0.2	0.0	49.2
	Number in Catch	0	2,100	29,405	1,147	573	15,657	191	0	49,073
Females	Percent of Sample	0.2	3.3	29.5	1.9	0.8	15.1	0.0	0.0	50.8
	Number in Catch	191	3,246	29,405	1,909	764	15,085	0	0	50,600
Sexes Combined	Percent of Sample	0.2	5.4	59.0	3.0	1.4	30.8	0.2	0.0	100.0
	Number in Catch	191	5,346	58,810	3,056	1,337	30,742	191	0	99,673
	Standard Error	191	983	2,146	752	502	2,015	191	0	0
All Weeks Combined 21-39 Sample Dates: 15 May - 20 July Sample Size: 5,620										
Males	Percent of Sample	0.1	5.7	27.0	0.6	2.8	8.7	0.0	0.1	45.0
	Number in Catch	673	36,281	170,716	4,046	17,612	54,835	191	430	284,784
Females	Percent of Sample	0.1	7.7	35.1	0.8	3.9	7.3	0.0	0.1	55.0
	Number in Catch	757	48,842	222,089	5,279	24,588	46,344	0	327	348,226
Sexes Combined	Percent of Sample	0.2	13.4	62.1	1.4	6.7	16.0	0.0	0.2	100.0
	Number in Catch	1,430	85,122	392,805	9,326	42,200	101,179	191	757	633,010
	Standard Error	467	2,627	4,369	872	2,167	3,405	191	285	0

Appendix Table A4. Estimated age and sex composition of the commercial catches of sockeye salmon in the Bering River District (200), 1983.

		Brood Year and Age Group										
		1976	1977		1978			1979		1980		
		1.5	1.4	2.3	0.4	1.3	2.2	0.3	1.2	0.2	1.1	TOTAL
Weeks Combined 12 Jun - 24 Sep Sample Dates: 12 Jun - 15 Jun Sample Size : 451												
Males	Percent of Sample	0.0	0.2	3.5	0	26.4	0.7	5.8	10.4	0.9	0.2	48.1
	Number in Catch	0	72	1,159	0.0	8,625	217	1,884	3,406	290	72	15,725
Females	Percent of Sample	0.0	0.0	4.2	0	32.8	0.4	7.5	6.7	0.2	0.0	51.9
	Number in Catch	0	0	1,377	0.0	10,725	145	2,464	2,174	72	0	16,957
Sexes Combined	Percent of Sample	0.0	0.2	7.7	0	59.2	1.1	13.3	17.1	1.1	0.2	100.0
	Number in Catch	0	72	2,536	0.0	19,350	362	4,348	5,580	362	72	32,682
	Standard Error	0	69	410	0	756	161	524	579	161	69	0

Subdistrict 30

		Brood Year and Age Group										
		1976	1977		1978			1979		1980		
		1.5	1.4	2.3	0.4	1.3	2.2	0.3	1.2	0.2	1.1	Total
Week(s) 25: 12 Jun - 18 Jun Sample Dates: 12 Jun - 15 Jun Sample Size: 493												
Males	Percent of Sample	0.0	0.4	2.2	0.0	33.3	0.6	6.5	3.9	0.0	0.0	46.9
	Number in Catch	0	41	224	0	3,339	61	652	387	0	0	4,704
Females	Percent of Sample	0.0	0.0	2.4	0.0	38.9	0.4	5.9	5.3	0.2	0.0	53.1
	Number in Catch	0	0	244	0	3,910	41	591	529	20	0	5,335
Sexes Combined	Percent of Sample	0.0	0.4	4.6	0.0	72.2	1.0	12.4	9.2	0.2	0.0	100.0
	Number in Catch	0	41	468	0	7,249	102	1,243	916	20	0	10,039
	Standard Error	0	29	95	0	203	45	149	131	20	0	0

-Continued-

Appendix Table A4. Estimated age and sex composition of the commercial catches of sockeye salmon in the Bering River District (200), 1983 (continued).

		Brood Year and Age Group										
		1976	1977		1978			1979		1980		
		1.5	1.4	2.3	0.4	1.3	2.2	0.3	1.2	0.2	1.1	TOTAL
Week(s) 26:	19 Jun - 25 Jun											
Sample Dates:	20 Jun - 22 Jun											
Sample Size:	560											
Males	Percent of Sample	0.0	0.0	1.1	0.0	26.6	1.2	4.3	10.2	0.2	0.0	43.6
	Number in Catch	0	0	277	0	6,875	323	1,108	2,630	46	0	11,259
Females	Percent of Sample	0.0	0.0	1.6	0.0	40.2	1.2	7.7	5.7	0.0	0.0	56.4
	Number in Catch	0	0	415	0	10,382	323	1,984	1,477	0	0	14,581
Sexes	Percent of Sample	0.0	0.0	2.7	0.0	66.8	2.4	12.0	15.9	0.2	0.0	100.0
Combined	Number in Catch	0	0	692	0	17,257	646	3,092	4,107	46	0	25,840
	Standard Error	0	0	229	0	514	167	354	399	49	0	0
Week(s) 27:	26 Jun - 02 Jul											
Sample Dates:	30 Jun - 02 Jul											
Sample Size:	598											
Males	Percent of Sample	0.0	0.0	3.5	0.0	29.0	2.5	3.3	11.0	0.2	0.0	49.5
	Number in Catch	0	0	1,265	0	10,417	904	1,204	3,974	60	0	17,824
Females	Percent of Sample	0.2	0.5	1.7	0.0	36.7	0.3	3.2	7.9	0.0	0.0	50.5
	Number in Catch	60	181	602	0	13,248	120	1,144	2,830	0	0	18,185
Sexes	Percent of Sample	0.2	0.5	5.2	0.0	65.7	2.8	6.5	18.9	0.2	0.0	100.0
Combined	Number in Catch	60	181	1,867	0	23,665	1,024	2,348	6,804	60	0	36,009
	Standard Error	66	104	327	0	699	243	363	577	66	0	0
Week(s) 28:	03 Jul - 09 Jul											
Sample Dates:	04 Jul - 06 Jul											
Sample Size:	610											
Males	Percent of Sample	0.0	0.2	2.6	0.2	33.1	2.1	2.5	12.1	0.0	0.0	52.8
	Number in Catch	0	64	1,031	64	13,022	838	967	4,770	0	0	20,756
Females	Percent of Sample	0.0	0.2	3.9	0.0	32.1	1.0	3.4	6.6	0.0	0.0	47.2
	Number in Catch	0	64	1,547	0	12,634	387	1,354	2,578	0	0	18,564
Sexes	Percent of Sample	0.0	0.4	6.5	0.2	65.2	3.1	5.9	18.7	0.0	0.0	100.0
Combined	Number in Catch	0	128	2,578	64	25,656	1,225	2,321	7,348	0	0	39,320
	Standard Error	0	87	395	71	758	276	375	621	0	0	0

-Continued-

Appendix Table A4. Estimated age and sex composition of the commercial catches of sockeye salmon in the Bering River District (200), 1983 (continued).

		Brood Year and Age Group										
		1976	1977		1978			1979		1980		
		1.5	1.4	2.3	0.4	1.3	2.2	0.3	1.2	0.2	1.1	TOTAL
Week(s) 29: 10 Jul - 16 Jul Sample Dates: 11 Jul - 13 Jul Sample Size: 598												
Males	Percent of Sample	0.0	0.3	2.5	0.0	35.8	1.4	1.5	7.0	0.0	0.0	48.5
	Number in Catch	0	118	888	0	12,662	473	533	2,485	0	0	17,159
Females	Percent of Sample	0.0	0.3	3.2	0.0	39.3	1.0	1.3	6.4	0.0	0.0	51.5
	Number in Catch	0	118	1,125	0	13,905	355	473	2,248	0	0	18,224
Sexes	Percent of Sample	0.0	0.6	5.7	0.0	75.1	2.4	2.8	13.4	0.0	0.0	100.0
Combined	Number in Catch	0	236	2,013	0	26,567	828	1,006	4,733	0	0	35,383
	Standard Error	0	112	336	0	626	221	239	493	0	0	0
Weeks Combined: 12 Jun - 30 Jul Sample Dates: 12 Jun - 16 Jul Sample Size: 2,859												
Males	Percent of Sample	0.0	0.2	2.5	0.0[1]	31.6	1.8	3.0	9.7	0.1	0.0	48.9
	Number in Catch	0	223	3,685	64	46,315	2,599	4,464	14,246	106	0	71,702
Females	Percent of Sample	0.0[1]	0.3	2.7	0.0	36.9	0.8	3.8	6.6	0.0	0.0	51.09
	Number in Catch	60	363	3,933	0	54,079	1,226	5,546	9,662	20	0	74,889
Sexes	Percent of Sample	0.0	0.5	5.2	0.0[1]	68.5	2.6	6.8	16.3	0.1	0.0	100.0
Combined	Number in Catch	60	586	7,618	64	100,394	3,825	10,010	23,908	146	0	146,591
	Standard Error	0	178	530	71	1,327	463	690	1,066	84	0	0

District 200 (Subdistricts Combined)

		Brood Year and Age Group										
		1976	1977		1978			1979		1980		
		1.5	1.4	2.3	0.4	1.3	2.2	0.3	1.2	0.2	1.1	Total
Weeks Combined: 12 Jun - 30 Jul Sample Dates: 12 Jun - 16 Jul Sample Size: 2,859												
Males	Percent of Sample	0.0	0.2	2.7	0.0[1]	30.7	1.6	3.5	9.9	0.2	0.0[1]	48.8
	Number in Catch	0	295	4,844	64	54,940	2,816	6,348	17,652	396	72	87,427
Females	Percent of Sample	0.0[1]	0.2	2.9	0.0	36.2	0.7	4.5	6.6	0.1	0.0	51.2
	Number in Catch	60	363	5,310	0	64,804	1,371	8,010	11,836	92	0	91,846
Sexes	Percent of Sample	0.0[1]	0.4	5.6	0.0[1]	66.9	2.3	8.0	16.5	0.3	0.0[1]	100.0
Combined	Number in Catch	60	658	10,154	64	119,744	4,187	14,358	29,488	488	72	179,273
	Standard Error	66	191	670	71	1,527	490	867	1,222	181	69	0

[1] If fish were present but represented less than 0.05% of the total catch the percentage was rounded to 0.0.

Appendix Table A5. Estimated age and sex composition of the commercial catches of chinook salmon in the Copper River District (212), 1983.

		Brood Year and Age Group								
		1976		1977		1978		1979	1980	
		1.5	2.4	1.4	2.3	1.3	2.2	1.2	1.1	Total
Week(s) 21:	15 May - 21 May									
Sample Dates:	16 May - 17 May									
Sample Size:	630									
Males	Percent of Sample	0.0	0.3	27.9	0.0	21.6	0.0	2.1	0.0	51.9
	Number in Catch	0	31	2,744	0	2,120	0	203	0	5,098
Females	Percent of Sample	0.2	0.2	19.0	0.0	28.1	0.0	0.6	0.0	48.1
	Number in Catch	16	16	1,871	0	2,760	0	62	0	4,724
Sexes	Percent of Sample	0.2	0.5	46.9	0.0	49.7	0.0	2.7	0.0	100.0
Combined	Number in Catch	16	47	4,615	0	4,880	0	265	0	9,822
	Standard Error	16	27	195	0	196	0	63	0	
Week(s) 22:	22 May - 28 May									
Sample Dates:	23 May - 24 May									
Sample Size:	628									
Males	Percent of Sample	0.0	0.0	20.0	0.2	27.2	0.0	2.7	0.2	50.3
	Number in Catch	0	0	2,793	22	3,790	0	377	22	7,004
Females	Percent of Sample	0.0	0.0	12.7	0.2	36.6	0.0	0.2	0.0	49.7
	Number in Catch	0	0	1,773	22	5,098	0	22	0	6,915
Sexes	Percent of Sample	0.0	0.0	32.7	0.4	63.8	0.0	2.9	0.2	100.0
Combined	Number in Catch	0	0	4,566	44	8,888	0	399	22	13,919
	Standard Error	0	0	261	31	267	0	93	22	
Week(s) 23:	29 May - 04 Jun									
Sample Dates:	30 May - 31 May									
Sample Size:	661									
Males	Percent of Sample	0.0	0.0	13.1	0.0	28.0	0.2	3.6	0.0	44.9
	Number in Catch	0	0	1,606	0	3,415	18	443	0	5,482
Females	Percent of Sample	0.0	0.2	11.6	0.2	42.3	0.0	0.8	0.0	55.1
	Number in Catch	0	18	1,421	18	5,169	0	92	0	6,718
Sexes	Percent of Sample	0.0	0.2	24.7	0.2	70.3	0.2	4.4	0.0	100.0
Combined	Number in Catch	0	18	3,027	18	8,584	18	535	0	12,200
	Standard Error	0	18	205	18	217	18	97	0	

-Continued-

Appendix Table A5. Estimated age and sex composition of the commercial catches of chinook salmon in the Copper River District (212), 1983 (continued).

		Brood Year and Age Group								
		1976		1977		1978		1979	1980	
		1.5	2.4	1.4	2.3	1.3	2.2	1.2	1.1	Total
Week(s) 24: 05 June - 11 Jun Sample Dates: 06 June - 08 Jun Sample Size: 643										
Males	Percent of Sample	0.0	0.2	14.6	0.2	28.4	0.0	4.8	0.0	48.2
	Number in Catch	0	16	1,463	16	2,848	0	483	0	4,826
Females	Percent of Sample	0.0	0.0	10.1	0.0	40.3	0.0	1.4	0.0	51.8
	Number in Catch	0	0	1,012	0	4,032	0	140	0	5,184
Sexes	Percent of Sample	0.0	0.2	24.7	0.2	68.7	0.0	6.2	0.0	100.0
Combined	Number in Catch	0	16	2,475	16	6,880	0	623	0	10,010
	Standard Error	0	16	170	16	183	0	95	0	
Week(s) 25-35: 12 June - 27 Aug Sample Dates: 12 June - 15 Jun Sample Size: 603										
Males	Percent of Sample	0.0	0.0	17.7	0.0	29.5	0.0	2.2	0.0	49.4
	Number in Catch	0	0	722	0	1,201	0	88	0	2,011
Females	Percent of Sample	0.0	0.0	14.1	0.0	36.0	0.0	0.5	0.0	50.6
	Number in Catch	0	0	574	0	1,465	0	20	0	2,059
Sexes	Percent of Sample	0.0	0.0	31.8	0.0	65.5	0.0	2.7	0.0	100.0
Combined	Number in Catch	0	0	1,296	0	2,666	0	108	0	4,070
	Standard Error	0	0	77	0	79	0	27	0	
All Weeks Combined 21-35 Sample Dates: 15 May - 15 Jun Sample Size: 3,165										
Males	Percent	0.0	0.1	18.6	0.1	26.7	0.1	3.1	0.1	48.8
	Number in Catch	0	47	9,328	38	13,375	18	1,593	22	24,421
Females	Percent	0.1	0.1	13.3	0.1	37.0	0.0	0.6	0.0	51.2
	Number in Catch	16	34	6,651	40	18,522	0	337	0	25,600
Sexes	Percent	0.1	0.2	31.9	0.2	63.7	0.1	3.7	0.1	100.0
Combined	Number in Catch	16	81	15,979	78	31,897	18	1,930	22	50,021
	Standard Error	16	36	428	29	443	18	179	22	

Appendix Table A6. Estimated age and sex composition of the commercial catch of coho salmon in the Copper River District (212), 1983.

		Brood year and Age Group 1977 4.1	1978 3.1	1979 2.1	1980 1.1	Total
Week(s) 24-33:	05 Jun - 13 Aug[1]					
Sample Dates:	08 Aug - 11 Aug					
Sample Size:	448					
Males	Percent of Sample	0.0	7.8	38.2	15.2	61.6
	Number in Catch	0	2,791	13,793	5,422	22,006
Females	Percent of Sample	0.0	2.2	26.1	10.1	38.4
	Number in Catch	0	797	9,329	3,588	13,714
Sexes	Percent of Sample	0.0	10.0	64.7	25.3	100.0
Combined	Number in Catch	0	3,588	23,122	9,010	35,720
	Standard Error	0	506	807	734	
Week(s) 34-35:	14 Aug - 27 Aug					
Sample Dates:	15 Aug - 18 Aug					
Sample Size:	427					
Males	Percent of Sample	0.0	2.6	31.3	15.5	49.4
	Number in Catch	0	2,636	32,117	15,819	50,572
Females	Percent of Sample	0.0	2.1	29.3	19.2	50.6
	Number in Catch	0	2,157	29,960	19,654	51,771
Sexes	Percent of Sample	0.0	4.7	60.6	34.7	100.0
Combined	Number in Catch	0	4,793	62,077	35,473	102,343
	Standard Error	0	1,048	2,420	2,358	
Week(s) 36-42:	28 Aug - 15 Oct					
Sample Dates:	29 Aug - 01 Sep					
Sample Size:	363					
Males	Percent of Sample	0.0	7.7	35.5	10.5	53.7
	Number in Catch	0	7,419	34,180	10,068	51,667
Females	Percent of Sample	0.3	5.2	10.3	10.5	46.3
	Number in Catch	265	5,034	29,146	10,068	44,513
Sexes	Percent of Sample	0.3	12.9	65.8	21.0	100.0
Combined	Number in Catch	265	12,453	63,325	20,136	96,180
	Standard Error	276	1,692	2,395	0	
All Weeks:	28 Aug - 15 Oct					
Sample Dates:	08 Aug - 01 Sep					
Sample Size:	1,238					
Males	Percent of Sample	0.0	5.5	34.2	13.4	53.1
	Number in Catch	0	12,846	80,090	31,309	124,245
Females	Percent of Sample	0.1	3.4	29.2	14.2	46.9
	Number in Catch	265	7,988	68,435	33,310	109,998
Sexes	Percent of Sample	0.1	8.9	63.4	27.6	100.0
Combined	Number in Catch	265	20,834	148,525	64,619	234,243
	Standard Error	276	2,055	3,498	3,211	

[1] Catches prior to the week starting 7 August (week 33) were small incidental catches in the sockeye fishery.

Appendix Table A7. Estimated age and sex composition of the commercial catches of coho salmon in the Bering River District (200), 1983.

Subdistricts 10 and 20							
		Brood Year and Age Group					
		1977	1978		1979	1980	
		4.1	3.1	2.2	2.1	1.1	Total
Week(s) 33-26:	07 Aug - 03 Sep[1]						
Sample Dates:	21 Aug - 27 Aug						
Sample Size:	423						
Male	Percent of Sample	0.3	8.0	0.0	36.6	13.3	58.2
	Number in Catch	84	2,852	0	13,001	4,697	20,643
Female	Percent of Sample	0.0	4.5	0.0	28.1	9.2	41.8
	Number in Catch	0	1,594	0	9,981	3,271	14,846
Sexes	Percent of Sample	0.3	12.5	0.0	64.7	22.5	100.0
Combined	Number in Catch	84	4,446	0	22,982	7,968	35,480
	Standard Error	94	571	0	824	720	0
Week(s) 37-40:	04 Sep - 01 Oct						
Sample Dates:	05 Sep - 08 Sep						
Sample Size:	104						
Male	Percent of Sample	0.0	8.6	0.0	30.8	5.8	45.2
	Number in Catch	0	4,854	0	17,257	3,236	25,347
Female	Percent of Sample	0.0	7.7	1.0	38.4	7.7	54.8
	Number in Catch	0	4,314	539	21,572	43,14	30,739
Sexes	Percent of Sample	0.0	16.3	1.0	69.2	13.5	100.0
Combined	Number in Catch	0	9,168	539	38,829	7,550	56,086
	Standard Error	0	2,031	574	2,539	1,879	0
All Weeks:	07 Aug - 01 Oct						
Sample Dates:	22 Aug - 09 Sep						
Sample Size:	527						
Males	Percent of Sample	0.1	8.4	0.0	33.0	8.7	50.2
	Number in Catch	84	7,705	0	30,258	7,933	45,980
Females	Percent of Sample	0.0	6.4	0.6	34.5	8.3	49.8
	Number in Catch	0	5,909	539	31,553	7,585	45,586
Sexes	Percent of Sample	0.1	14.8	0.6	67.5	17.0	100.0
Combined	Number in Catch	84	13,614	539	61,811	15,518	91,566
	Standard Error	94	2,110	547	2,670	2,012	0

-Continued-

Appendix Table A7. Estimated age and sex composition of the commercial catches of coho salmon in the Bering River District (200), 1983 (continued).

Subdistrict 30[2]

		Brood Year and Age Group					
		1978	1978		1979	1980	
		4.1	3.1	2.2	2.1	1.1	Total
Week(s) 25-28:	12 Jun - 09 Jul						
Sample Dates:	04 Jul - 06 Jul						
Sample Size:	398						
Male	Percent of Sample	0.0	3.5	0.0	26.7	13.3	43.5
	Number in Catch	0	645	0	4,886	2,443	7,975
Female	Percent of Sample	0.0	4.0	0.0	31.9	20.6	56.5
	Number in Catch	0	738	0	5,854	3,780	10,371
Sexes	Percent of Sample	0.0	7.5	0.0	58.6	33.9	100.0
Combined	Number in Catch	0	1,383	0	10,740	6,223	18,346
	Standard Error	0	242	0	453	435	0
Week(s) 29-31:	10 Jul - 30 Jul						
Sample Dates:	11 Jul - 13 Jul						
Sample Size:	400						
Male	Percent of Sample	0.0	2.0	0.0	21.7	12.0	35.7
	Number in Catch	0	155	0	1,687	931	2,773
Female	Percent of Sample	0.0	4.3	0.0	35.0	25.0	64.3
	Number in Catch	0	330	0	2,715	1,939	4,984
Sexes	Percent of Sample	0.0	6.3	0.0	56.7	37.0	100.0
Combined	Number in Catch	0	485	0	4,402	2,870	7,757
	Standard Error	0	94	0	192	187	0
All Weeks:	12 Jun - 30 Jul						
Sample Dates:	04 Jul - 13 Jul						
Sample Size:	798						
Males	Percent of Sample	0.0	3.1	0.0	25.2	12.9	41.2
	Number in Catch	0	801	0	6,573	3,374	10,748
Females	Percent of Sample	0.0	4.1	0.0	32.8	21.9	58.8
	Number in Catch	0	1,067	0	8,569	5,719	15,355
Sexes	Percent of Sample	0.0	7.2	0.0	58.0	34.8	100.0
Combined	Number in Catch	0	1,868	0	15,142	9,093	26,103
	Standard Error	0	260	0	492	474	0

District 200 Total

		Brood Year and Age Group					
		1977	1978		1979	1980	
		4.1	3.1	2.2	2.1	1.1	Total
All Weeks:	12 Jun - 01 Oct						
Sample Dates:	04 Jul - 09 Sep						
Sample Size:	527						
Males	Percent of Sample	0.1	7.2	0.0	31.3	9.6	48.2
	Number in Catch	84	8,506	0	36,831	11,307	56,728
Females	Percent of Sample	0.0	5.9	0.5	34.1	11.3	51.8
	Number in Catch	0	6,976	539	40,122	13,304	60,941
Sexes	Percent of Sample	0.1	13.1	0.5	65.4	20.9	100.0
Combined	Number in Catch	84	15,482	539	76,953	24,611	117,669
	Standard Error	0	2,126	547	2,715	2,068	0

[1] Approximately 3,000 fish caught during this stratum were actually incidental catches in the sockeye fishery prior to the coho salmon season which began in the second week of August.

[2] In Subdistrict 30 the coho salmon catches were all incidental catches in a sockeye salmon fishery which occurred prior to the traditional coho salmon season which began in the second week o August.

Appendix Table A8. Estimated mean length[1] by sex and age for sockeye salmon caught by the drift gillnet fishery in the Copper and Bering River Districts, 1983.

		Brood Year and Age Group						
		1977		1978		1979		1980
		1.4	2.3	1.3	2.2	0.3	1.2	0.2
Copper River District (212) Sample Dates: 16 May - 20 Jul								
Males	Mean	569	577	578	514	573	512	458
	Std. Error	6	2	1	10	2	3	12
	Sample Size	2	426	1,106	14	162	203	4
Females	Mean	577	553	557	500	561	511	451
	Std. Error	31	1	1	6	10	2	0
	Sample Size	4	522	1,448	23	163	174	2
Bering River Subdistricts (Southeast of Kayak Island) Sample Dates: 12 Jun - 15 Jun								
Males	Mean	592	570	585	451	608	501	469
	Std. Error	*	9	3	36	17	7	31
	Sample Size	1	11	84	2	18	29	3
Females	Mean		549	565	525	570	519	
	Std. Error		8	3	*	4	4	
	Sample Size		13	93	1	24	20	
Bering River Subdistrict (Northwest of Kayak Island) Sample Dates: 12 Jun - 16 Jul								
Males	Mean		581	594	528	595	539	
	Std. Error		8	2	7	5	4	
	Sample Size		19	281	14	31	67	
Females	Mean	614	568	574	528	572	531	
	Std. Error	11	6	2	5	3	2	
	Sample Size	2	19	354	10	43	56	

[1] Mid-eye to fork of tail in mm.

Appendix Table A9. Estimated mean length[1] by sex and age for coho salmon caught by the drift gillnet fishery in Copper and Bering River Districts, 1983.

		Brood Year and Age Group		
		1980	1979	1978
		1.1	2.1	3.1
Copper River District (212)				
Sample Dates: 08 Aug - 01 Sep				
Males	Mean	620	644	655
	Std. Error	11	4	9
	Sample Size	68	167	27
Females	Mean	622	643	639
	Std. Error	7	4	13
	Sample Size	47	104	15
Bering River Districts (200-10,200-20)				
Sample Dates: 22 Aug - 09 Sep				
Males	Mean	627	656	661
	Std. Error	8	5	10
	Sample Size	35	72	22
Females	Mean	646	643	676
	Std. Error	11	4	8
	Sample Size	24	83	15
Bering River District (200-30)				
Sample Dates: 04 Jul - 13 Jul				
Males	Mean	599	602	614
	Std. Error	8	4	15
	Sample Size	26	61	5
Females	Mean	583	595	604
	Std. Error	5	3	8
	Sample Size	57	95	10

[1] Mid-eye to fork of tail length in mm.

Appendix Table A10. Estimated mean length[1] by sex and age for chinook salmon sampled by the drift gillnet fishery in the Copper River District (212), 1983.

		Brood Year and Age Group								
		1976		1977		1978		1979		1980
		1.5	2.4	1.4	2.3	1.3	2.2	0.3	1.2	1.1
Sample Dates: 16 May - 08 Jun										
Males	Mean		958	992	931	886	722	850	624	594
	Std. Error		41	3	19	2	0	0	6	0
	Sample Size		3	590	2	852	1	1	98	1
Females	Mean	887	890	946	910	864			652	
	Std. Error	0	18	3	26	1			9	
	Sample Size	1	2	427	2	1,163			22	

[1] Mid-eye to fork of tail length in mm.

APPENDIX B

Catches from Subsistence Fishery, Chitina

Appendix Table B1. Estimated age and sex composition of the combined sockeye salmon catches in the subsistence fishery at Chitina, 1983. Estimates are numbers reported on permits returned to ADF&G prorated for unreturned permits (Roberson 1984). Since fishermen that catch few or no fish tend not to return permits, the estimates are biased upward by some unknown amount.

		Brood Year and Age Group								
		1977		1978		1979		1980		
		1.4	2.3	1.3	2.2	0.3	1.2	0.2	1.1	TOTAL
Catch Dates: 01 Jun - 18 Jun Sample Dates: 04 Jun - 12 Jun Sample Size: 398										
Males	Percent of Sample	0.0	7.8	27.1	0.5	2.0	6.3	0.3	0.0	44.0
	Number in Catch	0	5,226	18,206	337	1,349	4,214	169	0	29,501
Females	Percent of Sample	0.0	9.3	32.4	2.5	4.0	7.8	0.0	0.0	56.0
	Number in Catch	0	6,237	21,746	1,686	2,697	5,226	0	0	37,592
Sexes Combined	Percent of Sample	0.0	17.1	59.5	3.0	6.0	14.1	0.3	0.0	100.0
	Number in Catch	0	11,463	39,952	2,023	4,046	9,440	169	0	67,093
	Standard Error	0	1,266	1,651	574	799	1,170	184	0	
Catch Dates: 19 Jun - 06 Jul Sample Dates: 24 Jun - 28 Jun Sample Size: 363										
Males	Percent of Sample	0.6	3.0	26.7	1.1	1.9	10.2	0.0	0.0	43.5
	Number in Catch	117	643	5,670	233	409	2,163	0	0	9,235
Females	Percent of Sample	0.0	5.5	33.1	4.7	1.9	11.3	0.0	0.0	56.5
	Number in Catch	0	1,169	7,014	994	409	2,396	0	0	11,982
Sexes Combined	Percent of Sample	0.6	8.5	59.8	5.8	3.8	21.5	0.0	0.0	100.0
	Number in Catch	117	1,812	12,684	1,227	818	4,559	0	0	21,217
	Standard Error	86	311	546	260	213	458	0	0	
Catch Dates: 07 Jul - 29 Jul Sample Dates: 15 Jul - 17 Jul Sample Size: 359										
Males	Percent of Sample	0.0	0.0	17.8	0.3	1.7	19.2	0.3	0.3	39.6
	Number in Catch	0	0	2,892	45	271	3,117	45	45	6,415
Females	Percent of Sample	0.6	3.6	29.5	0.8	3.3	22.6	0.0	0.0	60.4
	Number in Catch	90	587	4,790	136	542	3,659	0	0	9,804
Sexes Combined	Percent of Sample	0.6	3.6	47.3	1.1	5.0	41.8	0.3	0.3	100.0
	Number in Catch	90	587	7,682	181	813	6,776	45	45	16,219
	Standard Error	66	160	427	89	187	422	47	47	

-Continued-

Appendix Table B1. Estimated age and sex composition of the combined sockeye salmon catches in the subsistence fishery at Chitina, 1983. Estimates are numbers reported on permits returned to ADF&G prorated for unreturned permits (Roberson 1984). Since fishermen that catch few or no fish tend not to return permits, the estimated are biased upward by some unknown amount (continued).

		Brood Year and Age Group								
		1977		1978		1979		1980		
		1.4	2.3	1.3	2.2	0.3	1.2	0.2	1.1	TOTAL
Catch Dates: 30 Jul - 29 Sep Sample Dates: 12 Aug - 14 Aug Sample Size: 263										
Males	Percent of Sample	0.0	2.3	25.4	0.4	0.4	21.3	0.8	0.0	50.6
	Number in Catch	0	143	1,597	24	24	1,335	48	0	3,171
Females	Percent of Sample	0.0	2.3	25.1	0.8	1.5	19.7	0.0	0.0	49.4
	Number in Catch	0	143	1,573	48	95	1,239	0	0	3,098
Sexes Combined	Percent of Sample	0.0	4.6	50.5	1.2	1.9	41.0	0.8	0.0	100.0
	Number in Catch	0	286	3,170	72	119	2,574	48	0	6,269
	Standard Error	0	81	193	42	53	190	34	0	
All Catches Combined: 01 Jun - 29 Sep All Samples Combined: 04 Jun - 14 Aug Total Sample Size: 1,383										
Males	Percent of Sample	0.1	5.4	25.6	0.6	1.8	9.8	0.2	0.0	43.6
	Number in Catch	117	6,012	28,365	639	2,053	10,829	262	45	48,322
Females	Percent of Sample	0.1	7.4	31.7	2.6	3.4	11.3	0.0	0.0	56.4
	Number in Catch	90	8,136	35,123	2,864	3,743	12,520	0	0	62,476
Sexes Combined	Percent of Sample	0.2	12.8	57.3	3.2	5.2	21.1	0.2	0.0	100.0
	Number in Catch	207	14,148	63,488	3,503	5,796	23,349	262	45	110,798
	Standard Error	109	1,316	1,801	638	849	1,339	193	47	

Appendix Table B2. Estimated mean length[1] by sex and age for sockeye salmon caught with fishwheels and dipnets in the subsistence fishery at Chitina.

		Brood Year and Age Group						
		1977		1978		1979		1980
		1.4	2.3	1.3	2.2	0.3	1.2	0.2
Sample Dates: 04 Jun - 14 Aug								
Males	Mean	582	577	572	527	563	526	532
	Std. Error	0	5	2	30	5	3	21
	Sample Size	2	36	246	5	18	156	4
Females	Mean	537	539	545	493	552	513	
	Std. Error	11	5	2	7	3	2	
	Sample Size	4	522	1,448	23	163	174	

[1] Mid-eye to fork of tail in mm.

APPENDIX C

Escapements to Copper River

Appendix Table C1. Daily escapement estimates of salmon past the Miles Lake sonar, 1983[1].

Date	Escapement		Date	Escapement	
	Daily	Cummulative		Daily	Cummulative
5/23	3,310	3,310	7/01	6,106	398,131
5/24	8,620	11,930	7/02	6,113	404,244
5/25	11,587	23,517	7/03	6,026	410,270
5/26	10,575	34,092	7/04	6,943	417,213
5/27	8,661	42,753	7/05	5,347	422,560
5/28	8,456	51,209	7/06	3,973	426,533
5/29	6,380	57,589	7/07	4,209	430,742
5/30	8,296	65,885	7/08	4,080	434,822
5/31	17,123	83,008	7/09	3,353	438,175
6/01	18,428	101,436	7/10	3,644	441,819
6/02	14,414	115,850	7/11	4,454	446,273
6/03	13,137	128,987	7/12	4,541	450,814
6/04	15,357	144,344	7/13	4,543	455,357
6/05	19,110	163,454	7/14	5,819	461,176
6/06	14,069	177,523	7/15	6,496	467,672
6/07	19,309	196,832	7/16	6,970	474,642
6/08	16,094	212,926	7/17	6,327	480,969
6/09	11,415	224,341	7/18	4,326	485,296
6/10	8,009	232,350	7/19	3,703	488,998
6/11	9,563	241,913	7/20	3,988	492,986
6/12	13,292	255,205	7/21	4,463	497,449
6/13	13,444	268,649	7/22	4,881	502,330
6/14	13,831	282,480	7/23	3,603	505,933
6/15	15,915	298,395	7/24	3,903	509,836
6/16	7,938	306,333	7/25	4,535	514,371
6/17	5,671	312,004	7/26	3,839	518,210
6/18	5,689	317,693	7/27	3,687	521,897
6/19	6,461	324,154	7/28	5,234	527,131
6/20	7,382	331,536	7/29	4,138	531,269
6/21	8,124	339,660	7/30	3,512	534,781
6/22	8,005	347,665	7/31	1,835	536,616
6/23	7,528	355,193	8/01	1,912	538,528
6/24	6,009	361,202	8/02	2,211	540,739
6/25	5,226	366,428	8/03	2,088	542,827
6/26	5,638	372,066	8/04	2,897	545,724
6/27	4,738	376,804			
6/28	4,771	381,575	Total	545,724	
6/29	4,304	385,879			
6/30	6,146	392,025			

[1] Ken Roberson. 1984 Copper River sockeye salmon sonar enumeration studies. Alaska Department of Fish and Game, Prince William Sound Data Report No. 84--. (In Press).

Appendix Table C2. Escapement counts of sockeye and coho salmon through the Long Lake weir, 1983.

Date	Escapements Sockeye	Coho	Date	Escapements Sockeye	Coho
7/31	20		8/29	63	
8/01	107		8/30	1,655	
8/02	300		8/31	259	
8/03	17		9/01	2,239	
8/04	91		9/02	1,591	
8/05	145		9/03	211	
8/06	86		9/04	-[1]	
8/07	12		9/05	200	
8/08	49		9/06	480	
8/09	705		9/07	16	
8/10	0		9/08	250	
8/11	180		9/09	148	
8/12	12		9/10	534	
8/13	84		9/11	306	
8/14	351		9/12	117	3
8/15	622		9/13	153	5
8/16	550		9/14	128	10
8/17	110		9/15	142	5
8/18	757		9/16	825	8
8/19	1,999		9/17	0	0
8/20	189		9/18	34	0
8/21	1,547		9/19	165	11
8/22	202		9/20	176	23
8/23	510		9/21	250	22
8/24	2,292		9/22	256	44
8/25	3,364		9/23	88	11
8/26	363				
8/27	2,164		Totals	28,133	142
8/28	1,019				

[1] Weir closed.

Appendix Table C3. Estimated age and sex composition of the sockeye salmon escapements to the Upper Copper River, 1983[1].

		Brood Year and Age Group											
		1977			1978			1979			1980		
		1.4	2.3	3.2	0.4	1.3	2.2	0.3	1.2	2.1	0.2	1.1	TOTAL
Stratum Dates : 23 May - 05 Jun Sample Size : 398													
Males	Percent	0.0	7.8	0.0	0.0	27.1	0.5	2.0	6.3	0.0	0.3	0.0	44.0
	Escapement	0	12,750	0	0	44,296	817	3,269	10,298	0	490	0	71,920
Females	Percent	0.0	9.3	0.0	0.0	32.4	2.5	4.0	7.8	0.0	0.0	0.0	56.0
	Escapement	0	15,201	0	0	52,959	4,087	6,538	12,749	0	0	0	91,534
Sexes	Percent	0.0	17.1	0.0	0.0	59.5	3.0	6.0	14.1	0.0	0.3	0.0	100.0
Combined	Escapement	0	27,951	0	0	97,255	4,904	9,807	23,047	0	490	0	163,454
	Standard Error	0	3,085	0	0	4,022	1,398	1,946	2,851	0	448	0	
Stratum Dates : 06 Jun - 21 Jun Sample Size : 363													
Males	Percent	0.6	3.0	0.0	0.0	26.7	1.1	1.9	10.2	0.0	0.0	0.0	43.5
	Escapement	1,057	5,286	0	0	47,048	1,938	3,348	17,973	0	0	0	76,650
Females	Percent	0.0	5.5	0.0	0.0	33.1	4.7	1.9	11.3	0.0	0.0	0.0	56.5
	Escapement	0	9,691	0	0	58,324	8,282	3,348	19,911	0	0	0	99,556
Sexes	Percent	0.6	8.5	0.0	0.0	59.8	5.8	3.8	21.5	0.0	0.0	0.0	100.0
Combined	Escapement	1,057	14,977	0	0	105,372	10,220	6,696	37,884	0	0	0	176,206
	Standard Error	714	2,579	0	0	4,535	2,162	1,768	3,800	0	0	0	
Stratum Dates : 22 Jun - 11 Jul Sample Size : 359													
Males	Percent	0.0	0.0	0.0	0.0	17.8	0.3	1.7	19.2	0.0	0.3	0.3	39.6
	Escapement	0	0	0	0	18,977	320	1,812	20,470	0	320	320	42,219
Females	Percent	0.6	3.6	0.0	0.0	29.5	0.8	3.3	22.6	0.0	0.0	0.0	60.4
	Escapement	640	3,838	0	0	31,451	853	3,518	24,094	0	0	0	64,394
Sexes	Percent	0.6	3.6	0.0	0.0	47.3	1.1	5.0	41.8	0.0	0.3	0.3	100.0
Combined	Escapement	640	3,838	0	0	50,428	1,173	5,330	44,564	0	320	320	106,613
	Standard Error	435	1,048	0	0	2,809	587	1,226	2,775	0	308	308	

-Continued-

Appendix Table C3. Estimated age and sex composition of the sockeye salmon escapements to the Upper Copper River, 1983[1] (continued).

		Brood Year and Age Group											
		1977			1978			1979			1980		
		1.4	2.3	3.2	0.4	1.3	2.2	0.3	1.2	2.1	0.2	1.1	TOTAL
Stratum Dates : 12 Jul - 04 Aug Sample Size : 263													
Males	Percent	0.0	2.2	0.0	0.0	24.1	1.4	0.3	18.3	0.0	0.6	0.0	46.9
	Escapement	0	2,159	0	0	23,967	1,465	285	18,165	0	571	0	46,612
Females	Percent	0.0	2.2	0.1	0.0	23.1	3.1	1.1	23.4	0.1	0.0	0.0	53.1
	Escapement	0	2,254	47	0	22,999	3,073	1,070	23,349	47	0	0	52,839
Sexes	Percent	0.0	4.4	0.1	0.0	47.2	4.5	1.4	41.7	0.1	0.6	0.0	100.0
Combined	Escapement	0	4,413	47	0	46,966	4,538	1,355	41,514	47	571	0	99,451
	Standard Error	0	949	52	0	2,266	617	600	2,237	52	392	0	
All Dates : 01 Jun - 29 Sep Sample Size : 1,383													
Males	Percent	0.2	3.7	0.0	0.0	24.6	0.8	1.6	12.2	0.0	0.3	0.1	43.5
	Escapement	1,057	20,195	0	0	134,288	4,540	8,714	69,906	0	1,381	320	237,401
Females	Percent	0.1	5.7	0.0	0.0	30.4	3.0	2.6	14.7	0.0	0.0	0.0	56.5
	Escapement	640	30,984	47	0	165,733	16,295	14,474	80,103	47	0	0	308,323
Sexes	Percent	0.3	9.4	0.0	0.0	55.0	3.8	4.2	26.9	0.0	0.3	0.1	100.0
Combined	Escapement	1,697	51,179	47	0	300,021	20,835	23,188	147,009	47	1,381	320	545,724
	Standard Error	836	4,262	52	0	7,055	2,711	2,963	5,912	52	670	308	

[1] This is the estimated escapement past the sonar project below Miles Lake and included fish which are subsequently caught in the Upper Copper River subsistence fishery (Appendix Table B1). Age composition data from similar strata in the subsistence catches were multiplied by escapement counts at Miles Lake lagged according to the estimated mean travel time from Miles Lake to Chitina (Merritt and Roberson 1983) in the time frame encompassed by each strata. Because Merritt and Roberson (1983) have shown that returns to Long Lake travel past Miles Lake after 10 July, and because the subsistence fishery does not intercept these fish (Roberson, personal communication), the escapement by age for this strata was calculated from subsistence fishery age composition data (SA), lagged sonar counts (SC), Long Lake escapement (LE), and Long Lake escapement age by age (LEA) (Appendix Table C4) as follows:

Strata Escapement by Sex and Age = (SC - LE) + (LEA).

Appendix Table C4. Estimated age and sex composition of the sockeye salmon escapement through the weir below Long Lake, 1983.

		Brood Year and Age Group						
		1977		1978		1979		
		2.3	3.2	1.3	2.2	1.2	2.1	TOTAL
Escapement Dates: 31 Jul - 23 Sep Samples Dates: 04 Sep - 05 Sep Sample Size: 596								
Males	Percent	1.8	0.0	20.8	4.2	10.6	0.0	37.4
	Number in Catch	519	0	5,853	1,180	2,974	0	10,526
Females	Percent	2.2	0.2	18.1	8.9	33.0	0.2	62.6
	Number in Catch	614	47	5,098	2,502	9,299	47	17,607
Sexes	Percent	4.0	0.2	38.9	13.1	43.6	0.2	100.0
Combined	Number in Catch	1,133	47	10,951	3,682	12,273	47	28,133
	Standard Error	226	51	562	389	571	51	

Appendix Table C5. Estimated mean length[1] by sex and age for sockeye salmon sampled from escapements to tributary systems of the Upper Copper River, 1983.

		Brood Year and Age Group							
		1977		1978		1979		1980	
		1.4	2.3	1.3	2.2	0.3	1.2	0.2	1.1
Chitina Subsistence Samples									
Males	Mean	582	574	570	514	565	525	532	296
	Std. Error	0	4	2	21	6	3	21	*
	Sample Size	2	48	336	8	22	187	4	1
Females	Mean	537	543	544	495	551	509		
	Std. Error	11	4	2	6	3	2		
	Sample Size	2	76	421	32	39	205		
Long Lake Weir									
Males	Mean		592	587	535		536		
	Std. Error		6	2	3		3		
	Sample Size		11	124	25		63		
Females	Mean		584	573	523	583	523		
	Std. Error		3	1	3	*	1		
	Sample Size		13	108	53	1	195		

[1] Mid-eye to fork of tail.

APPENDIX D

Escapements to Coastal Streams near Copper River

Appendix Table D1. Escapement counts of sockeye salmon through the weir below Tokun Lake, 1983.

Date	Escapement	Date	Escapement
		7/11	23
.		7/12	10
.		7/13	73
6/ 9	103	7/14	77
6/10	124	7/15	2
6/11	30	7/16	0
6/12	128	7/17	12
6/13	88	7/18	21
6/14	59	7/19	113
6/15	96	7/20	112
6/16	176	7/21	73
6/17	86	7/22	190
6/18	79	7/23	121
6/19	27	7/24	238
6/20	0	7/25	173
6/21	0	7/26	229
6/22	0	7/27	80
6/23	7	7/28	19
6/24	28	7/29	47
6/25	34	7/30	115
6/26	74	7/31	10
6/27	65	8/ 1	32
6/28	84	8/ 2	39
6/29	84	8/ 3	39
6/30	433	8/ 4	29
7/ 1	799	8/ 5	28
7/ 2	1,213	8/ 6	52
7/ 3	93	8/ 7	44
7/ 4	347	8/ 8	24
7/ 5	306	8/ 9	11
7/ 6	656	8/10	10
7/ 7	176	8/11	41
7/ 8	50		
7/ 9	7	Total	7,570
7/10	31		

Appendix Table D2. Estimated escapements of sockeye and coho salmon in the Copper River, Copper River Delta, and Bering River drainages, 1983[1].

System/Drainage	Site	Sockeye	Coho
Upper Copper River	Miles Lake[2]		
Eyak River	Eyak Lake	8,900	14,600
	Hatchery Creek	2,000	1,000
	Power Creek	200	1,000
Ibek Creek	Ibek Creek	NS	4,200
19 Mile Creek	19 Mile Creek	NS	125
Alganik Slough	McKinley Lake	12,000	5,000
	Salmon Creek	8,500	6,500
27 Mile Slough	27 Mile Slough	8,000	
Martin River Slough	Martin River Slough	11,000	9,700
Martin River	Ragged Point River		350
	Ragged Point Lake Outlet		200
	Ragged Point Lake	8,500	
	Martin River	5,500	3,100
	Martin Lake Outlet	1,500	5,500
	Martin Lake	9,000	600
	Martin Lake Feeders	8,000	150
	Pothole Lake Outlet	4,000	650
	Pothole Lake	150	50
	Little Martin Outlet	0	1,000
	Little Martin Lake	6,000	125
	Tokun River		350
	Tokun Springs		450
	Tokun Lake Outlet		200
	Tokun Lake[3]	7,645	
Pleasant Creek			
Goat Mountain Creek		100	NS
39 Mile Creek		13,000	6,500
Bering River	Bering Lake Outlet		
	Bering Lake	26,500	2,500
	Dick Creek	4,000	3,000
	Shepard Creek	9,500	
	Carbon Creek	NS	
	Maxwell Creek	NS	
	Clear Creek	3,500	
	Trout Creek	3,500	
	Kustaka Lake	1,200	
	Shokum Creek	1,000	
Katella River	Katella River		4,800
Nichawak River	Nichawak River		800
Gandil River	Gandil River		NS
Campbell River	Campbell River		400
Controller Bay Stream	Controller Bay Stream		4,650
Total		163,195	77,500

[1] Estimates derived from aerial survey data unless noted otherwise.

[2] Sonar data.

[3] Weir and aerial survey data.

Appendix Table D3. Estimated age and sex composition of the sockeye salmon escapement to Eyak Lake, 1983[1].

South Beaches

		Brood Year and Age Group									
		1977		1978			1979			1980		
		1.4	2.3	0.4	1.3	2.2	0.3	1.2	2.1	0.2	1.1	Total
Sample Dates: 15 Jul - 18 Jul Sample Size : 607												
Males	Percent	0.2	0.0	0.0	30.8	0.3	2.3	18.6	0.0	1.2	1.5	59.9
	Escapement	15	0	0	2,742	29	205	1,657	0	103	132	4,883
Females	Percent	0.2	0.0	0.0	40.4	0.0	2.6	1.9	0.0	0.0	0.0	45.1
	Escapement	15	0	0	3,591	0	235	176	0	0	0	4,017
Sexes Combined	Percent	0.4	0.0	0.0	71.2	0.3	4.9	20.5	0.0	1.2	1.5	100.0
	Escapement	30	0	0	6,333	29	440	1,833	0	103	132	8,900
	Standard Error	23	0	0	164	20	78	146	0	39	44	

Eyak Lake - Hatchery Creek

		Brood Year and Age Group									
		1977		1978			1979			1980		
		1.4	2.3	0.4	1.3	2.2	0.3	1.2	2.1	0.2	1.1	Total
Sample Dates: 08 Jul - 24 Jul Sample Size : 331												
Males	Percent	0.1	0.1	0.0	5.5	0.4	0.1	76.3	0.0	1.4	0.9	84.8
	Escapement	3	3	0	120	10	3	1,677	0	31	19	1,866
Females	Percent	0.0	0.0	0.0	13.6	0.3	0.3	1.0	0.0	0.0	0.0	15.2
	Escapement	0	0	0	300	6	6	22	0	0	0	334
Sexes Combined	Percent	0.1	0.1	0.0	19.1	0.7	0.4	77.3	0.0	1.4	0.9	100.0
	Escapement	3	3	0	420	16	9	1,699	0	31	19	2,200
	Standard Error	3	6	0	33	7	5	35	0	9	8	

Eyak Lake - South Beaches and Hatchery Creek Combined

		Brood Year and Age Group									
		1977		1978			1979			1980		
		1.4	2.3	0.4	1.3	2.2	0.3	1.2	2.1	0.2	1.1	Total
Sample Dates: 08 Jul - 24 Jul Sample Size : 1,383												
Males	Percent	0.2	0.0	0.0	25.8	0.3	1.9	30.0	0.0	1.2	1.4	60.8
	Escapement	18	3	0	2,862	39	208	3,334	0	134	151	6,749
Females	Percent	0.1	0.0	0.0	35.0	0.1	2.2	1.8	0.0	0.0	0.0	39.2
	Escapement	15	0	0	3,891	6	241	198	0	0	0	4,351
Sexes Combined	Percent	0.3	0.0	0.0	60.8	0.4	4.1	31.8	0.0	1.2	1.4	100.0
	Escapement	33	3	0	6,753	45	449	3,532	0	134	151	11,100
	Standard Error	23	3	0	167	21	78	150	0	40	45	

[1] The estimate of escapement by age and sex for Eyak Lake is the sum of the estimates for the Hatchery Creek spawning area and the beach spawning sites in the lake. Escapement estimates to both areas are from peak aerial survey data. The age composition of Hatchery Creek are from beach seined fish and from carcasses on the spawning grounds. The age composition of the beach spawners is from samples taken from fish beach seined on the large spawning areas on the south side of the lake.

Appendix Table D4. Estimated age and sex composition of the sockeye salmon escapement to McKinley Lake, 1983[1].

		Brood Year and Age Group										
		1977		1978			1979			1980		
		1.4	2.3	0.4	1.3	2.2	0.3	1.2	2.1	0.2	1.1	TOTAL
Sample Date : 16 Jul Sample Size : 663												
Males	Percent	0.0	1.2	0.2	18.6	0.2	1.8	29.2	0.0	0.9	0.2	52.3
	Escapement	0	247	31	3,834	31	371	5,998	0	186	31	10,729
Females	Percent	0.0	2.1	0.0	41.8	0.0	2.1	1.7	0.0	0.0	0.0	47.7
	Escapement	0	433	0	8,565	0	433	340	0	0	0	9,771
Sexes Combined	Percent	0.0	3.3	0.2	60.4	0.2	3.9	30.9	0.0	0.9	0.2	100.0
	Escapement	0	680	31	12,399	31	804	6,338	0	186	31	20,500
	Standard Error	0	142	36	389	36	154	368	0	75	36	

[1] Based on combined peak aerial survey estimates of escapements to McKinley Lake and Salmon Creek and the age composition of fish beach seined at the mouth of Salmon Creek on the southeast end of the lake.

Appendix Table D5. Estimated age and sex composition of the sockeye salmon escapement to 27-Mile Slough, 1983.

		Brood Year and Age Group										
		1977		1978			1979			1980		
		1.4	2.3	0.4	1.3	2.2	0.3	1.2	2.1	0.2	1.1	TOTAL
Sample Dates : 19 Jun - 20 Jun Sample Size : 710												
Males	Percent	0.1	0.1	0.0	8.6	0.6	0.9	40.4	0.0	3.7	0.0	54.4
	Escapement	11	11	0	687	45	68	3,234	0	293	0	4,349
Females	Percent	0.1	0.3	0.0	38.2	0.0	4.1	2.8	0.0	0.1	0.0	45.6
	Escapement	11	23	0	3,054	0	327	225	0	11	0	3,651
Sexes Combined	Percent	0.2	0.4	0.0	46.8	0.6	5.0	43.2	0.0	3.8	0.0	100.0
	Escapement	22	34	0	3,741	45	395	3,459	0	304	0	8,000
	Standard Error	13	19	0	150	23	65	149	0	57	0	

Appendix Table D6. Estimated age and sex composition of the escapement of sockeye salmon to Martin River Slough, 1983.

		Brood Year and Age Group										
		1977		1978			1979			1980		
		1.4	2.3	0.4	1.3	2.2	0.3	1.2	2.1	0.2	1.1	TOTAL
Sample Date : 28 Jun Sample Size : 637												
Males	Percent	0.0	0.2	0.0	13.8	0.6	7.2	25.6	0.0	9.7	0.0	57.1
	Escapement	0	17	0	1,520	69	794	2,815	0	1,071	0	6,286
Females	Percent	0.0	0.5	0.0	22.8	0.5	16.6	2.3	0.0	0.2	0.0	42.9
	Escapement	0	52	0	2,504	52	1,830	259	0	17	0	4,714
Sexes Combined	Percent	0.0	0.7	0.0	36.6	1.1	23.8	27.9	0.0	9.9	0.0	100.0
	Escapement	0	69	0	4,024	121	2,624	3,074	0	1,088	0	11,000
	Standard Error	0	36	0	210	45	186	195	0	130	0	

Appendix Table D7. Estimated age and sex composition of the escapement of sockeye salmon to 39-Mile Creek, 1983.

		Brood Year and Age Group										
		1977		1978			1979			1980		
		1.4	2.3	0.4	1.3	2.2	0.3	1.2	2.1	0.2	1.1	TOTAL
Sample Date : 22 Jul Sample Size : 604												
Males	Percent	0.0	0.2	0.0	13.2	2.2	0.5	44.5	0.0	0.2	2.5	63.3
	Escapement	0	22	0	1,721	279	65	5,790	0	22	323	8,222
Females	Percent	0.0	0.5	0.0	19.0	0.8	1.8	14.6	0.0	0.0	0.0	36.7
	Escapement	0	65	0	2,475	108	236	1,894	0	0	0	4,778
Sexes Combined	Percent	0.0	0.7	0.0	32.2	3.0	2.3	59.1	0.0	0.2	2.5	100.0
	Escapement	0	87	0	4,196	387	301	7,684	0	22	323	13,000
	Standard Error	0	44	0	247	90	79	260	0	24	83	

Appendix Table D8. Estimated age and sex composition of the escapement of sockeye salmon to Ragged Point Lake, 1983.

		Brood Year and Age Group										
		1977		1978			1979			1980		
		1.4	2.3	0.4	1.3	2.2	0.3	1.2	2.1	0.2	1.1	TOTAL
Sample Dates : 10 Aug - 11 Aug Sample Size : 329												
Males	Percent	0.0	1.2	0.0	21.0	1.8	7.9	34.1	0.0	0.6	0.3	66.9
	Escapement	0	103	0	1,782	155	672	2,894	0	52	26	5,684
Females	Percent	0.0	1.2	0.0	11.8	1.8	5.5	11.9	0.0	0.6	0.3	33.1
	Escapement	0	103	0	1,007	155	465	1,008	0	52	26	2,816
Sexes Combined	Percent	0.0	2.4	0.0	32.8	3.6	13.4	46.0	0.0	1.2	0.6	100.0
	Escapement	0	206	0	2,789	310	1,137	3,902	0	104	52	8,500
	Standard Error	0	72	0	220	87	160	234	0	51	36	

Appendix Table D9. Estimated age and sex composition of the sockeye salmon escapement to Martin Lake, 1983[1].

Martin Lake - West Side Beaches

		Brood Year and Age Group									
		1977		1978			1979			1980		
		1.4	2.3	0.4	1.3	2.2	0.3	1.2	2.1	0.2	1.1	Total
Sample Dates: 16 Jul Sample Size : 525												
Males	Percent	0.0	0.0	0.0	1.9	0.2	0.2	51.8	0.0	0.6	0.7	55.4
	Escapement	0	0	0	304	32	32	8,288	0	96	112	8,864
Females	Percent	0.0	0.0	0.0	31.2	0.0	0.4	13.0	0.0	0.0	0.0	44.6
	Escapement	0	0	0	4,992	0	64	2,080	0	0	0	7,136
Sexes Combined	Percent	0.0	0.0	0.0	33.1	0.2	0.6	49.5	0.0	0.6	0.7	100.0
	Escapement	0	0	0	5,296	32	96	10,368	0	96	112	16,000
	Standard Error	0	0	0	329	31	54	146	0	39	44	

Martin Lake Feeder Streams

		Brood Year and Age Group									
		1977		1978			1979			1980		
		1.4	2.3	0.4	1.3	2.2	0.3	1.2	2.1	0.2	1.1	Total
Sample Dates: 31 Jul Sample Size : 331												
Males	Percent	0.0	0.0	0.0	21.8	0.3	1.5	10.9	0.0	1.8	1.8	38.1
	Escapement	0	0	0	1,744	24	120	872	0	144	144	3,048
Females	Percent	0.0	0.0	0.0	51.1	0.0	3.0	7.8	0.0	0.0	0.0	61.9
	Escapement	0	0	0	4,088	0	240	624	0	0	0	4,952
Sexes Combined	Percent	0.0	0.0	0.0	72.9	0.3	4.5	18.7	0.0	1.8	1.8	100.0
	Escapement	0	0	0	5,832	24	360	1,496	0	144	144	8,000
	Standard Error	0	0	0	67	24	91	171	0	58	50	

Martin Lake West Side Beaches and Feeder Streams Combined

		Brood Year and Age Group									
		1977		1978			1979			1980		
		1.4	2.3	0.4	1.3	2.2	0.3	1.2	2.1	0.2	1.1	Total
Sample Dates: 16 Jul + 31 Jul Sample Size : 856												
Males	Percent	0.0	0.0	0.0	8.5	0.2	0.6	38.2	0.0	1.0	1.1	49.6
	Escapement	0	0	0	2,048	56	152	9,160	0	240	256	11,912
Females	Percent	0.0	0.0	0.0	37.8	0.0	1.3	11.3	0.0	0.0	0.0	50.2
	Escapement	0	0	0	9,080	0	304	2,704	0	0	0	12,088
Sexes Combined	Percent	0.0	0.0	0.0	46.3	0.2	1.9	49.5	0.0	1.0	1.1	100.0
	Escapement	0	0	0	11,128	56	456	11,864	0	240	256	24,000
	Standard Error[2]	0	0	0	382	39	91	375	0	79	82	

[1] The estimate of escapement by age and sex for Martin Lake is the sum of the estimates for Martin Lake, and feeder streams at the south end of the lake. Escapement estimates to both areas are peak aerial survey data. The peak survey estimate for the lake includes fish in the outlet stream suspected of moving into the lake at a later date. The peak survey estimate for the feeder streams includes only those fish actually seen in the streams. The age composition of fish in the lake was estimated from fish beach seined in a small inlet on the west side of the lake. The age composition of the escapement in the streams is based on samples taken from carcasses in the streams.

[2] The standard error for the escapement estimate for each age group to the combined areas is based on the sum of the variances around the separate estimates for each area.

Appendix Table D10. Estimated age and sex composition of the sockeye salmon escapement to Little Martin Lake, 1983.

		Brood Year and Age Group										
		1977		1978			1979			1980		
		1.4	2.3	0.4	1.3	2.2	0.3	1.2	2.1	0.2	1.1	TOTAL
Sample Dates : 05 Aug - 06 Aug Sample Size : 688												
Males	Percent	0.0	0.0	0.0	2.9	0.4	0.0	53.2	0.0	0.9	23.7	81.1
	Escapement	0	0	0	174	26	0	3,192	0	52	1,422	4,866
Females	Percent	0.0	0.0	0.0	6.5	0.0	0.2	11.8	0.0	0.4	0.0	18.9
	Escapement	0	0	0	393	0	9	706	0	26	0	1,134
Sexes	Percent	0.0	0.0	0.0	9.4	0.4	0.2	65.0	0.0	1.3	23.7	100.0
Combined	Escapement	0	0	0	567	26	9	3,898	0	78	1,422	6,000
	Standard Error	0	0	0	67	14	10	109	0	26	97	

Appendix Table D11. Estimated age and sex composition of the sockeye salmon escapement to Tokun Lake, 1983.

		Brood Year and Age Group										
		1977		1978			1979			1980		
		1.4	2.3	0.4	1.3	2.2	0.3	1.2	2.1	0.2	1.1	TOTAL
Sample Dates : 12 Jun - 20 Jul Sample Size : 700												
Males	Percent	0.0	0.0	0.0	42.8	0.0	0.2	3.1	0.0	0.0	0.0	46.1
	Escapement	0	0	0	3,275	0	12	237	0	0	0	3,524
Females	Percent	0.0	0.0	0.0	41.3	0.2	0.2	12.2	0.0	0.0	0.0	53.9
	Escapement	0	0	0	3,163	12	12	934	0	0	0	4,121
Sexes Combined	Percent	0.0	0.0	0.0	84.1	0.2	0.4	15.3	0.0	0.0	0.0	100.0
	Escapement	0	0	0	6,438	12	24	1,171	0	0	0	7,645
	Standard Error	0	0	0	113	14	19	111	0	0	0	

Appendix Table D12. Estimated age and sex composition of the sockeye salmon escapement to Bering Lake, 1983[1].

		Brood Year and Age Group										
		1977		1978			1979			1980		
		1.4	2.3	0.4	1.3	2.2	0.3	1.2	2.1	0.2	1.1	TOTAL
Sample Dates : 04 Jul - 05 Jul Sample Size : 695												
Males	Percent	0.0	0.0	0.0	33.8	0.0	4.0	14.0	0.0	0.6	0.3	52.7
	Escapement	0	0	0	10,313	0	1,229	4,257	0	175	88	16,062
Females	Percent	0.0	0.0	0.0	34.5	0.0	5.2	7.2	0.0	0.4	0.0	47.3
	Escapement	0	0	0	10,532	0	1,580	2,194	0	132	0	14,438
Sexes	Percent	0.0	0.0	0.0	68.3	0.0	9.2	21.2	0.0	1.0	0.3	100.0
Combined	Escapement	0	0	0	20,845	0	2,809	6,451	0	307	88	30,500
	Standard Error	0	0	0	538	0	334	473	0	115	63	0

[1] Based on combined peak aerial survey estimates at Bering Lake and Dick Creek.

Appendix Table D13. Estimated age and sex composition of the sockeye salmon escapement to Shepherd Creek, 1983[1].

		Brood Year and Age Group										
		1977		1978			1979			1980		
		1.4	2.3	0.4	1.3	2.2	0.3	1.2	2.1	0.2	1.1	TOTAL
Sample Dates : 26 Jul + 29 Jul Sample Size : 559												
Males	Percent	0.0	0.2	0.0	29.9	0.0	3.2	12.3	0.2	0.7	0.2	46.7
	Escapement	0	17	0	2,838	0	306	1,173	17	68	17	4,436
Females	Percent	0.0	0.7	0.0	41.7	0.0	7.5	3.4	0.0	0.0	0.0	53.3
	Escapement	0	68	0	3,959	0	714	323	0	0	0	5,064
Sexes	Percent	0.0	0.9	0.0	71.6	0.0	10.7	15.7	0.2	0.7	0.2	100.0
Combined	Escapement	0	85	0	6,797	0	1,020	1,496	17	68	17	9,500
	Standard Error	0	38	0	181	0	124	146	18	33	18	0

[1] The age composition was estimated from fish beach seined in the lagoon at the lower end of the creek approximately one mile upstream of the confluence with the Bering River.

Appendix Table D14. Estimated age and sex composition of the sockeye salmon escapement to Kushtaka Lake, 1983[1].

		Brood Year and Age Group										
		1977		1978			1979			1980		
		1.4	2.3	0.4	1.3	2.2	0.3	1.2	2.1	0.2	1.1	TOTAL
Sample Dates : 12 Aug - 13 Aug Sample Size : 683												
Males	Percent	0.0	22.4	0.0	11.1	6.7	0.0	15.2	0.0	0.0	0.2	55.6
	Escapement	0	493	0	245	148	0	335	0	0	3	1,224
Females	Percent	0.0	20.9	0.0	10.6	3.5	0.0	9.4	0.0	0.0	0.0	44.4
	Escapement	0	461	0	232	77	0	206	0	0	0	976
Sexes Combined	Percent	0.0	43.3	0.0	21.7	10.2	0.0	24.6	0.0	0.0	0.2	100.0
	Escapement	0	954	0	477	225	0	541	0	0	3	2,200
	Standard Error	0	42	0	35	25	0	36	0	0	4	

[1] Based on combined peak aerial survey estimates of escapements to Kushtaka Lake and Shockum Creek.

Appendix Table D15. Estimated mean length[1] by sex and age for sockeye salmon sampled from escapements to tributary systems of the Bering River, 1983.

		Brood Year and Age Group							
		1977		1978		1979		1980	
		1.4	2.3	1.3	2.2	0.3	1.2	0.2	1.1
Bering Lake									
Males	Mean			583		588	452	437	363
	Std. Error			2		3	3	9	49
	Sample Size			235		28	97	4	2
Females	Mean			566		564	511	514	
	Std. Error			1		4	4	6	
	Sample Size			240		36	50	3	
Shepherd Creek									
Males	Mean		615	583		576	440	428	318
	Std. Error		*	3		8	3	8	*
	Sample Size		1	167		18	69	4	1
Females	Mean		558	562		555	498		
	Std. Error		11	1		3	6		
	Sample Size		4	233		42	18		
Kushtaka Lake									
Males	Mean		526	523	464		445		279
	Std. Error		2	3	4		2		*
	Sample Size		153	76	46		104		1
Females	Mean		524	523	470		457		
	Std. Error		2	3	6		2		
	Sample Size		143	72	24		64		

[1] Mid-eye to fork of tail in mm.

Appendix Table D16. Estimated mean length[1] by sex and age for sockeye salmon sampled from escapements to watersheds of the Copper River Delta, 1983.

		Brood Year and Age Group							
		1977		1978		1979		1980	
		1.4	2.3	1.3	2.2	0.3	1.2	0.2	1.1
Eyak Lake, South Beaches									
Males	Mean	540		542	499	561	459	437	339
	Std. Error	*		3	1	12	2	6	14
	Sample Size	1		187	2	14	113	7	9
Females	Mean	542		553		550	483		
	Std. Error	*		1		6	7		
	Sample Size	1		245		16	12		
Eyak Lake, Hatchery Creek									
Males	Mean	614	617	561	445	604	436	436	310
	Std. Error	*	*	7	3	*	1	10	6
	Sample Size	1	1	36	3	1	459	9	6
Females	Mean			564	455	543	493		
	Std. Error			3	14	4	18		
	Sample Size			78	2	2	7		
McKinley Lake									
Males	Mean		613	607	490	568	452	458	310
	Std. Error		8	3	*	22	2	15	*
	Sample Size		8	122	1	12	193	6	1
Females	Mean		593	583		580	506		
	Std. Error		4	1		6	5		
	Sample Size		13	275		12	11		
Twenty Seven Mile Slough									
Males	Mean	635		569	456	505	443	442	
	Std. Error	*		6	6	28	1	5	
	Sample Size	1		61	4	6	287	26	
Females	Mean	601	549	573		564	494		
	Std. Error	*	21	1		3	10		
	Sample Size	1	2	271		29	20		

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Appendix Table D16. Estimated mean length[1] by sex and age for sockeye salmon sampled from escapements to watersheds of the Copper River Delta, 1983 (continued).

		Brood Year and Age Group							
		1977		1978		1979		1980	
		1.4	2.3	1.3	2.2	0.3	1.2	0.2	1.1
Martin River Slough									
Males	Mean	628	576	456	581	438	428		
	Std. Error	*	4	20	6	1	3		
	Sample Size	1	87	4	46	163	62		
Females	Mean	568	564	493	560	487	453		
	Std. Error	6	2	13	2	10	*		
	Sample Size	3	145	3	106	15	1		
Thirty Nine Mile Creek									
Males	Mean	610	587	450	565	456	438	322	
	Std. Error	*	5	4	21	1	*	4	
	Sample Size	1	80	13	3	269	1	15	
Females	Mean	555	574	483	572	502			
	Std. Error	1	2	18	7	3			
	Sample Size	3	115	5	11	88			
Ragged Point Lake									
Males	Mean	535	564	464	585	448	411	384	
	Std. Error	4	4	15	4	2	1	*	
	Sample Size	4	69	6	26	112	2	1	
Females	Mean	565	563	497	565	489	452	305	
	Std. Error	4	4	6	6	5	31	*	
	Sample Size	4	39	6	18	39	2	1	
Martin Lake, Westside Beaches									
Males	Mean		533	393	585	443	423	309	
	Std. Error		10	*	*	1	14	8	
	Sample Size		10	1	1	272	3	4	
Females	Mean		552		534	484			
	Std. Error		2		8	2			
	Sample Size		164		2	68			

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Appendix Table D16. Estimated mean length[1] by sex and age for sockeye salmon sampled from escapements to watersheds of the Copper River Delta, 1983 (continued).

		Brood Year and Age Group					
		1977		1978		1979		1980	
		1.4	2.3	1.3	2.2	0.3	1.2	0.2	1.1
Little Martin Lake									
Males	Mean			537	399		438	429	316
	Std. Error			13	51		1	5	2
	Sample Size			20	3		366	6	163
Females	Mean			550		545	495	472	
	Std. Error			2		*	3	15	
	Sample Size			45		1	81	3	
Tokun Lake Weir									
Males	Mean			605		600	528		
	Std. Error			1		*	10		
	Sample Size			263		1	19		
Females	Mean			573	442	581	501		
	Std. Error			2	*	*	4		
	Sample Size			254	1	1	75		

[1] Mid-eye to fork of tail in mm.

APPENDIX E

Catches from Prince William Sound (Districts 221-228)

Appendix Table E1. Sockeye and chum salmon commercial catches and effort in Prince William Sound gillnet fisheries, 1983.

Stat Week	Period Dates	Time (Hrs)	Unakwik (222-50) Effort (Boats)	Unakwik (222-50) Sockeye	Unakwik (222-50) Chum	Coghill (223) Effort (Boats)	Coghill (223) Sockeye	Coghill (223) Chum	Eshamy (225) Effort (Boats)	Eshamy (225) Sockeye	Eshamy (225) Chum
26	6/20-6/23	87	28	7,476	5	303	11,841	8,551	1	1	1
27	6/28-6/30	48	37	3,775	23	259	14,455	8,841	1	1	1
28	7/07-7/08	39	21	1,784	104	146	4,908	11,209	1	1	1
29	7/10-7/16	0	1	1	1	1	1	1	1	1	1
30	7/18-7/22	111	15	240	1,194	188	4,671	107,317	1	1	1
31	7/25-7/29	111	2		97	136	1,590	78,958	37	377	2,988
32	8/01-8/05	111[2]				112	482	18,522	31	391	2,266
33	8/08-8/12	111[2]				17	39	1,037	32	319	509
34	8/13-8/20	168							21	648	246
35	8/21-8/28	168							9	317	174
TOTAL				13,275	1,423		37,986	234,555		2,052	6,183

[1] Closed.
[2] Eshamy fishery open 168 hours.

Appendix Table E2. Sockeye and chum salmon commercial catches and effort in Prince William Sound purse seine fisheries, 1983[1].

Stat Week	Period Dates	Time (Hrs)	Eastern (221)		Northern (222)		Coghill (223)		Northwestern (224)		Southwestern (226)		Montague (227)		Southeastern (228)	
			Sockeye	Chum	Sockeye	Chum	Sockeye	Chum	Sockeye	Chum	Sockeye	Chum	Sockeye	Chum	Sockeye	Chum
28	7/07-7/08	39			172	2,591	81	49			2	2	2	2		
29	7/11-7/15	111			384	13,095	2	2	2	2	2	2	2	2	1	74
30	7/18-7/22	111	1,528	88,646	1,327	101,718	153	8,280	2	2	2	2	2	2	1,910	17,652
31	7/25-7/29	111	404	38,777	526	35,424	16	318	896	111,974	3,943	26,895	78	91	538	4,291
32	8/01-8/05	111	879	80,699	102	20,244			610	17,645	5,612	12,368	22		472	2,602
33	8/08-8/12	111	159	93,047	30	4,536			465	6,219	7,701	12,677			91	1,411
34	8/15-8/19	111	385	89,047	2	2	2	2			7,708	6,618			10	910
35	8/22-8/26	111	2	2	2	2	2	2			2,586	554			3	5
TOTAL			3,355	390,216	2,541	177,606	250	8,647	1,971	135,838	27,550	59,112	100	91	3,025	26,945

[1] Number of boats by district not available.

[2] Closed.

Appendix Table E3. Estimated age and sex composition of sockeye salmon caught in the Coghill District (223) drift gillnet fishery, 1983.

		Brood Year and Age Group							
		1977			1978		1979		
		1.4	2.3	3.2	1.3	2.2	0.3	1.2	TOTAL
Week(s) 26: 19 Jun - 25 Jun Sample Dates: 20 Jun - 23 Jun Sample Size : 613									
Males	Percent of Sample	0.5	2.4	0.0	25.4	1.8	0.2	16.0	46.3
	Number in Catch	58	290	0	3,013	212	19	1,893	5,485
Females	Percent of Sample	0.7	2.9	0.0	42.1	2.0	0.0	6.0	53.7
	Number in Catch	77	348	0	4,984	232	0	715	6,356
Sexes	Percent of Sample	1.2	5.3	0.0	67.5	3.8	0.2	22.0	100.0
Combined	Number in Catch	135	638	0	7,997	444	19	2,608	11,841
	Standard Error	52	107	0	224	91	21	198	
Week(s) 27: 26 Jun - 02 Jul Sample Dates: 28 Jun - 30 Jun Sample Size : 638									
Males	Percent of Sample	1.6	0.8	0.0	27.0	0.9	0.2	10.3	40.8
	Number in Catch	227	113	0	3,897	136	23	1,495	5,891
Females	Percent of Sample	1.2	0.9	0.0	45.3	2.5	0.0	9.3	59.2
	Number in Catch	181	136	0	6,548	362	0	1,337	8,564
Sexes	Percent of Sample	2.8	1.7	0.0	72.3	3.4	0.2	19.6	100.0
Combined	Number in Catch	408	249	0	10,445	498	23	2,832	14,455
	Standard Error	94	74	0	256	104	26	227	
Week(s) 28-33: 03 Jul - 13 Aug Sample Dates: 07 Jul - 08 Jul Sample Size : 586									
Males	Percent of Sample	1.4	2.0	0.0	29.4	1.9	0.3	10.7	45.7
	Number in Catch	160	239	0	3,434	220	40	1,258	5,351
Females	Percent of Sample	0.8	1.9	0.2	38.3	2.7	0.3	10.1	54.3
	Number in Catch	100	220	20	4,472	319	40	1,178	6,349
Sexes	Percent of Sample	2.2	3.9	0.2	67.7	4.6	0.6	20.8	100.0
Combined	Number in Catch	260	459	20	7,906	539	80	2,436	11,700
	Standard Error	71	94	22	226	101	26	196	
Week(s) Combined: 26-33 19 Jun - 06 Aug Sample Dates: 20 Jun - 08 Jul Sample Size : 1,837									
Males	Percent of Sample	1.2	1.7	0.0	27.2	1.5	0.2	12.2	44.0
	Number in Catch	444	643	0	10,344	568	82	4,646	16,727
Females	Percent of Sample	0.9	1.8	0.1	42.2	2.4	0.1	8.5	56.0
	Number in Catch	359	703	20	16,004	914	40	3,229	21,269
Sexes	Percent of Sample	2.1	3.5	0.1	67.4	3.9	0.3	20.7	100.0
Combined	Number in Catch	803	1,346	20	26,348	1,482	122	7,875	37,996
	Standard Error	129	160	22	409	171	43	360	

Appendix Table E4. Estimated age and sex composition of the catch of sockeye salmon in the Unakwik Inlet drift gillnet fishery, 1983.

		Brood Year and Age Group						
		1976	1977		1978		1979	
		2.4	1.4	2.3	1.3	2.2	1.2	Total
Stratum Dates : 6 Jun. - 22 Jul.								
Sample Dates : 20 Jun. - 23 Jun.								
Sample Size : 544								
Males	Percent	0.0	0.2	1.6	41.2	1.3	2.2	46.5
	Number in Catch	0	24	220	5,466	171	293	6,174
Females	Percent	0.2	0.5	2.8	46.9	1.5	1.6	53.5
	Number in Catch	24	73	366	6,223	195	220	7,101
Sexes Combined	Percent	0.2	0.7	4.4	88.1	2.8	3.8	100.0
	Number in Catch	24	97	586	11,689	366	513	13,275
	Standard Error	24	48	117	184	94	109	0

Appendix Table E5. Estimated age and sex composition of chum salmon caught in the Prince William Sound drift gillnet fishery in District 223 (Coghill District), 1983.

		Brood Year and Age Class					
		1977	1978	1979	1980	1981	
		0.5	0.4	0.3	0.2	0.1	Total
Week(s)26:	19 Jun - 25 Jun						
Sample Dates:	20 Jun - 23 Jun						
Sample Size:	398						
Males	Percent of Sample	1.3	24.9	14.6	0.0	0.0	40.8
	Number in Catch	108	2,127	1,246	0	0	3,481
Females	Percent of Sample	0.2	30.6	26.9	1.5	0.0	59.2
	Number in Catch	21	2,621	2,299	129	0	5,070
Sexes	Percent of Sample	1.5	55.5	41.5	1.5	0.0	100.0
Combined	Number in Catch	129	4,748	3,545	129	0	8,551
	Standard Error	52	213	211	52	0	
Week(s) 27:	26 Jun - 02 Jul						
Sample Dates:	28 Jun - 30 Jun						
Sample Size:	376						
Males	Percent of Sample	0.8	25.2	16.5	0.3	0.0	42.8
	Number in Catch	70	2,234	1,458	24	0	3,786
Females	Percent of Sample	0.3	29.3	26.3	1.3	0.0	57.2
	Number in Catch	24	2,586	2,328	118	0	5,055
Sexes	Percent of Sample	1.1	54.5	42.8	1.6	0.0	100.0
Combined	Number in Catch	94	4,820	3,786	141	0	8,841
	Standard Error	48	227	226	57	0	
Weeks(s) 28:	03 Jul - 09 Jul						
Sample Dates:	07 Jul - 08 Jul						
Sample Size:	370						
Males	Percent of Sample	0.3	25.9	16.7	2.2	0.0	45.1
	Number in Catch	30	2,909	1,878	242	0	5,059
Females	Percent of Sample	0.0	30.6	23.8	0.5	0.0	54.9
	Number in Catch	0	3,423	2,666	61	0	6,150
Sexes	Percent of Sample	0.3	56.5	40.5	2.7	0.0	100.0
Combined	Number in Catch	30	6,332	4,544	303	0	11,209
	Standard Error	32	289	286	95	0	

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Appendix Table E5. Estimated age and sex composition of chum salmon caught in the Prince William Sound drift gillnet fishery in District 223 (Coghill District), 1983 (continued).

		Brood Year and Age Class					
		1977	1978	1979	1980	1981	
		0.5	0.4	0.3	0.2	0.1	Total
Week(s) 30: 17 Jul - 23 Jul Sample Dates: 18 Jul - 22 Jul Sample Size: 379							
Males	Percent of Sample	0.0	28.0	13.7	1.0	0.0	42.7
	Number in Catch	0	30,015	14,724	1,133	0	45,872
Females	Percent of Sample	0.5	34.6	20.6	1.6	0.0	57.3
	Number in Catch	566	37,094	22,086	1,699	0	61,445
Sexes Combined	Percent of Sample	0.5	62.6	34.3	2.6	0.0	100.0
	Number in Catch	566	67,109	36,810	2,832	0	107,317
	Standard Error	309	2,667	2,617	877	0	
Week(s) 31: 24 Jul - 30 Jul Sample Dates: 25 Jul - 29 Jul Sample Size: 398							
Males	Percent of Sample	0.0	31.7	19.8	1.3	0.0	52.8
	Number in Catch	0	24,997	15,673	992	0	41,661
Females	Percent of Sample	0.3	28.1	17.3	1.5	0.0	47.2
	Number in Catch	198	22,219	13,689	1,190	0	37,297
Sexes Combined	Percent of Sample	0.3	59.8	37.1	2.8	0.0	100.0
	Number in Catch	198	47,216	29,362	2,182	0	78,958
	Standard Error	217	1,941	1,912	653	0	
Week(s) 32-33: 31 Jul - 13 Aug Sample Dates: 01 Aug - 05 Aug Sample Size: 415							
Males	Percent of Sample	0.0	15.7	21.0	2.4	0.0	39.1
	Number in Catch	0	3,063	4,101	471	0	7,635
Females	Percent of Sample	0.2	23.1	34.2	3.4	0.0	60.9
	Number in Catch	47	4,525	6,692	660	0	11,924
Sexes Combined	Percent of Sample	0.2	38.8	55.2	5.8	0.0	100.0
	Number in Catch	47	7,588	10,793	1,131	0	19,559
	Standard Error	43	468	480	224	0	

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Appendix Table E5. Estimated age and sex composition of chum salmon caught in the Prince William Sound drift gillnet fishery in District 223 (Coghill District), 1983 (continued).

		Brood Year and Age Class					
		1977	1978	1979	1980	1981	
		0.5	0.4	0.3	0.2	0.1	Total
All Week(s) 26-33: 19 Jun - 13 Aug Sample Dates: 20 Jun - 05 Aug Sample Size: 2,336							
Males	Percent of Sample	0.1	27.9	16.7	1.2	0.0	45.9
	Number in Catch	208	65,345	39,080	2,862	0	107,494
Females	Percent of Sample	0.4	30.9	21.2	1.6	0.0	54.1
	Number in Catch	857	72,468	49,760	3,857	0	126,942
Sexes Combined	Percent of Sample	0.5	58.8	37.9	2.8	0.0	100.0
	Number in Catch	1,065	137,813	88,839	6,718	0	234,435
	Standard Error	454	3,359	3,303	1,123	0	

Appendix Table E6. Estimated age and sex composition of sockeye salmon caught by purse seine fisheries in Prince William Sound, 1983.

		Brood Year and Age Group								
		1977		1978		1979			1980	
		1.4	2.3	1.3	2.2	0.3	1.2	2.1	1.1	TOTAL
Stratum Dates : 7 Jul - 26 Aug Sample Dates : 25 Jul - 29 Jul Sample Size : 319										
Males	Percent	0.6	3.2	19.8	3.7	0.0	11.9	0.6	1.6	41.4
	Number in Catch	243	1,216	7,661	1,459	0	4,621	243	608	16,052
Females	Percent	0.3	2.8	19.1	9.1	0.6	26.3	0.0	0.3	58.6
	Number in Catch	122	1,094	7,418	3,527	243	10,215	0	122	22,740
Sexes	Percent	0.9	6.0	38.9	12.8	0.6	38.2	0.6	1.9	100.0
Combined	Number in Catch	365	2,310	15,079	4,986	243	14,836	243	730	38,792
	Standard Error	205	516	1,059	726	168	1,055	168	297	

Appendix Table E7. Estimated age and sex composition of chum salmon in the Prince William Sound purse seine fishery in District 221 (Eastern District) by calendar week, 1983.

		Brood Year and Age Class					
		1977	1978	1979	1980	1981	
		0.5	0.4	0.3	0.2	0.1	Total
Week(s) 30:	17 Jul - 23 Jul						
Sample Dates:	18 Jul - 22 Jul						
Sample Size:	369						
Males	Percent of Sample	0.3	14.9	21.1	2.4	0.0	38.7
	Number in Catch	240	13,213	18,738	2,162	0	34,353
Females	Percent of Sample	1.1	26.0	32.0	2.2	0.0	61.3
	Number in Catch	961	23,060	28,350	1,922	0	54,293
Sexes	Percent of Sample	1.4	40.9	53.1	4.6	0.0	100.0
Combined	Number in Catch	1,201	36,273	47,088	4,084	0	88,646
	Standard Error	542	2,269	2,303	967	0	
Week(s) 31:	24 Jul - 30 Jul						
Sample Dates:	25 Jul - 29 Jul						
Sample Size:	404						
Males	Percent of Sample	0.0	12.4	24.0	3.7	0.3	40.4
	Number in Catch	0	4,799	9,310	1,440	96	15,645
Females	Percent of Sample	0.6	16.3	33.6	8.8	0.3	59.6
	Number in Catch	192	6,335	13,054	3,455	96	23,132
Sexes	Percent of Sample	0.6	28.7	57.6	12.5	0.6	100.0
Combined	Number in Catch	192	11,134	22,364	4,895	192	38,777
	Standard Error	149	873	953	638	149	
Week(s) 32:	31 Jul - 06 Aug						
Sample Dates:	01 Aug - 05 Aug						
Sample Size:	380						
Males	Percent of Sample	0.0	15.0	26.3	3.4	0.0	44.7
	Number in Catch	0	12,105	21,237	2,761	0	36,103
Females	Percent of Sample	0.3	12.9	36.8	5.3	0.0	55.3
	Number in Catch	212	10,406	29,731	4,247	0	44,596
Sexes	Percent of Sample	0.3	27.9	63.1	8.7	0.0	100.0
Combined	Number in Catch	212	22,511	50,968	7,008	0	80,699
	Standard Error	226	1,857	1,998	1,167	0	

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Appendix Table E7. Estimated age and sex composition of chum salmon in the Prince William Sound purse seine fishery in District 221 (Eastern District) by calendar week, 1983 (continued).

		Brood Year and Age Class					
		1977	1978	1979	1980	1981	
		0.5	0.4	0.3	0.2	0.1	Total
Week(s) 33: 07 Aug - 13 Aug Sample Dates: 08 Aug - 12 Aug Sample Size: 383							
Males	Percent of Sample	0.0	7.3	25.3	2.4	0.0	35.0
	Number in Catch	0	6,802	23,565	2,186	0	32,554
Females	Percent of Sample	0.0	15.9	47.5	1.6	0.0	65.0
	Number in Catch	0	14,819	44,216	1,458	0	60,493
Sexes Combined	Percent of Sample	0.0	23.2	72.8	4.0	0.0	100.0
	Number in Catch	0	21,622	67,781	3,644	0	93,047
	Standard Error	0	2,007	2,116	932	0	
Week(s) 34: 14 Aug - 20 Aug Sample Dates: 15 Aug - 19 Aug Sample Size: 395							
Males	Percent of Sample	0.0	6.1	32.1	8.1	0.0	46.3
	Number in Catch	0	5,410	28,630	7,215	0	41,255
Females	Percent of Sample	0.0	11.7	34.9	7.1	0.0	53.7
	Number in Catch	0	10,370	31,110	6,312	0	47,792
Sexes Combined	Percent of Sample	0.0	17.8	67.0	15.2	0.0	100.0
	Number in Catch	0	15,780	59,740	13,527	0	89,047
	Standard Error	0	1,714	2,107	1,609	0	
All Week(s) 30-34: 17 Jul - 20 Aug Sample Dates: 18 Jul 19 Aug Sample Size: 1,931							
Males	Percent of Sample	0.1	10.9	26.0	4.0	0.0[1]	41.0
	Number in Catch	240	42,330	101,480	15,764	96	159,910
Females	Percent of Sample	0.4	16.6	37.5	4.5	0.0[1]	59.0
	Number in Catch	1,365	64,992	146,461	17,394	96	230,306
Sexes Combined	Percent of Sample	0.5	27.5	63.5	8.5	0.0[1]	100.0
	Number in Catch	1,605	107,320	247,941	33,158	192	390,216
	Standard Error	606	4,040	4,732	2,482	149	

[1] Fish present, but represent less than 0.05 of the total catch.

Appendix Table E8. Estimated age and sex composition of chum salmon in the Prince William Sound purse seine fishery in District 222 (Northern District) by calendar week, 1983.

		Brood Year and Age Class					
		1977	1978	1979	1980	1981	
		0.5	0.4	0.3	0.2	0.1	Total
All Week(s) 28-33: 03 Jul - 13 Aug[1]							
Sample Dates: 18 Jul - 22 Jul							
Sample Size: 384							
Males	Percent of Sample	0.3	10.9	20.1	3.9	0.0	35.2
	Number in Catch	463	19,425	35,614	6,938	0	62,440
Females	Percent of Sample	0.2	16.1	40.4	8.1	0.0	64.8
	Number in Catch	463	28,675	71,690	14,338	0	115,166
Sexes	Percent of Sample	0.5	27.0	60.5	12.0	0.0	100.0
Combined	Number in Catch	925	48,100	107,304	21,276	0	177,606
	Standard Error	639	4,024	4,431	2,945	0	

[1] Estimated age composition is based on one sample from the catch in the week ending 22 July (Week 30).

Appendix Table E9. Estimated age and sex composition of chum salmon caught in the Prince William Sound purse seine fishery in District 224 (Northwestern District), 1983.

		Brood Year and Age Class					
		1977	1978	1979	1980	1981	
		0.5	0.4	0.3	0.2	0.1	Total
Week(s) 31: 24 Jul - 30 Jul Sample Dates: 25 Jul - 29 Jul Sample Size: 379							
Males	Percent of Sample	0.3	9.2	40.9	2.9	0.0	53.3
	Number in Catch	295	10,341	45,794	3,250	0	59,680
Females	Percent of Sample	0.0	8.5	36.4	1.8	0.0	46.7
	Number in Catch	0	9,454	40,772	2,068	0	52,294
Sexes Combined	Percent of Sample	0.3	17.7	77.3	4.7	0.0	100.0
	Number in Catch	295	19,795	86,566	5,318	0	111,974
	Standard Error	315	2,195	2,409	1,217	0	
Week(s) 32-33: 31 Jul - 13 Aug Sample Dates: 01 Aug - 05 Aug Sample Size: 367							
Males	Percent of Sample	0.3	4.6	29.2	0.0	0.0	34.1
	Number in Catch	65	1,105	6,958	0	0	8,128
Females	Percent of Sample	0.0	3.5	60.2	2.2	0.0	65.9
	Number in Catch	0	846	14,370	520	0	15,736
Sexes Combined	Percent of Sample	0.3	8.1	89.4	2.2	0.0	100.0
	Number in Catch	65	1,951	21,328	520	0	23,864
	Standard Error	68	340	285	183	0	
All Week(s) 31-33: 24 Jul - 13 Aug Sample Dates: 25 Jul - 05 Aug Sample Size: 746							
Males	Percent of Sample	0.3	8.4	38.8	2.4	0.0	49.9
	Number in Catch	360	11,446	52,752	3,250	0	67,808
Females	Percent of Sample	0.0	7.6	40.6	1.9	0.0	50.1
	Number in Catch	0	10,300	55,142	2,588	0	68,030
Sexes Combined	Percent of Sample	0.3	16.0	79.4	4.3	0.0	100.0
	Number in Catch	360	21,746	107,894	5,838	0	135,838
	Standard Error	322	2,221	2,440	1,231	0	

Appendix Table E10. Estimated age and sex composition of chum salmon caught in the Prince William Sound purse seine fishery in District 226 (Southwestern District), 1983.

		Brood Year and Age Class					
		1977	1978	1979	1980	1981	
		0.5	0.4	0.3	0.2	0.1	Total
Week(s) 31:	24 Jul - 30 Jul						
Sample Dates:	25 Jul - 29 Jul						
Sample Size:	385						
Males	Percent of Sample	0.0	5.2	19.0	0.5	0.0	24.7
	Number in Catch	0	1,397	5,100	139	0	6,636
Females	Percent of Sample	0.0	12.7	60.0	2.6	0.0	75.3
	Number in Catch	0	3,423	16,137	699	0	20,259
Sexes	Percent of Sample	0.0	17.9	79.0	3.1	0.0	100.0
Combined	Number in Catch	0	4,820	21,237	838	0	26,895
	Standard Error	0	526	558	238	0	
Week(s) 32:	31 Jul - 06 Aug						
Sample Dates:	01 Aug - 05 Aug						
Sample Size:	380						
Males	Percent of Sample	0.0	4.5	24.2	1.8	0.0	30.5
	Number in Catch	0	553	2,994	228	0	3,775
Females	Percent of Sample	0.0	7.4	57.6	4.2	0.3	69.5
	Number in Catch	0	911	7,128	521	33	8,593
Sexes	Percent of Sample	0.0	11.9	81.8	6.0	0.3	100.0
Combined	Number in Catch	0	1,464	10,122	749	33	12,368
	Standard Error	0	205	248	151	35	
Weeks(s) 33:	07 Aug - 13 Aug						
Sample Dates:	08 Aug - 12 Aug						
Sample Size:	377						
Males	Percent of Sample	0.0	5.8	21.5	3.2	0.0	30.5
	Number in Catch	0	1,158	4,263	631	0	6,052
Females	Percent of Sample	0.5	11.9	51.2	5.9	0.0	69.5
	Number in Catch	105	2,368	10,156	1,158	0	13,787
Sexes	Percent of Sample	0.5	17.7	72.7	9.1	0.0	100.0
Combined	Number in Catch	105	3,526	14,419	1,789	0	19,839
	Standard Error	72	390	455	294	0	

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Appendix Table E10. Estimated age and sex composition of chum salmon caught in the Prince William Sound purse seine fishery in District 226 (Southwestern District), 1983 (continued).

		Brood Year and Age Class					
		1977	1978	1979	1980	1981	
		0.5	0.4	0.3	0.2	0.1	Total
All Week(s) 31-35: 24 Jul - 27 Aug Sample Dates: 08 Aug - 12 Aug Sample Size: 1,142							
Males	Percent of Sample	0.0	5.3	20.9	1.7	0.0	27.9
	Number in Catch	0	3,108	12,357	998	0	16,463
Females	Percent of Sample	0.2	11.3	56.5	4.0	0.1	72.1
	Number in Catch	105	6,702	33,421	2,378	33	42,639
Sexes Combined	Percent of Sample	0.2	16.6	77.4	5.7	0.1	100.0
	Number in Catch	105	9,810	45,778	3,376	33	59,102
	Standard Error	72	686	761	407	35	

Appendix Table E11. Estimated age and sex composition of chum salmon caught in the Prince William Sound purse seine fishery in District 228 (Southeastern District), 1983.

		Brood Year and Age Class					
		1977	1978	1979	1980	1981	
		0.5	0.4	0.3	0.2	0.1	Total
Week(s) 29-30: 10 Jul - 23 Jul Sample Dates: 18 Jul - 22 Jul Sample Size: 240							
Males	Percent of Sample	0.4	18.8	21.2	4.2	0.0	44.6
	Number in Catch	74	3,324	3,767	738	0	7,903
Females	Percent of Sample	0.4	30.0	23.8	1.2	0.0	55.4
	Number in Catch	74	5,317	4,210	222	0	9,823
Sexes	Percent of Sample	0.8	48.8	45.0	5.4	0.0	100.0
Combined	Number in Catch	148	8,641	7,977	960	0	17,726
	Standard Error	102	572	569	259	0	
Week(s) 31: 24 Jul - 30 Jul Sample Dates: 25 Jul - 29 Jul Sample Size: 299							
Males	Percent of Sample	0.0	7.7	36.5	1.7	0.0	45.9
	Number in Catch	0	330	1,564	72	0	1,966
Females	Percent of Sample	0.0	10.0	42.1	2.0	0.0	54.1
	Number in Catch	0	431	1,808	86	0	2,325
Sexes	Percent of Sample	0.0	17.7	78.6	3.7	0.0	100.0
Combined	Number in Catch	0	761	3,372	158	0	4,291
	Standard Error	0	95	102	47	0	
Week(s) 32-35: 31 Jul - 06 Aug Sample Dates: 01 Aug - 05 Aug Sample Size: 289							
Males	Percent of Sample	0.0	7.9	39.5	3.1	0.0	50.5
	Number in Catch	0	392	1,944	154	0	2,490
Females	Percent of Sample	0.0	7.3	40.1	2.1	0.0	49.5
	Number in Catch	0	358	1,978	102	0	2,438
Sexes	Percent of Sample	0.0	15.2	79.6	5.2	0.0	100.0
Combined	Number in Catch	0	750	3,922	256	0	4,928
	Standard Error	0	104	117	64	0	
All Week(s) 29-35: 10 Jul - 27 Aug Sample Dates: 18 Jul - 05 Aug Sample Size: 828							
Males	Percent of Sample	0.3	5.0	27.0	3.6	0.0	45.9
	Number in Catch	74	4,046	7,275	964	0	12,359
Females	Percent of Sample	0.3	22.6	29.7	1.5	0.0	54.1
	Number in Catch	74	6,106	7,996	410	0	14,586
Sexes	Percent of Sample	0.6	37.6	56.7	5.1	0.0	100.0
Combined	Number in Catch	148	10,152	15,271	1,374	0	26,945
	Standard Error	105	589	590	271	0	

Appendix Table E12. Estimated mean length[1] by sex and age for sockeye salmon caught in commercial drift gillnet catches from the Prince William Sound area fishing districts, 1983.

		Brood Year and Age Group						
		1977		1978		1979		1980
		1.4	2.3	1.3	2.2	0.3	1.2	0.2
Coghill District (223) Sample Dates: 20 Jun - 08 Jul								
Males	Mean	612	612	599	547	562	506	
	Std. Error	13	7	2	10	*	4	
	Sample Size	7	8	127	8	1	57	
Females	Mean	595	573	579	530	572	514	
	Std. Error	5	5	2	7	*	4	
	Sample Size	7	17	237	18	1	38	
Unakwik District (222-50) Sample Dates: 20 Jun - 23 Jun								
Males	Mean		589	599	519		539	
	Std. Error		7	2	6		7	
	Sample Size		8	74	3		2	
Females	Mean	593	581	579	512		537	
	Std. Error	*	7	2	5		14	
	Sample Size	1	6	84	2		2	

[1] Mid-eye to fork of tail in mm.

Appendix Table E13. Estimated mean length by sex and age for chum salmon caught in the drift gillnet fishery in the Coghill District (223), 1983.

		Brood Year and Age Group			
		1980	1979	1978	1977
		0.2	0.3	0.4	0.5
Sample Dates: 20 Jun - 08 Jul					
Males	Mean	600	646	678	677
	Std. Error	8	4	2	12
	Sample Size	6	90	165	8
Females	Mean	610	620	653	645
	Std. Error	10	5	2	*
	Sample Size	4	142	180	1

APPENDIX F

Escapements to Coastal Streams around Prince William Sound

Appendix Table F1. Escapement counts of sockeye, pink, and coho salmon through the weir below Eshamy Lake, 1983.

Date	Escapements Sockeye	Pink	Coho	Date	Escapements Sockeye	Pink	Coho
6/21	5			7/28	89	1	
6/22	1			7/29	38	8	
6/23	0			7/30	18	15	
6/24	0			7/31	4	9	
6/25	0			8/ 1	16	17	
6/26	0			8/ 2	0	15	
6/27	0			8/ 3	89	47	
6/28	0			8/ 4	91	22	
6/29	0			8/ 5	479	746	
6/30	0			8/ 6	190	225	2
7/ 1	2			8/ 7	448	280	3
7/ 2	2			8/ 8	1,021	769	4
7/ 3	1			8/ 9	347	412	0
7/ 4	0			8/10	453	385	3
7/ 5	1			8/11	460	283	3
7/ 6	0			8/12	198	106	0
7/ 7	0			8/13	172	82	0
7/ 8	0			8/14	293	69	4
7/ 9	1			8/15	137	65	0
7/10	0			8/16	139	78	0
7/11	7			8/17	332	153	0
7/12	3			8/18	54	82	0
7/13	1			8/19	208	96	3
7/14	3			8/20	28	20	0
7/15	0			8/21	179	132	0
7/16	2			8/22	262	78	3
7/17	5			8/23	185	60	20
7/18	1			8/24	399	321	0
7/19	1			8/25	601	454	8
7/20	3			8/26	1,209	429	1
7/21	0			8/27	816	235	4
7/22	1			8/28	387	160	0
7/23	2			8/29	295	78	0
7/24	1	1		8/30	328	89	0
7/25	5	0					
7/26	4	1		Totals	10,020	6,023	58
7/27	3	0					

Appendix Table F2. Escapement counts of sockeye, pink, chum, and chinook salmon through the weir below Coghill Lake, 1983.

Date	Escapements			
	Sockeye	Pink	Chum	Chinook
6/ 7	9			
6/ 8	11			
6/ 9	19			
6/10	114			
6/11	0			
6/12	9			
6/13	342			
6/14	0			
6/15	33			
6/16	301			
6/17	145			
6/18	520			
6/19	493			
6/20	691			
6/21	608			
6/22	212			
6/23	571		2	
6/24	949		0	
6/25	755		0	
6/26	962		0	
6/27	1,198	17	0	
6/28	1,339	20	4	1
6/29	792	22	1	0
6/30	1,390	64	0	0
7/ 1	729	48	1	0
7/ 2	1,167	72	6	0
7/ 3	2,632	174	0	0
7/ 4	5,462	812	2	1
7/ 5	2,527	817	0	1
7/ 6	2,916	1,003	3	1
7/ 7	160	198	2	1
7/ 8	932	1,149	1	0
7/ 9	348	652	6	0
7/10	238	176	4	1
7/11	1,070	914	9	0
7/12	1,986	2,689	1	1
7/13	671	1,217	6	0
7/14	753	1,257	8	0
7/15	1,435	3,808	3	1
7/16	1,280	5,224	18	1
7/17	922	8,416	52	0
7/18	436	11,698	58	0
7/19	742	12,647	73	1
7/20	243	12,786	104	0
7/21	67	6,216	41	0
Totals	38,179	72,096	405	10

Appendix Table F3. Estimated age and sex composition of the sockeye salmon escapement to Eshamy Lake, 1983.

		Brood Year and Age Group					
		1977	1978		1979	1980	
		2.3	1.3	2.2	1.2	1.1	Total
Escapement Dates: 21 Jun - 11 Aug Sample Dates: 28 Jul - 07 Aug Sample Size: 384							
Males	Percent Sample	0.5	5.5	12.2	23.2	0.8	42.2
	No. in Escapement	8	83	185	352	12	640
Females	Percent Sample	0.0	5.7	18.8	33.3	0.0	57.8
	No. in Escapement	0	87	285	505	0	877
Sexes Combined	Percent Sample	0.5	11.2	31.0	56.5	0.8	100.0
	No. in Escapement	8	170	470	857	12	1,517
	Standard Error	6	24	36	38	7	
Escapement Dates: 12 Aug - 31 Aug Sample Dates: 14 Aug - 20 Aug Sample Size: 355							
Males	Percent Sample	0.0	2.5	16.9	30.5	2.8	52.7
	No. in Escapement	0	221	1,492	2,694	247	4,654
Females	Percent Sample	0.0	2.5	16.3	28.2	0.3	47.3
	No. in Escapement	0	221	1,439	2,491	26	4,177
Sexes Combined	Percent Sample	0.0	5.0	33.2	58.6	3.1	100.0
	No. in Escapement	0	442	2,931	5,185	273	8,831
	Standard Error	0	102	221	231	81	
Total Escapement: 21 Jun - 31 Aug Sample Dates: 28 Jul - 20 Aug Sample Size: 739							
Males	Percent Sample	0.1	2.9	16.2	29.4	2.5	51.1
	No. in Escapement	8	304	1,677	3,046	259	5,294
Females	Percent Sample	0.0	3.0	16.7	28.9	0.3	48.9
	No. in Escapement	0	308	1,724	2,996	26	5,054
Sexes Combined	Percent Sample	0.1	5.9	32.9	58.3	2.8	100.0
	No. in Escapement	8	612	3,401	6,042	285	10,348
	Standard Error	6	105	224	234	82	

Appendix Table F4. Estimated age and sex composition of sockeye salmon escapement to the Coghill District, 1983.

		Brood Year and Age Group							
		1977			1978		1979		
		1.4	2.3	3.2	1.3	2.2	0.3	1.2	TOTAL
Week(s) 26: 19 Jun - 25 Jun Sample Dates: 20 Jun - 23 Jun Sample Size : 613									
Males	Percent of Sample	0.5	2.4	0.0	25.4	1.8	0.2	16.0	46.3
	Number in Catch	58	290	0	3,013	212	19	1,893	5,485
Females	Percent of Sample	0.7	2.9	0.0	42.1	2.0	0.0	6.0	53.7
	Number in Catch	77	348	0	4,984	232	0	715	6,356
Sexes	Percent of Sample	1.2	5.3	0.0	67.5	3.8	0.2	22.0	100.0
Combined	Number in Catch	135	638	0	7,997	444	19	2,608	11,841
	Standard Error	52	107	0	224	91	21	198	
Week(s) 27: 26 Jun - 02 Jul Sample Dates: 28 Jun - 30 Jun Sample Size : 638									
Males	Percent of Sample	1.6	0.8	0.0	27.0	0.9	0.2	10.3	40.8
	Number in Catch	227	113	0	3,897	136	23	1,495	5,891
Females	Percent of Sample	1.2	0.9	0.0	45.3	2.5	0.0	9.3	59.2
	Number in Catch	181	136	0	6,548	362	0	1,337	8,564
Sexes	Percent of Sample	2.8	1.7	0.0	72.3	3.4	0.2	19.6	100.0
Combined	Number in Catch	408	249	0	10,445	498	23	2,832	14,455
	Standard Error	94	74	0	256	104	26	227	
Week(s) 28-33: 03 Jul - 13 Aug Sample Dates: 07 Jul - 08 Jul Sample Size : 586									
Males	Percent of Sample	1.4	2.0	0.0	29.4	1.9	0.3	10.7	45.7
	Number in Catch	160	239	0	3,434	220	40	1,258	5,351
Females	Percent of Sample	0.8	1.9	0.2	38.2	2.7	0.3	10.1	54.3
	Number in Catch	100	220	20	4,472	319	40	1,178	6,349
Sexes	Percent of Sample	2.2	3.9	0.2	67.6	4.6	0.3	20.8	100.0
Combined	Number in Catch	260	459	20	7,906	539	80	2,436	11,700
	Standard Erro	71	94	22	226	101	26	196	

Appendix Table F5. Estimated mean length[1] by sex and age for sockeye salmon from escapements in Prince William Sound, 1983.

		Brood Year and Age Group						
		1977		1978		1979		1980
		1.4	2.3	1.3	2.2	0.3	1.2	1.1
Coghill Lake								
Males	Mean	602	589	581	524	587	469	405
	Std. Error	5	8	1	18	11	3	104
	Sample Size	19	8	290	8	5	145	2
Females	Mean	572	540	559	511	564	505	
	Std. Error	5	6	2	12	10	4	
	Sample Size	6	3	158	5	4	35	
Eshamy Lake								
Males	Mean		614	615	585		575	397
	Std. Error		5	7	3		2	4
	Sample Size		2	30	107		197	13
Females	Mean			593	569		560	503
	Std. Error			5	2		1	0
	Sample Size			31	130		228	1

[1] Mid-eye to fork of tail length in mm.